# BO 23


April 20, 2015

1:18,056

0 0.15 0.3 0.6 mi

0 0.25 0.5 1 km

Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL,

Missouri Office of Geospatial Information

# The NGS Data Sheet

**See file dsdata.txt for more information about the datasheet.**

```
PROGRAM = datasheet95, VERSION = 8.7
1         National Geodetic Survey,   Retrieval Date = APRIL 20, 2015
 JD2851 ***********************************************************************
 JD2851  DESIGNATION -  BO 23
 JD2851  PID         -  JD2851
 JD2851  STATE/COUNTY-  MO/BOONE
 JD2851  COUNTRY     -  US
 JD2851  USGS QUAD   -  MILLERSBURG SW (1981)
 JD2851
 JD2851                          *CURRENT SURVEY CONTROL
 JD2851
 JD2851* NAD 83(2011) POSITION- 38 46 22.68369(N) 092 12 53.81221(W)   ADJUSTED
 JD2851* NAD 83(2011) ELLIP HT-   220.069 (meters)         (06/27/12)   ADJUSTED
 JD2851* NAD 83(2011) EPOCH   -  2010.00
 JD2851* NAVD 88 ORTHO HEIGHT -   252.6   (meters)       829.     (feet) VERTCON
 JD2851          *USE ELLIP HT - GEOID HT => 220.069 -(-32.48) = 252.549
 JD2851  GEOID HEIGHT    -        -32.48  (meters)                       GEOID12B
 JD2851  NAD 83(2011) X  -   -192,443.318 (meters)                       COMP
 JD2851  NAD 83(2011) Y  - -4,975,600.997 (meters)                       COMP
 JD2851  NAD 83(2011) Z  -  3,972,836.581 (meters)                       COMP
 JD2851  LAPLACE CORR    -          1.69  (seconds)                      DEFLEC12B
 JD2851
 JD2851  Network accuracy estimates per FGDC Geospatial Positioning Accuracy
 JD2851  Standards:
 JD2851         FGDC (95% conf, cm)      Standard deviation (cm)      CorrNE
 JD2851            Horiz  Ellip           SD_N   SD_E   SD_h       (unitless)
 JD2851  ------------------------------------------------------------------
 JD2851  NETWORK    1.23   2.20            0.54   0.46   1.12      -0.02364464
 JD2851  ------------------------------------------------------------------
 JD2851  Click here for local accuracies and other accuracy information.
 JD2851
 JD2851
 JD2851.The horizontal coordinates were established by GPS observations
 JD2851.and adjusted by the National Geodetic Survey in June 2012.
 JD2851
 JD2851.NAD 83(2011) refers to NAD 83 coordinates where the reference
 JD2851.frame has been affixed to the stable North American tectonic plate. See
 JD2851.NA2011 for more information.
 JD2851
 JD2851.The horizontal coordinates are valid at the epoch date displayed above
 JD2851.which is a decimal equivalence of Year/Month/Day.
 JD2851
 JD2851.The NAVD 88 height was computed by applying the VERTCON shift value to
 JD2851.the NGVD 29 height (displayed under SUPERSEDED SURVEY CONTROL.)
 JD2851
 JD2851.The X, Y, and Z were computed from the position and the ellipsoidal ht.
 JD2851
 JD2851.The Laplace correction was computed from DEFLEC12B derived deflections.
 JD2851
 JD2851.The ellipsoidal height was determined by GPS observations
 JD2851.and is referenced to NAD 83.
 JD2851
 JD2851. The following values were computed from the NAD 83(2011) position.
 JD2851
 JD2851;                   North         East      Units Scale Factor Converg.
 JD2851;SPC MO C     -   326,267.451   524,770.132   MT  0.99994089   +0 10 42.6
 JD2851;UTM  15      - 4,291,875.645   568,196.215   MT  0.99965727   +0 29 29.9
 JD2851
 JD2851!             -  Elev Factor  x  Scale Factor =   Combined Factor
 JD2851!SPC MO C     -   0.99996547  x   0.99994089  =   0.99990636
 JD2851!UTM  15      -   0.99996547  x   0.99965727  =   0.99962275
 JD2851
 JD2851                          SUPERSEDED SURVEY CONTROL
```

POINT 5006

CHECK HT WITH KNOWN ELEVATION

MEASURED ELEV = 828.514'

KNOWN ELEV = 252.549

1 METER = 39.37 US SURVEY FT

$252.549 \times \frac{39.37''}{1\,m} \times \frac{1'}{12''}$

$= 828.571'$

KNOWN − MEAS = DIFFERENCE

828.571 − 828.514

$= 0.057'$

CONVERT TO CM

$0.057' \times \frac{12''}{1'} \times \frac{2.54\,cm}{1''}$

$= 1.73\,cm$

REQ'D ACCURACY IS 2CM

OKAY MEETS REQUIREMENTS

```
JD2851
JD2851  NAD 83(2007)-  38 46 22.68369(N)    092 12 53.81286(W) AD(2002.00) 0
JD2851  ELLIP H (02/10/07)  220.098  (m)                       GP(2002.00)
JD2851  NAD 83(1997)-  38 46 22.68369(N)    092 12 53.81319(W) AD(       ) 1
JD2851  ELLIP H (02/17/00)  220.100  (m)                       GP(       ) 4 1
JD2851  NAD 83(1986)-  38 46 22.69262(N)    092 12 53.81717(W) AD(       ) 1
JD2851  NGVD 29 (09/27/93)  252.6    (m)  GEOID93 model used   GPS OBS
JD2851
JD2851.Superseded values are not recommended for survey control.
JD2851
JD2851.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
JD2851.See file dsdata.txt to determine how the superseded data were derived.
JD2851
JD2851_U.S. NATIONAL GRID SPATIAL ADDRESS: 15SWC6819691875(NAD 83)
JD2851
JD2851_MARKER: DD = SURVEY DISK
JD2851_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
JD2851_SP_SET: CONCRETE POST
JD2851_STAMPING: BO-23 1992
JD2851_MARK LOGO: MODNR
JD2851_MAGNETIC: M = MARKER EQUIPPED WITH BAR MAGNET
JD2851_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
JD2851+STABILITY: SURFACE MOTION
JD2851_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
JD2851+SATELLITE: SATELLITE OBSERVATIONS - June 10, 2008
JD2851
JD2851  HISTORY     - Date     Condition        Report By
JD2851  HISTORY     - 1992     MONUMENTED       MODNR
JD2851  HISTORY     - 20080610 GOOD             GEOCAC
JD2851
JD2851                          STATION DESCRIPTION
JD2851
JD2851'DESCRIBED BY MO DEPT OF NAT RES 1992
JD2851'DATE OF REPORT 11-30-1992
JD2851'STATION BO-23
JD2851'STATION, AZIMUTH MARKS AND REFERENCE TIES
JD2851'THE STATION IS A STANDARD DNR GRS ALUMINUM DISK STAMPED--BO-23 1992--
JD2851'SET IN A 12 INCH DIAMETER CONCRETE POST.  THE UNDERGROUND STATION IS A
JD2851'STANDARD DNR GRS ALUMINUM DISK STAMPED--BO-23U 1992--SET IN A MASS OF
JD2851'CONCRETE.  THE STATION IS 2.0 MI (3.2 KM) EAST OF ASHLAND MO 2.0 MI
JD2851'(3.2 KM) EAST OF THE U.S. HWY. 63 AND MO. HWY. Y INTERSECTION, 40.0
JD2851'FT (12.2 M) SOUTHEAST OF THE CENTERLINE OF RANGE LINE ROAD, 58.8 FT
JD2851'(17.9 M) SOUTHEAST OF A MAILBOX, 45.5 FT (13.9 M) SOUTHWEST OF A
JD2851'FIRE HYDRANT, 25.1 FT (7.7 M) WEST OF THE CENTERLINE OF AN OLD ROAD
JD2851'BED, 45.7 FT (13.9 M) WEST OF A FENCE, 86.7 FT (26.4 M) NORTHEAST OF
JD2851'MO. RTE. Y, 18.39 FT (5.61 M) EAST OF A NAIL AND SHINER IN A POWER
JD2851'POLE, 86.7 FT (26.4 M) EAST OF A STOP SIGN, AND 45.7 FT (13.9 M)
JD2851'WEST OF A WITNESS POST.
JD2851'THE AZIMUTH MARK IS A STANDARD DNR GRS ALUMINUM DISK STAMPED--BO-23A
JD2851'1992--SET IN A 12 IN. DIAMETER CONCRETE POST.  IT IS 2.0 MI (3.2 KM)
JD2851'EAST OF THE U.S. HWY. 63 AND MO. HWY. Y INTERSECTION IN ASHLAND MO,
JD2851'13.29 FT (4.05 M) SOUTHEAST OF A NAIL AND SHINER IN A POWER POLE
JD2851'TRANSFORMER PLATFORM, 25.0 FT (7.6 M) WEST OF THE CENTERLINE OF MO.
JD2851'RTE. Y, 24.0 FT (7.3 M) NORTH OF A DRIVEWAY CENTERLINE, 10.33 FT
JD2851'(3.15 M) NORTHEAST OF A POWER POLE TRANSFORMER PLATFORM, AND 10.8 FT
JD2851'(3.3 M) WEST OF A WITNESS POST AT A BOARD FENCE.
JD2851'STATION AND AZIMUTH MARK TO REACH
JD2851'TO REACH THE STATION FROM THE INTERSECTION OF MO. HWY. Y AND U.S. HWY.
JD2851'63 AT ASHLAND, GO EAST AND SOUTH ON MO. HWY. Y FOR 2.00 MI (3.22 KM)
JD2851'TO THE STATION IN THE EAST ANGLE OF MO. HWY. Y AND RANGELINE ROAD AS
JD2851'DESCRIBED.
JD2851'TO REACH THE AZIMUTH MARK FROM THE STATION, CONTINUE SOUTH ON MO. HWY.
JD2851'Y FOR .25 MI (0.40 KM) TO THE AZIMUTH MARK ON THE RIGHT AS DESCRIBED.
JD2851
JD2851                          STATION RECOVERY (2008)
JD2851
JD2851'RECOVERY NOTE BY GEOCACHING 2008 (ATL)
JD2851'RECOVERED IN GOOD CONDITION.

*** retrieval complete.
Elapsed Time = 00:00:02
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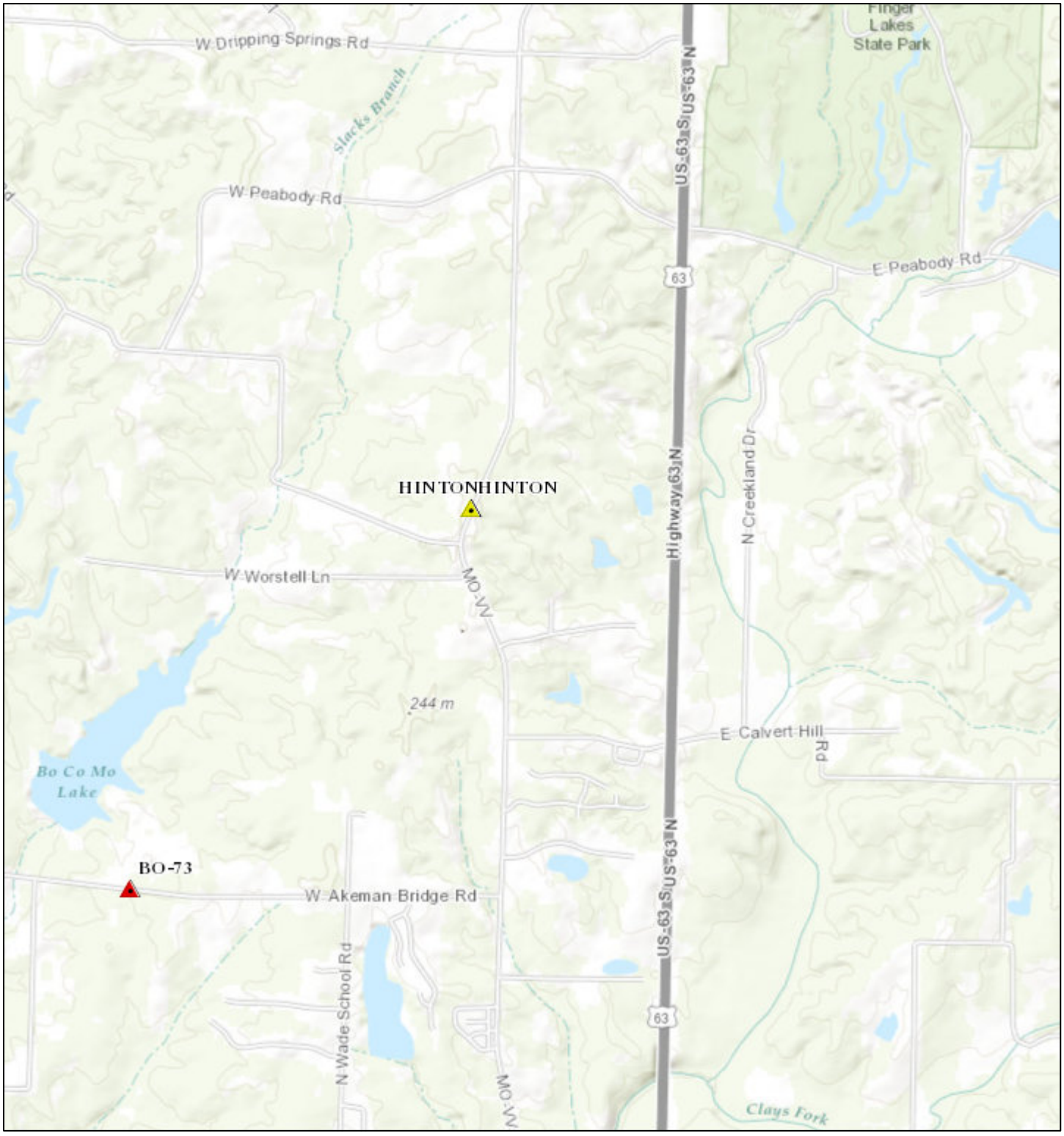
# BO Hinton




April 20, 2015

1:36,112

0 0.3 0.6 1.2 mi

0 0.5 1 2 km

Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community
Missouri Department of Agriculture, Land Survey Program

Missouri Office of Geospatial Information

# The NGS Data Sheet

**See file dsdata.txt for more information about the datasheet.**

```
PROGRAM = datasheet95, VERSION = 8.7
1         National Geodetic Survey,   Retrieval Date = APRIL 20, 2015
 KD1062 ***********************************************************************
 KD1062  DESIGNATION -  HINTON
 KD1062  PID         -  KD1062
 KD1062  STATE/COUNTY-  MO/BOONE
 KD1062  COUNTRY     -  US
 KD1062  USGS QUAD   -  BROWNS (1981)
 KD1062
 KD1062                        *CURRENT SURVEY CONTROL
 KD1062
 KD1062* NAD 83(2011) POSITION- 39 03 50.99743(N) 092 20 32.98754(W)   ADJUSTED
 KD1062* NAD 83(2011) ELLIP HT-   214.032 (meters)        (06/27/12)   ADJUSTED
 KD1062* NAD 83(2011) EPOCH   -  2010.00
 KD1062* NAVD 88 ORTHO HEIGHT -   246.8   (meters)      810.    (feet) VERTCON
 KD1062    ACTUAL → ELLIP HT - GEOID HT → 214.032 - (-32.77) = 246.802
 KD1062  GEOID HEIGHT    -       -32.77  (meters)                     GEOID12B
 KD1062  NAD 83(2011) X  -   -202,688.960 (meters)                     COMP
 KD1062  NAD 83(2011) Y  - -4,954,863.515 (meters)                     COMP
 KD1062  NAD 83(2011) Z  -  3,997,985.355 (meters)                     COMP
 KD1062  LAPLACE CORR    -         1.19  (seconds)                    DEFLEC12B
 KD1062
 KD1062  Network accuracy estimates per FGDC Geospatial Positioning Accuracy
 KD1062  Standards:
 KD1062         FGDC (95% conf, cm)      Standard deviation (cm)      CorrNE
 KD1062            Horiz  Ellip           SD_N   SD_E   SD_h       (unitless)
 KD1062  ------------------------------------------------------------------
 KD1062  NETWORK    1.19   2.21           0.53   0.43   1.13       0.01891707
 KD1062  ------------------------------------------------------------------
 KD1062  Click here for local accuracies and other accuracy information.
 KD1062
 KD1062
 KD1062.The horizontal coordinates were established by GPS observations
 KD1062.and adjusted by the National Geodetic Survey in June 2012.
 KD1062
 KD1062.NAD 83(2011) refers to NAD 83 coordinates where the reference
 KD1062.frame has been affixed to the stable North American tectonic plate. See
 KD1062.NA2011 for more information.
 KD1062
 KD1062.The horizontal coordinates are valid at the epoch date displayed above
 KD1062.which is a decimal equivalence of Year/Month/Day.
 KD1062
 KD1062.The NAVD 88 height was computed by applying the VERTCON shift value to
 KD1062.the NGVD 29 height (displayed under SUPERSEDED SURVEY CONTROL.)
 KD1062
 KD1062.The X, Y, and Z were computed from the position and the ellipsoidal ht.
 KD1062
 KD1062.The Laplace correction was computed from DEFLEC12B derived deflections.
 KD1062
 KD1062.The ellipsoidal height was determined by GPS observations
 KD1062.and is referenced to NAD 83.
 KD1062
 KD1062. The following values were computed from the NAD 83(2011) position.
 KD1062
 KD1062;                   North         East      Units Scale Factor Converg.
 KD1062;SPC MO C     -   358,565.579   513,630.721   MT  0.99993562   +0 05 57.3
 KD1062;UTM  15      - 4,324,102.876   556,883.178   MT  0.99963984   +0 24 51.7
 KD1062
 KD1062!             -  Elev Factor  x  Scale Factor =  Combined Factor
 KD1062!SPC MO C     -   0.99996642  x   0.99993562  =   0.99990204
 KD1062!UTM  15      -   0.99996642  x   0.99963984  =   0.99960627
 KD1062
 KD1062:               Primary Azimuth Mark                     Grid Az
```

POINT 5012.

CHECK HT WITH KNOWN ELEVATION

MEASURED ELEV = 809.685'

KNOWN ELEV = 246.802m

1 METER = 39.37 US SURVEY FT

$246.802 \times \frac{39.37"}{1\,m} \times \frac{1'}{12"}$

$= 809.716'$

KNOWN - MEAS = DIFFERENCE

$809.716 - 809.685$

$= 0.031'$

CONVERT TO CM

$0.031' \times \frac{12"}{1'} \times \frac{2.54cm}{1"}$

$= 0.94$ cm

REQ'D ACCURACY IS 2CM

OKAY MEETS REQUIREMENTS

```
KD1062:SPC MO C     -  HINTON AZ MK                              227 30 06.8
KD1062:UTM  15      -  HINTON AZ MK                              227 11 12.4
KD1062
KD1062|---------------------------------------------------------------------|
KD1062| PID    Reference Object                    Distance      Geod. Az   |
KD1062|                                                          dddmmss.s  |
KD1062| CL9549 HINTON RM 1                          41.736 METERS 05924      |
KD1062| JD2502 COLUMBIA MUN PWR PLT TALL STK       APPROX.11.2 KM 1684056.9  |
KD1062| JD2509 COLUMBIA MUNICIPAL TANK             APPROX.12.3 KM 1780534.8  |
KD1062| CL9550 HINTON RM 2                          37.207 METERS 19518      |
KD1062| CL9548 HINTON AZ MK                                       2273604.1  |
KD1062|---------------------------------------------------------------------|
KD1062
KD1062                          SUPERSEDED SURVEY CONTROL
KD1062
KD1062  NAD 83(2007)-  39 03 50.99745(N)    092 20 32.98815(W) AD(2002.00) 0
KD1062  ELLIP H (02/10/07)  214.061  (m)                       GP(2002.00)
KD1062  NAD 83(1997)-  39 03 50.99741(N)    092 20 32.98860(W) AD(       ) 1
KD1062  ELLIP H (02/17/00)  214.066  (m)                       GP(       ) 4 1
KD1062  NAD 83(1986)-  39 03 51.00605(N)    092 20 32.99231(W) AD(       ) 1
KD1062  NAD 83(1986)-  39 03 51.00605(N)    092 20 32.99231(W) AD(       ) 2
KD1062  NAD 27      -  39 03 50.85870(N)    092 20 32.33800(W) AD(       ) 2
KD1062  NGVD 29 (09/27/93)  246.7    (m)  GEOID93 model used   GPS OBS
KD1062
KD1062.Superseded values are not recommended for survey control.
KD1062
KD1062.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
KD1062.See file dsdata.txt to determine how the superseded data were derived.
KD1062
KD1062_U.S. NATIONAL GRID SPATIAL ADDRESS: 15SWD5688324102(NAD 83)
KD1062
KD1062_MARKER: DH = HORIZONTAL CONTROL DISK
KD1062_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
KD1062_SP_SET: CONCRETE POST
KD1062_STAMPING: HINTON 1949 1973
KD1062_MARK LOGO: CGS
KD1062_MAGNETIC: N = NO MAGNETIC MATERIAL
KD1062_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
KD1062+STABILITY: SURFACE MOTION
KD1062_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
KD1062+SATELLITE: SATELLITE OBSERVATIONS - June 05, 2008
KD1062
KD1062  HISTORY     - Date     Condition        Report By
KD1062  HISTORY     - 1949     MONUMENTED       CGS
KD1062  HISTORY     - 1949     GOOD             CGS
KD1062  HISTORY     - 1965     GOOD             CGS
KD1062  HISTORY     - 1967     GOOD             CGS
KD1062  HISTORY     - 1972     MARK NOT FOUND   MSHD
KD1062  HISTORY     - 1973     SEE DESCRIPTION  NGS
KD1062  HISTORY     - 1988     GOOD             USPSQD
KD1062  HISTORY     - 19920303 GOOD             MODNR
KD1062  HISTORY     - 20060207 GOOD             AIRDAT
KD1062  HISTORY     - 20080605 GOOD             GEOCAC
KD1062
KD1062                          STATION DESCRIPTION
KD1062
KD1062'DESCRIBED BY COAST AND GEODETIC SURVEY 1949 (MEW)
KD1062'THE STATION IS LOCATED ABOUT 8.0 MILES NORTH-NORTHWEST OF
KD1062'COLUMBIA, 0.85 MILE NORTH OF THE VILLAGE OF HINTON AND ALONG
KD1062'THE WEST SIDE OF HIGHWAY 63.  IT IS 82 FEET NORTH OF A POWERLINE
KD1062'WITH A TRIANGLE BLAZE. 51 FEET WEST OF THE CENTERLINE OF THE
KD1062'HIGHWAY, 15 FEET EAST OF A FENCE AND 2.5 FEET SOUTHEAST OF A
KD1062'WITNESS POST.  THE MARK IS FLUSH WITH THE SURFACE OF THE
KD1062'GROUND AND THE DISK IS STAMPED HINTON 1949.
KD1062'
KD1062'REFERENCE MARK NO.1 IS NORTHEAST OF THE STATION, 29 FEET EAST
KD1062'OF THE CENTERLINE OF THE HIGHWAY, 1.5 FEET SOUTHEAST OF A
KD1062'TELEPHONE POLE AND 1 FOOT WEST OF THE FENCE.  THE MARK IS
KD1062'FLUSH WITH THE SURFACE OF THE GROUND AND THE DISK IS STAMPED
KD1062'HINTON NO1 1949.
KD1062'
KD1062'REFERENCE MARK NO.2 IS SOUTH-SOUTHWEST OF THE STATION, 40.5
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KD1062'FEET SOUTH-SOUTHWEST OF A POWERLINE POLE WITH TRIANGLE BLAZE,
KD1062'34 FEET WEST OF THE CENTERLINE OF THE HIGHWAY AND 1 FOOT EAST
KD1062'OF THE FENCE.  THE MARK IS FLUSH WITH THE SURFACE OF THE
KD1062'GROUND AND THE DISK IS STAMPED HINTON NO2 1949.
KD1062'
KD1062'AZIMUTH MARK IS ABOUT 0.2 MILE SOUTHWEST OF THE STATION,
KD1062'19 FEET NORTH OF THE CENTERLINE OF A DIRT ROAD, 2 FEET EAST
KD1062'OF A WITNESS POST AND 1 FOOT SOUTH OF THE FENCE.  THE MARK
KD1062'PROJECTS 4 INCHES AND THE DISK IS STAMPED HINTON 1949.
KD1062'
KD1062'TO REACH FROM THE JUNCTION OF HIGHWAYS 63 AND 40 IN THE
KD1062'NORTHWESTERLY EDGE OF COLUMBIA, GO NORTH ON HIGHWAY 63 FOR
KD1062'6.5 MILES TO THE VILLAGE OF HINTON, CONTINUE ON HIGHWAY 63
KD1062'FOR 0.85 MILE TO THE STATION ON THE LEFT AT A POWERLINE
KD1062'POLE WITH A TRIANGLE BLAZE.
KD1062'
KD1062'TO REACH THE AZIMUTH MARK FROM THE STATION, GO SOUTH ON
KD1062'HIGHWAY 63 FOR 0.15 MILE TO A T ROAD RIGHT, TURN RIGHT
KD1062'(WEST) 0.1 MILE TO THE MARK ON THE RIGHT,
KD1062'
KD1062'HEIGHT OF LIGHT ABOVE STATION MARK 26 METERS.
KD1062
KD1062                          STATION RECOVERY (1949)
KD1062
KD1062'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1949
KD1062'RECOVERED IN GOOD CONDITION.
KD1062
KD1062                          STATION RECOVERY (1965)
KD1062
KD1062'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1965 (WMR)
KD1062'ALL MARKS RECOVERED IN GOOD CONDITION.  THE DESCRIPTION OF
KD1062'THE STATION SITE IS GOOD.  A NEW TO REACH FOLLOWS, TO REACH FROM
KD1062'THE INTERSECTION OF BUSINESS ROUTE 63 AND BUSINESS LOOP 70 IN THE
KD1062'NORTHWEST PART OF COLUMBIA GO NORTH ON U.S. 63 3.4 MILES
KD1062'TO A CROSSROADS, STATE ROUTE VV, TURN LEFT AND CONTINUE
KD1062'NORTHERLY ON ROUTE VV 2.7 MILES TO THE VILLAGE OF HINTON,
KD1062'CONTINUE NORTH ON ROUTE VV 0.8 MILE TO THE STATION ON THE LEFT.
KD1062
KD1062                          STATION RECOVERY (1967)
KD1062
KD1062'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1967 (LFS)
KD1062'THE STATION MARK, REFERENCE MARK NO. 1, REFERENCE MARK NO. 2, AND
KD1062'THE AZIMUTH MARK WERE RECOVERED AS DESCRIBED AND FOUND IN GOOD
KD1062'CONDITION.
KD1062'
KD1062'TO REACH THE STATION FROM THE JUNCTION OF BUSINESS ROUTE U.S.
KD1062'HIGHWAY 63 AND BUSINESS LOOP 70 AT THE NORTHWEST EDGE OF COLUMBIA,
KD1062'GO NORTH ON U.S. HIGHWAY 63 FOR 3.6 MILES TO THE JUNCTION OF
KD1062'COUNTY ROAD VV.  TURN LEFT AND GO NORTHERLY ON COUNTY ROAD VV FOR
KD1062'2.85 MILES TO THE VILLAGE OF HINTON.  CONTINUE NORTH ON COUNTY
KD1062'ROAD VV FOR 0.8 MILE TO THE STATION ON THE LEFT.
KD1062'
KD1062'A METAL WITNESS POST WAS SET 2 FEET NORTH OF THE STATION MARK.
KD1062'
KD1062'REFERENCE MARK NO. 1 IS 3.5 FEET NORTH-NORTHEAST OF A TELEPHONE
KD1062'POLE AND 7 FEET NORTH-NORTHWEST OF A WATER METER COVER.
KD1062'
KD1062'REFERENCE MARK NO. 2 WAS RECOVERED AS DESCRIBED.
KD1062'
KD1062'A METAL WITNESS POST WAS SET 1 FOOT EAST OF THE AZIMUTH MARK.
KD1062'
KD1062'AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN--ABOUT 0.85 MILE
KD1062'NORTH OF THE VILLAGE OF HINTON.
KD1062
KD1062                          STATION RECOVERY (1972)
KD1062
KD1062'RECOVERY NOTE BY MISSISSIPPI STATE HIGHWAY DEPARTMENT 1972 (BS)
KD1062'HINTON 1949 SURFACE MARK DESTROYED.  UNDERGROUND MARK FOUND IN GOOD
KD1062'CONDITION.
KD1062'
KD1062'AZ MARK FOUND IN GOOD CONDITION.
KD1062'

KD1062'THE UNDERGROUND MARK IS ABOUT 3 FT. UNDERGROUND.
KD1062'
KD1062'DISTANCE AND DIRECTION FROM NEAREST TOWN--8 MI NORTH NORTHWEST OF
KD1062'COLUMBIA MO.
KD1062
KD1062 STATION RECOVERY (1973)
KD1062
KD1062'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1973 (LFS)
KD1062'THE SUB-SURFACE STATION MARK, REFERENCE MARKS 1 AND 2 AND THE AZIMUTH
KD1062'MARK WERE RECOVERED AND FOUND IN GOOD CONDITION. THE SURFACE
KD1062'STATION MARK WAS FOUND LYING ON TOP THE GROUND AND THE CONCRETE
KD1062'MONUMENT WAS BROKE IN HALF. A NEW SURFACE STATION MARK WAS SET
KD1062'DIRECTLY OVER THE UNDERGROUND STATION MARK. THE DESCRIPTION OF
KD1062'THE STATION AND THE ROUTE TO REACH THE STATION IS ADEQUATE FOR
KD1062'RECOVERY OF THE STATION. THE DIRECTION TO REFERENCE MARK 1 MISSED
KD1062'THE PREVIOUS DIRECTION 3 MINUTES 14 SECONDS AND THE DISTANCE CHECKED
KD1062'GOOD. THE DIRECTION TO REFERENCE MARK 2 MISSED THE PREVIOUS
KD1062'DIRECTION 2 MINUTES 06 SECONDS AND THE DISTANCE MISSED THE PREVIOUS
KD1062'DISTANCE 0.12 FOOT.
KD1062'
KD1062'FOLLOWING ARE ADDITIONAL NOTE FOR THE MARKS.
KD1062'
KD1062'THE SURFACE STATION MARK IS A STANDARD DISK STAMPED HINTON 1949
KD1062'1973, SET IN THE TOP OF A 12 INCH CYLINDRICAL CONCRETE MONUMENT THAT
KD1062'PROJECTS 3 INCHES ABOVE THE GROUND SURFACE.
KD1062'
KD1062'A METAL WITNESS POST WAS SET 1 FOOT NORTH OF REFERENCE MARK 1.
KD1062'
KD1062'A METAL WITNESS POST WAS SET 1 FOOT SOUTH OF REFERENCE MARK 2.
KD1062'
KD1062'A METAL WITNESS POST IS SET 1 FOOT EAST OF THE AZIMUTH MARK.
KD1062'
KD1062'AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN--8 MILES
KD1062'NORTH-NORTHWEST OF COLUMBIA.
KD1062
KD1062 STATION RECOVERY (1988)
KD1062
KD1062'RECOVERY NOTE BY US POWER SQUADRON 1988 (PMD)
KD1062'RECOVERED IN GOOD CONDITION.
KD1062
KD1062 STATION RECOVERY (1992)
KD1062
KD1062'RECOVERY NOTE BY MO DEPT OF NAT RES 1992
KD1062'DATE OF REPORT 11-30-1992
KD1062'STATION HINTON 1949 1973
KD1062'STATION, AZIMUTH MARKS AND REFERENCE TIES
KD1062'THE STATION IS A STANDARD NGS HOR. CONTROL DISK IN A 12 INCH ROUND
KD1062'CONCRETE MON. PROJECTING 3 INCHES. IT IS LOCATED ON THE WEST R/W OF
KD1062'ROUTE VV ABOUT 0.9 MI (1.4 KM) NORTH OF THE VILLAGE OF HINTON MO
KD1062'UNDER A POWER LINE CROSSING THE HIGHWAY AND LEADING TO A SUBSTATION.
KD1062'IT IS 60 FT (18.3 M) SOUTH OF THE ENTRANCE TO THE SUBSTATION, 50 FT
KD1062'(15.2 M) WEST-NORTHWEST OF THE CENTERLINE OF ROUTE VV, AND 121.95 FT
KD1062'(37.17 M) NORTH OF R.M. NO. 2, A STANDARD USC AND GS DISK STAMPED--
KD1062'HINTON NO. 2 1949--SET IN A 10 IN. ROUND CONCRETE MON SET 5 IN. BELOW
KD1062'THE GROUND SURFACE. R.M. NO. 2 IS LOCATED 40 FT (12.2 M) WEST OF
KD1062'THE CENTERLINE OF ROUTE VV, 11 FT (3.4 M) SOUTH OF THE CENTERLINE
KD1062'OF A PRIVATE ENTRANCE AND 1 FT (0.3 M) NORTHEAST OF A METAL WITNESS
KD1062'POST AND SIGN.
KD1062'THE AZIMUTH MARK WAS NOT RECOVERED.
KD1062'STATION AND AZIMUTH MARK TO REACH
KD1062'TO REACH THE STATION FROM I-70 EXIT 127 (RANGE LINE RD. AND MO. HWY.
KD1062'763) IN THE NORTH PART OF COLUMBIA MO, GO NORTH ON HWY. 763 FOR 3.3
KD1062'MI (5.3 KM) TO A TRAFFIC LIGHT INTERSECTION WITH ROUTE VV AT
KD1062'PRATHERSVILLE. TURN LEFT AND FOLLOW ROUTE VV NORTHWESTERLY AND
KD1062'NORTHERLY FOR 2.85 MI (4.59 KM) TO THE SMALL COMMUNITY OF HINTON.
KD1062'CONTINUE NORTH ON ROUTE VV FOR 0.85 MI (1.37 KM) TO THE STATION SITE
KD1062'ON THE LEFT (WEST) SIDE OF ROAD ON RAISED GROUND AND UNDER A POWER
KD1062'LINE ABOUT 60 FT (18.3 M) SOUTH OF AN ENTRANCE TO A SUBSTATION FOR
KD1062'RURAL ELECTRIC COOPERATIVES.
KD1062
KD1062 STATION RECOVERY (2006)
KD1062

```
KD1062'RECOVERY NOTE BY AERIAL DATA SERVICE INCORPORATED 2006 (KEG)
KD1062'DESCRIPTION IS ADEQUATE, AND IS SUITABLE FOR SATELLITE OBSERVATION.
KD1062
KD1062                          STATION RECOVERY (2008)
KD1062
KD1062'RECOVERY NOTE BY GEOCACHING 2008 (ATL)
KD1062'RECOVERED IN GOOD CONDITION.

*** retrieval complete.
Elapsed Time = 00:00:03
```

# BO 41


April 20, 2015

1:9,028

0 0.075 0.15 0.3 mi

0 0.1 0.2 0.4 km

Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community
Missouri Department of Agriculture, Land Survey Program

Missouri Office of Geospatial Information

# The NGS Data Sheet

POINT 5014
CHECK HT WITH KNOWN ELEVATION

**See file dsdata.txt for more information about the datasheet.**

MEASURED ELEV = 573.435'

KNOWN ELEV = 174.806 m

1 METER = 39.37 US SURVEY FT

$174.806 \times \frac{39.37"}{1M} \times \frac{1'}{12"}$

$= 573.509'$

```
PROGRAM = datasheet95, VERSION = 8.7
1        National Geodetic Survey,   Retrieval Date = APRIL 20, 2015
 JD2869 ***********************************************************************
 JD2869  DESIGNATION -  BO 41
 JD2869  PID         -  JD2869
 JD2869  STATE/COUNTY-  MO/BOONE
 JD2869  COUNTRY     -  US
 JD2869  USGS QUAD   -  HUNTSDALE (1985)
 JD2869
 JD2869                         *CURRENT SURVEY CONTROL
 JD2869
 JD2869* NAD 83(2011) POSITION- 38 53 10.44471(N) 092 26 42.38833(W)    ADJUSTED
 JD2869* NAD 83(2011) ELLIP HT-   141.976 (meters)        (06/27/12)    ADJUSTED
 JD2869* NAD 83(2011) EPOCH   -  2010.00
 JD2869* NAVD 88 ORTHO HEIGHT -   174.8   (meters)      573.    (feet) VERTCON
 JD2869  USE ELLIP HT - GEOID HT → 141.976 - (-32.83) = 174.806
 JD2869  GEOID HEIGHT    -        -32.83  (meters)                     GEOID12B
 JD2869  NAD 83(2011) X  -   -212,089.998 (meters)                     COMP
 JD2869  NAD 83(2011) Y  - -4,966,849.986 (meters)                     COMP
 JD2869  NAD 83(2011) Z  -  3,982,583.231 (meters)                     COMP
 JD2869  LAPLACE CORR    -          1.07  (seconds)                    DEFLEC12B
 JD2869
 JD2869  Network accuracy estimates per FGDC Geospatial Positioning Accuracy
 JD2869  Standards:
 JD2869         FGDC (95% conf, cm)      Standard deviation (cm)      CorrNE
 JD2869            Horiz  Ellip           SD_N   SD_E   SD_h       (unitless)
 JD2869  ------------------------------------------------------------------------
 JD2869  NETWORK    1.03   1.69           0.46   0.37   0.86      -0.07415627
 JD2869  ------------------------------------------------------------------------
 JD2869  Click here for local accuracies and other accuracy information.
 JD2869
 JD2869
 JD2869.The horizontal coordinates were established by GPS observations
 JD2869.and adjusted by the National Geodetic Survey in June 2012.
 JD2869
 JD2869.NAD 83(2011) refers to NAD 83 coordinates where the reference
 JD2869.frame has been affixed to the stable North American tectonic plate. See
 JD2869.NA2011 for more information.
 JD2869
 JD2869.The horizontal coordinates are valid at the epoch date displayed above
 JD2869.which is a decimal equivalence of Year/Month/Day.
 JD2869
 JD2869.The NAVD 88 height was computed by applying the VERTCON shift value to
 JD2869.the NGVD 29 height (displayed under SUPERSEDED SURVEY CONTROL.)
 JD2869
 JD2869.The X, Y, and Z were computed from the position and the ellipsoidal ht.
 JD2869
 JD2869.The Laplace correction was computed from DEFLEC12B derived deflections.
 JD2869
 JD2869.The ellipsoidal height was determined by GPS observations
 JD2869.and is referenced to NAD 83.
 JD2869
 JD2869. The following values were computed from the NAD 83(2011) position.
 JD2869
 JD2869;                    North         East      Units Scale Factor Converg.
 JD2869;SPC MO C      -   338,803.475   504,762.396   MT  0.99993361   +0 02 04.1
 JD2869;UTM  15       - 4,304,298.344   548,126.093   MT  0.99962852   +0 20 54.1
 JD2869
 JD2869!              -  Elev Factor  x  Scale Factor =  Combined Factor
 JD2869!SPC MO C      -   0.99997772  x   0.99993361  =   0.99991134
 JD2869!UTM  15       -   0.99997772  x   0.99962852  =   0.99960625
 JD2869
 JD2869                          SUPERSEDED SURVEY CONTROL
```

KNOWN - MEAS = DIFFERENCE

$573.509' - 573.435' = 0.074'$

CONVERT TO CM

$0.074' \times \frac{12"}{1'} \times \frac{2.54cm}{1"}$

$= 2.25$ cm

REQ'D ACCURACY 2CM.

WITHIN ACCEPTABLE LIMITS

```
JD2869
JD2869  NAD 83(2007)-  38 53 10.44471(N)    092 26 42.38899(W) AD(2002.00) 0
JD2869  ELLIP H (02/10/07)  142.006  (m)                       GP(2002.00)
JD2869  NAD 83(1997)-  38 53 10.44472(N)    092 26 42.38927(W) AD(       ) 1
JD2869  ELLIP H (02/17/00)  142.007  (m)                       GP(       ) 4 1
JD2869  NAD 83(1986)-  38 53 10.45338(N)    092 26 42.39350(W) AD(       ) 1
JD2869  NGVD 29 (09/27/93)  174.8    (m)  GEOID93 model used   GPS OBS
JD2869
JD2869.Superseded values are not recommended for survey control.
JD2869
JD2869.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
JD2869.See file dsdata.txt to determine how the superseded data were derived.
JD2869
JD2869_U.S. NATIONAL GRID SPATIAL ADDRESS: 15SWD4812604298(NAD 83)
JD2869
JD2869_MARKER: DD = SURVEY DISK
JD2869_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
JD2869_SP_SET: CONCRETE POST
JD2869_STAMPING: BO-41 1992
JD2869_MARK LOGO: MODNR
JD2869_MAGNETIC: M = MARKER EQUIPPED WITH BAR MAGNET
JD2869_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
JD2869+STABILITY: SURFACE MOTION
JD2869_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
JD2869+SATELLITE: SATELLITE OBSERVATIONS - November 19, 2011
JD2869
JD2869  HISTORY     - Date     Condition        Report By
JD2869  HISTORY     - 1992     MONUMENTED       MODNR
JD2869  HISTORY     - 20080615 GOOD             GEOCAC
JD2869  HISTORY     - 20111119 GOOD             EISENB
JD2869
JD2869                          STATION DESCRIPTION
JD2869
JD2869'DESCRIBED BY MO DEPT OF NAT RES 1992
JD2869'DATE OF REPORT 11-30-1992
JD2869'STATION BO-41
JD2869'STATION, AZIMUTH MARKS AND REFERENCE TIES
JD2869'THE STATION IS A STANDARD DNR GRS ALUMINUM DISK STAMPED--BO-41 1992--
JD2869'SET IN A 12 INCH DIAMETER CONCRETE POST.  THE UNDERGROUND STATION IS A
JD2869'STANDARD DNR GRS ALUMINUM DISK STAMPED--BO-41U 1992--SET IN A MASS OF
JD2869'CONCRETE.  THE STATION IS LOCATED ON THE NORTH RIGHT-OF-WAY OF
JD2869'HIGHWAY K AND ON THE SOUTH RIGHT-OF-WAY OF KATY TRAIL AND ON THE
JD2869'EASTERN SIDE OF THE COMMUNITY OF MCBAINE MISSOURI.  THE STATION IS
JD2869'APPROXIMATELY 40 FEET NORTH OF THE CENTERLINE OF K, 11.5 FT (3.5 M)
JD2869'SOUTHWEST OF CENTERLINE OF KATY TRAIL, 50.85 FT (15.50 M) NORTHEAST
JD2869'OF A NAIL AND SHINER IN A UTILITY BRACE POLE AND 136 FEET NORTHEAST
JD2869'OF THE CENTERLINE OF KATY STREET, 19.25 FT (5.87 M) SOUTHWEST OF A
JD2869'NAIL AND SHINER IN A WOODEN POST, 6.26 FT (1.91 M) NORTHWEST OF A
JD2869'NAIL AND SHINER IN A WOODEN POST AND WITNESS POST.
JD2869'THE AZIMUTH MARK IS A D.N.R. ALUMINUM G.R.S. DISK SET IN A DRILL HOLE
JD2869'IN THE TOP OF THE CONCRETE ABUTMENT ON THE SOUTHEAST END OF BRIDGE
JD2869'NUMBER 169.7 ACROSS PERCHE CREEK OF THE KATY TRAIL (FORMERLY
JD2869'MISSOURI, KANSAS, TEXAS RAILROAD) ABOUT 0.24 MI (0.39 KM) NORTHWEST
JD2869'OF THE STATION, 1.45 FT (0.44 M) EAST OF THE WEST EDGE OF ABUTMENT,
JD2869'1.03 FT (0.31 M) WEST OF THE EAST EDGE, 3.41 FT (1.04 M) SOUTH OF
JD2869'THE NORTH EDGE, 2.05 FT (0.62 M) NAIL AND SHINER IN A WOODEN POST,
JD2869'8.2 FT (2.5 M) NORTHEAST OF THE CENTERLINE OF TRAIL, AND WITNESS
JD2869'POST AT NORTH END ABUTMENT.
JD2869'STATION AND AZIMUTH MARK TO REACH
JD2869'TO REACH THE STATION FROM THE INTERSECTION OF MO. HWY. 163 AND ROUTE K
JD2869'AT THE SOUTH EDGE OF COLUMBIA MO, FOLLOW ROUTE K SOUTHERLY AND
JD2869'WESTERLY FOR 5.2 MI (8.4 KM) TO THE FORMER CROSSING OF THE MISSOURI,
JD2869'KANSAS, AND TEXAS RAILROAD, NOW THE KATY TRAIL AT THE TOWN OF
JD2869'MCBAINE MO.  THE STATION SITE IS ON THE RIGHT IN THE NORTHWEST ANGLE
JD2869'OF THE CROSSING AS DESCRIBED.
JD2869'TO REACH THE AZIMUTH MARK FROM THE STATION, GO NORTHWEST 0.24 MI
JD2869'(0.39 KM) ON KATY TRAIL TO BRIDGE OVER PERCHE CREEK AND THE MARK ON
JD2869'THE RIGHT AS DESCRIBED.
JD2869'SPECIAL INFORMATION
JD2869'U.S.G.S. BENCHMARK 10-RPA 1966, RESET 1970 - EAST OF STATION
JD2869'APPROXIMATELY 250 FT, LOCATED ON CONCRETE HEAD WALL ON SOUTH SIDE OF
JD2869'ROUTE K (3RD ORDER).
```

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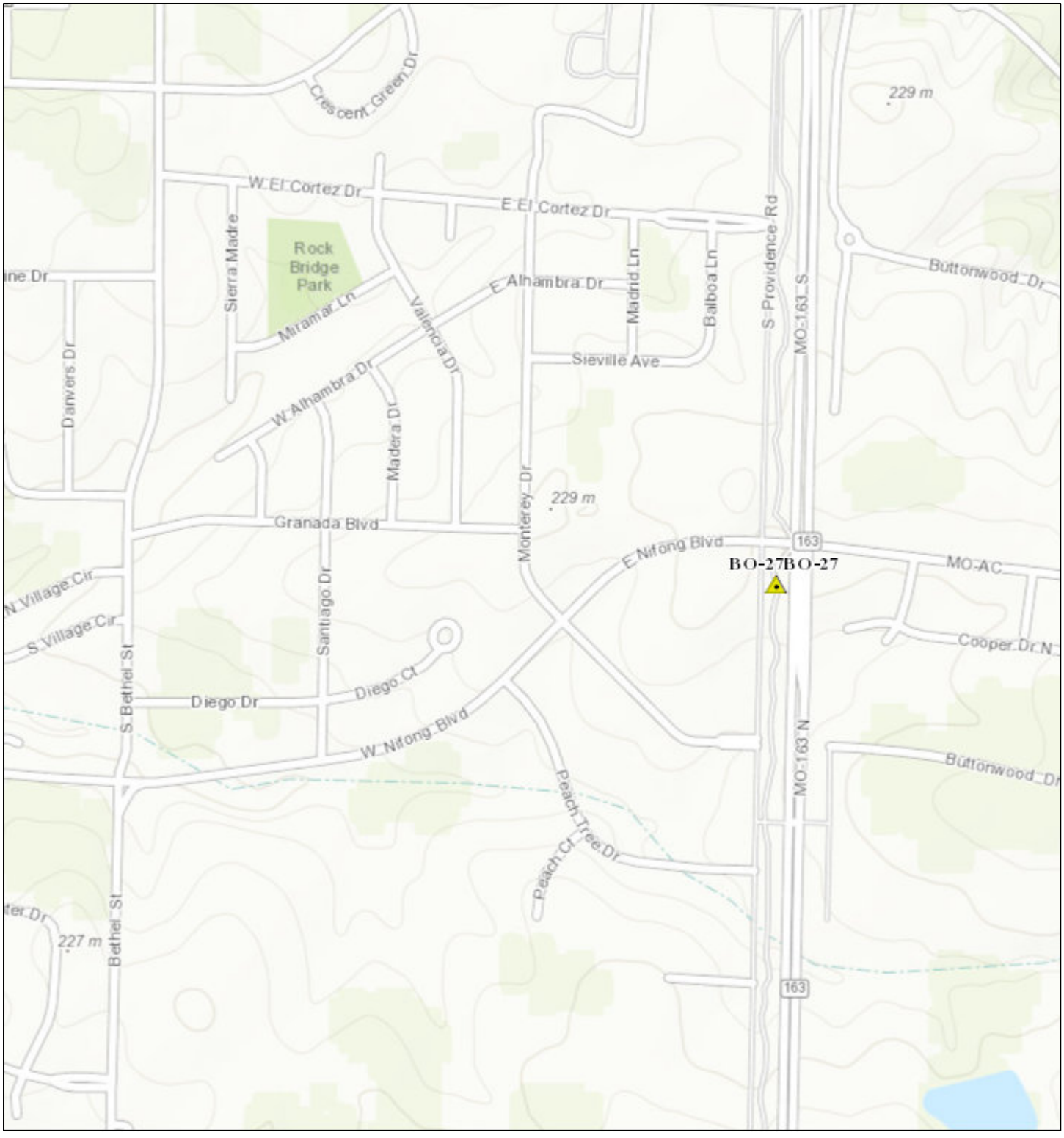
JD2869
JD2869                          STATION RECOVERY (2008)
JD2869
JD2869'RECOVERY NOTE BY GEOCACHING 2008 (ATL)
JD2869'RECOVERED IN GOOD CONDITION.
JD2869
JD2869                          STATION RECOVERY (2011)
JD2869
JD2869'RECOVERY NOTE BY EISENBRAUN AND ASSOCIATES INC 2011 (MCZ)
JD2869'RECOVERED IN GOOD CONDITION.

*** retrieval complete.
Elapsed Time = 00:00:03
```

# BO 27




April 20, 2015

1:9,028

0 0.075 0.15 0.3 mi

0 0.1 0.2 0.4 km

Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community
Missouri Department of Agriculture, Land Survey Program

Missouri Office of Geospatial Information

# The NGS Data Sheet

POINT 5604

CHECK HT WITH KNOWN ELEVATION

MEASURED ELEV = 748.063'

**See file dsdata.txt for more information about the datasheet.**

```
PROGRAM = datasheet95, VERSION = 8.7
1         National Geodetic Survey,   Retrieval Date = APRIL 20, 2015
 JD2855 ***********************************************************************
 JD2855  DESIGNATION -  BO 27
 JD2855  PID         -  JD2855
 JD2855  STATE/COUNTY-  MO/BOONE
 JD2855  COUNTRY     -  US
 JD2855  USGS QUAD   -  COLUMBIA (1981)
 JD2855
 JD2855                         *CURRENT SURVEY CONTROL
 JD2855
 JD2855* NAD 83(2011) POSITION- 38 54 35.01464(N) 092 20 06.67431(W)   ADJUSTED
 JD2855* NAD 83(2011) ELLIP HT-   195.271 (meters)        (06/27/12)   ADJUSTED
 JD2855* NAD 83(2011) EPOCH   -  2010.00
 JD2855* NAVD 88 ORTHO HEIGHT -   228.0   (meters)      748.    (feet) VERTCON
 JD2855  USE ELLIP HT - GEOID HT --> 195.271 - (-32.76) = 228.031
 JD2855  GEOID HEIGHT    -        -32.76  (meters)                     GEOID12B
 JD2855  NAD 83(2011) X  -   -202,495.796 (meters)                     COMP
 JD2855  NAD 83(2011) Y  - -4,965,652.907 (meters)                     COMP
 JD2855  NAD 83(2011) Z  -  3,984,646.381 (meters)                     COMP
 JD2855  LAPLACE CORR    -          2.33  (seconds)                    DEFLEC12B
 JD2855
 JD2855  Network accuracy estimates per FGDC Geospatial Positioning Accuracy
 JD2855  Standards:
 JD2855         FGDC (95% conf, cm)      Standard deviation (cm)      CorrNE
 JD2855            Horiz  Ellip           SD_N   SD_E   SD_h       (unitless)
 JD2855  ------------------------------------------------------------------
 JD2855  NETWORK    0.91   1.69           0.39   0.35   0.86       0.01872256
 JD2855  ------------------------------------------------------------------
 JD2855  Click here for local accuracies and other accuracy information.
 JD2855
 JD2855
 JD2855.The horizontal coordinates were established by GPS observations
 JD2855.and adjusted by the National Geodetic Survey in June 2012.
 JD2855
 JD2855.NAD 83(2011) refers to NAD 83 coordinates where the reference
 JD2855.frame has been affixed to the stable North American tectonic plate. See
 JD2855.NA2011 for more information.
 JD2855
 JD2855.The horizontal coordinates are valid at the epoch date displayed above
 JD2855.which is a decimal equivalence of Year/Month/Day.
 JD2855
 JD2855.The NAVD 88 height was computed by applying the VERTCON shift value to
 JD2855.the NGVD 29 height (displayed under SUPERSEDED SURVEY CONTROL.)
 JD2855
 JD2855.The X, Y, and Z were computed from the position and the ellipsoidal ht.
 JD2855
 JD2855.The Laplace correction was computed from DEFLEC12B derived deflections.
 JD2855
 JD2855.The ellipsoidal height was determined by GPS observations
 JD2855.and is referenced to NAD 83.
 JD2855
 JD2855. The following values were computed from the NAD 83(2011) position.
 JD2855
 JD2855;                    North          East      Units Scale Factor Converg.
 JD2855;SPC MO C      -   341,422.673   514,294.306   MT  0.99993585   +0 06 12.7
 JD2855;UTM  15       - 4,306,968.935   557,640.652   MT  0.99964091   +0 25 03.3
 JD2855
 JD2855!              -  Elev Factor  x  Scale Factor =  Combined Factor
 JD2855!SPC MO C      -   0.99996936  x   0.99993585  =   0.99990522
 JD2855!UTM  15       -   0.99996936  x   0.99964091  =   0.99961028
 JD2855
 JD2855                         SUPERSEDED SURVEY CONTROL
```

KNOWN ELEV = 228.031 m

1 METER = 39.37 US SURVEY FT

$228.031\ m \times \frac{39.37''}{1m} \times \frac{1'}{12''} = 748.131'$

KNOWN - MEAS = DIFFERENCE

$748.131' - 748.063' = 0.068'$

CONVERT TO CM

$0.068' \times \frac{12''}{1'} \times \frac{2.54\ cm}{1''} = 2.07\ cm$

REQ'D ACCURACY IS 2 cm

OKAY WITHIN ACCEPTABLE LIMITS

```
JD2855
JD2855  NAD 83(2007)-  38 54 35.01466(N)    092 20 06.67493(W) AD(2002.00) 0
JD2855  ELLIP H (02/10/07)  195.301  (m)                       GP(2002.00)
JD2855  NAD 83(1997)-  38 54 35.01463(N)    092 20 06.67534(W) AD(       ) 1
JD2855  ELLIP H (02/17/00)  195.304  (m)                       GP(       ) 4 1
JD2855  NAD 83(1986)-  38 54 35.02327(N)    092 20 06.67980(W) AD(       ) 1
JD2855  NGVD 29 (09/27/93)  228.0    (m)  GEOID93 model used   GPS OBS
JD2855
JD2855.Superseded values are not recommended for survey control.
JD2855
JD2855.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
JD2855.See file dsdata.txt to determine how the superseded data were derived.
JD2855
JD2855_U.S. NATIONAL GRID SPATIAL ADDRESS: 15SWD5764006968(NAD 83)
JD2855
JD2855_MARKER: DD = SURVEY DISK
JD2855_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
JD2855_SP_SET: CONCRETE POST
JD2855_STAMPING: BO-27 1992
JD2855_MARK LOGO: MODNR
JD2855_MAGNETIC: M = MARKER EQUIPPED WITH BAR MAGNET
JD2855_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
JD2855+STABILITY: SURFACE MOTION
JD2855_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
JD2855+SATELLITE: SATELLITE OBSERVATIONS - June 05, 2008
JD2855
JD2855  HISTORY     - Date     Condition        Report By
JD2855  HISTORY     - 1992     MONUMENTED       MODNR
JD2855  HISTORY     - 20080605 GOOD             GEOCAC
JD2855
JD2855                          STATION DESCRIPTION
JD2855
JD2855'DESCRIBED BY MO DEPT OF NAT RES 1992
JD2855'DATE OF REPORT 11-30-1992
JD2855'STATION BO-27
JD2855'STATION, AZIMUTH MARKS AND REFERENCE TIES
JD2855'THE STATION IS A STANDARD DNR GRS ALUMINUM DISK STAMPED--BO-27 1992--
JD2855'SET IN A 12 INCH DIAMETER CONCRETE POST.  THE UNDERGROUND STATION IS A
JD2855'STANDARD DNR GRS ALUMINUM DISK STAMPED--BO-27U 1992--SET IN A MASS OF
JD2855'CONCRETE.  THE STATION IS 1.8 MI (2.9 KM) SOUTH OF MEMORIAL STADIUM,
JD2855'1.95 MI (3.14 KM) SOUTH OF THE MO. RTE. 740 AND MO. RTE. 163
JD2855'INTERSECTION, AND 75 FT (22.9 M) SOUTHWEST OF THE MO. RTE. 163 AND
JD2855'MO. RTE. AC INTERSECTION, 61.0 FT (18.6 M) EAST OF THE CENTERLINE OF
JD2855'AN OUTER ROAD, 175 FT (53.3 M) SOUTH OF NIPHONG BLVD., 117.45 FT
JD2855'(35.80 M) SOUTHWEST OF A YIELD SIGN, 63.4 FT (19.3 M) WEST OF THE
JD2855'PAVEMENT EDGE OF MO. RTE. 163, 51.8 FT (15.8 M) NORTHWEST OF A MO.
JD2855'RTE. 163 HIGHWAY SIGN.
JD2855'THE AZIMUTH MARK IS A STANDARD DNR GRS ALUMINUM DISK STAMPED--BO-27A
JD2855'1992--SET IN A 12 IN. DIAMETER CONCRETE POST. IT IS 33.52 FT (10.22 M)
JD2855'SOUTH OF A NAIL AND SHINER IN A POWER POLE, 22.2 FT (6.8 M) WEST OF
JD2855'THE CENTERLINE OF THE WEST OUTER ROAD OF SOUTHBOUND MO. RTE. 163,
JD2855'34.5 FT (10.5 M) NORTH OF THE CENTERLINE OF AN ENTRANCE ROAD TO
JD2855'COLUMBIA AREA CAREER CENTER, AND 9.8 FT (3.0 M) NORTHEAST OF THE NW
JD2855'BOLT AT THE BASE OF A FIRE HYDRANT.
JD2855'STATION AND AZIMUTH MARK TO REACH
JD2855'TO REACH THE STATION FROM THE INTERSECTION OF U.S. HIGHWAY 63 AND OLD
JD2855'63, GO NORTH AND WEST ON OLD 63 FOR .10 MI (0.16 KM) TO MO. ROUTE AC
JD2855'(NIPHONG BLVD.).  TURN LEFT AND GO SOUTH AND WEST ON MO. ROUTE AC FOR
JD2855'2.15 MI (3.46 KM) TO MO. ROUTE 163.    CONTINUE WEST THROUGH
JD2855'INTERSECTION 200 FT (61.0 M) TO THE WEST OUTER ROAD.  TURN LEFT AND
JD2855'GO SOUTH ON WEST OUTER ROAD FOR 175 FT (53.3 M) TO THE STATION ON
JD2855'THE LEFT AS DESCRIBED.
JD2855'TO REACH THE AZIMUTH MARK FROM THE STATION, GO SOUTH ON OUTER ROAD FOR
JD2855'.40 MI (0.64 KM) TO THE AZIMUTH MARK ON THE RIGHT AS DESCRIBED.
JD2855
JD2855                          STATION RECOVERY (2008)
JD2855
JD2855'RECOVERY NOTE BY GEOCACHING 2008 (ATL)
JD2855'RECOVERED IN GOOD CONDITION.

*** retrieval complete.
Elapsed Time = 00:00:02
```