

# HORIZONTAL CONTROL DATA

by the  
 Coast and Geodetic Survey  
 NORTH AMERICAN 1927 DATUM

QUAD 390983 STATION 1009  
 KANSAS  
 LATITUDE 39°00' TO 39°30'  
 LONGITUDE 98°30' TO 99°00'  
 DIAGRAM NJ 14-2 BELOIT

**MEADES RANCH** (Osborne County, Kans., F.D. Granger, 1891; 1922)--  
 About 12 miles north of Lucas, 2-1/2 miles north of J. E. Robinson's ranch, on the highest point of a prominent ridge, in the SW 1/4 sec. 34, T. 9 S., R. 11 W., near the east side of a large pasture, on land owned (1922) by Dr. Doan, who lives in Lucas. The underground mark is a standard bronze station tablet, set in a block of concrete 3/4 inches below the surface. Station mark is a similar tablet, set in the center of the top of a block of concrete, 36 inches square at the base, 24 inches square at the top, and 3 feet high, projecting 6 inches above the surface. A 2-inch layer of sand separates the concrete blocks. The name of the station and date of establishment, is stamped on each mark. Two standard bronze reference tablets, set in stone posts, are 2.652 meters (8.70 feet) north and 2.627 meters (8.62 feet) south from the station and about 1 inch below the surface. Additional references are as follows: North and south fence on east line of Dr. Doan's lands, a wire fence with large stone posts 2 rods apart, 72.2 meters (237 feet); east and west fence on south line of section 34, 469.7 meters (1,541 feet) south; stone marking southwest corner of section 34, 571.35 meters (1,874.5 feet) in azimuth 34°33'.

The latitude and longitude of station **MEADES RANCH**, together with the system of Laplace azimuths throughout the country, define the North American datum of 1927, which controls the triangulation systems of United States, Mexico, Canada, and Alaska. (Special Publication No. 179).

**MEADES RANCH** (Osborne County, Kans., F.D.G., 1891; 1927)--Gertrude Tilsey, of Lucas, Kansas, who lived on Meade's Ranch when the station was established, reported in a letter dated January 16, 1927, to the National Geographic Society and forwarded to the U.S. Coast & Geodetic Survey, that "The boards that made the forms are rotting away and the cement is crumbling by being tramped over by cattle. To preserve it there should be a rigid cement wall or iron fence, otherwise it will not last many years as it is."

**MEADES RANCH** (Osborne County, Kans., F.D.G., 1891; S. K. McG., 1934)--Station recovered as described.

It is about 12 miles north of Lucas, on a prominent ridge in the southwest quarter of sec. 34, T. 9 S., R. 11 W. The top of the concrete block is 25 inches square in place of 24 inches. A slight piece has been broken out of the southwest corner. The northeast edge of the bronze tablet had been curled up as if it had been lifted with a pinch bar. This was bent back in place with a light hammer. The top of the north pointer stone has been broken level with the surface of the ground. The south stone is about 2 inches above the surface with pointer as described.

DEPARTMENT OF COMMERCE  
 U. S. COAST AND GEODETIC SURVEY  
 FORM 288

## RECOVERY NOTE, TRIANGULATION STATION

NAME OF STATION: **MEADES RANCH** STATE: **Kansas** COUNTY: **Osborne**  
 ESTABLISHED BY: **F.D. Granger** YEAR: **1891** LOCALITY: **LUCAS, Kan.**  
 RECOVERED BY: **M.Z. Braden** YEAR: **1948**

Detailed statement as to the fitness of the original description:

The station was recovered at the described location and the mark was found to be in very poor condition, with a probable slight error in position.

The top cap of the mark had separated from the lower base of the mark and the general appearance of the mark was that it had settled to the southwest.

No defined points of reference was available to check this position.

The station was remarked as noted in the accompanying description.

*Martin Z. Braden*  
 Martin Z. Braden

## ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: **MEADES RANCH**

YEAR: **1891**

STATE: **Kansas**

LOCALITY: **Meades Ranch to Missouri State Line**

First-order Triangulation

SOURCE: **G-155 G-1127  
 G-275 G-9310  
 G-1126**

FIELD SKETCH: **SP 179-6  
 KANS 12,13**

GRID DATA	COORDINATES (Feet)	PLANE AZIMUTH θ (OR ANG ANGLE)	MARK
STATE: <b>Kan</b> ZONE: <b>N</b> CODE: <b>1501</b>	x <b>1,846,505.13</b> y <b>324,871.01</b>	<b>18°58'19"</b>	<b>AZIMUTH MARK</b>
STATE: ZONE: CODE:	x y		

GEODETIC DATA	POSITION		SECONDS IN METERS	ELEVATION
	LATITUDE:	NORTH WEST		METERS FEET
	<b>39°13'26".686</b>			<b>599.4</b>
	<b>98 32 30.506</b>			<b>1,967</b>

TO STATION	GEODETIC AZIMUTH (From south)	DISTANCE	
		LOGARITHM (Meters)	METERS
<b>FIRST-ORDER</b>			
<b>BUNKER HILL</b>	<b>19°57'35".91</b>	<b>4.619 7308</b>	<b>41,661.11</b>
<b>BLUE HILL</b>	<b>61 06 33.10</b>	<b>4.741 8210</b>	<b>55,185.00</b>
<b>WALDO</b>	<b>75 28 09.64</b>	<b>4.411 3352</b>	<b>25,783.11</b>
<b>DIAL</b>	<b>98 45 56.29</b>	<b>4.297 0376</b>	<b>19,816.99</b>
<b>OLD WELL 2</b>	<b>177 13 02.17</b>	<b>4.634 5289</b>	<b>43,105.13</b>
<b>LINCOLN</b>	<b>290 53 45.54</b>	<b>4.612 9954</b>	<b>41,019.97</b>
<b>HEATH</b>	<b>314 30 31.61</b>	<b>4.777 6682</b>	<b>59,933.30</b>
<b>GOLDEN BELT</b>	<b>323 12 19.68</b>	<b>4.531 4959</b>	<b>34,001.33</b>
<b>WILSON</b>	<b>353 17 16.93</b>	<b>4.604 5754</b>	<b>40,232.35</b>
<b>SECOND-ORDER</b>			
<b>LURAY</b>	<b>38 25 36.45</b>	<b>4.176 0573</b>	<b>14,998.83</b>
<b>COVERT</b>	<b>136 49 52.85</b>	<b>4.320 1604</b>	<b>20,900.68</b>
<b>TIPTON USGS</b>	<b>183 07 10.21</b>	<b>4.177 3378</b>	<b>15,043.11</b>
<b>BLUE</b>	<b>250 26 14.46</b>	<b>4.221 9172</b>	<b>16,669.30</b>
<b>HUNTER</b>	<b>280 14 46.35</b>	<b>4.066 8572</b>	<b>11,664.26</b>
<b>SPILL</b>	<b>312 59 02.60</b>	<b>4.345 8209</b>	<b>22,172.82</b>
<b>LUCAS</b>	<b>344 24 20.14</b>	<b>4.193 0373</b>	<b>15,596.86</b>
<b>THIRD-ORDER</b>			
<b>AZIMUTH MARK</b>	<b>18 37 45.1</b>		
<b>BUNKER HILL WATER TOWER</b>	<b>19 52 27.2</b>	<b>4.619 823</b>	<b>41,670.0</b>
<b>RUSSELL TRIPOD</b>	<b>34 20 08.6</b>	<b>4.623 781</b>	<b>42,051.5</b>
<b>RUSSELL HIGH SCHOOL CUPOLA POLE</b>	<b>36 42 10.6</b>	<b>4.666 250</b>	<b>46,371.4</b>
<b>TIPTON MUNICIPAL WATER TANK</b>	<b>205 01 36.5</b>	<b>4.157 575</b>	<b>14,373.9</b>
<b>SMALL PEAK</b>	<b>244 56 20.4</b>	<b>3.925 966</b>	<b>8,432.7</b>
<b>LINCOLN COLLEGE CUPOLA</b>	<b>301 43 16.8</b>	<b>4.603 615</b>	<b>40,143.5</b>

\*40x A B 2  
 R' 48  
 R' 75

USCGM-OC 8887  
 37252

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 KANSAS  
 LATITUDE 39°00' TO 39°30'  
 LONGITUDE 98°30' TO 99°00'  
 DIAGRAM NJ 14-2 BELOW

MEADES RANCH (Continued)

DEPARTMENT OF COMMERCE  
 U.S. COAST AND GEODETIC SURVEY  
 FORM 526  
 (REV. FEB. 1958)

## RECOVERY NOTE, TRIANGULATION STATION

R

NAME OF STATION: MEADES RANCH  
 ESTABLISHED BY: F.D. Granger YEAR: 1891 STATE: Kansas  
 RECOVERED BY: R.L. Engdahl YEAR: 1950 COUNTY: Osborne

Detailed statement as to the fitness of the original description; including marks found, stampings, changes made, and other pertinent facts:  
 The Station Mark, Reference Mark No. 1, Reference Mark No. 2 and Witness Posts north and south were recovered and found in good condition. A new Azimuth Mark was established.

### Following is a new and complete description.

The station is located about 12.0 miles north of Lucas, 9.0 miles south of Tipton, near the east side of a large pasture owned by Mr. Frank Robinson; 2.5 miles north of Mr. J.E. Robinson's ranch, on the highest point of a prominent ridge and 300.0 feet west of a wire gate in a north and south fence line. It is stamped MEADES RANCH 1891, set in a round concrete base about 2 feet in diameter and projects 6 inches. (Note 1c7a)

Reference Mark No. 1 is the same elevation as the station. It is a standard disk, stamped MEADES RANCH NO 1 1948, set in a 4 inch square stone post projecting 3 inches.

Reference Mark No. 2 is the same elevation as the station. It is a standard disk, stamped MEADES RANCH NO 2 1948, set in a 4 inch square stone post projecting 1 inch.

Witness Post south is the same elevation as the station. It is a 4 inch square stone post with a copper rivet set in the center of post and is set flush with the surface of the ground.

Witness Post north is the same elevation as the station. It is a 4 inch square stone post with a copper rivet set in the center of post and is set flush with the surface of the ground.

Distance between R.M. No. 1 and R.M. No. 2 is 24.87 feet.

The Azimuth Mark is 14.0 feet east of the center of a wire gate, 2.5 feet southeast of east gate post, 1.5 feet east of a fence line and 1.5 feet north of a witness post. It is stamped MEADES RANCH 1950 and projects 4 inches.

To reach the station from the junction of U.S. Highway No. 24 and State Highway No. 181 at the north edge of Downs, go south (passing through the main part of town) and continue south on main gravel road for 6.6 miles to railroad crossing at Corinth, continue south on main gravel road for 2.5 miles. Turn left and go east for 1.0 mile, turn right and go south on main gravel road for 3.05 miles to forks about 3.0 miles west of Tipton, continue south on main gravel road for 9.35 miles to crossroads, turn right and go west on County Route No. 412 for 1.0 mile to a T-road left at entrance to field on right. Turn right and follow track road north along the east side of fence for 0.25 mile to a wire gate in a east-west fence at fence corner, go through gate and continue north on track road along the east side of fence for 0.3 mile to the Azimuth mark on the left as described. Continue north on track road for 0.45 mile to wire gate in northwest corner of pasture, go through gate and continue north and northeast on track road for 0.15 mile to forks, take right fork for 0.15 mile to forks, take left fork for 0.1 mile to the station as described.

OBJECT	BEARING	DISTANCE	DIRECTION
BLUE			
R.M. No. 1,	E	12.37 Ft. 3.770 M.	00 00 00
Witness Post (south)		8.58 Ft. 2.616 M.	19 34 49.
Azimuth Mark,	SW	(0.8 Mile)	109 16 11.
R.M. No. 2,	W	12.50 Ft. 3.810 M.	128 11 31.2
Witness Post (north)		8.61 Ft. 2.625 M.	199 27 17.
			289 34 33.

FORM 526  
 (11-8-58)

## RECOVERY NOTE, TRIANGULATION STATION

R

NAME OF STATION: MEADES RANCH  
 ESTABLISHED BY: F.D.G. YEAR: 1891 STATE: Kansas  
 RECOVERED BY: A.M.S. YEAR: 1953 COUNTY: Osborne

Detailed statement as to the fitness of the original description; including marks found, stampings, changes made, and other pertinent facts:

Station recovered as described. A bronze marker is set in the top of a mushroom shaped block of concrete about five inches above ground, and about 22 inches in diameter. Two bronze reference tablets set in concrete blocks about 8 inches square and 5 inches above ground, are set about 8 feet north and about 8 feet south of center mark. All marks are in good condition.

## RECOVERY NOTE, TRIANGULATION STATION

R

FORM 526a  
 (9-5-56)

Name of Station: MEADES RANCH  
 Established by: F.D. Granger Year: 1891 State: Kansas  
 Recovered by: F.A. Riddell Year: 1958 County: Osborne

Detailed statement as to the fitness of the original description; including marks found, stampings, changes made, and other pertinent facts: Station was recovered as described and all marks were found in good condition. This is grazing country and the marks should remain in good condition unless they are molested.

FORM 526  
 (11-8-55)

## RECOVERY NOTE, TRIANGULATION STATION

Quad 390983

R

NAME OF STATION: MEADES RANCH  
 ESTABLISHED BY: F.D. Granger YEAR: 1891 STATE: Kansas  
 RECOVERED BY: E.B. BROWN YEAR: 1965 COUNTY: Osborne

Detailed statement as to the fitness of the original description; including marks found, stampings, changes made, and other pertinent facts:  
 This station was recovered as described and all marks were found in good condition. A new "To Reach" follows.

To reach the station from the Main intersection in the town of Osborne, go south on U.S. Highway 281 for 0.7 mile to bridge over the Solomon River. Continue south on U.S. Highway 281 for 16.3 miles to crossroads. Turn left and go east for 4.0 miles to crossroads. Turn left and go north for 1.0 mile, then turn right and follow the main gravel road east for 4.2 miles to a gate on the left just after passing Mr. J.E. Robinson's ranch buildings on the right. Turn left thru gate and go north on track road across pasture for 0.8 mile to a gate in an east-west fence line. Pass thru gate and continue north across pasture for 0.45 mile to the highest ground and the station, about 100 yards west of a north-south fence.

To reach the azimuth mark from the station, go back south across pasture for 1.25 miles to the gravel road. Turn right and go west on gravel road for 0.2 mile to a gate on the right. Turn right thru gate and go north-northeast across pasture for 0.3 mile to gap in fence. Pass thru gap in fence, bear left, and follow along east side of north-south fence for 0.2 mile to fence corner and the azimuth mark.

## RECOVERY NOTE, TRIANGULATION STATION (Card 1 of 2)

R

NAME OF STATION: MEADES RANCH  
 ESTABLISHED BY: F.D.G. YEAR: 1891 STATE: Kansas BENCH MARK ALSO   
 RECOVERED BY: C.O. Phipps YEAR: 1967 COUNTY: Osborne  
 AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: 9 miles SSW of Tipton.  
 HEIGHT OF TELESCOPE ABOVE STATION MARK 38.5 FEET. HEIGHT OF LIGHT ABOVE STATION MARK 46.8 FEET.  
 plate

OBJECT	BEARING	DISTANCE		DIRECTION
		FEET	METERS	
TIPTON (USGS) 1897	N	0	0	00 00 00.0
Tipton, Municipal water tank	N	Approx. 8 miles	21	54 20.6
Reference Mark # 3	E	246.97	75.274	72 48 18
Reference Mark # 1	E	12.41	3.784	86 55 18
Witness Post (South)	S	8.58	2.615	176 42 37
Azimuth Mark	S	Approx. 0.85 mile	195	30 32.2
Reference Mark # 2	W	12.52	3.816	266 45 55
Witness Post (North)	N	8.61	2.624	356 53 57

Station was recovered and all marks are in good condition. Location of the station was noted to be adequately described but the land on which the station is established is now a Mr. Frank Robinson.

A double check was made of the direction and distance to the marks. Direction to the azimuth mark, reference mark number 2 and reference post (South) checked the previous data but a difference was noted in the direction to reference mark number 1 and reference post (South).

Reference posts (North) and (South) were too close to focus the instrument on therefore the posts were staked out on line to take direction.

# HORIZONTAL CONTROL DATA

by the  
NATIONAL GEODETIC SURVEY  
NORTH AMERICAN 1927 DATUM

QUAD **390983** STATION **1009**

LATITUDE    °   '   TO   °   '  
LONGITUDE   °   '   TO   °   '  
DIAGRAM

## MEADES RANCH (continued)

Distances to the reference marks and reference post (South) were noted to be in error but distance to reference post (North) checked adequately.

A reference mark number 3 was established. It is a standard reference mark disk, stamped MEADES RANCH NO 3 1891 1967, set in the top of a round concrete monument which is flush with the surface of the ground. Mark is 85.1 feet north of the north gate post of a wire gate and 0.8 feet west of a north-south fence line. Note 11b.

Station mark disk is stamped MEADES RANCH 1891 and mark projects about 4 inches. Mark is 248 feet west of the center of the wire gate.

Reference mark number 1 disk is stamped MEADES RANCH NO 1 1948 and the mark projects about 4 inches.

Reference mark number 2 disk is stamped MEADES RANCH 1948 NO 2 and the mark is flush with the surface of the ground.

Reference post (North) has a copper rivet in the top-center and the mark is about 2 inches below the surface of the ground.

Reference post (South) has a copper rivet in the top-center and the mark is flush with the surface of the ground.

Station is reached from the junction of State Highway 181 and the main street at the south edge of Tipton. Go south on Highway 181 for 7.0 miles to a fork. Continue straight ahead, on a graveled road, south for 2.05 miles to a graveled crossroad. Turn right and go west on a graveled road for 3.0 miles to a graveled crossroad. Continue west on the graveled road for 0.8 mile to a wire gate on the right. Turn right and go northerly on the main traveled track road for 0.8 mile to the center of a dip in road and an east-west trail. (Azimuth mark is reached from this point. Go west keeping to the left, south of a valley for 0.15 mile to a wire gate. Pass through the gate and continue west for 0.2 miles to a fence corner and azimuth mark as described below). Continue northerly from the dip in the road and east-west trail on main traveled road for 0.25 miles to a gate. Pass through the gate and continue northerly on road for 0.35 miles to the station mark.

Azimuth mark disk is stamped MEADES RANCH 1950 and the mark projects about 6 inches. Note 16a. Mark is 9 feet southeast of the center of a gate, 2.0 feet south of a fence corner and gate post and 1.2 feet north of a metal witness post.

\* Name of chief of party should be inserted here. The officer who actually visited the station should sign his name at the end of the recovery note.

Note:—One of these forms must be used for every station recovered.

*NE Method*  
RST

CONS-DC 34314