Lidar Mapping Report

Acquisition, Processing, and Delivery of Airborne Lidar Elevation Data for the NE_SouthernNE_2018_D19 Project

USGS CONTRACT: G16PC00029

CONTRACTOR: Merrick-Surdex JV

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NE_SouthernNE_2018_D19

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Submitted to:

USGS science for a changing world

Submitted by:

MERRICK SURDEX JOINT VENTURE

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Glossary of Terms

Term	Description
AGL	Above Ground Level
AGPS	Airborne Global Positioning System
ANPD	Aggregate Nominal Pulse Density
ANPS	Aggregate Nominal Pulse Spacing
ASPRS	American Society of Photogrammetry and Remote Sensing
AT	Aerial Triangulation
CD	Compact Disk
CMS	Certified Mapping Scientist
CORS	Continuous Operating Reference Station
CP	Certified Photogrammetrist
CVA	Consolidated Vertical Accuracy
DACS™	Digital Airborne Camera System
DEM	Digital Elevation Model
DFIRM	Digital Flood Insurance Rate Maps
DSM	Digital Surface Model
DTM	Digital Terrain Model
DVD	Digital Versatile Disk / Digital Video Disk
DXF	Data Exchange Format / Drawing Interchange
FIRM	Flood Insurance Rate Maps
FEMA	Federal Emergency Management
FGDC	Federal Geographic Data Committee
FVA	Fundamental Vertical Accuracy
FY	Fiscal Year
GIS	Geographic Information System
GISP	Geographic Information System Professional
GNSS	Global Navigation Satellite System
GPS	Global Positioning System
GSD	Ground Sample Distance
HARN	High Accuracy Reference Network
HDD	Hard Drive Disk
HPGN	High Precision Geodetic Network
IMU	Inertial Measurement Unit
INS	Inertial Navigation System
LAS	(or .las) – industry accepted LIDAR data exchange file format
LB	License Business
LS	Land Surveyor
LiDAR	(or Lidar) Light Detection And Ranging
MARS®	Merrick Advanced Remote Sensing
Merrick	Merrick & Company
MSL	Mean Sea Level
NAD	North American Datum
NDEP	National Digital Elevation Program
NGP	National Geospatial Program
NGS	National Geodetic Survey
NMAS	National Map Accuracy Standards

No.	Number
NPS	Nominal Point Spacing
NSRS	National Spatial Reference System
NSSDA	National Standard for Spatial Data
NVA	Non-vegetated Vertical Accuracy
OPUS	Online Positioning User Service
PDOP	Positional Dilution Of Precision
PLS	Professional Land Surveyor
PLSS	Public Land Survey System
ppsm	Points (or pulses) per square meter
PSM	Professional Surveyor and Mapper
QL2	Quality Level One
QL2	Quality Level Two
RLS	Registered Land Surveyor
RGB	Red, Green, Blue (i.e., three-band image)
RGBNIR	Red, Green, Blue, Near Infra-Red (i.e., four-band image)
RMSE	Root Mean Square Error
SBET	Smoothed Best Estimated Trajectory
SHA	Secured Hash Standard
SPCS	State Plane Coordinate System
SVA	Supplemental Vertical Accuracy
TIN	Triangular Irregular Network
USGS	United State Geological Survey
VVA	Vegetated Vertical Accuracy
XML	eXtensible Markup Language

Project Summary

The USGS awarded Merrick-Surdex Joint Venture, LLP (Merrick-Surdex JV) the NE_SouthernNE_2018_D19 (USGS Task Order Number 140G0219F0012) project to collect high-resolution QL2 lidar data of approximately 11,394 square miles collected over several Nebraska counties. These counties include Washington, Polk, Merrick, Howard, Hamilton, Cass, Dawson, Hall, Buffalo, Clay, Adams, Kearney, Phelps, Gage, Jefferson, Thayer, Nuckolls, Harlan, Webster and Franklin.

The lidar mapping requirements and deliverables meet Quality Level Two (QL2) standards for final deliverables as outlined in the USGS-NGP Lidar Base Specifications, Techniques and Methods 11–B4, Version 1.3, February 2018. QL2 lidar specifications suggest a pulse density of greater than or equal to eight pulses per square meter (≥2ppsm) Aggregate Nominal Pulse Density (ANPD), and pulse spacing of less than or equal to thirty-five centimeters (≤0.71m) Aggregate Nominal Pulse Spacing (ANPS). The vertical accuracy requirements of the lidar data meets or exceeds the following:

Absolute Vertical Accuracy

- ≤10cm RMSEz
- ≤19.6cm Non-vegetated Vertical Accuracy (NVA) at the 95% confidence level
- ≤29.4cm Vegetated Vertical Accuracy (VVA) at the 95% percentile

Relative Vertical Accuracy

- ≤6cm within individual swaths (smooth surface repeatability)
- ≤8cm $RMSD_Z$ within swath overlap (between adjacent swaths)

Project Spatial Reference

- Horizontal Datum – North American Datum of 1983 (NAD 83)
- Epoch – National Adjustment of 2011 (NA2011) (epoch 2010.00)
- Geoid – GEOID 12B
- Vertical Datum – North American Vertical Datum of 1988 (NAVD 88)
- Projection – Universal Transverse Mercator (UTM), Zone 14 North (14N) / Zone 15 North (15N)
- Units – Meters
- EPSG Codes
  - UTM Zone 15N = EPSG 6344
  - UTM Zone 14N = EPSG 6343

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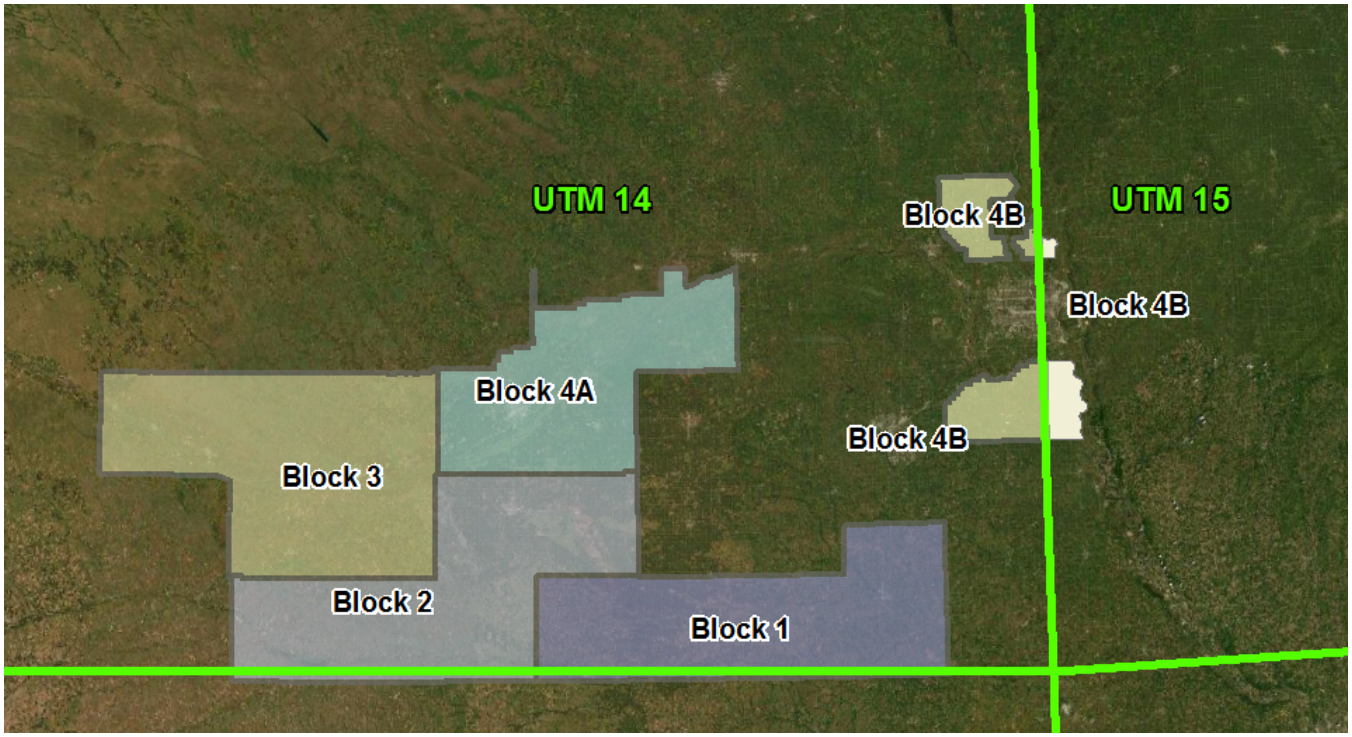
Project Report

The contents of this report summarize the methods used to calibrate and classify the lidar data as well as the results of these methods for the project NE_SouthernNE_2018_D19.

Lidar Flight Information

The acquisition area for the NE_SouthernNE_2018_D19 project is delineated by the extent of the client approved Esri shapefile (*2018_boundary*). Merrick-Surdex JV acquired the QL2 lidar point cloud utilizing Optech Galaxy lidar sensors. The Galaxy is a high performance lidar sensor capable of collecting large areas efficiently. The project was flown and then processed and delivered in sections (Blocks) by UTM zone; five total delivery blocks for UTM 14 and one total block for UTM 15.



Aerial Mission(s)

Lidar acquisition was collected using a fixed wing aircraft and an Optech Galaxy lidar sensors staging from a variety of airports around the project area. Lidar data collection for the project was accomplished between April 13, 2019 and February 21, 2020. Each mission represents a lift of the aircraft and system from the ground, collects data, and lands again. Multiple lifts within a day are represented by Mission A, B, C, and D. The table below relates each mission to the date collected, the sensor and serial number used, and the actual average MSL in meters.

Mission(s)	Date	Sensor S/N	Actual Avg. MSL (m)
190413_A	April 13, 2019	5060382	6816
190414_A	April 14, 2019	5060382	6737
190418_A	April 18, 2019	5060382	7185

190419_A	April 19, 2019	5060416	6970
190419_A	April 19, 2019	5060314	6939
190419_A	April 19, 2019	5060382	7171
190420_A	April 20, 2019	5060382	7259
190420_A	April 20, 2019	5060314	6900
190423_A	April 23, 2019	5060314	7093
190424_A	April 24, 2019	5060382	7385
190424_A	April 24, 2019	5060314	7150
190425_A	April 25, 2019	5060382	7291
190425_A	April 25, 2019	5060314	7267
190426_A	April 26, 2019	5060382	7284
190426_A	April 26, 2019	5060314	6945
190428_A	April 28, 2019	5060382	7240
190429_A	April 29, 2019	5060382	7281
190429_A	April 29, 2019	5060314	7498
190430_A	April 30, 2019	5060314	7584
190430_A	April 30, 2019	5060382	7645
190502_A	May 2, 2019	5060382	7610
190502_A	May 2, 2019	5060314	7633
190503_A	May 3, 2019	5060314	7656
190503_A	May 3, 2019	5060382	7685
190504_A	May 4, 2019	5060314	7039
190504_A	May 4, 2019	5060382	7600
190505_A	May 5, 2019	5060382	7661
190505_A	May 5, 2019	5060314	7001
190510_A	May 10, 2019	5060382	7627
190511_A	May 11, 2019	5060382	7614
190511_A	May 11, 2019	5060314	7019
190512_A	May 12, 2019	5060382	7990
190513_A	May 13, 2019	5060314	7271
190513_A	May 13, 2019	5060382	7549
200220_A	February 20, 2020	5060420	10113
200220_A	February 20, 2020	5060428	10036
200221_A	February 21, 2020	5060420	10086
200221_A	February 21, 2020	5060428	10075

GNSS / IMU Data

A five-minute INS initialization is conducted on the ground, with the aircraft engines running, prior to flight, to establish fine-alignment of the INS. GPS ambiguities are resolved by flying within ten kilometers of the base stations. During the data collection, the operator recorded information on log sheets which includes weather conditions, lidar operation parameters, and flight line statistics. Near the end of the mission, GPS ambiguities were again resolved by flying within ten kilometers of the base stations to aid in post-processing. Data is sent back to the main office for preliminary processing to check overall quality of GPS / INS data and to ensure sufficient overlap between flight lines. Any problematic data may be re-flown immediately as required.

The airborne GPS data was post-processed using Applanix POSPac Mobile Mapping Suite version 8.x. A fixed-bias carrier phase solution was computed in both the forward and reverse chronological directions. Whenever practical, lidar acquisition was limited to periods when the PDOP was less than 4.0. PDOP indicates satellite geometry relating to position. Generally, PDOP's of 4.0 or less result in a good quality solution, however PDOP's between 4.0 and 5.0 can still yield good results most of the time. PDOP's over 6.0 are of questionable results and PDOP's of over 7.0 usually result in a poor solution. Usually as the number of satellites increase the PDOP decreases. Other quality control checks used for the GPS include analyzing the combined separation of the forward and reverse GPS processing from one base station and the results of the combined separation when processed from two different base stations. An analysis of the number of satellites, present during the flight and data collection times, is also performed.

The GPS trajectory was combined with the raw IMU data and post-processed using POSPac Mobile Mapping Suite version 8.x. The SBET and refined attitude data are then utilized in the LMS Post Processor to compute the laser point-positions – the trajectory is combined with the attitude data and laser range measurements to produce the 3-dimensional coordinates of the mass points. Up to four return values are produced within the Optech LMS processor software for each pulse which ensures the greatest chance of ground returns in a heavily forested area.

GPS Controls

Virtual Ground GNSS Base Station(s) were used to control the lidar airborne flight lines. Trimble CenterPoint™ RTX™ correction service is a high-accuracy, satellite-delivered global positioning service. This technology provides high-accuracy GNSS positioning without the use of traditional reference station-based differential RTK infrastructure and delivers very high cm level accuracy. In addition, CORS (Continually Operating Reference Stations) are at times used to further enhance the airborne solution.

Lidar Calibration – see appendix 1 for a more detailed workflow description

Merrick-Surdex JV takes great care to ensure all lidar acquisition missions are carried out in a manner conducive to post-processing an accurate data set. This begins in the flight-planning stage with attention to GPS baseline distances and GPS satellite constellation geometry and outages. Proper AGPS surveying techniques are always followed including pre- and post-mission static initializations. In-air IMU alignments (figure-eights) are performed both before and after on-site collection to ensure proper calibration of the IMU accelerometers and gyros.

A minimum of one cross-flight is planned throughout the project area across all flightlines and over roadways where possible. The cross-flight provides a common control surface used to remove any vertical discrepancies in the lidar data between flightlines. The cross-flight is critical to ensure flightline ties across the project area. The areas of overlap between flightlines are used to boresight (calibrate) the lidar point cloud to achieve proper

flightline to flightline alignment in all three axes. This includes adjustment of both IMU and scanner-related variables such as roll, pitch, heading, timing interval (range), and torsion. Each lidar mission flown is accompanied by a hands-on boresight in the office.

After boresighting is complete a detailed statistical report is generated to check relative and absolute accuracies before filtering of lidar begins.

Survey – Lidar Calibration Control / Lidar Checkpoints

Merrick-Surdex JV surveyors established lidar calibration and lidar checkpoints spatially distributed across the project AOI as the method to validate absolute vertical accuracy. *See Appendix 2 for more detailed survey reporting.*

Unfiltered Lidar Control Point Report

The following tables illustrate the results of the lidar data compared to the lidar control points post-calibration. The statistics below show the vertical difference between the lidar points and the one hundred ten (110) surveyed ground points used for lidar calibration.

UTM 14

Project Data Unit: Meter
Vertical Accuracy Class tested: 10.0-cm
Elevation Calculation Method: Interpolated from TIN
LiDAR Classifications Included: 2/0 Ground (All)/0W

Check Points in Report: 107
Check Points with LiDAR Coverage: 107
Check Points (NVA): 107
Check Points (VVA): 0
Average Vertical Error Reported: 0.012 Meter
Maximum (highest) Vertical Error Reported: 0.253 Meter
Median Vertical Error Reported: 0.011 Meter
Minimum (lowest) Vertical Error Reported: -0.116 Meter
Standard deviation of Vertical Error: 0.056 Meter
Skewness of Vertical Error: 0.711
Kurtosis of Vertical Error: 2.799
Non-vegetated Vertical Accuracy (NVA) RMSE(z): 5.664cm PASS
Non-vegetated Vertical Accuracy (NVA) at the 95% Confidence Level +/-: 11.101cm PASS
FGDC/NSSDA Vertical Accuracy at the 95% Confidence Level +/-: 11.101cm
Non-vegetated Vertical Accuracy (NVA) RMSE(z) (DEM): 5.758cm PASS
Non-vegetated Vertical Accuracy (NVA) at the 95% Confidence Level +/- (DEM): 11.286cm PASS

This data set was tested to meet ASPRS Positional Accuracy Standard for Digital Geospatial Data (2014) for a 10.0-cm RMSEz Vertical Accuracy Class. Actual NVA accuracy was found to be RMSEz = 5.664cm, equating to +/- 11.101cm at the 95% confidence level.

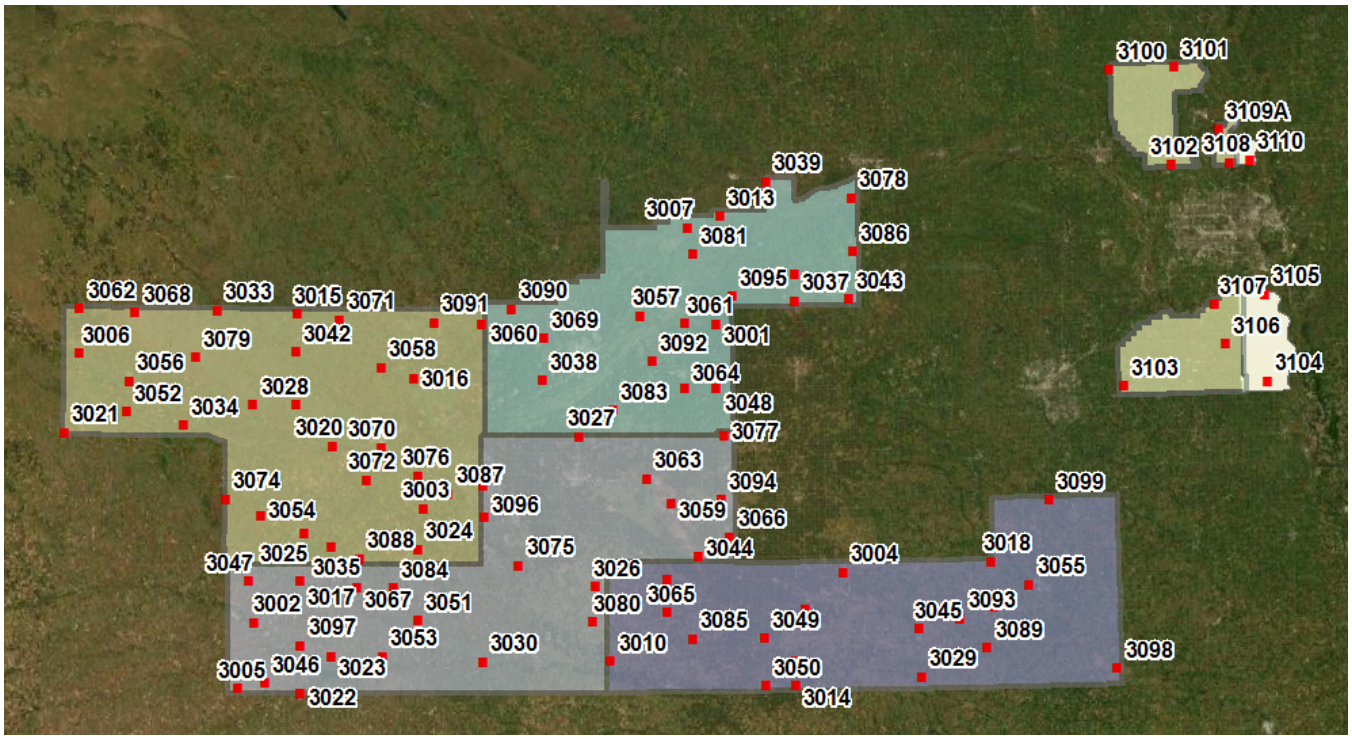
UTM 15

Project Data Unit: Meter
Vertical Accuracy Class tested: 10.0-cm
Elevation Calculation Method: Interpolated from TIN
LiDAR Classifications Included: 2/0 Ground (All)/0W

Check Points in Report: 3
Check Points with LiDAR Coverage: 3
Check Points (NVA): 3
Check Points (VVA): 0
Average Vertical Error Reported: -0.024 Meter
Maximum (highest) Vertical Error Reported: -0.007 Meter
Median Vertical Error Reported: -0.027 Meter
Minimum (lowest) Vertical Error Reported: -0.039 Meter
Standard deviation of Vertical Error: 0.016 Meter
Skewness of Vertical Error: 0.361
Kurtosis of Vertical Error: -1.500
Non-vegetated Vertical Accuracy (NVA) RMSE(z): 2.768cm PASS
Non-vegetated Vertical Accuracy (NVA) at the 95% Confidence Level +/-: 5.426cm PASS
FGDC/NSSDA Vertical Accuracy at the 95% Confidence Level +/-: 5.426cm
Non-vegetated Vertical Accuracy (NVA) RMSE(z) (DEM): 3.319cm PASS
Non-vegetated Vertical Accuracy (NVA) at the 95% Confidence Level +/- (DEM): 6.505cm PASS

This data set was tested to meet ASPRS Positional Accuracy Standard for Digital Geospatial Data (2014) for a 10.0-cm RMSEz Vertical Accuracy Class. Actual NVA accuracy was found to be RMSEz = 2.768cm, equating to +/- 5.426cm at the 95% confidence level.

Lidar Control Point Layout



Lidar Filtering and Classification

The lidar filtering process encompasses a series of automated and manual steps to classify the boresighted point cloud data set. Each project represents unique characteristics in terms of cultural features (urbanized vs. rural

areas), terrain type and vegetation coverage. These characteristics are thoroughly evaluated at the onset of the project to ensure that the appropriate automated filters are applied and that subsequent manual filtering yields correctly classified data. Data is most often classified by ground and "unclassified", but specific project applications can include a wide variety of classifications including but not limited to buildings, vegetation, power lines, etc. MARS® software is used for the auto-filtering, manual filtering and QC of the classified data.

Merrick-Surdex JV used the ASPRS LAS Specification Version 1.4 – R13, 15 July 2013, Point Data Record Format 6 for this project and classified the lidar point cloud in accordance with the following classification classes and bitflags. The following outlines project specific requirements.

- Class 1 = Unclassified
- Class 2 = Bare-earth Ground
- Class 7 = Low point (noise)
- Class 9 = Water
- Class 17 = Bridge decks
- Class 18 = High noise
- Class 20 = Ignored Ground (breakline proximity)
- Class 21 = Snow (if present and identifiable)
- Class22 = Temporal exclusion (typically non-favored data in intertidal zones)

- Bitflags
    - Withheld: Within the LAS file specification, a single bit flag indicating that the associated lidar point is geometrically anomalous or unreliable and should be ignored for all normal processes.
    - Overlap: Points that overlap between adjacent flight lines.

Merrick-Surdex JV has developed several customized automated filters that are applied to the lidar data set based on project specifications, terrain, and vegetation characteristics. A filtering macro, which may contain one or more filtering algorithms, is executed to derive LAS files separated into the different classification groups as defined in the ASPRS classification table. The macros are tested in several portions of the project area to verify the appropriateness of the filters. Often, there is a combination of several filter macros that optimize the filtering based on the unique characteristics of the project. Automatic filtering generally yields a ground surface that is 85-90% valid, so additional editing (hand-filtering) is required to produce a more robust ground surface.

Lidar data is next taken into a graphic environment using MARS® to manually re-classify (or hand-filter) "noise" and other features that may remain in the ground classification after auto filter. A cross-section of the post auto-filtered surface is viewed to assist in the reclassification of non-ground data artifacts. The following is an example of re-classification of the non-ground points (elevated features) that need to be excluded from the true ground surface. Certain features such as berms, hilltops, cliffs and other features may have been aggressively auto-filtered and points will need to be re-classified into the ground classification. Data in the profile view displays non-ground (Unclassified, class 1) in grey and ground in brown/tan (Class 2). In figure 1, a small building was not auto-filtered and needs to be manually re-classified. Note that figure 2 has the building points reclassified to unclassified from the true ground surface.

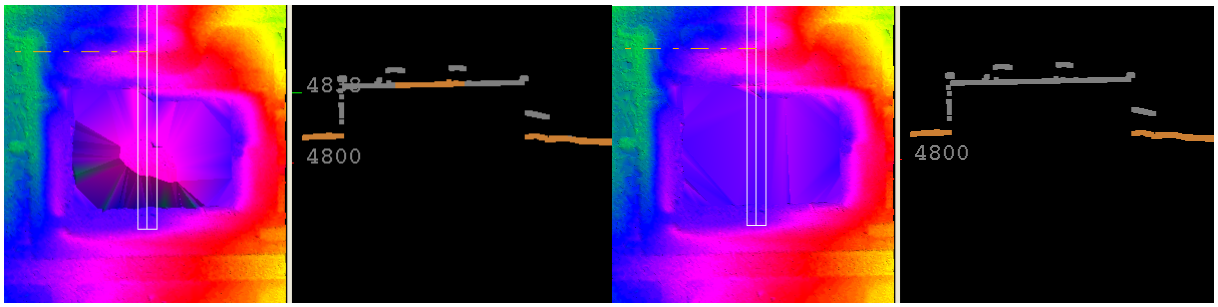


Figure 1 **Figure 2**

A combination of automated and semi-automated routines to classify buildings and vegetation. We expect that the classified buildings will meet a filtering criterion in the range of 90-95%.

At this point, individual lidar points from the original point cloud have now been parsed into separate classifications.

Filtered Lidar Checkpoint Report

After hand-filtering has been completed and quality checked, a Checkpoint Report is generated to validate that the accuracy of the ground surface is within the defined accuracy specifications. Each surveyed ground check point is compared to the lidar surface by interpolating an elevation from a Triangulated Irregular Network (TIN) of the surface. The MARS® derived report provides an in-depth statistical report, including an RMSE of the vertical errors; a primary component in most accuracy standards and a statistically valid assessment of the overall accuracy of the ground surface.

The below lidar checkpoint report provides statistics for 421 ground survey points used to validate the final filtered lidar surface.

UTM 14

Units: Meter (/Feet)

Vertical Accuracy Class tested: 10-cm

Check Points in defined project area (DPA):	414
Check Points with Lidar Coverage	414
Check Points with Lidar Coverage (NVA)	242
Check Points with Lidar Coverage (VVA)	172
Average Z Error (NVA)	0.017/0.056
Maximum Z Error (NVA)	0.286/0.939
Median Z Error (NVA)	0.014/0.045
Minimum Z Error (NVA)	-0.241/-0.791
Standard deviation of Vertical Error (NVA)	0.065/0.213
Skewness of Vertical Error (NVA)	0.035
Kurtosis of Vertical Error (NVA)	1.843
Non-vegetated Vertical Accuracy (NVA) RMSE(z) [1]	0.067/0.220 PASS
Non-vegetated Vertical Accuracy (NVA) at the 95% Confidence Level +/- [1]	0.131/0.431 PASS
FGDC/NSSDA Vertical Accuracy at the 95% Confidence Level +/-	0.131/0.431
Non-vegetated Vertical Accuracy (NVA) RMSE(z) (DEM) [2]	0.067/0.219 PASS
Non-vegetated Vertical Accuracy (NVA) at the 95% Confidence Level (DEM) +/- [2]	0.131/0.429 PASS
Vegetated Vertical Accuracy (VVA) at the 95th Percentile (DEM) +/- [2]	0.242/0.794 PASS

This data set was tested to meet ASPRS Positional Accuracy Standard for Digital Geospatial Data (2014) for a 10-cm RMSEz Vertical Accuracy Class. Actual NVA accuracy was found to be RMSEz = 6.7cm, equating to +/- 13.1cm at the 95% confidence level. Actual VVA accuracy was found to be +/- 24.2cm at the 95th percentile.

[1] This value is calculated from TIN-based testing of the lidar point cloud data.

[2] This value is calculated from RAM-based grid testing of the lidar data. The grid cells are sized according to the Quality Level selected, and are defined in the USGS NGP Lidar Base Specification Version 1.3 (page 24, Table 6).

UTM 15

Units: Meter (/Feet)

Vertical Accuracy Class tested: 10-cm

Check Points in defined project area (DPA):	7
Check Points with Lidar Coverage	7
Check Points with Lidar Coverage (NVA)	4
Check Points with Lidar Coverage (VVA)	3
Average Z Error (NVA)	-0.055/-0.182
Maximum Z Error (NVA)	-0.019/-0.063
Median Z Error (NVA)	-0.054/-0.177
Minimum Z Error (NVA)	-0.095/-0.310
Standard deviation of Vertical Error (NVA)	0.032/0.106
Skewness of Vertical Error (NVA)	-0.142
Kurtosis of Vertical Error (NVA)	-1.311
Non-vegetated Vertical Accuracy (NVA) RMSE(z) [1]	0.062/0.204 PASS
Non-vegetated Vertical Accuracy (NVA) at the 95% Confidence Level +/- [1]	0.122/0.399 PASS
FGDC/NSSDA Vertical Accuracy at the 95% Confidence Level +/-	0.122/0.399
Non-vegetated Vertical Accuracy (NVA) RMSE(z) (DEM) [2]	0.056/0.184 PASS
Non-vegetated Vertical Accuracy (NVA) at the 95% Confidence Level (DEM) +/- [2]	0.110/0.360 PASS
Vegetated Vertical Accuracy (VVA) at the 95th Percentile (DEM) +/- [2]	0.152/0.497 PASS

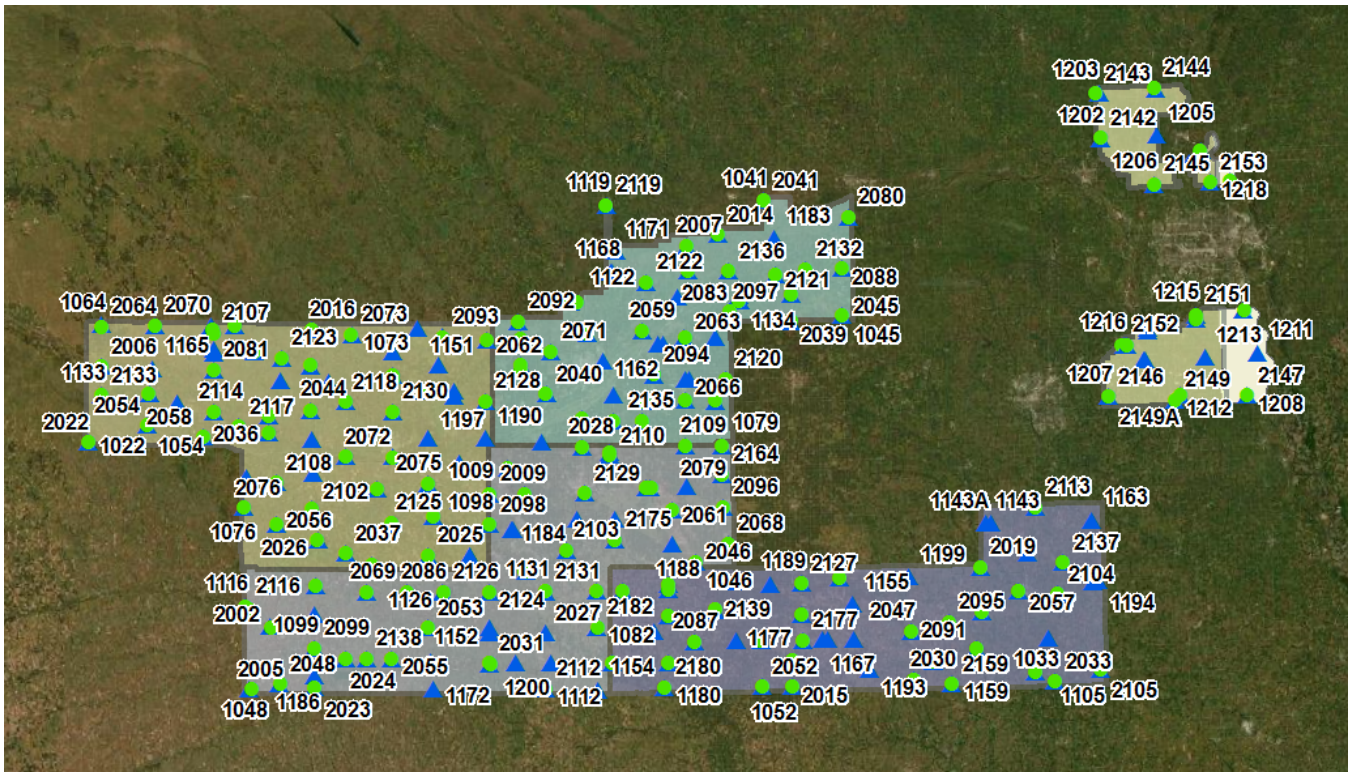
This data set was tested to meet ASPRS Positional Accuracy Standard for Digital Geospatial Data (2014) for a 10-cm RMSEz Vertical Accuracy Class. Actual NVA accuracy was found to be RMSEz = 6.2cm, equating to +/- 12.2cm at the 95% confidence level. Actual VVA accuracy was found to be +/- 15.2cm at the 95th percentile.

[1] This value is calculated from TIN-based testing of the lidar point cloud data.

[2] This value is calculated from RAM-based grid testing of the lidar data. The grid cells are sized according to the Quality Level selected, and are defined in the USGS NGP Lidar Base Specification Version 1.3 (page 24, Table 6).

Lidar Checkpoint Layout

NVA
VVA



Hydro-flattening Breakline Collection

Hydro- flattening breaklines are captured per the USGS National Geospatial Program Lidar Base Specification Version 1.3. Final hydro-flattened breaklines features are appropriately turned into polygons (flat elevations) and polylines (decreasing by elevation) and are used to reclassify ground points in water to Water (Class 9). The lidar points around the breaklines are reclassified to Ignored Ground (Class 10) based on predetermined buffer.

The next step in the process is the hydro-flattening breakline collection required for the development of the hydro-flattened DEMs. Merrick-Surdex JV will capture hydro-flattening breaklines for waterbodies greater than or equal to two (≥2) acres (~0.8 hectare); double-sided streams and rivers that are greater than or equal to one hundred feet (≥100' nominal width (~30m), and; any visible islands greater than or equal to one (≥1) acres (~0.4 hectare). Criteria for Tidal Waters are assumed not applicable. No single-line streams or drainages will be collected, nor will any planimetric features that could be utilized as traditional breaklines. All downstream hydro-flattening breaklines require monotonicity (e.g., streams and rivers). Closed polygonal boundaries of water will maintain a fixed (i.e., flat) elevation. Breaklines are not required to conform to the EleHydro Breakline GIS Data Dictionary for this Task Order.

Linear hydrographic features

To collect hydrographic features, Merrick-Surdex JV uses a methodology that directly interacts with the lidar bare-earth data to collect drainage breaklines. To determine the alignment of a drainageway, the technician first views the area as a TIN of bare-earth points using a color ramp to depict varying elevations. In areas of extremely flat terrain, the technician may need to determine the direction of flow based on measuring lidar

bare-earth points at each end of the drain. The operator will then use the color ramped TIN to digitize the drainage in 2D with the elevation being attributed directly from the bare-earth LAS data. MARS® software has the capability of "flipping" views between the elevation TIN, Intensity and imagery, as necessary, to further assist in the determination of the drainage. All drainage breaklines are collected in a downhill direction. For each point collected, the software uses a five-foot (5') search radius to identify the lowest point within that proximity. Within each radius, if a bare-earth point is not found that is lower than the previous point, the elevation for subsequent point remains the same as the previous point. This forces the drain to always flow in a downhill direction. Waterbodies that are embedded along a drainageway are validated to ensure consistency with the downhill direction of flow.

This methodology may differ from those of other vendors in that Merrick-Surdex JV relies on the bare-earth data to attribute breakline elevations. As a result of our methodology, there is no mismatch between lidar bare-earth data and breaklines that might otherwise be collected in stereo 3D as a separate process. This is particularly important in densely vegetated areas where breaklines collected in 3D from imagery will most likely not match (either horizontally or vertically), the more reliable lidar bare-earth data.

Merrick-Surdex JV has the capability of "draping" 2D breaklines to a bare-earth elevation model to attribute the "z" as opposed to the forced downhill attribution methodology described above. However, the problem with this process is the "pooling "effect or depressions along the drainageway caused by a lack of consistent penetration in densely vegetated areas.

Criteria of linear hydrographic breaklines are as follows:

- Linear hydrographic features (e.g., visible streams, rivers, shorelines, canals, etc.) greater than or equal to one hundred feet (≥100' nominal width (~30m)will be captured as a double-lined polygon
    - linear hydrographic features must be flat and level bank-to-bank (perpendicular to the apparent flow centerline) with gradient following the immediately surrounding terrain
    - water surface edge must be at or just below the immediately surrounding terrain
    - streams should break at road crossings (e.g., culverts), and streams and rivers should not break at bridges

Waterbodies

Waterbodies are digitized from the color ramped TIN, similar to the process described above. The elevation attribute is determined as the technician collects the hydro feature by using the lowest bare-earth point within the polygon.

Criteria of waterbody breaklines are as follows:

- Waterbodies (e.g., lakes, ponds, reservoirs) greater than or equal to two (≥2) acres (~0.8 hectare) in size are surrounded by a water breakline (i.e., closed polygon)
    - waterbodies must be flat and level with a single elevation for every bank vertex
    - water surface edge must be at or just below the immediately surrounding terrain
    - long impoundments, such as reservoirs or inlets, whose water surface elevations drop when moving downstream should be treated as rivers

Color cycles provide a clear indication of where breaklines are to be collected, especially hydrographic breaklines. Figure 3 demonstrates no breaklines, where Figure 4 is breakline enforced displayed using color cycles within the MARS® software environment.

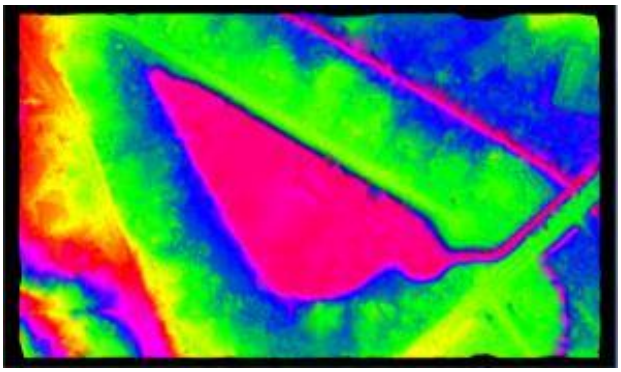


Figure 3

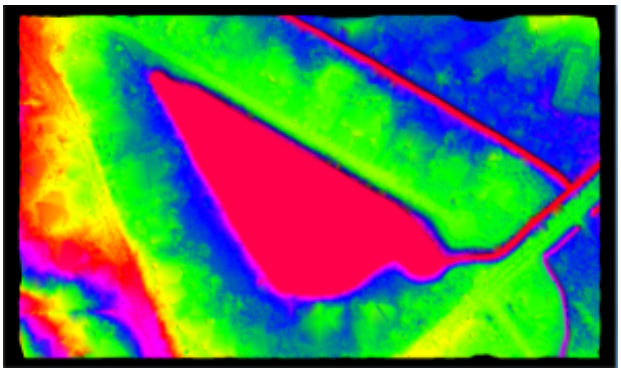


Figure 4

Bare-Earth DEM

Merrick-Surdex JV exports the hydro-flattening breakline enforced Class 2 (ground) lidar points to a one-meter (1m) cell size, 32-bit format using MARS®, the DEMs are exported to the project tiling scheme. Projection information is applied that reflects the project requirements.

Intensity Images

Merrick-Surdex JV exports all lidar points to a one-meter (1m) cell size 8-bit client desired format using MARS®, the intensity images are exported to the project tiling scheme and / or project-wide boundary. Projection information is applied that reflects the project requirements.

Contour Generation

Contours are generated using MARS® proprietary software at the desired contour interval. Topology QC checks are completed to ensure topography is logical and complete. Additional QC checks for dangles and appropriate attribution are also verified to comply with project requirements before delivery to the client.

List of Deliverables

- Lidar
  - Classified lidar point cloud
    - Fully compliant ASPRS LAS 1.4-R13, point record format 6
    - By tile
    - Intensity values normalized (rescaled) to 16-bit
    - FGDC-compliant metadata
  - Bare-earth DEM
    - 1m cell size 32-bit floating point raster in ERDAS IMG format
    - Bare-earth (hydro-flattened)
      - Culverts will not be removed from the DEMs
      - Bridges will be removed from the DEMs
    - By tile and by county
    - FGDC-compliant metadata
  - First Return Digital Surface Model (DSM)
    - 1m cell size 32-bit floating point raster in ERDAS IMG format
    - By tile and by county
    - FGDC-compliant metadata
  - Hillshades

- 1m cell size in ERDAS IMG format
- By county
- FGDC-compliant metadata

- Hydro-flattened breaklines
  - Project-wide Esri feature class(es) for insertion into file geodatabase
    - PolylineZ
    - PolygonZ
  - FGDC-compliant metadata
- Intensity Images
  - 1m cell size 8-bit, 256 color gray scale in GeoTIFF (.tif) format
  - By tile
  - FGDC-compliant metadata
- Two-foot (2') contours
  - Esri feature class(es) for insertion into file geodatabase
  - By county
  - FGDC-compliant metadata
- Control
  - Esri shapefile format
  - FGDC-compliant metadata
- FGDC-compliant metadata (project level)
- Detailed Lidar Mapping / Project Report
  - Survey report
- Miscellaneous
  - Flight Index (feature class / file geodatabase)
  - Raw swath (Esri shapefile)
  - DPA and BPA boundaries (Esri shapefile)
  - 1,000m x 1,000m formatted tiles (Esri shapefile)

Appendix 1

Following is a more detailed lidar calibration workflow description.

LIDAR CALIBRATION AND BLOCK LAS OUTPUT

Note: All figures represented on the following pages are for general illustration purposes, and are not examples derived from the project.

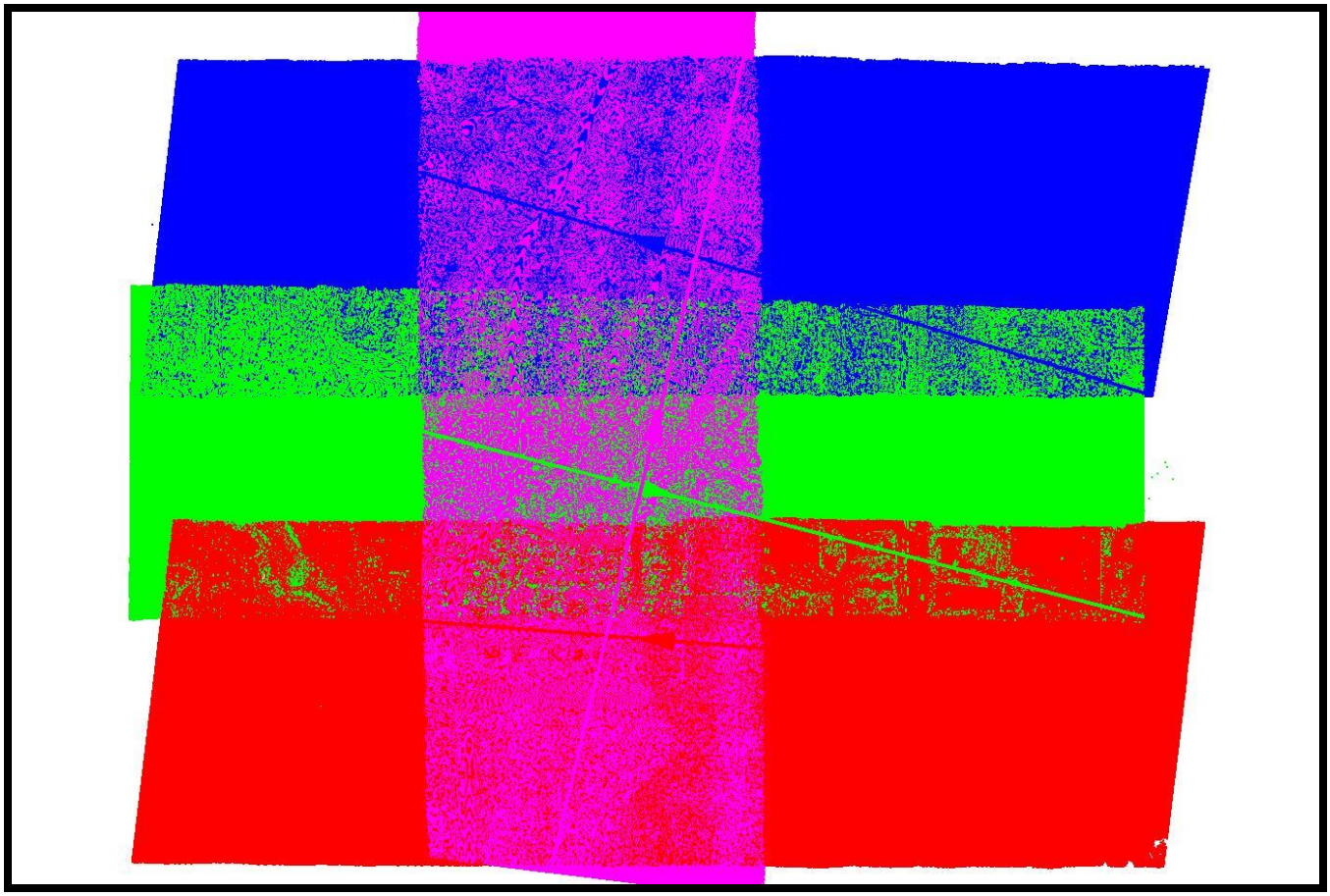
Initial Processing

Lidar data is output as LAS point data using Optech's Lidar Mapping Suite (LMS). LMS matches ground and roof planes plus roof lines to self-calibrate and correct system biases. These biases occur within the hardware of the laser scanning systems, within the Inertial Measurement Unit (IMU) and because of environmental conditions which affect the refraction of light. The systemic biases that are corrected for include scale, roll, pitch, and heading.

In addition to the self-calibration mode LMS runs a "production" mode which applies the self-calibration parameters and then analyzes each individual flight line and applies small adjustments to each line to tie overlapping lidar points even more tightly together.

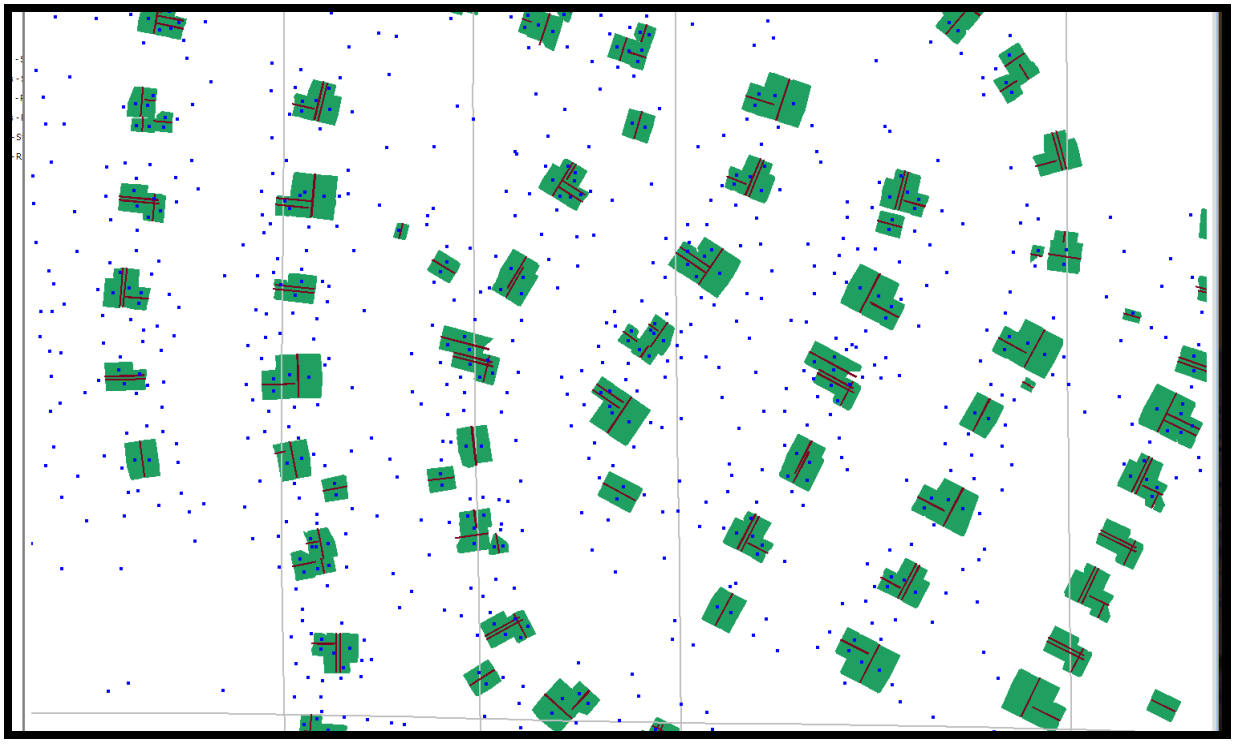
Boresight Self-Calibration Processing Procedures

An LMS boresight calibration is performed on an as-needed basis to correct scale, roll, pitch and heading biases. A minimum of three overlapping flights are flown in opposing directions with one cross flight.



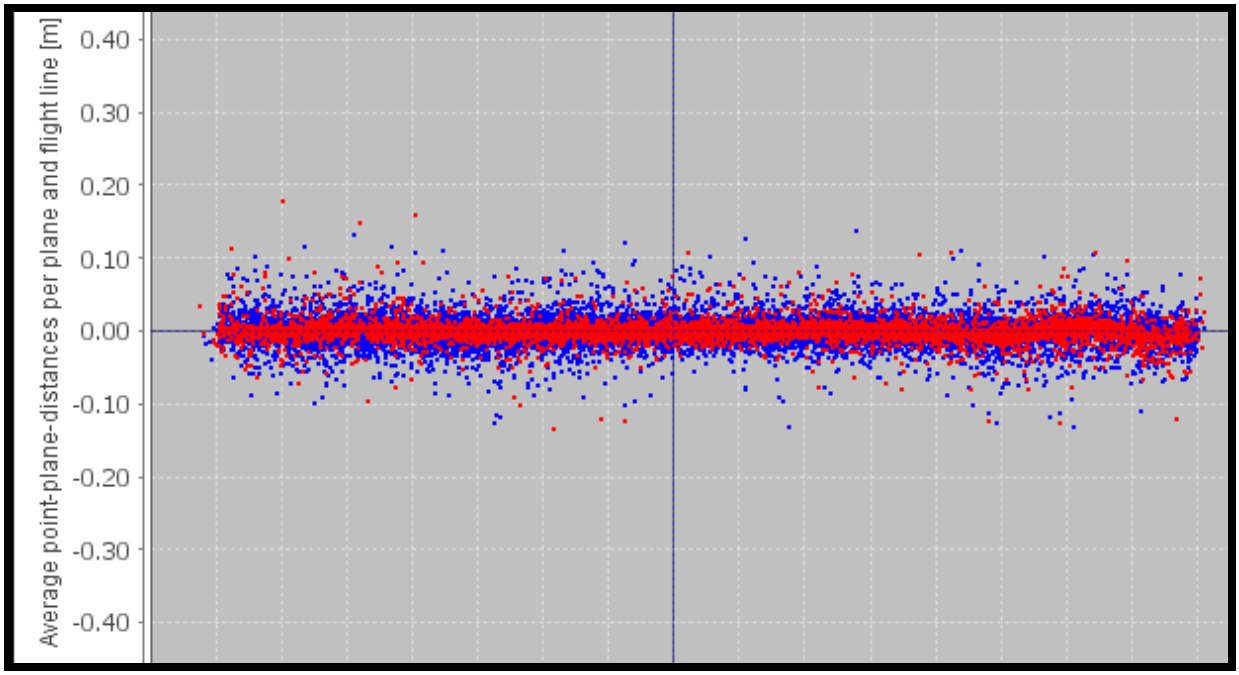
The Boresighting module frees scan angle scale, scan angle lag, XYZ boresight corrections and elevation position corrections while locking scan angle offset and XY position corrections.

The picked calibration site will have a good distribution of buildings for the self-calibration software to match ground planes, roof planes and roof lines.

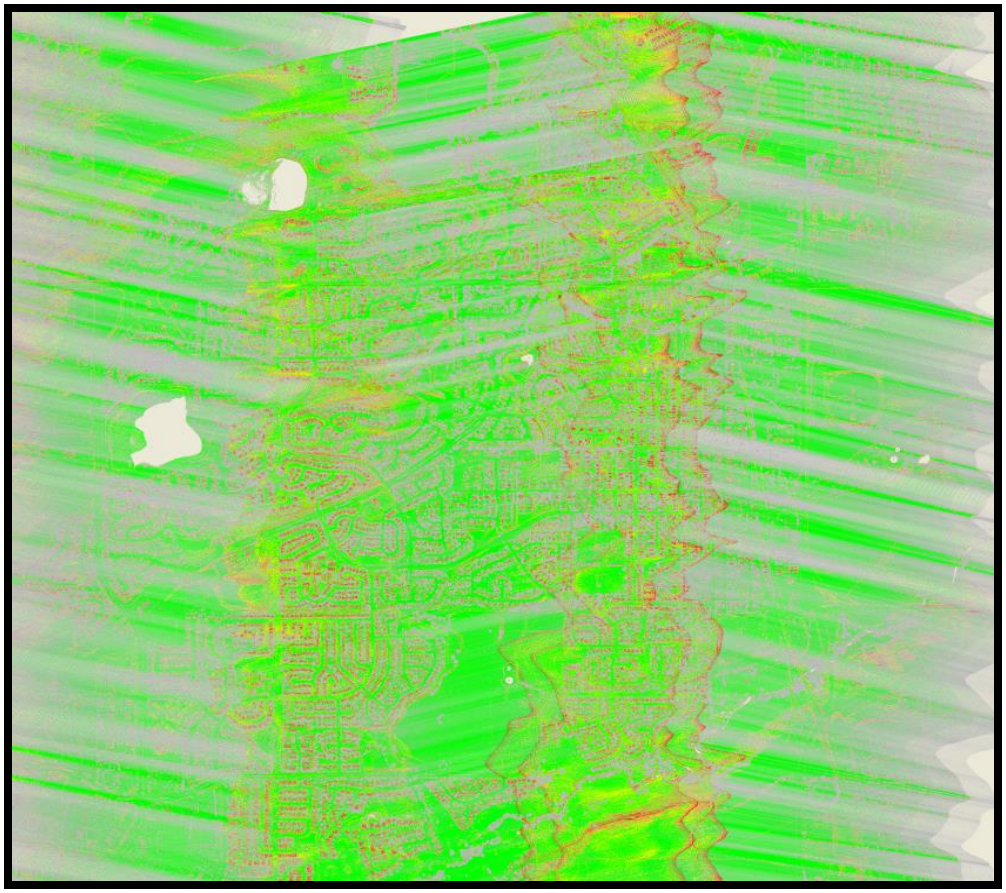


At the conclusion of the self-calibration run the data is quality checked with LMS plots

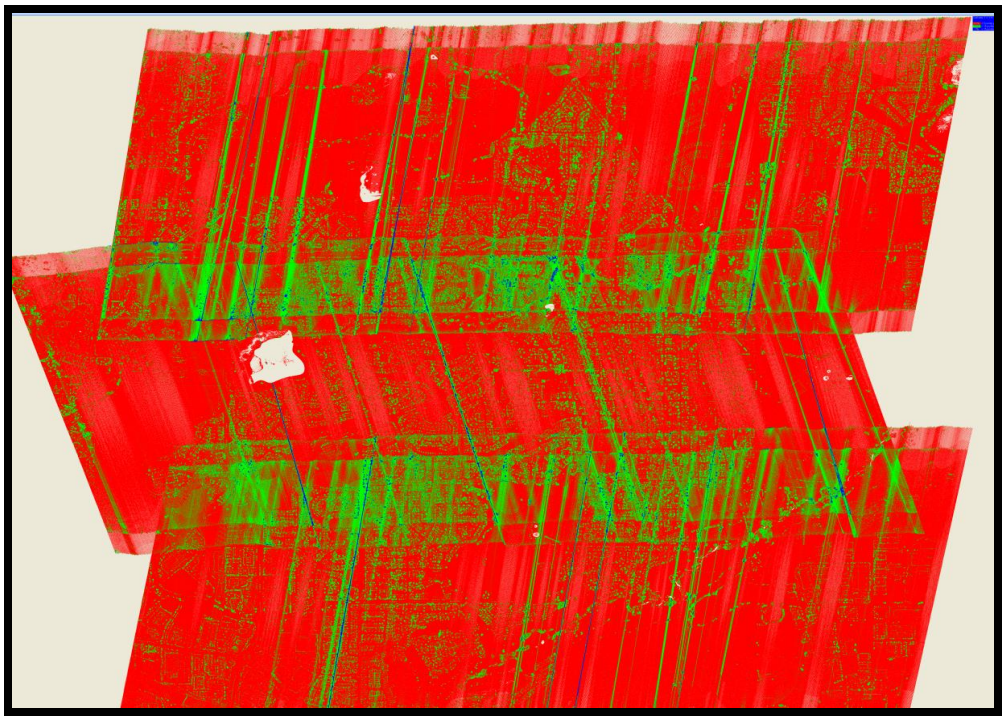
Plot of plane vertical distances from datum plane.



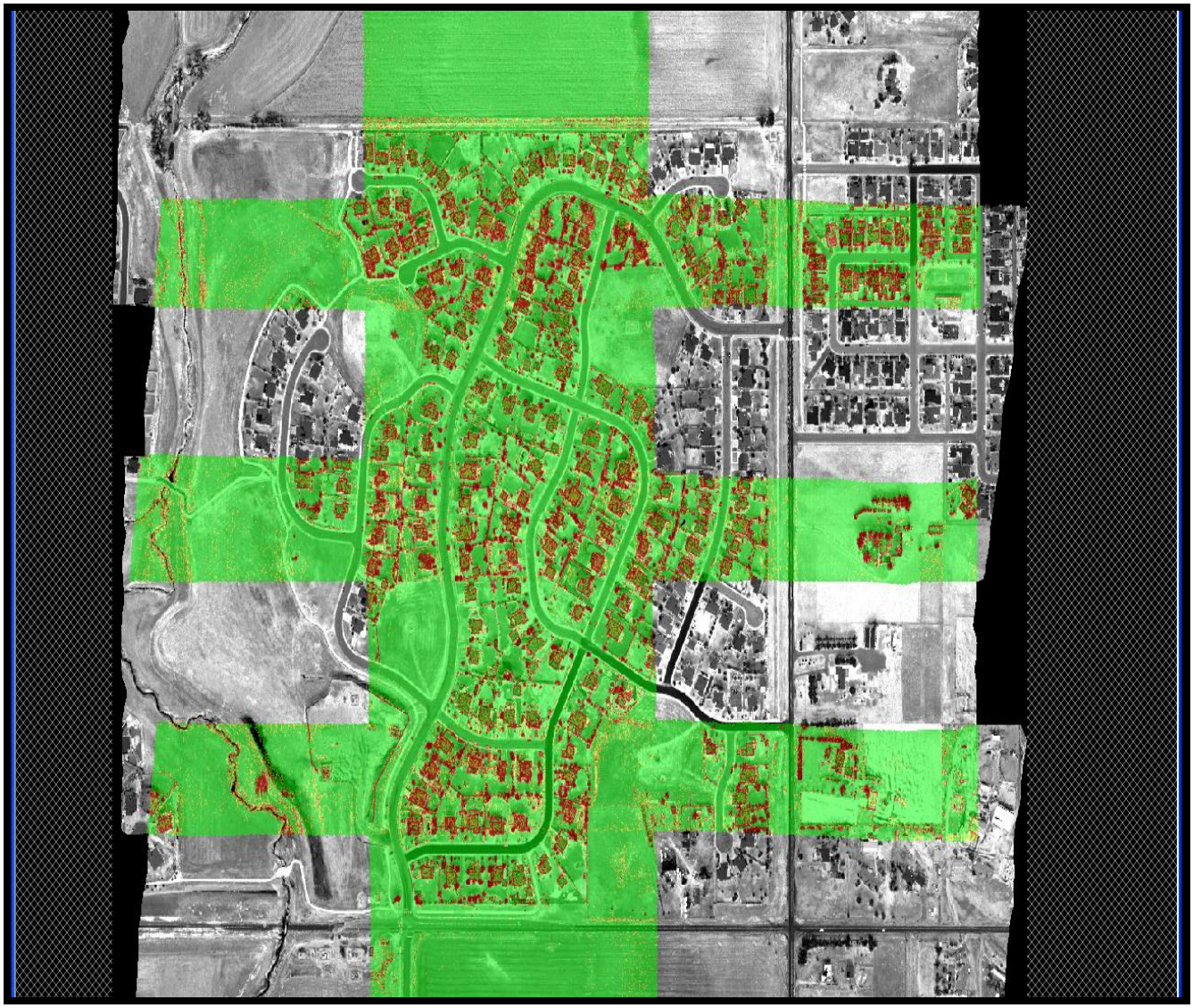
Plot of height differenced between flight lines. (Green=less than 5cm).



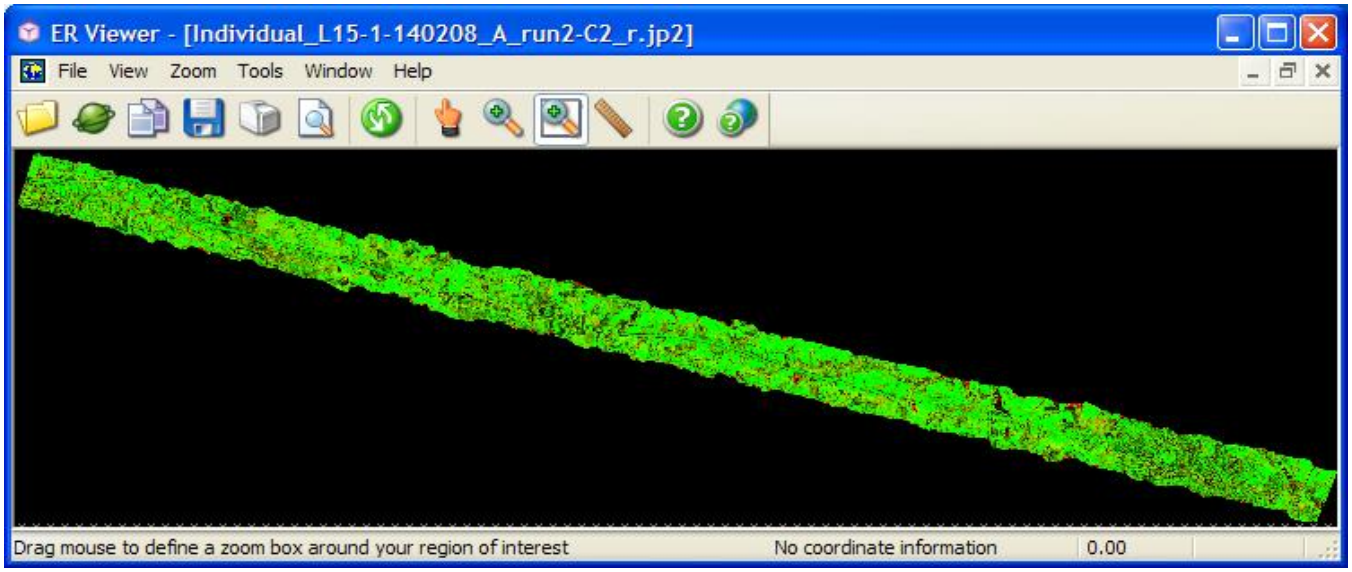
Plot of point densities. (Red=5-9 points per cell, green 10+ points per cell).



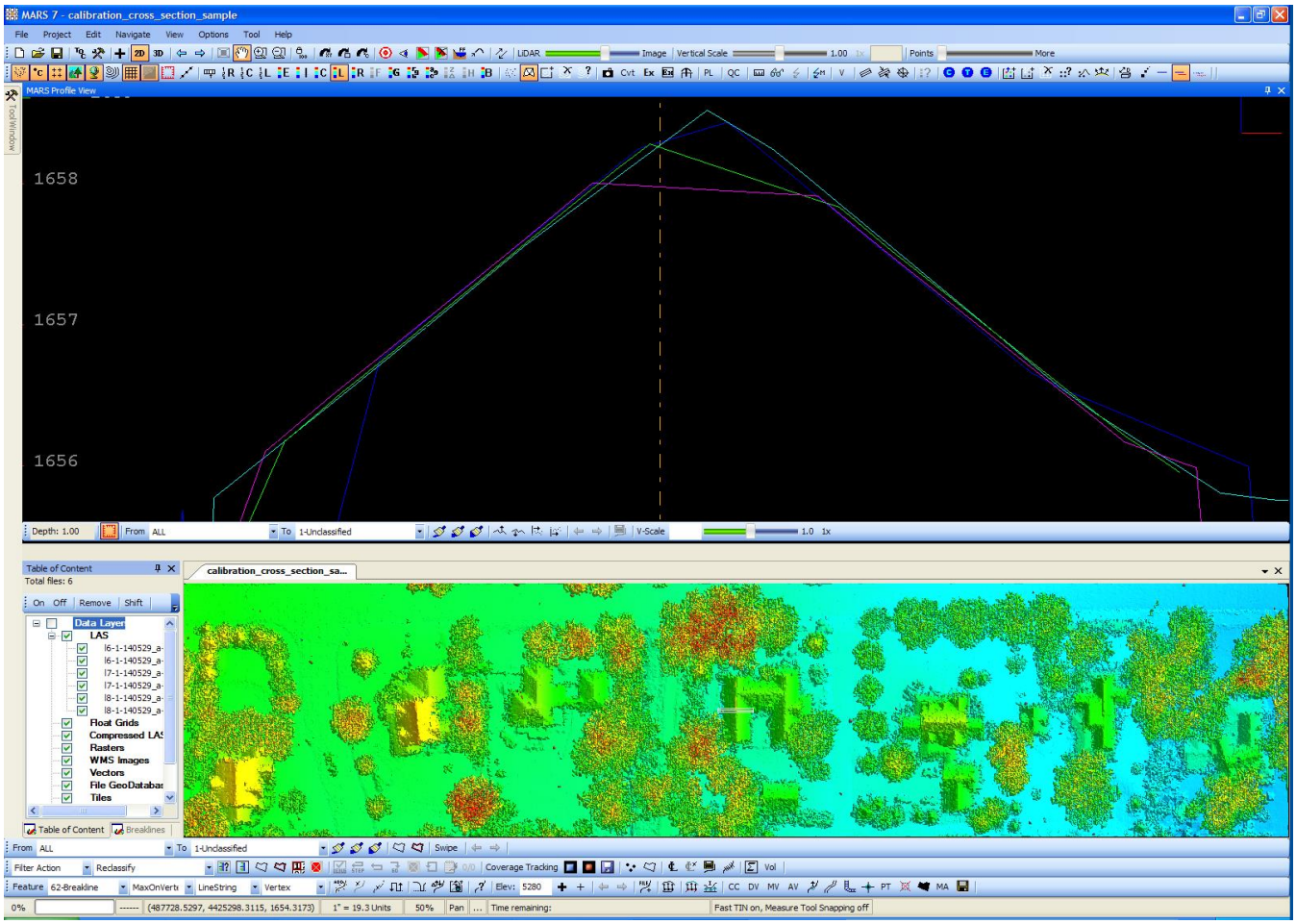
A Flight Line Separation Raster image is generated in Merrick Advanced Remote Sensing Software (MARS®), in this example ground returns from multiple flight lines that are fitting within 3 centimeters are colored green.



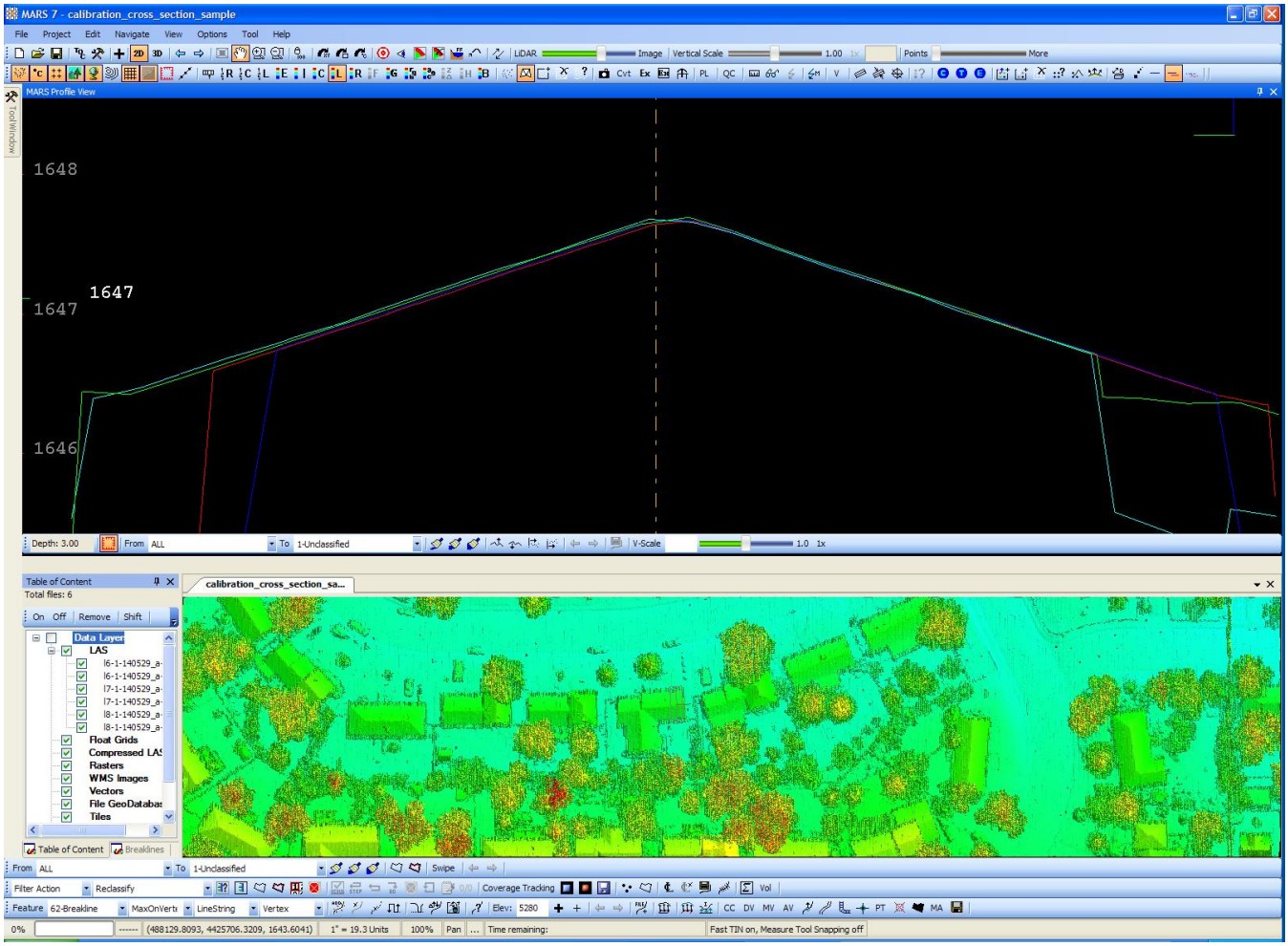
MARS® tests for internal relative vertical accuracy using inbound and outbound scan values. Again, Green is showing inbound and outbound scan data fitting to 3 centimeters.



Building cross sections are checked for good alignment. Pitch and heading are checked on roof planes parallel to the flight direction.



Roll and scale are checked on roof planes perpendicular to the flight direction.

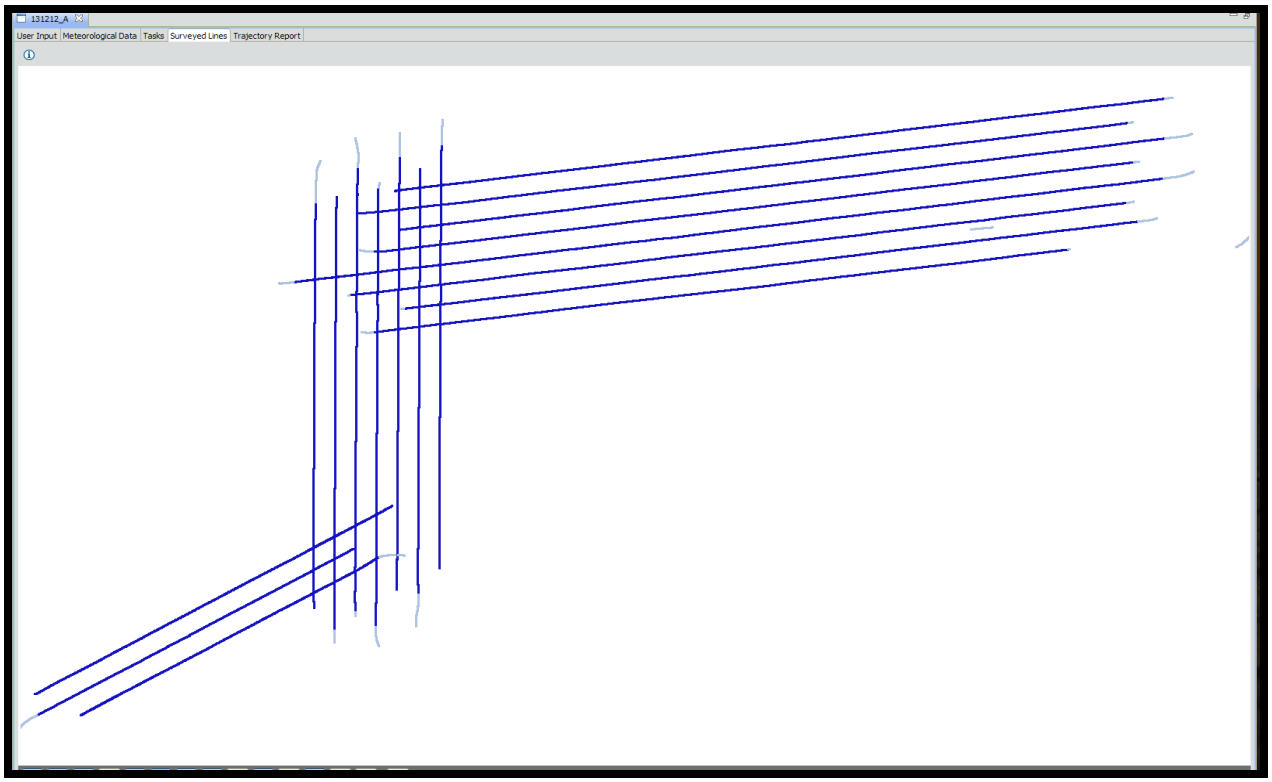


The LMS program outputs a "LCP" file with all the correction parameters. The calibration process may be run several times until the boresight adjustments are acceptable. When the boresight solution is acceptable the LCP file adjustments are saved and also applied to subsequent projects. Each new project is again analyzed and when the adjustment biases show too much drift a new boresight calibration is run. The LCP file may hold calibration tolerances for several projects.

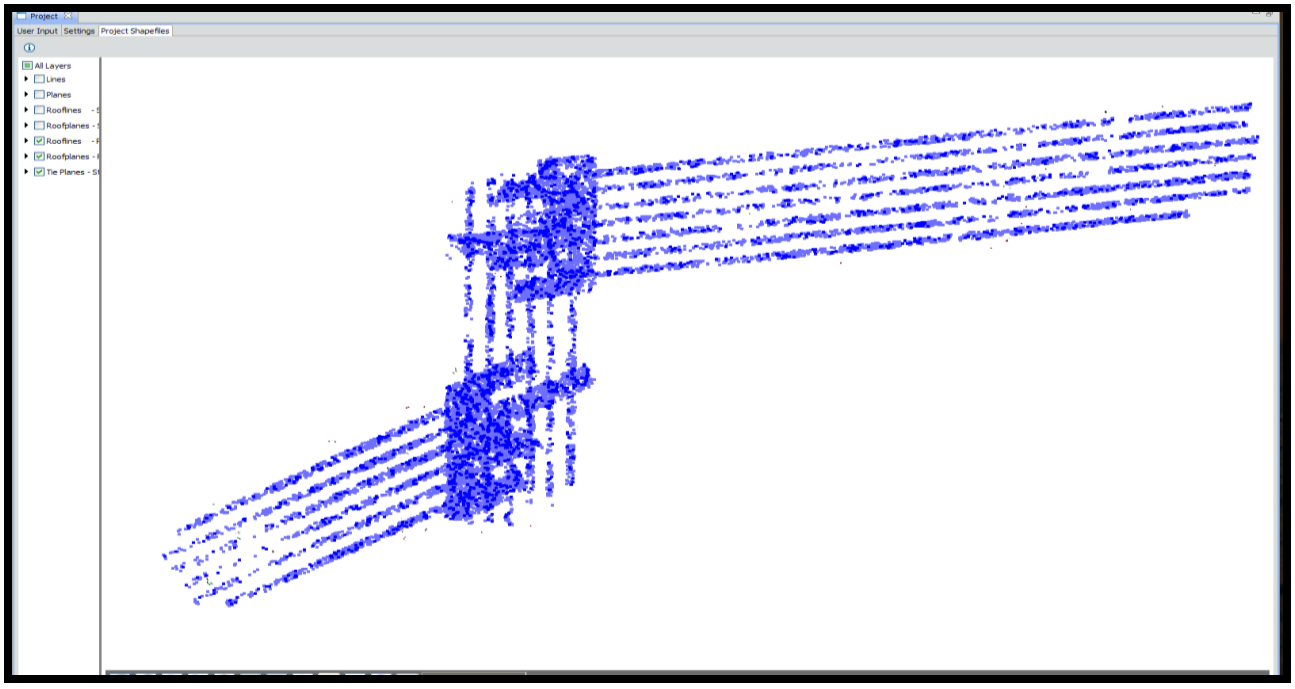
Block LAS Production Processing Procedures

The LMS production mode is run on each flight line to further tie the final lidar LAS flight line files tightly together. Production settings allow scan angle scale, scan angle lag to float and allows elevation to move slightly during flight line to flight line comparison thus further tying flight lines together. A cross flight with locked elevation data is used for controlling flight line elevations.

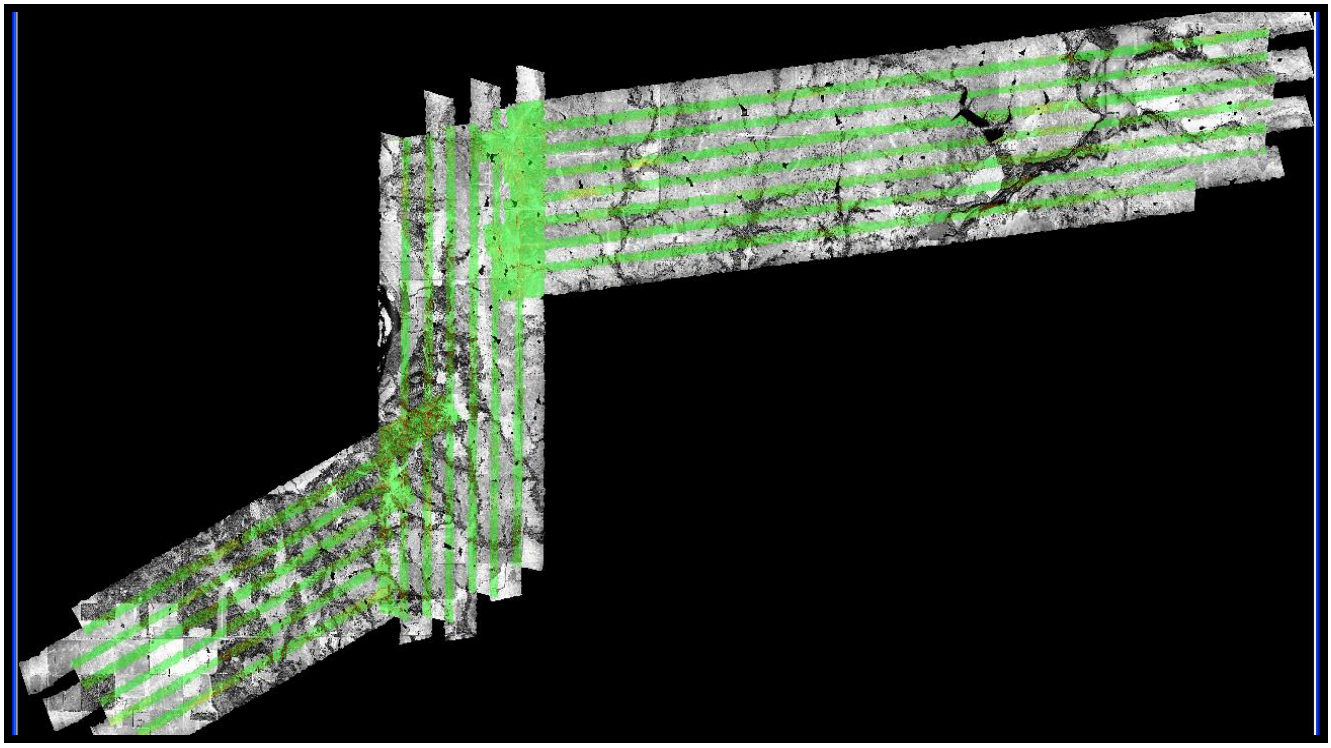
A block of data is selected to process with LMS production settings. Data collected during turns at the ends of flight lines is deselected (light blue lines).



As in self-calibration the LMS production program analyses ground, roof planes and rooflines. One cross flight is locked in elevation and all other lines are adjusted to it. Unlike the calibration site the distribution of roof planes is usually much less dense. Here matched ground tie planes are blue.

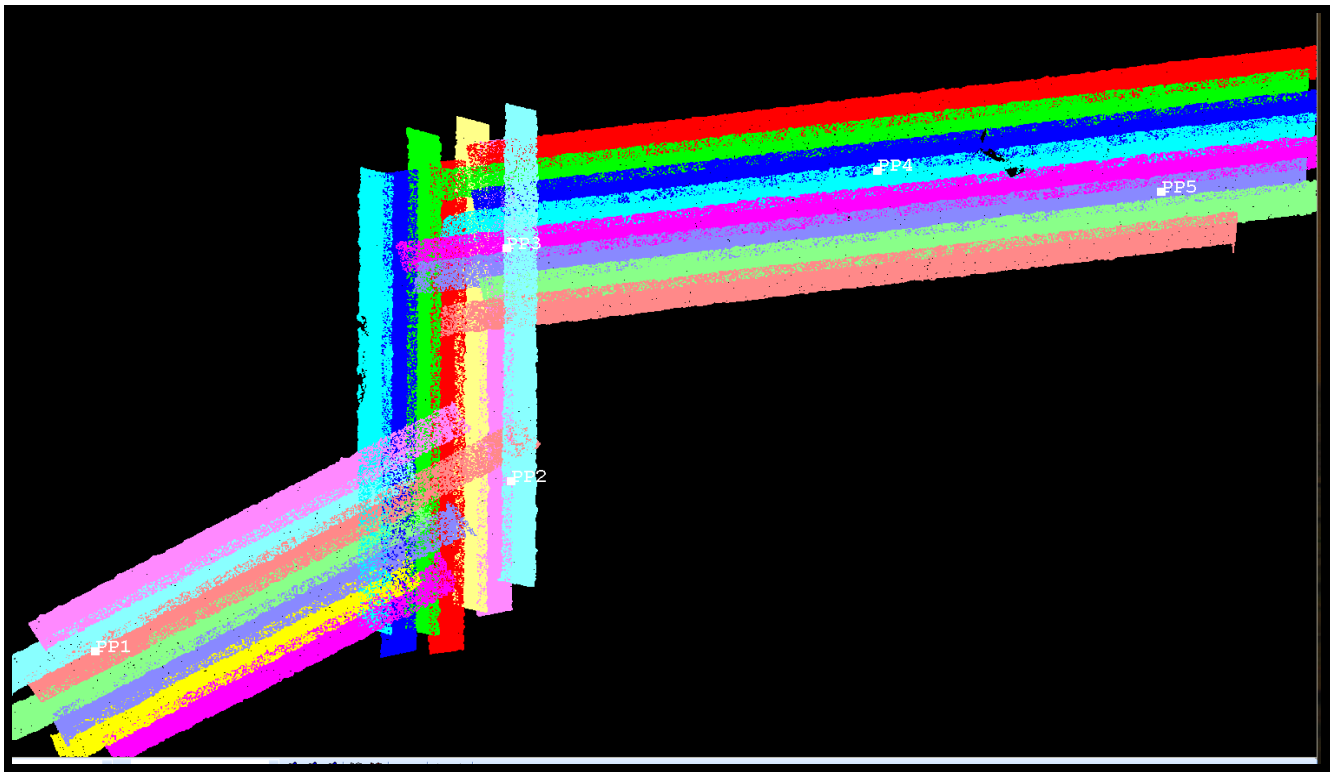


The same quality control outputs used to check self-calibrations are available to analyze the production run. Output plots are again available in LMS and cross sections plus a Flight Line Separation Raster are generated in MARS® to check coverage and quality.



Correcting the Final Elevation

After all the lines are tied together a ground control network is imported into MARS®. The ground control network may be pre-existing or collected by a licensed surveyor.



The next step is to match the ground control elevations to the lidar data set. A control report is run and the data set is shifted slightly to zero out the average elevation error and points checked for quality.

The final step before boresighted, leveled LAS files are ready for filtering is to run the MARS® QC Module on the block data. The Boresighted lidar QC Report outputs individual reports on Point Density, Nominal Pulse Spacing, Data Voids, Spatial Distribution, Scan Angles, Control Report, Flight Line Separation, Flight Line Overlap, Buffered Boundary, LAS Formats, Datums and Coordinates.
These reports are checked with the required specifications in the Project Management Plan.

Appendix 2

Following is a more detailed survey report.

SOUTHERN NEBRASKA LIDAR MAPPING PROJECT
GROUND CONTROL SURVEY REPORT

JOB NO. 65220179
DATE APRIL 2019

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SOUTHERN NEBRASKA
LIDAR MAPPING PROJECT
GROUND CONTROL SURVEY REPORT

I. INTRODUCTION

II. HORIZONTAL AND VERTICAL CONTROL

III. JOB SUMMARY AND EQUIPMENT

A. COORDINATES
NAD-83 (North American Datum of 1983) 2011 GEODETIC SYSTEM
NAD-83 UTM ZONE 14 NORTH
NAVD-88 (North American Vertical Datum of 1988) GEOID 12B

B. BASE MAP AND SAMPLE OCCUPATION PHOTO
C. EXISTING NGS (NATIONAL GEODETIC SURVEY) HORIZONTAL AND VERTICAL CONTROL DATA SHEETS

I. INTRODUCTION

This report summarizes the results of a ground control survey requested by USGS. The survey was conducted in Adams, Buffalo, Cass, Clay, Dawson, Franklin, Gage, Hall, Hamilton, Harlan, Howard, Jefferson, Kearney, Merrick, Nuckolls, Phelps, Polk, Thayer, Washington, and Webster counties in the state of Nebraska for LIDAR (Light Detection and Ranging) mapping.

The ground control field observations were performed by Merrick & Company commencing on April 2, 2019 through the completion date of April 25, 2019. Merrick used Trimble RTX (A satellite-based service using worldwide continuously operating reference stations) verified with 44 NGS (National Geodetic Survey) ground stations to establish horizontal and vertical control constraints for the LIDAR acquisition. Merrick also surveyed approximately 540 checkpoints to verify confidence levels of the LIDAR datasets.

II. HORIZONTAL AND VERTICAL CONTROL

The project coordinate system is UTM ZONE 14 NORTH based on NAD-83, adjustment of 2011. A few measured points landed in UTM Zone 15 north so an overlap of coordinates was created for points near the east edge of the project site. The geodetic network was tied to CORS (Continuously Operating Reference Stations) via RTX and NGS ground stations. RTX coordinates are observed in ITRF (2014). ITRF stands for International Terrestrial Reference Frame and 2014 the epoch date for the data. Coordinate values are converted into NAD83(2011) and NAVD88 values using the HTDP (Horizontal Time Dependent Positioning) program version 3.2.7 published by the National Geodetic Survey. The following existing NGS control points were used as horizontal checks to control this survey.

	NGS Primary Horizontal Control Checkpoints		
HORIZONTAL ORDER	**PT# (NGS NAME)**	**RECORD POSITION NAD-83**	
		LATITUDE	**LONGITUDE**
3RD	ALDA	40°52'23.14864"N	098°27'39.98591"W
3RD	AVOCA AZ MK	40°48’47.83051"N	096°02’35.10920"W
2ND	AXTELL RESET	40°28'58.91504"N	099°09'40.34081"W
2ND	AYR	40°26'14.70129"N	098°24'05.81468"W
1ST	BLUE HILL	40°17'33.26437"N	098°30'36.83476"W
3RD	COZAD	40°51'29.70931"N	099°59'15.24516"W
1ST	D 172	40°00'38.74177"N	097°39'05.42757"W
2ND	E 15	40°36'19.61172"N	097°58'38.55649"W
2ND	ELLIS	40°13'09.09335"N	096°52'33.71211"W
0	FBYN A	40°04'56.44863"N	097°18'45.37027"W
0	FBYN B	40°04'22.26880"N	097°18'44.08871"W
2ND	G 250	40°16'39.01321"N	098°26'54.60496"W
1ST	GERDIS RM 1	40°31'51.22031"N	098°06'30.88541"W
1ST	H 168	40°29'31.86378"N	098°54'49.30709"W
2ND	HASTINGS	40°35'29.90830"N	098°22'29.47773"W
2ND	L 294	40°52'19.38797"N	099°08'28.84127"W
2ND	LINE	40°00'17.31422"N	096°39'08.48345"W
1ST	MERIDIAN	40°00'07.37405"N	097°22'09.55420"W
0	N 437	40°35'03.14303"N	097°58'34.05703"W
2ND	ORLEANS	40°14'02.38089"N	099°29'10.98134"W
1ST	P 306	40°57'35.90010"N	098°20'03.48841"W
0	Q 291	41°02'03.63223"N	098°59'00.96740"W
3RD	RATTLE AZ MK	40°13'40.78119"N	096°48'47.21952"W
2ND	RED	40°07'04.13575"N	098°30'28.86107"W
1ST	SKULLY	40°08'25.91398"N	098°02’52.60227"W
2ND	SUPERIOR	40°01'51.24099"N	098°03'56.18647"W
2ND	T 326	41°11'17.14526"N	097°41'05.65762"W
1ST	TRAIL	40°03'34.12088"N	096°59'30.51143"W
1ST	U 167	40°10'55.90395"N	097°05'10.01860"W
0	V 166	40°07'58.82670"N	099°27'56.61818"W
1ST	VOSS	41°26'19.85223"N	096°07'32.83605"W
1ST	Y 365	40°31'22.67555"N	096°42'24.25629"W

	NGS Primary Control Horizontal NAD-83 (2011) Comparisons: Record Versus Measured		
PT# (NGS NAME)	**ORDER**	**NORTH (meters)**	**EAST (meters)**
ALDA	3RD	0.133	0.072
AVOCA AZ MK	3RD	0.018	-0.045
AXTELL RESET	2ND	0.034	0.068
AYR	2ND	-0.072	-0.064
BLUE HILL	1ST	0.041	0.038
COZAD	3RD	0.072	0.018
D 172	1ST	0.006	0.057
E 15	2ND	0.041	0.099
ELLIS	2ND	0.034	0.115
FBYN A	0	0.063	0.055
FBYN B	0	0.024	0.014
G 250	2ND	0.061	0.081
GERDIS RM1	1ST	0.063	0.027
H 168	1ST	0.078	0.008
HASTINGS	2ND	0.069	-0.003
L 294	2ND	0.127	0.004
LINE	2ND	0.115	0.040
MERIDIAN	1ST	0.015	-0.004
N 437	0	0.033	0.035
ORLEANS	2ND	-0.017	-0.104
P 306	1ST	0.095	0.115
Q 291	0	0.046	0.098
RATTLE AZ MK	3RD	0.145	0.101
RED	2ND	0.266	0.213
SKULLY	1ST	0.027	0.086
SUPERIOR	2ND	-0.039	0.113
T 326	2ND	0.054	0.040
TRAIL	1ST	0.132	0.087
U 167	1ST	0.068	0.034
V 166	0	0.055	0.099
VOSS	1ST	0 125	0.120
Y 365	1ST	0.085	0.140

NGS Primary Vertical Control checks			
Comparisons: Record Versus Measured			
PT# (NGS NAME)	**RECORD MEASURED**		**PUBLISHED**
	NAVD 88 elevation in meters	**Difference in meters**	**VERTICAL ORDER**
ALDA	581.915	0.000	1ST
AVOCA AZ MK	371.567	+0.030	2ND
BLUE HILL	621.751	+0.037	1ST
C 270	592.028	+0.019	1ST
COZAD	758.346	+0.023	1ST
D 172	502.351	+0.095	2ND
D 212	516.341	+0.012	1ST
D 288	620.665	-0.013	2ND
E 15	537.542	-0.006	1ST
E 252	561.587	+0.049	1ST
ELLIS	436.800	-0.002	2ND
F 166	670.699	+0072	2ND
F 436	593.849	+0.011	1ST
FBYN A	423.206	-0.054	2ND
FBYN B	438.050	-0.019	2ND
G 169	649.538	+0.018	2ND
G 250	606.734	+0.063	1ST
H 168	653.791	+0.064	2ND
HASTINGS	584.790	-0,002	1ST
K 268	535.431	-0,002	1ST
L 294	703.454	+0.004	2ND
M 364	376.723	+0.044	2ND
MERIDIAN	481.58	-0.007	3RD
N 169	539.703	-0.131	2ND
N 437	524.851	-0.005	1ST
P 306	564.845	-0.015	2ND
Q 291	619.145	-0.013	2ND
RATTLE AZ MK	434.754	-0.036	2ND
SUPERIOR	502.977	-0.320	1ST
T 326	525.882	-0.074	2ND
TRAIL	434.41	-0.008	3RD
U 167	446.118	-0.158	3RD
V 166	610.036	+0.028	2ND
VOSS	408.604	-0.059	2ND
Y 247 RESET	410.63	+0.087	3RD
Y 365	442.538	-0.022	2ND
Y 5 RESET	706.86	-0.013	3RD

III. JOB SUMMARY AND EQUIPMENT

The coordinate system is the UTM Zone 14 North and the units are in meters. The projection parameters are as follows:

PROJECTION: TRANSVERSE MERCATOR
LATITUDE OF ORIGIN = N 0° 00’ 00.000000”
LONGITUDE OF ORIGIN = W 99° 00’ 00.000000”
FALSE NORTHING =0.000m
FALSE EASTING =500000.000m
SCALE FACTOR =0.9996000000

The data collected was converted and checked with published ground station coordinates. The specifications for accuracy with RTX are 2 centimeters horizontally and 5 centimeters vertically.

Satellite data was collected using one Trimble R10 receiver. The coordinates were processed using Trimble Business Center (Version 5.0).

USGS MAPPING RTX CONTROL POINT CHECKS

65220179

APRIL 2019

PT NAME	NAD83 (2011)		ELLIPSOID	UTM ZONE 14 NORTH		NAVD 88	CODE
	LATITUDE	LONGITUDE	HEIGHT	NORTHING	EASTING	ELEVATION	
			METERS	METERS	METERS	METERS	
ALDA	40°52'23.15294"N	98°27'39.98279"W	557.001	4524809.639	545408.695	581.915	MFBC
AVOCA AZ MK	40°48'47.83111"N	96°02'35.11111"W	344.13	4522238.620	749397.728	371.597	MFBC
AXTELL RESET	40°28'58.91614"N	99°09'40.33789"W	657.102	4481383.797	486337.037	682.109	MFBC
AYR	40°26'14.69897"N	98°24'05.81742"W	546.124	4476479.894	550750.624	571.640	MFBC
BLUEHILL	40°17'33.26568"N	98°30'36.83315"W	596.028	4460345.931	541627.610	621.788	MFBC
C270	40°21'02.23362"N	98°27'09.61780"W	566.368	4466817.583	546480.071	592.047	MFBC
COZAD	40°51'29.71166"N	99°59'15.24444"W	734.955	4523491.313	416765.746	758.369	MFBC
D172	40°00'38.74194"N	97°39'05.42516"W	475.985	4429822.511	615090.751	502.446	MFBC
D212	41°07'25.48643"N	97°59'23.56206"W	491.079	4552985.837	584794.294	516.353	MFBC
D288	40°28'51.39876"N	98°43'26.80190"W	595.424	4481176.082	523383.712	620.652	MFBC
E15	40°36'19.61302"N	97°58'38.55223"W	511.591	4495462.087	586515.797	537.536	MFBC
E252	40°25'54.25183"N	98°26'23.54251"W	536.141	4475828.166	547509.924	561.636	MFBC
ELLIS	40°13'09.09437"N	96°52'33.70721"W	409.715	4454249.502	680727.390	436.798	MFBC
F166	40°18'20.45369"N	99°32'13.58700"W	645.979	4461824.170	454357.646	670.771	MFBC
F436	40°42'46.15729"N	98°22'43.11019"W	568.709	4507063.947	552483.494	593.860	MFBC
FBYN A	40°04'56.45064"N	97°18'45.36792"W	396.185	4438261.317	643866.198	423.152	MFIR
FBYN B	40°04'22.26958"N	97°18'44.08808"W	411.065	4437207.975	643916.503	438.031	MFIR
G169	40°14'55.61246"N	98°57'08.91648"W	623.921	4455371.181	504041.806	649.556	MFBC
G250	40°16'39.01519"N	98°26'54.60155"W	580.951	4458704.092	546884.839	606.797	MFBC
GERDIS RM 1	40°31'51.22236"N	98°06'30.88422"W	529.845	4487065.782	575499.361	555.579	MFBC
H168	40°29'31.86632"N	98°54'49.30672"W	628.743	4482390.855	507313.693	653.855	MFBC
HASTINGS	40°35'29.91055"N	98°22'29.47782"W	559.476	4493614.816	552898.965	584.788	MFBC
K268	40°01'01.37842"N	98°19'50.44382"W	509.455	4429864.090	557119.069	535.429	MFBC
L294	40°52'19.38914"N	99°08'28.84110"W	679.359	4524563.452	488089.731	703.458	MFBC
LINE	40°00'17.31791"N	96°39'08.48160"W	382.459	4430931.115	700389.968	410.033	MFBC
M364	40°48'47.67235"N	96°09'36.66773"W	349.899	4521906.854	739520.077	376.767	MFBC
MERIDIAN	40°00'07.37453"N	97°22'09.55434"W	454.705	4429258.039	639193.443	481.573	MFBC

NEBRASKA NGS GROUND STATION CHECKS

USGS MAPPING RTX CONTROL POINT CHECKS
65220179
APRIL 2019

PT NAME	NAD83 (2011)		ELLIPSOID	UTM ZONE 14 NORTH		NAVD 88	CODE
	LATITUDE	LONGITUDE	HEIGHT	NORTHING	EASTING	ELEVATION	
			METERS	METERS	METERS	METERS	
N169	40°05'15.75647"N	98°45'28.27732"W	513.768	4437520.349	520642.981	539.572	MFBC
N437	40°35'03.14408"N	97°58'34.05554"W	498.874	4493105.430	586648.894	524.846	MFIR
ORLEANS	40°14'02.38031"N	99°29'10.98571"W	649.194	4453842.285	458624.308	674.092	MFBC
P306	40°57'35.90262"N	98°20'03.48666"W	539.765	4534527.036	556020.269	564.830	MFBC
Q291	41°02'03.63314"N	98°59'00.96641"W	595.029	4542569.551	501378.399	619.132	MFBC
RATTLE AZ MK	40°13'09.05272"N	96°49'20.55014"W	407.608	4454358.942	685293.237	434.718	MFBC
RED	40°07'04.14379"N	98°30'28.85508"W	542.631	4440949.949	541923.490	568.584	MFBC
SKULLY	40°08'25.91426"N	98°02'52.60168"W	528.548	4443789.458	581100.933	554.663	MFBC
SUPERIOR	40°01'51.23917"N	98°03'56.18477"W	476.556	4431604.953	579724.171	502.657	MFBC
T326	41°11'17.14650"N	97°41'05.65904"W	500.284	4560471.458	610287.760	525.808	MFBC
TRAIL	40°03'34.12465"N	96°59'30.51071"W	407.242	4436291.040	671275.891	434.402	MFBC
U167	40°10'55.90564"N	97°05'10.02019"W	418.913	4449735.749	662938.616	445.960	MFBC
V166	40°07'58.82790"N	99°27'56.61713"W	584.978	4442623.890	460322.850	610.064	MFBC
VOSS	41°26'19.85572"N	96°07'32.83392"W	380.39	4591463.202	740127.956	408.545	MFBC
Y247 RESET	41°40'09.40314"N	96°26'32.50525"W	384.175	4616218.241	712919.021	410.717	MFBC
Y365	40°31'22.67771"N	96°42'24.25338"W	416.162	4488330.677	694258.911	442.516	MFBC
Y5 RESET	40°44'18.43382"N	99°32'26.30969"W	682.718	4509864.170	454351.853	706.847	MFBC

MERRICK/SURDEX LIDAR CHECKPOINTS NEBRASKA
65220179
APRIL 2019

PT#	NAD83(2011)		ELLIPSOID	UTM ZONE 14 NORTH		NAVD 88	CODE	NOTE
	LATITUDE	LONGITUDE	HEIGHT	NORTHING	EASTING	ELEVATION		
			METERS	METERS	METERS	METERS		
						GEOID 12B		
1001	41°00'11.08526"N	97°53'02.54508"W	513.172	4539698.583	593850.389	538.866	LIPT	NVA
1002	40°11'42.51390"N	99°32'03.76854"W	595.691	4449553.418	454515.472	620.593	LIPT	NVA
1003	40°30'17.87872"N	98°56'05.73407"W	631.473	4483808.025	505513.554	656.534	LIPT	NVA
1004	40°19'16.80902"N	97°26'10.15022"W	431.738	4464596.792	632864.412	458.697	LIPT	NVA
1005	40°00'59.43258"N	99°36'34.39649"W	665.419	4429767.494	447980.965	690.252	LIPT	NVA
1006	40°55'16.15444"N	100°09'59.45040"W	757.714	4530659.466	401776.593	780.823	LIPT	NVA
1007	41°15'49.38365"N	97°58'58.89889"W	487.851	4568531.541	585187.727	512.789	LIPT	NVA
1008	40°48'03.79138"N	99°23'17.86481"W	702.465	4516744.982	467245.698	726.590	LIPT	NVA
1009	40°34'04.34460"N	98°43'26.65189"W	605.505	4490825.301	523357.049	630.534	LIPT	NVA
1010	40°05'22.20950"N	98°16'25.13957"W	498.507	4437943.976	561920.290	524.559	LIPT	NVA
1011	40°04'48.08640"N	97°05'49.00074"W	367.317	4438374.507	662259.609	394.447	LIPT	NVA
1011A	40°04'47.72651"N	97°05'43.70892"W	366.479	4438366.092	662385.187	393.609	LIPT	NVA
1012	41°06'20.21238"N	98°25'16.44352"W	554.873	4550642.761	548597.414	579.690	LIPT	NVA
1013	40°44'20.27170"N	99°32'27.28277"W	682.208	4509920.981	454329.380	706.335	LIPT	NVA
1014	41°17'34.07053"N	97°52'03.92689"W	469.891	4571879.357	594801.499	494.936	LIPT	NVA
1015	40°00'59.66924"N	97°36'52.89437"W	472.480	4430515.951	618222.823	498.997	LIPT	NVA
1016	41°01'52.20012"N	99°23'08.71904"W	662.241	4542288.533	467572.642	685.945	LIPT	NVA
1017	40°51'31.99608"N	98°58'08.68685"W	643.149	4523092.921	502605.984	667.361	LIPT	NVA
1018	40°18'25.65619"N	99°22'04.06340"W	679.201	4461911.079	468746.167	704.231	LIPT	NVA
1019	40°20'32.66952"N	96°54'58.15933"W	383.111	4467846.367	676991.102	409.973	LIPT	NVA
1020	40°58'00.48666"N	99°35'46.33858"W	713.800	4535242.892	449832.954	737.389	LIPT	NVA
1021	40°40'24.15436"N	99°15'20.87982"W	648.811	4502531.206	478380.972	673.263	LIPT	NVA
1022	40°42'26.29541"N	100°12'42.90372"W	817.110	4506972.085	397625.159	840.584	LIPT	NVA
1023	40°01'13.65784"N	99°22'02.09921"W	582.274	4430092.727	468660.990	607.483	LIPT	NVA
1024	40°06'13.28206"N	99°15'17.72136"W	600.522	4439296.974	478272.820	625.894	LIPT	NVA
1025	40°23'38.55775"N	98°57'07.24673"W	637.869	4471494.826	504072.516	663.250	LIPT	NVA
1026	40°26'19.44964"N	99°21'33.66641"W	678.588	4476516.468	469523.024	703.462	LIPT	NVA
1027	40°17'33.24329"N	98°19'49.46639"W	560.804	4460445.245	556911.766	586.734	LIPT	NVA
1028	40°41'54.32431"N	98°22'47.39858"W	569.845	4505464.983	552394.159	595.011	LIPT	NVA

PT#	NAD83(2011)		ELLIPSOID	UTM ZONE 14 NORTH		NAVD 88	CODE	NOTE
	LATITUDE	LONGITUDE	HEIGHT	NORTHING	EASTING	ELEVATION		
			METERS	METERS	METERS	METERS		
						GEOID 12B		
1029	40°47'09.45197"N	99°32'26.12796"W	690.580	4515137.471	454388.602	714.578	LIPT	NVA
1030	40°01'50.24662"N	97°10'14.56144"W	408.939	4432759.105	656082.373	436.017	LIPT	NVA
1030A	40°01'44.13713"N	97°10'15.21635"W	403.013	4432570.409	656070.719	430.090	LIPT	NVA
1031	40°05'22.12033"N	98°43'33.70465"W	527.603	4437724.424	523355.538	553.434	LIPT	NVA
1032	41°01'03.25373"N	98°21'29.91848"W	538.593	4540905.841	553952.878	563.579	LIPT	NVA
1033	40°00'56.84760"N	96°39'07.64860"W	366.081	4432150.541	700377.590	393.639	LIPT	NVA
1033A	40°02'42.46184"N	96°43'22.27444"W	401.003	4435250.404	694257.387	428.412	LIPT	NVA
1034	41°07'20.91184"N	97°35'54.26689"W	487.038	4553299.715	617659.217	512.813	LIPT	NVA
1035	41°02'25.90883"N	99°40'21.54220"W	731.342	4543474.225	443463.540	754.781	LIPT	NVA
1036	40°43'41.00066"N	99°47'09.20195"W	709.860	4508866.364	433634.274	733.773	LIPT	NVA
1037	40°23'59.07876"N	99°15'19.87045"W	661.687	4472157.777	478316.632	686.764	LIPT	NVA
1038	40°13'11.75081"N	97°34'37.16836"W	440.274	4453138.849	621079.106	467.065	LIPT	NVA
1039	41°02'48.08198"N	97°35'53.64146"W	488.199	4544886.505	617809.100	514.144	LIPT	NVA
1040	40°50'57.09750"N	98°30'44.83300"W	564.807	4522130.724	541096.786	589.675	LIPT	NVA
1041	41°23'18.70076"N	97°41'39.06258"W	453.876	4582711.435	609174.908	479.067	LIPT	NVA
1042	40°13'04.83571"N	96°54'58.83779"W	413.116	4454036.812	677299.919	440.181	LIPT	NVA
1043	40°05'20.81490"N	97°36'51.85811"W	462.726	4438568.098	618122.065	489.287	LIPT	NVA
1044	40°55'45.29204"N	99°23'18.54496"W	680.529	4530975.587	467292.892	704.383	LIPT	NVA
1045	41°03'41.01358"N	97°24'23.69401"W	472.118	4546795.341	633886.900	498.307	LIPT	NVA
1046	40°22'20.05352"N	97°57'52.91507"W	498.999	4469587.623	587892.062	525.232	LIPT	NVA
1047	40°10'02.87800"N	97°10'32.98908"W	410.903	4447939.861	655333.989	437.942	LIPT	NVA
1048	40°01'51.72280"N	99°29'58.30062"W	616.471	4431321.213	457379.659	641.475	LIPT	NVA
1049	40°18'24.80292"N	99°32'44.47500"W	652.667	4461962.724	453629.357	677.450	LIPT	NVA
1050	40°49'22.94083"N	97°52'59.47673"W	509.939	4519713.093	594177.240	535.869	LIPT	NVA
1051	40°08'50.31578"N	97°43'37.05524"W	453.048	4444884.153	608433.984	479.519	LIPT	NVA
1052	40°01'00.74366"N	97°43'37.88076"W	475.662	4430405.851	608621.576	502.009	LIPT	NVA
1053	40°11'25.53770"N	98°57'09.67781"W	617.859	4448894.190	504027.274	643.528	LIPT	NVA
1054	40°45'28.69135"N	99°59'43.64736"W	791.807	4512366.554	415974.363	815.442	LIPT	NVA
1055	40°06'13.44737"N	99°05'06.21316"W	578.802	4439274.401	492750.370	604.417	LIPT	NVA

PT#	NAD83(2011)		ELLIPSOID	UTM ZONE 14 NORTH		NAVD 88	CODE	NOTE
	LATITUDE	LONGITUDE	HEIGHT	NORTHING	EASTING	ELEVATION		
			METERS	METERS	METERS	METERS		
						GEOID 12B		
1056	40°28'53.10170"N	99°30'43.36801"W	710.833	4481317.942	456600.249	735.528	LIPT	NVA
1057	40°16'28.58171"N	96°46'36.03428"W	356.828	4460608.067	689027.729	383.885	LIPT	NVA
1058	40°50'44.28269"N	99°59'11.27108"W	735.031	4522089.424	416842.993	758.477	LIPT	NVA
1059	41°01'27.10920"N	98°09'17.37464"W	512.482	4541787.163	571054.764	537.739	LIPT	NVA
1060	40°54'08.51015"N	99°05'04.83979"W	644.791	4527922.075	492867.975	668.875	LIPT	NVA
1061	40°31'03.42210"N	98°03'04.96714"W	512.027	4485642.463	580359.801	537.896	LIPT	NVA
1062	41°00'09.64782"N	98°43'57.99720"W	581.835	4539088.945	522472.965	606.292	LIPT	NVA
1063	41°00'12.27996"N	97°59'52.26047"W	528.834	4539619.335	584278.600	554.304	LIPT	NVA
1064	41°02'22.64222"N	100°10'01.09704"W	810.034	4543811.486	401913.767	832.810	LIPT	NVA
1065	40°34'58.59898"N	98°08'49.31538"W	527.374	4492811.156	572186.588	553.011	LIPT	NVA
1065A	40°34'59.20252"N	98°07'41.18203"W	525.285	4492845.451	573788.123	550.958	LIPT	NVA
1066	40°49'38.37403"N	97°59'49.25422"W	511.016	4520072.894	584572.961	536.682	LIPT	NVA
1067	40°13'12.99022"N	98°04'03.82966"W	511.381	4452622.793	579322.543	537.534	LIPT	NVA
1068	40°25'23.30893"N	97°50'35.47687"W	490.060	4475365.919	598133.993	516.484	LIPT	NVA
1069	40°17'33.03276"N	99°10'45.54883"W	656.889	4460239.114	484758.882	682.272	LIPT	NVA
1070	41°02'15.59616"N	99°58'02.43473"W	813.221	4543388.987	418690.764	836.286	LIPT	NVA
1071	40°58'03.83606"N	98°29'34.99282"W	554.264	4535298.769	542655.837	579.028	LIPT	NVA
1072	40°40'20.74768"N	99°05'00.90193"W	628.697	4502398.069	492935.782	653.220	LIPT	NVA
1073	41°01'03.34762"N	99°14'09.64680"W	671.913	4540737.273	480156.217	695.774	LIPT	NVA
1074	40°34'58.72937"N	99°08'31.18384"W	640.676	4492475.294	487983.009	665.425	LIPT	NVA
1075	40°35'50.69688"N	98°57'05.12129"W	621.792	4494069.095	504110.192	646.598	LIPT	NVA
1076	40°31'41.98462"N	99°38'01.90471"W	743.237	4486592.243	446312.819	767.834	LIPT	NVA
1077	40°21'02.24708"N	98°35'28.78616"W	568.301	4466754.393	534704.965	593.892	LIPT	NVA
1078	40°18'27.35082"N	98°04'02.45528"W	493.824	4462315.723	579253.047	519.955	LIPT	NVA
1078A	40°17'35.51165"N	98°04'02.03970"W	502.202	4460717.475	579279.688	528.339	LIPT	NVA
1079	40°41'54.44178"N	97°51'46.72008"W	496.982	4505905.275	596060.745	523.008	LIPT	NVA
1080	41°20'14.04658"N	97°22'40.25579"W	423.962	4577463.701	635730.024	449.424	LIPT	NVA
1081	40°54'55.77257"N	99°45'00.11819"W	751.567	4529646.744	436840.333	775.099	LIPT	NVA
1082	40°11'26.96071"N	98°19'48.47048"W	534.695	4449152.103	557020.579	560.776	LIPT	NVA

PT#	NAD83(2011)		ELLIPSOID	UTM ZONE 14 NORTH		NAVD 88	CODE	NOTE
	LATITUDE	LONGITUDE	HEIGHT	NORTHING	EASTING	ELEVATION		
			METERS	METERS	METERS	METERS		
						GEOID 12B		
1083	41°11'28.20995"N	97°58'58.75788"W	484.882	4560477.548	585285.237	509.995	LIPT	NVA
1084	40°49'34.22561"N	98°08'58.61108"W	535.762	4519808.901	571706.699	561.173	LIPT	NVA
1085	40°46'14.35566"N	98°15'50.00112"W	549.097	4513558.634	562122.394	574.367	LIPT	NVA
1086	40°17'32.07746"N	99°01'43.07189"W	636.302	4460194.629	497566.510	661.871	LIPT	NVA
1087	40°08'49.50298"N	97°58'18.89227"W	503.685	4444588.908	587569.291	529.860	LIPT	NVA
1088	41°11'30.64214"N	97°24'23.37746"W	473.938	4561278.013	633629.297	499.753	LIPT	NVA
1089	40°32'52.19214"N	98°50'16.45462"W	618.555	4488576.625	513725.257	643.560	LIPT	NVA
1090	40°22'00.57670"N	99°09'38.02162"W	650.392	4468485.077	486368.131	675.673	LIPT	NVA
1091	40°06'50.53403"N	96°56'05.85323"W	384.155	4442458.206	675984.229	411.328	LIPT	NVA
1092	41°03'15.94768"N	98°36'49.67608"W	557.374	4544871.163	532453.403	581.848	LIPT	NVA
1093	41°00'39.77453"N	98°53'45.32633"W	587.519	4539988.765	508751.492	611.788	LIPT	NVA
1094	40°53'54.83332"N	98°06'43.37503"W	529.418	4527876.359	574792.874	554.821	LIPT	NVA
1095	40°11'24.37307"N	97°02'10.07693"W	410.994	4450706.488	667174.885	438.046	LIPT	NVA
1096	40°31'28.91298"N	97°51'44.87360"W	497.096	4486617.764	596353.378	523.357	LIPT	NVA
1097	41°04'32.58840"N	97°49'40.56344"W	503.950	4547824.399	598460.579	529.577	LIPT	NVA
1098	40°28'50.34270"N	98°43'25.93441"W	593.214	4481143.584	523404.238	618.443	LIPT	NVA
1099	40°07'57.55685"N	99°22'11.68162"W	608.629	4442546.332	468485.609	633.841	LIPT	NVA
1100	40°46'41.82542"N	98°22'43.95335"W	568.112	4514330.605	552412.292	593.204	LIPT	NVA
1101	40°05'22.51619"N	98°04'03.93632"W	501.266	4438117.046	579472.233	527.353	LIPT	NVA
1102	40°31'30.99972"N	99°22'46.89440"W	686.431	4486129.802	467839.199	711.145	LIPT	NVA
1102A	40°30'38.31336"N	99°22'48.96232"W	684.628	4484505.507	467783.539	709.367	LIPT	NVA
1103	40°24'30.05608"N	98°26'23.25055"W	556.246	4473232.194	547533.261	581.793	LIPT	NVA
1104	40°15'45.89777"N	96°38'00.99200"W	377.702	4459606.989	701227.630	404.916	LIPT	NVA
1105	40°02'41.49056"N	96°28'58.46592"W	383.000	4435771.827	714729.652	410.740	LIPT	NVA
1106	40°50'36.05060"N	98°15'51.90210"W	552.416	4521627.705	562010.123	577.634	LIPT	NVA
1107	41°02'21.42982"N	99°45'29.77762"W	764.518	4543395.115	436265.821	787.892	LIPT	NVA
1108	40°35'52.18181"N	99°30'43.60212"W	697.873	4494239.762	456669.808	722.389	LIPT	NVA
1109	40°41'54.49495"N	97°59'49.68312"W	501.358	4505768.881	584726.403	527.161	LIPT	NVA
1110	40°40'26.88953"N	98°16'41.04682"W	550.274	4502834.625	561013.826	575.625	LIPT	NVA

PT#	NAD83(2011)		ELLIPSOID	UTM ZONE 14 NORTH		NAVD 88	CODE	NOTE
	LATITUDE	LONGITUDE	HEIGHT	NORTHING	EASTING	ELEVATION		
			METERS	METERS	METERS	METERS		
						GEOID 12B		
1110A	40°41'02.33358"N	98°16'41.31422"W	547.004	4503927.477	560998.573	572.343	LIPT	NVA
1111	41°00'23.11866"N	98°36'26.12700"W	570.348	4539544.221	533027.076	594.883	LIPT	NVA
1112	40°01'01.85570"N	98°31'07.32191"W	540.977	4429775.202	541073.364	566.910	LIPT	NVA
1113	40°30'32.14559"N	96°42'23.42711"W	414.626	4486772.911	694318.900	441.047	LIPT	NVA
1113A	40°31'23.10683"N	96°42'24.16496"W	416.561	4488343.964	694260.648	442.915	LIPT	NVA
1114	40°47'48.78640"N	99°44'56.50490"W	708.954	4516479.653	436812.249	732.731	LIPT	NVA
1115	40°17'33.12240"N	98°14'13.86967"W	539.255	4460505.571	564835.179	565.263	LIPT	NVA
1116	40°14'56.47063"N	99°37'26.56769"W	607.058	4455583.310	446925.400	631.837	LIPT	NVA
1116A	40°14'30.03072"N	99°36'42.45602"W	605.108	4454760.847	447961.910	629.897	LIPT	NVA
1117	40°45'24.10466"N	99°39'17.39171"W	695.697	4511954.769	444725.511	719.659	LIPT	NVA
1118	40°49'37.55046"N	99°15'19.02625"W	655.346	4519594.868	478474.117	679.495	LIPT	NVA
1119	41°22'45.92896"N	98°16'48.47128"W	582.559	4581128.169	560193.780	607.188	LIPT	NVA
1120	40°53'12.42899"N	97°50'42.84629"W	508.071	4526831.095	597284.442	534.031	LIPT	NVA
1121	41°10'37.51860"N	97°39'21.28392"W	496.302	4559286.573	612738.146	521.886	LIPT	NVA
1122	41°09'44.57102"N	98°08'09.92850"W	506.398	4557142.791	572477.815	531.395	LIPT	NVA
1123	40°57'00.56797"N	99°29'44.84836"W	696.476	4533342.454	458271.731	720.170	LIPT	NVA
1124	40°17'31.21170"N	98°43'35.78736"W	589.569	4460203.394	523237.000	615.185	LIPT	NVA
1125	40°29'00.66977"N	99°05'05.32576"W	650.705	4481428.842	492811.733	675.754	LIPT	NVA
1126	40°17'31.14445"N	98°53'48.89022"W	623.222	4460170.567	508761.801	648.814	LIPT	NVA
1127	40°18'25.38738"N	97°34'38.65930"W	455.211	4462808.831	620888.650	482.076	LIPT	NVA
1128	40°49'46.93127"N	98°44'23.33580"W	588.588	4519885.341	521938.149	613.238	LIPT	NVA
1129	40°34'04.45688"N	98°22'25.79405"W	554.927	4490980.553	553004.286	580.265	LIPT	NVA
1130	40°48'03.25562"N	99°05'03.28376"W	637.785	4516659.352	492893.548	662.004	LIPT	NVA
1131	40°17'30.11489"N	98°31'11.72510"W	593.237	4460244.276	540804.349	618.991	LIPT	NVA
1132	41°11'30.54854"N	97°32'26.00794"W	477.357	4561077.815	622386.574	503.056	LIPT	NVA
1133	40°50'26.45250"N	100°09'51.73092"W	784.747	4521723.737	401838.317	808.020	LIPT	NVA
1134	41°07'09.40051"N	97°47'24.40205"W	510.551	4552703.485	601570.838	536.131	LIPT	NVA
1134A	41°06'17.03041"N	97°47'23.86061"W	510.189	4551088.697	601605.894	535.804	LIPT	NVA
1135	40°46'18.86545"N	98°09'19.60830"W	533.382	4513780.139	571272.901	558.827	LIPT	NVA

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	LATITUDE	LONGITUDE	HEIGHT	NORTHING	EASTING	ELEVATION		
			METERS	METERS	METERS	METERS		
						GEOID 12B		
1136	41°11'25.20924"N	97°49'44.14148"W	470.792	4560547.498	598205.983	496.152	LIPT	NVA
1137	40°20'58.05816"N	96°36'35.83192"W	402.964	4469286.978	702979.495	430.097	LIPT	NVA
1138	40°06'12.74486"N	99°10'44.79204"W	589.993	4439264.646	484734.431	615.480	LIPT	NVA
1139	40°14'09.04636"N	97°53'45.23669"W	457.069	4454518.951	593921.656	483.402	LIPT	NVA
1140	40°55'00.94076"N	98°36'30.20188"W	569.039	4529609.159	532976.404	593.729	LIPT	NVA
1140A	40°55'53.21924"N	98°36'27.88474"W	567.543	4531221.444	533023.374	592.212	LIPT	NVA
1141	40°23'38.30489"N	98°47'59.74789"W	614.938	4471505.136	516979.371	640.362	LIPT	NVA
1142	40°23'37.86983"N	98°47'58.62080"W	613.652	4471491.782	517005.972	639.076	LIPT	NVA
1142A	40°27'59.13637"N	98°38'18.95039"W	586.500	4479590.832	530638.335	611.806	LIPT	NVA
1142B	40°27'58.62514"N	98°38'38.87732"W	589.279	4479573.163	530169.140	614.582	LIPT	NVA
1143	40°27'55.90908"N	96°53'37.57819"W	398.789	4481559.191	678566.580	425.273	LIPT	NVA
1143A	40°27'54.88085"N	96°52'29.13960"W	397.450	4481566.130	680179.195	423.934	LIPT	NVA
1144	40°22'42.49963"N	96°44'35.05686"W	384.158	4472210.565	691590.991	411.048	LIPT	NVA
1145	40°53'14.79656"N	99°30'08.11008"W	732.968	4526383.739	457687.916	756.763	LIPT	NVA
1146	40°58'18.90502"N	99°44'48.08587"W	775.537	4535908.137	437175.285	799.001	LIPT	NVA
1146A	40°57'41.54594"N	99°44'56.50728"W	764.212	4534757.811	436968.588	787.685	LIPT	NVA
1147	40°49'11.37529"N	99°52'57.02984"W	723.614	4519131.080	425577.525	747.217	LIPT	NVA
1148	40°55'51.16177"N	98°54'47.58995"W	619.437	4531087.565	507305.998	643.705	LIPT	NVA
1149	40°58'02.31312"N	99°04'59.33708"W	612.013	4535131.412	493003.571	636.056	LIPT	NVA
1150	40°53'13.00823"N	97°59'50.52883"W	523.563	4526690.989	584467.333	549.154	LIPT	NVA
1150A	40°53'13.63024"N	97°58'43.08089"W	520.768	4526728.420	586045.522	546.401	LIPT	NVA
1151	41°02'09.67596"N	98°59'19.93499"W	596.661	4542755.818	500935.470	620.755	LIPT	NVA
1152	40°11'27.31096"N	98°43'33.77986"W	574.776	4448983.766	523319.052	600.530	LIPT	NVA
1152A	40°10'35.82466"N	98°43'33.96655"W	569.861	4447396.344	523319.534	595.631	LIPT	NVA
1153	40°42'47.04325"N	98°31'50.53480"W	587.495	4507011.525	539639.234	612.487	LIPT	NVA
1154	40°00'47.78114"N	98°19'49.56204"W	516.765	4429445.028	557143.122	542.738	LIPT	NVA
1155	40°14'42.57481"N	97°23'22.98098"W	404.020	4456211.746	636963.469	430.986	LIPT	NVA
1156	40°53'02.27238"N	99°19'16.88448"W	666.796	4525925.852	472926.038	690.822	LIPT	NVA
1157	41°05'22.66087"N	98°09'14.96984"W	513.762	4549051.353	571040.488	538.902	LIPT	NVA

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			METERS	METERS	METERS	METERS		
						GEOID 12B		
1158	40°10'35.91311"N	98°07'25.21488"W	531.517	4447731.234	574610.585	557.644	LIPT	NVA
1159	40°00'57.94715"N	97°01'47.03902"W	377.972	4431403.155	668147.705	405.121	LIPT	NVA
1160	40°38'24.98564"N	98°39'31.89550"W	600.993	4498881.220	528845.851	625.957	LIPT	NVA
1160A	40°38'24.62647"N	98°39'31.97016"W	600.283	4498870.139	528844.140	625.247	LIPT	VVA
1161	40°34'04.74006"N	98°35'32.21048"W	580.174	4490880.779	534512.776	605.304	LIPT	NVA
1162	40°59'16.89464"N	98°05'38.65110"W	539.265	4537823.034	576204.358	564.620	LIPT	NVA
1162A	40°59'17.13034"N	98°04'29.51076"W	535.965	4537847.236	577819.827	561.341	LIPT	NVA
1163	40°28'00.97720"N	96°30'05.72191"W	354.850	4482583.125	711814.568	382.053	LIPT	NVA
1164	40°37'07.09352"N	97°51'45.01688"W	495.658	4497045.389	596215.343	521.759	LIPT	NVA
1165	40°55'03.18511"N	99°58'36.16151"W	751.521	4530063.722	417754.216	774.800	LIPT	NVA
1166	40°08'49.14791"N	97°30'03.00622"W	425.795	4445148.641	627695.954	452.552	LIPT	NVA
1166A	40°08'49.38839"N	97°28'55.67351"W	442.017	4445183.107	629289.021	468.791	LIPT	NVA
1167	40°08'48.82769"N	97°23'17.77780"W	440.454	4445306.638	637284.486	467.337	LIPT	NVA
1168	41°11'28.26643"N	98°16'12.05494"W	527.398	4560237.603	561215.316	552.242	LIPT	NVA
1168A	41°11'28.30139"N	98°15'54.65833"W	526.604	4560242.092	561620.547	551.450	LIPT	NVA
1169	40°05'45.51968"N	98°56'33.53464"W	542.638	4438411.468	504888.645	568.361	LIPT	NVA
1170	40°37'36.62389"N	99°22'46.48562"W	668.219	4497403.344	467897.398	692.736	LIPT	NVA
1171	41°14'56.47150"N	98°15'02.57458"W	504.659	4566671.887	562778.472	529.464	LIPT	NVA
1172	40°01'00.41495"N	98°56'01.42710"W	587.851	4429621.955	505655.424	613.527	LIPT	NVA
1173	40°18'52.02986"N	97°49'13.17688"W	478.741	4463327.001	600234.290	505.248	LIPT	NVA
1174	40°10'33.59510"N	98°31'10.36812"W	551.093	4447402.292	540905.946	577.005	LIPT	NVA
1175	40°26'15.13046"N	98°15'37.85767"W	517.994	4476583.826	562717.689	543.657	LIPT	NVA
1176	40°08'50.67722"N	97°49'14.92194"W	480.042	4444784.979	600439.598	506.377	LIPT	NVA
1177	40°08'48.84594"N	97°34'35.21752"W	420.565	4445033.388	621255.196	447.253	LIPT	NVA
1178	40°08'12.84148"N	96°40'27.15697"W	360.059	4445545.131	698140.985	387.412	LIPT	NVA
1179	40°14'03.89324"N	97°43'37.10669"W	462.336	4454552.645	608294.113	488.951	LIPT	NVA
1180	40°01'07.75963"N	98°05'01.24001"W	452.807	4430248.397	578196.094	478.903	LIPT	NVA
1181	40°29'43.14494"N	98°15'38.64107"W	537.595	4482997.490	562645.521	563.129	LIPT	NVA
1182	40°05'22.89790"N	98°29'59.54377"W	497.777	4437832.270	542634.852	523.745	LIPT	NVA

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	LATITUDE	LONGITUDE	HEIGHT	NORTHING	EASTING	ELEVATION		
			METERS	METERS	METERS	METERS		
						GEOID 12B		
1183	41°16'47.27298"N	97°39'21.68593"W	448.991	4570689.035	612552.468	474.372	LIPT	NVA
1184	40°29'43.25050"N	98°24'08.60839"W	550.096	4482909.796	550641.341	575.501	LIPT	NVA
1185	40°50'38.57194"N	98°51'18.30049"W	630.135	4521455.223	512216.386	654.565	LIPT	NVA
1185A	40°51'30.60284"N	98°51'18.29102"W	631.767	4523059.606	512213.953	656.181	LIPT	NVA
1186	40°03'11.27437"N	99°22'15.72146"W	609.129	4433720.291	468353.194	634.348	LIPT	NVA
1187	40°13'38.93444"N	99°22'06.75520"W	639.235	4453071.095	468645.875	664.341	LIPT	NVA
1188	40°25'23.82182"N	98°03'06.05830"W	509.417	4475171.018	580446.623	535.450	LIPT	NVA
1189	40°18'25.63538"N	97°41'33.75240"W	456.512	4462665.449	611090.020	483.243	LIPT	NVA
1190	40°43'29.67139"N	98°44'25.36152"W	589.947	4508252.460	521925.131	614.719	LIPT	NVA
1191	40°56'21.75292"N	98°18'05.36450"W	532.786	4532262.104	558799.751	557.915	LIPT	NVA
1192	40°36'43.94423"N	99°37'31.02553"W	727.361	4495897.664	447105.417	751.769	LIPT	NVA
1193	40°03'34.91521"N	97°19'52.54507"W	403.395	4435717.301	642322.303	430.335	LIPT	NVA
1194	40°17'45.10162"N	96°28'57.21319"W	405.876	4463636.937	713969.086	433.285	LIPT	NVA
1194A	40°17'35.57054"N	96°30'05.04821"W	402.894	4463297.654	712375.652	430.262	LIPT	NVA
1195	40°43'16.27115"N	99°23'00.80063"W	666.518	4507877.596	467606.791	690.813	LIPT	NVA
1196	40°39'17.59885"N	98°50'16.92431"W	603.303	4500460.178	513692.348	628.073	LIPT	NVA
1197	40°43'30.67763"N	98°57'01.29503"W	615.647	4508252.263	504192.115	640.145	LIPT	NVA
1198	41°07'05.72358"N	98°01'12.40792"W	494.255	4552347.414	582263.052	519.501	LIPT	NVA
1199	40°19'14.37571"N	97°10'47.42087"W	416.652	4464938.025	654643.482	443.597	LIPT	NVA
1200	40°05'31.64561"N	98°37'55.46899"W	502.839	4438046.993	531363.783	528.758	LIPT	NVA
1201	40°34'59.83842"N	97°59'42.64004"W	510.023	4492984.930	585037.752	535.960	LIPT	NVA
1202	41°32'27.15896"N	96°25'40.80461"W	383.372	4601996.876	714539.907	410.420	LIPT	NVA
1203	41°40'09.18890"N	96°25'30.76864"W	381.077	4616254.175	714346.962	407.693	LIPT	NVA
1204	41°40'30.05555"N	96°12'58.18993"W	290.011	4617439.278	731730.760	317.585	LIPT	NVA
1205	41°32'43.25320"N	96°12'52.81780"W	340.984	4603045.427	732320.150	368.873	LIPT	NVA
1206	41°24'27.57060"N	96°13'57.49147"W	357.520	4587708.892	731311.029	385.360	LIPT	NVA
1207	40°48'48.84343"N	96°25'37.11151"W	376.866	4521247.666	717014.659	402.831	LIPT	NVA
1208	40°48'21.71560"N	95°54'42.17674"W	266.485	4521815.637	760507.992	294.751	LIPT	NVA
1209	41°00'05.46664"N	96°16'26.65153"W	351.083	4542505.165	729261.831	377.362	LIPT	NVA

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	LATITUDE	LONGITUDE	HEIGHT	NORTHING	EASTING	ELEVATION		
			METERS	METERS	METERS	METERS		
						GEOID 12B		
1209A	40°59'37.35010"N	96°16'26.16157"W	355.215	4541638.384	729300.365	381.480	LIPT	NVA
1210	41°02'44.28139"N	95°54'48.45186"W	268.864	4548413.692	759421.207	296.089	LIPT	NVA
1211	40°55'25.16891"N	95°51'59.89478"W	270.536	4535010.833	763843.296	298.254	LIPT	NVA
1211A	40°55'49.71695"N	95°53'05.06951"W	306.641	4535713.431	762291.640	334.243	LIPT	NVA
1212	40°47'54.53358"N	96°10'42.77906"W	356.435	4520217.970	738023.766	383.287	LIPT	NVA
1212A	40°48'46.73110"N	96°09'33.79147"W	348.840	4521880.011	739588.413	375.713	LIPT	NVA
1213	40°54'53.63341"N	96°03'50.12993"W	355.475	4533461.239	747261.314	382.376	LIPT	NVA
1214	40°54'50.35802"N	96°17'23.08715"W	364.981	4532745.939	728244.788	391.151	LIPT	NVA
1214A	40°54'50.33282"N	96°17'01.53370"W	362.970	4532760.813	728749.069	389.154	LIPT	NVA
1215	41°02'11.41552"N	96°05'33.05310"W	287.751	4546882.586	744403.660	314.457	LIPT	NVA
1215A	41°01'24.81110"N	96°05'33.00392"W	304.185	4545445.266	744452.731	330.881	LIPT	NVA
1216	40°57'25.95989"N	96°21'44.38357"W	338.889	4537357.761	721986.765	364.967	LIPT	NVA
1216A	40°57'25.74382"N	96°21'00.10937"W	324.893	4537382.429	723022.106	350.984	LIPT	NVA
1217	41°27'51.89875"N	96°05'53.84029"W	320.901	4594378.827	742330.300	349.169	LIPT	NVA
1218	41°24'31.22827"N	96°01'16.42480"W	313.220	4588408.332	748979.650	341.451	LIPT	NVA
1219	41°32'56.67655"N	96°01'44.22724"W	279.305	4603976.029	747798.134	307.791	LIPT	NVA
1219A	41°29'53.30234"N	96°03'00.09605"W	277.317	4598259.774	746233.448	305.742	LIPT	NVA
1220	41°24'35.45104"N	95°56'53.45383"W	275.878	4588751.330	755081.430	304.207	LIPT	NVA
2001	41°00'10.63472"N	97°53'01.62078"W	512.473	4539684.966	593872.159	538.168	LIPT	VVA
2002	40°11'30.63095"N	99°31'47.80960"W	594.086	4449184.782	454890.611	618.999	LIPT	VVA
2003	40°30'17.33587"N	98°56'05.59514"W	631.450	4483791.290	505516.836	656.511	LIPT	VVA
2004	40°19'17.22173"N	97°26'11.47985"W	430.144	4464608.963	632832.807	457.103	LIPT	VVA
2005	40°00'58.67759"N	99°36'00.30272"W	668.948	4429738.731	448789.019	693.790	LIPT	VVA
2006	40°55'16.62535"N	100°09'59.32188"W	757.560	4530673.947	401779.793	780.669	LIPT	VVA
2007	41°15'49.02620"N	97°58'58.38989"W	486.802	4568520.657	585199.700	511.740	LIPT	VVA
2008	40°48'04.16408"N	99°23'17.93918"W	702.355	4516756.482	467244.006	726.479	LIPT	VVA
2009	40°34'04.43053"N	98°43'25.64263"W	605.014	4490828.025	523380.772	630.043	LIPT	VVA
2010	40°05'22.42907"N	98°16'26.15254"W	496.687	4437950.550	561896.247	522.739	LIPT	VVA
2011	40°04'47.49730"N	97°05'42.74318"W	366.367	4438359.515	662408.212	393.497	LIPT	VVA

PT#	NAD83(2011)		ELLIPSOID	UTM ZONE 14 NORTH		NAVD 88	CODE	NOTE
	LATITUDE	LONGITUDE	HEIGHT	NORTHING	EASTING	ELEVATION		
			METERS	METERS	METERS	METERS		
						GEOID 12B		
2011A	40°04'47.08661"N	97°05'38.27706"W	364.416	4438349.117	662514.267	391.546	LIPT	VVA
2012	41°06'19.96186"N	98°23'51.59198"W	548.449	4550648.447	550576.576	573.303	LIPT	VVA
2012A	41°06'20.71094"N	98°25'15.76099"W	554.927	4550658.240	548613.231	579.745	LIPT	VVA
2013	40°44'19.75348"N	99°32'27.01802"W	682.505	4509904.964	454335.490	706.633	LIPT	VVA
2014	41°17'40.47925"N	97°52'03.68119"W	469.318	4572077.065	594804.636	494.360	LIPT	VVA
2015	40°01'02.62549"N	97°36'54.50335"W	472.560	4430606.506	618183.263	499.076	LIPT	VVA
2016	41°01'53.25589"N	99°23'07.88536"W	660.278	4542321.003	467592.253	683.981	LIPT	VVA
2017	40°51'31.51206"N	98°58'03.89122"W	647.926	4523078.037	502718.262	672.140	LIPT	VVA
2018	40°18'24.85994"N	99°22'04.37574"W	678.060	4461886.559	468738.693	703.090	LIPT	VVA
2019	40°20'33.20459"N	96°54'58.51253"W	381.904	4467862.670	676982.379	408.765	LIPT	VVA
2020	40°58'00.59804"N	99°35'45.21656"W	713.286	4535246.148	449859.203	736.875	LIPT	VVA
2021	40°40'25.58921"N	99°15'21.17581"W	647.547	4502575.469	478374.152	671.998	LIPT	VVA
2022	40°42'23.90065"N	100°12'43.61544"W	814.636	4506898.472	397607.439	838.111	LIPT	VVA
2023	40°01'15.50158"N	99°22'00.78496"W	583.298	4430149.443	468692.377	608.508	LIPT	VVA
2024	40°06'13.45421"N	99°15'18.46127"W	599.043	4439302.332	478255.318	624.414	LIPT	VVA
2025	40°23'39.04678"N	98°57'07.10705"W	635.923	4471509.906	504075.800	661.303	LIPT	VVA
2026	40°26'19.49640"N	99°21'34.36186"W	678.008	4476517.976	469506.646	702.881	LIPT	VVA
2027	40°17'33.22360"N	98°19'50.46352"W	559.078	4460444.460	556888.228	585.008	LIPT	VVA
2028	40°41'55.30283"N	98°22'47.17405"W	570.199	4505495.193	552399.215	595.365	LIPT	VVA
2029	40°47'10.20365"N	99°32'26.14315"W	689.960	4515160.651	454388.388	713.957	LIPT	VVA
2030	40°01'49.82149"N	97°10'14.23985"W	407.806	4432746.154	656090.265	434.884	LIPT	VVA
2030A	40°01'43.78854"N	97°10'15.92854"W	400.008	4432559.315	656054.059	427.084	LIPT	VVA
2031	40°05'24.37300"N	98°43'33.18737"W	525.178	4437793.914	523367.574	551.009	LIPT	VVA
2031A	40°05'21.28913"N	98°43'25.44557"W	528.204	4437699.402	523551.194	554.037	LIPT	VVA
2032	41°01'03.13892"N	98°21'29.33046"W	537.103	4540902.402	553966.638	562.089	LIPT	VVA
2033	40°00'56.61209"N	96°39'01.09494"W	363.314	4432147.377	700533.163	390.875	LIPT	VVA
2033A	40°02'43.97485"N	96°43'21.78430"W	401.796	4435297.355	694267.809	429.204	LIPT	VVA
2034	41°07'20.70448"N	97°35'53.11792"W	487.636	4553293.751	617686.113	513.412	LIPT	VVA
2035	41°02'26.72376"N	99°40'20.47303"W	729.976	4543499.163	443488.696	753.415	LIPT	VVA

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			METERS	METERS	METERS	METERS		
						GEOID 12B		
2036	40°43'42.22618"N	99°47'10.28688"W	708.716	4508904.380	433609.162	732.628	LIPT	VVA
2037	40°24'00.59389"N	99°15'20.73046"W	660.675	4472204.551	478296.495	685.751	LIPT	VVA
2038	40°13'12.53219"N	97°34'37.54898"W	440.478	4453162.798	621069.723	467.269	LIPT	VVA
2039	41°02'48.74266"N	97°35'53.83684"W	487.198	4544906.805	617804.211	513.143	LIPT	VVA
2040	40°50'57.12994"N	98°30'45.81461"W	564.484	4522131.597	541073.796	589.352	LIPT	VVA
2041	41°23'18.48307"N	97°41'38.28826"W	452.753	4582704.993	609192.992	477.944	LIPT	VVA
2042	40°13'05.18765"N	96°54'58.36795"W	412.556	4454047.925	677310.770	439.621	LIPT	VVA
2043	40°05'22.63441"N	97°36'51.91913"W	461.013	4438624.176	618119.746	487.575	LIPT	VVA
2044	40°55'46.34425"N	99°23'19.34081"W	679.919	4531008.115	467274.424	703.772	LIPT	VVA
2045	41°03'41.50141"N	97°24'23.56402"W	471.422	4546810.441	633889.660	497.611	LIPT	VVA
2046	40°22'20.70678"N	97°57'53.21700"W	498.581	4469607.681	587884.706	524.814	LIPT	VVA
2047	40°10'03.30823"N	97°10'33.92141"W	409.914	4447952.674	655311.662	436.953	LIPT	VVA
2048	40°01'52.24548"N	99°29'42.31018"W	616.268	4431335.212	457758.730	641.280	LIPT	VVA
2049	40°18'25.76876"N	99°32'58.85646"W	655.232	4461994.603	453290.072	680.012	LIPT	VVA
2050	40°49'32.00657"N	97°52'58.51740"W	508.358	4519992.929	594196.148	534.286	LIPT	VVA
2051	40°08'49.97656"N	97°43'36.69308"W	452.650	4444873.816	608442.703	479.121	LIPT	VVA
2052	40°01'00.69582"N	97°43'38.48009"W	474.313	4430404.173	608607.389	500.660	LIPT	VVA
2053	40°11'25.81919"N	98°57'13.23220"W	617.451	4448902.824	503943.225	643.119	LIPT	VVA
2054	40°45'27.30960"N	99°59'43.72112"W	790.977	4512323.967	415972.150	814.613	LIPT	VVA
2055	40°06'13.43099"N	99°05'05.12844"W	578.501	4439273.872	492776.050	604.116	LIPT	VVA
2056	40°28'52.41572"N	99°30'42.83356"W	709.076	4481296.718	456612.710	733.772	LIPT	VVA
2057	40°16'27.45685"N	96°46'35.32879"W	356.436	4460573.799	689045.262	383.494	LIPT	VVA
2058	40°50'44.08494"N	99°59'15.07654"W	735.153	4522084.330	416753.814	758.599	LIPT	VVA
2059	41°01'30.27598"N	98°09'12.93984"W	512.066	4541885.819	571157.384	537.323	LIPT	VVA
2060	40°54'08.88098"N	99°05'04.68643"W	644.061	4527933.506	492871.574	668.145	LIPT	VVA
2060A	40°53'15.31651"N	99°05'05.81316"W	664.342	4526281.849	492843.610	688.438	LIPT	VVA
2061	40°31'02.86471"N	98°03'04.80780"W	511.329	4485625.317	580363.735	537.198	LIPT	VVA
2062	41°00'08.66650"N	98°43'58.57856"W	581.807	4539058.644	522459.476	606.264	LIPT	VVA
2063	41°00'12.58175"N	97°59'41.50000"W	527.403	4539631.530	584529.866	552.878	LIPT	VVA

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	LATITUDE	LONGITUDE	HEIGHT	NORTHING	EASTING	ELEVATION		
			METERS	METERS	METERS	METERS		
						GEOID 12B		
2064	41°01'58.75230"N	100°10'01.72560"W	797.050	4543074.987	401889.238	819.847	LIPT	VVA
2065	40°34'54.21212"N	98°08'48.87506"W	526.268	4492675.991	572198.250	551.906	LIPT	VVA
2065A	40°34'59.23211"N	98°07'40.62742"W	523.986	4492846.493	573801.152	549.660	LIPT	VVA
2066	40°49'37.44682"N	97°59'49.91881"W	509.446	4520044.124	584557.722	535.112	LIPT	VVA
2067	40°13'13.43575"N	98°04'03.80806"W	510.776	4452636.536	579322.910	536.929	LIPT	VVA
2068	40°25'23.33993"N	97°50'34.74712"W	488.408	4475367.100	598151.177	514.832	LIPT	VVA
2069	40°17'32.88606"N	99°10'44.85896"W	655.549	4460234.558	484775.160	680.933	LIPT	VVA
2070	41°02'19.32986"N	99°58'03.28382"W	815.168	4543504.342	418672.216	838.231	LIPT	VVA
2071	40°58'03.89744"N	98°29'35.86171"W	553.213	4535300.544	542635.517	577.976	LIPT	VVA
2072	40°40'17.92574"N	99°05'04.97911"W	627.990	4502311.148	492839.979	652.515	LIPT	VVA
2073	41°01'03.09216"N	99°14'10.12625"W	671.361	4540729.426	480144.998	695.222	LIPT	VVA
2074	40°34'59.67347"N	99°08'31.52371"W	639.392	4492504.417	487975.066	664.140	LIPT	VVA
2075	40°35'50.21718"N	98°57'02.66612"W	620.711	4494054.336	504167.904	645.518	LIPT	VVA
2076	40°31'42.58466"N	99°37'55.29940"W	742.857	4486609.629	446468.359	767.454	LIPT	VVA
2077	40°21'00.88362"N	98°35'23.73882"W	571.877	4466712.904	534824.223	597.469	LIPT	VVA
2077A	40°21'00.86616"N	98°35'40.40347"W	573.564	4466710.555	534431.114	599.154	LIPT	VVA
2078	40°18'27.05544"N	98°04'02.72017"W	493.138	4462306.550	579246.890	519.269	LIPT	VVA
2078A	40°17'35.65457"N	98°04'03.10962"W	501.429	4460721.615	579254.381	527.566	LIPT	VVA
2079	40°41'53.68466"N	97°51'46.62918"W	495.962	4505881.956	596063.180	521.988	LIPT	VVA
2080	41°20'14.62466"N	97°22'40.85249"W	423.972	4577481.269	635715.821	449.434	LIPT	VVA
2081	40°54'55.34233"N	99°44'59.83440"W	751.327	4529633.421	436846.857	774.860	LIPT	VVA
2083	41°11'33.07060"N	97°58'59.18700"W	483.407	4560627.322	585273.488	508.516	LIPT	VVA
2084	40°49'30.85043"N	98°08'58.30865"W	534.542	4519704.894	571714.793	559.954	LIPT	VVA
2085	40°46'14.20626"N	98°15'50.83621"W	548.157	4513553.863	562102.856	573.427	LIPT	VVA
2086	40°17'32.01619"N	99°01'42.41971"W	635.332	4460192.735	497581.907	660.901	LIPT	VVA
2087	40°08'49.49059"N	97°58'18.33481"W	503.225	4444588.679	587582.486	529.400	LIPT	VVA
2088	41°11'30.35684"N	97°24'23.84561"W	473.550	4561269.015	633618.553	499.366	LIPT	VVA
2089	40°32'52.60441"N	98°50'15.44352"W	617.286	4488589.381	513749.015	642.291	LIPT	VVA
2090	40°21'59.77627"N	99°09'36.82598"W	649.177	4468460.346	486396.283	674.459	LIPT	VVA

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			METERS	METERS	METERS	METERS		
						GEOID 12B		
2091	40°06'51.04516"N	96°56'05.57113"W	382.896	4442474.122	675990.542	410.069	LIPT	VVA
2092	41°03'15.62598"N	98°36'50.87484"W	556.644	4544861.119	532425.465	581.118	LIPT	VVA
2093	41°00'39.41039"N	98°53'46.34120"W	587.067	4539977.508	508727.800	611.336	LIPT	VVA
2094	40°54'04.10123"N	98°06'43.66364"W	527.368	4528162.075	574783.221	552.769	LIPT	VVA
2095	40°11'24.79067"N	97°02'09.87932"W	410.862	4450719.468	667179.273	437.913	LIPT	VVA
2096	40°31'29.42706"N	97°51'45.55195"W	496.203	4486633.409	596337.212	522.463	LIPT	VVA
2097	41°04'32.68110"N	97°49'35.32084"W	503.255	4547828.903	598582.879	528.884	LIPT	VVA
2098	40°28'49.99818"N	98°43'26.67414"W	593.398	4481132.907	523386.856	618.627	LIPT	VVA
2099	40°07'57.01030"N	99°22'05.51096"W	609.778	4442528.875	468631.569	634.993	LIPT	VVA
2100	40°46'42.67430"N	98°22'42.98304"W	567.517	4514356.941	552434.850	592.609	LIPT	VVA
2101	40°05'21.42679"N	98°04'06.48030"W	500.247	4438082.827	579412.342	526.334	LIPT	VVA
2102	40°31'31.44187"N	99°22'45.50131"W	685.821	4486143.294	467872.035	710.535	LIPT	VVA
2102A	40°30'39.02389"N	99°22'48.69617"W	684.386	4484527.388	467789.897	709.125	LIPT	VVA
2103	40°24'29.61508"N	98°26'23.11847"W	555.695	4473218.616	547536.460	581.242	LIPT	VVA
2104	40°15'43.52576"N	96°38'00.29224"W	377.467	4459534.286	701246.114	404.682	LIPT	VVA
2105	40°02'41.86075"N	96°28'57.59310"W	381.798	4435783.827	714750.015	409.538	LIPT	VVA
2106	40°50'35.17480"N	98°15'51.71206"W	551.761	4521600.737	562014.800	576.979	LIPT	VVA
2107	41°01'07.61668"N	99°45'01.64750"W	764.049	4541113.299	436903.030	787.461	LIPT	VVA
2107A	41°01'49.68545"N	99°45'17.86770"W	765.212	4542413.818	436535.425	788.604	LIPT	VVA
2108	40°35'52.62709"N	99°30'44.33069"W	697.346	4494253.591	456652.765	721.861	LIPT	VVA
2109	40°41'57.08231"N	97°59'50.23676"W	501.974	4505848.514	584712.500	527.776	LIPT	VVA
2110	40°40'26.79967"N	98°16'41.80606"W	550.014	4502831.708	560996.025	575.365	LIPT	VVA
2110A	40°41'02.34532"N	98°16'41.82604"W	546.919	4503927.741	560986.556	572.258	LIPT	VVA
2111	41°00'22.51609"N	98°36'26.05666"W	570.218	4539525.648	533028.803	594.753	LIPT	VVA
2112	40°01'02.42724"N	98°31'07.40993"W	540.847	4429792.811	541071.182	566.780	LIPT	VVA
2113	40°30'32.44464"N	96°42'22.92649"W	414.186	4486782.439	694330.443	440.607	LIPT	VVA
2113A	40°31'24.17686"N	96°42'24.29014"W	416.100	4488376.885	694256.843	442.452	LIPT	VVA
2114	40°47'50.18024"N	99°44'55.67748"W	707.962	4516522.467	436832.006	731.739	LIPT	VVA
2115	40°17'33.09292"N	98°14'13.05996"W	538.759	4460504.827	564854.304	564.767	LIPT	VVA

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			METERS	METERS	METERS	METERS		
						GEOID 12B		
2116	40°14'55.68011"N	99°37'33.22423"W	606.867	4455560.044	446767.968	631.646	LIPT	VVA
2116A	40°14'30.78402"N	99°36'41.62720"W	604.765	4454783.937	447981.653	629.554	LIPT	VVA
2117	40°45'23.55552"N	99°39'17.02908"W	694.474	4511937.773	444733.887	718.436	LIPT	VVA
2118	40°49'37.14917"N	99°15'18.28260"W	654.474	4519582.444	478491.499	678.623	LIPT	VVA
2119	41°22'45.49282"N	98°17'03.07914"W	568.095	4581111.909	559854.590	592.722	LIPT	VVA
2120	40°53'12.46657"N	97°50'42.21438"W	507.274	4526832.449	597299.215	533.235	LIPT	VVA
2121	41°10'37.71703"N	97°39'21.93988"W	495.428	4559292.456	612722.768	521.012	LIPT	VVA
2122	41°09'41.90645"N	98°08'07.90886"W	505.325	4557061.090	572525.698	530.325	LIPT	VVA
2123	40°57'00.27101"N	99°29'43.97802"W	695.053	4533333.182	458292.027	718.747	LIPT	VVA
2124	40°17'31.57163"N	98°43'36.36023"W	589.337	4460214.450	523223.440	614.952	LIPT	VVA
2125	40°29'12.42395"N	99°05'05.88307"W	648.114	4481791.274	492798.961	673.154	LIPT	VVA
2126	40°17'31.11922"N	98°53'48.05232"W	622.259	4460169.812	508781.585	647.851	LIPT	VVA
2127	40°18'25.19165"N	97°34'38.80394"W	454.931	4462802.741	620885.333	481.796	LIPT	VVA
2128	40°49'47.21318"N	98°44'22.94390"W	587.838	4519894.062	521947.302	612.488	LIPT	VVA
2129	40°34'03.10040"N	98°22'26.32544"W	553.542	4490938.639	552992.088	578.881	LIPT	VVA
2130	40°48'03.70199"N	99°05'02.77343"W	636.944	4516673.104	492905.519	661.163	LIPT	VVA
2131	40°17'30.16766"N	98°31'10.72560"W	592.409	4460246.031	540827.939	618.164	LIPT	VVA
2132	41°11'30.38251"N	97°32'26.59520"W	476.724	4561072.465	622372.980	502.423	LIPT	VVA
2133	40°50'26.92273"N	100°09'51.26364"W	784.704	4521738.092	401849.453	807.976	LIPT	VVA
2134	41°07'09.78452"N	97°47'19.89424"W	509.856	4552716.788	601675.795	535.438	LIPT	VVA
2134A	41°06'16.68240"N	97°47'26.48951"W	510.505	4551077.114	601544.723	536.120	LIPT	VVA
2135	40°46'14.76422"N	98°09'33.71782"W	533.011	4513650.500	570943.354	558.451	LIPT	VVA
2136	41°11'24.58147"N	97°49'42.64450"W	469.584	4560528.608	598241.116	494.945	LIPT	VVA
2137	40°21'02.30890"N	96°36'36.46703"W	400.436	4469417.652	702960.968	427.567	LIPT	VVA
2138	40°06'13.47365"N	99°10'45.24139"W	590.068	4439287.137	484723.837	615.554	LIPT	VVA
2139	40°14'09.40938"N	97°53'44.69028"W	455.054	4454530.305	593934.429	481.388	LIPT	VVA
2140	40°55'00.16385"N	98°36'30.21631"W	567.701	4529585.201	532976.173	592.392	LIPT	VVA
2140A	40°55'53.63594"N	98°36'27.60210"W	566.997	4531234.323	533029.926	591.666	LIPT	VVA
2142	41°32'35.74529"N	96°25'41.55852"W	384.954	4602261.181	714514.548	411.994	LIPT	VVA

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			METERS	METERS	METERS	METERS		
						GEOID 12B		
2143	41°40'09.40728"N	96°26'32.68457"W	384.062	4616218.245	712914.870	410.604	LIPT	VVA
2144	41°40'47.54136"N	96°13'11.85539"W	288.857	4617968.398	731397.335	316.398	LIPT	VVA
2145	41°24'27.45061"N	96°13'58.79442"W	358.409	4587704.224	731280.892	386.248	LIPT	VVA
2146	40°48'48.13279"N	96°25'35.98108"W	379.406	4521226.529	717041.790	405.372	LIPT	VVA
2147	40°48'16.60748"N	95°54'40.32619"W	264.107	4521659.624	760556.915	292.386	LIPT	VVA
2148	41°02'44.61230"N	95°54'38.29799"W	267.113	4548432.297	759657.940	294.347	LIPT	VVA
2149	40°47'53.95834"N	96°10'43.16916"W	356.263	4520199.934	738015.195	383.116	LIPT	VVA
2149A	40°48'46.55736"N	96°09'34.51072"W	348.016	4521874.106	739571.734	374.888	LIPT	VVA
2150	40°54'56.42086"N	96°03'49.59367"W	353.213	4533547.629	747270.972	380.112	LIPT	VVA
2151	41°02'11.01203"N	96°05'32.49362"W	286.837	4546870.578	744417.140	313.543	LIPT	VVA
2151A	41°01'24.80592"N	96°05'33.92567"W	302.838	4545444.389	744431.207	329.533	LIPT	VVA
2152	40°57'26.62924"N	96°22'09.84666"W	334.409	4537360.451	721390.812	360.481	LIPT	VVA
2152A	40°57'26.10673"N	96°21'00.73238"W	322.374	4537393.180	723007.200	348.465	LIPT	VVA
2153	41°24'31.89262"N	96°01'16.30736"W	313.078	4588428.916	748981.672	341.310	LIPT	VVA
2154	41°32'56.39957"N	96°01'43.34682"W	278.632	4603968.188	747818.828	307.119	LIPT	VVA
2154A	41°29'52.62554"N	96°03'20.44012"W	278.646	4598222.806	745762.410	307.057	LIPT	VVA
2155	41°24'36.15228"N	95°56'53.32024"W	274.394	4588773.068	755083.770	302.725	LIPT	VVA
2159	40°00'57.59316"N	97°01'45.80418"W	376.959	4431392.888	668177.222	404.108	LIPT	VVA
2161A	40°34'04.61320"N	98°35'32.93405"W	579.880	4490876.789	534495.781	605.010	LIPT	VVA
2164	40°37'06.22906"N	97°51'44.52772"W	495.233	4497018.882	596227.181	521.335	LIPT	VVA
2175	40°26'15.11304"N	98°15'38.80804"W	516.129	4476583.101	562695.303	541.792	LIPT	VVA
2177	40°08'48.64981"N	97°34'34.84614"W	419.244	4445027.482	621264.080	445.932	LIPT	VVA
2180	40°01'07.11361"N	98°05'01.62204"W	451.019	4430228.387	578187.242	477.115	LIPT	VVA
2182	40°11'27.15994"N	98°19'47.98996"W	534.778	4449158.331	557031.895	560.859	LIPT	VVA
3001	40°59'58.04678"N	97°53'02.13299"W	511.676	4539296.641	593865.155	537.378	LIPT	CAL
3002	40°11'39.36354"N	99°31'59.12378"W	596.050	4449455.626	454624.707	620.955	LIPT	CAL
3003	40°30'19.39316"N	98°55'58.29625"W	632.354	4483854.852	505688.570	657.415	LIPT	CAL
3004	40°19'16.38250"N	97°26'31.50330"W	427.870	4464574.754	632360.691	454.827	LIPT	CAL
3005	40°00'59.31284"N	99°35'26.84681"W	653.740	4429753.016	449582.242	678.593	LIPT	CAL

PT#	NAD83(2011)		ELLIPSOID	UTM ZONE 14 NORTH		NAVD 88	CODE	NOTE
	LATITUDE	LONGITUDE	HEIGHT	NORTHING	EASTING	ELEVATION		
			METERS	METERS	METERS	METERS		
						GEOID 12B		
3006	40°55'17.31148"N	100°09'59.13324"W	757.781	4530695.046	401784.487	780.889	LIPT	CAL
3007	41°15'49.43408"N	97°58'42.64118"W	487.061	4568537.536	585566.004	512.005	LIPT	CAL
3008	40°47'11.82844"N	99°23'16.76904"W	700.896	4515142.593	467264.285	725.050	LIPT	CAL
3009	40°34'03.57197"N	98°43'04.00336"W	604.245	4490803.165	523889.672	629.279	LIPT	CAL
3010	40°05'21.67580"N	98°16'11.64367"W	504.242	4437930.138	562240.013	530.294	LIPT	CAL
3011	40°04'47.00129"N	97°05'46.38260"W	366.410	4438342.375	662322.337	393.540	LIPT	CAL
3012	41°06'20.49113"N	98°26'05.99374"W	558.037	4550643.772	547441.631	582.830	LIPT	CAL
3013	41°17'34.45368"N	97°51'48.84725"W	470.134	4571895.755	595152.074	495.185	LIPT	CAL
3014	40°01'04.19426"N	97°36'52.62736"W	473.527	4430655.567	618226.984	500.044	LIPT	CAL
3015	41°02'01.74268"N	99°23'03.92489"W	654.373	4542582.295	467685.885	678.074	LIPT	CAL
3016	40°51'31.79214"N	98°57'56.16428"W	657.240	4523086.742	502899.156	681.457	LIPT	CAL
3017	40°18'25.87637"N	99°22'18.38046"W	678.378	4461919.278	468408.248	703.401	LIPT	CAL
3018	40°20'36.12538"N	96°54'58.08161"W	381.443	4467952.974	676990.425	408.303	LIPT	CAL
3019	40°58'04.60045"N	99°35'55.52851"W	712.935	4535371.214	449619.023	736.521	LIPT	CAL
3020	40°40'26.51365"N	99°15'20.93868"W	649.077	4502603.957	478379.802	673.527	LIPT	CAL
3021	40°42'21.05060"N	100°12'58.02300"W	816.281	4506815.263	397268.140	839.751	LIPT	CAL
3022	40°00'07.66552"N	99°22'00.95200"W	582.132	4428058.020	468679.806	607.331	LIPT	CAL
3023	40°06'12.75347"N	99°15'34.35430"W	597.754	4439281.816	477878.985	623.119	LIPT	CAL
3024	40°23'43.44392"N	98°57'05.66701"W	638.988	4471645.501	504109.674	664.365	LIPT	CAL
3025	40°26'21.66040"N	99°21'25.35991"W	677.806	4476583.839	469718.989	702.682	LIPT	CAL
3026	40°17'32.83634"N	98°19'26.63144"W	568.670	4460436.792	557450.990	594.605	LIPT	CAL
3027	40°41'54.64036"N	98°22'41.27729"W	569.573	4505475.744	552537.744	594.741	LIPT	CAL
3028	40°47'09.73716"N	99°32'30.85055"W	690.732	4515146.948	454277.972	714.728	LIPT	CAL
3029	40°01'59.84900"N	97°10'15.50878"W	417.866	4433054.720	656053.837	444.945	LIPT	CAL
3030	40°05'21.69910"N	98°43'25.21294"W	528.325	4437712.059	523556.663	554.158	LIPT	CAL
3031	41°01'03.48424"N	98°21'15.25486"W	537.850	4540915.475	554295.303	562.844	LIPT	CAL
3032	41°08'01.61272"N	97°35'53.28668"W	488.904	4554555.213	617661.871	514.655	LIPT	CAL
3033	41°02'27.47000"N	99°40'20.58132"W	732.020	4543522.194	443486.345	755.459	LIPT	CAL
3034	40°43'44.86678"N	99°47'19.06314"W	710.328	4508987.649	433404.024	734.236	LIPT	CAL

PT#	NAD83(2011)		ELLIPSOID	UTM ZONE 14 NORTH		NAVD 88	CODE	NOTE
	LATITUDE	LONGITUDE	HEIGHT	NORTHING	EASTING	ELEVATION		
			METERS	METERS	METERS	METERS		
						GEOID 12B		
3035	40°24'06.37258"N	99°15'34.78637"W	662.173	4472383.690	477965.691	687.240	LIPT	CAL
3036	40°13'26.94612"N	97°34'36.95797"W	433.831	4453607.452	621076.563	460.627	LIPT	CAL
3037	41°03'40.32400"N	97°35'52.68142"W	487.449	4546497.880	617805.617	513.360	LIPT	CAL
3038	40°51'09.03010"N	98°30'21.84631"W	564.074	4522501.685	541632.940	588.947	LIPT	CAL
3039	41°23'11.21770"N	97°41'38.74524"W	453.783	4582480.776	609185.756	478.976	LIPT	CAL
3040	40°13'08.37253"N	96°54'40.22118"W	412.207	4454156.221	677737.412	439.273	LIPT	CAL
3041	40°04'54.91150"N	97°36'51.51773"W	461.962	4437769.554	618142.566	488.516	LIPT	CAL
3042	40°55'50.20698"N	99°23'17.77618"W	679.127	4531127.062	467311.544	702.978	LIPT	CAL
3043	41°03'51.66302"N	97°24'22.22154"W	472.982	4547124.377	633915.267	499.166	LIPT	CAL
3044	40°22'20.28212"N	97°57'25.75930"W	498.845	4469602.195	588532.378	525.090	LIPT	CAL
3045	40°09'52.22441"N	97°10'24.96547"W	411.058	4447615.268	655530.544	438.100	LIPT	CAL
3046	40°01'51.82874"N	99°29'41.49629"W	617.783	4431322.257	457777.948	642.795	LIPT	CAL
3047	40°18'25.76408"N	99°33'19.79986"W	646.096	4461997.543	452795.710	670.870	LIPT	CAL
3048	40°49'30.56365"N	97°52'58.68016"W	509.001	4519948.387	594192.903	534.930	LIPT	CAL
3049	40°08'48.70874"N	97°43'29.67640"W	455.514	4444837.107	608609.286	481.988	LIPT	CAL
3050	40°01'00.44483"N	97°43'23.37107"W	471.891	4430401.560	608965.678	498.244	LIPT	CAL
3051	40°12'06.70428"N	98°57'09.15782"W	616.717	4450163.431	504038.890	642.379	LIPT	CAL
3052	40°45'53.57430"N	99°59'43.46092"W	758.701	4513133.780	415987.438	782.323	LIPT	CAL
3053	40°06'13.64558"N	99°04'42.01838"W	581.172	4439279.986	493323.189	606.794	LIPT	CAL
3054	40°29'08.17663"N	99°30'43.37910"W	707.045	4481782.755	456602.685	731.737	LIPT	CAL
3055	40°16'38.30671"N	96°46'54.56842"W	357.114	4460896.973	688582.467	384.164	LIPT	CAL
3056	40°50'52.32181"N	99°59'09.92130"W	735.644	4522336.961	416877.390	759.085	LIPT	CAL
3057	41°01'33.55612"N	98°09'06.41858"W	512.851	4541988.446	571308.693	538.109	LIPT	CAL
3058	40°53'15.89431"N	99°05'05.71729"W	664.626	4526299.664	492845.871	688.722	LIPT	CAL
3059	40°30'57.38486"N	98°03'05.13893"W	512.321	4485456.267	580357.761	538.192	LIPT	CAL
3060	41°00'14.19073"N	98°43'17.46930"W	582.651	4539231.989	523419.275	607.111	LIPT	CAL
3061	41°00'12.25444"N	97°59'36.16102"W	526.445	4539622.874	584654.706	551.922	LIPT	CAL
3062	41°02'36.00686"N	100°10'00.25068"W	812.824	4544223.348	401939.040	835.588	LIPT	CAL
3063	40°34'57.63529"N	98°08'15.54378"W	530.711	4492789.173	572980.802	556.366	LIPT	CAL

PT#	NAD83(2011)		ELLIPSOID	UTM ZONE 14 NORTH		NAVD 88	CODE	NOTE
	LATITUDE	LONGITUDE	HEIGHT	NORTHING	EASTING	ELEVATION		
			METERS	METERS	METERS	METERS		
						GEOID 12B		
3064	40°49'36.04771"N	97°59'48.17314"W	512.555	4520001.450	584599.105	538.222	LIPT	CAL
3065	40°13'10.34155"N	98°04'03.56261"W	511.013	4452541.195	579329.713	537.166	LIPT	CAL
3066	40°25'23.13239"N	97°50'28.52020"W	489.343	4475362.624	598297.997	515.771	LIPT	CAL
3067	40°17'33.19534"N	99°10'09.36340"W	651.975	4460242.446	485613.214	677.375	LIPT	CAL
3068	41°02'03.12515"N	99°58'01.41740"W	811.021	4543004.158	418710.256	834.094	LIPT	CAL
3069	40°58'06.86672"N	98°30'01.12270"W	554.855	4535388.705	542044.567	579.605	LIPT	CAL
3070	40°40'15.53171"N	99°04'56.95770"W	628.003	4502237.151	493028.229	652.531	LIPT	CAL
3071	41°01'03.39460"N	99°13'54.76494"W	661.377	4540737.790	480503.792	685.241	LIPT	CAL
3072	40°34'58.85288"N	99°08'14.04917"W	641.066	4492478.464	488385.819	665.817	LIPT	CAL
3074	40°31'47.18586"N	99°38'15.96988"W	743.008	4486755.004	445983.061	767.601	LIPT	CAL
3075	40°21'01.16399"N	98°35'40.45495"W	573.763	4466719.732	534429.858	599.352	LIPT	CAL
3076	40°35'39.39065"N	98°57'05.65020"W	621.933	4493720.474	504097.953	646.747	LIPT	CAL
3076A	40°18'33.98137"N	98°04'02.26816"W	494.152	4462520.209	579255.311	520.283	LIPT	CAL
3077	40°41'54.78432"N	97°51'28.32264"W	500.827	4505921.437	596492.366	526.861	LIPT	CAL
3078	41°20'13.54236"N	97°23'14.55605"W	424.540	4577433.282	634933.063	449.994	LIPT	CAL
3079	40°54'49.26924"N	99°44'58.37680"W	753.509	4529445.859	436879.348	777.045	LIPT	CAL
3080	40°11'44.74010"N	98°19'48.75485"W	543.405	4449700.227	557009.720	569.483	LIPT	CAL
3081	41°11'27.12948"N	97°57'48.67938"W	482.899	4560463.496	586918.071	508.046	LIPT	CAL
3082	40°49'26.96315"N	98°08'59.07185"W	536.567	4519584.855	571698.079	561.979	LIPT	CAL
3083	40°46'15.02249"N	98°15'15.42874"W	551.886	4513586.041	562932.686	577.171	LIPT	CAL
3084	40°17'32.72352"N	99°02'17.54527"W	642.592	4460214.856	496752.615	668.154	LIPT	CAL
3085	40°08'49.89858"N	97°58'36.39691"W	506.699	4444596.325	587154.978	532.869	LIPT	CAL
3086	41°11'30.68009"N	97°23'13.58567"W	470.373	4561309.151	635255.068	496.194	LIPT	CAL
3087	40°32'42.94288"N	98°50'38.40382"W	619.079	4488290.506	513209.506	644.087	LIPT	CAL
3088	40°22'08.12996"N	99°09'37.71619"W	654.128	4468717.950	486375.756	679.404	LIPT	CAL
3089	40°06'37.17767"N	96°56'05.81294"W	385.926	4442046.390	675994.751	413.102	LIPT	CAL
3090	41°02'47.96941"N	98°36'50.84395"W	562.468	4544008.295	532429.958	586.947	LIPT	CAL
3091	41°00'36.90547"N	98°53'38.97193"W	588.017	4539900.473	508900.022	612.290	LIPT	CAL
3092	40°54'04.70477"N	98°06'43.46258"W	527.174	4528180.734	574787.737	552.575	LIPT	CAL

PT#	NAD83(2011)		ELLIPSOID	UTM ZONE 14 NORTH		NAVD 88	CODE	NOTE
	LATITUDE	LONGITUDE	HEIGHT	NORTHING	EASTING	ELEVATION		
			METERS	METERS	METERS	METERS		
						GEOID 12B		
3093	40°11'23.70408"N	97°01'46.05182"W	409.209	4450698.453	667743.476	436.263	LIPT	CAL
3094	40°31'28.62836"N	97°52'18.63422"W	497.697	4486598.781	595559.127	523.940	LIPT	CAL
3095	41°04'32.27196"N	97°49'20.92422"W	504.306	4547820.816	598919.001	529.941	LIPT	CAL
3096	40°28'50.69035"N	98°42'54.67270"W	583.002	4481156.643	524140.229	608.234	LIPT	CAL
3097	40°07'58.16698"N	99°22'03.97394"W	612.891	4442564.386	468668.090	638.106	LIPT	CAL
3098	40°02'40.88854"N	96°28'39.02858"W	381.071	4435766.306	715190.834	408.821	LIPT	CAL
3099	40°30'20.81538"N	96°42'19.13609"W	414.932	4486426.147	694428.992	441.371	LIPT	CAL
3100	41°40'09.22631"N	96°26'40.86668"W	373.821	4616207.047	712725.814	400.353	LIPT	CAL
3101	41°40'11.98625"N	96°12'45.24905"W	288.275	4616891.632	732048.056	315.880	LIPT	CAL
3102	41°24'24.12752"N	96°13'58.27174"W	356.280	4587602.119	731296.306	384.117	LIPT	CAL
3103	40°48'38.02874"N	96°25'36.14624"W	376.030	4520914.811	717047.072	402.001	LIPT	CAL
3104	40°48'35.01050"N	95°54'41.45598"W	275.079	4522226.268	760510.424	303.317	LIPT	CAL
3105	41°02'44.35386"N	95°54'40.03992"W	268.133	4548422.885	759617.548	295.366	LIPT	CAL
3106	40°54'53.57563"N	96°03'34.32132"W	358.128	4533471.891	747631.231	385.046	LIPT	CAL
3107	41°01'24.25494"N	96°05'33.77465"W	303.797	4545427.513	744435.301	330.492	LIPT	CAL
3108	41°24'25.08854"N	96°01'17.19343"W	318.777	4588218.347	748968.319	347.001	LIPT	CAL
3109	41°33'03.75088"N	96°01'35.32354"W	279.582	4604201.334	747996.918	308.074	LIPT	CAL
3109A	41°29'52.05566"N	96°03'22.46152"W	280.039	4598203.632	745716.135	308.448	LIPT	CAL
3110	41°24'41.64235"N	95°56'59.40114"W	274.863	4588937.424	754936.601	303.200	LIPT	CAL

MERRICK-SURDEX NEBRASKA
UTM ZONE 15 NORTH CHECKPOINTS
APRIL 2019

PT#	NAD83(2011)		ELLIPSOID	UTM ZONE 15 NORTH		NAVD 88	CODE	NOTE
	LATITUDE	LONGITUDE	HEIGHT	NORTHING	EASTING	ELEVATION		
			METERS	METERS	METERS	METERS		
						GEOID 12B		
1011A	40°04'47.72651"N	97°05'43.70892"W	366.479	4444671.816	150768.119	393.609	LIPT	NVA
1019	40°20'32.66952"N	96°54'58.15933"W	383.111	4473127.823	167351.469	409.973	LIPT	NVA
1033	40°00'56.84760"N	96°39'07.64860"W	366.081	4435902.430	188290.647	393.639	LIPT	NVA
1033A	40°02'42.46184"N	96°43'22.27444"W	401.003	4439410.022	182388.741	428.412	LIPT	NVA
1042	40°13'04.83571"N	96°54'58.83779"W	413.116	4459315.538	166724.073	440.181	LIPT	NVA
1047	40°10'02.87800"N	97°10'32.98908"W	410.903	4454711.841	144371.310	437.942	LIPT	NVA
1057	40°16'28.58171"N	96°46'36.03428"W	356.828	4465083.566	178880.556	383.885	LIPT	NVA
1091	40°06'50.53403"N	96°56'05.85323"W	384.155	4447840.861	164627.288	411.328	LIPT	NVA
1095	40°11'24.37307"N	97°02'10.07693"W	410.994	4456674.469	156386.291	438.046	LIPT	NVA
1104	40°15'45.89777"N	96°38'00.99200"W	377.702	4463257.734	190993.852	404.916	LIPT	NVA
1105	40°02'41.49056"N	96°28'58.46592"W	383.000	4438550.578	202862.893	410.740	LIPT	NVA
1113	40°30'32.14559"N	96°42'23.42711"W	414.626	4490849.431	185940.398	441.047	LIPT	NVA
1113A	40°31'23.10683"N	96°42'24.16496"W	416.561	4492421.986	185989.183	442.915	LIPT	NVA
1137	40°20'58.05816"N	96°36'35.83192"W	402.964	4472803.172	193398.908	430.097	LIPT	NVA
1143	40°27'55.90908"N	96°53'37.57819"W	398.789	4486715.171	169856.423	425.273	LIPT	NVA
1143A	40°27'54.88085"N	96°52'29.13960"W	397.450	4486612.411	171467.293	423.934	LIPT	NVA
1144	40°22'42.49963"N	96°44'35.05686"W	384.158	4476494.951	182226.823	411.048	LIPT	NVA
1159	40°00'57.94715"N	97°01'47.03902"W	377.972	4437328.046	156054.421	405.121	LIPT	NVA
1163	40°28'00.97720"N	96°30'05.72191"W	354.850	4485476.511	203121.770	382.053	LIPT	NVA
1178	40°08'12.84148"N	96°40'27.15697"W	360.059	4449426.952	186961.113	387.412	LIPT	NVA
1194	40°17'45.10162"N	96°28'57.21319"W	405.876	4466417.836	203986.615	433.285	LIPT	NVA
1194A	40°17'35.57054"N	96°30'05.04821"W	402.894	4466187.104	202373.018	430.262	LIPT	NVA
1202	41°32'27.15896"N	96°25'40.80461"W	383.372	4604478.806	214048.678	410.420	LIPT	NVA
1203	41°40'09.18890"N	96°25'30.76864"W	381.077	4618721.258	214847.647	407.693	LIPT	NVA
1204	41°40'30.05555"N	96°12'58.18993"W	290.011	4618693.467	232277.491	317.585	LIPT	NVA
1205	41°32'43.25320"N	96°12'52.81780"W	340.984	4604290.286	231864.697	368.873	LIPT	NVA
1206	41°24'27.57060"N	96°13'57.49147"W	357.520	4589057.126	229794.121	385.360	LIPT	NVA

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PT#	NAD83(2011)		ELLIPSOID	UTM ZONE 15 NORTH		NAVD 88	CODE	NOTE
	LATITUDE	LONGITUDE	HEIGHT	NORTHING	EASTING	ELEVATION		
			METERS	METERS	METERS	METERS		
						GEOID 12B		
1207	40°48'48.84343"N	96°25'37.11151"W	376.866	4523715.207	210950.155	402.831	LIPT	NVA
1208	40°48'21.71560"N	95°54'42.17674"W	266.485	4521305.463	254388.147	294.751	LIPT	NVA
1209	41°00'05.46664"N	96°16'26.65153"W	351.083	4544090.524	224630.921	377.362	LIPT	NVA
1209A	40°59'37.35010"N	96°16'26.16157"W	355.215	4543222.895	224609.826	381.480	LIPT	NVA
1210	41°02'44.28139"N	95°54'48.45186"W	268.864	4547912.990	255128.011	296.089	LIPT	NVA
1211	40°55'25.16891"N	95°51'59.89478"W	270.536	4534239.700	258618.975	298.254	LIPT	NVA
1211A	40°55'49.71695"N	95°53'05.06951"W	306.641	4535046.958	257119.355	334.243	LIPT	NVA
1212	40°47'54.53358"N	96°10'42.77906"W	356.435	4521249.730	231846.229	383.287	LIPT	NVA
1212A	40°48'46.73110"N	96°09'33.79147"W	348.840	4522801.103	233521.219	375.713	LIPT	NVA
1213	40°54'53.63341"N	96°03'50.12993"W	355.475	4533830.851	241970.370	382.376	LIPT	NVA
1214	40°54'50.35802"N	96°17'23.08715"W	364.981	4534421.252	222946.030	391.151	LIPT	NVA
1214A	40°54'50.33282"N	96°17'01.53370"W	362.970	4534401.508	223450.296	389.154	LIPT	NVA
1215	41°02'11.41552"N	96°05'33.05310"W	287.751	4547417.826	240040.690	314.457	LIPT	NVA
1215A	41°01'24.81110"N	96°05'33.00392"W	304.185	4545980.393	239990.859	330.881	LIPT	NVA
1216	40°57'25.95989"N	96°21'44.38357"W	338.889	4539453.210	217017.083	364.967	LIPT	NVA
1216A	40°57'25.74382"N	96°21'00.10937"W	324.893	4539406.750	218052.061	350.985	LIPT	NVA
1217	41°27'51.89875"N	96°05'53.84029"W	320.901	4594948.595	241250.978	349.169	LIPT	NVA
1218	41°24'31.22827"N	96°01'16.42480"W	313.220	4588531.364	247471.080	341.451	LIPT	NVA
1219	41°32'56.67655"N	96°01'44.22724"W	279.305	4604143.921	247371.881	307.791	LIPT	NVA
1219A	41°29'53.30234"N	96°03'00.09605"W	277.317	4598549.813	245414.169	305.742	LIPT	NVA
1220	41°24'35.45104"N	95°56'53.45383"W	275.878	4588451.018	253581.868	304.208	LIPT	NVA
2011A	40°04'47.08661"N	97°05'38.27706"W	364.416	4444646.147	150895.911	391.546	LIPT	VVA
2019	40°20'33.20459"N	96°54'58.51253"W	381.904	4473144.696	167343.865	408.765	LIPT	VVA
2033	40°00'56.61209"N	96°39'01.09494"W	363.314	4435888.790	188445.762	390.875	LIPT	VVA
2033A	40°02'43.97485"N	96°43'21.78430"W	401.796	4439456.200	182402.313	429.204	LIPT	VVA
2042	40°13'05.18765"N	96°54'58.36795"W	412.556	4459325.902	166735.662	439.621	LIPT	VVA
2057	40°16'27.45685"N	96°46'35.32879"W	356.436	4465048.160	178895.742	383.494	LIPT	VVA

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PT#	NAD83(2011)		ELLIPSOID	UTM ZONE 15 NORTH		NAVD 88	CODE	NOTE
	LATITUDE	LONGITUDE	HEIGHT	NORTHING	EASTING	ELEVATION		
			METERS	METERS	METERS	METERS		
						GEOID 12B		
2091	40°06'51.04516"N	96°56'05.57113"W	382.896	4447856.330	164634.667	410.069	LIPT	VVA
2104	40°15'43.52576"N	96°38'00.29224"W	377.467	4463183.897	191007.383	404.682	LIPT	VVA
2105	40°02'41.86075"N	96°28'57.59310"W	381.798	4438561.184	202884.029	409.538	LIPT	VVA
2113	40°30'32.44464"N	96°42'22.92649"W	414.186	4490858.159	185952.571	440.607	LIPT	VVA
2113A	40°31'24.17686"N	96°42'24.29014"W	416.100	4492455.113	185987.626	442.452	LIPT	VVA
2137	40°21'02.30890"N	96°36'36.46703"W	400.436	4472934.887	193389.277	427.567	LIPT	VVA
2142	41°32'35.74529"N	96°25'41.55852"W	384.954	4604744.351	214041.729	411.994	LIPT	VVA
2143	41°40'09.40728"N	96°26'32.68457"W	384.062	4618785.120	213415.893	410.604	LIPT	VVA
2144	41°40'47.54136"N	96°13'11.85539"W	288.857	4619244.636	231981.642	316.398	LIPT	VVA
2145	41°24'27.45061"N	96°13'58.79442"W	358.409	4589054.555	229763.726	386.248	LIPT	VVA
2146	40°48'48.13279"N	96°25'35.98108"W	379.406	4523692.252	210975.787	405.372	LIPT	VVA
2147	40°48'16.60748"N	95°54'40.32619"W	264.107	4521146.483	254426.278	292.386	LIPT	VVA
2148	41°02'44.61230"N	95°54'38.29799"W	267.113	4547915.277	255365.440	294.347	LIPT	VVA
2149	40°47'53.95834"N	96°10'43.16916"W	356.263	4521232.320	231836.442	383.116	LIPT	VVA
2149A	40°48'46.55736"N	96°09'34.51072"W	348.016	4522796.353	233504.172	374.888	LIPT	VVA
2150	40°54'56.42086"N	96°03'49.59367"W	353.213	4533916.382	241985.930	380.112	LIPT	VVA
2151	41°02'11.01203"N	96°05'32.49362"W	286.837	4547404.918	240053.314	313.543	LIPT	VVA
2151A	41°01'24.80592"N	96°05'33.92567"W	302.838	4545980.996	239969.323	329.533	LIPT	VVA
2152	40°57'26.62924"N	96°22'09.84666"W	334.409	4539496.808	216422.492	360.481	LIPT	VVA
2152A	40°57'26.10673"N	96°21'00.73238"W	322.374	4539418.503	218037.923	348.466	LIPT	VVA
2153	41°24'31.89262"N	96°01'16.30736"W	313.078	4588551.759	247474.522	341.310	LIPT	VVA
2154	41°32'56.39957"N	96°01'43.34682"W	278.632	4604134.662	247391.981	307.119	LIPT	VVA
2154A	41°29'52.62554"N	96°03'20.44012"W	278.646	4598545.609	244941.676	307.057	LIPT	VVA
2155	41°24'36.15228"N	95°56'53.32024"W	274.394	4588472.541	253585.707	302.725	LIPT	VVA
3018	40°20'36.12538"N	96°54'58.08161"W	381.443	4473234.335	167358.027	408.303	LIPT	CAL
3040	40°13'08.37253"N	96°54'40.22118"W	412.207	4459405.182	167169.073	439.273	LIPT	CAL
3055	40°16'38.30671"N	96°46'54.56842"W	357.114	4465402.213	178455.518	384.164	LIPT	CAL

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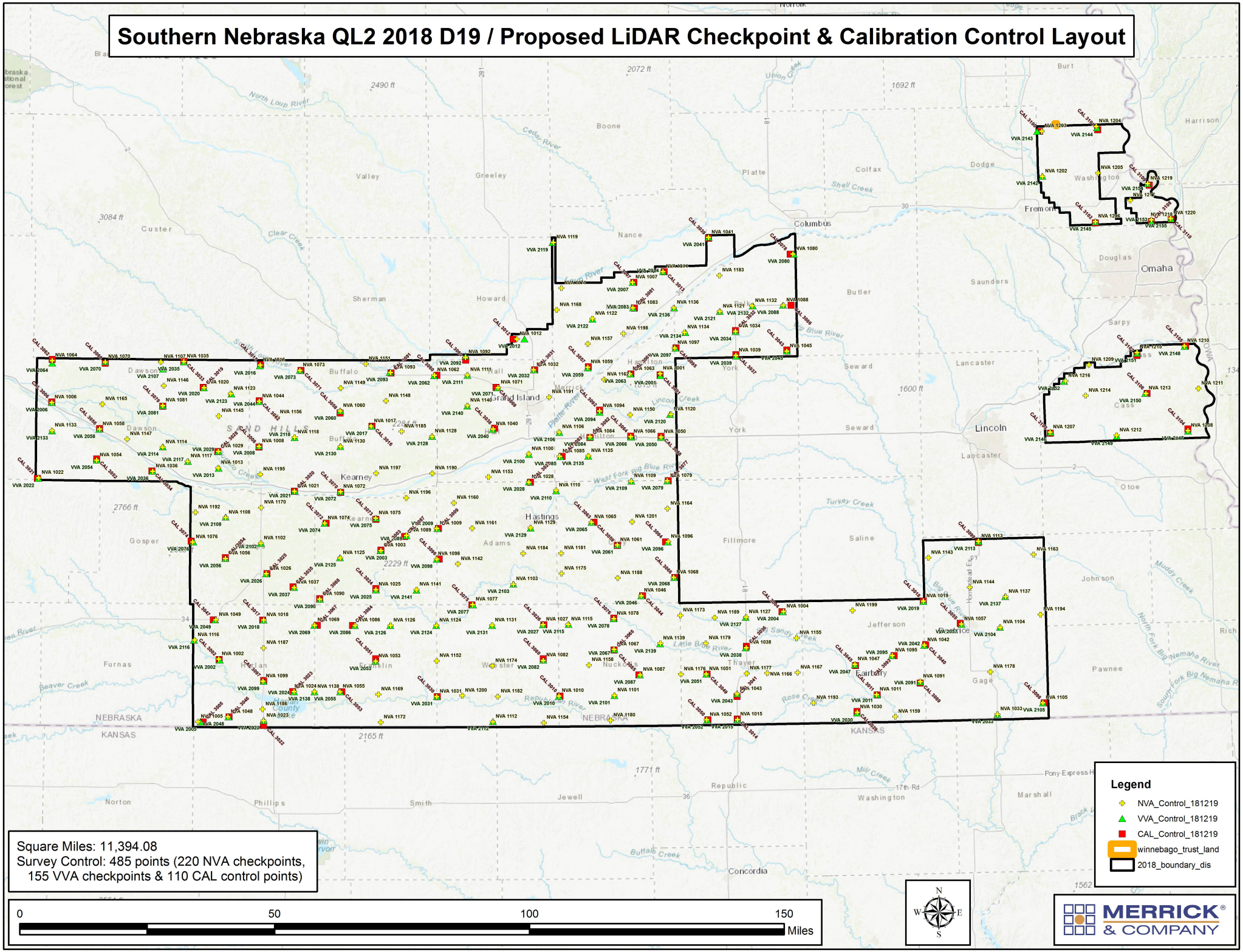
PT#	NAD83(2011)		ELLIPSOID	UTM ZONE 15 NORTH		NAVD 88	CODE	NOTE
	LATITUDE	LONGITUDE	HEIGHT	NORTHING	EASTING	ELEVATION		
			METERS	METERS	METERS	METERS		
						GEOID 12B		
3089	40°06'37.17767"N	96°56'05.81294"W	385.926	4447428.860	164609.985	413.102	LIPT	CAL
3098	40°02'40.88854"N	96°28'39.02858"W	381.071	4438513.983	203322.892	408.821	LIPT	CAL
3099	40°30'20.81538"N	96°42'19.13609"W	414.932	4490495.717	186026.716	441.371	LIPT	CAL
3100	41°40'09.22631"N	96°26'40.86668"W	373.821	4618787.109	213226.429	400.353	LIPT	CAL
3101	41°40'11.98625"N	96°12'45.24905"W	288.275	4618124.939	232555.960	315.881	LIPT	CAL
3102	41°24'24.12752"N	96°13'58.27174"W	356.280	4588951.603	229772.035	384.117	LIPT	CAL
3103	40°48'38.02874"N	96°25'36.14624"W	376.030	4523380.764	210959.720	402.001	LIPT	CAL
3104	40°48'35.01050"N	95°54'41.45598"W	275.079	4521714.927	254418.666	303.317	LIPT	CAL
3105	41°02'44.35386"N	95°54'40.03992"W	268.133	4547908.664	255324.501	295.366	LIPT	CAL
3106	40°54'53.57563"N	96°03'34.32132"W	358.128	4533816.112	242340.171	385.046	LIPT	CAL
3107	41°01'24.25494"N	96°05'33.77465"W	303.797	4545963.878	239972.248	330.492	LIPT	CAL
3108	41°24'25.08854"N	96°01'17.19343"W	318.777	4588342.616	247446.620	347.001	LIPT	CAL
3109	41°33'03.75088"N	96°01'35.32354"W	279.582	4604354.885	247585.837	308.074	LIPT	CAL
3109A	41°29'52.05566"N	96°03'22.46152"W	280.039	4598529.690	244894.180	308.448	LIPT	CAL
3110	41°24'41.64235"N	95°56'59.40114"W	274.863	4588646.685	253450.280	303.200	LIPT	CAL

Southern Nebraska QL2 2018 D19 / Proposed LiDAR Checkpoint & Calibration Control Layout



The NGS Data Sheet

See file dsdata.pdf for more information about the datasheet.

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PROGRAM = datasheet95, VERSION = 8.12.5.2
1         National Geodetic Survey,   Retrieval Date = MARCH 31, 2019
 LH1152 ***********************************************************************
 LH1152  DESIGNATION -  ALDA
 LH1152  PID         -  LH1152
 LH1152  STATE/COUNTY-  NE/HALL
 LH1152  COUNTRY     -  US
 LH1152  USGS QUAD   -  ALDA (1993)
 LH1152
 LH1152                         *CURRENT SURVEY CONTROL
 LH1152 ______________________________________________________________________
 LH1152* NAD 83(1995) POSITION- 40 52 23.14864(N) 098 27 39.98591(W)   ADJUSTED
 LH1152* NAVD 88 ORTHO HEIGHT -   581.915 (meters)     1909.17  (feet) ADJUSTED
 LH1152 ______________________________________________________________________
 LH1152  GEOID HEIGHT    -        -24.915 (meters)                     GEOID12B
 LH1152  LAPLACE CORR    -         -2.97  (seconds)                    DEFLEC12B
 LH1152  DYNAMIC HEIGHT  -        581.607 (meters)     1908.16  (feet) COMP
 LH1152  MODELED GRAVITY -    980,076.4   (mgal)                       NAVD 88
 LH1152
 LH1152  HORZ ORDER      -  THIRD
 LH1152  VERT ORDER      -  FIRST     CLASS II
 LH1152
 LH1152.The horizontal coordinates were established by classical geodetic methods
 LH1152.and adjusted by the National Geodetic Survey in August 1997.
 LH1152.
 LH1152.The orthometric height was determined by differential leveling and
 LH1152.adjusted by the NATIONAL GEODETIC SURVEY
 LH1152.in May 1993.
 LH1152
 LH1152.Significant digits in the geoid height do not necessarily reflect accuracy.
 LH1152.GEOID12B height accuracy estimate available here.
 LH1152
 LH1152.The Laplace correction was computed from DEFLEC12B derived deflections.
 LH1152
 LH1152.The dynamic height is computed by dividing the NAVD 88
 LH1152.geopotential number by the normal gravity value computed on the
 LH1152.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
 LH1152.degrees latitude (g = 980.6199 gals.).
 LH1152
 LH1152.The modeled gravity was interpolated from observed gravity values.
 LH1152
 LH1152. The following values were computed from the NAD 83(1995) position.
 LH1152
 LH1152;                    North         East     Units Scale Factor Converg.
 LH1152;SPC NE       -   116,596.227   629,679.763   MT  0.99971914   +1 01 11.4
 LH1152;SPC NE       -   382,532.79  2,065,874.36   sFT  0.99971914   +1 01 11.4
 LH1152;UTM  14      - 4,524,809.506   545,408.623   MT  0.99962538   +0 21 09.5
 LH1152
 LH1152!             -  Elev Factor  x  Scale Factor =   Combined Factor
 LH1152!SPC NE       -   0.99991264  x   0.99971914  =   0.99963180
 LH1152!UTM  14      -   0.99991264  x   0.99962538  =   0.99953805
 LH1152
 LH1152:                Primary Azimuth Mark                     Grid Az
 LH1152:SPC NE       -  G 279                                    234 59 29.7
 LH1152:UTM  14      -  G 279                                    235 39 31.6
 LH1152
 LH1152_U.S. NATIONAL GRID SPATIAL ADDRESS: 14TNL4540824809(NAD 83)
 LH1152
 LH1152|----------------------------------------------------------------------|
 LH1152| PID    Reference Object                    Distance      Geod. Az   |
 LH1152|                                                           dddmmss.s  |
 LH1152| CN8546 ALDA AZ MK                                         0585705.4  |
 LH1152| CN8547 ALDA RM 1                          20.030 METERS 05930      |
 LH1152| LH1143 DONIPHAN MUNICIPAL TANK           APPROX.13.5 KM 1451157.8  |
 LH1152| LH0078 G 279                             APPROX. 0.7 KM 2360041.1  |
 LH1152| CN8549 ALDA RM 3                          19.642 METERS 23638      |
 LH1152| CN8548 ALDA RM 2                          19.849 METERS 29355      |
 LH1152| LH1157 CORNHUSKER ORD PLANT WATER TK      APPROX. 5.5 KM 3442533.9  |
 LH1152|----------------------------------------------------------------------|
 LH1152
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LH1152                          SUPERSEDED SURVEY CONTROL
LH1152
LH1152  NAD 83(1986)-  40 52 23.15580(N)    098 27 39.98720(W) AD(        ) 3
LH1152  NAD 27      -  40 52 23.10800(N)    098 27 38.75100(W) AD(        ) 3
LH1152  NGVD 29 (02/14/92)  581.667  (m)          1908.35   (f) ADJUSTED    1 2
LH1152  NGVD 29 (07/19/86)  581.6    (m)          1908.     (f) VERT ANG
LH1152
LH1152.Superseded values are not recommended for survey control.
LH1152
LH1152.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
LH1152.See file dsdata.pdf to determine how the superseded data were derived.
LH1152
LH1152_MARKER: DS = TRIANGULATION STATION DISK
LH1152_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
LH1152_STAMPING: ALDA 1950
LH1152_MARK LOGO: CGS
LH1152_MAGNETIC: N = NO MAGNETIC MATERIAL
LH1152_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
LH1152+STABILITY: SURFACE MOTION
LH1152_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
LH1152+SATELLITE: SATELLITE OBSERVATIONS - October 21, 1991
LH1152
LH1152  HISTORY     - Date     Condition        Report By
LH1152  HISTORY     - 1950     MONUMENTED       CGS
LH1152  HISTORY     - 1950     GOOD             CGS
LH1152  HISTORY     - 1960     GOOD             USGS
LH1152  HISTORY     - 1978     GOOD             NGS
LH1152  HISTORY     - 19911021 GOOD             NGS
LH1152  HISTORY     - 20110303 GOOD             JEOCON
LH1152
LH1152                           STATION DESCRIPTION
LH1152
LH1152'DESCRIBED BY COAST AND GEODETIC SURVEY 1950 (JCT)
LH1152'STATION IS LOCATED ABOUT 7-1/2 MILES SOUTHWEST OF GRAND ISLAND,
LH1152'ABOUT 0.35 MILE NORTHEAST OF ALDA RAILROAD DEPOT AND ON THE NORTH
LH1152'SIDE OF US HIGHWAY 30, IN A TRIANGLE FORMED BY THE HIGHWAY, A
LH1152'GRAVEL ROAD AND THE RAILROAD TRACKS.  IT IS 43 FT. NORTH OF THE
LH1152'CENTERLINE OF US HIGHWAY 30, 29 FEET SE OF THE SE RAIL OF THE
LH1152'RAILROAD TRACKS, 74.6 FEET WEST OF THE WEST END OF A CONCRETE
LH1152'CULVERT, AND 4 FEET SOUTHWEST OF A WHITE WITNESS POST.  THE
LH1152'MARK PROJECTS ABOUT 3 INCHES AND THE DISC IS STAMPED, ALDA
LH1152'1950.
LH1152'
LH1152'REFERENCE MARK NO. 1 IS NEAR THE EAST POINT OF THE TRIANGLE
LH1152'MENTIONED ABOVE, 9 FEET NORTHWEST OF THE WEST END OF A CONCRETE
LH1152'CULVERT AND 42-1/2 FEET NORTH OF THE CENTERLINE OF US HIGHWAY 30.
LH1152'THE MARK PROJECTS ABOUT 8 INCHES AND THE DISC IS STAMPED, ALDA NO
LH1152'1 1950.
LH1152'
LH1152'REFERENCE MARK NO. 2 IS NEAR THE NORTHWEST CORNER OF THE TRIANGLE
LH1152'MENTIONED ABOVE, 18 FEET SOUTHEAST OF THE EAST RAIL OF THE
LH1152'RAILROAD TRACKS, AND 31 FEET NORTH OF THE APPROXIMATE CENTERLINE
LH1152'OF THE GRAVEL ROAD.  THE MARK PROJECTS ABOUT 6 INCHES AND THE
LH1152'DISC IS STAMPED, ALDA NO 2 1950.
LH1152'
LH1152'AZIMUTH MARK IS ON THE NORTH RIGHT-OF-WAY OF US HIGHWAY 30, 43
LH1152'FEET NORTH OF THE CENTERLINE OF THE HIGHWAY, 7-1/2 FEET WEST OF A
LH1152'POWER-LINE BRACE POLE, 9 FEET SOUTH OF A RIGHT-OF-WAY FENCE LINE,
LH1152'AND 1-1/2 FEET WEST OF A WHITE WITNESS POST.  THE MARK PROJECTS
LH1152'ABOUT 8 INCHES AND THE DISC IS STAMPED, ALDA 1950.
LH1152'
LH1152'STATION WAS REACHED FROM THE POST OFFICE IN GRAND ISLAND BY GOING
LH1152'WEST AND SOUTHWEST ON US HIGHWAY 30 FOR 6.85 MILES TO THE AZIMUTH
LH1152'MARK ON THE RIGHT OR NORTH SIDE OF THE HIGHWAY.  CONTINUE
LH1152'NORTHWEST ON HIGHWAY FOR 0.3 MILE TO THE STATION SITE ON THE RIGHT
LH1152'AS DESCRIBED ABOVE.
LH1152'
LH1152'A 77 FOOT TOWER AT DONIPHAN WAS VISIBLE FROM THE GROUND.
LH1152'
LH1152'HEIGHT OF LIGHT ABOVE STATION MARK 22 METERS.
LH1152
LH1152                           STATION RECOVERY (1950)
LH1152
LH1152'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1950
LH1152'RECOVERED IN GOOD CONDITION.
LH1152
LH1152                           STATION RECOVERY (1960)
LH1152
LH1152'RECOVERY NOTE BY US GEOLOGICAL SURVEY 1960
LH1152'STATION, REFERENCE AND AZIMUTH MARKS WERE ALL FOUND IN GOOD
LH1152'CONDITION.  STATION IS NOW 91 FEET SE OF THE SE RAIL OF THE
```

LH1152'RAILROAD TRACKS AT A GRAVEL ROAD, AND 25.5 FEET S OF A POWER POLE.
LH1152
LH1152 STATION RECOVERY (1978)
LH1152
LH1152'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1978 (CLN)
LH1152'SURFACE STATION MARK WAS RECOVERED AS WAS REFERENCE MARK 2. IT WAS
LH1152'NOTED THE ARROW ON REFERENCE MARK 2 POINTS TOWARD THE LOCATION OF
LH1152'REFERENCE MARK 1 WHICH WAS NOT FOUND. IT WAS ALSO NOTED A BURIED
LH1152'CABLE LIES UNDER OR VERY NEAR REFERENCE MARK 2 WHICH IS BELIEVED TO
LH1152'HAVE BEEN DISTURBED BY THE LAYING OF THE CABLE. A NEW METAL CULVERT
LH1152'HAS REPLACED THE FORMER CONCRETE CULVERT NEAR REFERENCE MARK 1 AND IT
LH1152'IS BELIEVED THE REFERENCE MARK HAS BEEN DESTROYED. A LENGTHY SEARCH
LH1152'FOR THE AZIMUTH MARK PRODUCED NO RESULTS. PREVIOUS REFERENCE OBJECTS
LH1152'ARE GONE AND VERY TALL GRASS COVERS THE LOCATION. REFERENCE MARK 3
LH1152'WAS SET AND BENCH MARK G 279 NOW SERVES AS THE AZIMUTH MARK. THE
LH1152'DISTANCE TO REFERENCE MARK 2 WAS FOUND TO BE 0.040 METER SHORTER THAN
LH1152'BEFORE. REFERENCE MEASUREMENTS TO THE STATION FROM THE 1961 RECOVERY
LH1152'WERE VERIFIED. FOLLOWING IS A NEW DESCRIPTION.
LH1152'
LH1152'STATION IS LOCATED ABOUT 7-1/2 MILES SOUTHWEST OF GRAND ISLAND, 1/2
LH1152'MILE NORTHEAST OF ALDA AND ON THE RIGHT-OF-WAY OF U.S. HIGHWAY 30 AT
LH1152'ITS JUNCTION WITH AN EAST-WEST GRAVELED ROAD AND A RAILROAD SPUR
LH1152'LEADING NORTH.
LH1152'
LH1152'TO REACH THE STATION FROM THE POST OFFICE IN ALDA, GO NORTHEAST ON
LH1152'U.S. HIGHWAY 30 FOR 0.4 MILE TO THE STATION ON THE LEFT IN A
LH1152'TRIANGULAR SHAPED GRASSY AREA FORMED BY THE JUNCTION OF THE HIGHWAY,
LH1152'THE GRAVELED ROAD AND THE RAILROAD SPUR.
LH1152'
LH1152'BENCH MARK G 279 IS IN ALDA, AT THE JUNCTION OF THE HIGHWAY, WHICH IS
LH1152'ALSO FRONT STREET, AND VINE STREET. TO REACH FROM THE STATION, GO
LH1152'SOUTHWEST ON THE HIGHWAY FOR 0.45 MILE TO THE MARK ON THE LEFT.
LH1152'
LH1152'STATION MARK IS A STANDARD DISK, STAMPED---ALDA 1950---SET IN THE TOP
LH1152'OF A 12-INCH SQUARE CONCRETE POST, FLUSH WITH THE GROUND. IT IS 91.0
LH1152'FEET SOUTHEAST OF THE EAST RAIL, 40.0 FEET NORTHWEST OF THE
LH1152'CENTERLINE OF THE HIGHWAY, 25.5 FEET SOUTH OF A POWERLINE POLE AND
LH1152'2.0 FEET EAST OF THE BASE OF A GUY WIRE FOR THE POLE.
LH1152'
LH1152'REFERENCE MARK 2 IS A STANDARD DISK, STAMPED---ALDA NO 2 1950---SET
LH1152'IN THE TOP OF A 12-INCH SQUARE CONCRETE POST THAT PROJECTS 2
LH1152'INCHES. IT IS 57.0 FEET WEST OF THE POWERLINE POLE, 25.0 FEET SOUTH
LH1152'OF THE CENTERLINE OF THE GRAVELED ROAD AND 18.0 FEET EAST OF THE
LH1152'RAIL.
LH1152'
LH1152'REFERENCE MARK 3 IS A STANDARD DISK, STAMPED---ALDA 1950 NO 3
LH1152'1978--- SET IN THE TOP OF A 10-INCH ROUND CONCRETE POST WHICH
LH1152'PROJECTS 4 INCHES. IT IS 46.0 FEET EAST OF THE EAST RAIL, 41.0 FEET
LH1152'NORTHWEST OF THE CENTERLINE OF THE HIGHWAY AND 1.5 FEET NORTHEAST OF
LH1152'A WITNESS POST.
LH1152'
LH1152'BENCH MARK G 279 IS A STANDARD DISK, STAMPED---G 279 1949---SET IN THE
LH1152'TOP OF A 12-INCH ROUND CONCRETE POST THAT PROJECTS 6 INCHES. IT IS
LH1152'110 FEET SOUTH OF THE CENTERLINE OF THE HIGHWAY, 32.0 FEET NORTH OF
LH1152'THE NORTH RAIL OF 2 TRACKS, 23.0 FEET EAST OF THE PROJECTED
LH1152'CENTERLINE OF VINE STREET, 7.0 FEET WEST OF A POWERLINE POLE AND 2.0
LH1152'FEET NORTH OF A WITNESS POST.
LH1152'
LH1152'REFERENCE MARK 2 IS ABOUT 1 FOOT HIGHER IN ELEVATION THAT THE
LH1152'STATION AND REFERENCE MARK 3 IS ABOUT THE SAME ELEVATION AS THE
LH1152'STATION.
LH1152
LH1152 STATION RECOVERY (1991)
LH1152
LH1152'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1991
LH1152'0.6 KM (0.35 MI) NORTHEASTERLY ALONG U.S. HIGHWAY 30 FROM THE POST
LH1152'OFFICE IN ALDA, 25.8 M (84.6 FT) SOUTHEAST OF THE NEAR RAIL OF THE
LH1152'BURLINGTON NORTHERN RAILROAD, 16.6 M (54.5 FT) SOUTH OF THE CENTER OF
LH1152'A GRAVELED ROAD, 13.1 M (43.0 FT) NORTHWEST OF THE HIGHWAY
LH1152'CENTERLINE, 9.4 M (30.8 FT) SOUTHWEST OF A UTILITY POLE, 0.5 M (1.6
LH1152'FT) NORTHEAST OF A WITNESS POST, AND THE MONUMENT IS FLUSH WITH THE
LH1152'GROUND SURFACE.
LH1152
LH1152 STATION RECOVERY (2011)
LH1152
LH1152'RECOVERY NOTE BY JEO CONSULTING GROUP INC 2011
LH1152'RECOVERED IN GOOD CONDITION.

*** retrieval complete.
Elapsed Time = 00:00:05

The NGS Data Sheet

See file dsdata.pdf for more information about the datasheet.

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PROGRAM = datasheet95, VERSION = 8.12.5.2
1        National Geodetic Survey,   Retrieval Date = APRIL 22, 2019
 LG0081 ***********************************************************************
 LG0081  DESIGNATION -  AVOCA AZ MK
 LG0081  PID         -  LG0081
 LG0081  STATE/COUNTY-  NE/CASS
 LG0081  COUNTRY     -  US
 LG0081  USGS QUAD   -  AVOCA (1966)
 LG0081
 LG0081                          *CURRENT SURVEY CONTROL
 LG0081 _______________________________________________________________________
 LG0081* NAD 83(1995) POSITION- 40 48 47.83051(N) 096 02 35.10920(W)   ADJUSTED
 LG0081* NAVD 88 ORTHO HEIGHT -   371.567 (meters)     1219.05  (feet) ADJUSTED
 LG0081 _______________________________________________________________________
 LG0081  GEOID HEIGHT    -        -27.467 (meters)                     GEOID12B
 LG0081  LAPLACE CORR    -        -11.60  (seconds)                    DEFLEC12B
 LG0081  DYNAMIC HEIGHT  -        371.400 (meters)     1218.50  (feet) COMP
 LG0081  MODELED GRAVITY -    980,163.5   (mgal)                       NAVD 88
 LG0081
 LG0081  HORZ ORDER      -  THIRD
 LG0081  VERT ORDER      -  SECOND    CLASS 0
 LG0081
 LG0081.The horizontal coordinates were established by classical geodetic methods
 LG0081.and adjusted by the National Geodetic Survey in August 1997.
 LG0081.
 LG0081.The orthometric height was determined by differential leveling and
 LG0081.adjusted by the NATIONAL GEODETIC SURVEY
 LG0081.in June 1991.
 LG0081
 LG0081.Significant digits in the geoid height do not necessarily reflect accuracy.
 LG0081.GEOID12B height accuracy estimate available here.
 LG0081
 LG0081.Photographs are available for this station.
 LG0081
 LG0081.The Laplace correction was computed from DEFLEC12B derived deflections.
 LG0081
 LG0081.The dynamic height is computed by dividing the NAVD 88
 LG0081.geopotential number by the normal gravity value computed on the
 LG0081.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
 LG0081.degrees latitude (g = 980.6199 gals.).
 LG0081
 LG0081.The modeled gravity was interpolated from observed gravity values.
 LG0081
 LG0081. The following values were computed from the NAD 83(1995) position.
 LG0081
 LG0081;                    North         East     Units Scale Factor Converg.
 LG0081;SPC NE       -   116,438.191   833,647.125   MT  0.99973110   +2 37 20.0
 LG0081;SPC NE       -   382,014.30  2,735,057.28   sFT  0.99973110   +2 37 20.0
 LG0081;UTM  14      - 4,522,238.602   749,397.773   MT  1.00036564   +1 56 01.0
 LG0081;UTM  15      - 4,522,487.595   243,333.169   MT  1.00041093   -1 59 24.1
 LG0081
 LG0081!             -  Elev Factor  x  Scale Factor =   Combined Factor
 LG0081!SPC NE       -   0.99994603  x   0.99973110  =   0.99967714
 LG0081!UTM  14      -   0.99994603  x   1.00036564  =   1.00031165
 LG0081!UTM  15      -   0.99994603  x   1.00041093  =   1.00035693
 LG0081
 LG0081_U.S. NATIONAL GRID SPATIAL ADDRESS: 14TQL4939722238(NAD 83)
 LG0081
 LG0081                          SUPERSEDED SURVEY CONTROL
 LG0081
 LG0081  NAD 83(1986)-  40 48 47.84007(N)    096 02 35.10571(W) AD(        ) 3
 LG0081  NAD 27      -  40 48 47.83760(N)    096 02 34.07256(W) AD(        ) 3
 LG0081  NGVD 29 (??/??/92)  371.469  (m)          1218.73   (f) ADJ UNCH    2 0
 LG0081  NGVD 29             371.47   (m)          1218.7    (f) LEVELING    3
 LG0081
 LG0081.Superseded values are not recommended for survey control.
 LG0081
 LG0081.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
 LG0081.See file dsdata.pdf to determine how the superseded data were derived.
 LG0081
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LG0081_MARKER: DZ = AZIMUTH MARK DISK
LG0081_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
LG0081_STAMPING: AVOCA 1961
LG0081_MARK LOGO: CGS
LG0081_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
LG0081+STABILITY: SURFACE MOTION
LG0081
LG0081  HISTORY     - Date     Condition        Report By
LG0081  HISTORY     - 1961     MONUMENTED       CGS
LG0081  HISTORY     - 1961     GOOD             CGS
LG0081
LG0081                          STATION DESCRIPTION
LG0081
LG0081'DESCRIBED BY COAST AND GEODETIC SURVEY 1961 (GWM)
LG0081'STATION IS LOCATED, AIRLINE, ABOUT 12-1/2 MILES NE OF SYRACUSE,
LG0081'7-1/2 MILES SE OF WEEPING WATER, 4-3/4 MILES ENE OF AVOCA, AND
LG0081'2-1/2 MILES SW OF NEHAWKA.
LG0081'
LG0081'THE AZIMUTH MARK IS A STANDARD DISK STAMPED AVOCA 1961, CEMENTED
LG0081'IN THE TOP OF A 12-INCH SQUARE CONCRETE MONUMENT PROJECTING 6
LG0081'INCHES ABOVE GROUND.  IT IS 59.7 FEET N OF THE CENTERLINE OF THE
LG0081'HIGHWAY AND ABOUT 6 FEET ABOVE THE HIGHWAY, 2.6 FEET S OF THE
LG0081'N RIGHT-OF-WAY FENCE, AND 0.8 FOOT SE OF A METAL WITNESS POST.
LG0081'
LG0081'TO REACH FROM THE POST OFFICE IN NEHAWKA, GO W ABOUT 100 FEET TO A
LG0081'JUNCTION WITH STATE SPUR 534, TURN LEFT AND GO S ON STATE SPUR
LG0081'534 1.1 MILES TO THE JUNCTION WITH U.S. HWY 34.  TURN RIGHT AND
LG0081'GO W ON U.S. HWY 34 2.5 MILES TO A SIDE ROAD ON THE LEFT.
LG0081'CONTINUE W ON THE HIGHWAY 0.4 MILE TO THE MARK ON THE RIGHT
LG0081'ON TOP OF THE BANK IN A LOW HIGHWAY CUT.
LG0081
LG0081                          STATION RECOVERY (1961)
LG0081
LG0081'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1961
LG0081'4 MI SW FROM NEHAWKA.
LG0081'1.2 MILES SOUTH ALONG A GRAVEL ROAD FROM THE MISSOURI PACIFIC
LG0081'RAILRAOD AT NEHAWKA, THENCE 2.8 MILES WEST ALONG U.S. HIGHWAY
LG0081'34, 60.0 FEET NORTH OF CENTER LINE OF HIGHWAY, 6 FEET HIGHER THAN
LG0081'THE HIGHWAY, 2.7 FEET SOUTH OF THE FENCE, 0.8 FEET SOUTHEAST
LG0081'OF A METAL WITNESS POST WITH SIGN, SET IN TOP OF A SQUARE
LG0081'CONCRETE POST PROJECTING 2 INCHES.

*** retrieval complete.
Elapsed Time = 00:00:12
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The NGS Data Sheet

See file dsdata.pdf for more information about the datasheet.

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PROGRAM = datasheet95, VERSION = 8.12.5.2
1         National Geodetic Survey,   Retrieval Date = MARCH 31, 2019
 LH1531 ***********************************************************************
 LH1531  DESIGNATION -  AXTELL RESET
 LH1531  PID         -  LH1531
 LH1531  STATE/COUNTY-  NE/KEARNEY
 LH1531  COUNTRY     -  US
 LH1531  USGS QUAD   -  AXTELL WEST (1970)
 LH1531
 LH1531                         *CURRENT SURVEY CONTROL
 LH1531  ______________________________________________________________________
 LH1531* NAD 83(1995) POSITION- 40 28 58.91504(N) 099 09 40.34081(W)   ADJUSTED
 LH1531* NAVD 88 ORTHO HEIGHT -   681.    (meters)     2234.    (feet) SCALED
 LH1531  ______________________________________________________________________
 LH1531  GEOID HEIGHT    -        -25.007 (meters)                     GEOID12B
 LH1531  LAPLACE CORR    -         -1.59  (seconds)                    DEFLEC12B
 LH1531  HORZ ORDER      -  SECOND
 LH1531
 LH1531.The horizontal coordinates were established by classical geodetic methods
 LH1531.and adjusted by the National Geodetic Survey in August 1997.
 LH1531.
 LH1531.The orthometric height was scaled from a topographic map.
 LH1531
 LH1531.Significant digits in the geoid height do not necessarily reflect accuracy.
 LH1531.GEOID12B height accuracy estimate available here.
 LH1531
 LH1531.The Laplace correction was computed from DEFLEC12B derived deflections.
 LH1531
 LH1531. The following values were computed from the NAD 83(1995) position.
 LH1531
 LH1531;                    North         East     Units Scale Factor Converg.
 LH1531;SPC NE       -    72,481.444   571,106.453   MT  0.99981647   +0 33 21.1
 LH1531;SPC NE       -   237,799.54  1,873,705.09   sFT  0.99981647   +0 33 21.1
 LH1531;UTM  14      - 4,481,383.763   486,336.969   MT  0.99960230   -0 06 16.8
 LH1531
 LH1531!             -  Elev Factor  x  Scale Factor =   Combined Factor
 LH1531!SPC NE       -   0.99989706  x   0.99981647  =   0.99971355
 LH1531!UTM  14      -   0.99989706  x   0.99960230  =   0.99949940
 LH1531
 LH1531:                Primary Azimuth Mark                     Grid Az
 LH1531:SPC NE       -  AXTELL MUNICIPAL TANK                    098 38 47.5
 LH1531:UTM  14      -  AXTELL MUNICIPAL TANK                    099 18 25.4
 LH1531
 LH1531_U.S. NATIONAL GRID SPATIAL ADDRESS: 14TMK8633681383(NAD 83)
 LH1531
 LH1531|----------------------------------------------------------------------|
 LH1531|  PID    Reference Object                    Distance      Geod. Az   |
 LH1531|                                                           dddmmss.s  |
 LH1531|  LH1530 AXTELL AZ MK 2                   APPROX. 0.6 KM 0001001.8  |
 LH1531|  LH1567 AXTELL AZ MK                                    0014910.3  |
 LH1531|  LH1572 AXTELL RM 3                       19.638 METERS 03729      |
 LH1531|  LH1570 AXTELL RM 1                       36.329 METERS 05520      |
 LH1531|  LH1349 AXTELL MUNICIPAL TANK            APPROX. 3.0 KM 0991208.6  |
 LH1531|  LH1571 AXTELL RM 2                       21.593 METERS 14635      |
 LH1531|  LH1573 AXTELL RM 4                       12.576 METERS 24314      |
 LH1531|----------------------------------------------------------------------|
 LH1531
 LH1531                           SUPERSEDED SURVEY CONTROL
 LH1531
 LH1531  NAD 83(1986)-  40 28 58.92112(N)    099 09 40.34214(W) AD(       ) 2
 LH1531  NAD 27      -  40 28 58.87500(N)    099 09 39.01500(W) AD(       ) 2
 LH1531
 LH1531.Superseded values are not recommended for survey control.
 LH1531
 LH1531.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
 LH1531.See file dsdata.pdf to determine how the superseded data were derived.
 LH1531
 LH1531_MARKER: DH = HORIZONTAL CONTROL DISK
 LH1531_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
 LH1531 STAMPING: AXTELL 1951 1982
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LH1531_MARK LOGO: NGS
LH1531_MAGNETIC: T = STEEL SPIKE ADJACENT TO MONUMENT
LH1531_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
LH1531+STABILITY: SURFACE MOTION
LH1531_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
LH1531+SATELLITE: SATELLITE OBSERVATIONS - 1982
LH1531
LH1531 HISTORY   - Date   Condition   Report By
LH1531 HISTORY   - 1982   MONUMENTED   NGS
LH1531
LH1531   STATION DESCRIPTION
LH1531
LH1531'DESCRIBED BY NATIONAL GEODETIC SURVEY 1982
LH1531'THE STATION IS LOCATED ABOUT 18.5 KM (11.5 MI) NORTHWEST OF HILDRETH,
LH1531'18.5 KM (11.5 MI) EAST-NORTHEAST OF HOLDREGE, 3.2 KM (2.0 MI) WEST OF
LH1531'AXTELL AND ON PROPERTY OF THE TRI-COUNTY DITCH COMPANY, NORTH HIGHWAY
LH1531'10, MINDEN, NE 68959. PERMISSION FOR REPAIR OF THE STATION WAS
LH1531'GRANTED BY WALT SCHNOOR. THE COMPANY POST OFFICE BOX IS 238 AND THE
LH1531'TELEPHONE NUMBER IS 308 832 1980.
LH1531'TO REACH FROM THE AXTELL POST OFFICE, GO NORTH ON NORTH MAIN AVENUE
LH1531'FOR 0.16 KM (0.10 MI) TO EAST 6TH STREET. TURN LEFT AND GO WEST ON
LH1531'EAST 6TH STREET AND A PAVED ROAD FOR 3.06 KM (1.90 MI) TO A GRAVELED
LH1531'CROSSROAD. TURN RIGHT AND GO NORTH ON THE GRAVELED ROAD FOR 0.16 KM
LH1531'(0.10 MI) TO A BRIDGE OVER AN IRRIGATION CANAL AND THE STATION ON THE
LH1531'LEFT.
LH1531'THE SURFACE DISK IS SET INTO THE TOP OF A ROUND CONCRETE POST THAT IS
LH1531'RECESSED 10 CM BELOW THE GROUND SURFACE. THE UNDERGROUND MARK IS
LH1531'RECESSED 0.9 M (3.0 FT) BELOW THE GROUND SURFACE. THE MARKS ARE 22.7
LH1531'M (74.5 FT) SOUTHWEST FROM THE SOUTHWEST CORNER OF THE CANAL BRIDGE,
LH1531'21.6 M (70.9 FT) WEST FROM THE CENTERLINE OF THE ROAD, 9.3 M
LH1531'(30.5 FT) SOUTH FROM THE SOUTH BANK OF THE IRRIGATION DITCH AND 0.42
LH1531'M (1.38 FT) EAST FROM A WITNESS POST.
LH1531'NOTE--THIS DESCRIPTION IS UPDATED AS OF MAY 06, 1983. AT THAT TIME RM
LH1531'3 HAD BEEN DESTROYED WHEN THE BRIDGE WAS ENLARGED AND A RM 4
LH1531'ESTABLISHED AND ALL REFERENCE TIES TO THE BRIDGE UPDATED.

*** retrieval complete.
Elapsed Time = 00:00:05

The NGS Data Sheet

See file dsdata.pdf for more information about the datasheet.

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PROGRAM = datasheet95, VERSION = 8.12.5.2
1        National Geodetic Survey,   Retrieval Date = MARCH 31, 2019
 LH1194 ***********************************************************************
 LH1194  DESIGNATION -  AYR
 LH1194  PID         -  LH1194
 LH1194  STATE/COUNTY-  NE/ADAMS
 LH1194  COUNTRY     -  US
 LH1194  USGS QUAD   -  AYR (1969)
 LH1194
 LH1194                         *CURRENT SURVEY CONTROL
 LH1194  ______________________________________________________________________
 LH1194* NAD 83(1995) POSITION- 40 26 14.70129(N) 098 24 05.81468(W)   ADJUSTED
 LH1194* NAVD 88 ORTHO HEIGHT -   571.    (meters)     1873.    (feet) SCALED
 LH1194  ______________________________________________________________________
 LH1194  GEOID HEIGHT    -        -25.516 (meters)                     GEOID12B
 LH1194  LAPLACE CORR    -         -2.05  (seconds)                    DEFLEC12B
 LH1194  HORZ ORDER      -  SECOND
 LH1194
 LH1194.The horizontal coordinates were established by classical geodetic methods
 LH1194.and adjusted by the National Geodetic Survey in August 1997.
 LH1194.
 LH1194.The orthometric height was scaled from a topographic map.
 LH1194
 LH1194.Significant digits in the geoid height do not necessarily reflect accuracy.
 LH1194.GEOID12B height accuracy estimate available here.
 LH1194
 LH1194.The Laplace correction was computed from DEFLEC12B derived deflections.
 LH1194
 LH1194. The following values were computed from the NAD 83(1995) position.
 LH1194
 LH1194;                    North         East     Units Scale Factor Converg.
 LH1194;SPC NE       -    68,325.519   635,586.667   MT  0.99983083   +1 03 33.3
 LH1194;SPC NE       -   224,164.64  2,085,253.92   sFT  0.99983083   +1 03 33.3
 LH1194;UTM  14      - 4,476,479.966   550,750.688   MT  0.99963170   +0 23 17.3
 LH1194
 LH1194!             -  Elev Factor  x  Scale Factor =   Combined Factor
 LH1194!SPC NE       -   0.99991440  x   0.99983083  =   0.99974525
 LH1194!UTM  14      -   0.99991440  x   0.99963170  =   0.99954613
 LH1194
 LH1194:                Primary Azimuth Mark                     Grid Az
 LH1194:SPC NE       -  AYR AZ MK                                358 53 31.2
 LH1194:UTM  14      -  AYR AZ MK                                359 33 47.2
 LH1194
 LH1194_U.S. NATIONAL GRID SPATIAL ADDRESS: 14TNK5075076479(NAD 83)
 LH1194
 LH1194|----------------------------------------------------------------------|
 LH1194|  PID    Reference Object                    Distance      Geod. Az   |
 LH1194|                                                           dddmmss.s  |
 LH1194|  CN7764 AYR RM 1                            27.623 METERS 18007      |
 LH1194|  LH1187 BLUE HILL TRINITY LUTH CHURCH      APPROX.12.0 KM 1984522.2  |
 LH1194|  LH1189 BLUE HILL MUNICIPAL STANDPIPE      APPROX.12.3 KM 1993931.4  |
 LH1194|  LH1195 AYR SERVICE PIPE LINE CO TANK      APPROX. 3.3 KM 2585737.2  |
 LH1194|  CN7765 AYR RM 2                            27.395 METERS 26814      |
 LH1194|  CN7763 AYR AZ MK                                         3595704.5  |
 LH1194|----------------------------------------------------------------------|
 LH1194
 LH1194                           SUPERSEDED SURVEY CONTROL
 LH1194
 LH1194  NAD 83(1986)-  40 26 14.70842(N)    098 24 05.81402(W) AD(       ) 2
 LH1194  NAD 27      -  40 26 14.65300(N)    098 24 04.60800(W) AD(       ) 2
 LH1194
 LH1194.Superseded values are not recommended for survey control.
 LH1194
 LH1194.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
 LH1194.See file dsdata.pdf to determine how the superseded data were derived.
 LH1194
 LH1194_MARKER: DS = TRIANGULATION STATION DISK
 LH1194_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
 LH1194_STAMPING: AYR 1951
 LH1194 MARK LOGO: CGS
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LH1194_MAGNETIC: O = OTHER; SEE DESCRIPTION
LH1194_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
LH1194+STABILITY: SURFACE MOTION
LH1194_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
LH1194+SATELLITE: SATELLITE OBSERVATIONS - June 13, 2018
LH1194
LH1194 HISTORY   - Date   Condition   Report By
LH1194 HISTORY   - 1951   MONUMENTED   CGS
LH1194 HISTORY   - 1962   GOOD   CGS
LH1194 HISTORY   - 19980715 GOOD   NEDR
LH1194 HISTORY   - 20180613 GOOD   NEGS
LH1194
LH1194   STATION DESCRIPTION
LH1194
LH1194'DESCRIBED BY COAST AND GEODETIC SURVEY 1951 (RLE)
LH1194'THE STATION IS LOCATED 2.0 MILES EAST OF THE DEPOT IN AYR, 0.1 MILE
LH1194'SOUTH OF WHERE U.S. HIGHWAY 281 STARTS TO CURVE FROM NORTH TO WEST
LH1194'AND ON THE NORTH RIGHT-OF-WAY OF STATE HIGHWAY 74. IT IS 54.0 FEET
LH1194'NORTH OF THE CENTER OF STATE HIGHWAY 74 AND 50.0 FEET EAST OF THE
LH1194'CENTER OF A NORTH-SOUTH GRAVELED ROAD. IT IS SET FLUSH AND
LH1194'STAMPED AYR 1951.
LH1194'
LH1194'REFERENCE MARK NO. 1 IS 54.0 FEET EAST OF THE CENTER OF A
LH1194'NORTH-SOUTH GRAVELED ROAD, 40.0 FEET SOUTH OF THE CENTER OF STATE
LH1194'HIGHWAY 74, 18.0 FEET EAST OF A FENCE CORNER AND A POWER LINE POLE
LH1194'AND 1.0 FOOT NORTH OF AN EAST-WEST FENCE LINE. IT PROJECTS 3
LH1194'INCHES AND IS STAMPED AYR NO 1 1951.
LH1194'
LH1194'REFERENCE MARK NO. 2 IS 54.0 FEET NORTH OF THE CENTER OF STATE
LH1194'HIGHWAY 74, 40.0 FEET WEST OF THE CENTER OF A NORTH-SOUTH GRAVELED
LH1194'ROAD AND 10.0 FEET NORTH OF A POWER LINE POLE. IT PROJECTS 4
LH1194'INCHES AND IS STAMPED AYR NO 2 1951.
LH1194'
LH1194'THE DISTANCE BETWEEN REFERENCE MARKS IS 125.5 FEET.
LH1194'
LH1194'THE AZIMUTH MARK IS LOCATED AT THE SOUTHWEST CORNER OF A CEMETERY,
LH1194'47.0 FEET EAST OF THE CENTER OF U.S. HIGHWAY 281, 10.0 FEET EAST OF
LH1194'A BRICK CORNER POST AND 1.0 FOOT NORTH OF AN EAST-WEST FENCE LINE.
LH1194'
LH1194'TO REACH THE AZIMUTH MARK FROM THE STATION, GO NORTH 0.1 MILE TO
LH1194'U.S. HIGHWAY 281, CONTINUE NORTH ON U.S. HIGHWAY 281 FOR 0.6 MILE
LH1194'TO THE SOUTHWEST CORNER OF A CEMETERY AND THE AZIMUTH MARK ON THE
LH1194'RIGHT AS DESCRIBED.
LH1194'
LH1194'HEIGHT OF LIGHT ABOVE STATION MARK 22 METERS.
LH1194
LH1194   STATION RECOVERY (1962)
LH1194
LH1194'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1962 (CJB)
LH1194'STATION WAS RECOVERED AS DESCRIBED AND ALL MARKS WERE FOUND IN GOOD
LH1194'CONDITION, EXCEPT THE SURFACE STATION MARK WAS DESTROYED. THE
LH1194'UNDERGROUND STATION MARK WAS RECOVERED AND ALL MEASUREMENTS
LH1194'CHECKED. THE UNDERGROUND MARK WAS LOWERED AND A NEW SURFACE MARK
LH1194'WAS SET WHICH IS FLUSH WITH THE SURFACE OF THE GROUND AND IS 1
LH1194'FOOT NORTH OF A NEW STEEL WITNESS POST. THE DISK IS STAMPED AYR
LH1194'1951. THE STATION IS ABOUT 10 MILES SOUTH OF HASTINGS AND A TO
LH1194'REACH FOLLOWS.
LH1194'
LH1194'TO REACH THE STATION FROM THE JUNCTION OF U.S. HIGHWAYS 6 AND 281
LH1194'ABOUT 1 MILE SOUTHWEST OF THE CENTER OF THE TOWN OF HASTINGS, GO
LH1194'SOUTH ON U.S. HIGHWAY 281 FOR 9.0 MILES TO CROSSROADS, STATE
LH1194'HIGHWAY 74 AND THE STATION IN THE NORTHEAST ANGLE OF THE
LH1194'INTERSECTION.
LH1194
LH1194   STATION RECOVERY (1998)
LH1194
LH1194'RECOVERY NOTE BY NEBRASKA ROADS DEPARTMENT 1998 (TWR)
LH1194'THE STATION WAS RECOVERED IN GOOD CONDITION JUST EAST OF THE EAST
LH1194'JUNCTION OF U.S. HIGHWAY 281 AND NEBRASKA STATE HIGHWAY 74, AT THE
LH1194'INTERSECTION OF HIGHWAY 74 AND BALTIMORE ROAD AND IN THE NORTHEAST
LH1194'ANGLE OF THE INTERSECTION, 2.0 MI (3.2 KM) EAST OF AYR, 9 MILES (14.5
LH1194'KM) SOUTH OF HASTINGS, ON ROAD RIGHT-OF-WAY AND IN THE SW CORNER,
LH1194'SEC36, T6N, R10W. THE DISK IS SET INTO THE TOP OF A ROUND CONCRETE
LH1194'MONUMENT THAT IS FLUSH WITH THE GROUND AND 17.38 M (57.02 FT) NORTH
LH1194'FROM THE CENTERLINE OF HIGHWAY 74, 15.45 M (50.69 FT) EAST FROM THE
LH1194'CENTERLINE OF BALTIMORE ROAD AND 0.72 M (2.36 FT) WEST OF A WITNESS
LH1194'POST. A MAGNET WAS PLACED ALONG THE NORTH SIDE OF THE MARK. THE
LH1194'REFERENCE MARKS WERE SEARCHED FOR AND NOT FOUND. THE AZIMUTH WAS
LH1194'FOUND IN GOOD CONDITION, BUT WAS NOT USED AT THIS TIME. STATION IS
LH1194'SUITABLE FOR GPS OBSERVATIONS.
LH1194

LH1194 STATION RECOVERY (2018)
LH1194
LH1194'RECOVERY NOTE BY NEBRASKA GEODETIC SURVEY 2018 (PS)
LH1194'TO REACH FROM THE WEST JUNCTION OF U.S. HIGHWAY 281 AND STATE HIGHWAY
LH1194'74 JUST EAST OF AYR, GO EAST ON U.S. 281 APPROXIMATELY 1.38 MI (2.22
LH1194'KM) TO THE EAST JUNCTION OF U.S. 281 AND STATE HIGHWAY 74. CONTINUE
LH1194'EAST ON STATE HIGHWAY 74 (U.S. 281 CURVES TO THE NORTHEAST)
LH1194'APPROXIMATELY 0.3 MI (0.5 KM) TO THE INTERSECTION OF STATE HIGHWAY 74
LH1194'AND A COUNTY ROAD (SOUTH BALTIMORE AVENUE). STATION AYR IS LOCATED IN
LH1194'THE NORTHEAST CORNER OF THE INTERCHANGE.
LH1194'
LH1194'THE STATION IS LOCATED APPROXIMATELY 57 FT (17.4 M) NORTH OF THE
LH1194'CENTERLINE OF STATE HIGHWAY 74 AT MILE POST 32.63, 51 FT (15.5 M) EAST
LH1194'OF SOUTH BALTIMORE AVENUE, 94.95 FT (28.9 M) EAST OF A DOUBLE HEADED
LH1194'NAIL THROUGH A 2 INCH METAL DISK IN A POWER POLE AND 2.4 EAST OF THE
LH1194'BOTTOM OF A STEEL NATIONAL GEODETIC SURVEY WITNESS POST. A MAGNET HAS
LH1194'BEEN PLACED ALONG THE NORTH SIDE OF THE MONUMENT.

*** retrieval complete.
Elapsed Time = 00:00:05

The NGS Data Sheet

See file dsdata.pdf for more information about the datasheet.

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PROGRAM = datasheet95, VERSION = 8.12.5.2
1         National Geodetic Survey,   Retrieval Date = MARCH 29, 2019
 LH0384 ***********************************************************************
 LH0384  DESIGNATION -  BLUE HILL
 LH0384  PID         -  LH0384
 LH0384  STATE/COUNTY-  NE/WEBSTER
 LH0384  COUNTRY     -  US
 LH0384  USGS QUAD   -  BLADEN (1969)
 LH0384
 LH0384                         *CURRENT SURVEY CONTROL
 LH0384 ______________________________________________________________________
 LH0384* NAD 83(1995) POSITION- 40 17 33.26437(N) 098 30 36.83476(W)   ADJUSTED
 LH0384* NAVD 88 ORTHO HEIGHT -   621.751 (meters)     2039.86  (feet) ADJUSTED
 LH0384 ______________________________________________________________________
 LH0384  GEOID HEIGHT    -        -25.760 (meters)                     GEOID12B
 LH0384  LAPLACE CORR    -         -1.70  (seconds)                    DEFLEC12B
 LH0384  DYNAMIC HEIGHT  -        621.375 (meters)     2038.63  (feet) COMP
 LH0384  MODELED GRAVITY -    980,001.2   (mgal)                       NAVD 88
 LH0384
 LH0384  HORZ ORDER      -  FIRST
 LH0384  VERT ORDER      -  FIRST     CLASS II
 LH0384
 LH0384.The horizontal coordinates were established by classical geodetic methods
 LH0384.and adjusted by the National Geodetic Survey in August 1997.
 LH0384.
 LH0384.The orthometric height was determined by differential leveling and
 LH0384.adjusted by the NATIONAL GEODETIC SURVEY
 LH0384.in June 1991.
 LH0384
 LH0384.Significant digits in the geoid height do not necessarily reflect accuracy.
 LH0384.GEOID12B height accuracy estimate available here.
 LH0384
 LH0384.The Laplace correction was computed from DEFLEC12B derived deflections.
 LH0384
 LH0384.The dynamic height is computed by dividing the NAVD 88
 LH0384.geopotential number by the normal gravity value computed on the
 LH0384.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
 LH0384.degrees latitude (g = 980.6199 gals.).
 LH0384
 LH0384.The modeled gravity was interpolated from observed gravity values.
 LH0384
 LH0384. The following values were computed from the NAD 83(1995) position.
 LH0384
 LH0384;                    North         East     Units Scale Factor Converg.
 LH0384;SPC KS N     -   217,641.286   356,610.776   MT  1.00012237   -0 19 22.2
 LH0384;SPC KS N     -   714,044.79  1,169,980.52   sFT  1.00012237   -0 19 22.2
 LH0384;SPC NE       -    52,082.015   626,651.036   MT  0.99988053   +0 59 14.2
 LH0384;SPC NE       -   170,872.41  2,055,937.61   sFT  0.99988053   +0 59 14.2
 LH0384;UTM  14      - 4,460,345.890   541,627.572   MT  0.99962133   +0 19 00.2
 LH0384
 LH0384!             -  Elev Factor  x  Scale Factor =   Combined Factor
 LH0384!SPC KS N     -   0.99990651  x   1.00012237  =   1.00002887
 LH0384!SPC NE       -   0.99990651  x   0.99988053  =   0.99978706
 LH0384!UTM  14      -   0.99990651  x   0.99962133  =   0.99952788
 LH0384
 LH0384:                Primary Azimuth Mark                     Grid Az
 LH0384:SPC KS N     -  L 250 RESET                             092 45 03.5
 LH0384:SPC NE       -  L 250 RESET                             091 26 27.1
 LH0384:UTM  14      -  L 250 RESET                             092 06 41.1
 LH0384
 LH0384_U.S. NATIONAL GRID SPATIAL ADDRESS: 14TNK4162760345(NAD 83)
 LH0384
 LH0384|----------------------------------------------------------------------|
 LH0384| PID    Reference Object                    Distance      Geod. Az   |
 LH0384|                                                          dddmmss.s  |
 LH0384| LH1189 BLUE HILL MUNICIPAL STANDPIPE      APPROX. 6.8 KM 0483319.3  |
 LH0384| LH1187 BLUE HILL TRINITY LUTH CHURCH      APPROX. 7.1 KM 0484910.8  |
 LH0384| CN7882 L 250 RESET                                       0922541.3  |
 LH0384| CN7881 L 250                                             0924803.3  |
 LH0384| CN7915 BLUE HILL RM 3                      46.248 METERS 19624      |
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LH0384| CN7914 BLUE HILL RM 1                        13.160 METERS 26915     |
LH0384| LH1203 CAMPBELL MUNICIPAL STANDPIPE        APPROX.18.8 KM 2711146.0 |
LH0384| LH1199 BLADEN MUNICIPAL TANK               APPROX. 8.0 KM 2930345.5 |
LH0384|-----------------------------------------------------------------------|
LH0384
LH0384                            SUPERSEDED SURVEY CONTROL
LH0384
LH0384  NAD 83(1986)-  40 17 33.27073(N)    098 30 36.83382(W) AD(        ) 1
LH0384  NAD 27      -  40 17 33.21500(N)    098 30 35.61100(W) AD(        ) 1
LH0384  USSD        -  40 17 33.26100(N)    098 30 35.59200(W) AD(        ) 3
LH0384  NGVD 29 (??/??/92)  621.518  (m)          2039.10   (f) ADJ UNCH    1 2
LH0384  NGVD 29 (07/19/86)  622.3    (m)          2042.     (f) VERT ANG
LH0384
LH0384.Superseded values are not recommended for survey control.
LH0384
LH0384.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
LH0384.See file dsdata.pdf to determine how the superseded data were derived.
LH0384
LH0384_MARKER: DS = TRIANGULATION STATION DISK
LH0384_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
LH0384_STAMPING: BLUE HILL 1898
LH0384_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
LH0384+STABILITY: SURFACE MOTION
LH0384_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
LH0384+SATELLITE: SATELLITE OBSERVATIONS - November 05, 2005
LH0384
LH0384  HISTORY     - Date     Condition        Report By
LH0384  HISTORY     - 1898     MONUMENTED       CGS
LH0384  HISTORY     - 1934     GOOD             NEGS
LH0384  HISTORY     - 1935     GOOD             CGS
LH0384  HISTORY     - 1947     GOOD             CGS
LH0384  HISTORY     - 1947     GOOD             CGS
LH0384  HISTORY     - 1951     GOOD             CGS
LH0384  HISTORY     - 1959     GOOD             CGS
LH0384  HISTORY     - 1962     GOOD             CGS
LH0384  HISTORY     - 20051105 GOOD             NEDR
LH0384
LH0384                            STATION DESCRIPTION
LH0384
LH0384'DESCRIBED BY COAST AND GEODETIC SURVEY 1898 (FDG)
LH0384'THIS STATION IS NEAR THE SOUTH CENTER OF SEC. 24, T. 4 N., R.
LH0384'11 W., ON LAND OWNED BY PETER PAUGH.  IT IS ABOUT 2-1/2 MILES
LH0384'SOUTH AND 3 MILES WEST OF THE TOWN OF BLUE HILL.  THE BEARINGS
LH0384'AND DISTANCES TO CERTAIN POINTS ARE- TO THE STANDPIPE AT BLUE
LH0384'HILL, N 58 DEG 33 MIN E, TO W.W. HOGATES WINDMILL,
LH0384'S 20 DEG 36 MIN E, TO HOGATES HOUSE, S 11 DEG 49 MIN E, TO THE STONE
LH0384'MARKING THE SOUTH CENTER OF SECTION 24, S 09 DEG 50 MIN E, 251.085
LH0384'FEET, TO THE STONE MARKING NORTHWEST CORNER OF SECTION 24,
LH0384'N 27 DEG 51 MIN W, TO THE WIRE FENCE, S 90 DEG W, 43.7 FEET.
LH0384'SURFACE MARK IS A MARBLE POST 8 INCHES SQUARE AND ABOUT 2-1/2
LH0384'FEET LONG, PLACED WITH ITS TOP FLUSH WITH THE GROUND, AND
LH0384'HAVING TWO V-SHAPED GROOVES AT RIGHT ANGLES AND THE
LH0384'LETTERS U.S.C.S. CUT IN ITS TOP.  UNDERGROUND MARK IS A STONE
LH0384'MILK CROCK BURIED BOTTOM UPWARD ABOUT 3 FEET BELOW THE
LH0384'SURFACE AND MARKED WITH A SMALL DRILL HOLE.
LH0384
LH0384                            STATION RECOVERY (1934)
LH0384
LH0384'RECOVERY NOTE BY NEBRASKA GEODETIC SURVEY 1934
LH0384'STATION RECOVERED AND FOUND IN GOOD CONDITION.
LH0384'
LH0384'STATION IS 250 FEET NORTH OF APPROXIMATE LOCATION OF STONE
LH0384'MARKING SOUTH CENTER OF SECTION 24, AND 43.7 FEET EAST OF STONE.
LH0384'
LH0384'THE VERMONT MARBLE SURFACE STONE WAS FOUND LYING ON ITS SIDE
LH0384'ABOUT 1.3 FEET BELOW SURFACE OF GROUND, HEAD OF STONE
LH0384'POINTING NORTH.  THE LETTERS R.P. WERE CHISELED ON SOUTH SIDE
LH0384'OF STONE.  IT WAS THEN SET IN CONCRETE ALONG THE FENCE ROW,
LH0384'43.12 FEET WEST OF TRIANGULATION POINT, AND IS NOW KNOWN AS
LH0384'BM G-4.  THE CROCK MARKING THIS STATION WAS FOUND UNDISTURBED
LH0384'3.5 FEET BELOW THE SURFACE.  FOUR IRON PIPE REFERENCE STAKES
LH0384'WERE SET, MARKING THE TRIANGULATION POINT, AND 1 FOOT OF DIRT
LH0384'WAS PLACED OVER THE CROCK.  A 2-FOOT WOODEN 4 BY 4 WAS SET IN
LH0384'CONCRETE, AND THE EXACT POINT MARKED ON IT BY MEANS OF THE
LH0384'REFERENCE STAKES.  A TACK NEAR THE CENTER OF THE 4 BY 4
LH0384'MARKS THE TRIANGULATION POINT.
LH0384
LH0384                            STATION RECOVERY (1935)
LH0384
LH0384'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1935 (WRP)
LH0384'IN THE SW 1/4 SE 1/4 SEC. 24, T. 4 N., R. 11 W., A FEW YARDS
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LH0384'EAST OF THE TOP OF THE HIGHEST HILL IN THE VICINITY, ON LAND
LH0384'OWNED BY MR. FRED WADEMAN AND FARMED BY HIS SON-IN-LAW, ALBERT
LH0384'JESSKA, WHO LIVES 1/2 MILE EAST. THE STATION WAS RE-MARKED WITH
LH0384'SURFACE MARK 85 YARDS NORTH OF THE CENTER LINE OF THE ROAD,
LH0384'AND 42.5 FEET DUE EAST OF THE RE-SET STONE POST THAT FORMERLY
LH0384'MARKED THE STATION. THIS STONE POST IS NOW IN THE FENCE LINE
LH0384'85 YARDS NORTH OF THE CENTER LINE OF STATE HIGHWAY 4, SET
LH0384'FLUSH WITH THE GROUND.
LH0384'
LH0384'TO REACH FROM THE INTERSECTION OF U.S. HIGHWAY 281 AND STATE
LH0384'HIGHWAY 3 IN RED CLOUD, GO NORTH ON U.S. HIGHWAY 281 FOR 6.0
LH0384'MILES TO POINT WHERE U.S. HIGHWAY 281 TURNS RIGHT, OR EAST,
LH0384'CONTINUE STRAIGHT AHEAD, NORTH, FOR 8.0 MILES TO CROSSROADS,
LH0384'WITH CONOCO GASOLINE STATION IN NORTHEAST ANGLE, HERE TURN
LH0384'RIGHT, OR EAST, ONTO STATE HIGHWAY 4 AND GO 0.5 MILE TO THE
LH0384'STATION ON THE LEFT.
LH0384'
LH0384'SURFACE AND UNDERGROUND MARKS ARE STANDARD BRONZE DISKS SET IN
LH0384'CONCRETE.
LH0384
LH0384   STATION RECOVERY (1947)
LH0384
LH0384'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1947 (RLE)
LH0384'STATION RECOVERED AND ALL MARKS FOUND TO BE IN GOOD CONDITION.
LH0384'ONE REFERENCE MARK WAS PUT IN AT THE STATION AND A DIRECTION
LH0384'WAS TAKEN TO A USC AND GS BENCH MARK WHICH WILL SERVE AS
LH0384'AN AZIMUTH MARK FOR THE STATION. A COMPLETE DESCRIPTION FOLLOWS.
LH0384'
LH0384'THE STATION IS LOCATED ABOUT 2.5 MILES SOUTH AND 3 MILES WEST
LH0384'OF BLUE HILL ON THE SUMMIT OF A HIGH HILL. THE MARK, STAMPED BLUE
LH0384'HILL 1898, IS A STANDARD DISC SET IN CONCRETE 1 FOOT BELOW THE
LH0384'SURFACE OF THE GROUND. THE MARK IS 248.5 FEET NORTH OF THE
LH0384'CENTER LINE OF U.S. HIGHWAY NO. 281 AND 43.2 FEET EAST OF A
LH0384'NORTH-SOUTH WIRE FENCE IN AN AREA THAT IS NOW UNDER CULTIVATION.
LH0384'
LH0384'AN 8 INCH SQUARE MARBLE POST WITH THE LETTERS USCS CHISELED ON
LH0384'THE TOP SERVES AS REFERENCE MARK NO 1. THE MARK IS SET ALONG
LH0384'A WIRE FENCE LINE AND IS 209 FEET NORTH OF A WIRE FENCE CORNER,
LH0384'2 FEET SOUTH OF A WITNESS POST AND FLUSH WITH THE GROUND.
LH0384'
LH0384'REFERENCE MARK NO. 3, STAMPED BLUE HILL NO 3 1947, IS A STANDARD
LH0384'REFERENCE MARK DISC SET IN CONCRETE THAT PROJECTS ABOUT 6 INCHES.
LH0384'IT IS 103.5 FEET NORTH OF THE CENTER LINE OF U.S. HIGHWAY NO.
LH0384'281, 64 FEET NORTH OF A WIRE FENCE CORNER AND 1 FOOT EAST OF
LH0384'A NORTH-SOUTH WIRE FENCE.
LH0384'
LH0384'A STANDARD USC AND GS BENCH MARK SERVES AS AN AZIMUTH MARK FOR
LH0384'THE STATION. THE MARK, STAMPED L 250, IS ABOUT 0.75 MILE EAST
LH0384'OF THE STATION, 35 FEET NORTH OF THE CENTER LINE OF U.S. HIGHWAY
LH0384'NO. 281, 30 FEET EAST OF THE EAST END OF A WIRE GATE, 2 FEET
LH0384'EAST OF A WITNESS POST, 1 FOOT SOUTH OF AN EAST-WEST WIRE
LH0384'FENCE AND IS FLUSH WITH THE GROUND.
LH0384'
LH0384'TO REACH THE STATION FROM BLUE HILL, GO SOUTH ON U.S. HIGHWAY
LH0384'NO. 281 FOR 3.0 MILES TO THE JUNCTION OF STATE HIGHWAY NO. 4.
LH0384'TURN RIGHT, WEST, AND GO 2.5 MILES TO THE AZIMUTH MARK (BM L-250)
LH0384'ON THE RIGHT, NORTH, SIDE OF ROAD, CONTINUE AHEAD FOR 0.75 MILE
LH0384'TO THE STATION ON THE RIGHT, NORTH, SIDE OF ROAD IN CULTIVATED
LH0384'FIELD.
LH0384'
LH0384'A 74 FOOT SIGNAL AT STATION BANGERT IS VG.
LH0384'
LH0384'A 4 FOOT SIGNAL AT STATION COWLES IS VG.
LH0384'
LH0384'A 74 FOOT SIGNAL AT STATION DARWIN IS VISIBLE AT 10 FEET.
LH0384'
LH0384'A 74 FOOT SIGNAL AT STATION BEEMAN IS VISIBLE AT 10 FEET.
LH0384'
LH0384'A 74 FOOT SIGNAL AT STATION COOPER 1898 IS VG.
LH0384'
LH0384'A 47 FOOT SIGNAL AT STATION REIHER IS V.G.
LH0384'
LH0384'A 74 FOOT SIGNAL AT STATION HERRICK 1898 IS VG.
LH0384
LH0384   STATION RECOVERY (1947)
LH0384
LH0384'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1947
LH0384'6.5 MI SW FROM BLUE HILL.
LH0384'0.4 MILE EAST ALONG A PAVED STREET FROM THE CHICAGO, BURLINGTON
LH0384'AND QUINCY RAILWAY STATION AT BLUE HILL, THENCE 3.0 MILES SOUTH
LH0384'ALONG U.S. HIGHWAY 281, THENCE 3.5 MILES WEST ALONG U.S.

LH0384'HIGHWAY 281 AND STATE HIGHWAY 4, NORTH OF AND ACROSS THE HIGHWAY
LH0384'FROM A LARGE FARMHOUSE OWNED BY W.E. LAMBORN, 249.0 FEET NORTH
LH0384'OF THE CENTER LINE OF THE HIGHWAY, 43.3 FEET EAST OF A STONE
LH0384'POST WITH A CROSS ON THE TOP (THIS POST FORMERLY MARKED THE
LH0384'TRIANGULATION STATION BUT HAS BEEN RESET AND IS KNOWN AS BENCH
LH0384'MARK G 4), SET IN THE TOP OF A CONCRETE POST APPROXIMATELY
LH0384'14 INCHES BELOW THE SURFACE OF THE GROUND.
LH0384
LH0384 STATION RECOVERY (1951)
LH0384
LH0384'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1951 (RLE)
LH0384'THE STATION, REFERENCE MARK NO. 1, REFERENCE MARK NO. 3 AND
LH0384'BENCH MARK L 250 (AZIMUTH MARK) WERE RECOVERED AND FOUND IN
LH0384'GOOD CONDITION.
LH0384'
LH0384'FOLLOWING IS A NEW AND COMPLETE DESCRIPTION.
LH0384'
LH0384'THE STATION IS LOCATED ABOUT 4.0 MILES SOUTHWEST OF BLUE HILL.
LH0384'IT IS 250.0 FEET NORTH OF THE CENTER OF U.S. HIGHWAY 281, 43.0
LH0384'FEET EAST OF A NORTH-SOUTH FENCE LINE, 42.0 FEET EAST OF A
LH0384'WITNESS POST AND IN A CULTIVATED FIELD. IT IS SET 14 INCHES
LH0384'UNDERGROUND AND STAMPED BLUE HILL 1898.
LH0384'
LH0384'AN 8 INCH SQUARE MARBLE POST WITH THE LETTERS USCS AND A CROSS
LH0384'CHISELED ON THE TOP SERVES AS REFERENCE MARK NO. 1. IT IS 250.0
LH0384'FEET NORTH OF THE CENTER OF U.S. HIGHWAY 281, 2.0 FEET SOUTH OF
LH0384'A WITNESS POST AND SET IN A NORTH-SOUTH FENCE LINE. THE POST
LH0384'IS SET FLUSH.
LH0384'
LH0384'REFERENCE MARK NO. 3 IS 105.0 FEET NORTH OF THE CENTER OF U.S.
LH0384'HIGHWAY 281 AND 1.0 FOOT EAST OF A NORTH-SOUTH FENCE LINE.
LH0384'IT PROJECTS 4 INCHES AND IS STAMPED BLUE HILL NO 3 1947.
LH0384'
LH0384'BENCH MARK L 250 WAS USED AS THE AZIMUTH MARK. IT IS A STANDARD
LH0384'U.S.C. AND G.S. BENCH MARK SET IN AN 8 INCH SQUARE CONCRETE
LH0384'POST AND SET FLUSH. IT IS 60.0 FEET EAST OF A POWER LINE POLE,
LH0384'47.0 FEET EAST OF THE CENTER OF A WIRE GATE, 38.0 FEET NORTH
LH0384'OF THE CENTER OF U.S. HIGHWAY 281 AND 3.0 FEET EAST OF A WITNESS
LH0384'POST. IT IS STAMPED L 250 1947.
LH0384'
LH0384'TO REACH THE STATION FROM THE POST OFFICE IN BLUE HILL, GO EAST
LH0384'FOR 0.3 MILE TO U.S. HIGHWAY 281. TURN RIGHT, SOUTH, FOR 2.7
LH0384'MILES TO WHERE U.S. HIGHWAY 281 CURVES TO THE WEST. TURN RIGHT,
LH0384'WEST, ON U.S. HIGHWAY 281 FOR 2.6 MILES TO A WIRE GATE AND THE
LH0384'AZIMUTH MARK ON THE RIGHT AS DESCRIBED, CONTINUE WEST FOR 0.8
LH0384'MILE TO A NORTH-SOUTH FENCE LINE AND THE STATION ON THE RIGHT
LH0384'AS DESCRIBED.
LH0384
LH0384 STATION RECOVERY (1959)
LH0384
LH0384'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1959 (FAR)
LH0384'STATION WAS RECOVERED AS DESCRIBED AND ALL MARKS WERE FOUND
LH0384'IN GOOD CONDITION. THE 1947 DESCRIPTION BY R.L.E. IS ADEQUATE.
LH0384'A NEW WITNESS POST SIGN WAS SET BY BENCH MARK L 250 WHICH
LH0384'IS USED AS THE AZIMUTH MARK FOR THIS STATION. A SHORT DESCRIPTION
LH0384'FOR THIS MARK FOLLOWS.
LH0384'
LH0384'BENCH MARK L 250 USED AS THE AZIMUTH MARK IS 0.8 MILE EAST OF
LH0384'THE STATION, 61 FEET EAST OF A POWER POLE, 43 FEET EAST OF THE
LH0384'CENTER OF DRIVEWAY LEADING SOUTH TO FARM BUILDINGS, 38 FEET NORTH
LH0384'OF THE CENTER OF U.S. HIGHWAY 281 AND STATE HIGHWAY 4, 30 FEET
LH0384'EAST OF THE EAST END OF WIRE GATE, 1.5 FEET WEST OF A NEW
LH0384'WITNESS SIGN POST, AND 1 FOOT SOUTH OF FENCE. THE MARK IS FLUSH
LH0384'WITH THE SURFACE OF THE GROUND AND THE STANDARD USC AND GS
LH0384'BENCH MARK DISK IS STAMPED L 250 1947. (NOTE- THIS MARK IS
LH0384'2.2 MILES WEST ALONG U.S. HIGHWAY 281 AND STATE HIGHWAY 4
LH0384'FROM A POINT WHERE THE CHICAGO, BURLINGTON AND QUINCY RR
LH0384'CROSSES THESE SAME HIGHWAYS.)
LH0384
LH0384 STATION RECOVERY (1962)
LH0384
LH0384'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1962 (CJB)
LH0384'STATION WAS RECOVERED AS DESCRIBED BY R.L.E. IN 1951 RECOVERY
LH0384'NOTE AND ALL MARKS WERE FOUND IN GOOD CONDITION EXCEPT THE
LH0384'AZIMUTH MARK (BENCH MARK L 250) WHICH HAD TO BE RESET DUE TO
LH0384'ROAD CONSTRUCTION ALONG U.S. HIGHWAY 281 AND STATE HIGHWAY 4.
LH0384'A NEW DESCRIPTION FOR THE RESET MARK FOLLOWS-
LH0384'
LH0384'BENCH MARK L 250 RESET WAS USED AS THE AZIMUTH MARK FOR THIS
LH0384'STATION, AND IS 0.75 MILE EAST OF THE STATION, NORTH ACROSS THE
LH0384'HIGHWAY FROM A FARM DRIVEWAY TO THE SOUTH, 70 FEET NORTH OF THE

LH0384'CENTERLINE OF U.S. HIGHWAY 281 AND STATE HIGHWAY 4, 5.5 FEET
LH0384'WEST OF A POWER POLE WITH A GUY WIRE, AND 1 FOOT EAST OF A
LH0384'WITNESS POST SIGN. THE MARK 4 INCHES AND THE DISK IS STAMPED
LH0384'L 250 1947 RESET 1962.
LH0384
LH0384 STATION RECOVERY (2005)
LH0384
LH0384'RECOVERY NOTE BY NEBRASKA ROADS DEPARTMENT 2005 (GAT)
LH0384'STATION WAS FOUND BY JERRY PENRY AND GENE THOMSEN IN GOOD CONDITION
LH0384'1.5 FEET BELOW THE SURFACE OF A CULTIVATED FIELD, 250.4 FEET NORTH OF
LH0384'THE CENTERLINE OF US HIGHWAY 284/4 AND 43 FEET EAST OF AN OLD
LH0384'NORTH-SOUTH FENCE LINE RIDGE DIVIDING THE SE AND SW QUARTERS OF
LH0384'SECTION 24, T4N, R11W.
LH0384'THE STATION IS A STANDARD USC AND GS BRONZE DISK STAMPED BLUE HILL
LH0384'1898 AND SET IN THE CENTER OF A 16 INCH DIAMETER CONCRETE MONUMENT. A
LH0384'ONE-HALF INCH REINFORCING ROD 24 INCHES LONG WAS DRIVEN ON THE NORTH
LH0384'SIDE OF THE MONUMENT.
LH0384'
LH0384'TO REACH STATION BLUE HILL, FROM THE INTERSECTION OF NORTH-SOUTH US
LH0384'HIGHWAY 281 AND EAST-WEST CASS STREET, LOCATED IN THE NORTHEASTERN
LH0384'CORNER OF BLUE HILL NEBRASKA, GO SOUTH ON HIGHWAY 281 FOR 3.0 MILES TO
LH0384'THE JUNCTION WITH STATE HIGHWAY 4. GO WEST 3.5 MILES ON US HIGHWAY
LH0384'281/4 TO THE STATION LOCATED ON A SMALL HILL 250.4 FEET NORTH OF THE
LH0384'CENTERLINE OF THE HIGHWAY.
LH0384'
LH0384'SETTING ON THE MARK BLUE HILL, WE MEASURED DISTANCES USING A EDM AND
LH0384'TURNED ANGLES TO NEARBY STATIONS WITH AN ASSUMED ANGLE OF 00 DEGREES
LH0384'00 MINUTES, 00 SECONDS TO BENCHMARK L-250 RESET WHICH IS EASTERLY
LH0384'4107.49 FEET TO L-250 RESET, ANGLE 0 DEGREES 0 MIN. 0 SECONDS.
LH0384'
LH0384'THENCE SSW 151.78 FEET TO REFERENCE MARK NO. 3 ANGLE BENING 103 DEG.
LH0384'58 MIN. 38 SEC. THENCE WEST 43.27 FEET TO BENCMARK G 4 ANGLE 176 DEG.
LH0384'49 MIN. 53 SEC. THENCE NW 4277.50 FEET TO USC AND GS AND SS BENCHMARK
LH0384'NO 361 ANGLE 229 DEG. 34 MIN. 47 SEC.
LH0384'
LH0384'REFERENCE MARK NO.1 IS AN 8 INCH SQUARE WHITE MARBLE POST DESIGNATED
LH0384'AS USC AND GS GENCHMARK G4 AND ENGRAVED WITH CROSSCUT LINES AND THE
LH0384'LETTERS USCS ON THE TOP.
LH0384'IT WAS FOUND IN GOOD CONDITION 1 FOOT BELOW THE SURFACE IN A RIDGE
LH0384'WHERE THE FORMER NORTH-SOUTH FENCE WAS LOCATED AND 250 FEET NORTH OF
LH0384'THE CENTERLINE OF THE HIGHWAY. MEASURED DISTANCES BY EDM TO NEARBY
LH0384'STATIONS ARE EAST 43.27 FEET TO TRIANGULATION STATION BLUE HILL AND
LH0384'SOUTH 145.04 FEET TO REFERENCE MARK NO. 3.

*** retrieval complete.
Elapsed Time = 00:00:06

The NGS Data Sheet

See file dsdata.pdf for more information about the datasheet.

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PROGRAM = datasheet95, VERSION = 8.12.5.2
1        National Geodetic Survey,   Retrieval Date = MARCH 31, 2019
 LH0273 ***********************************************************************
 LH0273  DESIGNATION -  C 270
 LH0273  PID         -  LH0273
 LH0273  STATE/COUNTY-  NE/ADAMS
 LH0273  COUNTRY     -  US
 LH0273  USGS QUAD   -  BLUE HILL (1969)
 LH0273
 LH0273                         *CURRENT SURVEY CONTROL
 LH0273  ______________________________________________________________________
 LH0273* NAD 83(1986) POSITION- 40 21 01.     (N) 098 27 10.     (W)    SCALED
 LH0273* NAVD 88 ORTHO HEIGHT -   592.028 (meters)     1942.35  (feet) ADJUSTED
 LH0273  ______________________________________________________________________
 LH0273  GEOID HEIGHT    -        -25.679 (meters)                     GEOID12B
 LH0273  DYNAMIC HEIGHT  -        591.680 (meters)     1941.20  (feet) COMP
 LH0273  MODELED GRAVITY -    980,019.0   (mgal)                       NAVD 88
 LH0273
 LH0273  VERT ORDER      -  FIRST     CLASS II
 LH0273
 LH0273.The horizontal coordinates were scaled from a topographic map and have
 LH0273.an estimated accuracy of +/- 6 seconds.
 LH0273.
 LH0273.The orthometric height was determined by differential leveling and
 LH0273.adjusted by the NATIONAL GEODETIC SURVEY
 LH0273.in June 1991.
 LH0273
 LH0273.Significant digits in the geoid height do not necessarily reflect accuracy.
 LH0273.GEOID12B height accuracy estimate available here.
 LH0273
 LH0273.The dynamic height is computed by dividing the NAVD 88
 LH0273.geopotential number by the normal gravity value computed on the
 LH0273.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
 LH0273.degrees latitude (g = 980.6199 gals.).
 LH0273
 LH0273.The modeled gravity was interpolated from observed gravity values.
 LH0273
 LH0273;                    North         East     Units  Estimated Accuracy
 LH0273;SPC NE       -    58,570.      631,420.      MT  (+/- 180 meters Scaled)
 LH0273
 LH0273_U.S. NATIONAL GRID SPATIAL ADDRESS: 14TNK464667(NAD 83)
 LH0273
 LH0273                          SUPERSEDED SURVEY CONTROL
 LH0273
 LH0273  NGVD 29 (??/??/92)  591.801  (m)         1941.60   (f) ADJ UNCH    1 2
 LH0273
 LH0273.Superseded values are not recommended for survey control.
 LH0273
 LH0273.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
 LH0273.See file dsdata.pdf to determine how the superseded data were derived.
 LH0273
 LH0273_MARKER: DB = BENCH MARK DISK
 LH0273_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
 LH0273_STAMPING: C 270 1947
 LH0273_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
 LH0273+STABILITY: SURFACE MOTION
 LH0273
 LH0273  HISTORY     - Date     Condition        Report By
 LH0273  HISTORY     - 1947     MONUMENTED       CGS
 LH0273  HISTORY     - 1981     GOOD             NGS
 LH0273
 LH0273                          STATION DESCRIPTION
 LH0273
 LH0273'DESCRIBED BY COAST AND GEODETIC SURVEY 1947
 LH0273'1.2 MI N FROM BLUE HILL.
 LH0273'1.2 MILES NORTH ALONG THE CHICAGO, BURLINGTON AND QUINCY RAILROAD
 LH0273'FROM THE STATION AT BLUE HILL, AT A ROAD CROSSING, 91.0 FEET
 LH0273'NORTH OF THE CENTER LINE OF THE ROAD, 89.2 FEET NORTHEAST OF A
 LH0273'WEBSTER ADAMS COUNTY LINE MARKER POST, 74.6 FEET SOUTHEAST OF
 LH0273'THE 4TH POLE NORTH OF MILEPOST 18, 59.8 FEET NORTH OF A FENCE
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LH0273'CORNER, 43.5 FEET EAST OF THE EAST RAIL, 3.0 FEET NORTH OF A
LH0273'REFERENCE POST, 1.0 FOOT WEST OF A FENCE, SET IN THE TOP OF A
LH0273'CONCRETE POST WHICH PROJECTS 0.4 FOOT ABOVE THE GROUND.
LH0273
LH0273 STATION RECOVERY (1981)
LH0273
LH0273'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1981
LH0273'EXCEPT THE OLD POLE IS GONE.

*** retrieval complete.
Elapsed Time = 00:00:04

The NGS Data Sheet

See file dsdata.pdf for more information about the datasheet.

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PROGRAM = datasheet95, VERSION = 8.12.5.2
1        National Geodetic Survey,   Retrieval Date = MARCH 27, 2019
 LH1003 ***********************************************************************
 LH1003  DESIGNATION -  COZAD
 LH1003  PID         -  LH1003
 LH1003  STATE/COUNTY-  NE/DAWSON
 LH1003  COUNTRY     -  US
 LH1003  USGS QUAD   -  COZAD (1971)
 LH1003
 LH1003                         *CURRENT SURVEY CONTROL
 LH1003 ______________________________________________________________________
 LH1003* NAD 83(1995) POSITION- 40 51 29.70931(N) 099 59 15.24516(W)   ADJUSTED
 LH1003* NAD 83(1995) ELLIP HT-   734.933 (meters)        (06/27/02)   ADJUSTED
 LH1003* NAVD 88 ORTHO HEIGHT -   758.346 (meters)     2488.01  (feet) ADJUSTED
 LH1003 ______________________________________________________________________
 LH1003  GEOID HEIGHT    -        -23.414 (meters)                     GEOID12B
 LH1003  NAD 83(1995) X  -   -837,941.718 (meters)                     COMP
 LH1003  NAD 83(1995) Y  - -4,758,240.657 (meters)                     COMP
 LH1003  NAD 83(1995) Z  -  4,151,011.031 (meters)                     COMP
 LH1003  LAPLACE CORR    -         -1.63  (seconds)                    DEFLEC12B
 LH1003  DYNAMIC HEIGHT  -       757.902 (meters)     2486.55  (feet) COMP
 LH1003  MODELED GRAVITY -    980,014.4   (mgal)                       NAVD 88
 LH1003
 LH1003  HORZ ORDER      -  THIRD
 LH1003  VERT ORDER      -  FIRST     CLASS II
 LH1003  ELLP ORDER      -  FOURTH    CLASS I
 LH1003
 LH1003.The horizontal coordinates were established by classical geodetic methods
 LH1003.and adjusted by the National Geodetic Survey in August 1997.
 LH1003.
 LH1003.The orthometric height was determined by differential leveling and
 LH1003.adjusted by the NATIONAL GEODETIC SURVEY
 LH1003.in June 1991.
 LH1003
 LH1003.Significant digits in the geoid height do not necessarily reflect accuracy.
 LH1003.GEOID12B height accuracy estimate available here.
 LH1003
 LH1003.The X, Y, and Z were computed from the position and the ellipsoidal ht.
 LH1003
 LH1003.The Laplace correction was computed from DEFLEC12B derived deflections.
 LH1003
 LH1003.The ellipsoidal height was determined by GPS observations
 LH1003.and is referenced to NAD 83.
 LH1003
 LH1003.The dynamic height is computed by dividing the NAVD 88
 LH1003.geopotential number by the normal gravity value computed on the
 LH1003.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
 LH1003.degrees latitude (g = 980.6199 gals.).
 LH1003
 LH1003.The modeled gravity was interpolated from observed gravity values.
 LH1003
 LH1003. The following values were computed from the NAD 83(1995) position.
 LH1003
 LH1003;                     North         East     Units Scale Factor Converg.
 LH1003;SPC NE       -   113,794.159   501,047.906   MT  0.99972200   +0 00 29.7
 LH1003;SPC NE       -   373,339.67  1,643,854.67   sFT  0.99972200   +0 00 29.7
 LH1003;UTM  14      - 4,523,491.241   416,765.728   MT  0.99968527   -0 38 45.9
 LH1003
 LH1003!             -  Elev Factor  x  Scale Factor =   Combined Factor
 LH1003!SPC NE       -   0.99988473  x   0.99972200  =   0.99960676
 LH1003!UTM  14      -   0.99988473  x   0.99968527  =   0.99957004
 LH1003
 LH1003:                Primary Azimuth Mark                     Grid Az
 LH1003:SPC NE       -  COZAD AZ MK                              291 49 24.4
 LH1003:UTM  14      -  COZAD AZ MK                              292 28 40.0
 LH1003
 LH1003_U.S. NATIONAL GRID SPATIAL ADDRESS: 14TML1676523491(NAD 83)
 LH1003
 LH1003|----------------------------------------------------------------------|
 LH1003| PID    Reference Object                    Distance      Geod. Az   |
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LH1003|                                                                dddmmss.s |
LH1003| CN9063 COZAD RM 3                              15.941 METERS 02411      |
LH1003| LH1085 COZAD KAN NEBR NAT GAS CO MAST       APPROX. 2.9 KM 1195520.6  |
LH1003| CN9064 COZAD RM 4                              26.289 METERS 14151      |
LH1003| CN9061 COZAD RM 1                              18.020 METERS 28157      |
LH1003| CN9060 COZAD AZ MK                                           2914954.1 |
LH1003| LH1084 COZAD MUNICIPAL TANK                    16.098 METERS 30134      |
LH1003| CN9062 COZAD RM 2                              15.331 METERS 32633      |
LH1003|-----------------------------------------------------------------------|
LH1003
LH1003                            SUPERSEDED SURVEY CONTROL
LH1003
LH1003  ELLIP H (08/18/97)  734.969  (m)                          GP(       ) 4 1
LH1003  NAD 83(1986)-  40 51 29.71694(N)    099 59 15.24992(W) AD(       ) 3
LH1003  NAD 27       -  40 51 29.68800(N)    099 59 13.81000(W) AD(       ) 3
LH1003  NGVD 29 (02/14/92)  758.047  (m)         2487.03    (f) ADJUSTED    1 2
LH1003  NGVD 29             758.03   (m)         2487.0     (f) LEVELING    3
LH1003
LH1003.Superseded values are not recommended for survey control.
LH1003
LH1003.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
LH1003.See file dsdata.pdf to determine how the superseded data were derived.
LH1003
LH1003_MARKER: DS = TRIANGULATION STATION DISK
LH1003_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
LH1003_STAMPING: COZAD 1951
LH1003_MARK LOGO: CGS
LH1003_PROJECTION: FLUSH
LH1003_MAGNETIC: N = NO MAGNETIC MATERIAL
LH1003_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
LH1003+STABILITY: SURFACE MOTION
LH1003_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
LH1003+SATELLITE: SATELLITE OBSERVATIONS - August 06, 2013
LH1003
LH1003  HISTORY     - Date     Condition        Report By
LH1003  HISTORY     - 1951     MONUMENTED       CGS
LH1003  HISTORY     - 1959     GOOD             CGS
LH1003  HISTORY     - 1963     GOOD             CGS
LH1003  HISTORY     - 1964     GOOD             CGS
LH1003  HISTORY     - 1986     GOOD             NGS
LH1003  HISTORY     - 19890417 GOOD             NGS
LH1003  HISTORY     - 20100331 GOOD             INDIV
LH1003  HISTORY     - 20130806 GOOD             GEOCAC
LH1003
LH1003                            STATION DESCRIPTION
LH1003
LH1003'DESCRIBED BY COAST AND GEODETIC SURVEY 1951 (RLE)
LH1003'THE STATION IS LOCATED IN THE SOUTHWEST EDGE OF THE TOWN OF COZAD,
LH1003'71 FEET NORTH OF THE CENTER OF U.S. HIGHWAY 30 AND 33.6 FEET
LH1003'SOUTHWEST OF THE SOUTHWEST CORNER OF A SMALL, RED BRICK BUILDING.
LH1003'IT IS STAMPED COZAD 1951 AND IS SET FLUSH.
LH1003'
LH1003'REFERENCE MARK NO. 1 IS A STANDARD REFERENCE MARK DISK SET IN THE
LH1003'CONCRETE FOUNDATION OF THE SOUTHWEST LEG OF THE COZAD MUNICIPAL
LH1003'WATER TANK.  IT IS 52 FEET NORTH OF THE CENTER OF U.S. HIGHWAY 30.
LH1003'IT IS STAMPED COZAD NO 1 1951.
LH1003'
LH1003'REFERENCE MARK NO. 2 IS A STANDARD REFERENCE MARK DISK SET IN THE
LH1003'CONCRETE FOUNDATION OF THE NORTHEAST LEG OF THE COZAD MUNICIPAL
LH1003'WATER TANK.  IT IS 49 FEET SOUTH OF THE CENTER OF AN EAST WEST
LH1003'STREET AND 50 FEET WEST OF THE NORTHWEST CORNER OF A SMALL, RED
LH1003'BRICK BUILDING.  IT IS STAMPED COZAD NO 2 1951.
LH1003'
LH1003'THE DISTANCE BETWEEN REFERENCE MARK NO. 1 AND REFERENCE MARK NO. 2
LH1003'IS 42.3 FEET.
LH1003'
LH1003'THE AZIMUTH MARK IS LOCATED 41 FEET WEST OF A TELEPHONE POLE AND
LH1003'22 FEET SOUTH OF THE CENTER OF U.S. HIGHWAY 30.  IT IS A STANDARD
LH1003'AZIMUTH MARK DISK SET IN THE CONCRETE CURB ON THE SOUTH SIDE OF
LH1003'U.S. HIGHWAY 30.  IT IS STAMPED COZAD 1951.
LH1003'
LH1003'A TRAVERSE MEASUREMENT WAS MADE TO THE COZAD MUNICIPAL WATER TANK.
LH1003'
LH1003'TO REACH THE STATION FROM THE POST OFFICE IN COZAD, GO SOUTH ON A
LH1003'PAVED STREET FOR 0.1 MILE TO U.S. HIGHWAY 30, TURN RIGHT AND GO
LH1003'WEST-NORTHWEST ON U.S. HIGHWAY 30 FOR 0.2 MILE TO A T STREET RIGHT
LH1003'AND THE STATION IN THE NORTHWEST ANGLE OF THE T STREET
LH1003'INTERSECTION AS DESCRIBED.
LH1003'
LH1003'TO REACH THE AZIMUTH MARK FROM THE STATION, GO WEST-NORTHWEST ON
LH1003'U.S. HIGHWAY FOR 0.2 MILE TO THE AZIMUTH MARK ON THE LEFT AS
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LH1003'DESCRIBED.
LH1003'
LH1003'HEIGHT OF LIGHT ABOVE STATION MARK 22 METERS.
LH1003
LH1003 STATION RECOVERY (1959)
LH1003
LH1003'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1959 (CTH)
LH1003'STATION RECOVERED AS PREVIOUSLY DESCRIBED, ALL MARKS FOUND INTACT
LH1003'AND ORIGINAL DESCRIPTION ADEQUATE. AT THIS DATE A DIRECT
LH1003'MEASUREMENT WAS MADE FROM THE INSTRUMENT AT TRIPOD HEAD TO CENTER
LH1003'OF THE BALL ATOP THE WATER TANK. MEASUREMENTS TO THE TWO
LH1003'REFERENCE MARKS CHECKED THE ORIGINAL DISTANCES.
LH1003
LH1003 STATION RECOVERY (1963)
LH1003
LH1003'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1963
LH1003'STATION AZIMUTH MARK AND BOTH REFERENCE MARKS WERE RECOVERED AS
LH1003'DESCRIBED, IN GOOD CONDITION.
LH1003
LH1003 STATION RECOVERY (1964)
LH1003
LH1003'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1964 (RAE)
LH1003'STATION IS LOCATED IN THE SOUTHWEST PART OF THE TOWN OF COZAD IN A
LH1003'SMALL CITY PARK AND THE CITY WATER TANK, 65 FEET NORTH-NORTHEAST
LH1003'OF THE CENTERLINE OF U.S. HIGHWAY 30, 72 FEET WEST-NORTHWEST OF A
LH1003'FIRE PLUG, 64 FEET SOUTH OF THE SOUTH CURB OF 7TH STREET, 63 FEET
LH1003'WEST OF THE WEST CURB OF H AVENUE, 33.5 FEET SOUTHWEST OF THE
LH1003'SOUTHWEST CORNER OF RED BRICK BUILDING, AND 44 FEET
LH1003'NORTH-NORTHEAST OF THE NORTH CURB FOR THE HIGHWAY. THE MARK IS
LH1003'FLUSH WITH THE SURFACE OF THE GROUND AND THE DISK IS STAMPED
LH1003'COZAD 1951.
LH1003'
LH1003'TO REACH THE STATION FROM THE POST OFFICE IN COZAD, GO SOUTH ON A
LH1003'PAVED STREET FOR 0.1 MILE TO U.S. HIGHWAY 30. TURN RIGHT AND GO
LH1003'WEST-NORTHWEST ON U.S. HIGHWAY 30 FOR 0.2 MILE TO A T-STREET RIGHT
LH1003'AND THE STATION IN THE NORTHWEST ANGLE OF THE INTERSECTION.
LH1003'
LH1003'THE WATER TANK IS SCHEDULED FOR DEMOLITION IN THE NEAR FUTURE, SO
LH1003'REFERENCE MARKS NO. 1 AND NO. 2 WERE DESTROYED AND REFERENCE MARKS
LH1003'NO. 3 AND NO. 4 WERE ESTABLISHED.
LH1003'
LH1003'REFERENCE MARK NO. 3 IS 52.30 FEET NORTH-NORTHEAST OF THE STATION
LH1003'AT THE NORTHWEST CORNER OF A SMALL RED BRICK BUILDING WHICH HOUSES
LH1003'A WELL, AND 16 FEET SOUTH OF THE SOUTH CURB OF 7TH STREET. THE
LH1003'DISK IS STAMPED COZAD NO 3 1951 AND SET IN A DRILLHOLE IN THE
LH1003'FOUNDATION WHICH PROJECTS OUTWARD FROM THE BRICK BUILDING.
LH1003'
LH1003'REFERENCE MARK NO. 4 IS 86.25 FEET SOUTHEAST OF THE STATION,
LH1003'28 FEET NORTH-NORTHEAST OF THE CENTERLINE OF U.S. HIGHWAY 30,
LH1003'22 FEET SOUTH OF A FIREPLUG, 10 FEET WEST OF THE WEST CURB OF H
LH1003'AVENUE, 7 FEET NORTH-NORTHEAST OF CURB FOR U.S. HIGHWAY 30,
LH1003'AND 3 FEET NORTHWEST OF CONCRETE SIGNPOST FOR H AVENUE. THE DISK
LH1003'IS STAMPED COZAD NO 4 1951 AND SET IN A DRILLHOLE IN THE
LH1003'NORTHWEST CORNER OF THE CONCRETE BASE FOR LIGHTPOST.
LH1003'
LH1003'AZIMUTH MARK IS 0.2 MILE EAST OF THE STATION, 110 FEET NORTHWEST
LH1003'OF THE NORTHWEST CORNER OF THE ALLIED MILLS INC. (COZAD PLANT) TILE
LH1003'STORAGE BUILDING, AND 21 FEET SOUTH OF THE CENTERLINE OF U.S.
LH1003'HIGHWAY 30. THE DISK IS STAMPED COZAD 1951 AND SET IN A DRILLHOLE
LH1003'IN THE CONCRETE CURB ALONG THE SOUTH SIDE OF U.S. HIGHWAY 30.
LH1003'
LH1003'TO REACH THE AZIMUTH MARK FROM THE STATION, GO WEST ON U.S.
LH1003'HIGHWAY 30 FOR 0.2 MILE TO THE AZIMUTH MARK ON THE LEFT.
LH1003'
LH1003'HEIGHT OF LIGHT ABOVE STATION MARK 1 METER.
LH1003
LH1003 STATION RECOVERY (1986)
LH1003
LH1003'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1986
LH1003'0.3 KM (0.2 MI) NW FROM COZAD.
LH1003'0.3 KM (0.2 MI) NORTHWEST ALONG US HIGHWAY 30 FROM THE UNION PACIFIC
LH1003'RAILROAD STATION AT COZAD, IN A SMALL GRASSY TRIANGLE FORMED BY THE
LH1003'HIGHWAY, 7TH STREET AND AVENUE H, 19.8 METERS (65 FT) NORTHEAST OF THE
LH1003'HIGHWAY CENTERLINE, 26.2 METERS (86 FT) NORTHWEST OF RM 4, 19.5 METERS
LH1003'(64 FT) SOUTH OF THE SOUTH CURB OF 7TH STREET, 19.2 METERS (63 FT)
LH1003'WEST OF THE WEST CURB OF AVENUE H AND 16.0 METERS (52.5 FT)
LH1003'SOUTH-SOUTHWEST OF RM 3.
LH1003'THE MARK IS 0.5 M BELOW THE HIGHWAY.
LH1003
LH1003 STATION RECOVERY (1989)
LH1003

LH1003'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1989
LH1003'THE STATION IS LOCATED IN A GRASSY TRIANGLE FORMED BY THE JUNCTION OF
LH1003'U.S. HIGHWAY 30 AND 7TH STREET, IN THE MIDDLE OF COZAD.
LH1003'OWNERSHIP--CITY OF GOZAD.
LH1003'TO REACH THE STATION FROM THE JUNCTION OF STATE ROUTE 21 SOUTH AND
LH1003'U.S. HIGHWAY 30, IN COZAD, GO NORTHWEST ALONG U.S. HIGHWAY 30 FOR 0.32
LH1003'KM (0.20 MI) TO A GRASSY TRIANGLE AND THE STATION ON THE RIGHT.
LH1003'THE STATION MARK IS SET 17.3 M (56.8 FT) WEST-SOUTHWEST OF A FIRE
LH1003'HYDRANT, 10.2 M (33.5 FT) SOUTH-SOUTHWEST OF THE SOUTHWEST CORNER OF A
LH1003'20X20 FT RED BRICK BUILDING, 7.3 M (24.0 FT) WEST-NORTHWEST OF A WATER
LH1003'SPIGOT, 6.7 M (22.0 FT) NORTH OF THE NORTH EDGE OF A SIDEWALK PARALLEL
LH1003'TO THE HIGHWAY AND IS FLUSH WITH THE SURFACE.
LH1003'DESCRIBED BY G.F.SMITH.
LH1003
LH1003 STATION RECOVERY (2010)
LH1003
LH1003'RECOVERY NOTE BY INDIVIDUAL CONTRIBUTORS 2010 (JG)
LH1003'RECOVERED IN GOOD CONDITION.
LH1003
LH1003 STATION RECOVERY (2013)
LH1003
LH1003'RECOVERY NOTE BY GEOCACHING 2013 (LPC)
LH1003'RECOVERED IN GOOD CONDITION.

*** retrieval complete.
Elapsed Time = 00:00:04

The NGS Data Sheet

See file dsdata.pdf for more information about the datasheet.

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PROGRAM = datasheet95, VERSION = 8.12.5.2
1        National Geodetic Survey,   Retrieval Date = APRIL 11, 2019
 LG0634 ***********************************************************************
 LG0634  DESIGNATION -  D 172
 LG0634  PID         -  LG0634
 LG0634  STATE/COUNTY-  NE/THAYER
 LG0634  COUNTRY     -  US
 LG0634  USGS QUAD   -  HEBRON SW (1960)
 LG0634
 LG0634                          *CURRENT SURVEY CONTROL
 LG0634 ______________________________________________________________________
 LG0634* NAD 83(1995) POSITION- 40 00 38.74177(N) 097 39 05.42757(W)   ADJUSTED
 LG0634* NAD 83(1995) ELLIP HT-   475.920 (meters)        (06/27/02)   ADJUSTED
 LG0634* NAVD 88 ORTHO HEIGHT -   502.351 (meters)     1648.13  (feet) ADJUSTED
 LG0634 ______________________________________________________________________
 LG0634  GEOID HEIGHT    -        -26.461 (meters)                     GEOID12B
 LG0634  NAD 83(1995) X  -   -651,397.640 (meters)                     COMP
 LG0634  NAD 83(1995) Y  - -4,848,744.078 (meters)                     COMP
 LG0634  NAD 83(1995) Z  -  4,079,206.839 (meters)                     COMP
 LG0634  LAPLACE CORR    -         -3.04  (seconds)                    DEFLEC12B
 LG0634  DYNAMIC HEIGHT  -       502.061 (meters)     1647.18  (feet) COMP
 LG0634  MODELED GRAVITY -    980,032.6   (mgal)                       NAVD 88
 LG0634
 LG0634  HORZ ORDER      -  FIRST
 LG0634  VERT ORDER      -  SECOND    CLASS 0
 LG0634  ELLP ORDER      -  FOURTH    CLASS I
 LG0634
 LG0634.The horizontal coordinates were established by GPS observations
 LG0634.and adjusted by the National Geodetic Survey in August 1997.
 LG0634
 LG0634.The orthometric height was determined by differential leveling and
 LG0634.adjusted by the NATIONAL GEODETIC SURVEY
 LG0634.in June 1991.
 LG0634
 LG0634.Significant digits in the geoid height do not necessarily reflect accuracy.
 LG0634.GEOID12B height accuracy estimate available here.
 LG0634
 LG0634.Photographs are available for this station.
 LG0634
 LG0634.The X, Y, and Z were computed from the position and the ellipsoidal ht.
 LG0634
 LG0634.The Laplace correction was computed from DEFLEC12B derived deflections.
 LG0634
 LG0634.The ellipsoidal height was determined by GPS observations
 LG0634.and is referenced to NAD 83.
 LG0634
 LG0634.The dynamic height is computed by dividing the NAVD 88
 LG0634.geopotential number by the normal gravity value computed on the
 LG0634.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
 LG0634.degrees latitude (g = 980.6199 gals.).
 LG0634
 LG0634.The modeled gravity was interpolated from observed gravity values.
 LG0634
 LG0634. The following values were computed from the NAD 83(1995) position.
 LG0634
 LG0634;                    North         East     Units Scale Factor Converg.
 LG0634;SPC NE       -    22,424.278   700,489.704   MT  0.99999515   +1 33 22.8
 LG0634;SPC NE       -    73,570.32  2,298,189.97    sFT  0.99999515   +1 33 22.8
 LG0634;UTM  14      - 4,429,822.505   615,090.694   MT  0.99976306   +0 52 01.5
 LG0634
 LG0634!             -  Elev Factor  x  Scale Factor =   Combined Factor
 LG0634!SPC NE       -   0.99992534  x   0.99999515  =   0.99992049
 LG0634!UTM  14      -   0.99992534  x   0.99976306  =   0.99968842
 LG0634
 LG0634_U.S. NATIONAL GRID SPATIAL ADDRESS: 14TPK1509029822(NAD 83)
 LG0634
 LG0634                           SUPERSEDED SURVEY CONTROL
 LG0634
 LG0634  ELLIP H (08/18/97)  475.934  (m)                          GP(       ) 4 1
 LG0634  NAD 83(1986)-  40 00 38.74843(N)    097 39 05.42501(W) AD(       ) 1
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LG0634  NGVD 29 (??/??/92)  502.188  (m)         1647.60   (f) ADJ UNCH    2 0
LG0634  NGVD 29 (02/23/90)  502.     (m)  RAPSU86 model used   GPS OBS
LG0634
LG0634.Superseded values are not recommended for survey control.
LG0634
LG0634.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
LG0634.See file dsdata.pdf to determine how the superseded data were derived.
LG0634
LG0634_MARKER: DB = BENCH MARK DISK
LG0634_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
LG0634_STAMPING: D 172 1934
LG0634_MARK LOGO: CGS
LG0634_MAGNETIC: N = NO MAGNETIC MATERIAL
LG0634_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
LG0634+STABILITY: SURFACE MOTION
LG0634_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
LG0634+SATELLITE: SATELLITE OBSERVATIONS - March 06, 2014
LG0634
LG0634  HISTORY     - Date     Condition        Report By
LG0634  HISTORY     - 1934     MONUMENTED       CGS
LG0634  HISTORY     - 19890403 GOOD             NGS
LG0634  HISTORY     - 19890626 GOOD             NGS
LG0634  HISTORY     - 20140306 GOOD             INDIV
LG0634
LG0634                          STATION DESCRIPTION
LG0634
LG0634'DESCRIBED BY COAST AND GEODETIC SURVEY 1934
LG0634'1.8 MI W FROM CHESTER.
LG0634'1.8 MILES WEST ALONG THE CHICAGO, BURLINGTON AND QUINCY RAILROAD
LG0634'FROM THE STATION AT CHESTER, THAYER COUNTY, TWO RAILS EAST OF
LG0634'THE CENTER OF A ROAD CROSSING, AND 42 FEET NORTH OF THE CENTERLINE
LG0634'OF THE TRACK.  A STANDARD DISK, STAMPED D 172 1934 AND SET IN THE
LG0634'TOP OF A CONCRETE POST.
LG0634
LG0634                          STATION RECOVERY (1989)
LG0634
LG0634'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1989
LG0634'THE STATION IS LOCATED ABOUT 3.5 KM (2.15 MI) WEST OF CHESTER, 1 KM
LG0634'(0.60 MI) NORTH OF THE KANSAS-NEBRASKA STATE LINE, ALONG THE NORTHERN
LG0634'BURLINGTON RIGHT-OF-WAY, AT A DIRT ROAD CROSSING.
LG0634'OWNERSHIP--BURLINGTON NORTHERN RAILROAD.
LG0634'TO REACH THE STATION FROM THE JUNCTION OF U.S. HIGHWAY 81 AND STATE
LG0634'HIGHWAY 8, LOCATED AT THE NORTHEAST CORNER OF CHESTER, GO WEST ON
LG0634'STATE HIGHWAY 8 FOR 3.2 KM (2.00 MI) TO A DIRT CROSSROAD AT A GAS-LINE
LG0634'CROSSING.  TURN LEFT AND GO SOUTH FOR 0.64 KM (0.40 MI) TO THE
LG0634'RAILROAD CROSSING AND THE STATION ON THE LEFT.
LG0634'THE STATION MARK IS SET 22.8 M (74.8 FT) EAST AND LEVEL WITH THE ROAD
LG0634'CENTER, 13.4 M (44.0 FT) NORTH-NORTHWEST OF THE NORTH RAIL OF THE
LG0634'TRACK, 0.9 M (3.0 FT) SOUTH-SOUTHEAST OF THE RIGHT-OF-WAY FENCE, 0.2 M
LG0634'(0.7 FT) WEST OF A FIBERGLASS WITNESS POST, 0.1 M (0.3 FT) NORTH OF A
LG0634'METAL WITNESS POST AND PROJECTS 5 CM ABOVE THE SURFACE.
LG0634'DESCRIBED BY R.D.BALL.
LG0634
LG0634                          STATION RECOVERY (1989)
LG0634
LG0634'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1989
LG0634'RECOVERED IN GOOD CONDITION.
LG0634
LG0634                          STATION RECOVERY (2014)
LG0634
LG0634'RECOVERY NOTE BY INDIVIDUAL CONTRIBUTORS 2014 (MAM)
LG0634'RECOVERED IN GOOD CONDITION.

*** retrieval complete.
Elapsed Time = 00:00:13
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The NGS Data Sheet

See file dsdata.pdf for more information about the datasheet.

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PROGRAM = datasheet95, VERSION = 8.12.5.2
1         National Geodetic Survey,   Retrieval Date = APRIL  2, 2019
 MK1361 ***********************************************************************
 MK1361  DESIGNATION -  D 212
 MK1361  PID         -  MK1361
 MK1361  STATE/COUNTY-  NE/MERRICK
 MK1361  COUNTRY     -  US
 MK1361  USGS QUAD   -  CENTRAL CITY EAST (1962)
 MK1361
 MK1361                         *CURRENT SURVEY CONTROL
 MK1361  ______________________________________________________________________
 MK1361* NAD 83(1986) POSITION- 41 07 25.6    (N) 097 59 23.4    (W)   HD_HELD2
 MK1361* NAVD 88 ORTHO HEIGHT -   516.341 (meters)     1694.03  (feet) ADJUSTED
 MK1361  ______________________________________________________________________
 MK1361  GEOID HEIGHT    -        -25.274 (meters)                     GEOID12B
 MK1361  DYNAMIC HEIGHT  -        516.086 (meters)     1693.19  (feet) COMP
 MK1361  MODELED GRAVITY -    980,113.5   (mgal)                       NAVD 88
 MK1361
 MK1361  VERT ORDER      -  FIRST     CLASS II
 MK1361
 MK1361.The horizontal coordinates were established by autonomous hand held GPS
 MK1361.observations and have an estimated accuracy of +/- 10 meters.
 MK1361.
 MK1361.The orthometric height was determined by differential leveling and
 MK1361.adjusted by the NATIONAL GEODETIC SURVEY
 MK1361.in June 1991.
 MK1361
 MK1361.Significant digits in the geoid height do not necessarily reflect accuracy.
 MK1361.GEOID12B height accuracy estimate available here.
 MK1361
 MK1361.The dynamic height is computed by dividing the NAVD 88
 MK1361.geopotential number by the normal gravity value computed on the
 MK1361.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
 MK1361.degrees latitude (g = 980.6199 gals.).
 MK1361
 MK1361.The modeled gravity was interpolated from observed gravity values.
 MK1361
 MK1361;                    North         East     Units  Estimated Accuracy
 MK1361;SPC NE       -   145,234.      668,740.      MT  (+/- 10 meters HH2 GPS)
 MK1361
 MK1361_U.S. NATIONAL GRID SPATIAL ADDRESS: 14TNL8479852989(NAD 83)
 MK1361
 MK1361                           SUPERSEDED SURVEY CONTROL
 MK1361
 MK1361  NGVD 29 (??/??/92)  516.122  (m)         1693.31   (f) ADJ UNCH    1 2
 MK1361
 MK1361.Superseded values are not recommended for survey control.
 MK1361
 MK1361.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
 MK1361.See file dsdata.pdf to determine how the superseded data were derived.
 MK1361
 MK1361_MARKER: DB = BENCH MARK DISK
 MK1361_SETTING: 36 = SET IN A MASSIVE STRUCTURE
 MK1361_SP_SET: BRIDGE
 MK1361_STAMPING: D 212 1940
 MK1361_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL
 MK1361_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
 MK1361+SATELLITE: SATELLITE OBSERVATIONS - October 11, 2007
 MK1361
 MK1361  HISTORY     - Date     Condition        Report By
 MK1361  HISTORY     - 1940     MONUMENTED       CGS
 MK1361  HISTORY     - 20071011 GOOD             GEOCAC
 MK1361
 MK1361                           STATION DESCRIPTION
 MK1361
 MK1361'DESCRIBED BY COAST AND GEODETIC SURVEY 1940
 MK1361'1 MI NE FROM CENTRAL CITY.
 MK1361'1.0 MILE NORTHEAST ALONG THE UNION PACIFIC RAILROAD FROM THE
 MK1361'STATION AT CENTRAL CITY, MERRICK COUNTY, 575 FEET NORTHEAST OF
 MK1361'MILEPOST 124, 41 FEET SOUTH OF THE SOUTHEAST CORNER OF BRIDGE
```

MK1361'123.90, 66 FEET SOUTHEAST OF THE CENTER LINE OF THE SOUTHEAST
MK1361'MAIN TRACK, 11.6 FEET NORTH OF THE CENTER LINE OF A DIRT ROAD,
MK1361'AT A CONCRETE BRIDGE OVER A SMALL CREEK, AND IN THE TOP OF THE
MK1361'NORTHWEST WING WALL. A STANDARD DISK, STAMPED D 212 1940.
MK1361
MK1361   STATION RECOVERY (2007)
MK1361
MK1361'RECOVERY NOTE BY GEOCACHING 2007 (MFM)
MK1361'RECOVERED IN GOOD CONDITION.

*** retrieval complete.
Elapsed Time = 00:00:05

The NGS Data Sheet

See file dsdata.pdf for more information about the datasheet.

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PROGRAM = datasheet95, VERSION = 8.12.5.2
1        National Geodetic Survey,   Retrieval Date = MARCH 31, 2019
 LH0381 ***********************************************************************
 LH0381  DESIGNATION -  D 288
 LH0381  PID         -  LH0381
 LH0381  STATE/COUNTY-  NE/KEARNEY
 LH0381  COUNTRY     -  US
 LH0381  USGS QUAD   -  HOLSTEIN (1969)
 LH0381
 LH0381                         *CURRENT SURVEY CONTROL
 LH0381  ______________________________________________________________________
 LH0381* NAD 83(1986) POSITION- 40 28 51.     (N) 098 43 27.     (W)   SCALED
 LH0381* NAVD 88 ORTHO HEIGHT -   620.665 (meters)     2036.30  (feet) ADJUSTED
 LH0381  ______________________________________________________________________
 LH0381  GEOID HEIGHT    -        -25.228 (meters)                     GEOID12B
 LH0381  DYNAMIC HEIGHT  -        620.302 (meters)     2035.11  (feet) COMP
 LH0381  MODELED GRAVITY -    980,020.8   (mgal)                       NAVD 88
 LH0381
 LH0381  VERT ORDER      -  SECOND    CLASS 0
 LH0381
 LH0381.The horizontal coordinates were scaled from a topographic map and have
 LH0381.an estimated accuracy of +/- 6 seconds.
 LH0381.
 LH0381.The orthometric height was determined by differential leveling and
 LH0381.adjusted by the NATIONAL GEODETIC SURVEY
 LH0381.in June 1991.
 LH0381
 LH0381.Significant digits in the geoid height do not necessarily reflect accuracy.
 LH0381.GEOID12B height accuracy estimate available here.
 LH0381
 LH0381.The dynamic height is computed by dividing the NAVD 88
 LH0381.geopotential number by the normal gravity value computed on the
 LH0381.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
 LH0381.degrees latitude (g = 980.6199 gals.).
 LH0381
 LH0381.The modeled gravity was interpolated from observed gravity values.
 LH0381
 LH0381;                    North         East     Units  Estimated Accuracy
 LH0381;SPC NE       -    72,690.      608,160.      MT  (+/- 180 meters Scaled)
 LH0381
 LH0381_U.S. NATIONAL GRID SPATIAL ADDRESS: 14TNK233811(NAD 83)
 LH0381
 LH0381                           SUPERSEDED SURVEY CONTROL
 LH0381
 LH0381  NGVD 29 (??/??/92)  620.416  (m)         2035.48   (f) ADJ UNCH    2 0
 LH0381
 LH0381.Superseded values are not recommended for survey control.
 LH0381
 LH0381.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
 LH0381.See file dsdata.pdf to determine how the superseded data were derived.
 LH0381
 LH0381_MARKER: DB = BENCH MARK DISK
 LH0381_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
 LH0381_STAMPING: D 288 1949
 LH0381_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
 LH0381+STABILITY: SURFACE MOTION
 LH0381
 LH0381  HISTORY     - Date     Condition        Report By
 LH0381  HISTORY     - 1949     MONUMENTED       CGS
 LH0381
 LH0381                           STATION DESCRIPTION
 LH0381
 LH0381'DESCRIBED BY COAST AND GEODETIC SURVEY 1949
 LH0381'3.9 MI NE FROM NORMAN.
 LH0381'0.25 MILE NORTH ALONG A GRAVELED STREET FROM THE ELEMENTARY
 LH0381'SCHOOL AT NORMAN, THENCE 3.65 MILES EAST ALONG STATE HIGHWAY 74,
 LH0381'79 FEET NORTH OF THE CENTER LINE OF THE HIGHWAY, 37.0 FEET
 LH0381'NORTH OF A FENCE CORNER POST, 1.0 FOOT EAST OF A FENCE, 1.7
 LH0381'FEET SOUTH OF A REFERENCE POST, AND SET IN THE TOP OF A 5.5-FOOT
 LH0381'CONCRETE POST PROJECTING 0.5 FOOT ABOVE THE GROUND.  NOTE-- THIS
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LH0381'MARK IS 0.65 MILE NORTH OF BENCH MARK C 288 1949 AND THERE
LH0381'IS NO ROAD BETWEEN THE MARKS.

*** retrieval complete.
Elapsed Time = 00:00:04
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The NGS Data Sheet

See file dsdata.pdf for more information about the datasheet.

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PROGRAM = datasheet95, VERSION = 8.12.5.2
1        National Geodetic Survey,   Retrieval Date = APRIL 11, 2019
 LG0656 ***********************************************************************
 LG0656  DESIGNATION -  E 15
 LG0656  PID         -  LG0656
 LG0656  STATE/COUNTY-  NE/CLAY
 LG0656  COUNTRY     -  US
 LG0656  USGS QUAD   -  SARONVILLE (1969)
 LG0656
 LG0656                          *CURRENT SURVEY CONTROL
 LG0656 ______________________________________________________________________
 LG0656* NAD 83(1995) POSITION- 40 36 19.61172(N) 097 58 38.55649(W)   ADJUSTED
 LG0656* NAVD 88 ORTHO HEIGHT -   537.542 (meters)     1763.59  (feet) ADJUSTED
 LG0656 ______________________________________________________________________
 LG0656  GEOID HEIGHT    -        -25.945 (meters)                     GEOID12B
 LG0656  LAPLACE CORR    -         -3.42  (seconds)                    DEFLEC12B
 LG0656  DYNAMIC HEIGHT  -        537.245 (meters)     1762.61  (feet) COMP
 LG0656  MODELED GRAVITY -    980,056.0   (mgal)                       NAVD 88
 LG0656
 LG0656  HORZ ORDER      -  SECOND
 LG0656  VERT ORDER      -  FIRST     CLASS II
 LG0656
 LG0656.The horizontal coordinates were established by classical geodetic methods
 LG0656.and adjusted by the National Geodetic Survey in August 1997.
 LG0656.
 LG0656.The orthometric height was determined by differential leveling and
 LG0656.adjusted by the NATIONAL GEODETIC SURVEY
 LG0656.in May 1993.
 LG0656
 LG0656.WARNING-Repeat measurements at this control monument indicate possible
 LG0656.vertical movement.
 LG0656
 LG0656.Significant digits in the geoid height do not necessarily reflect accuracy.
 LG0656.GEOID12B height accuracy estimate available here.
 LG0656
 LG0656.The Laplace correction was computed from DEFLEC12B derived deflections.
 LG0656
 LG0656.The dynamic height is computed by dividing the NAVD 88
 LG0656.geopotential number by the normal gravity value computed on the
 LG0656.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
 LG0656.degrees latitude (g = 980.6199 gals.).
 LG0656
 LG0656.The modeled gravity was interpolated from observed gravity values.
 LG0656
 LG0656. The following values were computed from the NAD 83(1995) position.
 LG0656
 LG0656;                     North         East     Units Scale Factor Converg.
 LG0656;SPC NE       -    87,729.272   671,131.402   MT  0.99978102   +1 20 25.4
 LG0656;SPC NE       -   287,825.12  2,201,870.27   sFT  0.99978102   +1 20 25.4
 LG0656;UTM  14      - 4,495,462.046   586,515.698   MT  0.99969213   +0 39 56.2
 LG0656
 LG0656!             -  Elev Factor  x  Scale Factor =   Combined Factor
 LG0656!SPC NE       -   0.99991975  x   0.99978102  =   0.99970079
 LG0656!UTM  14      -   0.99991975  x   0.99969213  =   0.99961191
 LG0656
 LG0656_U.S. NATIONAL GRID SPATIAL ADDRESS: 14TNK8651595462(NAD 83)
 LG0656
 LG0656                           SUPERSEDED SURVEY CONTROL
 LG0656
 LG0656  NAD 83(1986)-  40 36 19.61966(N)    097 58 38.55658(W) AD(       ) 2
 LG0656  NAD 27      -  40 36 19.57700(N)    097 58 37.38713(W) AD(       ) 2
 LG0656  NAVD 88 (06/15/91)  537.498  (m)         1763.44   (f) SUPERSEDED  1 2
 LG0656  NGVD 29 (??/??/92)  537.297  (m)         1762.78   (f) ADJ UNCH    1 2
 LG0656  NGVD 29             537.30   (m)         1762.8    (f) LEVELING    3
 LG0656
 LG0656.Superseded values are not recommended for survey control.
 LG0656
 LG0656.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
 LG0656.See file dsdata.pdf to determine how the superseded data were derived.
 LG0656
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LG0656_MARKER: DB = BENCH MARK DISK
LG0656_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
LG0656_STAMPING: E 15 1933 1762.765
LG0656_MARK LOGO: CGS
LG0656_MAGNETIC: N = NO MAGNETIC MATERIAL
LG0656_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
LG0656+STABILITY: SURFACE MOTION
LG0656_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
LG0656+SATELLITE: SATELLITE OBSERVATIONS - February 04, 2003
LG0656
LG0656  HISTORY     - Date     Condition        Report By
LG0656  HISTORY     - 1966     MONUMENTED       CGS
LG0656  HISTORY     - 1934     GOOD             CGS
LG0656  HISTORY     - 1966     GOOD             CGS
LG0656  HISTORY     - 19911008 GOOD             NGS
LG0656  HISTORY     - 20030204 GOOD             DUCKS
LG0656
LG0656                          STATION DESCRIPTION
LG0656
LG0656'DESCRIBED BY COAST AND GEODETIC SURVEY 1966 (COP)
LG0656'2.0 MILES WEST ALONG THE CHICAGO, BURLINGTON AND QUINCY RAILROAD FROM
LG0656'THE STATION AT SARONVILLE, CLAY COUNTY, 0.3 MILE WEST OF MILEPOST
LG0656'134, 332 FEET WEST OF A ROAD CROSSING, 97.5 FEET NORTH OF THE
LG0656'CENTERLINE OF THE TRACK, 56 FEET WEST OF A TRANSFORMER BOX, AND 2
LG0656'FEET SOUTH OF THE NORTH RIGHT-OF-WAY FENCE.  A STANDARD DISK,
LG0656'STAMPED 1762.765 E 15 1933 AND SET IN THE TOP OF A CONCRETE POST
LG0656'PROJECTING 3 INCHES ABOVE GROUND.
LG0656
LG0656                          STATION RECOVERY (1934)
LG0656
LG0656'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1934
LG0656'2 MI W FROM SHARONVILLE.
LG0656'2.0 MILES WEST ALONG THE CHICAGO, BURLINGTON AND QUINCY RAILROAD
LG0656'FROM THE STATION AT SARONVILLE, CLAY COUNTY, 0.3 MILE WEST OF
LG0656'MILEPOST 134, 332 FEET WEST OF A ROAD CROSSING, 97.5 FEET NORTH
LG0656'OF THE CENTERLINE OF THE TRACK, 56 FEET WEST OF A TRANSFORMER
LG0656'BOX, AND 2 FEET SOUTH OF THE NORTH RIGHT-OF-WAY FENCE.  A
LG0656'STANDARD DISK, STAMPED 1762.765 E 15 1933 AND SET IN THE TOP
LG0656'OF A CONCRETE POST PROJECTING 3 INCHES ABOVE GROUND.
LG0656
LG0656                          STATION RECOVERY (1966)
LG0656
LG0656'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1966
LG0656'RECOVERED IN GOOD CONDITION.
LG0656
LG0656                          STATION RECOVERY (1991)
LG0656
LG0656'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1991
LG0656'36.7 KM (22.80 MI) EASTERLY ALONG U.S. HIGHWAY 6 FROM THE JUNCTION
LG0656'OF U.S. HIGHWAY 281 IN HASTINGS, THENCE 0.3 KM (0.20 MI) NORTHERLY
LG0656'ALONG A PAVED ROAD, 99.0 M (324.8 FT) WEST OF THE ROAD CENTER, 29.0 M
LG0656'(95.1 FT) NORTH OF THE NEAR RAIL OF THE BURLINGTON NORTHERN RAILROAD,
LG0656'1.0 M (3.3 FT) BELOW THE LEVEL OF THE TRACK, 0.7 M (2.3 FT) SOUTH OF
LG0656'A FENCE, 0.3 M (1.0 FT) EAST OF A WITNESS POST, AND THE MONUMENT
LG0656'PROJECTS 0.05 M (0.16 FT) ABOVE THE GROUND SURFACE.
LG0656
LG0656                          STATION RECOVERY (2003)
LG0656
LG0656'RECOVERY NOTE BY DUCKS UNLIMITED 2003
LG0656'RECOVERED IN GOOD CONDITION.

*** retrieval complete.
Elapsed Time = 00:00:14
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The NGS Data Sheet

See file dsdata.pdf for more information about the datasheet.

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PROGRAM = datasheet95, VERSION = 8.12.5.2
1        National Geodetic Survey,   Retrieval Date = MARCH 31, 2019
 LH0279 ***********************************************************************
 LH0279  DESIGNATION -  E 252
 LH0279  PID         -  LH0279
 LH0279  STATE/COUNTY-  NE/ADAMS
 LH0279  COUNTRY     -  US
 LH0279  USGS QUAD   -  AYR (1969)
 LH0279
 LH0279                         *CURRENT SURVEY CONTROL
 LH0279  ______________________________________________________________________
 LH0279* NAD 83(1986) POSITION- 40 25 53.     (N) 098 26 24.     (W)   SCALED
 LH0279* NAVD 88 ORTHO HEIGHT -   561.587 (meters)     1842.47  (feet) ADJUSTED
 LH0279  ______________________________________________________________________
 LH0279  GEOID HEIGHT    -        -25.496 (meters)                    GEOID12B
 LH0279  DYNAMIC HEIGHT  -        561.271 (meters)     1841.44  (feet) COMP
 LH0279  MODELED GRAVITY -    980,044.6   (mgal)                      NAVD 88
 LH0279
 LH0279  VERT ORDER      -  FIRST     CLASS II
 LH0279
 LH0279.The horizontal coordinates were scaled from a topographic map and have
 LH0279.an estimated accuracy of +/- 6 seconds.
 LH0279.
 LH0279.The orthometric height was determined by differential leveling and
 LH0279.adjusted by the NATIONAL GEODETIC SURVEY
 LH0279.in June 1991.
 LH0279
 LH0279.Significant digits in the geoid height do not necessarily reflect accuracy.
 LH0279.GEOID12B height accuracy estimate available here.
 LH0279
 LH0279.The dynamic height is computed by dividing the NAVD 88
 LH0279.geopotential number by the normal gravity value computed on the
 LH0279.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
 LH0279.degrees latitude (g = 980.6199 gals.).
 LH0279
 LH0279.The modeled gravity was interpolated from observed gravity values.
 LH0279
 LH0279;                     North         East     Units  Estimated Accuracy
 LH0279;SPC NE       -    67,600.      632,340.      MT  (+/- 180 meters Scaled)
 LH0279
 LH0279_U.S. NATIONAL GRID SPATIAL ADDRESS: 14TNK474757(NAD 83)
 LH0279
 LH0279                           SUPERSEDED SURVEY CONTROL
 LH0279
 LH0279  NGVD 29 (??/??/92)  561.366  (m)         1841.75   (f) ADJ UNCH    1 2
 LH0279
 LH0279.Superseded values are not recommended for survey control.
 LH0279
 LH0279.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
 LH0279.See file dsdata.pdf to determine how the superseded data were derived.
 LH0279
 LH0279_MARKER: DB = BENCH MARK DISK
 LH0279_SETTING: 35 = SET IN A MAT FOUNDATION OR CONCRETE SLAB OTHER THAN
 LH0279+WITH SETTING: PAVEMENT
 LH0279_SP_SET: WATER TANK LEG BASE
 LH0279_STAMPING: E 252 1947
 LH0279_MARK LOGO: CGS
 LH0279_MAGNETIC: N = NO MAGNETIC MATERIAL
 LH0279_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
 LH0279+STABILITY: SURFACE MOTION
 LH0279_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
 LH0279+SATELLITE: SATELLITE OBSERVATIONS - July 15, 1998
 LH0279
 LH0279  HISTORY     - Date     Condition        Report By
 LH0279  HISTORY     - 1947     MONUMENTED       CGS
 LH0279  HISTORY     - 19980715 GOOD             NEDR
 LH0279
 LH0279                           STATION DESCRIPTION
 LH0279
 LH0279'DESCRIBED BY COAST AND GEODETIC SURVEY 1947
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LH0279'0.4 MI S FROM AYR.
LH0279'0.4 MILE SOUTH ALONG THE CHICAGO, BURLINGTON AND QUINCY RAILROAD
LH0279'FROM THE STATION AT AYR, IN THE TOP OF THE NORTH CORNER OF THE
LH0279'NORTHEAST CONCRETE BASE OF THE WATER TOWER, ABOUT 250.0 FEET
LH0279'NORTH OF A BRICK AND CONCRETE PUMPING STATION, 60.0 FEET EAST OF
LH0279'THE EAST SIDE OF THE RESERVOIR AND 1.0 FOOT ABOVE THE GROUND.
LH0279
LH0279 STATION RECOVERY (1998)
LH0279
LH0279'RECOVERY NOTE BY NEBRASKA ROADS DEPARTMENT 1998 (TWR)
LH0279'RECOVERED IN GOOD CONDITION, IN AYR, 0.38 MI (0.61 KM) SOUTH ALONG 3RD
LH0279'STREET FROM ITS JUNCTION WITH LINCOLN AVENUE, ON THE WEST SIDE OF THE
LH0279'STREET AND SET INTO A DRILLED HOLE IN A CONCRETE BASE THAT HAD BEEN
LH0279'FOR THE LEG OF A WATER TANK THAT IS NO LONGER THERE. IT IS 58.0 M
LH0279'(190.3 FT) SOUTH OF A DRIVEWAY LEADING WEST, 18.77 M (61.58 FT)
LH0279'NORTHEAST OF THE TOP, CENTER, OF AN IRRIGATION PUMP, 7.0 M (23.0 FT)
LH0279'WEST FROM THE CENTERLINE OF A CURVE IN 3RD STREET AND 0.43 M (1.41 FT)
LH0279'NORTH OF A WITNESS POST, IN SEC4, T5N, R10W.

*** retrieval complete.
Elapsed Time = 00:00:04

The NGS Data Sheet

See file dsdata.pdf for more information about the datasheet.

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PROGRAM = datasheet95, VERSION = 8.12.5.2
1        National Geodetic Survey,   Retrieval Date = MARCH 29, 2019
 LG0257 ***********************************************************************
 LG0257  DESIGNATION -  ELLIS
 LG0257  PID         -  LG0257
 LG0257  STATE/COUNTY-  NE/GAGE
 LG0257  COUNTRY     -  US
 LG0257  USGS QUAD   -  HARBINE (1970)
 LG0257
 LG0257                         *CURRENT SURVEY CONTROL
 LG0257 ______________________________________________________________________
 LG0257* NAD 83(1995) POSITION- 40 13 09.09335(N) 096 52 33.71211(W)   ADJUSTED
 LG0257* NAVD 88 ORTHO HEIGHT -   436.800 (meters)     1433.07  (feet) ADJUSTED
 LG0257 ______________________________________________________________________
 LG0257  GEOID HEIGHT    -        -27.083 (meters)                     GEOID12B
 LG0257  LAPLACE CORR    -         -1.04  (seconds)                    DEFLEC12B
 LG0257  DYNAMIC HEIGHT  -        436.561 (meters)     1432.28  (feet) COMP
 LG0257  MODELED GRAVITY -    980,064.7   (mgal)                       NAVD 88
 LG0257
 LG0257  HORZ ORDER      -  SECOND
 LG0257  VERT ORDER      -  SECOND    CLASS 0
 LG0257
 LG0257.The horizontal coordinates were established by classical geodetic methods
 LG0257.and adjusted by the National Geodetic Survey in August 1997.
 LG0257.
 LG0257.The orthometric height was determined by differential leveling and
 LG0257.adjusted by the NATIONAL GEODETIC SURVEY
 LG0257.in June 1991.
 LG0257
 LG0257.Significant digits in the geoid height do not necessarily reflect accuracy.
 LG0257.GEOID12B height accuracy estimate available here.
 LG0257
 LG0257.The Laplace correction was computed from DEFLEC12B derived deflections.
 LG0257
 LG0257.The dynamic height is computed by dividing the NAVD 88
 LG0257.geopotential number by the normal gravity value computed on the
 LG0257.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
 LG0257.degrees latitude (g = 980.6199 gals.).
 LG0257
 LG0257.The modeled gravity was interpolated from observed gravity values.
 LG0257
 LG0257. The following values were computed from the NAD 83(1995) position.
 LG0257
 LG0257;                    North         East     Units Scale Factor Converg.
 LG0257;SPC NE       -    47,646.606   765,830.529   MT  0.99990810   +2 04 12.9
 LG0257;SPC NE       -   156,320.57  2,512,562.33   sFT  0.99990810   +2 04 12.9
 LG0257;UTM  14      - 4,454,249.468   680,727.275   MT  1.00000209   +1 22 18.6
 LG0257
 LG0257!             -  Elev Factor  x  Scale Factor =   Combined Factor
 LG0257!SPC NE       -   0.99993573  x   0.99990810  =   0.99984384
 LG0257!UTM  14      -   0.99993573  x   1.00000209  =   0.99993782
 LG0257
 LG0257:                Primary Azimuth Mark                    Grid Az
 LG0257:SPC NE       -  X 365                                    087 52 14.0
 LG0257:UTM  14      -  X 365                                    088 34 08.3
 LG0257
 LG0257_U.S. NATIONAL GRID SPATIAL ADDRESS: 14TPK8072754249(NAD 83)
 LG0257
 LG0257|----------------------------------------------------------------------|
 LG0257| PID    Reference Object                    Distance      Geod. Az   |
 LG0257|                                                           dddmmss.s  |
 LG0257| CL6462 ELLIS AZ MK                                        0880447.3  |
 LG0257| LG0259 W 169                               28.094 METERS  08935      |
 LG0257| LG0260 X 365                                              0895626.9  |
 LG0257| LG0258 ELLIS RM 1                          22.695 METERS  09024      |
 LG0257| LG0256 ELLIS RM 2                          22.434 METERS  17713      |
 LG0257|----------------------------------------------------------------------|
 LG0257
 LG0257                          SUPERSEDED SURVEY CONTROL
 LG0257
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LG0257  NAD 83(1986)-  40 13 09.10047(N)    096 52 33.70983(W) AD(       ) 2
LG0257  NAD 27      -  40 13 09.09700(N)    096 52 32.61900(W) AD(       ) 2
LG0257  NGVD 29 (??/??/92)  436.661  (m)         1432.61   (f) ADJ UNCH    2 0
LG0257  NGVD 29             436.66   (m)         1432.6    (f) LEVELING    3
LG0257
LG0257.Superseded values are not recommended for survey control.
LG0257
LG0257.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
LG0257.See file dsdata.pdf to determine how the superseded data were derived.
LG0257
LG0257_MARKER: DS = TRIANGULATION STATION DISK
LG0257_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
LG0257_STAMPING: ELLIS 1947
LG0257_MARK LOGO: CGS
LG0257_MAGNETIC: N = NO MAGNETIC MATERIAL
LG0257_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
LG0257+STABILITY: SURFACE MOTION
LG0257_SATELLITE: THE SITE LOCATION WAS REPORTED AS NOT SUITABLE FOR
LG0257+SATELLITE: SATELLITE OBSERVATIONS - January 11, 2017
LG0257
LG0257  HISTORY     - Date     Condition        Report By
LG0257  HISTORY     - 1947     MONUMENTED       CGS
LG0257  HISTORY     - 1961     GOOD             CGS
LG0257  HISTORY     - 1961     GOOD             CGS
LG0257  HISTORY     - 1968     GOOD             CGS
LG0257  HISTORY     - 19881004 GOOD             NGS
LG0257  HISTORY     - 20070117 GOOD             NEDR
LG0257  HISTORY     - 20170111 GOOD             NEGS
LG0257
LG0257                          STATION DESCRIPTION
LG0257
LG0257'DESCRIBED BY COAST AND GEODETIC SURVEY 1947 (RLE)
LG0257'THE STATION IS LOCATED IN THE NORTHEAST EDGE OF THE VILLAGE
LG0257'OF ELLIS, ON THE RIGHT-OF-WAY OF THE ROCK ISLAND RAILROAD
LG0257'BETWEEN STATE HIGHWAY NO 3 AND RAILROAD TRACKS.  IT IS 180 FEET
LG0257'NORTHEAST OF THE NORTHEAST CORNER OF THE RAILROAD STATION, 135
LG0257'FEET EAST OF THE CENTER OF NORTH-SOUTH ROAD, 60 FEET SOUTH OF THE
LG0257'CENTER OF STATE ROUTE NO 3 AND 48 FEET NORTH OF THE NORTH RAIL
LG0257'OF THE TRACKS.  IT IS STAMPED ELLIS 1947 AND PROJECTS 2 INCHES.
LG0257'
LG0257'REFERENCE MARK NO 1 IS EAST OF THE STATION, 48 FEET NORTH OF THE
LG0257'NORTH RAIL OF THE TRACKS AND 60 FEET SOUTH OF THE CENTER OF STATE
LG0257'ROUTE NO 3.  IT IS STAMPED ELLIS NO 1 1947 AND PROJECTS 2 INCHES.
LG0257'
LG0257'REFERENCE MARK NO 2 IS SOUTH OF THE STATION, SET BETWEEN THE
LG0257'TWO SETS OF TRACKS, 38 FEET NORTHEAST OF THE NORTHEAST CORNER
LG0257'OF GRAIN ELEVATOR.  IT IS STAMPED ELLIS NO 2 1947 AND SET
LG0257'FLUSH WITH THE GROUND SURFACE.
LG0257'
LG0257'THE AZIMUTH MARK IS ABOUT 0.45 MILE EAST OF THE STATION, 40 FEET
LG0257'NORTH OF THE CENTER OF STATE ROUTE NO 3, 2 FEET WEST OF WHITE
LG0257'WITNESS POST AND 1 FOOT SOUTH OF EAST-WEST FENCE LINE.  IT IS
LG0257'STAMPED ELLIS 1947 AND PROJECTS 6 INCHES.  TO REACH FROM THE
LG0257'STATION, GO EAST ON STATE ROUTE NO 3 FOR 0.45 MILE TO THE MARK
LG0257'ON THE LEFT AS DESCRIBED.
LG0257'
LG0257'TO REACH THE STATION FROM THE RAILROAD STATION IN ELLIS AS
LG0257'DESCRIBED.
LG0257'
LG0257'A 74 FOOT SIGNAL AT STATION JANSEN EAST BASE IS VISIBLE AT
LG0257'37 FEET.
LG0257'
LG0257'A 74 FOOT SIGNAL AT STATION PLYMOUTH IS VISIBLE FROM THE GROUND.
LG0257'
LG0257'A 74 FOOT SIGNAL AT STATION SICILY IS VISIBLE AT 37 FEET.
LG0257'
LG0257'HEIGHT OF LIGHT ABOVE STATION MARK 22 METERS.
LG0257
LG0257                          STATION RECOVERY (1961)
LG0257
LG0257'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1961 (GWM)
LG0257'THIS STATION AND REFERENCE MARKS WERE RECOVERED AS DESCRIBED IN THE
LG0257'1947 DESCRIPTION.  THE AZIMUTH MARK WAS NOT RECOVERED.
LG0257
LG0257                          STATION RECOVERY (1961)
LG0257
LG0257'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1961
LG0257'AT ELLIS.
LG0257'108 FEET NORTH OF THE NORTH EAST CORNER OF A GRAIN ELEVATOR,
LG0257'132 FEET EAST OF THE CENTER OF A GRAVEL STREET, 52 FEET SOUTH
LG0257'OF THE CENTER OF STATE HIGHWAY 3, 46 FEET NORTH OF THE NORTH
```

LG0257'RAIL OF THE MAIN TRACK, 72 FEET NORTH OF ELLIS REFERENCE MARK
LG0257'NO. 2, 75 FEET WEST OF ELLIS REFERENCE MARK NO. 1, 3.5 FEET EAST
LG0257'OF A METAL WITNESS POST WITH SIGN, 1 FOOT LOWER THAN THE RAILROAD,
LG0257'LEVEL WITH THE HIGHWAY, SET IN TOP OF A SQUARE CONCRETE POST
LG0257'THAT PROJECTS 1 INCH.
LG0257
LG0257 STATION RECOVERY (1968)
LG0257
LG0257'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1968 (LFS)
LG0257'STATION MARK, REFERENCE MARKS NO. 1 AND 2 AND BM 169 1947 WERE
LG0257'RECOVERED AND FOUND IN GOOD CONDITION. THE AZIMUTH MARK WAS IN
LG0257'THE WAY OF ROAD CONSTRUCTION ALONG U.S. HIGHWAY NO. 136 AND HAD
LG0257'TO BE MOVED. THE OLD RAILROAD STATION HAS BEEN REMOVED AND THE
LG0257'HIGHWAY NUMBER IS NOW U.S. 136.
LG0257'
LG0257'A NEW DESCRIPTION FOLLOWS-
LG0257'
LG0257'STATION IS LOCATED IN THE NORTHEAST EDGE OF THE VILLAGE OF ELLIS
LG0257'AND ALONG THE RIGHT OF WAY OF THE ROCK ISLAND RAILROAD BETWEEN
LG0257'U.S. HIGHWAY NO. 136 AND THE NORTH RAIL OF THE RAILROAD TRACKS.
LG0257'IT IS A STANDARD DISK SET IN THE TOP OF A SQUARE CONCRETE POST
LG0257'WHICH IS FLUSH WITH THE GROUND AND THE DISK IS STAMPED ELLIS
LG0257'1947. IT IS 109 FEET NORTH-NORTHEAST OF THE NORTHEAST CORNER OF A
LG0257'GRAIN ELEVATOR, 130 FEET EAST OF THE CENTERLINE OF GRAVELED
LG0257'ROAD, 60 FEET SOUTH OF THE CENTERLINE OF U.S. HIGHWAY NO.
LG0257'136, 48 FEET NORTH OF THE NORTH RAIL OF RAILROAD TRACKS AND 4
LG0257'FEET EAST-SOUTHEAST OF A STEEL WITNESS POST.
LG0257'
LG0257'REFERENCE MARK NO. 1, A STANDARD DISK STAMPED ELLIS NO 1 1947
LG0257'IS SET IN A SQUARE CONCRETE POST WHICH PROJECTS ABOUT 1 INCH.
LG0257'IT IS 47.5 FEET NORTH OF THE NORTH RAIL OF RAILROAD TRACKS AND 60
LG0257'FEET SOUTH OF THE CENTERLINE OF U.S. HIGHWAY NO. 136.
LG0257'
LG0257'REFERENCE MARK NO. 2, A STANDARD DISK SET IN THE TOP OF A
LG0257'SQUARE CONCRETE POST AND STAMPED ELLIS NO 2 1947 IS 131 FEET
LG0257'EAST OF A GRAVELED ROAD, 35 FEET NORTH-NORTHEAST OF THE NORTHEAST
LG0257'CORNER OF THE GRAIN ELEVATOR AND 20.5 FEET SOUTH OF THE SOUTH RAIL
LG0257'OF THE MAIN TRACKS. THE MARK IS FLUSH WITH THE GROUND.
LG0257'
LG0257'BENCH MARK W 169 1934, A STANDARD DISK SET IN THE TOP OF A ROUND
LG0257'CONCRETE POST AND STAMPED W 169 1934 IS 48.5 FEET NORTH OF THE
LG0257'NORTH RAIL OF RAILROAD TRACKS, 59 FEET SOUTH OF THE CENTERLINE OF
LG0257'U.S. HIGHWAY NO. 136 AND 2.5 FEET WEST-SOUTHWEST OF A STEEL
LG0257'WITNESS POST. THE MARK PROJECTS 6 INCHES.
LG0257'
LG0257'BENCH MARK X 365 1961, A STANDARD DISK SET IN THE TOP OF A
LG0257'SQUARE CONCRETE POST AND STAMPED X 365 1961 IS 0.05 MILE EAST OF
LG0257'CROSSROADS, 72 FEET SOUTH OF THE CENTERLINE OF U.S. HIGHWAY NO.
LG0257'136, 35.5 FEET NORTH OF THE NORTH RAIL OF RAILROAD TRACKS AND 3
LG0257'FEET WEST OF WITNESS POST.
LG0257'
LG0257'TO REACH BM X 365 1961 FROM STATION, GO EAST 0.9 MILE.
LG0257'
LG0257'AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN- AT THE
LG0257'NORTHEAST EDGE OF ELLIS.
LG0257
LG0257 STATION RECOVERY (1988)
LG0257
LG0257'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1988 (JAO)
LG0257'IT IS AT ELLIS, ADJACENT TO A PRIVATELY OWNED GRAIN ELEVATOR, 15.8 M
LG0257'(51.8 FT) SOUTH FROM THE CENTERLINE OF U.S. HIGHWAY 136, 40 M (131.2
LG0257'FT) EAST FROM A GRADED STREET, 28.04 M (91.99 FT) WEST FROM BENCH MARK
LG0257'W 169, 1.07 M (3.51 FT) EAST FROM A WITNESS POST AND PROJECTS 2 CM
LG0257'ABOVE THE GROUND.
LG0257
LG0257 STATION RECOVERY (2007)
LG0257
LG0257'RECOVERY NOTE BY NEBRASKA ROADS DEPARTMENT 2007 (JPC)
LG0257'RECOVERY NOTE BY THE NEBRASKA DEPARTMENT OF ROADS 2007 (JPC)
LG0257'FOUND AS DESCRIBED BY NGS (1988), DROVE A 3 FT. REBAR FLUSH WITH THE
LG0257'GROUND ON THE NORTH SIDE OF THE STATION. THE STATION MAY NOT BE
LG0257'SUITABLE FOR SATELLITE OBSERVATION DUE TO A NEW GRAIN BIN LOCATED
LG0257'SOUTH OF THE STATION.
LG0257
LG0257 STATION RECOVERY (2017)
LG0257
LG0257'RECOVERY NOTE BY NEBRASKA GEODETIC SURVEY 2017 (RS)
LG0257'MARK FOUND, COULD NOT RECONCILE THE MONUMENTS ELEVATION

*** retrieval complete.
Elapsed Time = 00:00:04

The NGS Data Sheet

See file dsdata.pdf for more information about the datasheet.

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PROGRAM = datasheet95, VERSION = 8.12.5.2
1        National Geodetic Survey,   Retrieval Date = MARCH 28, 2019
 LH0760 ***********************************************************************
 LH0760  DESIGNATION -  F 166
 LH0760  PID         -  LH0760
 LH0760  STATE/COUNTY-  NE/HARLAN
 LH0760  COUNTRY     -  US
 LH0760  USGS QUAD   -  MASCOT (1958)
 LH0760
 LH0760                         *CURRENT SURVEY CONTROL
 LH0760  ______________________________________________________________________
 LH0760* NAD 83(1986) POSITION- 40 18 19.     (N) 099 32 12.     (W)    SCALED
 LH0760* NAVD 88 ORTHO HEIGHT -   670.699 (meters)     2200.45  (feet) ADJUSTED
 LH0760  ______________________________________________________________________
 LH0760  GEOID HEIGHT    -        -24.793 (meters)                     GEOID12B
 LH0760  DYNAMIC HEIGHT  -        670.288 (meters)     2199.10  (feet) COMP
 LH0760  MODELED GRAVITY -    979,991.1   (mgal)                       NAVD 88
 LH0760
 LH0760  VERT ORDER      -  SECOND    CLASS 0
 LH0760
 LH0760.The horizontal coordinates were scaled from a topographic map and have
 LH0760.an estimated accuracy of +/- 6 seconds.
 LH0760.
 LH0760.The orthometric height was determined by differential leveling and
 LH0760.adjusted by the NATIONAL GEODETIC SURVEY
 LH0760.in June 1991.
 LH0760
 LH0760.Significant digits in the geoid height do not necessarily reflect accuracy.
 LH0760.GEOID12B height accuracy estimate available here.
 LH0760
 LH0760.The dynamic height is computed by dividing the NAVD 88
 LH0760.geopotential number by the normal gravity value computed on the
 LH0760.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
 LH0760.degrees latitude (g = 980.6199 gals.).
 LH0760
 LH0760.The modeled gravity was interpolated from observed gravity values.
 LH0760
 LH0760;                     North         East     Units  Estimated Accuracy
 LH0760;SPC NE       -    52,510.      539,380.      MT  (+/- 180 meters Scaled)
 LH0760
 LH0760_U.S. NATIONAL GRID SPATIAL ADDRESS: 14TMK543617(NAD 83)
 LH0760
 LH0760                          SUPERSEDED SURVEY CONTROL
 LH0760
 LH0760  NGVD 29 (??/??/92)  670.436  (m)         2199.59   (f) ADJ UNCH    2 0
 LH0760
 LH0760.Superseded values are not recommended for survey control.
 LH0760
 LH0760.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
 LH0760.See file dsdata.pdf to determine how the superseded data were derived.
 LH0760
 LH0760_MARKER: DB = BENCH MARK DISK
 LH0760_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
 LH0760_STAMPING: F 166 1934
 LH0760_MARK LOGO: CGS
 LH0760_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
 LH0760+STABILITY: SURFACE MOTION
 LH0760_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
 LH0760+SATELLITE: SATELLITE OBSERVATIONS - March 30, 2018
 LH0760
 LH0760  HISTORY     - Date     Condition        Report By
 LH0760  HISTORY     - 1934     MONUMENTED       CGS
 LH0760  HISTORY     - 20180330 GOOD             NEDR
 LH0760
 LH0760                          STATION DESCRIPTION
 LH0760
 LH0760'DESCRIBED BY COAST AND GEODETIC SURVEY 1934
 LH0760'2.7 MI NE FROM MASCOT.
 LH0760'2.7 MILES NORTHEAST ALONG THE CHICAGO, BURLINGTON AND QUINCY
 LH0760'RAILROAD FROM THE STATION AT MASCOT, HARLAN COUNTY, 600 FEET
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LH0760'SOUTH OF MILEPOST 224, 111 FEET NORTHWEST OF BLOCK SIGNAL 2241,
LH0760'AT A ROAD CROSSING, 90 FET WEST OF THE CENTER LINE OF THE TRACK,
LH0760'20 FEET NORTH OF THE CENTER LINE OF THE EAST-AND-WEST ROAD,
LH0760'AND 3 FEET SOUTH OF A FENCE. A STANDARD DISK, STAMPED F 166
LH0760'1934 AND SET IN THE TOP OF A CONCRETE POST.
LH0760
LH0760   STATION RECOVERY (2018)
LH0760
LH0760'RECOVERY NOTE BY NEBRASKA ROADS DEPARTMENT 2018 (CC)
LH0760'TO REACH FROM US 6 AND 34 / HIGHWAY 4 JUNCTION SOUTH OF ATLANTA
LH0760'NEBRASKA, PROCEED EAST ON HIGHWAY 4 APPROXIMATELY 0.53 MI (0.85 KM) TO
LH0760'THE CENTERLINE OF BURLINGTON NORTH RAILROAD TRACKS. PROCEED SOUTH
LH0760'APPROXIMATELY 572 FT (174.3 M) ALONG RAILROAD TRACKS TO THE STATION ON
LH0760'THE RIGHT, WEST OF THE TRACKS.

*** retrieval complete.
Elapsed Time = 00:00:08

The NGS Data Sheet

See file dsdata.pdf for more information about the datasheet.

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PROGRAM = datasheet95, VERSION = 8.12.5.2
1        National Geodetic Survey,   Retrieval Date = MARCH 31, 2019
 LH1467 ***********************************************************************
 LH1467  DESIGNATION -  F 436
 LH1467  PID         -  LH1467
 LH1467  STATE/COUNTY-  NE/HALL
 LH1467  COUNTRY     -  US
 LH1467  USGS QUAD   -  HASTINGS NW (1974)
 LH1467
 LH1467                         *CURRENT SURVEY CONTROL
 LH1467  ______________________________________________________________________
 LH1467* NAD 83(1986) POSITION- 40 42 45.     (N) 098 22 42.     (W)   SCALED
 LH1467* NAVD 88 ORTHO HEIGHT -   593.849 (meters)     1948.32  (feet) ADJUSTED
 LH1467  ______________________________________________________________________
 LH1467  GEOID HEIGHT    -        -25.152 (meters)                    GEOID12B
 LH1467  DYNAMIC HEIGHT  -        593.525 (meters)     1947.26  (feet) COMP
 LH1467  MODELED GRAVITY -    980,060.0   (mgal)                       NAVD 88
 LH1467
 LH1467  VERT ORDER      -  FIRST     CLASS II
 LH1467
 LH1467.The horizontal coordinates were scaled from a topographic map and have
 LH1467.an estimated accuracy of +/- 6 seconds.
 LH1467.
 LH1467.The orthometric height was determined by differential leveling and
 LH1467.adjusted by the NATIONAL GEODETIC SURVEY
 LH1467.in May 1993.
 LH1467
 LH1467.Significant digits in the geoid height do not necessarily reflect accuracy.
 LH1467.GEOID12B height accuracy estimate available here.
 LH1467
 LH1467.The dynamic height is computed by dividing the NAVD 88
 LH1467.geopotential number by the normal gravity value computed on the
 LH1467.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
 LH1467.degrees latitude (g = 980.6199 gals.).
 LH1467
 LH1467.The modeled gravity was interpolated from observed gravity values.
 LH1467
 LH1467;                    North         East     Units  Estimated Accuracy
 LH1467;SPC NE       -    98,900.      636,990.      MT  (+/- 180 meters Scaled)
 LH1467
 LH1467_U.S. NATIONAL GRID SPATIAL ADDRESS: 14TNL525070(NAD 83)
 LH1467
 LH1467                           SUPERSEDED SURVEY CONTROL
 LH1467
 LH1467  NGVD 29 (02/14/92)  593.606  (m)         1947.52   (f) ADJUSTED    1 2
 LH1467
 LH1467.Superseded values are not recommended for survey control.
 LH1467
 LH1467.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
 LH1467.See file dsdata.pdf to determine how the superseded data were derived.
 LH1467
 LH1467_MARKER: I = METAL ROD
 LH1467_SETTING: 49 = STAINLESS STEEL ROD W/O SLEEVE (10 FT.+)
 LH1467_STAMPING: F 436 1991
 LH1467_MARK LOGO: NGS
 LH1467_PROJECTION: PROJECTING 1 CENTIMETERS
 LH1467_MAGNETIC: I = MARKER IS A STEEL ROD
 LH1467_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL
 LH1467_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
 LH1467+SATELLITE: SATELLITE OBSERVATIONS - 1991
 LH1467_ROD/PIPE-DEPTH: 11.1 meters
 LH1467
 LH1467  HISTORY     - Date     Condition        Report By
 LH1467  HISTORY     - 1991     MONUMENTED       NGS
 LH1467
 LH1467                           STATION DESCRIPTION
 LH1467
 LH1467'DESCRIBED BY NATIONAL GEODETIC SURVEY 1991
 LH1467'12.3 KM (7.65 MI) NORTHERLY ALONG U.S. HIGHWAY 281 FROM THE JUNCTION
 LH1467'OF THE UNION PACIFIC RAILROAD IN HASTINGS, 19.9 M (65.3 FT) WEST OF
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LH1467'THE CENTERLINE OF THE SOUTHBOUND LANES OF THE HIGHWAY, 13.0 M (42.7
LH1467'FT) SOUTH OF THE CENTERLINE OF A GRAVELED ROAD LEADING TO ROSEDALE,
LH1467'0.7 M (2.3 FT) NORTHEAST OF A WITNESS POST AND FENCE, 0.4 M (1.3 FT)
LH1467'NORTHWEST OF A RIGHT-OF-WAY MARKER, AND 0.4 M (1.3 FT) ABOVE THE
LH1467'LEVEL OF THE HIGHWAY. NOTE--ACCESS TO THE DATUM IS THROUGH A 5-INCH
LH1467'LOGO CAP.

*** retrieval complete.
Elapsed Time = 00:00:04

The NGS Data Sheet

See file dsdata.pdf for more information about the datasheet.

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PROGRAM = datasheet95, VERSION = 8.12.5.2
1        National Geodetic Survey,   Retrieval Date = APRIL 11, 2019
 AI2716 ***********************************************************************
 AI2716  DESIGNATION -  FBYN A
 AI2716  PID         -  AI2716
 AI2716  STATE/COUNTY-  NE/JEFFERSON
 AI2716  COUNTRY     -  US
 AI2716  USGS QUAD   -  REYNOLDS (1980)
 AI2716
 AI2716                         *CURRENT SURVEY CONTROL
 AI2716  ______________________________________________________________________
 AI2716* NAD 83(2011) POSITION- 40 04 56.44863(N) 097 18 45.37027(W)   ADJUSTED
 AI2716* NAD 83(2011) ELLIP HT-   396.242 (meters)        (06/27/12)   ADJUSTED
 AI2716* NAD 83(2011) EPOCH    -  2010.00
 AI2716* NAVD 88 ORTHO HEIGHT -   423.206 (meters)     1388.47  (feet) ADJUSTED
 AI2716  ______________________________________________________________________
 AI2716  GEOID HEIGHT    -        -26.967 (meters)                     GEOID12B
 AI2716  NAD 83(2011) X  -   -622,047.316 (meters)                     COMP
 AI2716  NAD 83(2011) Y  - -4,847,378.857 (meters)                     COMP
 AI2716  NAD 83(2011) Z  -  4,085,240.745 (meters)                     COMP
 AI2716  LAPLACE CORR    -         -2.50  (seconds)                    DEFLEC12B
 AI2716  DYNAMIC HEIGHT  -       422.960 (meters)     1387.66  (feet) COMP
 AI2716  MODELED GRAVITY -    980,031.6   (mgal)                       NAVD 88
 AI2716
 AI2716  VERT ORDER      -  SECOND    CLASS I
 AI2716
 AI2716  Network accuracy estimates per FGDC Geospatial Positioning Accuracy
 AI2716  Standards:
 AI2716         FGDC (95% conf, cm)     Standard deviation (cm)     CorrNE
 AI2716            Horiz  Ellip          SD_N   SD_E   SD_h      (unitless)
 AI2716  ------------------------------------------------------------------
 AI2716  NETWORK    0.21   0.33           0.10   0.06   0.17      0.00810671
 AI2716  ------------------------------------------------------------------
 AI2716  Click here for local accuracies and other accuracy information.
 AI2716
 AI2716
 AI2716.This is a reference station for the FAIRBURY
 AI2716.National Continuously Operating Reference Station (FBYN).
 AI2716
 AI2716.The horizontal coordinates were established by GPS observations
 AI2716.and adjusted by the National Geodetic Survey in June 2012.
 AI2716
 AI2716.NAD 83(2011) refers to NAD 83 coordinates where the reference frame has
 AI2716.been affixed to the stable North American tectonic plate. See
 AI2716.NA2011 for more information.
 AI2716
 AI2716.The horizontal coordinates are valid at the epoch date displayed above
 AI2716.which is a decimal equivalence of Year/Month/Day.
 AI2716
 AI2716.The orthometric height was determined by differential leveling and
 AI2716.adjusted by the NATIONAL GEODETIC SURVEY
 AI2716.in July 2002.
 AI2716
 AI2716.No vertical observational check was made to the station.
 AI2716
 AI2716.Significant digits in the geoid height do not necessarily reflect accuracy.
 AI2716.GEOID12B height accuracy estimate available here.
 AI2716
 AI2716.The X, Y, and Z were computed from the position and the ellipsoidal ht.
 AI2716
 AI2716.The Laplace correction was computed from DEFLEC12B derived deflections.
 AI2716
 AI2716.The ellipsoidal height was determined by GPS observations
 AI2716.and is referenced to NAD 83.
 AI2716
 AI2716.The dynamic height is computed by dividing the NAVD 88
 AI2716.geopotential number by the normal gravity value computed on the
 AI2716.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
 AI2716.degrees latitude (g = 980.6199 gals.).
 AI2716
```

```
AI2716.The modeled gravity was interpolated from observed gravity values.
AI2716
AI2716. The following values were computed from the NAD 83(2011) position.
AI2716
AI2716;                     North         East     Units Scale Factor Converg.
AI2716;SPC NE       -    31,211.359   729,166.101   MT  0.99996380   +1 46 51.3
AI2716;SPC NE       -   102,399.27  2,392,272.45   sFT  0.99996380   +1 46 51.3
AI2716;UTM  14      - 4,438,261.254   643,866.143   MT  0.99985480   +1 05 12.1
AI2716
AI2716!             -  Elev Factor  x  Scale Factor =   Combined Factor
AI2716!SPC NE       -   0.99993784  x   0.99996380  =   0.99990164
AI2716!UTM  14      -   0.99993784  x   0.99985480  =   0.99979265
AI2716
AI2716:                Primary Azimuth Mark                     Grid Az
AI2716:SPC NE       -  FAIRBURY CORS ARP                      179 53 28.3
AI2716:UTM  14      -  FAIRBURY CORS ARP                      180 35 07.5
AI2716
AI2716_U.S. NATIONAL GRID SPATIAL ADDRESS: 14TPK4386638261(NAD 83)
AI2716
AI2716|----------------------------------------------------------------------|
AI2716| PID    Reference Object                    Distance      Geod. Az   |
AI2716|                                                           dddmmss.s |
AI2716| AH9960 FAIRBURY CORS ARP                APPROX. 0.6 KM 1814019.6 |
AI2716|----------------------------------------------------------------------|
AI2716
AI2716                          SUPERSEDED SURVEY CONTROL
AI2716
AI2716  NAD 83(2007)-  40 04 56.44848(N)    097 18 45.37095(W) AD(2002.00) 0
AI2716  ELLIP H (02/10/07)  396.267  (m)                       GP(2002.00)
AI2716  ELLIP H (09/24/01)  396.244  (m)                       GP(        ) 4 2
AI2716  NAD 83(1995)-  40 04 56.44842(N)    097 18 45.37105(W) AD(        ) B
AI2716  ELLIP H (06/14/00)  396.238  (m)                       GP(        ) 4 1
AI2716  NAVD 88             423.21   (m)         1388.5    (f) LEVELING    3
AI2716
AI2716.Superseded values are not recommended for survey control.
AI2716
AI2716.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
AI2716.See file dsdata.pdf to determine how the superseded data were derived.
AI2716
AI2716_MARKER: F = FLANGE-ENCASED ROD
AI2716_SETTING: 59 = STAINLESS STEEL ROD IN SLEEVE (10 FT.+)
AI2716_STAMPING: FBYN A 1999
AI2716_MARK LOGO: NGS
AI2716_PROJECTION: FLUSH
AI2716_MAGNETIC: I = MARKER IS A STEEL ROD
AI2716_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL
AI2716_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
AI2716+SATELLITE: SATELLITE OBSERVATIONS - 1999
AI2716_ROD/PIPE-DEPTH: 16.2 meters
AI2716_SLEEVE-DEPTH  : 0.9 meters
AI2716
AI2716  HISTORY     - Date     Condition        Report By
AI2716  HISTORY     - 1999     MONUMENTED       NGS
AI2716
AI2716                           STATION DESCRIPTION
AI2716
AI2716'DESCRIBED BY NATIONAL GEODETIC SURVEY 1999 (GAS)
AI2716'2.0 KM (1.25 MI) EASTERLY ALONG STATE HIGHWAY 8 FROM THE POST OFFICE
AI2716'IN REYNOLDS, THENCE 2.5 KM (1.55 MI) NORTHERLY ALONG 561 AVENUE, 12.2
AI2716'M (40.0 FT) SOUTHWEST OF THE NORTHWEST END OF A CULVERT UNDER THE
AI2716'AVENUE, 9.9 M (32.5 FT) WEST OF THE AVENUE CENTER, 4.2 M (13.8 FT)
AI2716'NORTH OF THE CENTER OF A FIELD ENTRANCE, 0.3 M (1.0 FT) BELOW THE
AI2716'LEVEL OF THE AVENUE, AND 0.3 M (1.0 FT) EAST OF A WITNESS POST AND
AI2716'FENCE.  NOTE--ACCESS TO THE DATUM POINT IS THROUGH A 5-INCH LOGO CAP.
AI2716'THE SLEEVE DEPTH DOES NOT MEET THE SPECIFICATIONS FOR A CLASS A MARK.
AI2716'THE MONUMENT IS ON COUNTY ROAD RIGHT-OF-WAY.  THE MONUMENT IS A CORS
AI2716'SITE REFERENCE STATION.

*** retrieval complete.
Elapsed Time = 00:00:13
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The NGS Data Sheet

See file dsdata.pdf for more information about the datasheet.

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PROGRAM = datasheet95, VERSION = 8.12.5.2
1        National Geodetic Survey,   Retrieval Date = APRIL 11, 2019
 AI2717 ***********************************************************************
 AI2717  DESIGNATION -  FBYN B
 AI2717  PID         -  AI2717
 AI2717  STATE/COUNTY-  NE/JEFFERSON
 AI2717  COUNTRY     -  US
 AI2717  USGS QUAD   -  REYNOLDS (1980)
 AI2717
 AI2717                          *CURRENT SURVEY CONTROL
 AI2717  ______________________________________________________________________
 AI2717* NAD 83(2011) POSITION- 40 04 22.26880(N) 097 18 44.08871(W)   ADJUSTED
 AI2717* NAD 83(2011) ELLIP HT-   411.081 (meters)        (06/27/12)   ADJUSTED
 AI2717* NAD 83(2011) EPOCH   -  2010.00
 AI2717* NAVD 88 ORTHO HEIGHT -   438.050 (meters)     1437.17  (feet) ADJUSTED
 AI2717  ______________________________________________________________________
 AI2717  GEOID HEIGHT    -         -26.966 (meters)                     GEOID12B
 AI2717  NAD 83(2011) X  -   -622,105.036 (meters)                     COMP
 AI2717  NAD 83(2011) Y  - -4,848,067.240 (meters)                     COMP
 AI2717  NAD 83(2011) Z  -  4,084,443.586 (meters)                     COMP
 AI2717  LAPLACE CORR    -          -2.50  (seconds)                   DEFLEC12B
 AI2717  DYNAMIC HEIGHT  -        437.795 (meters)     1436.33  (feet) COMP
 AI2717  MODELED GRAVITY -    980,031.0   (mgal)                       NAVD 88
 AI2717
 AI2717  VERT ORDER      -  SECOND    CLASS I
 AI2717
 AI2717  Network accuracy estimates per FGDC Geospatial Positioning Accuracy
 AI2717  Standards:
 AI2717         FGDC (95% conf, cm)     Standard deviation (cm)     CorrNE
 AI2717            Horiz  Ellip           SD_N   SD_E   SD_h      (unitless)
 AI2717  ------------------------------------------------------------------
 AI2717  NETWORK    0.22   0.33           0.10   0.08   0.17      0.10440763
 AI2717  ------------------------------------------------------------------
 AI2717  Click here for local accuracies and other accuracy information.
 AI2717
 AI2717
 AI2717.This is a reference station for the FAIRBURY
 AI2717.National Continuously Operating Reference Station (FBYN).
 AI2717
 AI2717.The horizontal coordinates were established by GPS observations
 AI2717.and adjusted by the National Geodetic Survey in June 2012.
 AI2717
 AI2717.NAD 83(2011) refers to NAD 83 coordinates where the reference frame has
 AI2717.been affixed to the stable North American tectonic plate. See
 AI2717.NA2011 for more information.
 AI2717
 AI2717.The horizontal coordinates are valid at the epoch date displayed above
 AI2717.which is a decimal equivalence of Year/Month/Day.
 AI2717
 AI2717.The orthometric height was determined by differential leveling and
 AI2717.adjusted by the NATIONAL GEODETIC SURVEY
 AI2717.in July 2002.
 AI2717
 AI2717.No vertical observational check was made to the station.
 AI2717
 AI2717.Significant digits in the geoid height do not necessarily reflect accuracy.
 AI2717.GEOID12B height accuracy estimate available here.
 AI2717
 AI2717.The X, Y, and Z were computed from the position and the ellipsoidal ht.
 AI2717
 AI2717.The Laplace correction was computed from DEFLEC12B derived deflections.
 AI2717
 AI2717.The ellipsoidal height was determined by GPS observations
 AI2717.and is referenced to NAD 83.
 AI2717
 AI2717.The dynamic height is computed by dividing the NAVD 88
 AI2717.geopotential number by the normal gravity value computed on the
 AI2717.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
 AI2717.degrees latitude (g = 980.6199 gals.).
 AI2717
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```
AI2717.The modeled gravity was interpolated from observed gravity values.
AI2717
AI2717. The following values were computed from the NAD 83(2011) position.
AI2717
AI2717;                      North         East      Units Scale Factor Converg.
AI2717;SPC NE       -    30,158.627   729,229.215   MT  0.99996787   +1 46 52.2
AI2717;SPC NE       -    98,945.43  2,392,479.52   sFT  0.99996787   +1 46 52.2
AI2717;UTM  14      - 4,437,207.951   643,916.489   MT  0.99985498   +1 05 12.1
AI2717
AI2717!             -  Elev Factor  x  Scale Factor =   Combined Factor
AI2717!SPC NE       -   0.99993552  x   0.99996787  =   0.99990339
AI2717!UTM  14      -   0.99993552  x   0.99985498  =   0.99979050
AI2717
AI2717:                Primary Azimuth Mark                     Grid Az
AI2717:SPC NE       -  FAIRBURY CORS ARP                       352 03 09.4
AI2717:UTM  14      -  FAIRBURY CORS ARP                       352 44 49.5
AI2717
AI2717_U.S. NATIONAL GRID SPATIAL ADDRESS: 14TPK4391637207(NAD 83)
AI2717
AI2717|-----------------------------------------------------------------------|
AI2717| PID    Reference Object                    Distance      Geod. Az   |
AI2717|                                                           dddmmss.s |
AI2717| AH9960 FAIRBURY CORS ARP                448.121 METERS 3535001.6 |
AI2717|-----------------------------------------------------------------------|
AI2717
AI2717                          SUPERSEDED SURVEY CONTROL
AI2717
AI2717  NAD 83(2007)-  40 04 22.26866(N)    097 18 44.08939(W) AD(2002.00) 0
AI2717  ELLIP H (02/10/07)  411.106  (m)                       GP(2002.00)
AI2717  ELLIP H (09/24/01)  411.080  (m)                       GP(        ) 4 2
AI2717  NAD 83(1995)-  40 04 22.26860(N)    097 18 44.08949(W) AD(        ) B
AI2717  ELLIP H (06/14/00)  411.077  (m)                       GP(        ) 4 1
AI2717  NAVD 88             438.05   (m)          1437.2    (f) LEVELING    3
AI2717
AI2717.Superseded values are not recommended for survey control.
AI2717
AI2717.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
AI2717.See file dsdata.pdf to determine how the superseded data were derived.
AI2717
AI2717_MARKER: F = FLANGE-ENCASED ROD
AI2717_SETTING: 59 = STAINLESS STEEL ROD IN SLEEVE (10 FT.+)
AI2717_STAMPING: FBYN B 1999
AI2717_MARK LOGO: NGS
AI2717_PROJECTION: FLUSH
AI2717_MAGNETIC: I = MARKER IS A STEEL ROD
AI2717_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL
AI2717_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
AI2717+SATELLITE: SATELLITE OBSERVATIONS - 1999
AI2717_ROD/PIPE-DEPTH: 14.2 meters
AI2717_SLEEVE-DEPTH  : 0.9 meters
AI2717
AI2717  HISTORY     - Date     Condition        Report By
AI2717  HISTORY     - 1999     MONUMENTED       NGS
AI2717
AI2717                           STATION DESCRIPTION
AI2717
AI2717'DESCRIBED BY NATIONAL GEODETIC SURVEY 1999 (GAS)
AI2717'2.0 KM (1.25 MI) EASTERLY ALONG STATE HIGHWAY 8 FROM THE POST OFFICE
AI2717'IN REYNOLDS, THENCE 1.4 KM (0.85 MI) NORTHERLY ALONG 561 AVENUE, 9.9 M
AI2717'(32.5 FT) EAST OF THE AVENUE CENTER, 5.8 M (19.0 FT) SOUTH OF THE
AI2717'CENTER OF A GATE, 0.3 M (1.0 FT) BELOW THE LEVEL OF THE AVENUE, AND
AI2717'0.3 M (1.0 FT) WEST OF A WITNESS POST AND FENCE.  NOTE--ACCESS TO THE
AI2717'DATUM POINT IS THROUGH A 5-INCH LOGO CAP.  THE SLEEVE DEPTH DOES NOT
AI2717'MEET THE SPECIFICATIONS FOR A CLASS A MARK.  THE MONUMENT IS ON COUNTY
AI2717'ROAD RIGHT-OF-WAY.  THE MONUMENT IS A CORS SITE REFERENCE STATION.

*** retrieval complete.
Elapsed Time = 00:00:13
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The NGS Data Sheet

See file dsdata.pdf for more information about the datasheet.

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PROGRAM = datasheet95, VERSION = 8.12.5.2
1        National Geodetic Survey,   Retrieval Date = MARCH 28, 2019
 LH0353 ***********************************************************************
 LH0353  DESIGNATION -  G 169
 LH0353  PID         -  LH0353
 LH0353  STATE/COUNTY-  NE/FRANKLIN
 LH0353  COUNTRY     -  US
 LH0353  USGS QUAD   -  MACON (1973)
 LH0353
 LH0353                         *CURRENT SURVEY CONTROL
 LH0353 ______________________________________________________________________
 LH0353* NAD 83(1986) POSITION- 40 14 55.61   (N) 098 57 08.92   (W)    HD_HELD1
 LH0353* NAVD 88 ORTHO HEIGHT -   649.538 (meters)     2131.03  (feet) ADJUSTED
 LH0353 ______________________________________________________________________
 LH0353  GEOID HEIGHT    -        -25.635 (meters)                     GEOID12B
 LH0353  DYNAMIC HEIGHT  -        649.128 (meters)     2129.68  (feet) COMP
 LH0353  MODELED GRAVITY -    979,972.8   (mgal)                       NAVD 88
 LH0353
 LH0353  VERT ORDER      -  SECOND    CLASS 0
 LH0353
 LH0353.The horizontal coordinates were determined by differentially corrected
 LH0353.hand held GPS observations or other comparable positioning techniques
 LH0353.and have an estimated accuracy of +/- 3 meters.
 LH0353.
 LH0353.The orthometric height was determined by differential leveling and
 LH0353.adjusted by the NATIONAL GEODETIC SURVEY
 LH0353.in June 1991.
 LH0353
 LH0353.Significant digits in the geoid height do not necessarily reflect accuracy.
 LH0353.GEOID12B height accuracy estimate available here.
 LH0353
 LH0353.The dynamic height is computed by dividing the NAVD 88
 LH0353.geopotential number by the normal gravity value computed on the
 LH0353.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
 LH0353.degrees latitude (g = 980.6199 gals.).
 LH0353
 LH0353.The modeled gravity was interpolated from observed gravity values.
 LH0353
 LH0353;                    North         East     Units  Estimated Accuracy
 LH0353;SPC NE       -    46,668.5     589,115.1     MT  (+/- 3 meters HH1 GPS)
 LH0353
 LH0353_U.S. NATIONAL GRID SPATIAL ADDRESS: 14TNK0404155371(NAD 83)
 LH0353
 LH0353                           SUPERSEDED SURVEY CONTROL
 LH0353
 LH0353  NGVD 29 (??/??/92)  649.282  (m)         2130.19   (f) ADJ UNCH    2 0
 LH0353
 LH0353.Superseded values are not recommended for survey control.
 LH0353
 LH0353.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
 LH0353.See file dsdata.pdf to determine how the superseded data were derived.
 LH0353
 LH0353_MARKER: DB = BENCH MARK DISK
 LH0353_SETTING: 31 = SET IN A PAVEMENT SUCH AS STREET, SIDEWALK, CURB, ETC.
 LH0353_SP_SET: CULVERT
 LH0353_STAMPING: G 169 1934
 LH0353_MARK LOGO: CGS
 LH0353_STABILITY: D = MARK OF QUESTIONABLE OR UNKNOWN STABILITY
 LH0353_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
 LH0353+SATELLITE: SATELLITE OBSERVATIONS - June 28, 2010
 LH0353
 LH0353  HISTORY     - Date     Condition        Report By
 LH0353  HISTORY     - 1934     MONUMENTED       CGS
 LH0353  HISTORY     - 1959     GOOD             CGS
 LH0353  HISTORY     - 20100628 GOOD             JEOCON
 LH0353
 LH0353                           STATION DESCRIPTION
 LH0353
 LH0353'DESCRIBED BY COAST AND GEODETIC SURVEY 1934
 LH0353'11.1 MI N FROM FRANKLIN.
```

LH0353'11.1 MILES NORTH ALONG STATE HIGHWAY 10 FROM THE CHICAGO,
LH0353'BURLINGTON AND QUINCY RAILROAD STATION AT FRANKLIN, FRANKLIN
LH0353'COUNTY, 200 FEET NORTH OF DISTRICT NO. 25 SCHOOL, AT A ROAD
LH0353'INTERSECTION, 15 FEET WEST OF THE CENTER LINE OF THE HIGHWAY,
LH0353'10 FEET SOUTH OF THE CENTER LINE OF THE ROAD, AT A CONCRETE
LH0353'CULVERT UNDER THE ROAD, AND IN THE TOP OF THE SOUTH HEADWALL.
LH0353'A STANDARD DISK, STAMPED G 169 1934.
LH0353
LH0353 STATION RECOVERY (1959)
LH0353
LH0353'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1959
LH0353'RECOVERED IN GOOD CONDITION.
LH0353
LH0353 STATION RECOVERY (2010)
LH0353
LH0353'RECOVERY NOTE BY JEO CONSULTING GROUP INC 2010 (HH)
LH0353'RECOVERED IN GOOD CONDITION.

*** retrieval complete.
Elapsed Time = 00:00:08

The NGS Data Sheet

See file dsdata.pdf for more information about the datasheet.

```
PROGRAM = datasheet95, VERSION = 8.12.5.2
1         National Geodetic Survey,   Retrieval Date = MARCH 29, 2019
 LH0261 ***********************************************************************
 LH0261  DESIGNATION -  G 250
 LH0261  PID         -  LH0261
 LH0261  STATE/COUNTY-  NE/WEBSTER
 LH0261  COUNTRY     -  US
 LH0261  USGS QUAD   -  BLUE HILL (1969)
 LH0261
 LH0261                         *CURRENT SURVEY CONTROL
 LH0261 ______________________________________________________________________
 LH0261* NAD 83(1995) POSITION- 40 16 39.01321(N) 098 26 54.60496(W)   ADJUSTED
 LH0261* NAVD 88 ORTHO HEIGHT -   606.734 (meters)     1990.59  (feet) ADJUSTED
 LH0261 ______________________________________________________________________
 LH0261  GEOID HEIGHT    -        -25.846 (meters)                     GEOID12B
 LH0261  LAPLACE CORR    -         -1.94  (seconds)                    DEFLEC12B
 LH0261  DYNAMIC HEIGHT  -        606.366 (meters)     1989.39  (feet) COMP
 LH0261  MODELED GRAVITY -    980,000.1   (mgal)                       NAVD 88
 LH0261
 LH0261  HORZ ORDER      -  SECOND
 LH0261  VERT ORDER      -  FIRST     CLASS II
 LH0261
 LH0261.The horizontal coordinates were established by classical geodetic methods
 LH0261.and adjusted by the National Geodetic Survey in August 1997.
 LH0261.
 LH0261.The orthometric height was determined by differential leveling and
 LH0261.adjusted by the NATIONAL GEODETIC SURVEY
 LH0261.in June 1991.
 LH0261
 LH0261.Significant digits in the geoid height do not necessarily reflect accuracy.
 LH0261.GEOID12B height accuracy estimate available here.
 LH0261
 LH0261.The Laplace correction was computed from DEFLEC12B derived deflections.
 LH0261
 LH0261.The dynamic height is computed by dividing the NAVD 88
 LH0261.geopotential number by the normal gravity value computed on the
 LH0261.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
 LH0261.degrees latitude (g = 980.6199 gals.).
 LH0261
 LH0261.The modeled gravity was interpolated from observed gravity values.
 LH0261
 LH0261. The following values were computed from the NAD 83(1995) position.
 LH0261
 LH0261;                    North         East     Units Scale Factor Converg.
 LH0261;SPC NE       -    50,501.432   631,928.459   MT  0.99988607   +1 01 41.4
 LH0261;SPC NE       -   165,686.78  2,073,251.95   sFT  0.99988607   +1 01 41.4
 LH0261;UTM  14      - 4,458,704.031   546,884.758   MT  0.99962706   +0 21 23.6
 LH0261
 LH0261!             -  Elev Factor  x  Scale Factor =   Combined Factor
 LH0261!SPC NE       -   0.99990888  x   0.99988607  =   0.99979496
 LH0261!UTM  14      -   0.99990888  x   0.99962706  =   0.99953598
 LH0261
 LH0261_U.S. NATIONAL GRID SPATIAL ADDRESS: 14TNK4688458704(NAD 83)
 LH0261
 LH0261                           SUPERSEDED SURVEY CONTROL
 LH0261
 LH0261  NAD 83(1986)-  40 16 39.02064(N)    098 26 54.60402(W) AD(       ) 2
 LH0261  NAD 27      -  40 16 38.97794(N)    098 26 53.40028(W) AD(       ) 2
 LH0261  NGVD 29 (??/??/92)  606.502  (m)         1989.83   (f) ADJ UNCH    1 2
 LH0261  NGVD 29             606.50   (m)         1989.8    (f) LEVELING    3
 LH0261
 LH0261.Superseded values are not recommended for survey control.
 LH0261
 LH0261.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
 LH0261.See file dsdata.pdf to determine how the superseded data were derived.
 LH0261
 LH0261_MARKER: DB = BENCH MARK DISK
 LH0261_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
 LH0261_STAMPING: G 250 1947
 LH0261 MARK LOGO: CGS
```

LH0261_MAGNETIC: N = NO MAGNETIC MATERIAL
LH0261_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
LH0261+STABILITY: SURFACE MOTION
LH0261
LH0261 HISTORY   - Date   Condition   Report By
LH0261 HISTORY   - 1947   MONUMENTED   CGS
LH0261 HISTORY   - 1966   GOOD   CGS
LH0261 HISTORY   - 1966   GOOD   CGS
LH0261 HISTORY   - 1981   MARK NOT FOUND   NGS
LH0261 HISTORY   - 20010731 GOOD   NEDR
LH0261
LH0261   STATION DESCRIPTION
LH0261
LH0261'DESCRIBED BY COAST AND GEODETIC SURVEY 1947
LH0261'3.9 MI S FROM BLUE HILL.
LH0261'3.9 MILES SOUTH ALONG THE CHICAGO, BURLINGTON AND QUINCY RAILWAY
LH0261'FROM THE STATION AT BLUE HILL, AT A ROAD CROSSING, 255.2 FEET
LH0261'WEST OF THE WEST RAIL (MEASURED FROM WEST RAIL AT THE CENTER
LH0261'OF THE CROSSING), 36.0 FEET SOUTH OF THE CENTER LINE OF THE ROAD
LH0261'AND 2 FEET HIGHER, 34.2 FEET WEST OF THE WEST END OF A WIRE
LH0261'GATE AT AN ENTRANCE TO A FIELD, 3.0 FEET WEST OF A REFERENCE
LH0261'POST, 1.0 FOOT NORTH OF A FENCE, SET IN THE TOP OF A CONCRETE
LH0261'POST AND PROJECTS 0.3 FOOT ABOVE THE GROUND.
LH0261
LH0261   STATION RECOVERY (1966)
LH0261
LH0261'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1966 (COP)
LH0261'3.9 MILES SOUTH ALONG THE CHICAGO, BURLINGTON AND QUINCY RAILWAY
LH0261'FROM THE STATION AT BLUE HILL, AT A ROAD CROSSING, 255.2 FEET WEST
LH0261'OF THE WEST RAIL (MEASURED FROM WEST RAIL AT THE CENTER OF THE
LH0261'CROSSING), 36.0 FEET SOUTH OF THE CENTER LINE OF THE ROAD AND 2 FEET
LH0261'HIGHER, 34.2 FEET WEST OF THE WEST END OF A WIRE GATE AT AN
LH0261'ENTRANCE TO A FIELD, 3.0 FEET WEST OF A REFERENCE POST, 1.0 FOOT
LH0261'NORTH OF A FENCE, SET IN THE TOP OF A CONCRETE POST AND PROJECTS
LH0261'0.3 FOOT ABOVE THE GROUND.
LH0261
LH0261   STATION RECOVERY (1966)
LH0261
LH0261'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1966
LH0261'RECOVERED IN GOOD CONDITION.
LH0261
LH0261   STATION RECOVERY (1981)
LH0261
LH0261'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1981
LH0261'THERE WAS A DEAD STEEP AT THE SITE WHICH HAMPERED THE SEARCH.
LH0261
LH0261   STATION RECOVERY (2001)
LH0261
LH0261'RECOVERY NOTE BY NEBRASKA ROADS DEPARTMENT 2001 (LB)
LH0261'RECOVERED IN GOOD CONDITION. NOTE-FROM THE CROSSROADS OF EAST
LH0261'JUNCTION OF HIGHWAY 4 AND HIGHWAY 281 PROCEED GOING SOUTH DOWN GRAVEL
LH0261'COUNTY ROAD 1.0 MILE (1.6 KM) TO A CROSSROADS. THEN TURN RIGHT GOING
LH0261'WEST DOWN DIRT COUNTY ROAD 1225 FEET (373.4 M) OR 0.23 MILES (0.37 KM)
LH0261'TO THE BENCH MARK. BM IS 47.2 FEET (14.4 M) WEST OF CENTERLINE
LH0261'SOUTHBOUND PASTURE DRIVEWAY.

*** retrieval complete.
Elapsed Time = 00:00:07

The NGS Data Sheet

See file dsdata.pdf for more information about the datasheet.

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PROGRAM = datasheet95, VERSION = 8.12.5.2
1         National Geodetic Survey,   Retrieval Date = MAY 11, 2019
 LH1108 ***********************************************************************
 LH1108  DESIGNATION -  GERDIS RM 1
 LH1108  PID         -  LH1108
 LH1108  STATE/COUNTY-  NE/CLAY
 LH1108  COUNTRY     -  US
 LH1108  USGS QUAD   -  HARVARD (1969)
 LH1108
 LH1108                         *CURRENT SURVEY CONTROL
 LH1108  ______________________________________________________________________
 LH1108* NAD 83(1995) POSITION- 40 31 51.22031(N) 098 06 30.88541(W)   ADJUSTED
 LH1108* NAVD 88 ORTHO HEIGHT -   553.4   (meters)     1816.    (feet) VERTCON
 LH1108  ______________________________________________________________________
 LH1108  GEOID HEIGHT    -        -25.734 (meters)                     GEOID12B
 LH1108  LAPLACE CORR    -         -4.32  (seconds)                    DEFLEC12B
 LH1108  HORZ ORDER      -  FIRST
 LH1108
 LH1108.The horizontal coordinates were established by classical geodetic methods
 LH1108.and adjusted by the National Geodetic Survey in August 1997.
 LH1108.
 LH1108.The NAVD 88 height was computed by applying the VERTCON shift value to
 LH1108.the NGVD 29 height (displayed under SUPERSEDED SURVEY CONTROL.)
 LH1108
 LH1108.Significant digits in the geoid height do not necessarily reflect accuracy.
 LH1108.GEOID12B height accuracy estimate available here.
 LH1108
 LH1108.The Laplace correction was computed from DEFLEC12B derived deflections.
 LH1108
 LH1108. The following values were computed from the NAD 83(1995) position.
 LH1108
 LH1108;                    North         East     Units Scale Factor Converg.
 LH1108;SPC NE       -    79,202.906   660,213.431   MT  0.99980208   +1 15 12.4
 LH1108;SPC NE       -   259,851.53  2,166,050.23   sFT  0.99980208   +1 15 12.4
 LH1108;UTM  14      - 4,487,065.719   575,499.334   MT  0.99967016   +0 34 45.6
 LH1108
 LH1108!             -  Elev Factor  x  Scale Factor =   Combined Factor
 LH1108!SPC NE       -   0.99991723  x   0.99980208  =   0.99971933
 LH1108!UTM  14      -   0.99991723  x   0.99967016  =   0.99958742
 LH1108
 LH1108:                Primary Azimuth Mark                     Grid Az
 LH1108:SPC NE       -  GERDIS AZ MK RESET                       160 15 55.4
 LH1108:UTM  14      -  GERDIS AZ MK RESET                       160 56 22.2
 LH1108
 LH1108_U.S. NATIONAL GRID SPATIAL ADDRESS: 14TNK7549987065(NAD 83)
 LH1108
 LH1108|-----------------------------------------------------------------------|
 LH1108| PID    Reference Object                    Distance      Geod. Az  |
 LH1108|                                                           dddmmss.s |
 LH1108| CN8586 GERDIS AZ MK RESET                                 1613107.8 |
 LH1108|-----------------------------------------------------------------------|
 LH1108
 LH1108                          SUPERSEDED SURVEY CONTROL
 LH1108
 LH1108  NAD 83(1986)-  40 31 51.22788(N)    098 06 30.88517(W) AD(       ) 1
 LH1108  NAD 27      -  40 31 51.18346(N)    098 06 29.70647(W) AD(       ) 1
 LH1108  NGVD 29 (07/19/86)  553.2    (m)          1815.     (f) VERT ANG
 LH1108
 LH1108.Superseded values are not recommended for survey control.
 LH1108
 LH1108.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
 LH1108.See file dsdata.pdf to determine how the superseded data were derived.
 LH1108
 LH1108_MARKER: DS = TRIANGULATION STATION DISK
 LH1108_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
 LH1108_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
 LH1108+STABILITY: SURFACE MOTION
 LH1108
 LH1108  HISTORY     - Date     Condition        Report By
 LH1108  HISTORY     - 1966     MONUMENTED       CGS
```

LH1108
LH1108 STATION DESCRIPTION
LH1108
LH1108'DESCRIBED BY COAST AND GEODETIC SURVEY 1966 (COP)
LH1108'STATION IS LOCATED ABOUT 6 MILES SOUTH OF HARVARD, 2-1/2 MILES
LH1108'NORTHWEST OF CLAY CENTER AND ON HIGHWAY RIGHT-OF-WAY. THE TOWER WAS
LH1108'BUILT OVER REFERENCE MARK NUMBER 1 DUE TO POWER LINES ABOVE GERDIS
LH1108'1951 1967.
LH1108'
LH1108'TO REACH STATION FROM THE POST OFFICE IN CLAY CENTER, GO NORTH FOR
LH1108'0.3 MILE TO INTERSECTION. TURN LEFT AND GO WEST FOR 0.25 MILE TO
LH1108'END OF PAVEMENT. CONTINUE WEST, NOW ON GRAVELED ROAD, FOR 2.35
LH1108'MILES TO AZIMUTH MARK ON THE LEFT, SOUTH SIDE OF ROAD, AS
LH1108'DESCRIBED. CONTINUE WEST ON GRAVELED ROAD FOR 0.1 MILE TO
LH1108'CROSSROADS. TURN RIGHT AND GO NORTH FOR 0.45 MILE TO STATION ON
LH1108'THE LEFT, WEST SIDE OF ROAD AS DESCRIBED.
LH1108'
LH1108'STATION MARK IS A STANDARD TRIANGULATION STATION REFERENCE MARK
LH1108'DISK, SET IN THE TOP OF A SQUARE CONCRETE MONUMENT THAT PROJECTS 3
LH1108'INCHES. IT IS STAMPED GERDIS NO 1 1951 AND IS 44 FEET WEST OF
LH1108'CENTER OF THE GRAVELED ROAD, 1.3 FEET NORTH OF A WOOD WITNESS POST
LH1108'AND 1.0 FOOT EAST OF A NORTH-SOUTH FENCELINE.
LH1108'
LH1108'AZIMUTH MARK IS A STANDARD AZIMUTH MARK DISK, SET IN THE TOP OF A
LH1108'ROUND CONCRETE MONUMENT THAT PROJECTS 14 INCHES AND IS STAMPED
LH1108'GERDIS 1951 RESET 1964. IT IS 34 FEET SOUTH OF CENTER OF A GRAVELED
LH1108'ROAD, 5.0 FEET SOUTH-SOUTHWEST OF A POWERLINE POLE, 1.8 FEET SOUTH
LH1108'OF AN EAST-WEST FENCELINE AND 1.0 FOOT SOUTH-SOUTHWEST OF A METAL
LH1108'WITNESS POST.
LH1108'
LH1108'THE MAIN STATION, NOT USED AT THIS TIME IS STAMPED GERDIS 1951. IT
LH1108'IS SET IN THE TOP OF A SQUARE CONCRETE MONUMENT WHICH IS FLUSH
LH1108'WITH THE SURFACE OF THE GROUND AND IS 39 FEET EAST OF CENTER OF A
LH1108'GRAVELED ROAD, 32 FEET NORTH OF CENTER OF A FARM DRIVEWAY AND 8.9
LH1108'FEET EAST-NORTHEAST OF A POWERLINE POLE.
LH1108'
LH1108'HEIGHT OF LIGHT ABOVE STATION MARK 26.4 METERS.

*** retrieval complete.
Elapsed Time = 00:00:07

The NGS Data Sheet

See file dsdata.pdf for more information about the datasheet.

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PROGRAM = datasheet95, VERSION = 8.12.5.2
1        National Geodetic Survey,   Retrieval Date = MARCH 31, 2019
 LH0327 ***********************************************************************
 LH0327  DESIGNATION -  H 168
 LH0327  PID         -  LH0327
 LH0327  STATE/COUNTY-  NE/KEARNEY
 LH0327  COUNTRY     -  US
 LH0327  USGS QUAD   -  MINDEN SOUTH (1969)
 LH0327
 LH0327                          *CURRENT SURVEY CONTROL
 LH0327 ______________________________________________________________________
 LH0327* NAD 83(1995) POSITION- 40 29 31.86378(N) 098 54 49.30709(W)   ADJUSTED
 LH0327* NAD 83(1995) ELLIP HT-   628.732 (meters)        (06/27/02)   ADJUSTED
 LH0327* NAVD 88 ORTHO HEIGHT -   653.791 (meters)     2144.98  (feet) ADJUSTED
 LH0327 ______________________________________________________________________
 LH0327  GEOID HEIGHT    -        -25.112 (meters)                     GEOID12B
 LH0327  NAD 83(1995) X  -   -752,711.262 (meters)                     COMP
 LH0327  NAD 83(1995) Y  - -4,799,207.547 (meters)                     COMP
 LH0327  NAD 83(1995) Z  -  4,120,108.174 (meters)                     COMP
 LH0327  LAPLACE CORR    -         -1.38  (seconds)                    DEFLEC12B
 LH0327  DYNAMIC HEIGHT  -       653.403 (meters)     2143.71  (feet) COMP
 LH0327  MODELED GRAVITY -    980,009.1   (mgal)                       NAVD 88
 LH0327
 LH0327  HORZ ORDER      -  FIRST
 LH0327  VERT ORDER      -  SECOND    CLASS 0
 LH0327  ELLP ORDER      -  FOURTH    CLASS I
 LH0327
 LH0327.The horizontal coordinates were established by GPS observations
 LH0327.and adjusted by the National Geodetic Survey in August 1997.
 LH0327
 LH0327.The orthometric height was determined by differential leveling and
 LH0327.adjusted by the NATIONAL GEODETIC SURVEY
 LH0327.in June 1991.
 LH0327
 LH0327.Significant digits in the geoid height do not necessarily reflect accuracy.
 LH0327.GEOID12B height accuracy estimate available here.
 LH0327
 LH0327.The X, Y, and Z were computed from the position and the ellipsoidal ht.
 LH0327
 LH0327.The Laplace correction was computed from DEFLEC12B derived deflections.
 LH0327
 LH0327.The ellipsoidal height was determined by GPS observations
 LH0327.and is referenced to NAD 83.
 LH0327
 LH0327.The dynamic height is computed by dividing the NAVD 88
 LH0327.geopotential number by the normal gravity value computed on the
 LH0327.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
 LH0327.degrees latitude (g = 980.6199 gals.).
 LH0327
 LH0327.The modeled gravity was interpolated from observed gravity values.
 LH0327
 LH0327. The following values were computed from the NAD 83(1995) position.
 LH0327
 LH0327;                     North         East     Units Scale Factor Converg.
 LH0327;SPC NE       -    73,731.090   592,074.628   MT  0.99981367   +0 43 11.6
 LH0327;SPC NE       -   241,899.42  1,942,498.18   sFT  0.99981367   +0 43 11.6
 LH0327;UTM  14      - 4,482,390.777   507,313.685   MT  0.99960066   +0 03 21.7
 LH0327
 LH0327!             -  Elev Factor  x  Scale Factor =   Combined Factor
 LH0327!SPC NE       -   0.99990138  x   0.99981367  =   0.99971507
 LH0327!UTM  14      -   0.99990138  x   0.99960066  =   0.99950208
 LH0327
 LH0327_U.S. NATIONAL GRID SPATIAL ADDRESS: 14TNK0731382390(NAD 83)
 LH0327
 LH0327                           SUPERSEDED SURVEY CONTROL
 LH0327
 LH0327  ELLIP H (08/18/97)  628.779  (m)                        GP(       ) 4 1
 LH0327  NAD 83(1986)-  40 29 31.87088(N)    098 54 49.30766(W) AD(       ) 1
 LH0327  NGVD 29 (??/??/92)  653.537  (m)         2144.15   (f) ADJ UNCH    2 0
 LH0327  NGVD 29 (02/23/90)  654.     (m)  RAPSU86 model used   GPS OBS
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LH0327
LH0327.Superseded values are not recommended for survey control.
LH0327
LH0327.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
LH0327.See file dsdata.pdf to determine how the superseded data were derived.
LH0327
LH0327_MARKER: DB = BENCH MARK DISK
LH0327_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
LH0327_STAMPING: H 168 1934
LH0327_MARK LOGO: CGS
LH0327_MAGNETIC: N = NO MAGNETIC MATERIAL
LH0327_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
LH0327+STABILITY: SURFACE MOTION
LH0327_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
LH0327+SATELLITE: SATELLITE OBSERVATIONS - June 28, 2010
LH0327
LH0327  HISTORY     - Date     Condition        Report By
LH0327  HISTORY     - 1934     MONUMENTED       CGS
LH0327  HISTORY     - 19890403 GOOD             NGS
LH0327  HISTORY     - 20100628 GOOD             JEOCON
LH0327
LH0327                          STATION DESCRIPTION
LH0327
LH0327'DESCRIBED BY COAST AND GEODETIC SURVEY 1934
LH0327'3 MI E FROM MINDEN.
LH0327'3.0 MILES EAST ALONG THE CHICAGO, BURLINGTON AND QUINCY RAILROAD
LH0327'FROM THE STATION AT MINDEN, KEARNEY COUNTY, 1-1/2 RAILS WEST OF
LH0327'A ROAD CROSSING, AND 45 FEET SOUTH OF THE CENTERLINE OF THE
LH0327'TRACK.  A STANDARD DISK, STAMPED H 168 1934 AND SET IN THE TOP
LH0327'OF A CONCRETE POST.
LH0327
LH0327                          STATION RECOVERY (1989)
LH0327
LH0327'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1989
LH0327'THE STATION IS LOCATED ABOUT 3.2 KM (2.00 MI) WEST-SOUTHWEST OF
LH0327'MINDEN, 0.3 KM (0.20 MI) SOUTH OF STATE HIGHWAY 74, AT A JUNCTION OF A
LH0327'GRAVEL ROAD AND AN OLD RAILROAD BED AND ALONG THE EDGE OF A CULTIVATED
LH0327'FIELD.  OWNERSHIP--UNKNOWN.
LH0327'TO REACH THE STATION FROM THE JUNCTION OF U.S. HIGHWAYS 6, 34 AND
LH0327'STATE HIGHWAY 10 IN MINDEN, GO SOUTH ON HIGHWAY 10 FOR 0.81 KM
LH0327'(0.50 MI) TO THE JUNCTION WITH STATE HIGHWAY 74 (1ST STREET).  TURN
LH0327'LEFT AND GO EAST ON STATE HIGHWAY 74 FOR 3.24 KM (2.00 MI) TO A GRAVEL
LH0327'CROSSROAD.  TURN RIGHT AND GO SOUTH ON THE GRAVEL ROAD FOR 0.37 KM
LH0327'(0.25 MI) TO THE STATION ON THE RIGHT.
LH0327'THE STATION MARK IS SET 14.8 M (48.6 FT) WEST OF THE ROAD CENTER, 13.7
LH0327'M (44.9 FT) SOUTH OF THE RAILROAD BED CENTER (NOW A FIELD ROAD), 3.2 M
LH0327'(10.5 FT) WEST-NORTHWEST OF A UTILITY POLE, 0.2 M (0.7 FT) EAST OF
LH0327'WITNESS POST AND PROJECTS 15 CM ABOVE THE SURFACE.
LH0327'DESCRIBED BY R.D.BALL.
LH0327
LH0327                          STATION RECOVERY (2010)
LH0327
LH0327'RECOVERY NOTE BY JEO CONSULTING GROUP INC 2010 (HH)
LH0327'RECOVERED IN GOOD CONDITION.

*** retrieval complete.
Elapsed Time = 00:00:05
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The NGS Data Sheet

See file dsdata.pdf for more information about the datasheet.

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PROGRAM = datasheet95, VERSION = 8.12.5.2
1         National Geodetic Survey,   Retrieval Date = MARCH 31, 2019
 LH1116 ***********************************************************************
 LH1116  DESIGNATION -  HASTINGS
 LH1116  PID         -  LH1116
 LH1116  STATE/COUNTY-  NE/ADAMS
 LH1116  COUNTRY     -  US
 LH1116  USGS QUAD   -  HASTINGS EAST (1983)
 LH1116
 LH1116                        *CURRENT SURVEY CONTROL
 LH1116 ______________________________________________________________________
 LH1116* NAD 83(1995) POSITION- 40 35 29.90830(N) 098 22 29.47773(W)   ADJUSTED
 LH1116* NAVD 88 ORTHO HEIGHT -   584.790 (meters)     1918.60  (feet) ADJUSTED
 LH1116 ______________________________________________________________________
 LH1116  GEOID HEIGHT    -        -25.312 (meters)                     GEOID12B
 LH1116  LAPLACE CORR    -         -2.18  (seconds)                    DEFLEC12B
 LH1116  DYNAMIC HEIGHT  -        584.465 (meters)     1917.53  (feet) COMP
 LH1116  MODELED GRAVITY -    980,048.8   (mgal)                       NAVD 88
 LH1116
 LH1116  HORZ ORDER      -  SECOND
 LH1116  VERT ORDER      -  FIRST     CLASS II
 LH1116
 LH1116.The horizontal coordinates were established by classical geodetic methods
 LH1116.and adjusted by the National Geodetic Survey in August 1997.
 LH1116.
 LH1116.The orthometric height was determined by differential leveling and
 LH1116.adjusted by the NATIONAL GEODETIC SURVEY
 LH1116.in May 1993.
 LH1116
 LH1116.Significant digits in the geoid height do not necessarily reflect accuracy.
 LH1116.GEOID12B height accuracy estimate available here.
 LH1116
 LH1116.Photographs are available for this station.
 LH1116
 LH1116.The Laplace correction was computed from DEFLEC12B derived deflections.
 LH1116
 LH1116.The dynamic height is computed by dividing the NAVD 88
 LH1116.geopotential number by the normal gravity value computed on the
 LH1116.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
 LH1116.degrees latitude (g = 980.6199 gals.).
 LH1116
 LH1116.The modeled gravity was interpolated from observed gravity values.
 LH1116
 LH1116. The following values were computed from the NAD 83(1995) position.
 LH1116
 LH1116;                    North         East     Units Scale Factor Converg.
 LH1116;SPC NE       -    85,487.262   637,534.574   MT  0.99978479   +1 04 37.1
 LH1116;SPC NE       -   280,469.46  2,091,644.68   sFT  0.99978479   +1 04 37.1
 LH1116;UTM  14      - 4,493,614.747   552,898.968   MT  0.99963444   +0 24 24.4
 LH1116
 LH1116!             -  Elev Factor  x  Scale Factor =   Combined Factor
 LH1116!SPC NE       -   0.99991224  x   0.99978479  =   0.99969705
 LH1116!UTM  14      -   0.99991224  x   0.99963444  =   0.99954672
 LH1116
 LH1116:                Primary Azimuth Mark                     Grid Az
 LH1116:SPC NE       -  STROMER                                  143 51 24.0
 LH1116:UTM  14      -  STROMER                                  144 31 36.7
 LH1116
 LH1116_U.S. NATIONAL GRID SPATIAL ADDRESS: 14TNK5289893614(NAD 83)
 LH1116
 LH1116|----------------------------------------------------------------------|
 LH1116|  PID    Reference Object                    Distance      Geod. Az   |
 LH1116|                                                           dddmmss.s  |
 LH1116|  LH1143 DONIPHAN MUNICIPAL TANK           APPROX.20.2 KM 0010823.9  |
 LH1116|  LH1117 HASTINGS NAVAL ORD DEPOT FLAG      APPROX. 4.2 KM 1085850.8  |
 LH1116|  LH1114 HASTINGS NAVAL ORD DEPOT TANK      APPROX. 3.2 KM 1092750.9  |
 LH1116|  LH1112 STROMER                            APPROX. 8.6 KM 1445601.1  |
 LH1116|  LH1118 HASTINGS MAGNETIC STATION           76.459 METERS 15722      |
 LH1116|  LH1506 HASTINGS AZ MK                                    1844726.8  |
 LH1116|  LH1504 HASTINGS RM 1                       25.268 METERS 22336      |
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LH1116| LH1125 INGLESIDE STATE HOSPITAL STANDPIPE  APPROX. 5.7 KM 2612913.2 |
LH1116| LH1122 INGLESIDE STATE HOSPITAL STACK      APPROX. 5.7 KM 2615455.8 |
LH1116| LH1505 HASTINGS RM 2                        26.648 METERS 32209     |
LH1116|-----------------------------------------------------------------------|
LH1116
LH1116                          SUPERSEDED SURVEY CONTROL
LH1116
LH1116  NAD 83(1986)-  40 35 29.91597(N)    098 22 29.47786(W) AD(        ) 2
LH1116  NAD 27      -  40 35 29.85900(N)    098 22 28.26700(W) AD(        ) 2
LH1116
LH1116.Superseded values are not recommended for survey control.
LH1116
LH1116.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
LH1116.See file dsdata.pdf to determine how the superseded data were derived.
LH1116
LH1116_MARKER: DS = TRIANGULATION STATION DISK
LH1116_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
LH1116_STAMPING: HASTINGS 1951
LH1116_MARK LOGO: CGS
LH1116_PROJECTION: FLUSH
LH1116_MAGNETIC: N = NO MAGNETIC MATERIAL
LH1116_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
LH1116+STABILITY: SURFACE MOTION
LH1116_SATELLITE: THE SITE LOCATION WAS REPORTED AS NOT SUITABLE FOR
LH1116+SATELLITE: SATELLITE OBSERVATIONS - August 11, 2015
LH1116
LH1116  HISTORY     - Date     Condition        Report By
LH1116  HISTORY     - 1951     MONUMENTED       CGS
LH1116  HISTORY     - 1951     GOOD             CGS
LH1116  HISTORY     - 1958     GOOD             CGS
LH1116  HISTORY     - 1976     GOOD             NGS
LH1116  HISTORY     - 19911004 GOOD             NGS
LH1116  HISTORY     - 20150811 GOOD             GEOCAC
LH1116
LH1116                           STATION DESCRIPTION
LH1116
LH1116'DESCRIBED BY COAST AND GEODETIC SURVEY 1951 (RLE)
LH1116'THE STATION IS LOCATED JUST EAST OF UNIVERSITY AVENUE ON THE WEST
LH1116'EDGE OF THE CAMPUS OF HASTINGS COLLEGE.  IT IS 79.0 FEET SOUTH OF
LH1116'THE CENTER OF AN EAST-WEST SIDEWALK, 72.0 FEET NORTH OF THE
LH1116'CENTER OF AN EAST-WEST SIDEWALK AND 35.0 FEET EAST OF THE CENTER
LH1116'OF TURNER AVENUE.  IT IS SET FLUSH AND STAMPED HASTINGS 1951.
LH1116'
LH1116'REFERENCE MARK NO. 1 IS 23.0 FEET WEST OF THE CENTER OF TURNER
LH1116'AVENUE AND SET IN THE TOP OF THE CURB OF UNIVERSITY AVENUE
LH1116'WHERE IT TURNS SOUTH INTO TURNER AVENUE.  IT PROJECTS 6 INCHES
LH1116'AND IS STAMPED HASTINGS NO 1 1951.
LH1116'
LH1116'REFERENCE MARK NO. 2 IS 23.0 FEET WEST OF THE CENTER OF TURNER
LH1116'AVENUE AND SET IN THE TOP OF THE CURB OF UNIVERSITY AVENUE WHERE
LH1116'IT TURNS NORTH INTO TURNER AVENUE.  IT PROJECTS 6 INCHES AND IS
LH1116'STAMPED HASTINGS NO 2 1951.
LH1116'
LH1116'THE DISTANCE BETWEEN REFERENCE MARKS IS 129.2 FEET.
LH1116'
LH1116'THE AZIMUTH MARK IS SET ON TOP OF THE SOUTH CURB OF 7TH STREET AT
LH1116'THE T INTERSECTION FORMED BY THE SOUTH END OF TURNER AVENUE.
LH1116'IT IS 18.0 FEET SOUTH OF THE CENTER OF THE T INTERSECTION AND
LH1116'13.0 FEET EAST OF A LIGHT POST.  IT PROJECTS 6 INCHES AND IS
LH1116'STAMPED HASTINGS 1951.
LH1116'
LH1116'A TRAVERSE CONNECTION WAS MADE TO THE HASTINGS, MEGNETIC STATION.
LH1116'IT IS 14.0 FEET SOUTH OF THE CENTER OF A GRAVELED DRIVE AND 2.0
LH1116'FEET SOUTHWEST OF A TREE.  IT IS A 6 INCH SQUARE CONCRETE POST
LH1116'PROJECTING 4 INCHES AND HAS THE LETTERS U.S.C.S. 1902 IN ITS TOP
LH1116'WITH A SMALL HOLE AT THE CENTER OF THE POST.
LH1116'
LH1116'HEIGHT OF LIGHT ABOVE STATION MARK 22 METERS.
LH1116
LH1116                           STATION RECOVERY (1951)
LH1116
LH1116'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1951
LH1116'RECOVERED IN GOOD CONDITION.
LH1116
LH1116                           STATION RECOVERY (1958)
LH1116
LH1116'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1958 (RLE)
LH1116'RECOVERED BY JOHN T. KONZACK, HASTINGS COLLEGE, HASTINGS, NEBRASKA,
LH1116'REFERENCE TO LETTER DATED DECEMBER 1, 1958.
LH1116'
LH1116'STATION MARK RECOVERED IN GOOD CONDITION.  THE MARK IS 1.31
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LH1116'FEET EAST OF THE EAST CURB OF TURNER AVENUE. ALL OTHER DATA REMAINS
LH1116'UNCHANGED.
LH1116
LH1116   STATION RECOVERY (1976)
LH1116
LH1116'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1976
LH1116'STATION AND AZIMUTH FOUND IN GODD CONDITION.
LH1116'
LH1116'NOTE--STATION IS NOW IN A NEW SIDE WALK (FLUSH).
LH1116
LH1116   STATION RECOVERY (1991)
LH1116
LH1116'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1991
LH1116'IN HASTINGS, AT THE INTERSECTION OF TURNER AVENUE AND UNIVERSITY
LH1116'STREET, 26.7 M (87.6 FT) SOUTHEAST OF REFERENCE MARK 2, 25.4 M (83.3
LH1116'FT) NORTHEAST OF REFERENCE MARK 1, 11.2 M (36.7 FT) EAST OF THE
LH1116'CENTER OF THE AVENUE, 14.6 M (47.9 FT) SOUTH OF THE CENTER OF THE
LH1116'WESTBOUND LANES OF THE STREET, 13.1 M (43.0 FT) NORTH OF THE CENTER
LH1116'OF THE EASTBOUND LANES OF THE STREET, 7.9 M (25.9 FT) WEST OF THE
LH1116'WEST FACE OF A SIGN (HASTINGS COLLEGE), 0.4 M (1.3 FT) EAST OF THE
LH1116'WEST EDGE OF A SIDEWALK, AND THE MONUMENT IS SURROUNDED BY AND FLUSH
LH1116'WITH THE SIDEWALK.
LH1116
LH1116   STATION RECOVERY (2015)
LH1116
LH1116'RECOVERY NOTE BY GEOCACHING 2015 (RCF)
LH1116'FOUND STATION, RM1, RM2 AND AZIMUTH MARK AS DESCRIBED.

*** retrieval complete.
Elapsed Time = 00:00:05

The NGS Data Sheet

See file dsdata.pdf for more information about the datasheet.

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PROGRAM = datasheet95, VERSION = 8.12.5.2
1         National Geodetic Survey,   Retrieval Date = MARCH 29, 2019
 LH0288 ***********************************************************************
 LH0288  DESIGNATION -  K 268
 LH0288  PID         -  LH0288
 LH0288  STATE/COUNTY-  NE/WEBSTER
 LH0288  COUNTRY     -  US
 LH0288  USGS QUAD   -  GUIDE ROCK (1974)
 LH0288
 LH0288                          *CURRENT SURVEY CONTROL
 LH0288  ______________________________________________________________________
 LH0288* NAD 83(1986) POSITION- 40 01 01.     (N) 098 19 49.     (W)   SCALED
 LH0288* NAVD 88 ORTHO HEIGHT -   535.431 (meters)     1756.66  (feet) ADJUSTED
 LH0288  ______________________________________________________________________
 LH0288  GEOID HEIGHT    -        -25.974 (meters)                    GEOID12B
 LH0288  DYNAMIC HEIGHT  -        535.110 (meters)     1755.61  (feet) COMP
 LH0288  MODELED GRAVITY -    980,009.9   (mgal)                      NAVD 88
 LH0288
 LH0288  VERT ORDER      -  FIRST     CLASS II
 LH0288
 LH0288.The horizontal coordinates were scaled from a topographic map and have
 LH0288.an estimated accuracy of +/- 6 seconds.
 LH0288.
 LH0288.The orthometric height was determined by differential leveling and
 LH0288.adjusted by the NATIONAL GEODETIC SURVEY
 LH0288.in June 1991.
 LH0288
 LH0288.Significant digits in the geoid height do not necessarily reflect accuracy.
 LH0288.GEOID12B height accuracy estimate available here.
 LH0288
 LH0288.The dynamic height is computed by dividing the NAVD 88
 LH0288.geopotential number by the normal gravity value computed on the
 LH0288.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
 LH0288.degrees latitude (g = 980.6199 gals.).
 LH0288
 LH0288.The modeled gravity was interpolated from observed gravity values.
 LH0288
 LH0288;                    North         East     Units  Estimated Accuracy
 LH0288;SPC NE       -    21,760.      642,540.      MT  (+/- 180 meters Scaled)
 LH0288
 LH0288_U.S. NATIONAL GRID SPATIAL ADDRESS: 14TNK571298(NAD 83)
 LH0288
 LH0288                           SUPERSEDED SURVEY CONTROL
 LH0288
 LH0288  NGVD 29 (??/??/92)  535.226  (m)         1755.99   (f) ADJ UNCH    1 2
 LH0288
 LH0288.Superseded values are not recommended for survey control.
 LH0288
 LH0288.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
 LH0288.See file dsdata.pdf to determine how the superseded data were derived.
 LH0288
 LH0288_MARKER: DB = BENCH MARK DISK
 LH0288_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
 LH0288_STAMPING: K 268 1947
 LH0288_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
 LH0288+STABILITY: SURFACE MOTION
 LH0288_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
 LH0288+SATELLITE: SATELLITE OBSERVATIONS - October 29, 2009
 LH0288
 LH0288  HISTORY     - Date     Condition        Report By
 LH0288  HISTORY     - 1947     MONUMENTED       CGS
 LH0288  HISTORY     - 20091029 GOOD             NEDR
 LH0288
 LH0288                           STATION DESCRIPTION
 LH0288
 LH0288'DESCRIBED BY COAST AND GEODETIC SURVEY 1947
 LH0288'3.6 MI S FROM GUIDE ROCK.
 LH0288'3.65 MILES SOUTH ALONG STATE HIGHWAY NO. 78 FROM THE CHICAGO,
 LH0288'BURLINGTON AND QUINCY RAILROAD STATION AT GUIDE ROCK, 1.0 MILE
 LH0288'NORTH OF THE NEBRASKA-KANSAS STATE LINE, AT THE TOP OF A HILL
```

```
LH0288'AND IN THE NORTHWEST ANGLE OF AN EAST-WEST CROSS ROAD, 98.0 FEET
LH0288'WEST OF THE CENTER OF THE HIGHWAY, 44.0 FEET NORTH OF THE
LH0288'EAST-WEST CROSS ROAD, 1.7 FOOT NORTH OF A REFERENCE POST, SET IN
LH0288'A CONCRETE POST ABOUT 3 FEET ABOVE THE HIGHWAY AND PROJECTING
LH0288'0.3 FOOT.
LH0288
LH0288                          STATION RECOVERY (2009)
LH0288
LH0288'RECOVERY NOTE BY NEBRASKA ROADS DEPARTMENT 2009 (DAK)
LH0288'AS DESCRIBED, WEST OF NE. HWY 78 AT MILE MARKER 1

*** retrieval complete.
Elapsed Time = 00:00:05
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The NGS Data Sheet

See file dsdata.pdf for more information about the datasheet.

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PROGRAM = datasheet95, VERSION = 8.12.5.2
1         National Geodetic Survey,   Retrieval Date = MARCH 27, 2019
 LH0650 ***********************************************************************
 LH0650  DESIGNATION -  L 294
 LH0650  PID         -  LH0650
 LH0650  STATE/COUNTY-  NE/BUFFALO
 LH0650  COUNTRY     -  US
 LH0650  USGS QUAD   -  RIVERDALE (1962)
 LH0650
 LH0650                          *CURRENT SURVEY CONTROL
 LH0650 ______________________________________________________________________
 LH0650* NAD 83(1995) POSITION- 40 52 19.38797(N) 099 08 28.84127(W)   ADJUSTED
 LH0650* NAVD 88 ORTHO HEIGHT -   703.454 (meters)     2307.92  (feet) ADJUSTED
 LH0650 ______________________________________________________________________
 LH0650  GEOID HEIGHT    -        -24.099 (meters)                     GEOID12B
 LH0650  LAPLACE CORR    -         -0.51  (seconds)                    DEFLEC12B
 LH0650  DYNAMIC HEIGHT  -        703.066 (meters)     2306.64  (feet) COMP
 LH0650  MODELED GRAVITY -    980,049.0   (mgal)                       NAVD 88
 LH0650
 LH0650  HORZ ORDER      -  SECOND
 LH0650  VERT ORDER      -  SECOND    CLASS 0
 LH0650
 LH0650.The horizontal coordinates were established by classical geodetic methods
 LH0650.and adjusted by the National Geodetic Survey in August 1997.
 LH0650.
 LH0650.The orthometric height was determined by differential leveling and
 LH0650.adjusted by the NATIONAL GEODETIC SURVEY
 LH0650.in June 1991.
 LH0650
 LH0650.Significant digits in the geoid height do not necessarily reflect accuracy.
 LH0650.GEOID12B height accuracy estimate available here.
 LH0650
 LH0650.The Laplace correction was computed from DEFLEC12B derived deflections.
 LH0650
 LH0650.The dynamic height is computed by dividing the NAVD 88
 LH0650.geopotential number by the normal gravity value computed on the
 LH0650.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
 LH0650.degrees latitude (g = 980.6199 gals.).
 LH0650
 LH0650.The modeled gravity was interpolated from observed gravity values.
 LH0650
 LH0650. The following values were computed from the NAD 83(1995) position.
 LH0650
 LH0650;                    North         East     Units Scale Factor Converg.
 LH0650;SPC NE       -   115,685.450   572,361.131   MT  0.99971933   +0 34 08.5
 LH0650;SPC NE       -   379,544.68  1,877,821.48   sFT  0.99971933   +0 34 08.5
 LH0650;UTM  14      - 4,524,563.415   488,089.727   MT  0.99960175   -0 05 33.0
 LH0650
 LH0650!             -  Elev Factor  x  Scale Factor =   Combined Factor
 LH0650!SPC NE       -   0.99989345  x   0.99971933  =   0.99961281
 LH0650!UTM  14      -   0.99989345  x   0.99960175  =   0.99949524
 LH0650
 LH0650_U.S. NATIONAL GRID SPATIAL ADDRESS: 14TML8808924563(NAD 83)
 LH0650
 LH0650                           SUPERSEDED SURVEY CONTROL
 LH0650
 LH0650  NAD 83(1986)-  40 52 19.39536(N)    099 08 28.84329(W) AD(       ) 2
 LH0650  NAD 27      -  40 52 19.35600(N)    099 08 27.51700(W) AD(       ) 2
 LH0650  NGVD 29 (??/??/92)  703.208  (m)         2307.11   (f) ADJ UNCH    2 0
 LH0650  NGVD 29             703.21   (m)         2307.1    (f) LEVELING    3
 LH0650
 LH0650.Superseded values are not recommended for survey control.
 LH0650
 LH0650.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
 LH0650.See file dsdata.pdf to determine how the superseded data were derived.
 LH0650
 LH0650_MARKER: DB = BENCH MARK DISK
 LH0650_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
 LH0650_STAMPING: L 294 1949
 LH0650 MARK LOGO: CGS
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LH0650_MAGNETIC: A = STEEL ROD ADJACENT TO MONUMENT
LH0650_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
LH0650+STABILITY: SURFACE MOTION
LH0650_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
LH0650+SATELLITE: SATELLITE OBSERVATIONS - July 15, 1997
LH0650
LH0650 HISTORY   - Date   Condition   Report By
LH0650 HISTORY   - 1949   MONUMENTED   CGS
LH0650 HISTORY   - 1950   GOOD   CGS
LH0650 HISTORY   - 19970715 GOOD   NGS
LH0650
LH0650   STATION DESCRIPTION
LH0650
LH0650'DESCRIBED BY COAST AND GEODETIC SURVEY 1949
LH0650'8.9 MI NE FROM AMHERST.
LH0650'2.9 MILES NORTH ALONG A COUNTY ROAD FROM THE PUBLIC SCHOOL AT
LH0650'AMHERST, THENCE 6.0 MILES EAST ALONG A COUNTY ROAD, AT THE
LH0650'NORTHWEST CORNER OF SECTION 4, T. 10 N., R. 16 W., AT A
LH0650'T-JUNCTION OF ROADS, 76 FEET SOUTH OF THE CENTER LINE OF THE
LH0650'EAST-WEST ROAD, 33 FEET SOUTH OF THE CENTER LINE OF A GATE IN A
LH0650'NORTH-SOUTH FENCE, 12 FEET EAST OF THE CENTER LINE OF A SIDE
LH0650'ROAD LEADING SOUTH, 1.2 FEET WEST OF A FENCE, 1.5 FEET NORTH
LH0650'OF A REFERENCE POST, SET IN THE TOP OF A CONCRETE POST AT A DEPTH
LH0650'OF 5 FEET AND PROJECTING 0.2 FOOT ABOVE THE GROUND. NOTE-- THIS
LH0650'BENCH MARK IS LOCATED 1.0 MILE WEST OF BENCH MARK M 294.
LH0650
LH0650   STATION RECOVERY (1950)
LH0650
LH0650'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1950 (JCT)
LH0650'THE STATION IS LOCATED ABOUT 12 MILES NORTH AND 3 MILES WEST OF
LH0650'KEARNEY. IT IS A STANDARD USC AND GS BENCH MARK DISK SET IN A
LH0650'ROUND CONCRETE POST. IT IS 75 FEET SOUTH OF THE CENTERLINE OF A
LH0650'GRAVEL ROAD, 42 FEET SOUTH OF A CORNER POST, 12 FEET EAST OF THE
LH0650'CENTERLINE OF A TRACK ROAD. THE MARK PROJECTS ABOUT 2 INCHES
LH0650'AND THE DISK IS STAMPED L-294 1949.
LH0650'
LH0650'A TRAVERSE CONNECTION WAS MADE FROM TRIANGULATION STATION RUSCO
LH0650'1950 TO BENCH MARK L-294 1949 AND THE DISTANCE IS 48.613 METERS
LH0650'OR 159.49 FEET.
LH0650'
LH0650'TO REACH THE STATION FROM THE JUNCTION OF U.S. HIGHWAY 30 AND
LH0650'STATE ROUTE 10 AT THE MONUMENT IN KEARNEY, GO NORTH WEST AND
LH0650'NORTH ON STATE ROUTE 10 FOR 11.8 MILES TO A CROSSROADS. TURN
LH0650'LEFT (WEST) AND GO 2.9 MILES TO A SIDE ROAD, AND STATION IN
LH0650'SOUTHEAST ANGLE AS DESCRIBED.
LH0650
LH0650   STATION RECOVERY (1997)
LH0650
LH0650'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1997 (JAO)
LH0650'RECOVERED IN GOOD CONDITION ABOUT 19.9 KM (12.35 MI) NORTH-NORTHWEST
LH0650'OF KEARNEY, 4.8 KM (3.00 MI) WEST OF STATE HIGHWAY 10 AND IN THE NW
LH0650'CORNER OF SEC4, T10N, R16W. TO REACH THE MARK FROM THE JUNCTION OF
LH0650'STATE HIGHWAYS 10 AND 40, WHICH IS ABOUT 5.63 KM (3.50 MI) NORTH OF
LH0650'KEARNEY, GO NORTH ON HIGHWAY 10 FOR 13.68 KM (8.50 MI) TO A GRAVELED
LH0650'CROSSROAD, POLE LINE ROAD. TURN LEFT AND GO WEST ON POLE LINE ROAD
LH0650'FOR 4.68 KM (2.90 MI) TO THE MARK ON THE LEFT AND STATION RUSCO ON THE
LH0650'RIGHT. THE DISK IS SET INTO THE TOP OF A ROUND CONCRETE POST THAT IS
LH0650'FLUSH WITH THE GROUND SURFACE. IT IS 48.61 M (159.48 FT) SOUTH FROM
LH0650'STATION RUSCO, 22.4 M (73.5 FT) SOUTH FROM THE CENTERLINE OF POLE LINE
LH0650'ROAD, 17.69 M (58.04 FT) SOUTHWEST FROM THE CENTER OF THE TOP OF A GAS
LH0650'METER, 3.22 M (10.56 FT) NORTH FROM A GAS VALVE, 5.75 M (18.86 FT)
LH0650'EAST FROM A NORTH-SOUTH FENCE, 0.52 M (1.71 FT) NORTH OF A WOODEN
LH0650'WITNESS POST AND 0.3 M (1.0 FT) WEST OF A FIBERGLASS WITNESS POST. A
LH0650'LENGTH OF REBAR WAS DRIVEN ALONG THE NORTH SIDE OF THE MARK.

*** retrieval complete.
Elapsed Time = 00:00:04

The NGS Data Sheet

See file dsdata.pdf for more information about the datasheet.

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PROGRAM = datasheet95, VERSION = 8.12.5.2
1        National Geodetic Survey,   Retrieval Date = MARCH 29, 2019
 LG1061 ***********************************************************************
 LG1061  DESIGNATION -  LINE
 LG1061  PID         -  LG1061
 LG1061  STATE/COUNTY-  NE/GAGE
 LG1061  COUNTRY     -  US
 LG1061  USGS QUAD   -  WYMORE (1970)
 LG1061
 LG1061                          *CURRENT SURVEY CONTROL
 LG1061 ______________________________________________________________________
 LG1061* NAD 83(1995) POSITION- 40 00 17.31422(N) 096 39 08.48345(W)   ADJUSTED
 LG1061* NAVD 88 ORTHO HEIGHT -   410.    (meters)     1345.    (feet) SCALED
 LG1061 ______________________________________________________________________
 LG1061  GEOID HEIGHT    -        -27.574 (meters)                    GEOID12B
 LG1061  LAPLACE CORR    -         -3.73  (seconds)                   DEFLEC12B
 LG1061  HORZ ORDER      -  SECOND
 LG1061
 LG1061.The horizontal coordinates were established by classical geodetic methods
 LG1061.and adjusted by the National Geodetic Survey in August 1997.
 LG1061.
 LG1061.The orthometric height was scaled from a topographic map.
 LG1061
 LG1061.Significant digits in the geoid height do not necessarily reflect accuracy.
 LG1061.GEOID12B height accuracy estimate available here.
 LG1061
 LG1061.The Laplace correction was computed from DEFLEC12B derived deflections.
 LG1061
 LG1061. The following values were computed from the NAD 83(1995) position.
 LG1061
 LG1061;                    North         East     Units Scale Factor Converg.
 LG1061;SPC KS N      -   186,420.155   515,073.152   MT  1.00004344   +0 51 09.6
 LG1061;SPC KS N      -   611,613.46  1,689,869.17   sFT  1.00004344   +0 51 09.6
 LG1061;SPC NE        -    24,573.516   785,776.093   MT  0.99999783   +2 13 06.5
 LG1061;SPC NE        -    80,621.61  2,578,000.40   sFT  0.99999783   +2 13 06.5
 LG1061;UTM  14       - 4,430,931.000   700,389.928   MT  1.00009437   +1 30 34.9
 LG1061
 LG1061!              -  Elev Factor  x  Scale Factor =   Combined Factor
 LG1061!SPC KS N      -   0.99993999  x   1.00004344  =   0.99998343
 LG1061!SPC NE        -   0.99993999  x   0.99999783  =   0.99993782
 LG1061!UTM  14       -   0.99993999  x   1.00009437  =   1.00003436
 LG1061
 LG1061:                 Primary Azimuth Mark                     Grid Az
 LG1061:SPC KS N      -  LINE AZ MK RESET                        357 42 44.0
 LG1061:SPC NE        -  LINE AZ MK RESET                        356 20 47.1
 LG1061:UTM  14       -  LINE AZ MK RESET                        357 03 18.7
 LG1061
 LG1061_U.S. NATIONAL GRID SPATIAL ADDRESS: 14TQK0038930930(NAD 83)
 LG1061
 LG1061|----------------------------------------------------------------------|
 LG1061| PID    Reference Object                    Distance      Geod. Az   |
 LG1061|                                                           dddmmss.s  |
 LG1061| CL7319 LINE AZ MK                                         0011753.0  |
 LG1061| LG1064 WYMORE ST JOHNS LUTHERAN CH        APPROX. 4.6 KM 0152624.1  |
 LG1061| CL7321 LINE RM 1                                          09600      |
 LG1061| KF1132 OKETO MUNICIPAL TANK               APPROX. 6.8 KM 1335000.8  |
 LG1061| CL7322 LINE RM 2                           20.873 METERS 17653      |
 LG1061| LG1066 WYMORE IMMANUELS FRIEDHOF CH       APPROX. 0.6 KM 2294008.3  |
 LG1061| CL7320 LINE AZ MK RESET                                   3583353.6  |
 LG1061|----------------------------------------------------------------------|
 LG1061
 LG1061                           SUPERSEDED SURVEY CONTROL
 LG1061
 LG1061  NAD 83(1986)-  40 00 17.32024(N)    096 39 08.47933(W) AD(        ) 2
 LG1061  NAD 27       -  40 00 17.30800(N)    096 39 07.40200(W) AD(        ) 2
 LG1061
 LG1061.Superseded values are not recommended for survey control.
 LG1061
 LG1061.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
 LG1061.See file dsdata.pdf to determine how the superseded data were derived.
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LG1061
LG1061_MARKER: DS = TRIANGULATION STATION DISK
LG1061_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
LG1061_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
LG1061+SATELLITE: SATELLITE OBSERVATIONS - August 24, 2015
LG1061
LG1061 HISTORY   - Date   Condition   Report By
LG1061 HISTORY   - 1947   MONUMENTED   CGS
LG1061 HISTORY   - 1958   GOOD   CGS
LG1061 HISTORY   - 1963   GOOD   CGS
LG1061 HISTORY   - 20150824 GOOD   KSDT
LG1061
LG1061   STATION DESCRIPTION
LG1061
LG1061'DESCRIBED BY COAST AND GEODETIC SURVEY 1947 (RLE)
LG1061'THE STATION IS LOCATED ABOUT 8.25 MILES SOUTH AND 0.5 MILE EAST
LG1061'OF WYMORE AND 0.3 MILE NORTH OF KANSAS-NEBRASKA STATE LINE
LG1061'ALONG U.S. HIGHWAY 77. IT IS 68 FEET EAST OF THE CENTER OF
LG1061'HIGHWAY 77, 42 FEET WEST OF NORTH-SOUTH ROAD AND 4 FEET EAST OF
LG1061'WHITE WITNESS POST. IT IS STAMPED LINE 1947 AND SET FLUSH WITH
LG1061'THE GROUND SURFACE.
LG1061'
LG1061'REFERENCE MARK NO 1 IS EAST OF THE STATION, 28 FEET EAST OF THE
LG1061'CENTER OF THE NORTH-SOUTH ROAD, SET IN THE HEDGE LINE ON WEST
LG1061'EDGE OF CULTIVATED FIELD. IT IS STAMPED LINE NO 1 1947 AND
LG1061'PROJECTS 4 INCHES.
LG1061'
LG1061'REFERENCE MARK NO 2 IS SOUTH OF THE STATION, 90 FEET EAST OF THE
LG1061'CENTER OF HIGHWAY 77 AND 35 FEET WEST OF THE CENTER OF THE
LG1061'NORTH-SOUTH ROAD ON THE TOP OF A SMALL BANK ABOUT 4 FEET HIGHER
LG1061'THAN STATION MARK. IT IS STAMPED LINE NO 2 1947 AND PROJECTS 5
LG1061'INCHES.
LG1061'
LG1061'THE AZIMUTH MARK IS ABOUT 0.6 MILES NORTH OF THE STATION, 40 FEET
LG1061'EAST OF THE CENTER OF U.S. HIGHWAY 77, 3 FEET SOUTH OF TELEPHONE
LG1061'POLE, 1 FOOT WEST OF NORTH-SOUTH FENCE LINE AND 1 FOOT SOUTH
LG1061'OF WHITE WITNESS POST. IT IS STAMPED LINE 1947 AND PROJECTS 2
LG1061'INCHES.
LG1061'
LG1061'TO REACH THE STATION FROM THE POST OFFICE IN WYMORE, GO NORTH
LG1061'0.15 MILE THEN RIGHT AND FOLLOW U.S. HIGHWAY 77 EAST AND SOUTH FOR
LG1061'5.4 MILES TO THE AZIMUTH MARK ON THE LEFT AS DESCRIBED, CONTINUE
LG1061'SOUTH ON U.S. HIGHWAY 77 FOR 0.6 MILES TO A Y FORMED BY U.S.
LG1061'HIGHWAY 77 AND NORTH-SOUTH ROAD AND STATION ON THE LEFT AS
LG1061'DESCRIBED.
LG1061'
LG1061'A 74 FOOT SIGNAL AT STATION ODELL IS V.G.
LG1061'
LG1061'A 4 FOOT SIGNAL AT STATION SCHOOL IS VISIBLE AT 37 FEET.
LG1061'
LG1061'A 74 FOOT SIGNAL AT STATION MALICKY IS VISIBLE AT 37 FEET.
LG1061'
LG1061'A 4 FOOT SIGNAL AT STATION ELK IS VISIBLE AT 37 FEET.
LG1061'
LG1061'A 74 FOOT SIGNAL AT STATION OKETO IS VISIBLE AT 37 FEET.
LG1061'
LG1061'A 4 FOOT SIGNAL AT STATION WRIGHT IS VISIBLE AT 37 FEET.
LG1061'
LG1061'A 74 FOOT SIGNAL AT STATION HULL IS VISIBLE AT 37 FEET.
LG1061'
LG1061'HEIGHT OF LIGHT ABOVE STATION MARK 22 METERS.
LG1061
LG1061   STATION RECOVERY (1958)
LG1061
LG1061'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1958 (FAR)
LG1061'THIS STATION WAS RECOVERED AS DESCRIBED AND ALL MARKS WERE FOUND
LG1061'IN GOOD CONDITION. THE DESCRIPTION IS ADEQUATE EXCEPT THAT THE
LG1061'STATION WILL BE 65 FEET EAST-SOUTHEAST OF THE NEW CENTERLINE OF
LG1061'U.S. HIGHWAY 77. ROAD CONSTRUCTION ALONG THE HIGHWAY WILL
LG1061'DESTROY THE AZIMUTH MARK. IT WAS MOVED. FOLLOWING IS A
LG1061'DESCRIPTION OF THE RESET AZIMUTH MARK AND THE ANGLES MEASURED.
LG1061'
LG1061'AZIMUTH MARK (RESET) IS 0.25 MILE NORTH OF THE STATION, 130
LG1061'FEET NORTH OF THE CENTER OF DRIVEWAY TO FARM, 65 FEET WEST OF THE
LG1061'CENTER OF U.S. HIGHWAY 77, AND 2 FEET SOUTH OF A TELEPHONE POLE.
LG1061'THE MARK PROJECTS 6 INCHES AND THE DISK IS STAMPED LINE 1947
LG1061'RESET 1958. NOTE 16B.
LG1061
LG1061   STATION RECOVERY (1963)
LG1061
LG1061'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1963 (CJB)

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LG1061'THIS STATION WAS RECOVERED AS DESCRIBED AND ALL MARKS WERE
LG1061'FOUND IN GOOD CONDITION.  THE STATION MARK IS 1 FOOT SOUTH OF A
LG1061'NEW STEEL WITNESS POST WITH A SIGN.
LG1061
LG1061                          STATION RECOVERY (2015)
LG1061
LG1061'RECOVERY NOTE BY KANSAS DEPARTMENT OF TRANSPORTATION 2015 (BLS)
LG1061'LOCATED IN THE SE 1/4 OF SECTION 32 T 1 N, R 7 E, ALONG THE EAST LINE
LG1061'OF THE SECTION.

*** retrieval complete.
Elapsed Time = 00:00:04
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The NGS Data Sheet

See file dsdata.pdf for more information about the datasheet.

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PROGRAM = datasheet95, VERSION = 8.12.5.2
1        National Geodetic Survey,   Retrieval Date = MAY 11, 2019
 LG0072 ***********************************************************************
 LG0072  DESIGNATION -  M 364
 LG0072  PID         -  LG0072
 LG0072  STATE/COUNTY-  NE/CASS
 LG0072  COUNTRY     -  US
 LG0072  USGS QUAD   -  WEEPING WATER (1966)
 LG0072
 LG0072                          *CURRENT SURVEY CONTROL
 LG0072  ______________________________________________________________________
 LG0072* NAD 83(1986) POSITION- 40 48 48.     (N) 096 09 36.     (W)   SCALED
 LG0072* NAVD 88 ORTHO HEIGHT -   376.723 (meters)     1235.97  (feet) ADJUSTED
 LG0072  ______________________________________________________________________
 LG0072  GEOID HEIGHT    -        -26.868 (meters)                     GEOID12B
 LG0072  DYNAMIC HEIGHT  -        376.559 (meters)     1235.43  (feet) COMP
 LG0072  MODELED GRAVITY -    980,178.3   (mgal)                       NAVD 88
 LG0072
 LG0072  VERT ORDER      -  SECOND    CLASS 0
 LG0072
 LG0072.The horizontal coordinates were scaled from a topographic map and have
 LG0072.an estimated accuracy of +/- 6 seconds.
 LG0072.
 LG0072.The orthometric height was determined by differential leveling and
 LG0072.adjusted by the NATIONAL GEODETIC SURVEY
 LG0072.in June 1991.
 LG0072
 LG0072.Significant digits in the geoid height do not necessarily reflect accuracy.
 LG0072.GEOID12B height accuracy estimate available here.
 LG0072
 LG0072.The dynamic height is computed by dividing the NAVD 88
 LG0072.geopotential number by the normal gravity value computed on the
 LG0072.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
 LG0072.degrees latitude (g = 980.6199 gals.).
 LG0072
 LG0072.The modeled gravity was interpolated from observed gravity values.
 LG0072
 LG0072;                    North         East     Units  Estimated Accuracy
 LG0072;SPC NE       -   116,000.      823,800.      MT  (+/- 180 meters Scaled)
 LG0072
 LG0072_U.S. NATIONAL GRID SPATIAL ADDRESS: 14TQL395219(NAD 83)
 LG0072
 LG0072                           SUPERSEDED SURVEY CONTROL
 LG0072
 LG0072  NGVD 29 (??/??/92)  376.627  (m)         1235.65   (f) ADJ UNCH    2 0
 LG0072
 LG0072.Superseded values are not recommended for survey control.
 LG0072
 LG0072.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
 LG0072.See file dsdata.pdf to determine how the superseded data were derived.
 LG0072
 LG0072_MARKER: DB = BENCH MARK DISK
 LG0072_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
 LG0072_STAMPING: M 364 1961
 LG0072_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
 LG0072+STABILITY: SURFACE MOTION
 LG0072_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
 LG0072+SATELLITE: SATELLITE OBSERVATIONS - October 20, 2013
 LG0072
 LG0072  HISTORY     - Date     Condition        Report By
 LG0072  HISTORY     - 1961     MONUMENTED       CGS
 LG0072  HISTORY     - 20131020 GOOD             NEDR
 LG0072
 LG0072                           STATION DESCRIPTION
 LG0072
 LG0072'DESCRIBED BY COAST AND GEODETIC SURVEY 1961
 LG0072'3.1 MI NW FROM AVOCA.
 LG0072'1.2 MILES NORTH ALONG THE MISSOURI PACIFIC RAILROAD FROM THE
 LG0072'STATION AT AVOCA, TO U.S. HIGHWAY 34, THENCE 1.8 MILES WEST
 LG0072'ALONG U.S. HIGHWAY 34, ABOUT 242 FEET NORTHWEST OF A CROSSING,
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LG0072'62.6 FEET NORTH OF CENTER LINE OF HIGHWAY, 44 FEET SOUTH OF FENCE,
LG0072'3 FEET NORTHEAST OF A TELEPHONE POLE WITH ONE GUY WIRE, 3 FEET
LG0072'HIGHER THAN THE HIGHWAY, ON A CUTBANK, 1.4 FEET WEST OF A
LG0072'METAL WITNESS POST WITH SIGN, SET IN TOP OF A SQUARE CONCRETE
LG0072'POST PROJECTING 4 INCHES ABOVE GROUND.
LG0072
LG0072 STATION RECOVERY (2013)
LG0072
LG0072'RECOVERY NOTE BY NEBRASKA ROADS DEPARTMENT 2013 (BB)
LG0072'RECOVERED IN GOOD CONDITION.

*** retrieval complete.
Elapsed Time = 00:00:04

The NGS Data Sheet

See file dsdata.pdf for more information about the datasheet.

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PROGRAM = datasheet95, VERSION = 8.12.5.2
1        National Geodetic Survey,   Retrieval Date = APRIL 11, 2019
 LG0831 ***********************************************************************
 LG0831  DESIGNATION -  MERIDIAN
 LG0831  PID         -  LG0831
 LG0831  STATE/COUNTY-  NE/THAYER
 LG0831  COUNTRY     -  US
 LG0831  USGS QUAD   -  REYNOLDS (1980)
 LG0831
 LG0831                         *CURRENT SURVEY CONTROL
 LG0831 ______________________________________________________________________
 LG0831* NAD 83(1995) POSITION- 40 00 07.37405(N) 097 22 09.55420(W)   ADJUSTED
 LG0831* NAVD 88 ORTHO HEIGHT -   481.58  (+/-2cm)     1580.0   (feet) VERTCON
 LG0831 ______________________________________________________________________
 LG0831  GEOID HEIGHT    -        -26.868 (meters)                     GEOID12B
 LG0831  LAPLACE CORR    -         -2.39  (seconds)                    DEFLEC12B
 LG0831  HORZ ORDER      -  FIRST
 LG0831  VERT ORDER      -  THIRD ? (See Below)
 LG0831
 LG0831.The horizontal coordinates were established by classical geodetic methods
 LG0831.and adjusted by the National Geodetic Survey in August 1997.
 LG0831.
 LG0831.The NAVD 88 height was computed by applying the VERTCON shift value to
 LG0831.the NGVD 29 height (displayed under SUPERSEDED SURVEY CONTROL.)
 LG0831
 LG0831.Significant digits in the geoid height do not necessarily reflect accuracy.
 LG0831.GEOID12B height accuracy estimate available here.
 LG0831
 LG0831.The vertical order pertains to the NGVD 29 superseded value.
 LG0831
 LG0831.Photographs are available for this station.
 LG0831
 LG0831.The Laplace correction was computed from DEFLEC12B derived deflections.
 LG0831
 LG0831. The following values were computed from the NAD 83(1995) position.
 LG0831
 LG0831;                    North         East     Units Scale Factor Converg.
 LG0831;SPC KS N     -   185,444.828   453,856.406   MT  1.00004281   +0 23 56.5
 LG0831;SPC KS N     -   608,413.57  1,489,027.23   sFT  1.00004281   +0 23 56.5
 LG0831;SPC NE       -    22,150.924   724,602.279   MT  0.99999908   +1 44 36.0
 LG0831;SPC NE       -    72,673.49  2,377,299.31   sFT  0.99999908   +1 44 36.0
 LG0831;UTM  14      - 4,429,258.024   639,193.447   MT  0.99983852   +1 02 54.2
 LG0831
 LG0831!             -  Elev Factor  x  Scale Factor =   Combined Factor
 LG0831!SPC KS N     -   0.99992867  x   1.00004281  =   0.99997148
 LG0831!SPC NE       -   0.99992867  x   0.99999908  =   0.99992775
 LG0831!UTM  14      -   0.99992867  x   0.99983852  =   0.99976720
 LG0831
 LG0831:                 Primary Azimuth Mark                    Grid Az
 LG0831:SPC KS N     -   MERIDIAN AZ MK                         116 10 11.9
 LG0831:SPC NE       -   MERIDIAN AZ MK                         114 49 32.4
 LG0831:UTM  14      -   MERIDIAN AZ MK                         115 31 14.2
 LG0831
 LG0831_U.S. NATIONAL GRID SPATIAL ADDRESS: 14TPK3919329258(NAD 83)
 LG0831
 LG0831|----------------------------------------------------------------------|
 LG0831|  PID    Reference Object                  Distance      Geod. Az   |
 LG0831|                                                          dddmmss.s  |
 LG0831|  LG1476 MERIDIAN RM 3                     23.718 METERS 04709      |
 LG0831|  CO1786 MERIDIAN RM 1                     23.818 METERS 04723      |
 LG0831|  KF1218 MERIDIAN AZ MK                                  1163408.4  |
 LG0831|  LG0832 T1N R1W SEC 36 SE COR STONE KS NE   13.315 METERS 12916      |
 LG0831|  KF0828 MAHASKA HIGH SCHOOL SPIRE        APPROX. 2.1 KM 1311048.1  |
 LG0831|  KF0826 MAHASKA MUNICIPAL STANDPIPE      APPROX. 2.3 KM 1412016.4  |
 LG0831|  KF1216 MERIDIAN AZ MK 2                 APPROX. 0.5 KM 1781324.5  |
 LG0831|  KF0835 NARKA MUNICIPAL STANDPIPE        APPROX. 6.8 KM 2263006.7  |
 LG0831|  LG1475 MERIDIAN RM 2                     27.574 METERS 23512      |
 LG0831|  KF0918 MUNDEN MUNICIPAL TANK            APPROX.17.5 KM 2360544.3  |
 LG0831|  LG0866 CHESTER MUNICIPAL TANK           APPROX.21.4 KM 2724520.5  |
 LG0831|  LG0867 CHESTER ST JOHNS LUTH CH SPIRE   APPROX.21.5 KM 2730915.7  |
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LG0831| LG0833 ST PAULS LUTHERAN CHURCH SPIRE      APPROX.13.6 KM 3313634.5 |
LG0831| LG0836 GILEAD ST JOSEPH CHURCH SPIRE       APPROX.16.2 KM 3453059.2 |
LG0831|-----------------------------------------------------------------------|
LG0831
LG0831                          SUPERSEDED SURVEY CONTROL
LG0831
LG0831  NAD 83(1986)-  40 00 07.37922(N)    097 22 09.55403(W) AD(        ) 1
LG0831  NAD 27      -  40 00 07.36000(N)    097 22 08.40700(W) AD(        ) 1
LG0831  NGVD 29             481.42   (m)          1579.5    (f) LEVELING    3
LG0831
LG0831.Superseded values are not recommended for survey control.
LG0831
LG0831.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
LG0831.See file dsdata.pdf to determine how the superseded data were derived.
LG0831
LG0831_MARKER: DS = TRIANGULATION STATION DISK
LG0831_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
LG0831_STAMPING: MERIDIAN 1935
LG0831_MARK LOGO: CGS
LG0831_MAGNETIC: N = NO MAGNETIC MATERIAL
LG0831_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
LG0831+STABILITY: SURFACE MOTION
LG0831_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
LG0831+SATELLITE: SATELLITE OBSERVATIONS - June 07, 2017
LG0831
LG0831  HISTORY     - Date     Condition        Report By
LG0831  HISTORY     - 1935     MONUMENTED       CGS
LG0831  HISTORY     - 1935     GOOD             CGS
LG0831  HISTORY     - 1947     GOOD             CGS
LG0831  HISTORY     - 1950     GOOD             CGS
LG0831  HISTORY     - 1970     GOOD             NGS
LG0831  HISTORY     - 1976     GOOD             NGS
LG0831  HISTORY     - 19860521 GOOD             NGS
LG0831  HISTORY     - 20050624 GOOD             INDIV
LG0831  HISTORY     - 20060614 GOOD             GEOCAC
LG0831  HISTORY     - 20170607 GOOD             INDIV
LG0831
LG0831                          STATION DESCRIPTION
LG0831
LG0831'DESCRIBED BY COAST AND GEODETIC SURVEY 1935 (CIA)
LG0831'STATION IS LOCATED IN SE 1/4 SE 1/4 SEC. 36, T. 1 N., R. 1 W., 1
LG0831'MILE WEST AND 1 MILE NORTH OF MAHASKA, KANS.  MARK IS IN THE
LG0831'NORTHWEST CORNER OF A T-JUNCTION OF A THROUGH NORTH-SOUTH ROAD AND
LG0831'AN EAST-WEST ROAD.  THE STATION IS AT A CORNER COMMON TO THAYER
LG0831'AND JEFFERSON COUNTIES, NEBR., AND REPUBLIC AND WASHINGTON
LG0831'COUNTIES, KANS. CORNER IS ALSO ON THE 6TH PRINCIPAL MERIDIAN FOR
LG0831'TOWNSHIPS AND RANGES.  MARK IS 27 FEET NORTH OF CENTERLINE OF
LG0831'ROAD AND 30 FEET WEST OF CENTERLINE OF ROAD.
LG0831'
LG0831'FROM MAHASKA STATE BANK IN MAHASKA, GO SOUTH FOR 0.15 MILE TO
LG0831'GRAVEL ROAD, THENCE RIGHT (WEST) FOR 0.8 MILE TO CROSSROADS,
LG0831'THENCE RIGHT (NORTH) FOR 1 MILE TO STATION JUST NORTHWEST OF
LG0831'T-JUNCTION.
LG0831'
LG0831'REFERENCE MARK NO. 1 IS 78.18 FEET (23.830 METERS) NORTHEAST OF
LG0831'STATION, 20 FEET EAST OF CENTERLINE OF ROAD.
LG0831'
LG0831'REFERENCE MARK NO. 2 IS 90.49 FEET (27.583 METERS) SOUTHWEST OF
LG0831'STATION, 20 FEET SOUTH OF CENTERLINE OF ROAD.
LG0831'
LG0831'AZIMUTH MARK IS 1.2 MILES EAST-SOUTHEAST OF STATION, 30 FEET SOUTH
LG0831'OF CENTERLINE OF ROAD, 100.0 FEET NORTH OF NORTHEAST CORNER OF
LG0831'LARGE RED BARN.  FROM STATION, GO SOUTH FOR 1.0 MILE TO CROSS ROAD,
LG0831'THENCE LEFT (EAST) FOR 1.0 MILE, THENCE LEFT (NORTH) FOR 0.4
LG0831'MILE TO MARK ON LEFT (SOUTH).
LG0831'
LG0831'HEIGHT OF LIGHT ABOVE STATION MARK - 23 METERS.
LG0831
LG0831                          STATION RECOVERY (1935)
LG0831
LG0831'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1935
LG0831'RECOVERED IN GOOD CONDITION.
LG0831
LG0831                          STATION RECOVERY (1947)
LG0831
LG0831'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1947 (RLE)
LG0831'THE STATION AND ALL MARKS WERE RECOVERED AND FOUND TO BE IN GOOD
LG0831'CONDITION.
LG0831'
LG0831'A COMPLETE DESCRIPTION FOLLOWS.
LG0831'
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LG0831'THE STATION IS LOCATED IN THE SOUTHEAST CORNER OF A CULTIVATED
LG0831'FIELD, 1 MILE NORTHWEST OF THE TOWN OF MAHASKA, KANSAS, 46 FEET
LG0831'NORTH-NORTHWEST OF THE CENTER OF INTERSECTION OF A T ROAD, 34
LG0831'FEET WEST OF THE CENTER OF A NORTH-SOUTH GRADED ROAD, AND 13 FEET
LG0831'NORTHWEST OF A FENCE CORNER. IT IS AT THE CORNER COMMON TO
LG0831'THAYER AND JEFFERSON COUNTIES, NEBRASKA AND REPUBLIC AND
LG0831'WASHINGTON COUNTIES, KANSAS. CORNER IS ALSO ON THE SIXTH
LG0831'PRINCIPAL MERIDIAN FOR TOWNSHIPS AND RANGE. IT PROJECTS 12
LG0831'INCHES,AND IS STAMPED
LG0831'MERIDIAN 1935.
LG0831'
LG0831'REFERENCE MARK NO. 1 IS 24 FEET EAST OF THE CENTER OF A GRADED
LG0831'ROAD, 17.5 FEET NORTH OF A TELEPHONE POLE AND 0.6 FOOT WEST OF
LG0831'A FENCE LINE. IT PROJECTS 10 INCHES, IS DESCRIBED BY
LG0831'AND IS STAMPED MERIDIAN NO 1 1935.
LG0831'
LG0831'REFERENCE MARK NO. 2 IS 22.5 FEET SOUTH OF THE CENTER OF A
LG0831'GRADED ROAD AND 1.0 FOOT NORTH OF A FENCE LINE. IT PROJECTS 6
LG0831'INCHES, AND IS STAMPED MERIDIAN NO 2
LG0831'1935.
LG0831'
LG0831'AZIMUTH MARK IS 1.2 MILES EAST-SOUTHEAST OF THE STATION, 150 FEET
LG0831'NORTH OF THE NORTHEAST CORNER OF A BARN, 23 FEET WEST OF THE CENTER
LG0831'OF A GRADED ROAD, AND 1.3 FEET NORTH OF A WITNESS POST. IT
LG0831'PROJECTS 7 INCHES, AND IS STAMPED
LG0831'MERIDIAN 1935.
LG0831'
LG0831'TO REACH THE STATION FROM THE STATE BANK IN MAHASKA, KANSAS, GO
LG0831'SOUTH FOR 0.15 MILE, TURN RIGHT, WEST, AND GO 0.8 MILE TO A
LG0831'CROSSROAD, TURN RIGHT, NORTH, AND GO 1.0 MILE TO A T ROAD LEFT
LG0831'AND THE STATION AS DESCRIBED.
LG0831'
LG0831'TO REACH THE AZIMUTH MARK FROM THE STATION, GO SOUTH 1.0 MILE,
LG0831'TURN LEFT, EAST, AND GO 1.0 MILE, TURN LEFT, NORTH, AND GO 0.4
LG0831'MILE TO THE AZIMUTH MARK ON THE LEFT AS DESCRIBED.
LG0831'
LG0831'A 74 FOOT SIGNAL AT CHESTER IS VISIBLE AT 37 FEET.
LG0831'
LG0831'A 4 FOOT SIGNAL AT WILLIAMS IS VISIBLE AT 24 FEET.
LG0831'
LG0831'A 74 FOOT SIGNAL AT CORDING IS VISIBLE AT 24 FEET.
LG0831'
LG0831'A 74 FOOT SIGNAL AT GILEAD IS VISIBLE AT 24 FEET.
LG0831'
LG0831'A 4 FOOT SIGNAL AT REYNOLDS IS VISIBLE AT 24 FEET.
LG0831'
LG0831'A 74 FOOT SIGNAL AT GLAD 1935 IS VISIBLE AT 24 FEET.
LG0831'
LG0831'A 74 FOOT SIGNAL AT HOFF 1935 IS VISIBLE AT 24 FEET.
LG0831
LG0831   STATION RECOVERY (1950)
LG0831
LG0831'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1950 (RLE)
LG0831'THE STATION, REFERENCE MARKS NOS 1 AND 2, AND AZIMUTH MARK, RECOVERED
LG0831'AND FOUND IN GOOD CONDITION. FOLLOWING IS A NEW AND COMPLETE
LG0831'DESCRIPTION.
LG0831'
LG0831'THE STATION IS LOCATED ABOUT 1-1/2 MILES NORTHWEST OF MAHASKA, KANSAS
LG0831'IN THE SOUTHEAST CORNER OF A CULTIVATED FIELD AND ON LAND OWNED BY
LG0831'MR. ROSCOE BEACHER. IT IS AT THE CORNER COMMON TO THAYER AND
LG0831'JEFFERSON COUNTIES, NEBRASKA AND REPUBLIC AND WASHINGTON COUNTIES,
LG0831'KANSAS, 31 FEET NORTH OF THE CENTER OF EAST-WEST ROAD, 10 FEET
LG0831'NORTH OF EASTWEST FENCE LINE, 33 FEET WEST OF THE CENTER OF
LG0831'NORTH-SOUTH ROAD AND 10 FEET WEST OF NORTH-SOUTH FENCE LINE. IT IS
LG0831'STAMPED MERIDIAN 1935 AND PROJECTS 8 INCHES.
LG0831'
LG0831'REFERENCE MARK NO 1 IS NORTHEAST OF THE STATION, 30 FEET EAST OF THE
LG0831'CENTER OF NORTH-SOUTH ROAD AND 1 FOOT WEST OF NORTH-SOUTH FENCE
LG0831'LINE. IT IS STAMPED MERIDIAN NO 1 1935 AND PROJECTS 4 INCHES.
LG0831'
LG0831'REFERENCE MARK NO 2 IS SOUTHWEST OF THE STATION, 25 FEET SOUTH OF THE
LG0831'CENTER OF EAST-WEST ROAD AND 1 FOOT NORTH OF EAST-WEST FENCE LINE.
LG0831'IT IS STAMPED MERIDIAN NO 2 1935 AND PROJECTS 3 INCHES.
LG0831'
LG0831'THE AZIMUTH MARK IS ABOUT 1.2 MILES EAST-SOUTHEAST OF THE STATION, 25
LG0831'FEET WEST OF THE CENTER OF NORTH-SOUTH ROAD, 50 FEET NORTH OF FENCE
LG0831'CORNER, 2 FEET NORTH OF WITNESS POST AND 1 FOOT EAST OF NORTH-SOUTH
LG0831'FENCE LINE. IT IS STAMPED MERIDIAN 1935 AND PROJECTS 4 INCHES.
LG0831'
LG0831'TO REACH THE AZIMUTH MARK FROM THE STATE BANK IN MAHASKA, GO EAST FOR
LG0831'0.2 MILE, TURN LEFT AND GO NORTH FOR 0.35 MILE TO THE AZIMUTH MARK

LG0831'ON THE WEST SIDE AS DESCRIBED.
LG0831'
LG0831'TO REACH THE STATION FROM THE STATE BANK IN MAHASKA, GO SOUTH FOR
LG0831'0.15 MILE, TURN RIGHT AND GO WEST FOR 0.8 MILE TO CROSSROAD, TURN
LG0831'RIGHT AND GO NORTH FOR 1.0 MILE TO THE STATION ON THE WEST SIDE IN
LG0831'SOUTHEAST CORNER OF FIELD AS DESCRIBED.
LG0831'
LG0831'OBSERVATIONS MADE FROM A 77 FOOT STEEL TOWER.
LG0831
LG0831 STATION RECOVERY (1970)
LG0831
LG0831'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1970 (LFS)
LG0831'THE STATION MARK, REFERENCE MARK NO. 1, REFERENCE MARK NO. 2, AND THE
LG0831'AZIMUTH MARK WERE RECOVERED AS PREVIOUSLY DESCRIBED AND ALL MARKS
LG0831'WERE FOUND IN GOOD CONDITION. THE DESCRIPTION WAS FOUND ADEQUATE
LG0831'FOR RECOVERY.
LG0831'
LG0831'A METAL WITNESS POST WAS SET 1 FOOT WEST OF THE STATION MARK.
LG0831'
LG0831'AZIMUTH MARK IS 23 FEET WEST OF THE CENTER OF A ROAD, 5 FEET
LG0831'NORTHEAST OF A BRACE POST, 2.5 FEET EAST OF A FENCE, AND 1 FOOT
LG0831'NORTH OF A METAL WITNESS POST. A SMALL AMOUNT OF CLEARING IS
LG0831'REQUIRED AT THE AZIMUTH MARK TO BE VISIBLE AT THE STATION SITE.
LG0831'
LG0831'AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN--ABOUT 1 MILE WEST
LG0831'AND 1 MILE NORTH OF MAHASKA, KANSAS.
LG0831
LG0831 STATION RECOVERY (1976)
LG0831
LG0831'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1976 (CLN)
LG0831'THE STATION MARK, REFERENCE MARK 2 AND THE AZIMUTH MARK WERE
LG0831'RECOVERED AND FOUND IN GOOD CONDITION. THE TOP OF REFERENCE MARK 1
LG0831'CONCRETE MONUMENT WAS FOUND BROKEN OFF. THE LINE OF SIGHT TO THE
LG0831'AZIMUTH MARK WAS OBSTRUCTED BY TREES THIS DATE. REFERENCE MARK 3
LG0831'WAS ESTABLISHED THIS DATE. THE SIXTH PRINCIPAL MEDIDIAN, FORTIETH
LG0831'PARALLEL CORNER STONE WAS RECOVERED AND THE NECESSARY
LG0831'OBSERVATIONS WERE MADE THIS DATE. THE DISTANCE TO REFERENCE
LG0831'MARK 2 CHECKED THE 1947 DISTANCE AND THE DIRECTION TO REFERENCE MARK
LG0831'2 MISSED THE 1947 DIRECTION ABOUT 6 MINUTES.
LG0831'
LG0831'FOLLOWING IS A NEW COMPLETE DESCRIPTION--
LG0831'
LG0831'THE STATION IS LOCATED 1.0 MILE WEST AND 1.0 MILE NORTH OF MAHASKA,
LG0831'KANSAS, IN THE SE CORNER OF THE SE QUARTER OF SEC. 36, T 1 N, R 1 W
LG0831'AND ON THE WEST RIGHT-OF-WAY OF A NORTH-SOUTH COUNTY ROAD, NEAR THE
LG0831'CORNER COMMON TO THAYER AND JEFFERSON COUNTIES, NEBRASKA AND
LG0831'REPUBLIC AND WASHINGTON COUNTIES, KANSAS AND SIXTH PRINCIPAL
LG0831'MEDIDIAN AND FORTIETH PARALLEL.
LG0831'
LG0831'THE SURFACE STATION MARK IS A STANDARD DISK STAMPED MERIDIAN 1935,
LG0831'SET IN THE TOP OF A 12 INCH ROUND CONCRETE POST THAT PROJECTS ABOUT 6
LG0831'INCHES ABOVE THE GROUND SURFACE. IT IS 34 FEET WEST OF THE
LG0831'CENTER OF THE NORTH-SOUTH DIRT ROAD, 27 FEET NORTH OF THE CENTER OF
LG0831'A DIRT ROAD LEADING WEST AND 1 FOOT EAST OF A METAL WITNESS POST. A
LG0831'VEHICLE TIRE SURROUNDS THE MARK THIS DATE WITH THE MARK IN THE
LG0831'CENTER OF THE TIRE. THE UNDERGROUND STATION MARK WAS NOT
LG0831'INSPECTED THIS DATE.
LG0831'
LG0831'REFERENCE MARK 2 IS A STANDARD DISK STAMPED MERIDIAN NO 2 1935, SET
LG0831'IN THE TOP OF A 12 INCH ROUND CONCRETE POST THAT PROJECTS 8 INCHES
LG0831'ABOVE THE GROUND SURFACE. IT IS 22 FEET SOUTH OF THE CENTER OF THE
LG0831'DIRT ROAD LEADING WEST AND 1 FOOT NORTH OF AN EAST-WEST
LG0831'FENCELINE.
LG0831'
LG0831'REFERENCE MARK 3 IS A STANDARD DISK STAMPED MERIDIAN 1935 NO 3 1976,
LG0831'SET IN THE TOP OF A 12 INCH ROUND CONCRETE POST THAT IS FLUSH WITH
LG0831'THE GROUND SURFACE. IT IS 24 FEET EAST OF THE CENTER OF THE
LG0831'NORTH-SOUTH DIRT ROAD AND 0.6 FOOT WEST OF A METAL WITNESS POST IN
LG0831'A FENCELINE.
LG0831'
LG0831'THE AZIMUTH MARK IS A STANDARD DISK STAMPED MERIDIAN 1935, SET IN THE
LG0831'TOP OF A 12 INCH SQUARE CONCRETE POST THAT PROJECTS 4 INCHES ABOVE
LG0831'THE GROUND SURFACE. IT IS 23 FEET WEST OF THE CENTER OF A GRADED
LG0831'ROAD, 5 FEET NORTHEAST OF A BRACE FENCE POST, 2.5 FEET EAST OF A
LG0831'FENCE AND 1 FOOT NORTH OF A METAL WITNESS POST.
LG0831'
LG0831'TO REACH THE STATION FROM MAHASKA, KANSAS, GO WEST ON THE MAIN ROAD
LG0831'FOR 1.0 MILE TO A GRADED ROAD ON THE RIGHT, TURN RIGHT AND GO NORTH
LG0831'ON THE GRADED ROAD FOR 1.0 MILE TO A SIDE ROAD ON THE LEFT, THE
LG0831'STATION ON THE LEFT IN THE NORTHWEST ANGLE OF THE INTERSECTION AT
LG0831'THE NEBRASKA-KANSAS STATELINE.

LG0831'
LG0831'TO REACH THE AZIMUTH MARK FROM THE STATION, GO SOUTH ON THE GRADED
LG0831'ROAD FOR 1.0 MILE TO AN EAST-WEST ROAD, TURN LEFT AND GO EAST FOR
LG0831'1.0 MILE TO THE TOWN OF MAHASKA AND A GRAVELED ROAD ON THE LEFT,
LG0831'TURN LEFT AND GO NORTH ON THE GRAVELED ROAD FOR 0.4 MILE TO THE
LG0831'AZIMUTH MARK ON THE LEFT.
LG0831'
LG0831'NOTE--THE ORIGINAL DESCRIPTION FOR THE CORNER STONE MENTIONED CAN BE
LG0831'OBTAINED FROM THE COUNTY SURVEYORS OFFICE FROM THE COUNTIES
LG0831'MENTIONED IN THIS DESCRIPTION. THIS DATE A PORTION OF THE RED
LG0831'SANDSTONE ROCK 6 INCHES WIDE, 16 INCHES LONG, EAST-WEST, ABOUT 18
LG0831'INCHES IN HEIGHT WITH A LIMESTONE ROCK ON THE NORTH AND SOUTH SIDE
LG0831'AND ABOUT THE SAME SIZE AS THE RED SANDSTONE ROCK WAS RECOVERED
LG0831'ABOUT 2 FEET BELOW THE GROUND SURFACE NEAR THE CENTER OF THE
LG0831'INTERSECTION OF THE ROADS. A NAIL 1 INCH LONG WAS DRIVEN INTO THE
LG0831'TOP CENTER OF THE RED SANDSTONE ROCK FOR POINT INTERSECTED THIS
LG0831'DATE. FOLLOWING ARE ADDITIONAL MEASUREMENTS, 24.5 FEET WEST
LG0831'OF THE EAST RIGHT-OF-WAY FENCELINE AND 38 FEET NORTHEAST OF THE NORTH
LG0831'4X4 POST THAT SUPPORTS A SIGN THE FOUR CORNERS.
LG0831'
LG0831'THE DIFFERENCE IN ELEVATION, MERIDIAN 1935 TO THE TOP CENTER POINT OF
LG0831'THE RED SANDSTONE ROCK IS -1.678 FEET.
LG0831'
LG0831'AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN--1 MILE W AND 1 MILE
LG0831'N OF MAHASKA.
LG0831
LG0831   STATION RECOVERY (1986)
LG0831
LG0831'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1986
LG0831'THE SURFACE STATION MARK AND REFERENCE MARKS 2 AND 3 WERE RECOVERED IN
LG0831'GOOD CONDITION. THE AZIMUTH MARK IS TILTED OUT OF POSITION AND IS
LG0831'OBSTRUCTED TO THE STATION BY TREES. AN AZIMUTH MARK 2 WAS
LG0831'ESTABLISHED THIS DATE. THE DIRECTION TO REFERENCE MARK 2 WAS 9
LG0831'MINUTES, 44 SECONDS LARGER THAN 1976 DATA AND 3 MINUTES, 17 SECONDS
LG0831'LARGER THAN 1935 DATA. THE DISTANCE TO THE MARK WAS 0.010 M
LG0831'(0.033 FT) SHORTER THAN 1935 DATA AND 1976 DATA. THE DIRECTION TO
LG0831'REFERENCE MARK 3 WAS 4 MINUTES, 59 SECONDS SMALLER THAN 1976 DATA. A
LG0831'CHECK ANGLE TO DISTANT OBJECTS WAS OBTAINED. A NEW DESCRIPTION
LG0831'FOLLOWS.
LG0831'THE STATION IS LOCATED ABOUT 6.8 KM (4.2 MI) NORTHEAST FROM NARKA,
LG0831'KANSAS, 2 KM (1.2 MI) NORTHWEST FROM MAHASKA, KANSAS, AT THE
LG0831'KANSAS-NEBRASKA STATE LINE, JUST NORTHWEST FROM THE COMMON CORNER OF
LG0831'THAYER AND JEFFERSON COUNTIES IN NEBRASKA AND REPUBLIC AND
LG0831'WASHINGTYON COUNTIES IN KANSAS, IN THE SE 1/4 OF THE SE 1/4, SEC 36,
LG0831'T1N, R1W AND 13.32 M (43.70 FT) NORTHWEST FROM THE SIXTH PRINCIPAL
LG0831'MERDIAN, FORTIETH PARALLEL STONE. THE PROPERTY IS OWNED BY THE STATE
LG0831'OF NEBRASKA, JIM BROWN, STATE SURVEYOR, LINCOLN, NEBRASKA.
LG0831'TO REACH THE STATION FROM THE POST OFFICE IN MAHASKA, KANSAS, GO SOUTH
LG0831'ON MAIN STREET FOR 0.24 KM (0.15 MI) TO HIGHWAY AVENUE. TURN RIGHT
LG0831'AND GO WEST FOR 1.37 KM (0.85 MI) TO A CROSSROAD AT THE REPUBLIC
LG0831'COUNTY LINE. TURN RIGHT AND GO NORTH ON A GRAVELED ROAD FOR 1.05 KM
LG0831'(0.65 MI) TO THE NEW AZIMUTH MARK ON THE RIGHT, AT A FIELD ENTRANCE.
LG0831'CONTINUE NORTH ON A DIRT ROAD FOR 0.56 KM (0.35 MI) TO A SIDE ROAD
LG0831'ON THE LEFT, THE KANSAS-NEBRASKA STATE LINE AND THE STATION IN THE
LG0831'NORTHWEST ANGLE OF THE INTERSECTION.
LG0831'THE SURFACE DISK IS SET INTO THE TOP OF A ROUND CONCRETE POST THAT
LG0831'PROJECTS 0.015 M (0.049 FT) ABOVE THE GROUND SURFACE. IT IS 10.21 M
LG0831'(33.50 FT) WEST FROM THE CENTERLINE OF THE NORTH/SOUTH ROAD, 8.69 M
LG0831'(28.51 FT) NORTH FROM THE CENTERLINE IOF THE EAST/WEST ROAD, 13.32 M
LG0831'(43.70 FT) NORTHWEST FROM THE INITIAL POINT ON THE SIXTH PRIME
LG0831'MERIDIAN, 0.76 M (2.49 FT) EAST FROM A WITNESS POST AND 0.76 M
LG0831'(2.49 FT) SOUTH FROM ANOTHER WITNESS POST. THE UNDERGROUND MARK WAS
LG0831'NOT INSPECTED SINCE CHECK ANGLES WERE OBTAINED TO DISTANT LANDMARKS.
LG0831
LG0831   STATION RECOVERY (2005)
LG0831
LG0831'RECOVERY NOTE BY INDIVIDUAL CONTRIBUTORS 2005 (SGK)
LG0831'RECOVERED STATION, RM 2, RM 3, AND AZ MARK 2 ALL RECOVERED.
LG0831
LG0831   STATION RECOVERY (2006)
LG0831
LG0831'RECOVERY NOTE BY GEOCACHING 2006 (CB)
LG0831'GEOCAC FIRST REPORT.
LG0831'ALL MARKS RECOVERED IN GOOD CONDITION.
LG0831
LG0831   STATION RECOVERY (2017)
LG0831
LG0831'RECOVERY NOTE BY INDIVIDUAL CONTRIBUTORS 2017 (MNM)
LG0831'RECOVERED IN GOOD CONDITION.

*** retrieval complete.

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   Elapsed Time = 00:00:13
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The NGS Data Sheet

See file dsdata.pdf for more information about the datasheet.

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PROGRAM = datasheet95, VERSION = 8.12.5.2
1        National Geodetic Survey,   Retrieval Date = MARCH 28, 2019
 LH0371 ***********************************************************************
 LH0371  DESIGNATION -  N 169
 LH0371  PID         -  LH0371
 LH0371  STATE/COUNTY-  NE/FRANKLIN
 LH0371  COUNTRY     -  US
 LH0371  USGS QUAD   -  RIVERTON (1974)
 LH0371
 LH0371                         *CURRENT SURVEY CONTROL
 LH0371 ______________________________________________________________________
 LH0371* NAD 83(1986) POSITION- 40 05 15.     (N) 098 45 28.     (W)    SCALED
 LH0371* NAVD 88 ORTHO HEIGHT -   539.703 (meters)     1770.68  (feet) ADJUSTED
 LH0371 ______________________________________________________________________
 LH0371  GEOID HEIGHT    -        -25.804 (meters)                     GEOID12B
 LH0371  DYNAMIC HEIGHT  -        539.375 (meters)     1769.60  (feet) COMP
 LH0371  MODELED GRAVITY -    980,000.9   (mgal)                       NAVD 88
 LH0371
 LH0371  VERT ORDER      -  SECOND    CLASS 0
 LH0371
 LH0371.The horizontal coordinates were scaled from a topographic map and have
 LH0371.an estimated accuracy of +/- 6 seconds.
 LH0371.
 LH0371.The orthometric height was determined by differential leveling and
 LH0371.adjusted by the NATIONAL GEODETIC SURVEY
 LH0371.in June 1991.
 LH0371
 LH0371.Significant digits in the geoid height do not necessarily reflect accuracy.
 LH0371.GEOID12B height accuracy estimate available here.
 LH0371
 LH0371.The dynamic height is computed by dividing the NAVD 88
 LH0371.geopotential number by the normal gravity value computed on the
 LH0371.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
 LH0371.degrees latitude (g = 980.6199 gals.).
 LH0371
 LH0371.The modeled gravity was interpolated from observed gravity values.
 LH0371
 LH0371;                    North         East     Units  Estimated Accuracy
 LH0371;SPC NE       -    28,980.      605,940.      MT  (+/- 180 meters Scaled)
 LH0371
 LH0371_U.S. NATIONAL GRID SPATIAL ADDRESS: 14TNK206374(NAD 83)
 LH0371
 LH0371                          SUPERSEDED SURVEY CONTROL
 LH0371
 LH0371  NGVD 29 (??/??/92)  539.479  (m)         1769.94   (f) ADJ UNCH    2 0
 LH0371
 LH0371.Superseded values are not recommended for survey control.
 LH0371
 LH0371.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
 LH0371.See file dsdata.pdf to determine how the superseded data were derived.
 LH0371
 LH0371_MARKER: DB = BENCH MARK DISK
 LH0371_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
 LH0371_STAMPING: N-169 1934
 LH0371_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
 LH0371+STABILITY: SURFACE MOTION
 LH0371_SATELLITE: THE SITE LOCATION WAS REPORTED AS NOT SUITABLE FOR
 LH0371+SATELLITE: SATELLITE OBSERVATIONS - July 22, 2009
 LH0371
 LH0371  HISTORY     - Date     Condition        Report By
 LH0371  HISTORY     - 1934     MONUMENTED       CGS
 LH0371  HISTORY     - 1972     GOOD             USGS
 LH0371  HISTORY     - 20090722 GOOD             NEDR
 LH0371
 LH0371                          STATION DESCRIPTION
 LH0371
 LH0371'DESCRIBED BY US GEOLOGICAL SURVEY 1972
 LH0371'AT RIVERTON.
 LH0371'AT RIVERTON, FRANKLIN COUNTY, NEBR., ON THE CHICAGO, BURLINGTON
 LH0371'AND QUINCY RR, ONE BLOCK EAST OF THE STATION, IN THE NW 1/4 OF
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LH0371'SEC. 2, T 1 N, R 13 W, 83 FT NORTH AND 41 FEET WEST OF RAILROAD
LH0371'GRADE X-ING, 51 FT NORTH AND 41 FT WEST OF CROSS STREET, AND 37.5
LH0371'FT SE OF SE CORNER OF HOUSE, SET IN YARD AND FLUSH WITH GROUND,
LH0371'IN A CONCRETE POST.
LH0371
LH0371 STATION RECOVERY (2009)
LH0371
LH0371'RECOVERY NOTE BY NEBRASKA ROADS DEPARTMENT 2009 (JPC)
LH0371'RECOVERED IN GOOD CONDITION.

*** retrieval complete.
Elapsed Time = 00:00:10

The NGS Data Sheet

See file dsdata.pdf for more information about the datasheet.

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PROGRAM = datasheet95, VERSION = 8.12.5.2
1        National Geodetic Survey,   Retrieval Date = APRIL 11, 2019
 LG1257 ***********************************************************************
 LG1257  CBN          -  This is a Cooperative Base Network Control Station.
 LG1257  DESIGNATION -  N 437
 LG1257  PID          -  LG1257
 LG1257  STATE/COUNTY-  NE/CLAY
 LG1257  COUNTRY      -  US
 LG1257  USGS QUAD    -  SARONVILLE (1969)
 LG1257
 LG1257                          *CURRENT SURVEY CONTROL
 LG1257  ______________________________________________________________________
 LG1257* NAD 83(2011) POSITION- 40 35 03.14303(N) 097 58 34.05703(W)   ADJUSTED
 LG1257* NAD 83(2011) ELLIP HT-   498.871 (meters)        (06/27/12)   ADJUSTED
 LG1257* NAD 83(2011) EPOCH    -  2010.00
 LG1257* NAVD 88 ORTHO HEIGHT -   524.851 (meters)     1721.95  (feet) ADJUSTED
 LG1257  ______________________________________________________________________
 LG1257  GEOID HEIGHT    -        -25.972 (meters)                     GEOID12B
 LG1257  NAD 83(2011) X  -   -673,145.954 (meters)                     COMP
 LG1257  NAD 83(2011) Y  - -4,804,205.907 (meters)                     COMP
 LG1257  NAD 83(2011) Z  -  4,127,790.304 (meters)                     COMP
 LG1257  LAPLACE CORR    -         -3.84  (seconds)                    DEFLEC12B
 LG1257  DYNAMIC HEIGHT  -       524.560 (meters)     1720.99  (feet) COMP
 LG1257  MODELED GRAVITY -    980,053.7   (mgal)                       NAVD 88
 LG1257
 LG1257  VERT ORDER      -  FIRST     CLASS II
 LG1257
 LG1257  Network accuracy estimates per FGDC Geospatial Positioning Accuracy
 LG1257  Standards:
 LG1257         FGDC (95% conf, cm)     Standard deviation (cm)     CorrNE
 LG1257            Horiz  Ellip          SD_N   SD_E   SD_h      (unitless)
 LG1257  ----------------------------------------------------------------------
 LG1257  NETWORK    0.41   1.04           0.19   0.13   0.53     -0.00041753
 LG1257  ----------------------------------------------------------------------
 LG1257  Click here for local accuracies and other accuracy information.
 LG1257
 LG1257
 LG1257.The horizontal coordinates were established by GPS observations
 LG1257.and adjusted by the National Geodetic Survey in June 2012.
 LG1257
 LG1257.NAD 83(2011) refers to NAD 83 coordinates where the reference frame has
 LG1257.been affixed to the stable North American tectonic plate. See
 LG1257.NA2011 for more information.
 LG1257
 LG1257.The horizontal coordinates are valid at the epoch date displayed above
 LG1257.which is a decimal equivalence of Year/Month/Day.
 LG1257
 LG1257.The orthometric height was determined by differential leveling and
 LG1257.adjusted by the NATIONAL GEODETIC SURVEY
 LG1257.in May 1993.
 LG1257
 LG1257.Significant digits in the geoid height do not necessarily reflect accuracy.
 LG1257.GEOID12B height accuracy estimate available here.
 LG1257
 LG1257.The X, Y, and Z were computed from the position and the ellipsoidal ht.
 LG1257
 LG1257.The Laplace correction was computed from DEFLEC12B derived deflections.
 LG1257
 LG1257.The ellipsoidal height was determined by GPS observations
 LG1257.and is referenced to NAD 83.
 LG1257
 LG1257.The dynamic height is computed by dividing the NAVD 88
 LG1257.geopotential number by the normal gravity value computed on the
 LG1257.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
 LG1257.degrees latitude (g = 980.6199 gals.).
 LG1257
 LG1257.The modeled gravity was interpolated from observed gravity values.
 LG1257
 LG1257. The following values were computed from the NAD 83(2011) position.
 LG1257
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LG1257;                    North         East     Units Scale Factor Converg.
LG1257;SPC NE       -    85,374.139   671,292.329   MT  0.99978685   +1 20 28.4
LG1257;SPC NE       -   280,098.32  2,202,398.25   sFT  0.99978685   +1 20 28.4
LG1257;UTM  14      - 4,493,105.397   586,648.859   MT  0.99969241   +0 39 58.1
LG1257
LG1257!             -  Elev Factor  x  Scale Factor =   Combined Factor
LG1257!SPC NE       -   0.99992175  x   0.99978685  =   0.99970862
LG1257!UTM  14      -   0.99992175  x   0.99969241  =   0.99961418
LG1257
LG1257_U.S. NATIONAL GRID SPATIAL ADDRESS: 14TNK8664893105(NAD 83)
LG1257
LG1257                           SUPERSEDED SURVEY CONTROL
LG1257
LG1257  NAD 83(2007)-  40 35 03.14297(N)    097 58 34.05771(W) AD(2002.00) 0
LG1257  ELLIP H (02/10/07)  498.894  (m)                       GP(2002.00)
LG1257  ELLIP H (07/10/01)  498.864  (m)                       GP(        ) 4 1
LG1257  NAD 83(1995)-  40 35 03.14271(N)    097 58 34.05711(W) AD(        ) B
LG1257  ELLIP H (06/25/96)  498.934  (m)                       GP(        ) 1 1
LG1257  NAVD 88             524.85   (m)         1721.9    (f) LEVELING    3
LG1257
LG1257.Superseded values are not recommended for survey control.
LG1257
LG1257.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
LG1257.See file dsdata.pdf to determine how the superseded data were derived.
LG1257
LG1257_MARKER: I = METAL ROD
LG1257_SETTING: 59 = STAINLESS STEEL ROD IN SLEEVE (10 FT.+)
LG1257_STAMPING: N 437
LG1257_MARK LOGO: NGS
LG1257_PROJECTION: FLUSH
LG1257_MAGNETIC: I = MARKER IS A STEEL ROD
LG1257_STABILITY: A = MOST RELIABLE AND EXPECTED TO HOLD
LG1257+STABILITY: POSITION/ELEVATION WELL
LG1257_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
LG1257+SATELLITE: SATELLITE OBSERVATIONS - July 30, 2012
LG1257_ROD/PIPE-DEPTH: 16.8 meters
LG1257_SLEEVE-DEPTH  : 7.9 meters
LG1257
LG1257  HISTORY     - Date     Condition        Report By
LG1257  HISTORY     - 1991     MONUMENTED       NGS
LG1257  HISTORY     - 19950511 GOOD             NGS
LG1257  HISTORY     - 20000605 GOOD             NEDR
LG1257  HISTORY     - 20030204 GOOD             DUCKS
LG1257  HISTORY     - 20120730 GOOD             JEOCON
LG1257
LG1257                           STATION DESCRIPTION
LG1257
LG1257'DESCRIBED BY NATIONAL GEODETIC SURVEY 1991
LG1257'36.8 KM (22.85 MI) EASTERLY ALONG U.S. HIGHWAY 6 FROM THE JUNCTION
LG1257'OF U.S. HIGHWAY 281 IN HASTINGS, 171.0 M (561.0 FT) NORTH OF THE
LG1257'CENTERLINE OF THE HIGHWAY, 17.1 M (56.1 FT) NORTH-NORTHEAST OF THE
LG1257'NORTHEAST CORNER OF A BRIDGE SPANNING SCHOOL CREEK, 9.6 M (31.5 FT)
LG1257'EAST OF THE CENTER OF THE ROAD, 8.0 M (26.2 FT) NORTH OF THE CENTER
LG1257'OF A GATE, 2.7 M (8.9 FT) NORTHEAST OF AN UNDERGROUND CABLE JUNCTION
LG1257'BOX, AND 1.4 M (4.6 FT) EAST OF A WITNESS POST AND FENCE.
LG1257'NOTE--ACCESS TO THE DATUM POINT IS THROUGH A 5-INCH LOGO CAP.  THE
LG1257'MARK IS ON PROPERTY OWNED BY HOWARD HAM, RURAL ROUTE 1, SHARONVILLE,
LG1257'NE 68975, TELEPHONE NUMBER (402) 773-4846.
LG1257
LG1257                           STATION RECOVERY (1995)
LG1257
LG1257'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1995 (JAO)
LG1257'THE MARK IS LOCATED ABOUT 6.5 MI (10.5 KM) WEST-SOUTHWEST OF SUTTON,
LG1257'1.0 MI (1.6 KM) EAST FROM THE EAST JUNCTION OF U.S. HIGHWAY 6 WITH
LG1257'STATE HIGHWAY 14, 0.1 MI (0.2 KM) NORTH OF HIGHWAY 6, JUST NORTH OF
LG1257'SCHOOL CREEK, IN THE SW1/4, SEC11, T7N, R6W AND ON PROPERTY OWNED BY
LG1257'ARMIN NUSS, RR2, SUTTON, NEBRASKA, TELEPHONE 402-773-4883.  TO REACH
LG1257'THE MARK FROM THE INTERSECTION OF SAUNDERS AVENUE WITH U.S. HIGHWAY 6
LG1257'AT THE SOUTH SIDE OF SUTTON, GO SOUTHWEST AND WEST ON U.S. HIGHWAY 6
LG1257'FOR 6.5 MI (10.5 KM) TO A GRAVELED CROSSROAD.  TURN RIGHT AND GO NORTH
LG1257'FOR 0.1 MI (0.2 KM) TO A WOODEN BRIDGE OVER SCHOOL CREEK AND THE MARK
LG1257'ON THE RIGHT.  THE MARK IS A SLEEVED STAINLESS STEEL ROD SET WITHIN A
LG1257'5-INCH PVC PIPE WITH A LOGO CAP THAT IS FLUSH WITH THE GROUND.  IT IS
LG1257'55.7 FT (17.0 M) NORTH-NORTHEAST FROM THE NORTHEAST CORNER OF THE
LG1257'BRIDGE, 43.0 FT (13.1 M) NORTH OF THE NORTH BANK OF THE CREEK, 32.5 FT
LG1257'(9.9 M) EAST FROM THE CENTERLINE OF THE ROAD, 6.7 FT (2.0 M) NORTHEAST
LG1257'OF A LARGE, SQUARE BRACE POST OF A FENCE, 4.5 FT (1.4 M) EAST OF THE
LG1257'FENCE AND A FIBERGLASS WITNESS POST AND ABOUT LEVEL WITH THE ROAD.
LG1257
LG1257                           STATION RECOVERY (2000)
LG1257
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LG1257'RECOVERY NOTE BY NEBRASKA ROADS DEPARTMENT 2000 (JAO)
LG1257'RECOVERED AS DESCRIBED.
LG1257
LG1257                          STATION RECOVERY (2003)
LG1257
LG1257'RECOVERY NOTE BY DUCKS UNLIMITED 2003
LG1257'RECOVERED IN GOOD CONDITION.
LG1257
LG1257                          STATION RECOVERY (2012)
LG1257
LG1257'RECOVERY NOTE BY JEO CONSULTING GROUP INC 2012
LG1257'RECOVERED IN GOOD CONDITION.

*** retrieval complete.
Elapsed Time = 00:00:14
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The NGS Data Sheet

See file dsdata.pdf for more information about the datasheet.

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PROGRAM = datasheet95, VERSION = 8.12.5.2
1        National Geodetic Survey,   Retrieval Date = MARCH 28, 2019
 LH1365 ***********************************************************************
 LH1365  DESIGNATION -  ORLEANS
 LH1365  PID         -  LH1365
 LH1365  STATE/COUNTY-  NE/HARLAN
 LH1365  COUNTRY     -  US
 LH1365  USGS QUAD   -  ORLEANS (1973)
 LH1365
 LH1365                         *CURRENT SURVEY CONTROL
 LH1365  ______________________________________________________________________
 LH1365* NAD 83(1995) POSITION- 40 14 02.38089(N) 099 29 10.98134(W)   ADJUSTED
 LH1365* NAVD 88 ORTHO HEIGHT -   674.    (meters)     2211.    (feet) SCALED
 LH1365  ______________________________________________________________________
 LH1365  GEOID HEIGHT    -        -24.898 (meters)                    GEOID12B
 LH1365  LAPLACE CORR    -         -2.72  (seconds)                   DEFLEC12B
 LH1365  HORZ ORDER      -  SECOND
 LH1365
 LH1365.The horizontal coordinates were established by classical geodetic methods
 LH1365.and adjusted by the National Geodetic Survey in August 1997.
 LH1365.
 LH1365.The orthometric height was scaled from a topographic map.
 LH1365
 LH1365.Significant digits in the geoid height do not necessarily reflect accuracy.
 LH1365.GEOID12B height accuracy estimate available here.
 LH1365
 LH1365.The Laplace correction was computed from DEFLEC12B derived deflections.
 LH1365
 LH1365. The following values were computed from the NAD 83(1995) position.
 LH1365
 LH1365;                    North         East     Units Scale Factor Converg.
 LH1365;SPC NE       -    44,616.783   543,705.078   MT  0.99990241   +0 20 25.3
 LH1365;SPC NE       -   146,380.23  1,783,805.74   sFT  0.99990241   +0 20 25.3
 LH1365;UTM  14      - 4,453,842.302   458,624.412   MT  0.99962107   -0 18 51.0
 LH1365
 LH1365!             -  Elev Factor  x  Scale Factor =   Combined Factor
 LH1365!SPC NE       -   0.99989814  x   0.99990241  =   0.99980056
 LH1365!UTM  14      -   0.99989814  x   0.99962107  =   0.99951925
 LH1365
 LH1365:                Primary Azimuth Mark                     Grid Az
 LH1365:SPC NE       -  ORLEANS AZ MK RESET                      033 02 13.4
 LH1365:UTM  14      -  ORLEANS AZ MK RESET                      033 41 29.7
 LH1365
 LH1365_U.S. NATIONAL GRID SPATIAL ADDRESS: 14TMK5862453842(NAD 83)
 LH1365
 LH1365|-----------------------------------------------------------------------|
 LH1365|  PID    Reference Object                    Distance      Geod. Az   |
 LH1365|                                                            dddmmss.s  |
 LH1365|  CN9398 ORLEANS AZ MK RESET                                0332238.7  |
 LH1365|  CN9397 ORLEANS AZ MK                                      0513435.1  |
 LH1365|  CN9401 ORLEANS RM 3                 21.961 METERS 09130              |
 LH1365|  LH1364 ORLEANS MUNICIPAL STANDPIPE APPROX.11.2 KM 1640900.9 |
 LH1365|  LH1367 ORLEANS ST MARYS CATH CH CROSS APPROX.11.3 KM 1662349.0 |
 LH1365|  CN9399 ORLEANS RM 1                  18.149 METERS 16923      |
 LH1365|  LH1363 ORLEANS CONSUM PWR DIST MAST APPROX. 8.6 KM 1765317.5 |
 LH1365|  LH1019 STAMFORD MUNICIPAL TANK      APPROX.14.3 KM 2190116.0 |
 LH1365|  CN9400 ORLEANS RM 2                  21.640 METERS 27304      |
 LH1365|-----------------------------------------------------------------------|
 LH1365
 LH1365                          SUPERSEDED SURVEY CONTROL
 LH1365
 LH1365  NAD 83(1986)-  40 14 02.38571(N)    099 29 10.98200(W) AD(        ) 2
 LH1365  NAD 27      -  40 14 02.34900(N)    099 29 09.60700(W) AD(        ) 2
 LH1365
 LH1365.Superseded values are not recommended for survey control.
 LH1365
 LH1365.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
 LH1365.See file dsdata.pdf to determine how the superseded data were derived.
 LH1365
 LH1365 MARKER: DS = TRIANGULATION STATION DISK
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LH1365_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
LH1365
LH1365 HISTORY   - Date   Condition   Report By
LH1365 HISTORY   - 1951   MONUMENTED   CGS
LH1365 HISTORY   - 1953   GOOD   CGS
LH1365
LH1365   STATION DESCRIPTION
LH1365
LH1365'DESCRIBED BY COAST AND GEODETIC SURVEY 1951 (RLE)
LH1365'THE STATION IS LOCATED IN THE NORTHEAST CORNER OF A SCHOOLYARD,
LH1365'ABOUT 8 MILES EAST-SOUTHEAST OF OXFORD AND 7.5 MILES
LH1365'NORTH-NORTHWEST OF ORLEANS. IT IS 32 FEET SOUTH OF THE CENTER
LH1365'OF AN EAST-WEST DIRT ROAD AND 11.5 FEET WEST OF A FENCE CORNER
LH1365'AND WITNESS POST. IT IS STAMPED ORLEANS 1951 AND IS SET FLUSH.
LH1365'
LH1365'REFERENCE MARK NO. 1 IS IN A NORTH-SOUTH FENCE LINE. IT IS
LH1365'STAMPED ORLEANS NO 1 1951 AND PROJECTS 6 INCHES.
LH1365'
LH1365'REFERENCE MARK NO. 2 IS 31 FEET SOUTH OF THE CENTER OF AN
LH1365'EAST-WEST DIRT ROAD. IT IS STAMPED ORLEANS NO 2 1951 AND IS SET
LH1365'FLUSH.
LH1365'
LH1365'THE DISTANCE BETWEEN REFERENCE MARK NO. 1 AND REFERENCE MARK
LH1365'NO. 2 IS 102.9 FEET.
LH1365'
LH1365'THE AZIMUTH MARK IS LOCATED JUST SOUTH OF A TELEPHONE POLE AND
LH1365'WITNESS POST, 30 FEET EAST OF THE CENTER OF A NORTH-SOUTH DIRT ROAD
LH1365'AND 1 FOOT WEST OF A NORTH-SOUTH FENCE LINE. IT IS STAMPED
LH1365'ORLEANS 1951 AND PROJECTS 5 INCHES.
LH1365'
LH1365'TO REACH THE STATION FROM THE POST OFFICE IN ORLEANS, GO NORTH
LH1365'ON STATE HIGHWAY 89 FOR 0.25 MILE TO STATE HIGHWAY 3, TURN
LH1365'LEFT AND GO WEST ON STATE HIGHWAYS 89 AND 3 FOR 0.5 MILE TO A
LH1365'CROSSROAD. AT THIS POINT LEAVE STATE HIGHWAY 89, TURN RIGHT
LH1365'AND GO NORTHWEST ON STATE HIGHWAY 3 FOR 1.4 MILES TO A CROSSROAD.
LH1365'TURN RIGHT AND GO NORTH ON A DIRT ROAD FOR 5.9 MILES TO A
LH1365'CROSSROAD, TURN LEFT AND GO WEST ON A DIRT ROAD FOR 0.3 MILE
LH1365'TO THE STATION ON THE LEFT AS DESCRIBED.
LH1365'
LH1365'TO REACH THE AZIMUTH MARK FROM THE STATION, GO EAST ON A
LH1365'DIRT ROAD FOR 0.3 MILE TO A CROSSROAD, TURN LEFT AND GO NORTH
LH1365'ON A DIRT ROAD FOR 0.25 MILE TO THE AZIMUTH MARK ON THE
LH1365'RIGHT AS DESCRIBED.
LH1365'
LH1365'HEIGHT OF LIGHT ABOVE STATION MARK 22 METERS.
LH1365
LH1365   STATION RECOVERY (1953)
LH1365
LH1365'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1953 (GCM)
LH1365'STATION WAS RECOVERED AS DESCRIBED AND ALL MARKS WERE FOUND
LH1365'IN GOOD CONDITION. ROAD CONSTRUCTION WOULD DESTROY THE AZIMUTH
LH1365'MARK. IT WAS MOVED AT THE REQUEST OF THE HARLAN COUNTY
LH1365'SUPERVISOR, MR. ED MINTZMYER. THE SCHOOLHOUSE HAS BEEN REMOVED
LH1365'AND THE LAND HAS BEEN SOLD TO MR. CARL OTT WHO OWNS THE ADJOINING
LH1365'PROPERTY. REFERENCE MARK NO. 1 WAS MOVED AT HIS REQUEST AS HE
LH1365'PLANS TO PUT THE SCHOOLYARD UNDER CULTIVATION. A COMPLETE
LH1365'NEW DESCRIPTION FOLLOWS.
LH1365'
LH1365'THE STATION IS LOCATED ABOUT 8 MILES EAST-SOUTHEAST OF OXFORD AND
LH1365'7 AND 1/2 MILES NORTH-NORTHWEST OF ORLEANS IN THE NE 1/4 SEC. 17,
LH1365'T. 3 N., R. 19 W., 32 FEET SOUTH OF THE CENTER OF AN EAST-WEST
LH1365'ROAD, AND 11.5 FEET WEST OF A FENCE CORNER AND A WHITE WITNESS
LH1365'POST. THE MARK IS FLUSH WITH THE SURFACE OF THE GROUND AND
LH1365'THE DISK IS STAMPED ORLEANS 1951.
LH1365'
LH1365'REFERENCE MARK NO. 2 IS 31 FEET SOUTH OF THE CENTER OF AN
LH1365'EAST-WEST ROAD. THE MARK IS FLUSH WITH THE SURFACE OF THE
LH1365'GROUND AND THE DISK IS STAMPED ORLEANS NO 2 1951.
LH1365'
LH1365'REFERENCE MARK NO. 3 IS 61 FEET EAST OF A FENCE CORNER AND
LH1365'WITNESS POST AND 32 FEET SOUTH OF THE CENTER OF AN EAST-WEST
LH1365'ROAD IN A FENCELINE. THE MARK PROJECTS 2 INCHES AND THE DISK IS
LH1365'STAMPED ORLEANS NO 3 1951.
LH1365'
LH1365'AZIMUTH MARK IS 33 FEET WEST OF THE CENTER OF GRADED ROAD,
LH1365'6 FEET SOUTH OF SOUTH GATE POST, AND 1 FOOT EAST OF FENCE.
LH1365'THE MARK PROJECTS 2 INCHES AND THE DISK IS STAMPED ORLEANS 1951
LH1365'RESET 1953.
LH1365'
LH1365'TO REACH THE STATION FROM THE POST OFFICE IN ORLEANS, GO
LH1365'NORTH ON STATE HIGHWAY 89 FOR 0.25 MILE TO STATE HIGHWAY 3.

LH1365'TURN LEFT AND GO WEST ON STATE HIGHWAYS 3 AND 89 FOR 0.5
LH1365'MILE TO CROSSROADS AND THE JUNCTION OF THESE TWO HIGHWAYS. TURN
LH1365'RIGHT AND GO NORTH-WEST ON STATE HIGHWAY 3 FOR 1.4 MILES TO A
LH1365'CROSSROAD. TURN RIGHT AND GO NORTH ON A GRADED ROAD FOR 5.9
LH1365'MILES TO CROSSROADS. TURN LEFT AND GO WEST FOR 0.3 MILE TO THE
LH1365'STATION ON THE LEFT AS DESCRIBED.
LH1365'
LH1365'TO REACH THE AZIMUTH MARK FROM THE STATION, GO EAST 0.3 MILE
LH1365'TO CROSSROADS. TURN LEFT AND GO NORTH FOR 0.5 MILE TO FARM
LH1365'BUILDINGS OCCUPIED BY DEAN PEARSON ON THE RIGHT AND THE AZIMUTH
LH1365'MARK ON THE LEFT AS DESCRIBED.

*** retrieval complete.
Elapsed Time = 00:00:08

The NGS Data Sheet

See file dsdata.pdf for more information about the datasheet.

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PROGRAM = datasheet95, VERSION = 8.12.5.2
1        National Geodetic Survey,   Retrieval Date = MARCH 31, 2019
 LH0187 ***********************************************************************
 LH0187  DESIGNATION -  P 306
 LH0187  PID         -  LH0187
 LH0187  STATE/COUNTY-  NE/HALL
 LH0187  COUNTRY     -  US
 LH0187  USGS QUAD   -  GRAND ISLAND (1993)
 LH0187
 LH0187                          *CURRENT SURVEY CONTROL
 LH0187  ______________________________________________________________________
 LH0187* NAD 83(1995) POSITION- 40 57 35.90010(N) 098 20 03.48841(W)   ADJUSTED
 LH0187* NAD 83(1995) ELLIP HT-   539.783 (meters)        (06/27/02)   ADJUSTED
 LH0187* NAVD 88 ORTHO HEIGHT -   564.845 (meters)     1853.16  (feet) ADJUSTED
 LH0187  ______________________________________________________________________
 LH0187  GEOID HEIGHT    -        -25.065 (meters)                     GEOID12B
 LH0187  NAD 83(1995) X  -   -699,219.518 (meters)                     COMP
 LH0187  NAD 83(1995) Y  - -4,772,969.349 (meters)                     COMP
 LH0187  NAD 83(1995) Z  -  4,159,421.175 (meters)                     COMP
 LH0187  LAPLACE CORR    -         -3.76  (seconds)                    DEFLEC12B
 LH0187  DYNAMIC HEIGHT  -       564.548 (meters)     1852.19  (feet) COMP
 LH0187  MODELED GRAVITY -    980,081.3   (mgal)                       NAVD 88
 LH0187
 LH0187  HORZ ORDER      -  FIRST
 LH0187  VERT ORDER      -  SECOND    CLASS 0
 LH0187  ELLP ORDER      -  FOURTH    CLASS I
 LH0187
 LH0187.The horizontal coordinates were established by GPS observations
 LH0187.and adjusted by the National Geodetic Survey in August 1997.
 LH0187
 LH0187.The orthometric height was determined by differential leveling and
 LH0187.adjusted by the NATIONAL GEODETIC SURVEY
 LH0187.in June 1991.
 LH0187
 LH0187.Significant digits in the geoid height do not necessarily reflect accuracy.
 LH0187.GEOID12B height accuracy estimate available here.
 LH0187
 LH0187.Photographs are available for this station.
 LH0187
 LH0187.The X, Y, and Z were computed from the position and the ellipsoidal ht.
 LH0187
 LH0187.The Laplace correction was computed from DEFLEC12B derived deflections.
 LH0187
 LH0187.The ellipsoidal height was determined by GPS observations
 LH0187.and is referenced to NAD 83.
 LH0187
 LH0187.The dynamic height is computed by dividing the NAVD 88
 LH0187.geopotential number by the normal gravity value computed on the
 LH0187.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
 LH0187.degrees latitude (g = 980.6199 gals.).
 LH0187
 LH0187.The modeled gravity was interpolated from observed gravity values.
 LH0187
 LH0187. The following values were computed from the NAD 83(1995) position.
 LH0187
 LH0187;                    North         East      Units Scale Factor Converg.
 LH0187;SPC NE       -   126,437.395   640,178.305   MT  0.99970367   +1 06 13.9
 LH0187;SPC NE       -   414,820.02  2,100,318.32    sFT  0.99970367   +1 06 13.9
 LH0187;UTM  14      - 4,534,526.958   556,020.229   MT  0.99963862   +0 26 11.0
 LH0187
 LH0187!             -  Elev Factor  x  Scale Factor =   Combined Factor
 LH0187!SPC NE       -   0.99991534  x   0.99970367  =   0.99961903
 LH0187!UTM  14      -   0.99991534  x   0.99963862  =   0.99955399
 LH0187
 LH0187_U.S. NATIONAL GRID SPATIAL ADDRESS: 14TNL5602034526(NAD 83)
 LH0187
 LH0187                           SUPERSEDED SURVEY CONTROL
 LH0187
 LH0187  ELLIP H (08/18/97)  539.842  (m)                          GP(        ) 4 1
 LH0187  NAD 83(1986)-  40 57 35.90500(N)    098 20 03.49279(W) AD(        ) 1
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LH0187  NGVD 29 (??/??/92)  564.606  (m)         1852.38   (f) ADJ UNCH    2 0
LH0187  NGVD 29 (02/23/90)  565.     (m)  RAPSU86 model used   GPS OBS
LH0187
LH0187.Superseded values are not recommended for survey control.
LH0187
LH0187.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
LH0187.See file dsdata.pdf to determine how the superseded data were derived.
LH0187
LH0187_MARKER: DB = BENCH MARK DISK
LH0187_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
LH0187_STAMPING: P 306 1950
LH0187_MARK LOGO: CGS
LH0187_MAGNETIC: N = NO MAGNETIC MATERIAL
LH0187_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
LH0187+STABILITY: SURFACE MOTION
LH0187_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
LH0187+SATELLITE: SATELLITE OBSERVATIONS - May 05, 2010
LH0187
LH0187  HISTORY     - Date     Condition        Report By
LH0187  HISTORY     - 1950     MONUMENTED       CGS
LH0187  HISTORY     - 19890403 GOOD             NGS
LH0187  HISTORY     - 20060715 GOOD             JCLS
LH0187  HISTORY     - 20100505 GOOD             JEOCON
LH0187
LH0187                          STATION DESCRIPTION
LH0187
LH0187'DESCRIBED BY COAST AND GEODETIC SURVEY 1950
LH0187'2.6 MI N FROM GRAND ISLAND.
LH0187'2.6 MILES NORTH ALONG THE UNION PACIFIC RAILROAD FROM THE
LH0187'STATION AT GRAND ISLAND, AT A ROAD CROSSING, ACROSS THE TRACK
LH0187'FROM THE GRAND ISLAND RENDERING COMPANY PLANT, 50 FEET SOUTH
LH0187'OF THE CENTER LINE OF A ROAD, 47 FEET WEST OF THE WEST RAIL OF
LH0187'THE MAIN TRACK, 15.5 FEET SOUTH OF A FENCE CORNER, 10 FEET
LH0187'NORTHWEST OF THE FIRST TELEPHONE POLE SOUTH OF THE ROAD CROSSING,
LH0187'1 FOOT EAST OF A FENCE, 1.5 FEET SOUTH OF A WITNESS POST, SET IN
LH0187'THE TOP OF A CONCRETE OST WHICH PROJECTS 0.3 FOOT ABOVE THE
LH0187'GROUND.
LH0187
LH0187                          STATION RECOVERY (1989)
LH0187
LH0187'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1989
LH0187'THE STATION IS LOCATED ABOUT 4.5 KM (2.80 MI) NORT-NORTHEAST OF GRAND
LH0187'ISLAND, 1.6 KM (1.00 MI) SOUTHWEST OF THE CENTRAL NEGRASKA REGIONAL
LH0187'AIRPORT TERMINAL BUILDING, IN THE SOUTHWEST ANGLE OF A JUNCTION OF A
LH0187'COUNTY ROAD AND A RAILROAD TRACK.  OWNERSHIP--UNION PACIFIC RAIROAD.
LH0187'TO REACH THE STATION FROM THE JUNCTION OF INTERSTATE HIGHWAY 80 AND
LH0187'U.S. HIGHWAY 281 (EXIT 312), LOCATED ON THE SOUTHWEST SIDE OF GRAND
LH0187'ISLAND, GO NORTH ON U.S. HIGHWAY 281 FOR 10.78 KM (6.70 MI) TO AN
LH0187'OVERPASS AND JUNCTION WITH U.S. HIGHWAY 30.  CONTINUE AHEAD FOR 7.24
LH0187'KM (4.50 MI) TO A CROSSROAD WHERE HIGHWAY 281 TURNS LEFT, BEARING
LH0187'NORTH.  CONTINUE AHEAD AND GO EAST ON AIRPORT ROAD FOR 2.17 KM
LH0187'(1.35 MI) TO A RAILROAD CROSSING AND THE STATION ON THE RIGHT.
LH0187'THE STATION MARK IS SET 14.9 M (48.9 FT) SOUTH OF THE ROAD CENTER,
LH0187'14.1 M (46.3 FT) WEST OF THE WEST RAIL OF THE TRACK, 12.8 M (42.0 FT)
LH0187'SOUTHWEST OF A RAIL CROSSING POLE, 5.0 M (16.4 FT) SOUTH OF A UTILITY
LH0187'POLE AT A FENCE CORNER, 0.4 M (1.3 FT) NORTH OF A WITNESS POST AND 0.3
LH0187'M (1.0 FT) EAST OF A WIRE FENCE.
LH0187'DESCRIBED BY R.D.BALL.
LH0187
LH0187                          STATION RECOVERY (2006)
LH0187
LH0187'RECOVERY NOTE BY JOHN CHANCE LAND SURVEYS INC 2006
LH0187'RECOVERED IN GOOD CONDITION.
LH0187
LH0187                          STATION RECOVERY (2010)
LH0187
LH0187'RECOVERY NOTE BY JEO CONSULTING GROUP INC 2010 (JG)
LH0187'RECOVERED IN GOOD CONDITION.

*** retrieval complete.
Elapsed Time = 00:00:04
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The NGS Data Sheet

See file dsdata.pdf for more information about the datasheet.

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PROGRAM = datasheet95, VERSION = 8.12.5.2
1         National Geodetic Survey,   Retrieval Date = MARCH 27, 2019
 ML0463 ***********************************************************************
 ML0463  CBN          -  This is a Cooperative Base Network Control Station.
 ML0463  DESIGNATION -  Q 291
 ML0463  PID          -  ML0463
 ML0463  STATE/COUNTY-  NE/BUFFALO
 ML0463  COUNTRY      -  US
 ML0463  USGS QUAD    -  RAVENNA (1953)
 ML0463
 ML0463                         *CURRENT SURVEY CONTROL
 ML0463  ______________________________________________________________________
 ML0463* NAD 83(2011) POSITION- 41 02 03.63223(N) 098 59 00.96740(W)   ADJUSTED
 ML0463* NAD 83(2011) ELLIP HT-   595.038 (meters)        (06/27/12)   ADJUSTED
 ML0463* NAD 83(2011) EPOCH    -  2010.00
 ML0463* NAVD 88 ORTHO HEIGHT -   619.145 (meters)     2031.31  (feet) ADJUSTED
 ML0463  ______________________________________________________________________
 ML0463  GEOID HEIGHT    -        -24.103 (meters)                     GEOID12B
 ML0463  NAD 83(2011) X  -   -752,423.131 (meters)                     COMP
 ML0463  NAD 83(2011) Y  - -4,759,428.237 (meters)                     COMP
 ML0463  NAD 83(2011) Z  -  4,165,691.454 (meters)                     COMP
 ML0463  LAPLACE CORR    -         -3.16  (seconds)                    DEFLEC12B
 ML0463  DYNAMIC HEIGHT  -        618.816 (meters)     2030.23  (feet) COMP
 ML0463  MODELED GRAVITY -    980,073.8   (mgal)                       NAVD 88
 ML0463
 ML0463  VERT ORDER      -  SECOND    CLASS 0
 ML0463
 ML0463  Network accuracy estimates per FGDC Geospatial Positioning Accuracy
 ML0463  Standards:
 ML0463         FGDC (95% conf, cm)     Standard deviation (cm)     CorrNE
 ML0463            Horiz  Ellip          SD_N   SD_E   SD_h      (unitless)
 ML0463  ------------------------------------------------------------------
 ML0463  NETWORK    0.49   1.31           0.23   0.15   0.67     -0.08202991
 ML0463  ------------------------------------------------------------------
 ML0463  Click here for local accuracies and other accuracy information.
 ML0463
 ML0463
 ML0463.The horizontal coordinates were established by GPS observations
 ML0463.and adjusted by the National Geodetic Survey in June 2012.
 ML0463
 ML0463.NAD 83(2011) refers to NAD 83 coordinates where the reference frame has
 ML0463.been affixed to the stable North American tectonic plate. See
 ML0463.NA2011 for more information.
 ML0463
 ML0463.The horizontal coordinates are valid at the epoch date displayed above
 ML0463.which is a decimal equivalence of Year/Month/Day.
 ML0463
 ML0463.The orthometric height was determined by differential leveling and
 ML0463.adjusted by the NATIONAL GEODETIC SURVEY
 ML0463.in June 1991.
 ML0463
 ML0463.Significant digits in the geoid height do not necessarily reflect accuracy.
 ML0463.GEOID12B height accuracy estimate available here.
 ML0463
 ML0463.Photographs are available for this station.
 ML0463
 ML0463.The X, Y, and Z were computed from the position and the ellipsoidal ht.
 ML0463
 ML0463.The Laplace correction was computed from DEFLEC12B derived deflections.
 ML0463
 ML0463.The ellipsoidal height was determined by GPS observations
 ML0463.and is referenced to NAD 83.
 ML0463
 ML0463.The dynamic height is computed by dividing the NAVD 88
 ML0463.geopotential number by the normal gravity value computed on the
 ML0463.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
 ML0463.degrees latitude (g = 980.6199 gals.).
 ML0463
 ML0463.The modeled gravity was interpolated from observed gravity values.
 ML0463
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ML0463. The following values were computed from the NAD 83(2011) position.
ML0463
ML0463;                      North         East      Units Scale Factor Converg.
ML0463;SPC NE       -   133,845.839   585,442.155   MT  0.99969224   +0 40 24.8
ML0463;SPC NE       -   439,125.89  1,920,738.14   sFT  0.99969224   +0 40 24.8
ML0463;UTM  14      - 4,542,569.522   501,378.376   MT  0.99960002   +0 00 38.8
ML0463
ML0463!             -  Elev Factor  x  Scale Factor =   Combined Factor
ML0463!SPC NE       -   0.99990667  x   0.99969224  =   0.99959894
ML0463!UTM  14      -   0.99990667  x   0.99960002  =   0.99950673
ML0463
ML0463_U.S. NATIONAL GRID SPATIAL ADDRESS: 14TNL0137842569(NAD 83)
ML0463
ML0463                           SUPERSEDED SURVEY CONTROL
ML0463
ML0463  NAD 83(2007)-  41 02 03.63217(N)    098 59 00.96806(W) AD(2002.00) 0
ML0463  ELLIP H (02/10/07)  595.062  (m)                        GP(2002.00)
ML0463  ELLIP H (09/24/01)  595.035  (m)                        GP(        ) 4 1
ML0463  NAD 83(1995)-  41 02 03.63193(N)    098 59 00.96757(W) AD(        ) B
ML0463  ELLIP H (06/25/96)  595.097  (m)                        GP(        ) 1 1
ML0463  NAVD 88             619.15   (m)          2031.3    (f) LEVELING    3
ML0463  NGVD 29 (??/??/92)  618.906  (m)          2030.53   (f) ADJ UNCH    2 0
ML0463
ML0463.Superseded values are not recommended for survey control.
ML0463
ML0463.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
ML0463.See file dsdata.pdf to determine how the superseded data were derived.
ML0463
ML0463_MARKER: DB = BENCH MARK DISK
ML0463_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
ML0463_STAMPING: Q 291 1949
ML0463_MARK LOGO: CGS
ML0463_MAGNETIC: A = STEEL ROD ADJACENT TO MONUMENT
ML0463_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
ML0463+STABILITY: SURFACE MOTION
ML0463_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
ML0463+SATELLITE: SATELLITE OBSERVATIONS - March 21, 2017
ML0463
ML0463  HISTORY     - Date     Condition        Report By
ML0463  HISTORY     - 1949     MONUMENTED       CGS
ML0463  HISTORY     - 19950606 GOOD             NGS
ML0463  HISTORY     - 20050308 GOOD             NEDR
ML0463  HISTORY     - 20060715 GOOD             JCLS
ML0463  HISTORY     - 20170321 GOOD             NEGS
ML0463
ML0463                           STATION DESCRIPTION
ML0463
ML0463'DESCRIBED BY COAST AND GEODETIC SURVEY 1949
ML0463'1.5 MI SE FROM SWEETWATER.
ML0463'1.5 MILES SOUTHEAST ALONG STATE HIGHWAY NO. 2 FROM THE POST
ML0463'OFFICE AT SWEETWATER, AT A PRIVATE ROAD CROSSING, 143 FEET
ML0463'NORTHEAST OF THE CENTER LINE OF THE HIGHWAY, 45 FEET NORTHEAST
ML0463'OF THE NORTHEAST RAIL OF THE TRACK, 14 FEET WEST OF THE CENTER
ML0463'LINE OF A PRIVATE ROAD LEADING NORTH, 1.5 FEET SOUTHWEST OF A
ML0463'FENCE, 1.7 FEET NORTHWEST OF A REFERENCE POST, SET IN THE TOP
ML0463'OF A CONCRETE POST AT A DEPTH OF 5 FEET AND PROJECTING 0.2 FOOT
ML0463'ABOVE THE GROUND.
ML0463
ML0463                           STATION RECOVERY (1995)
ML0463
ML0463'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1995 (JAO)
ML0463'THE MARK IS LOCATED ABOUT 4 MI (6.4 KM) WEST-NORTHWEST OF RAVENNA, 1.5
ML0463'MI (2.4 KM) SOUTHEAST OF THE OLD TOWN OF SWEETWATER, ON THE NORTHEAST
ML0463'RIGHT-OF-WAY OF THE BURLINGTON NORTHERN RAILROAD AND IN THE SW1/4,
ML0463'SEC2, T12N, R15W.  TO REACH THE MARK FROM THE JUNCTION OF STATE
ML0463'HIGHWAYS 2 AND 68 AT RAVENNA, GO WEST AND NORTHWEST ON HIGHWAY 2 FOR
ML0463'4.10 MI (6.60 KM) TO A PRIVATE DRIVE ON THE RIGHT.  TURN RIGHT AND GO
ML0463'NORTH FOR ABOUT 150 FT (45.7 M) TO THE MARK ON THE LEFT JUST ACROSS A
ML0463'DOUBLE SET OF RAILROAD TRACKS.  THE DISK IS SET INTO THE TOP OF A
ML0463'ROUND CONCRETE MONUMENT THAT IS RECESSED ABOUT 1.25 FT (0.38 M) BELOW
ML0463'THE GROUND SURFACE.  IT IS 88.7 FT (27.0 M) SOUTHWEST OF A
ML0463'TRIPLE-GUYED UTILITY POLE, 25.6 FT (7.8 M) WEST-NORTHWEST OF A
ML0463'CONCRETE FENCE CORNER POST, 43.4 FT (13.2 M) NORTHEAST OF THE MOST
ML0463'NORTHEASTERLY RAIL, 12.3 FT (3.7 M) EAST OF THE EAST ONE OF 2 CLOSELY
ML0463'SET UTILITY POLES, 11.0 FT (3.4 M) WEST OF THE CENTERLINE OF THE
ML0463'DRIVEWAY, 1.4 FT (0.4 M) SOUTHEAST OF A WITNESS POST AND IS ABOUT 1.5
ML0463'FT (0.5 M) LOWER THAN THE DRIVEWAY.  REBAR WAS DRIVEN ALONG THE EAST
ML0463'SIDE OF THE MARK.
ML0463
ML0463                           STATION RECOVERY (2005)
ML0463
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ML0463'RECOVERY NOTE BY NEBRASKA ROADS DEPARTMENT 2005 (JA)
ML0463'RECOVERED IN GOOD CONDITION.
ML0463
ML0463 STATION RECOVERY (2006)
ML0463
ML0463'RECOVERY NOTE BY JOHN CHANCE LAND SURVEYS INC 2006
ML0463'RECOVERED IN GOOD CONDITION.
ML0463
ML0463 STATION RECOVERY (2017)
ML0463
ML0463'RECOVERY NOTE BY NEBRASKA GEODETIC SURVEY 2017 (RS)
ML0463'DESCRIPTION IS ADEQUATE, LAND OWNER PERFERS NO WITNESS AT MARK FOR
ML0463'MACHINE CLEARANCE

*** retrieval complete.
Elapsed Time = 00:00:04

The NGS Data Sheet

See file dsdata.pdf for more information about the datasheet.

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PROGRAM = datasheet95, VERSION = 8.12.5.2
1        National Geodetic Survey,   Retrieval Date = MAY 11, 2019
 LG0265 ***********************************************************************
 LG0265  DESIGNATION -  RATTLE AZ MK
 LG0265  PID         -  LG0265
 LG0265  STATE/COUNTY-  NE/GAGE
 LG0265  COUNTRY     -  US
 LG0265  USGS QUAD   -  ODELL NE (1970)
 LG0265
 LG0265                          *CURRENT SURVEY CONTROL
 LG0265 ______________________________________________________________________
 LG0265* NAD 83(1995) POSITION- 40 13 09.04857(N) 096 49 20.55146(W)   ADJUSTED
 LG0265* NAVD 88 ORTHO HEIGHT -   434.754 (meters)     1426.36  (feet) ADJUSTED
 LG0265 ______________________________________________________________________
 LG0265  GEOID HEIGHT    -        -27.110 (meters)                     GEOID12B
 LG0265  LAPLACE CORR    -         -1.15  (seconds)                    DEFLEC12B
 LG0265  DYNAMIC HEIGHT  -        434.517 (meters)     1425.58  (feet) COMP
 LG0265  MODELED GRAVITY -    980,065.5   (mgal)                       NAVD 88
 LG0265
 LG0265  HORZ ORDER      -  THIRD
 LG0265  VERT ORDER      -  SECOND    CLASS 0
 LG0265
 LG0265.The horizontal coordinates were established by classical geodetic methods
 LG0265.and adjusted by the National Geodetic Survey in August 1997.
 LG0265.
 LG0265.The orthometric height was determined by differential leveling and
 LG0265.adjusted by the NATIONAL GEODETIC SURVEY
 LG0265.in June 1991.
 LG0265
 LG0265.Significant digits in the geoid height do not necessarily reflect accuracy.
 LG0265.GEOID12B height accuracy estimate available here.
 LG0265
 LG0265.The Laplace correction was computed from DEFLEC12B derived deflections.
 LG0265
 LG0265.The dynamic height is computed by dividing the NAVD 88
 LG0265.geopotential number by the normal gravity value computed on the
 LG0265.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
 LG0265.degrees latitude (g = 980.6199 gals.).
 LG0265
 LG0265.The modeled gravity was interpolated from observed gravity values.
 LG0265
 LG0265. The following values were computed from the NAD 83(1995) position.
 LG0265
 LG0265;                    North         East     Units Scale Factor Converg.
 LG0265;SPC NE       -    47,811.615   770,394.314   MT  0.99990811   +2 06 20.9
 LG0265;SPC NE       -   156,861.94  2,527,535.35   sFT  0.99990811   +2 06 20.9
 LG0265;UTM  14      - 4,454,358.813   685,293.209   MT  1.00002266   +1 24 23.5
 LG0265
 LG0265!             -  Elev Factor  x  Scale Factor =   Combined Factor
 LG0265!SPC NE       -   0.99993606  x   0.99990811  =   0.99984417
 LG0265!UTM  14      -   0.99993606  x   1.00002266  =   0.99995871
 LG0265
 LG0265_U.S. NATIONAL GRID SPATIAL ADDRESS: 14TPK8529354358(NAD 83)
 LG0265
 LG0265                           SUPERSEDED SURVEY CONTROL
 LG0265
 LG0265  NAD 83(1986)-  40 13 09.05665(N)    096 49 20.54957(W) AD(       ) 3
 LG0265  NAD 27      -  40 13 09.05900(N)    096 49 19.45900(W) AD(       ) 3
 LG0265  NGVD 29 (??/??/92)  434.624  (m)         1425.93   (f) ADJ UNCH    2 0
 LG0265  NGVD 29             434.62   (m)         1425.9    (f) LEVELING    3
 LG0265
 LG0265.Superseded values are not recommended for survey control.
 LG0265
 LG0265.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
 LG0265.See file dsdata.pdf to determine how the superseded data were derived.
 LG0265
 LG0265_MARKER: DZ = AZIMUTH MARK DISK
 LG0265_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
 LG0265_STAMPING: RATTLE 1961
 LG0265 MARK LOGO: CGS
```

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LG0265_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
LG0265+STABILITY: SURFACE MOTION
LG0265_SATELLITE: THE SITE LOCATION WAS REPORTED AS NOT SUITABLE FOR
LG0265+SATELLITE: SATELLITE OBSERVATIONS - January 11, 2017
LG0265
LG0265  HISTORY     - Date     Condition        Report By
LG0265  HISTORY     - 1961     MONUMENTED       CGS
LG0265  HISTORY     - 1961     GOOD             CGS
LG0265  HISTORY     - 20170111 GOOD             NEGS
LG0265
LG0265                          STATION DESCRIPTION
LG0265
LG0265'DESCRIBED BY COAST AND GEODETIC SURVEY 1961 (GWM)
LG0265'STATION IS LOCATED ABOUT 4-1/2 MILES SOUTHWEST OF BEATRICE.
LG0265'
LG0265'THE AZIMUTH MARK IS 84 FEET S OF THE CENTER OF STATE HWY 136, 23
LG0265'FEET W OF THE CENTER OF THE NORTH-SOUTH SECTION LINE ROAD, 14
LG0265'FEET NORTH OF NORTH RAIL OF RAILROAD TRACKS AND 2 FEET SOUTHWEST
LG0265'OF A METAL WITNESS POST WITH SIGN.  IT IS A STANDARD DISK STAMPED
LG0265'RATTLE 1961, SET IN THE TOP OF A 10-INCH SQUARE CONCRETE MONUMENT
LG0265'THAT PROJECTS 6 INCHES.
LG0265'
LG0265'TO REACH FROM THE JUNCTION OF U.S. HWY 77 AND STATE HWY 136 IN
LG0265'BEATRICE, GO WEST AND SOUTHWEST ON STATE HWY 136 FOR 7.2 MILES TO
LG0265'A CROSSROAD AND THE MARK IN THE SOUTHWEST ANGLE.
LG0265
LG0265                          STATION RECOVERY (1961)
LG0265
LG0265'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1961
LG0265'2.8 MI E FROM ELLIS.
LG0265'2.85 MILE EAST ALONG THE CHICAGO, ROCK ISLAND AND PACIFIC RAILROAD
LG0265'FROM THE RAILROAD STATION IN ELLIS, 85.8 FEET SOUTH OF THE CENTER
LG0265'OF CROSSING, 23 FEET WEST OF THE CENTER OF DIRT ROAD, 34.8 FEET
LG0265'SOUTH OF A POWER POLE WITH TWO GUY WIRES, 14 FEET NORTH OF THE
LG0265'NORTH RAIL, 2.3 FEET EAST OF RAILROAD CROSSING SIGN, 2.3 FEET
LG0265'SOUTH OF A METAL WITNESS POST WITH SIGN, 1 FOOT LOWER THAN
LG0265'RAILROAD AND LEVEL WITH THE DIRT ROAD, SET IN TOP OF A SQUARE
LG0265'CONCRETE POST THAT PROJECTS 7 INCHES.
LG0265
LG0265                          STATION RECOVERY (2017)
LG0265
LG0265'RECOVERY NOTE BY NEBRASKA GEODETIC SURVEY 2017 (RS)
LG0265'MARK FOUND, COULD NOT RECONCILE THE MONUMENTS ELEVATION

*** retrieval complete.
Elapsed Time = 00:00:04
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The NGS Data Sheet

See file dsdata.pdf for more information about the datasheet.

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PROGRAM = datasheet95, VERSION = 8.12.5.2
1        National Geodetic Survey,   Retrieval Date = MARCH 29, 2019
 LH1211 ***********************************************************************
 LH1211  DESIGNATION -  RED
 LH1211  PID         -  LH1211
 LH1211  STATE/COUNTY-  NE/WEBSTER
 LH1211  COUNTRY     -  US
 LH1211  USGS QUAD   -  RED CLOUD (1974)
 LH1211
 LH1211                         *CURRENT SURVEY CONTROL
 LH1211 ______________________________________________________________________
 LH1211* NAD 83(1995) POSITION- 40 07 04.13575(N) 098 30 28.86107(W)   ADJUSTED
 LH1211* NAVD 88 ORTHO HEIGHT -   551.    (meters)     1808.    (feet) SCALED
 LH1211 ______________________________________________________________________
 LH1211  GEOID HEIGHT    -        -25.953 (meters)                    GEOID12B
 LH1211  LAPLACE CORR    -         -0.72  (seconds)                   DEFLEC12B
 LH1211  HORZ ORDER      -  SECOND
 LH1211
 LH1211.The horizontal coordinates were established by classical geodetic methods
 LH1211.and adjusted by the National Geodetic Survey in August 1997.
 LH1211.
 LH1211.The orthometric height was scaled from a topographic map.
 LH1211
 LH1211.Significant digits in the geoid height do not necessarily reflect accuracy.
 LH1211.GEOID12B height accuracy estimate available here.
 LH1211
 LH1211.The Laplace correction was computed from DEFLEC12B derived deflections.
 LH1211
 LH1211. The following values were computed from the NAD 83(1995) position.
 LH1211
 LH1211;                    North         East     Units Scale Factor Converg.
 LH1211;SPC KS N     -   198,233.793   356,690.255   MT  1.00007140   -0 19 17.1
 LH1211;SPC KS N     -   650,372.04  1,170,241.28   sFT  1.00007140   -0 19 17.1
 LH1211;SPC NE       -    32,684.947   627,174.133   MT  0.99994883   +0 59 19.4
 LH1211;SPC NE       -   107,233.86  2,057,653.80   sFT  0.99994883   +0 59 19.4
 LH1211;UTM  14      - 4,440,949.700   541,923.349   MT  0.99962164   +0 19 01.3
 LH1211
 LH1211!             -  Elev Factor  x  Scale Factor =   Combined Factor
 LH1211!SPC KS N     -   0.99991761  x   1.00007140  =   0.99998900
 LH1211!SPC NE       -   0.99991761  x   0.99994883  =   0.99986644
 LH1211!UTM  14      -   0.99991761  x   0.99962164  =   0.99953928
 LH1211
 LH1211:                 Primary Azimuth Mark                     Grid Az
 LH1211:SPC KS N     -   RED AZ MK 2                              088 31 41.2
 LH1211:SPC NE       -   RED AZ MK 2                              087 13 04.7
 LH1211:UTM  14      -   RED AZ MK 2                              087 53 22.8
 LH1211
 LH1211_U.S. NATIONAL GRID SPATIAL ADDRESS: 14TNK4192340949(NAD 83)
 LH1211
 LH1211|----------------------------------------------------------------------|
 LH1211| PID    Reference Object                    Distance       Geod. Az   |
 LH1211|                                                           dddmmss.s  |
 LH1211| CN9555 RED RM 1                             17.890 METERS 01219      |
 LH1211| LH1617 RED RM 4                             25.213 METERS 04805      |
 LH1211| LH1614 RED AZ MK 2                         APPROX. 0.6 KM 0881224.1  |
 LH1211| LH1615 RED RM 2                             11.846 METERS 08941      |
 LH1211| LH1212 RED CLOUD MUNICIPAL TANK            APPROX. 2.7 KM 2075336.1  |
 LH1211| CN9554 RED AZ MK                                           2700021.5  |
 LH1211| LH1616 RED RM 3                             16.732 METERS 35839      |
 LH1211|----------------------------------------------------------------------|
 LH1211
 LH1211                           SUPERSEDED SURVEY CONTROL
 LH1211
 LH1211  NAD 83(1986)-  40 07 04.14014(N)    098 30 28.85983(W) AD(        ) 2
 LH1211  NAD 27      -  40 07 04.08400(N)    098 30 27.64500(W) AD(        ) 2
 LH1211
 LH1211.Superseded values are not recommended for survey control.
 LH1211
 LH1211.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
 LH1211.See file dsdata.pdf to determine how the superseded data were derived.
```

LH1211
LH1211_MARKER: DS = TRIANGULATION STATION DISK
LH1211_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
LH1211_STAMPING: RED 1947
LH1211_MARK LOGO: CGS
LH1211_MAGNETIC: N = NO MAGNETIC MATERIAL
LH1211_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
LH1211+STABILITY: SURFACE MOTION
LH1211_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
LH1211+SATELLITE: SATELLITE OBSERVATIONS - August 25, 1981
LH1211
LH1211 HISTORY   - Date   Condition   Report By
LH1211 HISTORY   - 1947   MONUMENTED   CGS
LH1211 HISTORY   - 1947   GOOD   CGS
LH1211 HISTORY   - 1966   GOOD   CGS
LH1211 HISTORY   - 1975   GOOD   NGS
LH1211 HISTORY   - 19810825 GOOD   NGS
LH1211
LH1211   STATION DESCRIPTION
LH1211
LH1211'DESCRIBED BY COAST AND GEODETIC SURVEY 1947 (RLE)
LH1211'STATION IS LOCATED ABOUT 2 MILES NORTH OF RED CLOUD ON THE SUMMIT
LH1211'OF A HIGH HILL. THE MARK, STAMPED RED 1947, IS 28.5 FEET SOUTH
LH1211'OF THE CENTER LINE OF AN EAST-WEST ROAD, 4.5 FEET NORTHWEST OF
LH1211'A WITNESS POST, 3 FEET NORTH OF A WIRE FENCE AND PROJECTS 4
LH1211'INCHES.
LH1211'
LH1211'REFERENCE MARK NO. 1, STAMPED RED NO 1 1947, IS 30 FEET NORTH
LH1211'OF THE CENTER LINE OF AN EAST-WEST ROAD, 2 FEET SOUTH OF A
LH1211'WIRE FENCE AND PROJECTS 2 INCHES.
LH1211'
LH1211'REFERENCE MARK NO. 2 STAMPED RED NO 2 1947, IS 28.5 FEET SOUTH
LH1211'OF THE CENTER LINE OF AN EAST-WEST ROAD, 3 FEET NORTH OF A WIRE
LH1211'FENCE AND PROJECTS 3 INCHES.
LH1211'
LH1211'THE AZIMUTH MARK, STAMPED RED 1947, IS 38.5 FEET WEST OF THE
LH1211'CENTER LINE OF U.S. HIGHWAY NO. 281, 25.5 FEET SOUTH OF THE
LH1211'CENTER LINE OF AN EAST-WEST ROAD, 2 FEET SOUTHEAST OF A FENCE
LH1211'CORNER, 1.5 FEET EAST OF A WITNESS POST AND PROJECTS 3 INCHES.
LH1211'
LH1211'TO REACH THE STATION FROM THE JUNCTION OF STATE HIGHWAY NO. 3
LH1211'AND U.S. HIGHWAY NO. 281 IN RED CLOUD, GO NORTH ON U.S. HIGHWAY
LH1211'281 FOR 2.0 MILES TO A CROSSROAD. TURN RIGHT, EAST, AND GO 0.6
LH1211'MILE TO THE SUMMIT OF A HIGH HILL AND STATION ALONG FENCE LINE.
LH1211'
LH1211'TO REACH THE AZIMUTH MARK FROM THE JUNCTION OF STATE HIGHWAY NO. 3
LH1211'AND U.S. HIGHWAY NO. 281 IN RED CLOUD, GO NORTH ON U.S. HIGHWAY
LH1211'NO. 281 FOR 2.0 MILES TO A CROSSROAD AND MARK IN SOUTHWEST
LH1211'ANGLE OF INTERSECTION.
LH1211'
LH1211'A 74 FOOT SIGNAL AT STATION BEEMAN IS VISIBLE FROM THE GROUND.
LH1211'
LH1211'A 4 FOOT SIGNAL AT STATION HARRIS IS VISIBLE FROM THE GROUND.
LH1211'
LH1211'A 74 FOOT SIGNAL AT STATION COOPER 1898 IS VISIBLE FROM THE GROUND.
LH1211'
LH1211'HEIGHT OF LIGHT ABOVE STATION MARK 1.2 METERS.
LH1211
LH1211   STATION RECOVERY (1947)
LH1211
LH1211'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1947
LH1211'RECOVERED IN GOOD CONDITION.
LH1211
LH1211   STATION RECOVERY (1966)
LH1211
LH1211'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1966 (EBB)
LH1211'THE STATION MARK AND R.M. NO. 2 WERE RECOVERED AND FOUND IN
LH1211'GOOD CONDITION. R.M. NO. 1 WAS FOUND DISPLACED. THE AZIMUTH
LH1211'MARK WAS RECOVERED AND THE MARK SEEMED SOLID BUT THE EAST SIDE
LH1211'OF THE MARK WAS EXPOSED AND THE MARK WOULD BE DESTROYED IN
LH1211'THE NEAR FUTURE. A NEW AZIMUTH MARK WAS ESTABLISHED AND ONE
LH1211'NEW REFERENCE MARK WAS SET. THE ANGLE BETWEEN THE 1947 AZIMUTH
LH1211'MARK AND THE RED CLOUD STANDPIPE FAILED TO CHECK BY ABOUT 10
LH1211'SECONDS.
LH1211'
LH1211'TO REACH FROM RED CLOUD, FROM THE JUNCTION OF U.S. HIGHWAYS
LH1211'136 AND 281, GO NORTH ON U.S. 281 FOR 2.0 MILES TO CROSSROADS,
LH1211'TURN RIGHT AND GO EAST ON GRAVELED ROAD FOR 0.6 MILE TO THE
LH1211'STATION ON THE RIGHT. TO REACH THE AZIMUTH MARK FROM THE STATION,
LH1211'CONTINUE EAST ON THE MAIN ROAD FOR 0.35 MILE TO THE MARK ON
LH1211'THE LEFT.

```
LH1211'
LH1211'THE STATION IS 83.5 FEET EAST OF A TELEPHONE POLE, 28.5 FEET
LH1211'SOUTH OF THE CENTERLINE OF A GRAVELED ROAD AND 1 FOOT WEST OF
LH1211'A METAL WITNESS POST.  THE MARK PROJECTS 1 INCH AND THE DISK
LH1211'IS STAMPED RED 1947.
LH1211'
LH1211'R.M. NO. 2 IS 27.5 FEET SOUTH OF THE CENTERLINE OF THE ROAD.  THE
LH1211'MARK PROJECTS 3 INCHES AND THE DISK IS STAMPED RED NO 2 1947.
LH1211'
LH1211'R.M. NO. 3 IS 26.5 FEET NORTH OF THE CENTERLINE OF THE ROAD AND
LH1211'1 FOOT SOUTH OF AN EAST-WEST FENCE.  THE MARK PROJECTS 2 INCHES
LH1211'AND THE DISK IS STAMPED RED NO 3 1947.
LH1211'
LH1211'THE AZIMUTH MARK IS 0.05 MILE WEST OF CROSSROADS, 22 FEET NORTH
LH1211'OF CENTERLINE OF ROAD, 1 FOOT WEST OF A METAL WITNESS POST AND 1
LH1211'FOOT SOUTH OF A FENCE.  THE MARK PROJECTS 3 INCHES AND THE
LH1211'DISK IS STAMPED RED 1947 AZ 2 1966.
LH1211'
LH1211'THE DISTANCE BETWEEN R.M. NO 2 AND R.M. NO 3 IS 67.82 FT. - 20.671
LH1211'M.
LH1211'
LH1211'AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN- ABOUT 2 MILES
LH1211'NORTH OF RED CLOUD
LH1211
LH1211                          STATION RECOVERY (1975)
LH1211
LH1211'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1975 (CLN)
LH1211'THE STATION MARK, REFERENCE MARKS 2 AND 3 AND AZIMUTH MARK 2 1966
LH1211'WERE RECOVERED AND FOUND IN GOOD CONDITION.  THE 1966 DESCRIPTION IS
LH1211'ADEQUATE FOR RECOVERY OF THE STATION.
LH1211'
LH1211'AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN--ABOUT 2.0 MILES
LH1211'NORTH OF RED CLOUD.
LH1211
LH1211                          STATION RECOVERY (1981)
LH1211
LH1211'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1981
LH1211'RECOVERED IN GOOD CONDITION.

*** retrieval complete.
Elapsed Time = 00:00:05
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The NGS Data Sheet

See file dsdata.pdf for more information about the datasheet.

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PROGRAM = datasheet95, VERSION = 8.12.5.2
1        National Geodetic Survey,   Retrieval Date = APRIL  2, 2019
 LH1167 ***********************************************************************
 LH1167  DESIGNATION -  SKULLY
 LH1167  PID         -  LH1167
 LH1167  STATE/COUNTY-  NE/NUCKOLLS
 LH1167  COUNTRY     -  US
 LH1167  USGS QUAD   -  NELSON (1974)
 LH1167
 LH1167                         *CURRENT SURVEY CONTROL
 LH1167  ______________________________________________________________________
 LH1167* NAD 83(1995) POSITION- 40 08 25.91398(N) 098 02 52.60227(W)   ADJUSTED
 LH1167* NAVD 88 ORTHO HEIGHT -   536.    (meters)     1759.    (feet) SCALED
 LH1167  ______________________________________________________________________
 LH1167  GEOID HEIGHT    -        -26.115 (meters)                     GEOID12B
 LH1167  LAPLACE CORR    -         -1.00  (seconds)                    DEFLEC12B
 LH1167  HORZ ORDER      -  FIRST
 LH1167
 LH1167.The horizontal coordinates were established by classical geodetic methods
 LH1167.and adjusted by the National Geodetic Survey in August 1997.
 LH1167.
 LH1167.The orthometric height was scaled from a topographic map.
 LH1167
 LH1167.Significant digits in the geoid height do not necessarily reflect accuracy.
 LH1167.GEOID12B height accuracy estimate available here.
 LH1167
 LH1167.The Laplace correction was computed from DEFLEC12B derived deflections.
 LH1167
 LH1167. The following values were computed from the NAD 83(1995) position.
 LH1167
 LH1167;                    North         East     Units Scale Factor Converg.
 LH1167;SPC KS N     -   200,635.917   395,913.874   MT  1.00007750   -0 01 49.2
 LH1167;SPC KS N     -   658,253.00  1,298,927.43   sFT  1.00007750   -0 01 49.2
 LH1167;SPC NE       -    35,987.560   666,327.070   MT  0.99993944   +1 17 37.0
 LH1167;SPC NE       -   118,069.19  2,186,108.06   sFT  0.99993944   +1 17 37.0
 LH1167;UTM  14      - 4,443,789.449   581,100.919   MT  0.99968097   +0 36 49.6
 LH1167
 LH1167!             -  Elev Factor  x  Scale Factor =   Combined Factor
 LH1167!SPC KS N     -   0.99991999  x   1.00007750  =   0.99999748
 LH1167!SPC NE       -   0.99991999  x   0.99993944  =   0.99985943
 LH1167!UTM  14      -   0.99991999  x   0.99968097  =   0.99960098
 LH1167
 LH1167:                 Primary Azimuth Mark                    Grid Az
 LH1167:SPC KS N     -   SKULLY AZ MK                           000 34 56.9
 LH1167:SPC NE       -   SKULLY AZ MK                           359 15 30.7
 LH1167:UTM  14      -   SKULLY AZ MK                           359 56 18.1
 LH1167
 LH1167_U.S. NATIONAL GRID SPATIAL ADDRESS: 14TNK8110043789(NAD 83)
 LH1167
 LH1167|----------------------------------------------------------------------|
 LH1167| PID    Reference Object                    Distance      Geod. Az   |
 LH1167|                                                           dddmmss.s  |
 LH1167| CO2392 SKULLY AZ MK                                      0003307.7  |
 LH1167| LG0880 RUSKIN MUNICIPAL TANK              APPROX.15.2 KM 0881435.6  |
 LH1167| LG0883 ST MARKS LUTH CH NUCKOLLS CO       APPROX.13.1 KM 1031301.0  |
 LH1167| LH1169 SUPERIOR MUNICIPAL TANK            APPROX.12.2 KM 1871006.9  |
 LH1167| LH1168 AMERICAN LUTH SALEM CH SPIRE       APPROX. 2.4 KM 2222453.5  |
 LH1167| CO2393 SKULLY RM 1                         21.254 METERS 23627      |
 LH1167| CO2394 SKULLY RM 2                         29.307 METERS 32235      |
 LH1167| LH1166 NELSON MUNICIPAL TANK              APPROX. 7.3 KM 3430643.9  |
 LH1167|----------------------------------------------------------------------|
 LH1167
 LH1167                          SUPERSEDED SURVEY CONTROL
 LH1167
 LH1167  NAD 83(1986)-  40 08 25.91931(N)    098 02 52.60213(W) AD(        ) 1
 LH1167  NAD 27      -  40 08 25.88300(N)    098 02 51.45600(W) AD(        ) 1
 LH1167
 LH1167.Superseded values are not recommended for survey control.
 LH1167
 LH1167.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
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LH1167.See file dsdata.pdf to determine how the superseded data were derived.
LH1167
LH1167_MARKER: DS = TRIANGULATION STATION DISK
LH1167_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
LH1167_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
LH1167+SATELLITE: SATELLITE OBSERVATIONS - October 20, 2007
LH1167
LH1167  HISTORY     - Date     Condition        Report By
LH1167  HISTORY     - 1947     MONUMENTED       CGS
LH1167  HISTORY     - 1947     GOOD             CGS
LH1167  HISTORY     - 1975     GOOD             NGS
LH1167  HISTORY     - 20071020 GOOD             NEDR
LH1167
LH1167                          STATION DESCRIPTION
LH1167
LH1167'DESCRIBED BY COAST AND GEODETIC SURVEY 1947 (RLE)
LH1167'THE STATION IS LOCATED ABOUT 9 MILES NORTH OF SUPERIOR, 4.5 MILES
LH1167'SOUTH-SOUTHEAST OF NELSON, 0.5 MILE SOUTH OF STATE HIGHWAY
LH1167'NO.3 28 FEET EAST OF THE CENTER OF A GRADED ROAD, 14.0 FEET SOUTH
LH1167'OF A WITNESS POST, AND 13.0 FEET SOUTH OF A FENCE CORNER.  IT IS
LH1167'SET FLUSH WITH THE GROUND AND IS STAMPED SKULLY 1947.
LH1167'
LH1167'REFERENCE MARK NO. 1 IS AT THE EAST EDGE OF A CULTIVATED FIELD,
LH1167'29 FEET WEST OF THE CENTER OF A GRADED ROAD AND 8 FEET SOUTH OF
LH1167'A POWER LINE POLE.  IT PROJECTS 6 INCHES AND IS STAMPED SKULLY NO
LH1167'1 1947.
LH1167'
LH1167'REFERENCE MARK NO. 2 IS AT THE EAST EDGE OF A CULTIVATED FIELD
LH1167'AND 29 FEET WEST OF THE CENTER OF A GRADED ROAD.  IT PROJECTS 12
LH1167'INCHES AND IS STAMPED SKULLY NO 2 1947.
LH1167'
LH1167'AZIMUTH MARK IS 79 FEET EAST OF A POWER TRANSFORMER, 64 FEET
LH1167'SOUTHEAST OF THE CENTER OF INTERSECTION OF A CROSSROAD, 40 FEET
LH1167'SOUTH OF THE CENTER OF STATE HIGHWAY NO 3, AND 2 FEET EAST OF A
LH1167'CONCRETE RIGHT-OF-WAY MARKER.  IT PROJECTS 8 INCHES AND IS
LH1167'STAMPED SKULLY 1947.
LH1167'
LH1167'TO REACH THE STATION FROM NELSON, GO SOUTH ON STATE HIGHWAY NO.
LH1167'14 FOR 4.0 MILES TO ITS JUNCTION WITH STATE HIGHWAY NO. 3, TURN
LH1167'LEFT AND GO EAST ON STATE HIGHWAY NO. 3 FOR 1.0 MILE TO A
LH1167'CROSSROAD, AZIMUTH MARK ON THE RIGHT, TURN RIGHT, SOUTH, AND GO
LH1167'0.5 MILE TO THE STATION ON THE LEFT AS DESCRIBED.
LH1167'
LH1167'AN 87 FOOT SIGNAL AT BYRON IS VISIBLE AT 4 FEET.
LH1167'
LH1167'A 74 FOOT SIGNAL AT SANKEY IS VISIBLE AT 4 FEET.
LH1167'
LH1167'A 74 FOOT SIGNAL AT KLINKER IS VISIBLE AT 37 FEET.
LH1167'
LH1167'A 74 FOOT SIGNAL AT SUPERIOR IS VISIBLE AT 37 FEET.
LH1167'
LH1167'A 74 FOOT SIGNAL AT DARWIN IS VISIBLE AT 37 FEET.
LH1167'
LH1167'A 4 FOOT SIGNAL AT CLARA IS VISIBLE AT 64 FEET.
LH1167'
LH1167'A 74 FOOT SIGNAL AT BANGERT IS VISIBLE AT 4 FEET.
LH1167'
LH1167'A 74 FOOT SIGNAL AT JACKSON IS VISIBLE AT 37 FEET.
LH1167'
LH1167'A 4 FOOT SIGNAL AT NORA IS VISIBLE AT 37 FEET.
LH1167'
LH1167'A 74 FOOT SIGNAL AT LOONTJER IS VISIBLE AT 4 FEET.
LH1167'
LH1167'HEIGHT OF LIGHT ABOVE STATION MARK 26 METERS.
LH1167
LH1167                          STATION RECOVERY (1947)
LH1167
LH1167'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1947
LH1167'STATION, REF 1, REF 2, AND
LH1167'AZIMUTH FOUND IN GOOD CONDITION AS DESCRIBED.  NOTE--LOCATED BUT
LH1167'NOT USED.
LH1167'
LH1167'NEAREST TOWN--SUPERIOR.
LH1167
LH1167                          STATION RECOVERY (1975)
LH1167
LH1167'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1975 (CLN)
LH1167'THE STATION MARK, REFERENCE MARKS 1 AND 2 AND THE AZIMUTH MARK WERE
LH1167'RECOVERED AND FOUND IN GOOD CONDITION.  THE 1947 DESCRIPTION IS
LH1167'ADEQUATE FOR RECOVERY OF THE MARKS WITH THE EXCEPTION THAT STATE
LH1167'HIGHWAY 3 IS NOW US HIGHWAY 136.  A NEW METAL WITNESS POST WAS SET
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LH1167'14 FEET NORTH OF THE STATION MARK. A NEW METAL WITNESS POST WAS
LH1167'SET 1.5 FEET SOUTH OF REFERENCE MARK 1. A NEW METAL WITNESS POST
LH1167'WAS SET 2 FEET EAST OF THE AZIMUTH MARK.
LH1167'
LH1167'AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN--ABOUT 4.5 MILES
LH1167'SOUTH-SOUTHEAST OF NELSON.
LH1167
LH1167   STATION RECOVERY (2007)
LH1167
LH1167'RECOVERY NOTE BY NEBRASKA ROADS DEPARTMENT 2007 (DAK)
LH1167'RECOVERED IN GOOD CONDITION.

*** retrieval complete.
Elapsed Time = 00:00:07

The NGS Data Sheet

See file dsdata.pdf for more information about the datasheet.

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PROGRAM = datasheet95, VERSION = 8.12.5.2
1        National Geodetic Survey,   Retrieval Date = APRIL  2, 2019
 LH0198 ***********************************************************************
 LH0198  DESIGNATION -  SUPERIOR
 LH0198  PID         -  LH0198
 LH0198  STATE/COUNTY-  NE/NUCKOLLS
 LH0198  COUNTRY     -  US
 LH0198  USGS QUAD   -  SUPERIOR (1983)
 LH0198
 LH0198                         *CURRENT SURVEY CONTROL
 LH0198 ______________________________________________________________________
 LH0198* NAD 83(1995) POSITION- 40 01 51.24099(N) 098 03 56.18647(W)   ADJUSTED
 LH0198* NAVD 88 ORTHO HEIGHT -   502.977 (meters)     1650.18  (feet) ADJUSTED
 LH0198 ______________________________________________________________________
 LH0198  GEOID HEIGHT    -        -26.101 (meters)                     GEOID12B
 LH0198  LAPLACE CORR    -         -1.29  (seconds)                    DEFLEC12B
 LH0198  DYNAMIC HEIGHT  -        502.683 (meters)     1649.22  (feet) COMP
 LH0198  MODELED GRAVITY -    980,026.3   (mgal)                       NAVD 88
 LH0198
 LH0198  HORZ ORDER      -  SECOND
 LH0198  VERT ORDER      -  FIRST     CLASS II
 LH0198
 LH0198.The horizontal coordinates were established by classical geodetic methods
 LH0198.and adjusted by the National Geodetic Survey in August 1997.
 LH0198.
 LH0198.The orthometric height was determined by differential leveling and
 LH0198.adjusted by the NATIONAL GEODETIC SURVEY
 LH0198.in June 1991.
 LH0198
 LH0198.Significant digits in the geoid height do not necessarily reflect accuracy.
 LH0198.GEOID12B height accuracy estimate available here.
 LH0198
 LH0198.The Laplace correction was computed from DEFLEC12B derived deflections.
 LH0198
 LH0198.The dynamic height is computed by dividing the NAVD 88
 LH0198.geopotential number by the normal gravity value computed on the
 LH0198.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
 LH0198.degrees latitude (g = 980.6199 gals.).
 LH0198
 LH0198.The modeled gravity was interpolated from observed gravity values.
 LH0198
 LH0198. The following values were computed from the NAD 83(1995) position.
 LH0198
 LH0198;                     North         East      Units Scale Factor Converg.
 LH0198;SPC KS N      -   188,463.033   394,399.784   MT  1.00004955   -0 02 29.4
 LH0198;SPC KS N      -   618,315.80  1,293,959.96    sFT  1.00004955   -0 02 29.4
 LH0198;SPC NE        -    23,784.177   665,094.711   MT  0.99998618   +1 16 54.9
 LH0198;SPC NE        -    78,031.92  2,182,064.90    sFT  0.99998618   +1 16 54.9
 LH0198;UTM  14       - 4,431,605.008   579,724.130   MT  0.99967824   +0 36 03.7
 LH0198
 LH0198!              -  Elev Factor  x  Scale Factor =   Combined Factor
 LH0198!SPC KS N      -   0.99992519  x   1.00004955  =   0.99997474
 LH0198!SPC NE        -   0.99992519  x   0.99998618  =   0.99991138
 LH0198!UTM  14       -   0.99992519  x   0.99967824  =   0.99960346
 LH0198
 LH0198:                  Primary Azimuth Mark                     Grid Az
 LH0198:SPC KS N      -  SUPERIOR AZ MK                           178 30 30.4
 LH0198:SPC NE        -  SUPERIOR AZ MK                           177 11 06.1
 LH0198:UTM  14       -  SUPERIOR AZ MK                           177 51 57.3
 LH0198
 LH0198_U.S. NATIONAL GRID SPATIAL ADDRESS: 14TNK7972431605(NAD 83)
 LH0198
 LH0198|----------------------------------------------------------------------|
 LH0198| PID    Reference Object                    Distance      Geod. Az   |
 LH0198|                                                          dddmmss.s  |
 LH0198| LH0199 SUPERIOR RM 1                       24.175 METERS 05335      |
 LH0198| LH0197 SUPERIOR AZ MK                                    1782801.0  |
 LH0198| LH1170 SUPERIOR NEBR CEMENT CO STACK      APPROX. 3.4 KM 2553841.0  |
 LH0198| CO2533 SUPERIOR RM 3                       17.876 METERS 29609      |
 LH0198| LH0200 SUPERIOR RM 2                       20.038 METERS 31555      |
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LH0198| CO2534 SUPERIOR RM 4                          25.399 METERS 33646     |
LH0198| LH1168 AMERICAN LUTH SALEM CH SPIRE         APPROX.10.4 KM 3592753.1 |
LH0198|-----------------------------------------------------------------------|
LH0198
LH0198                            SUPERSEDED SURVEY CONTROL
LH0198
LH0198  NAD 83(1986)-  40 01 51.24573(N)    098 03 56.18651(W) AD(        ) 2
LH0198  NAD 27      -  40 01 51.20100(N)    098 03 55.03100(W) AD(        ) 2
LH0198  NGVD 29 (??/??/92)  502.802  (m)          1649.61   (f) ADJ UNCH    1 2
LH0198  NGVD 29             502.80   (m)          1649.6    (f) LEVELING    3
LH0198
LH0198.Superseded values are not recommended for survey control.
LH0198
LH0198.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
LH0198.See file dsdata.pdf to determine how the superseded data were derived.
LH0198
LH0198_MARKER: DS = TRIANGULATION STATION DISK
LH0198_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
LH0198_STAMPING: SUPERIOR 1947
LH0198_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
LH0198+STABILITY: SURFACE MOTION
LH0198_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
LH0198+SATELLITE: SATELLITE OBSERVATIONS - March 06, 2014
LH0198
LH0198  HISTORY     - Date     Condition        Report By
LH0198  HISTORY     - 1947     MONUMENTED       CGS
LH0198  HISTORY     - 1947     GOOD             CGS
LH0198  HISTORY     - 1947     GOOD             CGS
LH0198  HISTORY     - 1974     MARK NOT FOUND   USGS
LH0198  HISTORY     - 1975     GOOD             NGS
LH0198  HISTORY     - 20060517 GOOD             INDIV
LH0198  HISTORY     - 20140306 GOOD             INDIV
LH0198
LH0198                             STATION DESCRIPTION
LH0198
LH0198'DESCRIBED BY COAST AND GEODETIC SURVEY 1947 (RLE)
LH0198'THE STATION IS LOCATED IN THE NORTHEAST EDGE OF THE CITY OF
LH0198'SUPERIOR, ABOUT 0.8 MILE NORTHEAST OF THE MAIN BUSINESS DISTRICT
LH0198'OF THE CITY, ONE BLOCK EAST OF STATE HIGHWAY NO. 14, 143 FEET
LH0198'SOUTH-SOUTHEAST OF THE INTERSECTION OF A T STREET, 93.5 FEET
LH0198'SOUTHEAST OF THE CENTER OF THE CITYS MUNICIPAL WATER TANK, AND 30
LH0198'FEET WEST OF THE CENTER OF A GRADED STREET.  IT IS SET FLUSH
LH0198'WITH THE SURFACE OF THE GROUND AND IS STAMPED SUPERIOR 1947.
LH0198'
LH0198'REFEENCE MARK NO. 1 IS 34.5 FEET EAST OF THE CENTER OF A GRADED
LH0198'STREET AND 1.0 FOOT WEST OF A POWER LINE POLE.  IT IS SET FLUSH WITH
LH0198'THE GROUND AND IS STAMPED SUPERIOR NO 1 1947.
LH0198'
LH0198'REFERENCE MARK NO. 2 IS A STANDARD U.S.C. AND G.S. REFERENCE MARK
LH0198'DISK CEMENTED IN A DRILL HOLE IN THE CONCRETE FOOTING FOR THE
LH0198'MOST SOUTHEASTERLY LEG OF SIX SUPPORTING THE CITYS MUNICIPAL WATER
LH0198'TANK.  IT IS STAMPED SUPERIOR NO 2 1947.
LH0198'
LH0198'AZIMUTH MARK IS 0.4 MILE SOUTH OF THE STATION, 26 FEET NORTHEAST
LH0198'OF THE CENTER OF INTERSECTION OF A T STREET, 1 FOOT NORTH OF A
LH0198'POWER LINE POLE AND 1 FOOT EAST OF A CURB.  IT PROJECTS 6 INCHES
LH0198'AND IS STAMPED SUPERIOR 1947.
LH0198'
LH0198'TO REACH THE AZIMUTH MARK FROM THE STATION, GO SOUTH ON GRADED
LH0198'STREET FOR 0.4 MILE TO A T STREET RIGHT AND THE AZIMUTH MARK
LH0198'ON THE LEFT AS DESCRIBED.
LH0198'
LH0198'AN 87 FOOT SIGNAL AT HARDY IS VISIBLE AT 37 FEET.
LH0198'
LH0198'A 74 FOOT SIGNAL AT KLINKER IS VISIBLE AT 4 FEET.
LH0198'
LH0198'A 4 FOOT SIGNAL AT BROWN IS VISIBLE AT 37 FEET.
LH0198'
LH0198'A 74 FOOT SIGNAL AT DARWIN IS VISIBLE AT 37 FEET.
LH0198'
LH0198'A 4 FOOT SIGNAL AT CAMPBELL IS VISIBLE AT 37 FEET.
LH0198'
LH0198'AN 87 FOOT SIGNAL AT SKULLY IS VISIBLE AT 37 FEET.
LH0198'
LH0198'HEIGHT OF LIGHT ABOVE STATION MARK 22 METERS.
LH0198
LH0198                             STATION RECOVERY (1947)
LH0198
LH0198'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1947
LH0198'STATION, REF 2, REF 3,
LH0198'REF 4 AND AZIMUTH FOUND IN GOOD CONDITION AS DESCRIBED.
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LH0198'
LH0198'NEAREST TOWN--IN SUPERIOR.
LH0198
LH0198                          STATION RECOVERY (1947)
LH0198
LH0198'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1947
LH0198'AT SUPERIOR.
LH0198'AT SUPERIOR, AT THE CITY WATER TOWER, 30.0 FEET WEST OF THE
LH0198'CENTER LINE OF WASHINGTON STREET, 87.2 FEET SOUTH-SOUTHEAST OF
LH0198'THE EAST CORNER OF THE IRON PLATE ON TOP OF THE CONCRETE BASE
LH0198'OF THE NORTHEAST LEG OF THE TOWER, 76.0 FEET EAST-SOUTHEAST
LH0198'OF THE SOUTHEAST CORNER OF THE IRON PLATE ON TOP OF THE CONCRETE
LH0198'BASE OF THE MOST SOUTHERLY LEG OF THE WATER TOWER, 66.1 FEET
LH0198'SOUTHEAST OF THE SOUTH CORNER OF THE IRON PLATE ON TOP OF THE
LH0198'CONCRETE BASE OF THE SOUTHEAST LEG OF THE WATER TOWER, SET IN
LH0198'THE TOP OF A CONCRETE POST FLUSH WITH THE GROUND.
LH0198
LH0198                          STATION RECOVERY (1974)
LH0198
LH0198'RECOVERY NOTE BY US GEOLOGICAL SURVEY 1974
LH0198'STATION MARK NOT FOUND.  THE AREA HAS BEEN SUBDIVIDED AND MUCH
LH0198'LANDSCAPING AND DIRT WORK DONE.  THE SUB-SURFACE MARK PROBABLY OK.
LH0198'THE SURFACE MARK AND RM 1 PROBABLY DESTROYED.  RM 2 AND AZIMUTH
LH0198'MARK ARE OK.
LH0198
LH0198                          STATION RECOVERY (1975)
LH0198
LH0198'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1975 (CLN)
LH0198'THE SUB-SURFACE STATION MARK, REFERENCE MARK 2 AND THE AZIMUTH MARK
LH0198'WERE RECOVERED AND FOUND IN GOOD CONDITION.  THE SURFACE STATION
LH0198'MARK AND REFERENCE MARK 1 PROBABLY WERE DESTROYED WHEN LANDSCAPING
LH0198'AND HOUSES BUILT IN THE AREA.  A NEW SURFACE STATION MARK AND
LH0198'REFERENCE MARKS 3 AND 4 WERE ESTABLISHED THIS DATE.  FOLLOWING IS
LH0198'A NEW COMPLETE DESCRIPTION--
LH0198'
LH0198'THE STATION IS LOCATED IN THE NORTHEAST EDGE OF THE CITY OF SUPERIOR,
LH0198'ABOUT 0.8 MILE NORTHEAST OF THE MAIN BUSINESS DISTRICT OF THE CITY,
LH0198'ONE BLOCK EAST OF STATE HIGHWAY 14 AND IN THE SOUTHWEST ANGLE OF
LH0198'THE INTERSECTION OF WASHINGTON STREET AND EAST 15TH STREET AND AT
LH0198'THE MUNICIPAL WATER TANK.
LH0198'
LH0198'THE SURFACE STATION MARK IS A STANDARD DISK STAMPED SUPERIOR 1947
LH0198'1975, SET IN THE TOP OF A 12 INCH CYLINDRICAL CONCRETE MONUMENT THAT
LH0198'IS 4 INCHES BELOW THE GROUND SURFACE.  IT IS 65 FEET SOUTHWEST OF
LH0198'THE SOUTH END GATE POST OF CHAIN-LINKED FENCE AROUND THE WATER TANK,
LH0198'42 FEET SOUTHWEST OF THE SOUTHWEST CORNER POST OF CHAIN-LINKED
LH0198'FENCE, 42 FEET EAST-NORTHEAST OF THE NORTHEAST CORNER OF ATTACHED
LH0198'GARAGE TO HOUSE OF BRAUNS NUMBER 1433 AND 6.5 FEET NORTH OF THE
LH0198'NORTH EDGE OF CONCRETE DRIVEWAY TO THE BRAUNS GARAGE.  THE
LH0198'UNDERGROUND DISK IS STAMPED SUPERIOR 1947, SET IN AN IRREGULAR
LH0198'MASS OF CONCRETE ABOUT 28 INCHES BELOW THE GROUND SURFACE.
LH0198'
LH0198'REFERENCE MARK 2 IS A STANDARD DISK STAMPED SUPERIOR NO 2 1947,
LH0198'CEMENTED IN A DRILL HOLE IN THE CONCRETE FOOTING FOR THE MOST
LH0198'SOUTHEASTERLY LEG OF SIX SUPPORTING THE CITYS MUNICIPAL WATER TANK.
LH0198'
LH0198'REFERENCE MARK 3 IS A STANDARD DISK STAMPED SUPERIOR 1947 NO 3 1975,
LH0198'CEMENTED IN A DRILL HOLE IN CONCRETE FOUNDATION FOR THE FENCE AROUND
LH0198'THE WATER TANK AND AT SOUTH SIDE OF FENCE.  IT IS 41.5 FEET
LH0198'NORTH-NORTHWEST OF THE NORTHEAST CORNER OF THE ATTACHED GARAGE TO
LH0198'HOUSE, 20 FEET WEST OF THE SOUTHEAST CORNER POST OF FENCE AND 6
LH0198'INCHES SOUTH OF A LINE POST.
LH0198'
LH0198'REFERENCE MARK 4 IS A STANDARD DISK STAMPED SUPERIOR 1947 NO 4 1975,
LH0198'CEMENTED IN A DRILL HOLE IN CONCRETE FOUNDATION FOR THE FENCE AROUND
LH0198'THE WATER TANK AND AT EAST SIDE OF FENCE.  IT IS 20 FEET SOUTH OF
LH0198'THE NORTHEAST CORNER POST OF FENCE, 7 FEET NORTH OF THE NORTH END
LH0198'GATE POST AND 6 INCHES EAST OF A LINE POST.
LH0198'
LH0198'THE AZIMUTH MARK IS A STANDARD DISK STAMPED SUPERIOR 1947, SET IN THE
LH0198'TOP OF A 12 INCH SQUARE CONCRETE MONUMENT THAT PROJECTS 6 INCHES
LH0198'ABOVE THE GROUND SURFACE.  IT IS LOCATED AT THE INTERSECTION OF
LH0198'WASHINGTON STREET AND E NINTH STREET, IN YARD OF HOUSE NO. 910, 1
LH0198'FOOT EAST OF CURB OF WASHINGTON STREET AND EAST OF NORTH CURB OF E
LH0198'NINTH ST AND 0.4 MILE SOUTH OF STATION.
LH0198'
LH0198'AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN--NORTHEAST EDGE OF
LH0198'SUPERIOR.
LH0198
LH0198                          STATION RECOVERY (2006)
LH0198
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LH0198'RECOVERY NOTE BY INDIVIDUAL CONTRIBUTORS 2006 (MJG)
LH0198'RECOVERED AND FND IN GOOD CONDITION, PREVIOUS DESC. IS ADEQUATE. THE
LH0198'STATION MARK IS A STANDARD DISK STAMPED SUPERIOR 1947 1975, SET IN THE
LH0198'TOP OF A CONCRETE MONUMENT THAT IS 0.50 FEET BELOW THE GROUND SURFACE.
LH0198'
LH0198'DISK IS S-SW 0.75 FEET OF A 1 INCH PIPE. N 6.10 FEET OF EDGE OF
LH0198'CONCRETE DRIVE TO HOUSE NO. 1433 WASHINGTON. E-NE 42.80 FEET OF NE
LH0198'CORNER OF ATTACHED GARAGE TO HOUSE NO. 1433 WASHINGTON. SE 42.30 FEET
LH0198'OF SE CORNER FENCE POST OF A CHAIN-LINKED FENCE AROUND THE WATER TANK.
LH0198'SE 64.60 FEET OF S GATE POST OF CHAIN-LINKED FENCE AROUND WATER TANK,
LH0198'EAST SIDE. W 18.00 FEET OF BACK OF CURB AT WEST EDGE OF WASHINGTON.
LH0198'
LH0198'UPON MEASUREMENT OF THE STATION, NOT SATISFIED WITH PUBLISHED
LH0198'ELEVATION.
LH0198
LH0198   STATION RECOVERY (2014)
LH0198
LH0198'RECOVERY NOTE BY INDIVIDUAL CONTRIBUTORS 2014 (MAM)
LH0198'RECOVERED IN GOOD CONDITION.

*** retrieval complete.
Elapsed Time = 00:00:07

The NGS Data Sheet

See file dsdata.pdf for more information about the datasheet.

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PROGRAM = datasheet95, VERSION = 8.12.5.2
1         National Geodetic Survey,   Retrieval Date = APRIL  2, 2019
 MK1449 ***********************************************************************
 MK1449  DESIGNATION -  T 326
 MK1449  PID         -  MK1449
 MK1449  STATE/COUNTY-  NE/POLK
 MK1449  COUNTRY     -  US
 MK1449  USGS QUAD   -  SWEDEHOME (1962)
 MK1449
 MK1449                         *CURRENT SURVEY CONTROL
 MK1449  ______________________________________________________________________
 MK1449* NAD 83(1995) POSITION- 41 11 17.14526(N) 097 41 05.65762(W)   ADJUSTED
 MK1449* NAVD 88 ORTHO HEIGHT -   525.882 (meters)     1725.33  (feet) ADJUSTED
 MK1449  ______________________________________________________________________
 MK1449  GEOID HEIGHT    -        -25.524 (meters)                     GEOID12B
 MK1449  LAPLACE CORR    -         -2.46  (seconds)                    DEFLEC12B
 MK1449  DYNAMIC HEIGHT  -        525.628 (meters)     1724.50  (feet) COMP
 MK1449  MODELED GRAVITY -    980,123.6   (mgal)                       NAVD 88
 MK1449
 MK1449  HORZ ORDER      -  SECOND
 MK1449  VERT ORDER      -  SECOND    CLASS 0
 MK1449
 MK1449.The horizontal coordinates were established by classical geodetic methods
 MK1449.and adjusted by the National Geodetic Survey in August 1997.
 MK1449.
 MK1449.The orthometric height was determined by differential leveling and
 MK1449.adjusted by the NATIONAL GEODETIC SURVEY
 MK1449.in June 1991.
 MK1449
 MK1449.Significant digits in the geoid height do not necessarily reflect accuracy.
 MK1449.GEOID12B height accuracy estimate available here.
 MK1449
 MK1449.The Laplace correction was computed from DEFLEC12B derived deflections.
 MK1449
 MK1449.The dynamic height is computed by dividing the NAVD 88
 MK1449.geopotential number by the normal gravity value computed on the
 MK1449.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
 MK1449.degrees latitude (g = 980.6199 gals.).
 MK1449
 MK1449.The modeled gravity was interpolated from observed gravity values.
 MK1449
 MK1449. The following values were computed from the NAD 83(1995) position.
 MK1449
 MK1449;                    North         East     Units Scale Factor Converg.
 MK1449;SPC NE       -   153,012.846   694,139.625   MT  0.99967389   +1 32 03.1
 MK1449;SPC NE       -   502,009.65  2,277,356.42   sFT  0.99967389   +1 32 03.1
 MK1449;UTM  14      - 4,560,471.420   610,287.794   MT  0.99974970   +0 51 58.0
 MK1449
 MK1449!             -  Elev Factor  x  Scale Factor =   Combined Factor
 MK1449!SPC NE       -   0.99992152  x   0.99967389  =   0.99959544
 MK1449!UTM  14      -   0.99992152  x   0.99974970  =   0.99967124
 MK1449
 MK1449_U.S. NATIONAL GRID SPATIAL ADDRESS: 14TPL1028760471(NAD 83)
 MK1449
 MK1449                           SUPERSEDED SURVEY CONTROL
 MK1449
 MK1449  NAD 83(1986)-  41 11 17.15381(N)    097 41 05.66048(W) AD(       ) 2
 MK1449  NAD 27      -  41 11 17.09900(N)    097 41 04.47600(W) AD(       ) 2
 MK1449  NGVD 29 (??/??/92)  525.676  (m)         1724.66   (f) ADJ UNCH    2 0
 MK1449  NGVD 29             525.68   (m)         1724.7    (f) LEVELING    3
 MK1449
 MK1449.Superseded values are not recommended for survey control.
 MK1449
 MK1449.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
 MK1449.See file dsdata.pdf to determine how the superseded data were derived.
 MK1449
 MK1449_MARKER: DB = BENCH MARK DISK
 MK1449_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
 MK1449_STAMPING: T 326 1950
 MK1449 STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
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MK1449+STABILITY: SURFACE MOTION
MK1449_SATELLITE: THE SITE LOCATION WAS REPORTED AS NOT SUITABLE FOR
MK1449+SATELLITE: SATELLITE OBSERVATIONS - August 16, 2017
MK1449
MK1449  HISTORY     - Date     Condition        Report By
MK1449  HISTORY     - 1950     MONUMENTED       CGS
MK1449  HISTORY     - 1950     GOOD             CGS
MK1449  HISTORY     - 1969     GOOD             CGS
MK1449  HISTORY     - 1969     GOOD             CGS
MK1449  HISTORY     - 20170816 GOOD             INDIV
MK1449
MK1449                          STATION DESCRIPTION
MK1449
MK1449'DESCRIBED BY COAST AND GEODETIC SURVEY 1950 (JCT)
MK1449'THE STATION IS LOCATED ABOUT 7-1/2 MILES WEST-NORTHWEST OF OSCEOLA,
MK1449'8 MILES SOUTHEAST OF CLARKS AND IN THE SOUTHWEST ANGLE OF A T-ROAD
MK1449'JUNCTION.  IT IS 55 FEET SOUTH OF THE CENTERLINE OF AN EAST
MK1449'AND WEST ROAD, 31 FEET WEST OF THE CENTERLINE OF A NORTH AND
MK1449'SOUTH ROAD AND 20 FEET SOUTH-SOUTHWEST OF A BRACED POWERLINE
MK1449'POLE.  THE MARK IS A STANDARD USC AND GS BENCH MARK SET IN AN 8 X
MK1449'8 INCH SQUARE CONCRETE POST WHICH PROJECTS 4 INCHES AND THE
MK1449'DISK IS STAMPED T 326 1950.
MK1449'
MK1449'A TRAVERSE CONNECTION WAS MADE FROM TRIANGULATION STATION MILLER
MK1449'TO T 326.  IT IS 1181.579 METERS OR 3876.56 FEET SOUTH OF THE
MK1449'TRIANGULATION STATION.
MK1449'
MK1449'TO REACH FROM THE POST OFFICE IN OSCEOLA, GO NORTH 0.1 MILE TO
MK1449'U.S. HIGHWAY 81, TURN LEFT ON HIGHWAY 81 2.5 MILES TO THE JUNCTION
MK1449'OF HIGHWAYS 81 AND 30A, CONTINUE WEST ON HIGHWAY 30A 3.0 MILES
MK1449'TO THE JUNCTION OF HIGHWAY 30A AND STATE HIGHWAY 39, CONTINUE
MK1449'WEST ON HIGHWAY 30A 1.5 MILES TO A SIDE ROAD RIGHT, TURN RIGHT
MK1449'(NORTH) 0.8 MILE TO A SIDE ROAD LEFT OR WEST AND THE STATION AS
MK1449'DESCRIBED.
MK1449
MK1449                          STATION RECOVERY (1950)
MK1449
MK1449'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1950
MK1449'11 MI W FROM OSCEOLA.
MK1449'0.5 MILE WEST ALONG U.S. HIGHWAY 30 A (CITY ROUTE) FROM THE HIGH
MK1449'SCHOOL AT OSCEOLA, THENCE 8.2 MILES WEST ALONG U.S. HIGHWAY 30 A,
MK1449'THENCE 0.8 MILE NORTH ALONG A DIRT ROAD, THENCE 1.5 MILES EAST
MK1449'ALONG A DIRT ROAD, AT A T ROAD JUNCTION, ALONG THE NORTH EDGE
MK1449'OF AND AT THE EAST END OF A WINDBREAK, 55 FEET SOUTH OF THE
MK1449'CENTER LINE OF A ROAD LEADING WEST, 31 FEET WEST OF THE CENTER
MK1449'LINE OF A NORTH AND SOUTH ROAD, 20 FEET SOUTH OF A POWER POLE,
MK1449'1.8 FEET NORTHEAST OF A WITNESS POST, SET IN THE TOP OF A
MK1449'CONCRETE POST WHICH PROJECTS 0.5 FOOT ABOVE THE GROUND.  THIS
MK1449'MARK IS 0.75 MILE SOUTHWEST OF BENCH MARK U 326.  NOTE-- A METAL
MK1449'WITNESS POST WAS SET 1 FOOT WEST OF THE MARK.
MK1449
MK1449                          STATION RECOVERY (1969)
MK1449
MK1449'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1969 (LFS)
MK1449'RECOVERED AS PREVIOUSLY DESCRIBED AND FOUND IN GOOD CONDITION.
MK1449'A METAL WITNESS POST WAS SET 1 FOOT WEST OF THE MARK.
MK1449'
MK1449'AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN--ABOUT 7-1/2
MK1449'MILES WNW OF OSCEOLA.
MK1449
MK1449                          STATION RECOVERY (1969)
MK1449
MK1449'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1969
MK1449'RECOVERED IN GOOD CONDITION.
MK1449
MK1449                          STATION RECOVERY (2017)
MK1449
MK1449'RECOVERY NOTE BY INDIVIDUAL CONTRIBUTORS 2017 (LLB)
MK1449'RECOVERED AS DESCRIBED, FIVE FEET SOUTH OF THE BOTTOM CARSONITE
MK1449'WITNESS SIGN, MARK IS 20 FEET SOUTH OF POWER POLE, 55 FEET SOUTH OF
MK1449'COUNTY ROAD 130CT AND 31 FEET WEST OF COUNTY ROAD H 1/2, IN THE
MK1449'SOUTHWEST CORNER OF THE INTERSECTION. MARK IS FLUSH.

*** retrieval complete.
Elapsed Time = 00:00:05
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The NGS Data Sheet

See file dsdata.pdf for more information about the datasheet.

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PROGRAM = datasheet95, VERSION = 8.12.5.2
1        National Geodetic Survey,   Retrieval Date = APRIL 11, 2019
 LG1077 ***********************************************************************
 LG1077  DESIGNATION -  TRAIL
 LG1077  PID         -  LG1077
 LG1077  STATE/COUNTY-  NE/JEFFERSON
 LG1077  COUNTRY     -  US
 LG1077  USGS QUAD   -  DILLER (1970)
 LG1077
 LG1077                          *CURRENT SURVEY CONTROL
 LG1077  ______________________________________________________________________
 LG1077* NAD 83(1995) POSITION- 40 03 34.12088(N) 096 59 30.51143(W)   ADJUSTED
 LG1077* NAVD 88 ORTHO HEIGHT -   434.41  (+/-2cm)     1425.2   (feet) VERTCON
 LG1077  ______________________________________________________________________
 LG1077  GEOID HEIGHT    -        -27.160 (meters)                     GEOID12B
 LG1077  LAPLACE CORR    -         -0.80  (seconds)                    DEFLEC12B
 LG1077  HORZ ORDER      -  FIRST
 LG1077  VERT ORDER      -  THIRD ? (See Below)
 LG1077
 LG1077.The horizontal coordinates were established by classical geodetic methods
 LG1077.and adjusted by the National Geodetic Survey in August 1997.
 LG1077.
 LG1077.The NAVD 88 height was computed by applying the VERTCON shift value to
 LG1077.the NGVD 29 height (displayed under SUPERSEDED SURVEY CONTROL.)
 LG1077
 LG1077.Significant digits in the geoid height do not necessarily reflect accuracy.
 LG1077.GEOID12B height accuracy estimate available here.
 LG1077
 LG1077.The vertical order pertains to the NGVD 29 superseded value.
 LG1077
 LG1077.The Laplace correction was computed from DEFLEC12B derived deflections.
 LG1077
 LG1077. The following values were computed from the NAD 83(1995) position.
 LG1077
 LG1077;                    North         East     Units Scale Factor Converg.
 LG1077;SPC KS N     -   192,113.179   486,021.678   MT  1.00005648   +0 38 16.4
 LG1077;SPC KS N     -   630,291.32  1,594,556.12    sFT  1.00005648   +0 38 16.4
 LG1077;SPC NE       -    29,574.738   756,599.497   MT  0.99997365   +1 59 36.7
 LG1077;SPC NE       -    97,029.79  2,482,276.85    sFT  0.99997365   +1 59 36.7
 LG1077;UTM  14      - 4,436,290.923   671,275.876   MT  0.99996114   +1 17 33.9
 LG1077
 LG1077!              -  Elev Factor  x  Scale Factor =   Combined Factor
 LG1077!SPC KS N     -   0.99993612  x   1.00005648  =   0.99999259
 LG1077!SPC NE       -   0.99993612  x   0.99997365  =   0.99990977
 LG1077!UTM  14      -   0.99993612  x   0.99996114  =   0.99989726
 LG1077
 LG1077:                 Primary Azimuth Mark                     Grid Az
 LG1077:SPC KS N     -   TRAIL AZ MK 2                           357 59 05.8
 LG1077:SPC NE       -   TRAIL AZ MK 2                           356 37 45.5
 LG1077:UTM  14      -   TRAIL AZ MK 2                           357 19 48.3
 LG1077
 LG1077_U.S. NATIONAL GRID SPATIAL ADDRESS: 14TPK7127536290(NAD 83)
 LG1077
 LG1077|----------------------------------------------------------------------|
 LG1077| PID    Reference Object                    Distance      Geod. Az   |
 LG1077|                                                          dddmmss.s  |
 LG1077| CL7746 TRAIL RM 1                          30.962 METERS 05433      |
 LG1077| LG0820 NUTTER                             APPROX.12.0 KM 2433915.2  |
 LG1077| CL7747 TRAIL RM 2                          22.088 METERS 32250      |
 LG1077| CL7744 TRAIL AZ MK                                       3583025.5  |
 LG1077| CL7745 TRAIL AZ MK 2                                     3583722.2  |
 LG1077|----------------------------------------------------------------------|
 LG1077
 LG1077                          SUPERSEDED SURVEY CONTROL
 LG1077
 LG1077  NAD 83(1986)-  40 03 34.12678(N)    096 59 30.50943(W) AD(       ) 1
 LG1077  NAD 27      -  40 03 34.11400(N)    096 59 29.40200(W) AD(       ) 1
 LG1077  NGVD 29            434.27   (m)          1424.8    (f) LEVELING    3
 LG1077
 LG1077.Superseded values are not recommended for survey control.
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LG1077
LG1077.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
LG1077.See file dsdata.pdf to determine how the superseded data were derived.
LG1077
LG1077_MARKER: DS = TRIANGULATION STATION DISK
LG1077_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
LG1077_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
LG1077+SATELLITE: SATELLITE OBSERVATIONS - June 28, 2012
LG1077
LG1077  HISTORY     - Date     Condition        Report By
LG1077  HISTORY     - 1947     MONUMENTED       CGS
LG1077  HISTORY     - 1950     GOOD             CGS
LG1077  HISTORY     - 1966     POOR             CGS
LG1077  HISTORY     - 20120628 GOOD             INDIV
LG1077
LG1077                          STATION DESCRIPTION
LG1077
LG1077'DESCRIBED BY COAST AND GEODETIC SURVEY 1947 (RLE)
LG1077'THE STATION IS LOCATED ABOUT 4.5 MILES SOUTHWEST OF DILLER IN
LG1077'THE SOUTHEAST ANGLE OF A T INTERSECTION.  IT IS 87 FEET EAST OF THE
LG1077'CENTER OF A NORTH-SOUTH GRAVELED ROAD, 28.5 FEET SOUTH OF THE
LG1077'CENTER OF AN EAST-WEST DIRT ROAD, 6 FEET NORTH OF AN EAST-WEST
LG1077'FENCE LINE AND A 4-INCH WHITE WOODEN WITNESS POST PROJECTING 2
LG1077'FEET.  IT IS STAMPED TRAIL 1947 AND IS FLUSH WITH THE SURFACE OF
LG1077'THE GROUND.
LG1077'
LG1077'REFERENCE MARK NO. 1 IS 150 FEET EAST OF A FENCE CORNER, 28 FEET
LG1077'NORTH OF THE CENTER OF AN EAST-WEST DIRT ROAD AND 1 FOOT SOUTH OF
LG1077'AN EAST-WEST FENCE LINE.  IT IS STAMPED TRAIL NO 1 1947 AND
LG1077'PROJECTS 4 INCHES.
LG1077'
LG1077'REFERENCE MARK NO. 2 IS 28 FEET NORTH OF THE CENTER OF AN
LG1077'EAST-WEST DIRT ROAD, 42 FEET EAST OF THE CENTER OF A NORTH-SOUTH
LG1077'GRAVELED ROAD, 18 FEET EAST OF A FENCE CORNER, AND 1 FOOT SOUTH
LG1077'OF AN EAST-WEST FENCE LINE.  IT IS STAMPED TRAIL NO 2 1947 AND
LG1077'PROJECTS 4 INCHES.
LG1077'
LG1077'THE AZIMUTH MARK IS AT THE NORTHWEST CORNER OF A CULTIVATED
LG1077'FIELD, 28.5 FEET EAST OF THE CENTER OF A NORTH-SOUTH GRAVELED
LG1077'ROAD, 7.5 FEET EAST OF A FENCE CORNER AND 2 FEET EAST OF A 4-INCH
LG1077'SQUARE WHITE WOODEN WITNESS POST PROJECTING 2 FEET.  IT IS
LG1077'STAMPED TRAIL 1947 AND PROJECTS 5 INCHES.
LG1077'
LG1077'TO REACH THE STATION FROM THE POST OFFICE IN DILLER, GO SOUTH
LG1077'ON STATE HIGHWAY 103 FOR 3.5 MILE TO A CROSS ROAD, TURN RIGHT, WEST,
LG1077'AND GO 3.0 MILES TO THE STATION ON THE LEFT AS DESCRIBED.
LG1077'
LG1077'TO REACH THE AZIMUTH MARK FROM THE STATION, GO NORTH ON THE GRAVELED
LG1077'ROAD FOR 0.5 MILE TO THE MARK ON THE RIGHT AS DESCRIBED.
LG1077'
LG1077'A 4 FOOT SIGNAL AT NUTTER 1935 IS V.G.
LG1077'
LG1077'A 74 FOOT SIGNAL AT TURNER 1935 IS VISIBLE AT 20 FEET.
LG1077'
LG1077'A 74 FOOT SIGNAL AT JANSEN WEST BASE IS VISIBLE AT 20 FEET.
LG1077'
LG1077'A 74 FOOT SIGNAL AT JANSEN EAST BASE IS VISIBLE AT 40 FEET.
LG1077'
LG1077'A 74 FOOT SIGNAL AT DILLER IS VISIBLE AT 10 FEET.
LG1077'
LG1077'A 74 FOOT SIGNAL AT ROSEMAN IS VISIBLE AT 10 FEET.
LG1077
LG1077                          STATION RECOVERY (1950)
LG1077
LG1077'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1950 (RLE)
LG1077'THE STATION AND REFERENCE MARKS WERE RECOVERED AS DESCRIBED IN
LG1077'1947 AND ARE IN EXCELLENT CONDITION.  THE STATION WAS RECOVERED
LG1077'TO ESTABLISH A NEW AZIMUTH MARK AND REMOVE THE ORIGINAL
LG1077'AZIMUTH MARK AS REQUESTED BY THE JEFFERSON COUNTY ROAD COMMISSION.
LG1077'FOLLOWING IS A NEW AND COMPLETE DESCRIPTION-
LG1077'
LG1077'THE STATION IS LOCATED ABOUT 4-1/2 MILES SOUTHWEST OF DILLER IN THE
LG1077'SOUTHEAST ANGLE OF A T-ROAD INTERSECTION.  IT IS 87 FEET EAST
LG1077'FROM THE CENTER OF A NORTH-SOUTH ROAD, 29 FEET SOUTH FROM THE
LG1077'CENTER OF AN EAST-WEST ROAD, 6 FEET NORTH OF A WITNESS POST AND
LG1077'5.5 FEET NORTH FROM AN EAST WEST FENCE LINE.  IT IS STAMPED TRAIL
LG1077'1947 AND IS FLUSH WITH THE SURFACE OF THE GROUND.  NOTES 1A AND
LG1077'7A.
LG1077'
LG1077'REFERENCE MARK NO. 1 IS 150 FEET EAST OF A FENCE CORNER, 28 FEET
LG1077'NORTH FROM THE CENTER OF THE EAST-WEST ROAD AND 1 FOOT SOUTH OF A
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LG1077'FENCE LINE. IT IS STAMPED TRAIL NO 1 1947 AND PROJECTS 4 INCHES
LG1077'ABOVE THE SURFACE OF THE GROUND. NOTE 11A.
LG1077'
LG1077'REFERENCE MARK NO. 2 IS 42 FEET EAST FROM THE CENTER OF THE
LG1077'NORTH-SOUTH ROAD. 28 FEET NORTH FROM THE CENTER OF THE EAST-WEST
LG1077'ROAD AND 1 FOOT SOUTH OF A FENCE LINE. IT IS STAMPED TRAIL NO 2
LG1077'1947 AND PROJECTS 4 INCHES ABOVE THE GROUND. NOTE 11A
LG1077'
LG1077'THE AZIMUTH MARK IS LOCATED AT THE NORTHWEST CORNER OF A
LG1077'CULTIVATED FIELD AND IS SET JUST INSIDE THE FENCE CORNER. IT IS
LG1077'34 FEET EAST FROM THE CENTER OF THE ROAD AND 1 FOOT SOUTH OF A
LG1077'WITNESS POST. IT IS STAMPED TRAIL 1950 AND PROJECTS 4 INCHES.
LG1077'NOTE 11A
LG1077'
LG1077'TO REACH THE STATION FROM THE POST OFFICE IN DILLER, GO SOUTH ON
LG1077'STATE HIGHWAY 103 FOR 3.5 MILES TO A CROSSROAD, TURN RIGHT ON A
LG1077'GRAVELED ROAD AND GO WEST FOR 3.0 MILES TO THE STATION ON THE
LG1077'LEFT AS DESCRIBED.
LG1077'
LG1077'TO REACH THE AZIMUTH MARK FROM THE STATION, GO NORTH ON A GRAVELED
LG1077'ROAD FOR 0.5 MILE TO THE MARK ON THE RIGHT AS DESCRIBED.
LG1077
LG1077   STATION RECOVERY (1966)
LG1077
LG1077'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1966 (EBB)
LG1077'THE SURFACE STATION MARK WAS FOUND DISPLACED. THE UNDERGROUND
LG1077'STATION MARK WAS RECOVERED AND FOUND IN GOOD CONDITION. THE
LG1077'UNDERGROUND MARK WAS LOWERED ABOUT 3.5 FEET BELOW THE SURFACE AND
LG1077'A NEW SURFACE MARK WAS SET OVER THE UNDERGROUND MARK. R.M. NO. 1,
LG1077'R.M. NO. 2 AND THE AZIMUTH MARK RECOVERED AND FOUND IN GOOD
LG1077'CONDITION.
LG1077'
LG1077'TO REACH THE STATION FROM DILLER, FROM THE POST OFFICE, GO SOUTH
LG1077'ON STATE HIGHWAY 103 FOR 3.5 MILES TO CROSSROADS, TURN RIGHT AND
LG1077'GO WEST ON GRAVELED ROAD FOR 3.0 MILES TO THE STATION ON THE LEFT.
LG1077'TO REACH THE AZIMUTH MARK FROM THE STATION, GO NORTH ON GRAVELED
LG1077'ROAD FOR 0.5 MILE TO THE MARK ON THE RIGHT.
LG1077'
LG1077'THE STATION IS 86 FEET EAST OF THE CENTERLINE OF THE NORTH-SOUTH
LG1077'ROAD, 25 FEET SOUTH OF THE CENTERLINE OF THE EAST-WEST ROAD, 37.5
LG1077'FEET EAST-NORTHEAST OF A FENCE CORNER, 8.5 FEET NORTH OF AN
LG1077'EAST-WEST ROAD AND 1 FOOT WEST-SOUTHWEST OF A METAL WITNESS POST.
LG1077'THE MARK IS IN THE ROAD DITCH, FLUSH WITH THE DITCH ON THE NORTH
LG1077'SIDE AND DISK IS STAMPED TRAIL 1947 1966.
LG1077'
LG1077'R.M. NO. 1 IS 28 FEET NORTH OF THE CENTERLINE OF THE ROAD, 150
LG1077'FEET EAST OF A FENCE CORNER AND 1 FOOT SOUTH OF A FENCE. MARK
LG1077'PROJECTS 2 INCHES AND THE DISK IS STAMPED TRAIL NO 1 1947.
LG1077'
LG1077'R.M. NO. 2 IS 44 FEET EAST OF THE CENTERLINE OF NORTH-SOUTH ROAD,
LG1077'34 FEET NORTH OF THE CENTERLINE OF THE EAST-WEST ROAD, 11.5 FEET
LG1077'WEST OF A TELEPHONE POLE, 11 FEET EAST OF A FENCE CORNER AND 1 FOOT
LG1077'SOUTH OF EAST-WEST FENCE. THE MARK PROJECTS 3 INCHES AND THE DISK
LG1077'IS STAMPED TRAIL NO 2 1947.
LG1077'
LG1077'THE AZIMUTH MARK IS 33 FEET EAST OF THE CENTERLINE OF NORTH-SOUTH
LG1077'ROAD, 10.5 FEET NORTH OF THE CENTER OF A WIRE GATE AND 1 FOOT
LG1077'EAST OF A METAL WITNESS POST. THE MARK PROJECTS 6 INCHES AND THE
LG1077'DISK IS STAMPED TRAIL 1947.
LG1077'
LG1077'THE AZIMUTH MARK WAS NOT VISIBLE FROM THE STATION AT TIME OF
LG1077'RECOVERY DUE TO CROPS ON LINE.
LG1077'
LG1077'AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN- 4.5 MILES
LG1077'SOUTHWEST OF DILLER.
LG1077
LG1077   STATION RECOVERY (2012)
LG1077
LG1077'RECOVERY NOTE BY INDIVIDUAL CONTRIBUTORS 2012 (LLB)
LG1077'FOUND MARK IN GOOD CONDITION,ALSO FOUND AZIMUTH MARK IN GOOD
LG1077'CONDITION, BOTH ARE GPSABLE.

*** retrieval complete.
Elapsed Time = 00:00:13

The NGS Data Sheet

See file dsdata.pdf for more information about the datasheet.

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PROGRAM = datasheet95, VERSION = 8.12.5.2
1        National Geodetic Survey,   Retrieval Date = APRIL 11, 2019
 LG0556 ***********************************************************************
 LG0556  DESIGNATION -  U 167
 LG0556  PID         -  LG0556
 LG0556  STATE/COUNTY-  NE/JEFFERSON
 LG0556  COUNTRY     -  US
 LG0556  USGS QUAD   -  JANSEN (1980)
 LG0556
 LG0556                          *CURRENT SURVEY CONTROL
 LG0556 ______________________________________________________________________
 LG0556* NAD 83(1995) POSITION- 40 10 55.90395(N) 097 05 10.01860(W)   ADJUSTED
 LG0556* NAD 83(1995) ELLIP HT-   419.123 (meters)        (06/27/02)   ADJUSTED
 LG0556* NAVD 88 ORTHO HEIGHT -   446.118 (meters)     1463.64  (feet) ADJUSTED
 LG0556 ______________________________________________________________________
 LG0556  GEOID HEIGHT    -        -27.047 (meters)                     GEOID12B
 LG0556  NAD 83(1995) X  -   -602,001.675 (meters)                     COMP
 LG0556  NAD 83(1995) Y  - -4,842,725.261 (meters)                     COMP
 LG0556  NAD 83(1995) Z  -  4,093,732.632 (meters)                     COMP
 LG0556  LAPLACE CORR    -         -0.61  (seconds)                    DEFLEC12B
 LG0556  DYNAMIC HEIGHT  -       445.868 (meters)     1462.82  (feet) COMP
 LG0556  MODELED GRAVITY -    980,050.9   (mgal)                       NAVD 88
 LG0556
 LG0556  HORZ ORDER      -  FIRST
 LG0556  VERT ORDER      -  SECOND    CLASS 0
 LG0556  ELLP ORDER      -  FOURTH    CLASS I
 LG0556
 LG0556.The horizontal coordinates were established by GPS observations
 LG0556.and adjusted by the National Geodetic Survey in August 1997.
 LG0556
 LG0556.The orthometric height was determined by differential leveling and
 LG0556.adjusted by the NATIONAL GEODETIC SURVEY
 LG0556.in June 1991.
 LG0556
 LG0556.Significant digits in the geoid height do not necessarily reflect accuracy.
 LG0556.GEOID12B height accuracy estimate available here.
 LG0556
 LG0556.The X, Y, and Z were computed from the position and the ellipsoidal ht.
 LG0556
 LG0556.The Laplace correction was computed from DEFLEC12B derived deflections.
 LG0556
 LG0556.The ellipsoidal height was determined by GPS observations
 LG0556.and is referenced to NAD 83.
 LG0556
 LG0556.The dynamic height is computed by dividing the NAVD 88
 LG0556.geopotential number by the normal gravity value computed on the
 LG0556.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
 LG0556.degrees latitude (g = 980.6199 gals.).
 LG0556
 LG0556.The modeled gravity was interpolated from observed gravity values.
 LG0556
 LG0556. The following values were computed from the NAD 83(1995) position.
 LG0556
 LG0556;                     North         East     Units Scale Factor Converg.
 LG0556;SPC NE       -    42,916.960   748,099.006   MT  0.99992261   +1 55 51.7
 LG0556;SPC NE       -   140,803.39  2,454,388.16   sFT  0.99992261   +1 55 51.7
 LG0556;UTM  14      - 4,449,735.698   662,938.654   MT  0.99992683   +1 14 06.5
 LG0556
 LG0556!             -  Elev Factor  x  Scale Factor =   Combined Factor
 LG0556!SPC NE       -   0.99993425  x   0.99992261  =   0.99985687
 LG0556!UTM  14      -   0.99993425  x   0.99992683  =   0.99986109
 LG0556
 LG0556_U.S. NATIONAL GRID SPATIAL ADDRESS: 14TPK6293849735(NAD 83)
 LG0556
 LG0556                           SUPERSEDED SURVEY CONTROL
 LG0556
 LG0556  ELLIP H (08/18/97)  419.081  (m)                        GP(       ) 4 1
 LG0556  NAD 83(1986)-  40 10 55.91126(N)    097 05 10.01588(W) AD(       ) 1
 LG0556  NGVD 29 (??/??/92)  445.970  (m)         1463.15   (f) ADJ UNCH    2 0
 LG0556  NGVD 29 (02/23/90)  446.     (m)  RAPSU86 model used   GPS OBS
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LG0556
LG0556.Superseded values are not recommended for survey control.
LG0556
LG0556.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
LG0556.See file dsdata.pdf to determine how the superseded data were derived.
LG0556
LG0556_MARKER: DB = BENCH MARK DISK
LG0556_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
LG0556_STAMPING: U 167 1934
LG0556_MARK LOGO: CGS
LG0556_MAGNETIC: N = NO MAGNETIC MATERIAL
LG0556_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
LG0556+STABILITY: SURFACE MOTION
LG0556_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
LG0556+SATELLITE: SATELLITE OBSERVATIONS - March 20, 1989
LG0556
LG0556  HISTORY     - Date     Condition        Report By
LG0556  HISTORY     - 1934     MONUMENTED       CGS
LG0556  HISTORY     - 1949     GOOD             CGS
LG0556  HISTORY     - 19890320 GOOD             NGS
LG0556
LG0556                          STATION DESCRIPTION
LG0556
LG0556'DESCRIBED BY COAST AND GEODETIC SURVEY 1934
LG0556'AT JANSEN.
LG0556'AT JANSEN, JEFFERSON COUNTY, ON THE CHICAGO, ROCK ISLAND AND
LG0556'PACIFIC RAILROAD, 7 POLES WEST OF THE WEST END OF THE STATION,
LG0556'AT MILEAGE C 149.10, SOUTHEAST OF A SCHOOLHOUSE, TWO RAILS
LG0556'EAST OF A ROAD CROSSING, AND 48 FEET NORTH OF THE CENTERLINE
LG0556'OF THE TRACK.  A STANDARD DISK, STAMPED U 167 1934 AND SET IN
LG0556'THE TOP OF A CONCRETE POST.
LG0556
LG0556                          STATION RECOVERY (1949)
LG0556
LG0556'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1949
LG0556'RECOVERED IN GOOD CONDITION.
LG0556
LG0556                          STATION RECOVERY (1989)
LG0556
LG0556'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1989
LG0556'THE STATION IS LOCATED ABOUT 9.5 KM (5.90 MI) EAST-NORTHEAST OF
LG0556'FAIRBURY, ON THE WEST SIDE OF JANSEN, IN A GRASS STRIP BETWEEN A TRACK
LG0556'ROAD PARALLEL TO THE HIGHWAY AND A RAILROAD TRACK.
LG0556'OWNERSHIP--BURLINGTON NORTHERN RAILROAD.
LG0556'TO REACH THE STATION FROM THE JUNCTION OF US HIGHWAY 136 AND MAIN
LG0556'STREET IN JANSEN, AT THE EAST ONE OF TWO ELEVATORS, GO SOUTHWEST ON US
LG0556'HIGHWAY 136 FOR 0.24 KM (0.15 MI) TO A SLANTED CROSSROAD AND THE
LG0556'STATION ON THE LEFT.
LG0556'THE STATION IS PROJECTING 7 CM.  IT IS 37.0 M (121.4 FT) SOUTHEAST OF
LG0556'THE HIGHWAY CENTERLINE, 23.4 M (76.8 FT) NORTH OF A RAILROAD SWITCH
LG0556'STAND, 17.5 M (57.4 FT) EAST OF THE APPROXIMATE CENTER OF A DIRT ROAD,
LG0556'11.4 M (37.4 FT) NORTHWEST OF THE NORTHWEST RAIL OF A SPUR TRACK, 10.3
LG0556'M (33.8 FT) SOUTH-SOUTHEAST OF THE APPROXIMATE CENTER OF THE DIRT
LG0556'LANE, 5.4 M (17.7 FT) SOUTH-SOUTHEAST OF A UTILITY POLE AND 0.2 M
LG0556'(0.7 FT) NORTHEAST OF A METAL WITNESS POST.
LG0556'DESCRIBED BY R.D.BALL.

*** retrieval complete.
Elapsed Time = 00:00:12
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The NGS Data Sheet

See file dsdata.pdf for more information about the datasheet.

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PROGRAM = datasheet95, VERSION = 8.12.5.2
1        National Geodetic Survey,   Retrieval Date = MARCH 28, 2019
 LH0691 ***********************************************************************
 LH0691  FBN          -  This is a Federal Base Network Control Station.
 LH0691  DESIGNATION -  V 166
 LH0691  PID          -  LH0691
 LH0691  STATE/COUNTY-  NE/HARLAN
 LH0691  COUNTRY      -  US
 LH0691  USGS QUAD    -  ORLEANS (1973)
 LH0691
 LH0691                         *CURRENT SURVEY CONTROL
 LH0691  ______________________________________________________________________
 LH0691* NAD 83(2011) POSITION- 40 07 58.82670(N) 099 27 56.61818(W)   ADJUSTED
 LH0691* NAD 83(2011) ELLIP HT-   584.954 (meters)        (06/27/12)   ADJUSTED
 LH0691* NAD 83(2011) EPOCH    -  2010.00
 LH0691* NAVD 88 ORTHO HEIGHT -   610.036 (meters)     2001.43  (feet) ADJUSTED
 LH0691  ______________________________________________________________________
 LH0691  GEOID HEIGHT    -        -25.086 (meters)                     GEOID12B
 LH0691  NAD 83(2011) X  -   -803,153.172 (meters)                     COMP
 LH0691  NAD 83(2011) Y  - -4,817,153.613 (meters)                     COMP
 LH0691  NAD 83(2011) Z  -  4,089,664.987 (meters)                     COMP
 LH0691  LAPLACE CORR    -         -2.54  (seconds)                    DEFLEC12B
 LH0691  DYNAMIC HEIGHT  -       609.651 (meters)     2000.16  (feet) COMP
 LH0691  MODELED GRAVITY -    979,976.1   (mgal)                       NAVD 88
 LH0691
 LH0691  VERT ORDER      -  SECOND    CLASS 0
 LH0691
 LH0691  Network accuracy estimates per FGDC Geospatial Positioning Accuracy
 LH0691  Standards:
 LH0691         FGDC (95% conf, cm)     Standard deviation (cm)     CorrNE
 LH0691            Horiz  Ellip          SD_N   SD_E   SD_h      (unitless)
 LH0691  ------------------------------------------------------------------
 LH0691  NETWORK    0.39   1.00           0.18   0.13   0.51     -0.00911296
 LH0691  ------------------------------------------------------------------
 LH0691  Click here for local accuracies and other accuracy information.
 LH0691
 LH0691
 LH0691.The horizontal coordinates were established by GPS observations
 LH0691.and adjusted by the National Geodetic Survey in June 2012.
 LH0691
 LH0691.NAD 83(2011) refers to NAD 83 coordinates where the reference frame has
 LH0691.been affixed to the stable North American tectonic plate. See
 LH0691.NA2011 for more information.
 LH0691
 LH0691.The horizontal coordinates are valid at the epoch date displayed above
 LH0691.which is a decimal equivalence of Year/Month/Day.
 LH0691
 LH0691.The orthometric height was determined by differential leveling and
 LH0691.adjusted by the NATIONAL GEODETIC SURVEY
 LH0691.in June 1991.
 LH0691
 LH0691.Significant digits in the geoid height do not necessarily reflect accuracy.
 LH0691.GEOID12B height accuracy estimate available here.
 LH0691
 LH0691.Photographs are available for this station.
 LH0691
 LH0691.The X, Y, and Z were computed from the position and the ellipsoidal ht.
 LH0691
 LH0691.The Laplace correction was computed from DEFLEC12B derived deflections.
 LH0691
 LH0691.The ellipsoidal height was determined by GPS observations
 LH0691.and is referenced to NAD 83.
 LH0691
 LH0691.The dynamic height is computed by dividing the NAVD 88
 LH0691.geopotential number by the normal gravity value computed on the
 LH0691.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
 LH0691.degrees latitude (g = 980.6199 gals.).
 LH0691
 LH0691.The modeled gravity was interpolated from observed gravity values.
 LH0691
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LH0691. The following values were computed from the NAD 83(2011) position.
LH0691
LH0691;                      North         East      Units Scale Factor Converg.
LH0691;SPC NE       -    33,415.080   545,532.059   MT  0.99994253   +0 21 14.6
LH0691;SPC NE       -   109,629.31  1,789,799.76   sFT  0.99994253   +0 21 14.6
LH0691;UTM  14      - 4,442,623.853   460,322.825   MT  0.99961938   -0 18 00.7
LH0691
LH0691!             -  Elev Factor  x  Scale Factor =   Combined Factor
LH0691!SPC NE       -   0.99990824  x   0.99994253  =   0.99985078
LH0691!UTM  14      -   0.99990824  x   0.99961938  =   0.99952766
LH0691
LH0691_U.S. NATIONAL GRID SPATIAL ADDRESS: 14TMK6032242623(NAD 83)
LH0691
LH0691                           SUPERSEDED SURVEY CONTROL
LH0691
LH0691  NAD 83(2007)-  40 07 58.82664(N)    099 27 56.61880(W) AD(2002.00) 0
LH0691  ELLIP H (02/10/07)  584.977  (m)                        GP(2002.00)
LH0691  ELLIP H (07/10/01)  584.941  (m)                        GP(        ) 4 1
LH0691  NAD 83(1995)-  40 07 58.82638(N)    099 27 56.61823(W) AD(        ) B
LH0691  ELLIP H (06/25/96)  585.017  (m)                        GP(        ) 1 1
LH0691  NAVD 88             610.04   (m)          2001.4    (f) LEVELING    3
LH0691  NGVD 29 (??/??/92)  609.779  (m)          2000.58   (f) ADJ UNCH    2 0
LH0691
LH0691.Superseded values are not recommended for survey control.
LH0691
LH0691.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
LH0691.See file dsdata.pdf to determine how the superseded data were derived.
LH0691
LH0691_MARKER: DB = BENCH MARK DISK
LH0691_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
LH0691_STAMPING: V 166 1934
LH0691_MARK LOGO: CGS
LH0691_MAGNETIC: N = NO MAGNETIC MATERIAL
LH0691_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
LH0691+STABILITY: SURFACE MOTION
LH0691_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
LH0691+SATELLITE: SATELLITE OBSERVATIONS - June 28, 2010
LH0691
LH0691  HISTORY     - Date     Condition        Report By
LH0691  HISTORY     - 1934     MONUMENTED       CGS
LH0691  HISTORY     - 1945     GOOD             CGS
LH0691  HISTORY     - 19950424 GOOD             NGS
LH0691  HISTORY     - 19950425 GOOD             NGS
LH0691  HISTORY     - 20000501 GOOD             NGS
LH0691  HISTORY     - 20021010 GOOD             NGS
LH0691  HISTORY     - 20100628 GOOD             JEOCON
LH0691
LH0691                           STATION DESCRIPTION
LH0691
LH0691'DESCRIBED BY COAST AND GEODETIC SURVEY 1934
LH0691'AT ORLEANS.
LH0691'AT ORLEANS, HARLAN COUNTY, ON THE CHICAGO, BURLINGTON AND QUINCY
LH0691'RAILROAD, 12 POLES WEST OF THE STATION, AT THE CROSSING OF STATE
LH0691'HIGHWAY 89, 69 FEET SOUTHWEST OF THE CENTER LINE OF THE TRACK,
LH0691'AND 30 FEET SOUTH OF THE CENTER LINE OF THE HIGHWAY.  A STANDARD
LH0691'DISK, STAMPED V 166 1934 AND SET IN THE TOP OF A CONCRETE POST.
LH0691
LH0691                           STATION RECOVERY (1945)
LH0691
LH0691'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1945
LH0691'RECOVERED IN GOOD CONDITION.
LH0691
LH0691                           STATION RECOVERY (1995)
LH0691
LH0691'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1995 (JAO)
LH0691'THE MARK IS AT ORLEANS, AT THE WEST JUNCTION OF U.S. HIGHWAY 136 AND
LH0691'STATE HIGHWAY 89, AT THE HIGHWAY 89 CROSSING OF THE BURLINGTON
LH0691'RAILROAD, ON THE SOUTH RIGHT-OF-WAY OF HIGHWAY 89 AND IN THE NE1/4,
LH0691'SEC21, T2N, R19W.  THE DISK IS SET INTO THE TOP OF A SQUARE CONCRETE
LH0691'MONUMENT THAT IS FLUSH WITH THE GROUND.  IT IS 237.5 FT (72.4 M)
LH0691'WEST-SOUTHWEST FROM THE CENTER OF THE INTERSECTION OF U.S. HIGHWAY
LH0691'136, STATE HIGHWAY 89 AND WEST MAPLE STREET, 73.8 FT (22.5 M)
LH0691'SOUTHWEST FROM THE CENTER OF THE CROSSING, 38.0 FT (11.6 M) SOUTH FROM
LH0691'THE CENTERLINE OF HIGHWAY 89, 4.0 FT (1.2 M) EAST FROM A UTILITY POLE,
LH0691'2.7 FT (0.8 M) WEST FROM A WITNESS POST AND IS ABOUT 1.0 FT (0.3 M)
LH0691'HIGHER THAN THE HIGHWAY.  A LENGTH OF REBAR WAS DRIVEN ALONG THE NORTH
LH0691'SIDE OF THE MARK.
LH0691
LH0691                           STATION RECOVERY (1995)
LH0691
LH0691'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1995 (TR)
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LH0691'RECOVERED AS DESCRIBED.
LH0691
LH0691                          STATION RECOVERY (2000)
LH0691
LH0691'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 2000 (JBW)
LH0691'THE MARK IS LOCATED IN ORLEANS.  TO REACH THE STATION FROM THE
LH0691'JUNCTION OF US HIGHWAY 136 AND STATE HIGHWAY 89 ON THE WEST SIDE OF
LH0691'ORLEANS, GO WEST ON HWY 89 FOR 0.05 MI (0.08 KM) TO THE STATION ON THE
LH0691'LEFT JUST AFTER CROSSING RAILROAD TRACKS.  THE STATION IS 237.5 FT
LH0691'WEST OF THE CENTERLINE OF HIGHWAY 136, 38.0 FT (11.6 M) SOUTH OF THE
LH0691'CENTERLINE OF HIGHWAY 89, 4.0 FT (1.2 M) EAST OF A POWER POLE, AND 2.7
LH0691'FT (0.8 M) WEST OF A WITNESS POST.
LH0691
LH0691                          STATION RECOVERY (2002)
LH0691
LH0691'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 2002 (CSM)
LH0691'RECOVERED AS DESCRIBED.
LH0691
LH0691                          STATION RECOVERY (2010)
LH0691
LH0691'RECOVERY NOTE BY JEO CONSULTING GROUP INC 2010 (MLS)
LH0691'RECOVERED IN GOOD CONDITION.

*** retrieval complete.
Elapsed Time = 00:00:09
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The NGS Data Sheet

See file dsdata.pdf for more information about the datasheet.

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PROGRAM = datasheet95, VERSION = 8.12.5.2
1         National Geodetic Survey,   Retrieval Date = APRIL 22, 2019
 MK0520 ***********************************************************************
 MK0520  DESIGNATION -  VOSS
 MK0520  PID         -  MK0520
 MK0520  STATE/COUNTY-  NE/WASHINGTON
 MK0520  COUNTRY     -  US
 MK0520  USGS QUAD   -  KENNARD (1968)
 MK0520
 MK0520                         *CURRENT SURVEY CONTROL
 MK0520 ______________________________________________________________________
 MK0520* NAD 83(1995) POSITION- 41 26 19.85223(N) 096 07 32.83605(W)   ADJUSTED
 MK0520* NAVD 88 ORTHO HEIGHT -   408.604 (meters)     1340.56  (feet) ADJUSTED
 MK0520 ______________________________________________________________________
 MK0520  GEOID HEIGHT    -        -28.155 (meters)                     GEOID12B
 MK0520  LAPLACE CORR    -         -4.64  (seconds)                    DEFLEC12B
 MK0520  DYNAMIC HEIGHT  -        408.406 (meters)     1339.91  (feet) COMP
 MK0520  MODELED GRAVITY -    980,125.6   (mgal)                       NAVD 88
 MK0520
 MK0520  HORZ ORDER      -  FIRST
 MK0520  VERT ORDER      -  SECOND    CLASS 0
 MK0520
 MK0520.The horizontal coordinates were established by classical geodetic methods
 MK0520.and adjusted by the National Geodetic Survey in August 1997.
 MK0520.
 MK0520.The orthometric height was determined by differential leveling and
 MK0520.adjusted by the NATIONAL GEODETIC SURVEY
 MK0520.in June 1991.
 MK0520
 MK0520.Significant digits in the geoid height do not necessarily reflect accuracy.
 MK0520.GEOID12B height accuracy estimate available here.
 MK0520
 MK0520.The Laplace correction was computed from DEFLEC12B derived deflections.
 MK0520
 MK0520.The dynamic height is computed by dividing the NAVD 88
 MK0520.geopotential number by the normal gravity value computed on the
 MK0520.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
 MK0520.degrees latitude (g = 980.6199 gals.).
 MK0520
 MK0520.The modeled gravity was interpolated from observed gravity values.
 MK0520
 MK0520. The following values were computed from the NAD 83(1995) position.
 MK0520
 MK0520;                    North         East     Units Scale Factor Converg.
 MK0520;SPC NE       -   185,503.384   823,567.365   MT  0.99965928   +2 34 02.7
 MK0520;SPC NE       -   608,605.69  2,701,987.26   sFT  0.99965928   +2 34 02.7
 MK0520;UTM  14      - 4,591,463.093   740,127.911   MT  1.00030967   +1 54 11.2
 MK0520
 MK0520!             -  Elev Factor  x  Scale Factor =   Combined Factor
 MK0520!SPC NE       -   0.99994033  x   0.99965928  =   0.99959963
 MK0520!UTM  14      -   0.99994033  x   1.00030967  =   1.00024998
 MK0520
 MK0520:                Primary Azimuth Mark                     Grid Az
 MK0520:SPC NE       -  ELKHORN N BASE                          203 37 44.3
 MK0520:UTM  14      -  ELKHORN N BASE                          204 17 35.8
 MK0520
 MK0520_U.S. NATIONAL GRID SPATIAL ADDRESS: 14TQL4012791463(NAD 83)
 MK0520
 MK0520|----------------------------------------------------------------------|
 MK0520| PID    Reference Object                    Distance      Geod. Az   |
 MK0520|                                                           dddmmss.s  |
 MK0520| MK0521 VOSS RM 1                         167.000 METERS 00451      |
 MK0520| CL7799 VOSS RM 3                          28.456 METERS 01006      |
 MK0520| MK0519 VOSS RM 2                          21.026 METERS 14258      |
 MK0520| MK0563 ELKHORN N BASE                    APPROX.20.7 KM 2061147.0  |
 MK0520| CL7800 VOSS RM 4                          21.417 METERS 21951      |
 MK0520| MK2037 ARLINGTON ATT MICROWAVE TOWER      APPROX.15.5 KM 2643434.8  |
 MK0520| CL7798 VOSS AZ MK 2                                      3261954.0  |
 MK0520| CL7797 VOSS AZ MK                                        3302720.9  |
 MK0520|----------------------------------------------------------------------|
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MK0520
MK0520                          SUPERSEDED SURVEY CONTROL
MK0520
MK0520  NAD 83(1986)-  41 26 19.85899(N)    096 07 32.83798(W) AD(        ) 1
MK0520  NAD 27      -  41 26 19.87117(N)    096 07 31.77713(W) AD(        ) 1
MK0520  NGVD 29 (??/??/92)  408.456  (m)          1340.08   (f) ADJ UNCH    2 0
MK0520  NGVD 29             408.46   (m)          1340.1    (f) LEVELING    3
MK0520
MK0520.Superseded values are not recommended for survey control.
MK0520
MK0520.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
MK0520.See file dsdata.pdf to determine how the superseded data were derived.
MK0520
MK0520_MARKER: DB = BENCH MARK DISK
MK0520_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
MK0520_STAMPING: VOSS 1930
MK0520_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
MK0520+STABILITY: SURFACE MOTION
MK0520_SATELLITE: THE SITE LOCATION WAS REPORTED AS NOT SUITABLE FOR
MK0520+SATELLITE: SATELLITE OBSERVATIONS - March 01, 2004
MK0520
MK0520  HISTORY     - Date     Condition        Report By
MK0520  HISTORY     - 1930     MONUMENTED       CGS
MK0520  HISTORY     - 1934     GOOD             CGS
MK0520  HISTORY     - 1935     GOOD             CGS
MK0520  HISTORY     - 1946     SEE DESCRIPTION  LOCENG
MK0520  HISTORY     - 1947     GOOD             CGS
MK0520  HISTORY     - 1953     GOOD             CGS
MK0520  HISTORY     - 1959     GOOD             CGS
MK0520  HISTORY     - 1965     GOOD             CGS
MK0520  HISTORY     - 1975     GOOD             NEDR
MK0520  HISTORY     - 20040301 GOOD             NEDR
MK0520
MK0520                          STATION DESCRIPTION
MK0520
MK0520'DESCRIBED BY COAST AND GEODETIC SURVEY 1930 (HWH)
MK0520'ABOUT 7 MILES SOUTH OF BLAIR, 5-1/2 MILES WEST OF FORT CALHOUN,
MK0520'1 MILE SOUTHEAST OF THE MANEY SCHOOL, IN THE SOUTHEAST QUARTER
MK0520'OF SECTION 13, RICHLAND TOWNSHIP, ON LAND OWNED AND OCCUPIED
MK0520'BY LOUIE VOSS.  THE STATION IS IN THE VOSS BARNYARD, ABOUT 75
MK0520'METERS NORTHEAST OF THE HOUSE, 16.7 METERS NORTH OF THE NORTHEAST
MK0520'CORNER OF THE BARN, 6 METERS EAST OF THE BLACKSMITH SHOP, AND
MK0520'IN THE SPACE BETWEEN THE SHOP AND IMPLEMENT SHED, 28.6 METERS
MK0520'SOUTH OF FENCE.  THE MARK IS 12 INCHES BELOW THE SURFACE.
MK0520'
MK0520'TO REACH THE STATION GO SOUTHWEST FROM BLAIR ON U.S. HIGHWAY 30,
MK0520'2 MILES TO A FORK WHERE A SECTION-LINE ROAD LEADS SOUTH FROM A
MK0520'CURVE IN THE MAIN ROAD, TAKE ROAD LEADING SOUTH 1.2 MILES TO
MK0520'THE MC CARTY SCHOOL, JOG WEST 200 YARDS AND TAKE ROAD LEADING
MK0520'SOUTH IN AN IRREGULAR COURSE 2 MILES TO A T-CORNER, TURN EAST
MK0520'0.25 MILE, THENCE SOUTH 0.5 MILE, JOG EAST 100 YARDS AND TAKE
MK0520'MAIN ROAD TO RIGHT (SOUTHEAST) PAST THE MANEY SCHOOL, 2.1 MILES
MK0520'TO THE VOSS FARM ON THE EAST SIDE OF ROAD.  STATION IS IN THE
MK0520'FARMLOT AS DESCRIBED ABOVE.
MK0520'
MK0520'REFERENCE MARK NO. 1 IS IN A CORNER OF A FENCE IN PASTURE LAND,
MK0520'ABOUT 240 METERS NORTHEAST OF THE HOUSE.  THE MARK IS FLUSH
MK0520'WITH THE SURFACE AT A POINT 1.65 METERS SOUTHEAST OF THE FENCE
MK0520'CORNER.  THE DISTANCE TO THE STATION IS 167 METERS.
MK0520'
MK0520'REFERENCE MARK NO. 2 IS IN THE BARNLOT IN A FENCE CORNER 12.98
MK0520'METERS EAST OF THE NORTHEAST CORNER OF THE BARN WHICH IS ABOUT
MK0520'60 METERS EAST OF THE HOUSE AND TO WHICH THE STATION IS REFERRED.
MK0520'THE MARK IS FLUSH AND 21.02 METERS FROM THE STATION.
MK0520'
MK0520'SURFACE, UNDERGROUND AND REFERENCE MARKS ARE STANDARD BRONZE
MK0520'DISKS SET IN CONCRETE.
MK0520'
MK0520'HEIGHT OF LIGHT ABOVE STATION MARK - 35 METERS.
MK0520
MK0520                          STATION RECOVERY (1934)
MK0520
MK0520'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1934 (CIA)
MK0520'ORIGINAL DESCRIPTION BY H.W.H. WAS FOUND TO BE GOOD.  ALL
MK0520'MEASUREMENTS EXCEPT THAT TO REFERENCE MARK NO. 1 WERE CHECKED
MK0520'AND FOUND CORRECT.  IT WAS IMPOSSIBLE TO MEASURE THIS MARK AS
MK0520'THERE WAS AN OAT FIELD ON LINE.
MK0520'
MK0520'AN ADDITIONAL MARK WAS ESTABLISHED 0.6 MILE NORTHWEST OF STATION,
MK0520'REACHED BY GOING NORTHWEST ON HIGHWAY IN FRONT OF THE VOSS
MK0520'HOUSE 0.75 MILE TO MARK IN WEST RIGHT-OF-WAY FENCE LINE, 34 FEET
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MK0520'WEST OF CENTERLINE OF HIGHWAY.
MK0520
MK0520 STATION RECOVERY (1935)
MK0520
MK0520'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1935 (CMC)
MK0520'STATION RECOVERED APRIL 20, 1935. FOUND TO BE IN GOOD CONDITION.
MK0520'UPPER MARK BURIED 12 INCHES BELOW SURFACE OF GROUND.
MK0520'
MK0520'THE PUBLISHED DESCRIPTION OF STATION AND REFERENCE MARKS IS
MK0520'CORRECT.
MK0520'
MK0520'IN THE DESCRIPTION OF ROUTE TO STATION FROM BLAIR, SUBSTITUTE
MK0520'U.S. HIGHWAY 30 FOR ROUTE 18.
MK0520'
MK0520'THE AZIMUTH MARK IS ON WEST SIDE OF MAIN ROAD ABOUT HALF WAY
MK0520'BETWEEN STATION VOSS AND THE MANEY SCHOOL.
MK0520
MK0520 STATION RECOVERY (1946)
MK0520
MK0520'RECOVERY NOTE BY LOCAL ENGINEER (INDIVIDUAL OR FIRM) 1946 (JWS)
MK0520'STATION RECOVERED BY PROJECT ENG
MK0520'
MK0520'MARK, STAMPED VOSS AZI 1934, LOCATED SW 1/4 OF NW 1/4 OF SECTION
MK0520'13, T 17 N, R 11 E, 6 P.M. 1500 FT SOUTH OF NORTH SECTION LINE.
MK0520'SET OFF 30 FEET FROM CENTER LINE OF COUNTY ROAD, IN FIELD
MK0520'COMPLETELY COVERED. HIT BY 14 YARD SCOOP AND PULLED OUT.
MK0520
MK0520 STATION RECOVERY (1947)
MK0520
MK0520'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1947
MK0520'5.8 MI SE FROM KENNARD.
MK0520'ABOUT 75 YARDS SOUTHEAST ALONG A GRAVELED STREET FROM THE CHICAGO
MK0520'AND NORTHWESTERN RAILWAY STATION AT KENNARD, THENCE 0.1 MILE
MK0520'NORTHEAST ALONG U.S. HIGHWAY 30, THENCE 2.9 MILES EAST ALONG A
MK0520'GRAVELED ROAD, THENCE 2.7 MILES SOUTHEAST ALONG A GRAVELED
MK0520'ROAD, THENCE 0.1 MILE NORTHEAST ALONG A FARMERS DRIVEWAY, 246
MK0520'FEET NORTHEAST OF A FARMHOUSE OWNED BY LOUIE VOSS, 93.8 FEET
MK0520'SOUTH OF A FENCE, 54.8 FEET NORTH OF THE NORTHEAST CORNER OF A
MK0520'BARN THAT IS ABOUT 197 FEET EAST OF THE FARMHOUSE, 19.7 FEET
MK0520'EAST OF A BLACKSMITH SHOP, IN THE AREA BETWEEN THE BLACKSMITH
MK0520'SHOP AND AN IMPLEMENT SHED, SET IN THE TOP OF A CONCRETE POST
MK0520'12 INCHES BELOW THE SURFACE OF THE GROUND.
MK0520
MK0520 STATION RECOVERY (1953)
MK0520
MK0520'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1953 (GCM)
MK0520'STATION WAS RECOVERED AS DESCRIBED AND ALL MARKS WERE FOUND IN
MK0520'GOOD CONDITION, EXCEPT THE AZIMUTH MARK WHICH WAS FOUND IN A
MK0520'HORIZONTAL POSITION IN THE DITCH AND R.M. NO. 1 WHICH MR. LOUIE
MK0520'VOSS, THE LANDOWNER, REQUESTED TO BE MOVED. THE AZIMUTH MARK
MK0520'DISK WAS DEFACED. R.M. NO. 3 WAS ESTABLISHED. A COMPLETE
MK0520'NEW DESCRIPTION FOLLOWS.
MK0520'
MK0520'STATION IS LOCATED ABOUT 7 MILES SOUTH OF BLAIR, 5 AND 1/2 MILES
MK0520'WEST OF FORT CALHOUN, 1 MILE SOUTHEAST OF THE MANEY SCHOOL, IN
MK0520'THE SOUTHEAST QUARTER OF SECTION 13, RICHLAND TOWNSHIP, ON LAND
MK0520'OWNED AND OCCUPIED BY MR. LOUIE VOSS. IT IS IN THE VOSS
MK0520'FARMYARD, ABOUT 75 YARDS NORTHEAST OF THE HOUSE, 55 FEET NORTH
MK0520'OF THE NORTHEAST CORNER OF BARN AND IN LINE WITH THE EAST SIDE
MK0520'OF BARN, 20 FEET EAST OF THE SOUTHEAST CORNER OF TOOL SHED, AND
MK0520'16 FEET WEST OF THE WEST SIDE OF MACHINE SHED. THE MARK IS 10
MK0520'INCHES BELOW THE SURFACE OF THE GROUND AND THE DISK IS STAMPED
MK0520'VOSS 1930.
MK0520'
MK0520'REFERENCE MARK NO. 2 IS AT THE NORTHEAST CORNER OF A CATTLE SHED
MK0520'AND 42 FEET EAST OF THE NORTHEAST CORNER OF BARN. THE MARK
MK0520'PROJECTS 8 INCHES AND THE DISK IS STAMPED VOSS NO 2 1930.
MK0520'
MK0520'REFERENCE MARK NO. 3 IS NEAR THE NORTHEAST CORNER OF THE FARMYARD,
MK0520'6 FEET EAST OF A 10-INCH OAK TREE, 3 FEET WEST OF THE WEST GATE
MK0520'POST FOR IRON GATE, AND 1 FOOT SOUTH OF FENCE. THE MARK PROJECTS
MK0520'4 INCHES AND THE DISK IS STAMPED VOSS NO 3 1930.
MK0520'
MK0520'TO REACH THE STATION FROM THE POST OFFICE IN BLAIR, GO SOUTHWEST
MK0520'ON U.S. HIGHWAY 30 FOR 1.2 MILES TO THE JUNCTION OF STATE HIGHWAY
MK0520'133. TURN LEFT AND GO SOUTH ON STATE HIGHWAY 133 FOR 6.0 MILES
MK0520'TO THE LOUIE VOSS FARM ON THE LEFT AND THE STATION AS DESCRIBED.
MK0520'
MK0520'NOTE--WHEN THE REMOVAL OF R.M. NO. 1 WAS ATTEMPTED, IT WAS
MK0520'FOUND TO HAVE BEEN BROKEN, SO USE ONLY THE ANGLE BETWEEN R.M.S
MK0520'2 AND 3.

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MK0520
MK0520                          STATION RECOVERY (1959)
MK0520
MK0520'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1959 (MJR)
MK0520'THE STATION WAS RECOVERED AS DESCRIBED AND ALL MARKS WERE FOUND
MK0520'IN GOOD CONDITION EXCEPT THE AZIMUTH MARK WHICH WAS SEARCHED FOR
MK0520'BUT WAS NOT RECOVERED.  BM E248 WAS USED AS THE AZIMUTH MARK.
MK0520'
MK0520'THE STATION IS LOCATED, AIRLINE, ABOUT 7 MILES SOUTH OF BLAIR,
MK0520'5-1/2 MILES WEST OF FORT CALHOUN AND 1 MILE SOUTHEAST OF MANEY
MK0520'SCHOOL, IN THE SOUTHEAST QUARTER OF SECTION 13.
MK0520'
MK0520'TO REACH THE STATION FROM THE JUNCTION OF U.S. HIGHWAY 73 WITH
MK0520'U.S. HIGHWAY 30 IN THE WEST EDGE OF BLAIR, GO SOUTH AND WEST ON
MK0520'U.S. HIGHWAY 30 FOR 1.7 MILES, TURN LEFT AND GO SOUTH ON STATE
MK0520'HIGHWAY 133 FOR 5.0 MILES TO BM E248 (AZIMUTH MARK) ON THE LEFT,
MK0520'EAST SIDE, BY A WHITE WITNESS POST.  CONTINUE SOUTH ON THE
MK0520'HIGHWAY FOR 0.4 MILE TO A DRIVEWAY ON THE LEFT WHICH PASSES
MK0520'BETWEEN TWO FARM HOMES TO A FARM YARD AND THE STATION.
MK0520'
MK0520'THE STATION IS A STANDARD DISK STAMPED VOSS 1930 SET IN TOP OF
MK0520'A 14-INCH SQUARE CONCRETE MONUMENT WHICH IS SET ABOUT 10 INCHES
MK0520'BELOW THE SURFACE OF THE GROUND.  IT IS 20 FEET
MK0520'EAST-SOUTHEAST OF THE SOUTHEAST CORNER OF A GARAGE AND 19 FEET
MK0520'NORTHWEST OF THE SOUTHWEST CORNER OF A SHED.
MK0520'
MK0520'REFERENCE MARK NUMBER TWO IS A STANDARD DISK STAMPED VOSS NO 2
MK0520'1930 SET IN TOP OF A 12-INCH SQUARE CONCRETE MONUMENT WHICH
MK0520'PROJECTS ABOUT 8 INCHES ABOVE THE GROUND AND IS ABOUT 1 FOOT
MK0520'HIGHER THAN THE STATION.
MK0520'
MK0520'REFERENCE MARK NUMBER THREE IS A STANDARD DISK STAMPED VOSS NO 3
MK0520'1930 SET IN TOP OF A 12-INCH SQUARE CONCRETE MONUMENT WHICH
MK0520'PROJECTS ABOUT 4 INCHES ABOVE THE GROUND AND IS ABOUT THE SAME
MK0520'ELEVATION AS THE STATION.  IT IS 5 FEET EAST OF THE EAST END
MK0520'OF A GROVE OF TREES AND 1 FOOT SOUTH OF AN EAST-WEST FENCE LINE.
MK0520'
MK0520'BM E248 (AZIMUTH MARK) IS A STANDARD U.S. COAST AND GEODETIC
MK0520'SURVEY BENCH MARK DISK STAMPED E248 1947 SET IN TOP OF A 6-INCH
MK0520'CONCRETE POST WHICH IS FLUSH WITH THE GROUND.  IT IS 40 FEET
MK0520'EAST OF THE CENTER OF STATE HIGHWAY 133 AND 6 INCHES WEST OF A
MK0520'WHITE WITNESS POST.
MK0520
MK0520                          STATION RECOVERY (1965)
MK0520
MK0520'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1965 (EBB)
MK0520'THE STATION RECOVERED AS DESCRIBED IN 1959 AND THE STATION AND
MK0520'REFERENCE MARKS FOUND IN GOOD CONDITION.  R.M. NO. 2 WAS
MK0520'RECOVERED IN THE CENTER OF A BARNLOT AND A BUILDING HAD BEEN
MK0520'BUILT ON LINE BETWEEN THE MARK AND THE STATION.  THE LAND
MK0520'OWNER REQUESTED THAT THIS MARK BE MOVED SO IT WAS MOVED AND THE
MK0520'DISK RESTAMPED NO. 4.
MK0520'
MK0520'B.M. E 248 HAD BEEN USED FOR THE AZIMUTH MARK BUT THIS MARK WAS
MK0520'NOT RECOVERED.  INDICATIONS WERE THAT THE BENCH MARK HAD BEEN
MK0520'DESTROYED BY HIGHWAY CONSTRUCTION.  A NEW AZIMUTH MARK COULD
MK0520'NOT BE ESTABLISHED AT THIS TIME AS NO OBJECTS WERE VISIBLE
MK0520'FROM THE GROUND.
MK0520'
MK0520'THE 1959 DESCRIPTION TO REACH THE STATION FROM BLAIR WAS NOT
MK0520'CHECKED AT TIME OF RECOVERY.
MK0520'
MK0520'THE STATION MARK IS 16 FEET NORTH OF A METAL WITNESS POST THAT
MK0520'WAS NAILED TO THE NORTH SIDE OF A METAL-COVERED BUILDING AND
MK0520'IS 0.9 FOOT BELOW THE SURFACE OF THE GROUND.
MK0520'
MK0520'R.M. NO. 3 IS 5 FEET EAST OF THE EAST END OF A GROVE OF TREES AND
MK0520'IS 1 FOOT SOUTH OF AN EAST-WEST FENCE LINE.
MK0520'
MK0520'R.M. NO. 4 IS 70.27 FEET SOUTHWEST OF THE STATION AND IS 2 FEET
MK0520'WEST OF THE NORTHWEST CORNER OF THE WEST PART OF A METAL-COVERED
MK0520'BUILDING.  THE MARK IS FLUSH WITH THE GROUND AND THE DISK IS
MK0520'STAMPED VOSS NO 4 1930.
MK0520
MK0520                          STATION RECOVERY (1975)
MK0520
MK0520'RECOVERY NOTE BY NEBRASKA ROADS DEPARTMENT 1975 (HED)
MK0520'VOSS 1930 STATION, REF. NO 3, REF. NO 4 FOUND AS DESCRIBED IN GOOD
MK0520'CONDITION.
MK0520
MK0520                          STATION RECOVERY (2004)
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MK0520
MK0520'RECOVERY NOTE BY NEBRASKA ROADS DEPARTMENT 2004 (GAT)
MK0520'FOUND MARK BY HELP OF LANDOWNER DAVID M. MELOTZ 4122 STATE HWY 133
MK0520'BLAIR NE. MARK IS UNDER 12X16 INCH SPRINLKER COVER THAT WAS SET BY MR.
MK0520'MELOTZ FOR EASY ACCESS. MARK SETS 16 FEET NORTH OF NORTH SIDE OF TIN
MK0520'SHED THAT IS 24' LONG. NORTHWEST CORNER OF SHED BEARS SOUTHWEST 19.1
MK0520'FEET.

*** retrieval complete.
Elapsed Time = 00:00:12

The NGS Data Sheet

See file dsdata.pdf for more information about the datasheet.

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PROGRAM = datasheet95, VERSION = 8.12.5.2
1        National Geodetic Survey,   Retrieval Date = MAY 11, 2019
 MK2200 ***********************************************************************
 MK2200  DESIGNATION -  Y 247 RESET
 MK2200  PID         -  MK2200
 MK2200  STATE/COUNTY-  NE/WASHINGTON
 MK2200  COUNTRY     -  US
 MK2200  USGS QUAD   -  NICKERSON NW (1966)
 MK2200
 MK2200                          *CURRENT SURVEY CONTROL
 MK2200 ______________________________________________________________________
 MK2200* NAD 83(1986) POSITION- 41 40 09.4    (N) 096 26 32.5    (W)   HD_HELD2
 MK2200* NAVD 88 ORTHO HEIGHT -   410.63  (meters)     1347.2   (feet) RESET
 MK2200 ______________________________________________________________________
 MK2200  GEOID HEIGHT    -        -26.542 (meters)                      GEOID12B
 MK2200  VERT ORDER      -  THIRD
 MK2200
 MK2200.The horizontal coordinates were established by autonomous hand held GPS
 MK2200.observations and have an estimated accuracy of +/- 10 meters.
 MK2200.
 MK2200.The orthometric height was computed from unverified reset data.
 MK2200
 MK2200.No vertical observational check was made to the station.
 MK2200
 MK2200.Significant digits in the geoid height do not necessarily reflect accuracy.
 MK2200.GEOID12B height accuracy estimate available here.
 MK2200
 MK2200.Photographs are available for this station.
 MK2200
 MK2200;                    North         East    Units  Estimated Accuracy
 MK2200;SPC NE       -   209,929.      796,091.      MT  (+/- 10 meters HH2 GPS)
 MK2200
 MK2200_U.S. NATIONAL GRID SPATIAL ADDRESS: 14TQM1291916218(NAD 83)
 MK2200
 MK2200                           SUPERSEDED SURVEY CONTROL
 MK2200
 MK2200  NGVD 29 (01/31/13)  410.49   (m)         1346.7    (f) RESET       3
 MK2200
 MK2200.Superseded values are not recommended for survey control.
 MK2200
 MK2200.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
 MK2200.See file dsdata.pdf to determine how the superseded data were derived.
 MK2200
 MK2200_MARKER: DV = VERTICAL CONTROL DISK
 MK2200_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
 MK2200_STAMPING: Y 247 RESET 1991
 MK2200_MARK LOGO: NGS
 MK2200_MAGNETIC: A = STEEL ROD ADJACENT TO MONUMENT
 MK2200_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
 MK2200+STABILITY: SURFACE MOTION
 MK2200_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
 MK2200+SATELLITE: SATELLITE OBSERVATIONS - 1991
 MK2200
 MK2200  HISTORY     - Date     Condition        Report By
 MK2200  HISTORY     - 1991     MONUMENTED       NGS
 MK2200
 MK2200                           STATION DESCRIPTION
 MK2200
 MK2200'DESCRIBED BY NATIONAL GEODETIC SURVEY 1991
 MK2200'ABOUT 8.6 KM (5.3 MI) NORTHEAST FROM WINSLOW, 1.6 KM (1.0 MI) SOUTH
 MK2200'FROM THE BURT-WASHINGTON COUNTY LINE, 0.16 KM (0.10 MI) EAST FROM THE
 MK2200'DODGE-WASHINGTON COUNTY LINE, AT THE SOUTHEAST CORNER OF THE WEST
 MK2200'ADMAH CEMETERY, IN THE SW 1/4, SEC 29, T19N, R9E AND ON THE NORTH
 MK2200'RIGHT-OF-WAY OF WASHINGTON COUNTY ROAD 4.  TO REACH THE MARK FROM THE
 MK2200'WINSLOW POST OFFICE, GO NORTH FOR 0.16 KM (0.10 MI) TO A PAVED ROAD.
 MK2200'TURN RIGHT AND GO EAST FOR 0.32 KM (0.20 MI) TO U.S. HIGHWAY 77.
 MK2200'TURN LEFT AND GO NORTH ON HIGHWAY 77 FOR 6.60 KM (4.10 MI) TO A
 MK2200'GRADED CROSSROAD, DODGE COUNTY ROAD F. TURN RIGHT AND GO EAST ON
 MK2200'ROAD F FOR 4.84 KM (3.01 MI) TO A GRADED CROSSROAD AT THE
 MK2200'WASHINGTON-DODGE COUNTY LINE, CONTINUE EAST ON WASHINGTON COUNTY ROAD
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MK2200'4 FOR 0.16 KM (0.10 MI) TO THE MARK ON THE LEFT, IN THE TOP OF A
MK2200'ROUND CONCRETE MONUMENT THAT IS RECESSED 0.1 FT (0.0 M) BELOW THE
MK2200'GROUND SURFACE. IT IS 29.93 M (98.20 FT) EAST FROM THE CENTER OF THE
MK2200'ENTRANCE GATE INTO THE CEMETERY, 13.72 M (45.01 FT) NORTH FROM THE
MK2200'CENTERLINE OF ROAD 4, 0.67 M (2.20 FT) SOUTHWEST FROM A WITNESS POST,
MK2200'0.61 M (2.00 FT) SOUTHWEST FROM THE SOUTHEAST CORNER OF THE CEMETERY
MK2200'FENCE AND 0.43 M (1.41 FT) SOUTH FROM THE SOUTH FENCE OF THE
MK2200'CEMETERY.

*** retrieval complete.
Elapsed Time = 00:00:05

The NGS Data Sheet

See file dsdata.pdf for more information about the datasheet.

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PROGRAM = datasheet95, VERSION = 8.12.5.2
1        National Geodetic Survey,   Retrieval Date = MARCH 29, 2019
 LG0352 ***********************************************************************
 LG0352  DESIGNATION -  Y 365
 LG0352  PID         -  LG0352
 LG0352  STATE/COUNTY-  NE/GAGE
 LG0352  COUNTRY     -  US
 LG0352  USGS QUAD   -  CORTLAND (1964)
 LG0352
 LG0352                          *CURRENT SURVEY CONTROL
 LG0352 _______________________________________________________________________
 LG0352* NAD 83(1995) POSITION- 40 31 22.67555(N) 096 42 24.25629(W)   ADJUSTED
 LG0352* NAD 83(1995) ELLIP HT-   416.165 (meters)        (06/27/02)   ADJUSTED
 LG0352* NAVD 88 ORTHO HEIGHT -   442.538 (meters)     1451.89  (feet) ADJUSTED
 LG0352 _______________________________________________________________________
 LG0352  GEOID HEIGHT    -        -26.354 (meters)                     GEOID12B
 LG0352  NAD 83(1995) X  -   -567,061.253 (meters)                     COMP
 LG0352  NAD 83(1995) Y  - -4,822,268.306 (meters)                     COMP
 LG0352  NAD 83(1995) Z  -  4,122,569.137 (meters)                     COMP
 LG0352  LAPLACE CORR    -         -3.34  (seconds)                    DEFLEC12B
 LG0352  DYNAMIC HEIGHT  -       442.324 (meters)     1451.19  (feet) COMP
 LG0352  MODELED GRAVITY -    980,127.3   (mgal)                       NAVD 88
 LG0352
 LG0352  HORZ ORDER      -  FIRST
 LG0352  VERT ORDER      -  SECOND    CLASS 0
 LG0352  ELLP ORDER      -  FOURTH    CLASS I
 LG0352
 LG0352.The horizontal coordinates were established by GPS observations
 LG0352.and adjusted by the National Geodetic Survey in August 1997.
 LG0352
 LG0352.The orthometric height was determined by differential leveling and
 LG0352.adjusted by the NATIONAL GEODETIC SURVEY
 LG0352.in June 1991.
 LG0352
 LG0352.Significant digits in the geoid height do not necessarily reflect accuracy.
 LG0352.GEOID12B height accuracy estimate available here.
 LG0352
 LG0352.The X, Y, and Z were computed from the position and the ellipsoidal ht.
 LG0352
 LG0352.The Laplace correction was computed from DEFLEC12B derived deflections.
 LG0352
 LG0352.The ellipsoidal height was determined by GPS observations
 LG0352.and is referenced to NAD 83.
 LG0352
 LG0352.The dynamic height is computed by dividing the NAVD 88
 LG0352.geopotential number by the normal gravity value computed on the
 LG0352.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
 LG0352.degrees latitude (g = 980.6199 gals.).
 LG0352
 LG0352.The modeled gravity was interpolated from observed gravity values.
 LG0352
 LG0352. The following values were computed from the NAD 83(1995) position.
 LG0352
 LG0352;                     North         East     Units Scale Factor Converg.
 LG0352;SPC NE       -    81,883.307   778,945.201   MT  0.99980441   +2 10 56.8
 LG0352;SPC NE       -   268,645.48  2,555,589.38   sFT  0.99980441   +2 10 56.8
 LG0352;UTM  14      - 4,488,330.609   694,258.845   MT  1.00006452   +1 29 25.9
 LG0352
 LG0352!             -  Elev Factor  x  Scale Factor =   Combined Factor
 LG0352!SPC NE       -   0.99993472  x   0.99980441  =   0.99973914
 LG0352!UTM  14      -   0.99993472  x   1.00006452  =   0.99999924
 LG0352
 LG0352_U.S. NATIONAL GRID SPATIAL ADDRESS: 14TPK9425888330(NAD 83)
 LG0352
 LG0352                           SUPERSEDED SURVEY CONTROL
 LG0352
 LG0352  ELLIP H (08/18/97)  416.137  (m)                          GP(       ) 4 1
 LG0352  NAD 83(1986)-  40 31 22.68367(N)    096 42 24.25501(W) AD(       ) 1
 LG0352  NGVD 29 (??/??/92)  442.432  (m)         1451.55   (f) ADJ UNCH    2 0
 LG0352  NGVD 29 (02/23/90)  442.     (m)  RAPSU86 model used   GPS OBS
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LG0352
LG0352.Superseded values are not recommended for survey control.
LG0352
LG0352.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
LG0352.See file dsdata.pdf to determine how the superseded data were derived.
LG0352
LG0352_MARKER: DB = BENCH MARK DISK
LG0352_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
LG0352_STAMPING: Y 365 1961
LG0352_MARK LOGO: CGS
LG0352_MAGNETIC: N = NO MAGNETIC MATERIAL
LG0352_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
LG0352+STABILITY: SURFACE MOTION
LG0352_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
LG0352+SATELLITE: SATELLITE OBSERVATIONS - January 04, 2017
LG0352
LG0352  HISTORY     - Date     Condition        Report By
LG0352  HISTORY     - 1961     MONUMENTED       CGS
LG0352  HISTORY     - 19800315 GOOD             NGS
LG0352  HISTORY     - 1985     GOOD             NGS
LG0352  HISTORY     - 19890327 GOOD
LG0352  HISTORY     - 19980315 GOOD
LG0352  HISTORY     - 20100517 GOOD             INDIV
LG0352  HISTORY     - 20170104 GOOD             NEGS
LG0352
LG0352                           STATION DESCRIPTION
LG0352
LG0352'DESCRIBED BY COAST AND GEODETIC SURVEY 1961
LG0352'1.2 MI N FROM CORTLAND.
LG0352'1.2 MILES NORTH ALONG THE UNION PACIFIC RAILROAD FROM THE STATION
LG0352'AT CORTLAND, 57 FEET SOUTHEAST OF A CROSSING, 42 FEET SOUTH OF
LG0352'THE CENTER OF A GRAVEL ROAD, 30 FEET EAST OF THE EAST RAIL, 21
LG0352'FEET WEST OF A FENCE, 21 FEET SOUTHWEST OF A CONCRETE CORNER
LG0352'POST, 3.1 FEET NORTH OF A METAL WITNESS POST WITH SIGN, ABOUT
LG0352'1 FOOT LOWER THAN THE TRACKS, SET IN TOP OF A SQUARE CONCRETE
LG0352'POST PROJECTING 11 INCHES ABOVE GROUND.
LG0352
LG0352                           STATION RECOVERY (1980)
LG0352
LG0352'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1980
LG0352'THE STATION IS LOCATED ABOUT 34 KM (21.15 MI) SOUTH OF LINCOLN, 2 KM
LG0352'(1.25 MI) NORTH OF CORTLAND, AT THE LANCASTER-GAGE COUNTY LINE, IN THE
LG0352'SOUTHEAST ANGLE OF THE JUNCTION OF US HIGHWAY 77 AND A DIRT ROAD, IN
LG0352'THE MISSOURI-PACIFIC RAILROAD RIGHT-OF-WAY.
LG0352'OWNERSHIP--MISSOURI-PACIFIC RAILROAD.
LG0352'TO REACH THE STATION FROM THE WATER TANK IN CORTLAND, GO NORTH ON US
LG0352'HIGHWAY 77 FOR 1.53 KM (0.95 MI) TO A CROSSROAD (GAGE ROAD) AND THE
LG0352'STATION ON THE RIGHT.
LG0352'THE STATION IS PROJECTING 5 CM AND ABOUT LEVEL WITH THE HIGHWAY.  IT
LG0352'IS 36.9 M (121.1 FT) EAST OF THE APPROXIMATE HIGHWAY CENTER, 13.7 M
LG0352'(44.9 FT) SOUTH OF THE APPROXIMATE CENTER OF GAGE ROAD, 8.7 M
LG0352'(28.5 FT) EAST OF THE EAST RAIL OF THE SET OF TRACKS, 5.7 M (18.7 FT)
LG0352'WEST OF THE RIGHT-OF-WAY FENCE, 0.8 M (2.6 FT) NORTH OF A METAL
LG0352'WITNESS POST AND 0.3 M (1.0 FT) SOUTH OF A CARSONITE WITNESS POST.
LG0352'DESCRIBED BY R.D.BALL.
LG0352
LG0352                           STATION RECOVERY (1985)
LG0352
LG0352'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1985
LG0352'1.93 KM (1.2 MI) NORTH ALONG U.S. HGIHWAY 77, FROM THE EAST POST
LG0352'OFFICE IN CORTLAND, THENCE 0.08 KM (0.05 MI) RIGHT AND EAST ALONG
LG0352'GAGE ROAD TO THE MARK ON THE RIGHT AT THE CROSSING OF THE UNION
LG0352'PACIFIC RAILROAD, 12.80 M (42.0 FT) SOUTH FROM THE CENTERLINE OF GAGE
LG0352'ROAD, 9.30 M (30.5 FT) EAST FROM THE EAST RAIL OF THE TRACK, 6.40 M
LG0352'(21.0 FT) SOUTHWEST FROM A FENCE CORNER POST, 6.40 M (21.0 FT) WEST
LG0352'FROM THE EAST RIGHT-OF-WAY FENCE.
LG0352
LG0352                           STATION RECOVERY (1989)
LG0352
LG0352'RECOVERED 1989
LG0352'RECOVERED IN GOOD CONDITION.
LG0352
LG0352                           STATION RECOVERY (1998)
LG0352
LG0352'RECOVERED 1998
LG0352'RECOVERED IN GOOD CONDITION.
LG0352
LG0352                           STATION RECOVERY (2010)
LG0352
LG0352'RECOVERY NOTE BY INDIVIDUAL CONTRIBUTORS 2010 (JDB)
LG0352'RECOVERED IN GOOD CONDITION.
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LG0352
LG0352                          STATION RECOVERY (2017)
LG0352
LG0352'RECOVERY NOTE BY NEBRASKA GEODETIC SURVEY 2017 (SB)
LG0352'RECOVERED IN GOOD CONDITION

*** retrieval complete.
Elapsed Time = 00:00:04
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The NGS Data Sheet

See file dsdata.pdf for more information about the datasheet.

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PROGRAM = datasheet95, VERSION = 8.12.5.2
1        National Geodetic Survey,   Retrieval Date = MAY 11, 2019
 AI1125 ***********************************************************************
 AI1125  DESIGNATION -  Y 5 RESET
 AI1125  PID         -  AI1125
 AI1125  STATE/COUNTY-  NE/DAWSON
 AI1125  COUNTRY     -  US
 AI1125  USGS QUAD   -  OVERTON (1962)
 AI1125
 AI1125                         *CURRENT SURVEY CONTROL
 AI1125  ______________________________________________________________________
 AI1125* NAD 83(1986) POSITION- 40 44 18.     (N) 099 32 23.     (W)   SCALED
 AI1125* NAVD 88 ORTHO HEIGHT -   706.86  (meters)     2319.1   (feet) RESET
 AI1125  ______________________________________________________________________
 AI1125  GEOID HEIGHT    -        -24.130 (meters)                    GEOID12B
 AI1125  VERT ORDER      -  THIRD
 AI1125
 AI1125.The horizontal coordinates were scaled from a topographic map and have
 AI1125.an estimated accuracy of +/- 6 seconds.
 AI1125.
 AI1125.The orthometric height was computed from unverified reset data.
 AI1125
 AI1125.No vertical observational check was made to the station.
 AI1125
 AI1125.Significant digits in the geoid height do not necessarily reflect accuracy.
 AI1125.GEOID12B height accuracy estimate available here.
 AI1125
 AI1125;                     North         East     Units  Estimated Accuracy
 AI1125;SPC NE       -   100,580.      538,870.      MT  (+/- 180 meters Scaled)
 AI1125
 AI1125_U.S. NATIONAL GRID SPATIAL ADDRESS: 14TML544098(NAD 83)
 AI1125
 AI1125                           SUPERSEDED SURVEY CONTROL
 AI1125
 AI1125.No superseded survey control is available for this station.
 AI1125
 AI1125_MARKER: DV = VERTICAL CONTROL DISK
 AI1125_SETTING: 32 = SET IN A RETAINING WALL OR CONCRETE LEDGE
 AI1125_SP_SET: CULVERT HEADWALL
 AI1125_STAMPING: Y-5 RESET 1997
 AI1125_MARK LOGO: NGS
 AI1125_MAGNETIC: N = NO MAGNETIC MATERIAL
 AI1125_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
 AI1125+STABILITY: SURFACE MOTION
 AI1125
 AI1125  HISTORY     - Date     Condition        Report By
 AI1125  HISTORY     - 1997     MONUMENTED       LOCSUR
 AI1125
 AI1125                           STATION DESCRIPTION
 AI1125
 AI1125'DESCRIBED BY LOCAL SURVEYOR (INDIVIDUAL OR FIRM) 1997 (RD)
 AI1125'AT THE INTERSECTION OF U.S.  HIGHWAY 30 AND STATE ROAD L-24B, ON UNION
 AI1125'PACIFIC RAILROAD RIGHT-OF-WAY, IN THE NW1/4, SEC19, T9N, R19W, 58.5 M
 AI1125'(191.9 FT) SOUTH OF THE CENTERLINE OF THE HIGHWAY, 20.38 M (66.86 FT)
 AI1125'SOUTH-SOUTHWEST OF FIBER-OPTIC CABLE MARKER NUMBERED 21323, 16.7 M
 AI1125'(54.8 FT) EAST OF ROAD L-24B, 11.001 M (36.092 FT) NORTHWEST OF THE
 AI1125'NORTHWEST BOLT OF SIGN LIGHTS, NUMBERS 2134-1 AND 2135-1, 10.25 M
 AI1125'(33.63 FT) WEST-SOUTHWEST OF THE NOTCHED, TOP, WEST END OF A 60 CM
 AI1125'CORRUGATED METAL PIPE CULVERT AND 8.01 M (26.28 FT) NORTH OF THE NORTH
 AI1125'RAIL OF THE NORTHERNMOST SET OF TRACKS.

 *** retrieval complete.
 Elapsed Time = 00:00:04
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