



Laser Mapping Specialists, Inc.

Geodetic Control Survey Report

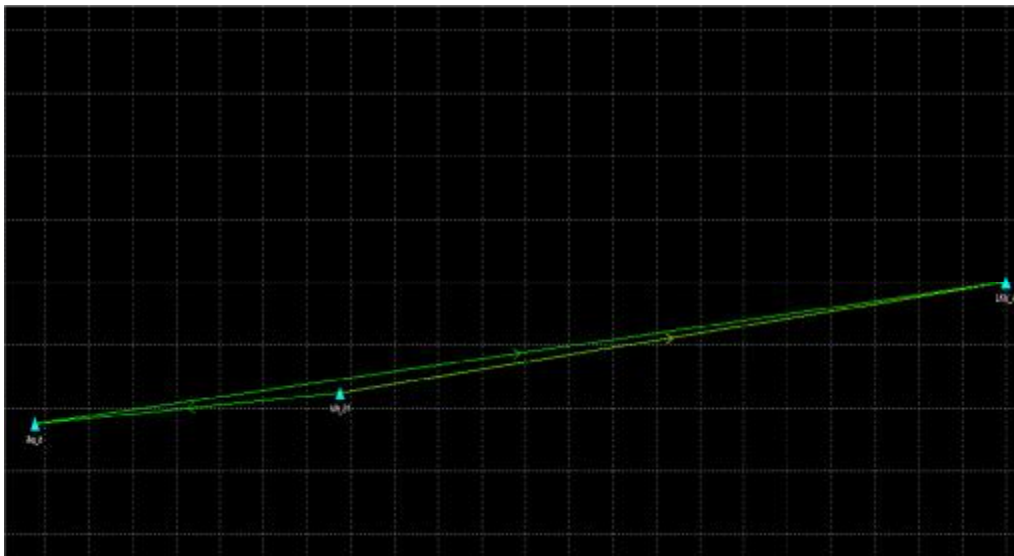


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Project Information

Final Coordinates

Fully Constrained Control Network

Minimally Constrained GPS Network

Control Station Descriptions

Project Information

Control Source: NGS - National Geodetic Survey

Horizontal Datum: NAD83

Vertical Datum: NAVD88

Geoid: Geoid09

Units: Meters

Published Control Station:

LKU A

Latitude: 38 00 38.85961

Longitude: -77 57 53.49016

Ellipsoidal Height: 116.438m

LKU B

Latitude: 38 00 34.10000

Longitude: -77 58 38.35121

Ellipsoidal Height: 110.096m

VA 21

Latitude: 38 00 35.25527

Longitude: -77 58 24.21345

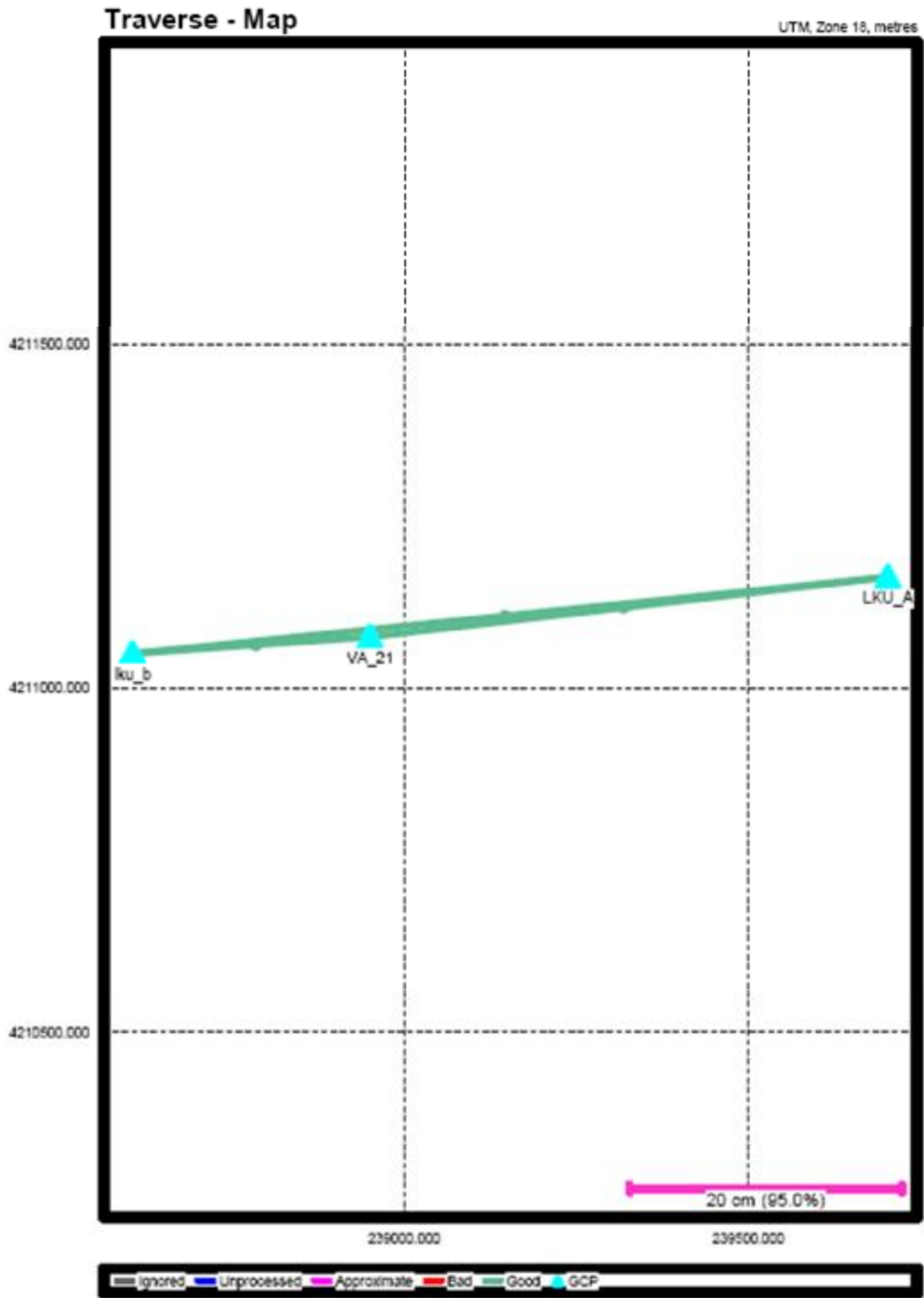
Ellipsoidal Height: 112.48m

The final coordinates in this geodetic control report were used to process data acquired in the field both airborne and ground. The control stations used are of the highest possible order found in the project area. National monuments – NGS were given preference over state maintained monuments.

Continuously operating reference stations – CORS can be used in the control network where and when available but will not be used to process flight data since not all sites log at 1 second interval.

Geoid 09 was used to calculate the orthometric heights of all the coordinates. The orthometric height was determined by GPS observations and a high-resolution geoid model using precise GPS observation and processing techniques.

Fully Constrained Geodetic Network



```

*****
* NETWORK - WEIGHTED GPS NETWORK ADJUSTMENT *
* *
* (c) Copyright NovAtel Inc., *
* *
* *
* *
* FILE: F:\louisa\control\Grafnet\Louisa
*****

```

```

*****
DATUM:          'NAD83'
GRID:           UTM, Zone 18
SCALE FACTOR:  51.0000
CONFIDENCE LEVEL: 95.00 % (Scale factor is 2.4479)
*****

```

```

*****
INPUT CONTROL/CHECK POINTS
*****

```

STA_ID	TYPE	-- LATITUDE --	-- LONGITUDE --	ELLHGT -	H2-SD	V-SD
LKU_A	GCP-3D	38 00 38.85961	-77 57 53.49016	116.438	0.01000	0.01000
lku_b	GCP-3D	38 00 34.10000	-77 58 38.35121	110.096	0.01000	0.01000
VA_21	GCP-3D	38 00 35.25527	-77 58 24.21245	112.480	0.01000	0.01000

```

*****
INPUT VECTORS
*****

```

SESSION NAME	VECTOR(m) DX/DY/DZ	----- Covariance (m) [unscaled] ----- standard deviations in brackets		
lku_b to LKU_A (1)	1052.5513 311.5734 119.5488	2.9675e-008 (0.0002)	-3.2661e-008 (0.0003)	8.5052e-008 (0.0003)
VA_21 to LKU_A (3)	719.4152 220.1011 90.0188	2.3620e-008 (0.0002)	-2.5693e-008 (0.0003)	7.2261e-008 (0.0003)
VA_21 to lku_b (1)	-322.1259 -91.4735 -29.5291	2.8085e-008 (0.0002)	-3.0913e-008 (0.0003)	8.0485e-008 (0.0003)

```

*****
OUTPUT VECTOR RESIDUALS (East, North, Height - Local Level)
*****

```

SESSION NAME	-- RE -- (m)	-- RN -- (m)	-- RH -- (m)	- PPM -	DIST - (km)	STD - (m)
lku_b to LKU_A (1)	0.0000	-0.0000	-0.0006	0.576	1.1	0.0029
VA_21 to LKU_A (3)	-0.0000	-0.0000	0.0002	0.281	0.8	0.0026
VA_21 to lku_b (1)	-0.0000	0.0000	-0.0007	1.943	0.2	0.0028

RMS 0.0000 0.0000 0.0005

\$ - This session is flagged as a 3-sigma outlier

CONTROL POINT RESIDUALS (ADJUSTMENT MADE)

STA. NAME	-- RE --	-- RN --	-- RH --
	(m)	(m)	(m)
LKU_A	-0.0041	0.0069	0.0083
lku_b	0.0068	-0.0048	-0.0002
VA_21	-0.0027	-0.0041	-0.0079

RMS	0.0048	0.0063	0.0066
-----	--------	--------	--------

OUTPUT STATION COORDINATES (LAT/LONG/HT)

STA_ID	-- LATITUDE --	-- LONGITUDE --	- ELLHGT -	ORTHOHGT
LKU_A	38 00 38.85990	-77 57 53.49033	116.4462	148.7701
lku_b	38 00 34.09984	-77 58 38.35093	110.0956	142.4221
VA_21	38 00 35.25513	-77 58 24.21356	112.4720	144.7976

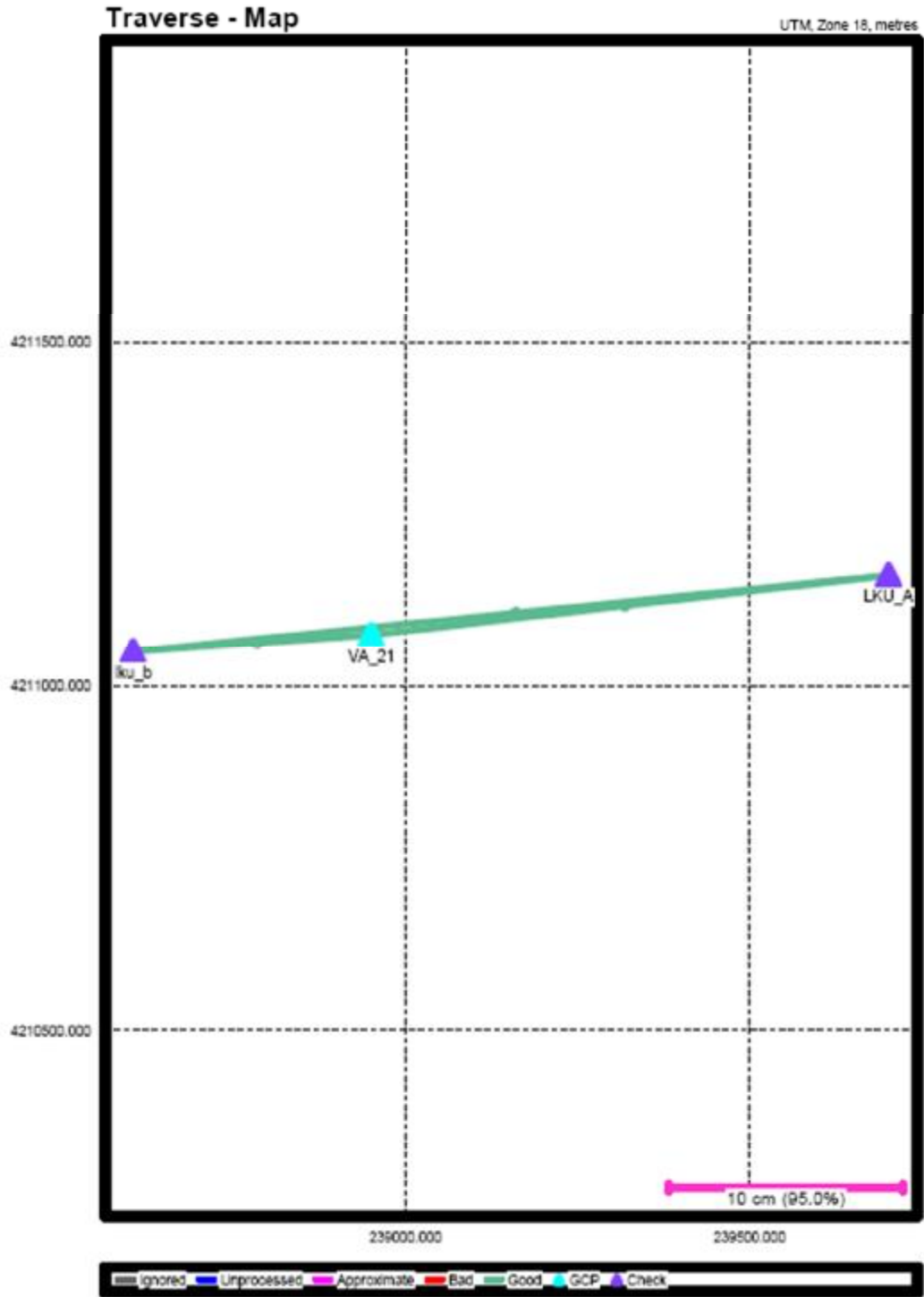
OUTPUT STATION COORDINATES (GRID)

STA_ID	- EASTING -	- NORTHING -	- ELLHGT -	ORTHOHGT
	(m)	(m)	(m)	(m)
LKU_A	239703.1874	4211162.0900	116.4462	148.7701
lku_b	238604.2222	4211050.3112	110.0956	142.4221
VA_21	238950.2147	4211074.8914	112.4720	144.7976

OUTPUT VARIANCE/COVARIANCE

STA_ID	SE/SN/SUP	----- CX matrix (m) ----- (95.00 %) (not scaled by confidence level) (m) (ECEF, XYZ cartesian)			
LKU_A	0.0142	3.3629e-005			
	0.0142	-3.2096e-007	3.4204e-005		
	0.0144	1.4630e-007	-4.2095e-007	3.3827e-005	
lku_b	0.0142	3.3657e-005			
	0.0142	-3.5223e-007	3.4253e-005		
	0.0144	1.6492e-007	-4.4528e-007	3.3848e-005	
VA_21	0.0142	3.3622e-005			
	0.0142	-3.1276e-007	3.4182e-005		
	0.0144	1.4262e-007	-4.1000e-007	3.3814e-005	

Minimally Constrained Geodetic Network




```

*****
* NETWORK - WEIGHTED GPS NETWORK ADJUSTMENT *
* *
* (c) Copyright NovAtel Inc., *
* *
* *
* *
* FILE: F:\louisa\control\Grafnet\Louisa
*****

```

```

*****
DATUM:          'NAD83'
GRID:          UTM, Zone 18
SCALE FACTOR:  51.0000
CONFIDENCE LEVEL: 95.00 % (Scale factor is 2.4479)
*****

```

```

*****
INPUT CONTROL/CHECK POINTS
*****
STA_ID  TYPE  -- LATITUDE --  -- LONGITUDE --  ELLHGT -  HZ-SD  V-SD
LKU_A   CHK-3D  38 00 38.85961  -77 57 53.49016  116.438
lku_b   CHK-3D  38 00 34.10000  -77 58 38.35121  110.096
VA_21   GCP-3D  38 00 35.25527  -77 58 24.21345  112.480 0.01000 0.01000

```

```

*****
INPUT VECTORS
*****
SESSION NAME      VECTOR(m)  ----- Covariance (m) [unscaled] -----
                  DX/DY/DZ          standard deviations in brackets
LKU_A to lku_b (1)  -1052.5507  2.9678e-008 (0.0002)
                  -311.5762  -3.2664e-008  8.5053e-008 (0.0003)
                  -119.5466  1.5272e-008  -4.1265e-008  4.7384e-008 (0.0002)
VA_21 to LKU_A (3)  719.4152   2.3620e-008 (0.0002)
                  220.1011  -2.5693e-008  7.2261e-008 (0.0003)
                  90.0100   1.1449e-008  -3.5022e-008  4.1342e-008 (0.0002)
VA_21 to lku_b (1)  -323.1259  2.8085e-008 (0.0002)
                  -91.4735  -3.0913e-008  5.0485e-008 (0.0003)
                  -29.5291  1.4548e-008  -3.9140e-008  4.4821e-008 (0.0002)

```

```

*****
OUTPUT VECTOR RESIDUALS (East, North, Height - Local Level)
*****
SESSION NAME      -- RE --  -- RN --  -- RH --  - PPM -  DIST - STD -
                  (m)      (m)      (m)      (km)   (m)
LKU_A to lku_b (1)  -0.0000  -0.0000  -0.0007  0.677  1.1  0.0029
VA_21 to LKU_A (3)  -0.0000  -0.0000  -0.0006  0.852  0.8  0.0026
VA_21 to lku_b (1)  0.0000  0.0000  0.0007  2.039  0.3  0.0025

```

RMS 0.0000 0.0000 0.0007

⚠ - This session is flagged as a 3-sigma outlier

CHECK POINT RESIDUALS (East, North, Height - Local Level)

STA. NAME	-- RE --	-- RN --	-- RH --
	(m)	(m)	(m)
LKU_A	-0.0014	0.0131	0.0153
lku_b	0.0095	-0.0007	0.0090
RMS	0.0068	0.0093	0.0126

CONTROL POINT RESIDUALS (ADJUSTMENT MADE)

STA. NAME	-- RE --	-- RN --	-- RH --
	(m)	(m)	(m)
VA_21	0.0000	-0.0000	-0.0000
RMS	0.0000	0.0000	0.0000

OUTPUT STATION COORDINATES (LAT/LONG/HT)

STA_ID	-- LATITUDE --	-- LONGITUDE --	- ELLHGT -	ORTHONGT
LKU_A	38 00 38.86003	-77 57 53.49022	116.4533	148.7771
lku_b	38 00 34.09997	-77 58 38.35082	110.1049	142.4314
VA_21	38 00 35.25527	-77 58 24.21345	112.4799	144.8058

OUTPUT STATION COORDINATES (GRID)

STA_ID	- EASTING -	- NORTHING -	- ELLHGT -	ORTHONGT
	(m)	(m)	(m)	(m)
LKU_A	239703.1902	4211162.0940	116.4533	148.7771
lku_b	238604.2250	4211050.3152	110.1049	142.4314
VA_21	238950.2175	4211074.8954	112.4799	144.8058

OUTPUT VARIANCE/COVARIANCE

STA_ID	SE/SN/SUP	----- CK matrix (m) ----- (95.00 %) (not scaled by confidence level) (ECEF, XYZ cartesian)			
LKU_A	0.0245	1.0085e-004			
	0.0246	-9.3347e-007	1.0256e-004		
	0.0249	4.2340e-007	-1.2431e-006	1.0145e-004	
lku_b	0.0246	1.0094e-004			
	0.0246	-1.0307e-006	1.0271e-004		

	0.0249	4.8130e-007	-1.3195e-006	1.0152e-004
VA_21	0.0245	1.0000e-004		
	0.0245	-1.1642e-018	1.0000e-004	
	0.0245	-7.2760e-020	8.4703e-034	1.0000e-004

VARIANCE FACTOR = 0.0491

Note: Values < 1.0 indicate statistics are pessimistic, while
values > 1.0 indicate optimistic statistics. Entering this
value as the network adjustment scale factor will bring
variance factor to one.

Station Description :

LKU A

Latitude: 38 00 38.85961

Longitude: -77 57 53.49016

Ellipsoidal Height: 116.438m



Base Station Log

Laser Mapping Specialists, INC

118 South Oak Street P.O. Box 7, Raymond, Ms. 39154 Ph. 601-854-0796 Fax 601-857-8141 Email info@lasermaps.com

Project: <u>Lewis, Va</u> Julian date: <u>12069</u> Date: <u>March 9, 2012</u> Local Time: <u>11:30</u> Base Station Operator: <u>H. Hornbeck</u> Monument Name: <u>CKU-A</u> <small>*attach copy of monument documentation</small> Monument Coordinates: Elevation & Order: Stability: Surface Conditions: <u>metal</u> <u>rod</u> Site Obstructions: <u>none</u>	<h3 style="text-align: center;"><u>Sketch and Ties to Base Station</u></h3> <div style="text-align: center;"> </div>	GPS Receiver Make: <u>Topcon</u> GPS Receiver Serial#: <u>442-2871</u> Data Rate: <u>1sec</u> New GPS file: <u>CKU-A</u> Filename Generated: Antennae Used: <u>GR3</u> Antennae Height (before): <u>2.0m</u> Antennae Height (after): <u>fixed</u> Mission Notes:
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AA9201 DESIGNATION - LKU A
AA9201 PID - AA9201
AA9201 STATE/COUNTY- VA/LOUISA
AA9201 USGS QUAD - MINERAL (1981)
AA9201
AA9201 *CURRENT SURVEY CONTROL
AA9201
AA9201* NAD 83(2007)- 38 00 38.85961(N) 077 57 53.49016(W) ADJUSTED
AA9201* NAVD 88 - 148.73 (meters) 488.0 (feet) GPS OBS
AA9201
AA9201 EPOCH DATE - 2002.00
AA9201 X - 1,049,185.121 (meters) COMP
AA9201 Y - -4,921,184.212 (meters) COMP
AA9201 Z - 3,906,459.745 (meters) COMP
AA9201 LAPLACE CORR- 0.47 (seconds) DEFLECO9
AA9201 ELLIP HEIGHT- 116.438 (meters) (02/10/07) ADJUSTED
AA9201 GEOID HEIGHT- -32.32 (meters) GEOID09
AA9201
AA9201 ----- Accuracy Estimates (at 95% Confidence Level in cm) -----
AA9201 Type PID Designation North East Ellip
AA9201 -----
AA9201 NETWORK AA9201 LKU A 0.47 0.37 1.33
AA9201 -----
AA9201
AA9201.This mark is at Louisa Co/freeman Fld Airport (LKU)
AA9201
AA9201.The horizontal coordinates were established by GPS observations
AA9201.and adjusted by the National Geodetic Survey in February 2007.
AA9201
AA9201.The datum tag of NAD 83(2007) is equivalent to NAD 83(NSRS2007).
AA9201.See National Readjustment for more information.
AA9201
AA9201.The horizontal coordinates are valid at the epoch date displayed above
AA9201.which is a decimal equivalence of Year/Month/Day.
AA9201
AA9201.The orthometric height was determined by GPS observations and a
AA9201.high-resolution geoid model.
AA9201
AA9201.GPS derived orthometric heights for airport stations designated as
AA9201.PACS or SACS are published to 2 decimal places. This maintains
AA9201.centimeter relative accuracy between the PACS and SACS. It does
AA9201.not indicate centimeter accuracy relative to other marks which are
AA9201.part of the NAVD 88 network.
AA9201
AA9201.The X, Y, and Z were computed from the position and the ellipsoidal ht.
AA9201
AA9201.The Laplace correction was computed from DEFLECO9 derived deflections.
AA9201
AA9201.The ellipsoidal height was determined by GPS observations
AA9201.and is referenced to NAD 83.
AA9201
AA9201.The geoid height was determined by GEOID09.
AA9201
AA9201; North East Units Scale Factor Converg.
AA9201;SPC VA S - 1,186,296.837 3,546,996.056 MT 1.00000835 +0 19 29.2
AA9201;SPC VA S - 3,892,042.21 11,637,102.89 sFT 1.00000835 +0 19 29.2
AA9201;UTM 18 - 4,211,162.081 239,703.191 MT 1.00043457 -1 49 36.5
AA9201;UTM 17 - 4,211,361.267 766,468.646 MT 1.00047462 +1 52 12.6
AA9201
AA9201! - Elev Factor x Scale Factor = Combined Factor
AA9201!SPC VA S - 0.99998173 x 1.00000835 = 0.99999008
AA9201!UTM 18 - 0.99998173 x 1.00043457 = 1.00041629
AA9201!UTM 17 - 0.99998173 x 1.00047462 = 1.00045634
AA9201
AA9201 SUPERSEDED SURVEY CONTROL
AA9201
AA9201 ELLIP H (05/15/02) 116.419 (m) GP( ) 5 2
AA9201 NAD 83(1993)- 38 00 38.86050(N) 077 57 53.48999(W) AD( ) 1
AA9201 ELLIP H (04/02/98) 116.474 (m) GP( ) 4 2

```

AA9201 NAD 83(1993)- 38 00 38.86049(N) 077 57 53.48997(W) AD() 1
AA9201 ELLIP H (11/30/95) 116.474 (m) GP() 4 2
AA9201 NAVD 88 (11/30/95) 148.82 (m) 488.3 (f) GPS OBS
AA9201
AA9201.Superseded values are not recommended for survey control.
AA9201.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
AA9201.[See file dsdata.txt](#) to determine how the superseded data were derived.
AA9201
AA9201_U.S. NATIONAL GRID SPATIAL ADDRESS: 18STH3970311162(NAD 83)
AA9201
AA9201_MARKER: I = METAL ROD
AA9201_SETTING: 59 = STAINLESS STEEL ROD IN SLEEVE (10 FT.+)
AA9201_STAMPING: LKU A 1994
AA9201_MARK LOGO: NGS
AA9201_PROJECTION: FLUSH
AA9201_MAGNETIC: N = NO MAGNETIC MATERIAL
AA9201_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL
AA9201_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
AA9201+SATELLITE: SATELLITE OBSERVATIONS - March 27, 2006
AA9201_ROD/PIPE-DEPTH: 8.3 meters
AA9201_SLEEVE-DEPTH : 1.0 meters
AA9201
AA9201 HISTORY - Date Condition Report By
AA9201 HISTORY - 1994 MONUMENTED NGS
AA9201 HISTORY - 19941016 GOOD NGS
AA9201 HISTORY - 19970131 GOOD NGS
AA9201 HISTORY - 19980307 MARK NOT FOUND USPSQD
AA9201 HISTORY - 20021008 GOOD USPSQD
AA9201 HISTORY - 20060327 GOOD USPSQD
AA9201
AA9201 STATION DESCRIPTION
AA9201
AA9201 STATION RECOVERY (1997)
AA9201
AA9201'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1997 (AJL)
AA9201'THE STATION IS LOCATED ABOUT 26.0 MI (41.8 KM) EAST OF
AA9201'CHARLOTTESVILLE,VA, 2.0 MI (3.2 KM) EAST OF LOUISA,VA, AT LOUISA
AA9201'COUNTY INDUSTRIAL AIRPARK, AT THE WEST END OF AIRPORT, IN GRASSY AREA
AA9201'BETWEEN RUNWAY AND TAXIWAY AT THE EAST END OF AIRPORT. OWNERSHIP --
AA9201'LOUISA COUNTY. CONTACT LEE WILLIAMS,ASST. AIRPORT MANAGER OR RON
AA9201'REYOLDS,AIRPORT MANAGER,RT.1 BOX 311D,LOUISA,VA. 23093.PHONE
AA9201'540-967-0797 FOR ACCESS TO AIRPORT. THIS STATION IS DESIGNATED AS A
AA9201'SECONDARY AIRPORT CONTROL STATION. TO REACH STATION FROM THE JUNCTION
AA9201'OF STATE HIGHWAYS 208,22 AND U.S.HIGHWAY 33 ABOUT 1.0 MI (1.6 KM)
AA9201'SOUTHEAST OF LOUISA,GO EAST ON STATE HIGHWAY 22 FOR 1.5 MI (2.4 KM) TO
AA9201'SECONDARY STATE HIGHWAY 780 ON THE RIGHT.TURN RIGHT AND GO SOUTH THEN
AA9201'WEST ON HIGHWAY 780 FOR 0.3 MI (0.5 KM) TO A PAVED ROAD LEFT (AIRPORT
AA9201'ACCESS ROAD).TURN LEFT AND GO SOUTH ON PAVED ROAD FOR 0.05 MI (0.08
AA9201'KM) TO AIRPORT BUILDING STRAIGHT AHEAD AND A PAVED ROAD RIGHT.TURN
AA9201'RIGHT AND GO WEST FOR 0.1 MI (0.2 KM) TO END OF ROAD AND A ROAD
AA9201'LEFT.TURN LEFT AND GO 0.05 MI (0.08 KM) TO A TAXIWAY.TURN LEFT ONTO
AA9201'TAXIWAY AND GO EAST 0.5 MI (0.8 KM) ON TAXIWAY TO TAXIWAY CONNECTOR B
AA9201'AND STATION ON RIGHT. THE STATION IS LOCATED 147.4 FT (44.9 M) NORTH
AA9201'OF THE CENTERLINE OF RUNWAY, 86.4 FT (26.3 M) WEST OF THE CENTERLINE
AA9201'OF TAXIWAY CONNECTOR B, 86.4 FT (26.3 M) NORTHEAST OF TWO BLUE TAXIWAY
AA9201'LIGHTS, 93.6 FT (28.5 M) SOUTH OF THE CENTERLINE OF TAXIWAY. THE
AA9201'STATION IS THE TOP CENTER OF A STAINLESS STEEL ROD DRIVEN TO REFUSAL
AA9201'TO A DEPTH OF 8.3 M (27.2 FT) RECESSED 0.3 FT (9.1 CM) BELOW GROUND IN
AA9201'A 0.5 FT (15.2 CM) DIA. PVC PIPE WITH NGS LOGO CAP SURROUNDED BY
AA9201'CONCRETE.THE LOGO CAP AND CONCRETE ARE SET FLUSH TO THE GROUND. ED

AA9201 STATION RECOVERY (2002)
AA9201
AA9201'RECOVERY NOTE BY US POWER SQUADRON 2002 (EEC)
AA9201'
AA9201'RECOVERY NOTE BY US POWER SQUADRON 2006 (EEC)
AA9201'RECOVERED IN GOOD CONDITION.

LKU B

Latitude: 38 00 34.10000

Longitude: -77 58 38.35121

Ellipsoidal Height: 110.096m



Base Station Log

Laser Mapping Specialists, INC

118 South Oak Street P.O. Box 7, Raymond, Ms. 39154 Ph. 601-854-0796 Fax 601-857-8141 Email info@lasermaps.com

Project: <i>Louisa, VA</i> Julian date: <i>12075</i> Date: <i>March 15, 2012</i> Local Time: <i>1:15</i> Base Station Operator: <i>H. Hornbeck</i> Monument Name: <i>LKU B</i> *attach copy of monument documentation Monument Coordinates: <i>35° 34' 10" N</i> <i>77° 58' 38.35" W</i> Elevation & Order: Stability: Surface Conditions: <i>metal</i> <i>rod</i> Site Obstructions: <i>none</i>	<h3 style="margin: 0;">Sketch and Ties to Base Station</h3> <div style="text-align: right; margin-bottom: 10px;">N ↑</div>
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AA9200 DESIGNATION - LKU B
AA9200 PID - AA9200
AA9200 STATE/COUNTY- VA/LOUISA
AA9200 USGS QUAD - MINERAL (1981)
AA9200
AA9200
AA9200 *CURRENT SURVEY CONTROL
AA9200
AA9200* NAD 83(2007)- 38 00 34.10000(N) 077 58 38.35121(W) ADJUSTED
AA9200* NAVD 88 - 142.40 (meters) 467.2 (feet) GPS OBS
AA9200
AA9200 EPOCH DATE - 2002.00
AA9200 X - 1,048,132.559 (meters) COMP
AA9200 Y - -4,921,495.786 (meters) COMP
AA9200 Z - 3,906,340.213 (meters) COMP
AA9200 LAPLACE CORR- 0.46 (seconds) DEFLEC09
AA9200 ELLIP HEIGHT- 110.096 (meters) (02/10/07) ADJUSTED
AA9200 GEOID HEIGHT- -32.33 (meters) GEOID09
AA9200
AA9200 ----- Accuracy Estimates (at 95% Confidence Level in cm) -----
AA9200 Type PID Designation North East Ellip
AA9200 -----
AA9200 NETWORK AA9200 LKU B 0.45 0.37 1.31
AA9200 -----
AA9200
AA9200.This mark is at Louisa Co/freeman Fld Airport (LKU)
AA9200
AA9200.The horizontal coordinates were established by GPS observations
AA9200.and adjusted by the National Geodetic Survey in February 2007.
AA9200
AA9200.The datum tag of NAD 83(2007) is equivalent to NAD 83(NSRS2007).
AA9200.See National Readjustment for more information.
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AA9200.which is a decimal equivalence of Year/Month/Day.
AA9200
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AA9200.high-resolution geoid model.
AA9200
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AA9200.PACS or SACS are published to 2 decimal places. This maintains
AA9200.centimeter relative accuracy between the PACS and SACS. It does
AA9200.not indicate centimeter accuracy relative to other marks which are
AA9200.part of the NAVD 88 network.
AA9200
AA9200.The X, Y, and Z were computed from the position and the ellipsoidal ht.
AA9200
AA9200.The Laplace correction was computed from DEFLEC09 derived deflections.
AA9200
AA9200.The ellipsoidal height was determined by GPS observations
AA9200.and is referenced to NAD 83.
AA9200
AA9200.The geoid height was determined by GEOID09.
AA9200
AA9200; North East Units Scale Factor Converg.
AA9200;SPC VA S - 1,186,143.957 3,545,902.521 MT 1.00000809 +0 19 02.0
AA9200;SPC VA S - 3,891,540.63 11,633,515.19 sFT 1.00000809 +0 19 02.0
AA9200;UTM 18 - 4,211,050.316 238,604.216 MT 1.00044163 -1 50 04.0
AA9200;UTM 17 - 4,211,178.869 765,379.128 MT 1.00046748 +1 51 44.7
AA9200
AA9200! Elev Factor x Scale Factor = Combined Factor
AA9200!SPC VA S - 0.99998272 x 1.00000809 = 0.99999081
AA9200!UTM 18 - 0.99998272 x 1.00044163 = 1.00042435
AA9200!UTM 17 - 0.99998272 x 1.00046748 = 1.00045020
AA9200
AA9200|-----|
AA9200|PID Reference Object Distance Geod. Az|
AA9200| | | | dddmmss.s |
AA9200|UA0023 VA 21 346.721 METERS 08406|
AA9200|-----|
AA9200
AA9200
AA9200 SUPERSEDED SURVEY CONTROL

```

AA9200
AA9200 ELLIP H (05/15/02) 110.082 (m) GP() 5 2
AA9200 NAD 83(1993)- 38 00 34.10093(N) 077 58 38.35097(W) AD() 1
AA9200 ELLIP H (04/02/98) 110.137 (m) GP() 4 2
AA9200 NAD 83(1993)- 38 00 34.10092(N) 077 58 38.35095(W) AD() 1
AA9200 ELLIP H (11/30/95) 110.137 (m) GP() 4 2
AA9200 NAVD 88 (11/30/95) 142.49 (m) 467.5 (f) GPS OBS
AA9200

AA9200.Superseded values are not recommended for survey control.
AA9200.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
AA9200.[See file dsdata.txt](#) to determine how the superseded data were derived.
AA9200

AA9200_U.S. NATIONAL GRID SPATIAL ADDRESS: 18STH3860411050(NAD 83)

AA9200

AA9200_MARKER: I = METAL ROD

AA9200_SETTING: 59 = STAINLESS STEEL ROD IN SLEEVE (10 FT.+)

AA9200_STAMPING: LKU B 1994

AA9200_MARK LOGO: NGS

AA9200_PROJECTION: FLUSH

AA9200_MAGNETIC: N = NO MAGNETIC MATERIAL

AA9200_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL

AA9200_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR

AA9200+SATELLITE: SATELLITE OBSERVATIONS - October 06, 2011

AA9200_ROD/PIPE-DEPTH: 5.8 meters

AA9200_SLEEVE-DEPTH : 1.0 meters

AA9200

AA9200	HISTORY	- Date	Condition	Report By
AA9200	HISTORY	- 1994	MONUMENTED	NGS
AA9200	HISTORY	- 19941016	GOOD	NGS
AA9200	HISTORY	- 19970131	GOOD	NGS
AA9200	HISTORY	- 19980307	MARK NOT FOUND	USPSQD
AA9200	HISTORY	- 20021008	GOOD	USPSQD
AA9200	HISTORY	- 20060327	GOOD	USPSQD
AA9200	HISTORY	- 20111006	GOOD	JCLS

AA9200

STATION DESCRIPTION

AA9200

AA9200'DESCRIBED BY NATIONAL GEODETIC SURVEY 1994 (JDR)

AA9200'THE STATION IS LOCATED ABOUT 26.0 MI (41.8 KM) EAST OF

AA9200'CHARLOTTESVILLE, 2.0 MI (3.2 KM) EAST OF LOUISA, AT THE LOUISA

AA9200'INDUSTRIAL AIRPARK, AT THE WEST END OF THE RUNWAY, IN THE GRASS AREA

AA9200'BETWEEN RUNWAY AND TAXI AT APROACH END 9. OWNERSHIP--LOUISA COUNTY.

AA9200'CONTACT JIM BELL, PROFESSIONAL LAND SURVEYOR, P.O.BOX 430, MINERAL VA

AA9200'23117. PHONE 703-967-1514.

AA9200'

AA9200'TO REACH THE STATION FROM THE JUNCTION OF STATE HIGHWAYS 208,22 AND

AA9200'U.S.HIGHWAY 33 ABOUT 1.0 MI (1.6 KM) SOUTHEAST OF LOUISA, GO EAST ON

AA9200'STATE HIGHWAY 22 FOR 1.5 MI (2.4 KM) TO SECONDARY STATE HIGHWAY 780 ON

AA9200'THE RIGHT. TURN RIGHT AND GO SOUTH THEN WEST ON HIGHWAY 780 FOR 0.3

AA9200'MI (0.5 KM) TO A PAVED ROAD LEFT. TURN LEFT AND GO SOUTH ON THE PAVED

AA9200'ROAD 0.05 MI (0.08 KM) TO AIRPORT BUILDING STRAIGHT AHEAD AND A PAVED

AA9200'ROAD RIGHT. TURN RIGHT AND GO WEST 0.1 MI (0.2 KM) TO END OF ROAD AND

AA9200'A ROAD LEFT. TURN LEFT AND GO 0.05 MI (0.08 KM) TO TAXIWAY. TURN

AA9200'RIGHT AND GO 0.30 MI (0.48 KM) TO THE STATION.

AA9200'

AA9200'LOCATED 39.2 MT NORTH FROM THE CENTERLINE OF THE RUNWAY, 26.9 MT WEST

AA9200'FROM THE CENTERLINE OF TAXIWAY, 18.5 MT EAST FROM THE CENTERLINE OF

AA9200'RUNWAY AND TAXIWAY AND 11.7 MT SOUTH FROM THE CENTER OF A METAL GRATE

AA9200'DRAIN.

AA9200

AA9200

STATION RECOVERY (1997)

AA9200

AA9200'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1997 (AJL)

AA9200'THE STATION IS LOCATED ABOUT 26.0 MI (41.8 KM) EAST OF

AA9200'CHARLOTTESVILLE,VA, 2.0 MI (3.2 KM) EAST OF LOUISA,VA, AT LOUISA

AA9200'COUNTY INDUSTRIAL AIRPARK, AT THE WEST END OF AIRPORT, IN GRASSY AREA

AA9200'BETWEEN RUNWAY AND TAXIWAY AT THE APPROACH END OF RUNWAY 9. OWNERSHIP

AA9200'-- LOUISA COUNTY. CONTACT LEE WILLIAMS,ASST. AIRPORT MANAGER OR RON

AA9200'REYOLDS,AIRPORT MANAGER,RT.1 BOX 311D,LOUISA,VA. 23093.PHONE

AA9200'540-967-0797 FOR ACCESS TO AIRPORT. THIS STATION IS DESIGNATED AS A

AA9200'SECONDARY AIRPORT CONTROL STATION. TO REACH STATION FROM THE JUNCTION

AA9200' OF STATE HIGHWAYS 208,22 AND U.S.HIGHWAY 33 ABOUT 1.0 MI (1.6 KM)
AA9200' SOUTHEAST OF LOUISA, GO EAST ON STATE HIGHWAY 22 FOR 1.5 MI (2.4 KM) TO
AA9200' SECONDARY STATE HIGHWAY 780 ON THE RIGHT. TURN RIGHT AND GO SOUTH THEN
AA9200' WEST ON HIGHWAY 780 FOR 0.3 MI (0.5 KM) TO A PAVED ROAD LEFT (AIRPORT
AA9200' ACCESS ROAD). TURN LEFT AND GO SOUTH ON PAVED ROAD FOR 0.05 MI (0.08
AA9200' KM) TO AIRPORT BUILDING STRAIGHT AHEAD AND A PAVED ROAD RIGHT. TURN
AA9200' RIGHT AND GO WEST FOR 0.1 MI (0.2 KM) TO END OF ROAD AND A ROAD
AA9200' LEFT. TURN LEFT AND GO 0.05 MI (0.08 KM) TO A TAXIWAY. TURN RIGHT ONTO
AA9200' TAXIWAY AND GO 0.30 MI (0.48 KM) TO THE END OF TAXIWAY AND STATION ON
AA9200' LEFT. THE STATION IS LOCATED 150.3 FT (45.8 M) NORTH OF THE
AA9200' CENTERLINE OF RUNWAY, 59.8 FT WEST OF THE CENTERLINE OF TAXIWAY
AA9200' CONNECTOR A, 90.3 FT NORTHWEST OF TWO BLUE TAXIWAY LIGHTS, 91.3 FT
AA9200' (27.8 M) SOUTH OF THE CENTERLINE OF TAXIWAY, 37.9 FT (11.6 M) SOUTH
AA9200' FROM THE CENTER OF A METAL DRAIN GRATE. THE STATION IS THE TOP CENTER
AA9200' OF A STAINLESS STEEL ROD DRIVEN TO REFUSAL TO A DEPTH OF 5.8 M (19.0
AA9200' FT) RECESSED 0.3 FT (9.1 CM) BELOW GROUND IN A 0.5 FT (15.2 CM) DIA.
AA9200' PVC PIPE WITH NGS LOGO CAP SURROUNDED BY CONCRETE. THE LOGO CAP AND
AA9200' CONCRETE ARE SET FLUSH TO THE GROUND. ED 2/97

AA9200

AA9200 STATION RECOVERY (1998)

AA9200

AA9200' RECOVERY NOTE BY US POWER SQUADRON 1998

AA9200' MARK NOT FOUND.

AA9200

AA9200 STATION RECOVERY (2002)

AA9200

AA9200' RECOVERY NOTE BY US POWER SQUADRON 2002 (EEC)

AA9200'

AA9200'

AA9200'

AA9200

AA9200 STATION RECOVERY (2006)

AA9200

AA9200' RECOVERY NOTE BY US POWER SQUADRON 2006 (EEC)

AA9200' RECOVERED IN GOOD CONDITION.

AA9200

AA9200 STATION RECOVERY (2011)

VA 21

Latitude: 38 00 35.25527

Longitude: -77 58 24.21345

Ellipsoidal Height: 112.48m



Base Station Log

Laser Mapping Specialists, INC

118 South Oak Street P.O. Box 7, Raymond, Ms. 39154 Ph. 601-854-0796 Fax 601-857-8141 Email info@lasermaps.com

Project: <i>Louisa, Va</i> Julian date: <i>12069</i> Date: <i>March 9, 2012</i> Local Time: <i>11:40</i> Base Station Operator: <i>H. Hornbeck</i> Monument Name: <i>VA-21</i> *attach copy of monument documentation Monument Coordinates: <i>38° 0' 35.25" N 77° 58' 24.21" W</i> Elevation & Order: Stability: Surface Conditions: <i>metal</i> <i>red</i> Site Obstructions: <i>None</i>	<h3 style="text-align: center;"><u>Sketch and Ties to Base Station</u></h3> <p style="text-align: center;">N ↑</p> <p style="text-align: center;"><i>To Terminal →</i></p> <div style="text-align: center;"> </div>	GPS Receiver Make: <i>Topcon</i> GPS Receiver Serial#: <i>442-2643</i> Data Rate: <i>1.56</i> New GPS file: <i>VA_21</i> Filename Generated: Antennae Used: <i>GR3</i> Antennae Height (before): <i>2.0m</i> Antennae Height (after): <i>fixed</i> Mission Notes:
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UA0023 PACS - This is a Primary Airport Control Station.
 UA0023 DESIGNATION - VA 21
 UA0023 PID - UA0023
 UA0023 STATE/COUNTY- VA/LOUISA
 UA0023 USGS QUAD - MINERAL (1981)
 UA0023
 UA0023 *CURRENT SURVEY CONTROL
 UA0023
 UA0023
 UA0023* NAD 83(2007)- 38 00 35.25527(N) 077 58 24.21345(W) ADJUSTED
 UA0023* NAVD 88 - 144.79 (meters) 475.0 (feet) GPS OBS
 UA0023
 UA0023 EPOCH DATE - 2002.00
 UA0023 X - 1,048,465.706 (meters) COMP
 UA0023 Y - -4,921,404.317 (meters) COMP
 UA0023 Z - 3,906,369.747 (meters) COMP
 UA0023 LAPLACE CORR- 0.47 (seconds) DEFLEC09
 UA0023 ELLIP HEIGHT- 112.480 (meters) (02/10/07) ADJUSTED
 UA0023 GEOID HEIGHT- -32.33 (meters) GEOID09
 UA0023
 UA0023 ----- Accuracy Estimates (at 95% Confidence Level in cm) -----
 UA0023 Type PID Designation North East Ellip
 UA0023 -----
 UA0023 NETWORK UA0023 VA 21 0.41 0.33 1.29
 UA0023 -----
 UA0023
 UA0023 This mark is at Louisa Co/freeman Fld Airport (LKU)
 UA0023
 UA0023 The horizontal coordinates were established by GPS observations
 UA0023 and adjusted by the National Geodetic Survey in February 2007.
 UA0023
 UA0023 The datum tag of NAD 83(2007) is equivalent to NAD 83(NSRS2007).
 UA0023 See [National Readjustment](#) for more information.
 UA0023
 UA0023 The horizontal coordinates are valid at the epoch date displayed above
 UA0023 which is a decimal equivalence of Year/Month/Day.
 UA0023
 UA0023 The orthometric height was determined by GPS observations and a
 UA0023 high-resolution geoid model.
 UA0023
 UA0023 GPS derived orthometric heights for airport stations designated as
 UA0023 PACS or SACS are published to 2 decimal places. This maintains
 UA0023 centimeter relative accuracy between the PACS and SACS. It does
 UA0023 not indicate centimeter accuracy relative to other marks which are
 UA0023 part of the NAVD 88 network.
 UA0023
 UA0023 The X, Y, and Z were computed from the position and the ellipsoidal ht.
 UA0023
 UA0023 The Laplace correction was computed from DEFLEC09 derived deflections.
 UA0023
 UA0023 The ellipsoidal height was determined by GPS observations
 UA0023 and is referenced to NAD 83.
 UA0023
 UA0023 The geoid height was determined by GEOID09.
 UA0023
 UA0023
 UA0023; North East Units Scale Factor Converg.
 UA0023; SPC VA S - 1,186,181.493 3,546,247.207 MT 1.00000816 +0 19 10.6
 UA0023; SPC VA S - 3,891,663.78 11,634,646.04 sFT 1.00000816 +0 19 10.6
 UA0023; UTM 18 - 4,211,074.895 238,950.217 MT 1.00043940 -1 49 55.3
 UA0023; UTM 17 - 4,211,225.708 765,722.834 MT 1.00046973 +1 51 53.5
 UA0023
 UA0023!
 UA0023! SPC VA S - Elev Factor x Scale Factor = Combined Factor
 UA0023! SPC VA S - 0.99998235 x 1.00000816 = 0.99999051
 UA0023! UTM 18 - 0.99998235 x 1.00043940 = 1.00042174
 UA0023! UTM 17 - 0.99998235 x 1.00046973 = 1.00045207
 UA0023
 UA0023
 UA0023 |-----
 UA0023 | PID Reference Object Distance Geod. Az
 UA0023 | | | | dddmss.s
 UA0023 | AA9200 LKU B 346.721 METERS 26406
 UA0023 |-----
 UA0023

UA0023 SUPERSEDED SURVEY CONTROL
 UA0023
 UA0023 ELLIP H (07/14/04) 112.485 (m) GP() 3 2
 UA0023 ELLIP H (08/14/01) 112.475 (m) GP() 4 1
 UA0023 NAD 83(1993)- 38 00 35.25638(N) 077 58 24.21328(W) AD() B
 UA0023 ELLIP H (06/29/94) 112.530 (m) GP() 4 1
 UA0023 NAD 83(1993)- 38 00 35.25639(N) 077 58 24.21328(W) AD() B
 UA0023 ELLIP H (04/04/94) 112.530 (m) GP() 4 1
 UA0023 NAVD 88 (11/22/95) 144.88 (m) 475.3 (f) GPS OBS
 UA0023 NAVD 88 (04/04/94) 144.80 (m) 475.1 (f) GPS OBS

UA0023.Superseded values are not recommended for survey control.
 UA0023.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
 UA0023.[See file dsdata.txt](#) to determine how the superseded data were derived.

UA0023
 UA0023_U.S. NATIONAL GRID SPATIAL ADDRESS: 18STH3895011074(NAD 83)
 UA0023

UA0023_MARKER: I = METAL ROD
 UA0023_SETTING: 59 = STAINLESS STEEL ROD IN SLEEVE (10 FT.)
 UA0023_SP_SET: STAINLESS STEEL ROD IN SLEEVE
 UA0023_STAMPING: VA 21 1993
 UA0023_MARK LOGO: NGS
 UA0023_PROJECTION: FLUSH
 UA0023_MAGNETIC: N = NO MAGNETIC MATERIAL
 UA0023_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL
 UA0023_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
 UA0023+SATELLITE: SATELLITE OBSERVATIONS - March 27, 2006
 UA0023_ROD/PIPE-DEPTH: 5.5 meters
 UA0023_SLEEVE-DEPTH : 1 meters

UA0023

UA0023	HISTORY	- Date	Condition	Report By
UA0023	HISTORY	- 1993	MONUMENTED	NGS
UA0023	HISTORY	- 19941017	GOOD	NGS
UA0023	HISTORY	- 19970131	GOOD	NGS
UA0023	HISTORY	- 19980307	GOOD	USPSQD
UA0023	HISTORY	- 20000228	GOOD	GEOMET
UA0023	HISTORY	- 20020326	GOOD	GEOMET
UA0023	HISTORY	- 20030828	GOOD	VADOT
UA0023	HISTORY	- 20060327	GOOD	USPSQD

UA0023
 UA0023 STATION DESCRIPTION
 UA0023
 UA0023'DESCRIBED BY NATIONAL GEODETIC SURVEY 1993
 UA0023'THE STATION IS LOCATED ABOUT 26.0 MI (41.8 KM) EAST OF
 UA0023'CHARLOTTESVILLE, 2.0 MI (3.2 KM) EAST OF LOUISA, AT THE LOUISA
 UA0023'INDUSTRIAL AIRPARK, BETWEEN THE RUNWAY AND THE TAXI RAMP.
 UA0023'OWNERSHIP--LOUISA COUNTY. CONTACT JIM BELL, PROFESSIONAL LAND
 UA0023'SURVEYOR, P.O. BOX 430, MINERAL, VA 23117. PHONE 703-967-1514.
 UA0023'TO REACH THE STATION FROM THE JUNCTION OF STATE HIGHWAYS 208, 22 AND
 UA0023'U.S. HIGHWAY 33 ABOUT 1.0 MI (1.6 KM) SOUTHEAST OF LOUISA, GO EAST ON
 UA0023'STATE HIGHWAY 22 FOR 1.5 MI (2.4 KM) TO SECONDARY STATE HIGHWAY 780
 UA0023'ON THE RIGHT, TURN RIGHT AND GO SOUTH THEN WEST ON HIGHWAY 780 FOR
 UA0023'0.3 MI (0.5 KM) TO A PAVED ROAD LEFT, TURN LEFT AND GO SOUTH ON THE
 UA0023'PAVED ROAD 0.05 MI (0.08 KM) TO AIRPORT BUILDING STRAIGHT AHEAD AND A
 UA0023'PAVED ROAD RIGHT, TURN RIGHT AND GO WEST 0.1 MI (0.2 KM) TO END OF
 UA0023'ROAD AND ROAD LEFT, TURN LEFT AND GO 0.05 MI (0.08 KM) TO TAXIWAY,
 UA0023'TURN RIGHT AND GO 0.1 MI (0.2 KM) TO A ACCESS RAMP LEFT, TURN LEFT
 UA0023'AND GO SOUTH ABOUT 20 METERS (65.6 FT) TO THE STATION ON THE RIGHT.
 UA0023'LOCATED 28.3 M (92.8 FT) NORTH OF THE CENTERLINE OF THE RUNWAY, 16.1 M
 UA0023'(52.8 FT) WEST FROM THE CENTERLINE OF THE TAXI RAMP AND 0.5 M
 UA0023'(1.6 FT) EAST FROM A WITNESS POST.

UA0023
 UA0023 STATION RECOVERY (1994)
 UA0023
 UA0023'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1994 (JDR)
 UA0023'THE STATION IS LOCATED ABOUT 26.0 MI (41.8 KM) EAST OF
 UA0023'CHARLOTTESVILLE, 2.0 MI (3.2 KM) EAST OF LOUISA, AT THE LOUISA
 UA0023'INDUSTRIAL AIRPARK, BETWEEN THE RUNWAY AND THE TAXI RAMP.
 UA0023'OWNERSHIP--LOUISA COUNTY. CONTACT JIM BELL, PROFESSIONAL LAND
 UA0023'SURVEYOR, P.O. BOX 430, MINERAL VA 23117. PHONE 703-967-1514.
 UA0023'

UA0023'TO REACH THE STATION FROM THE JUNCTION OF STATE HIGHWAYS 208,22 AND
UA0023'U.S.HIGHWAY 33 ABOUT 1.0 MI (1.6 KM) SOUTHEAST OF LOUISA, GO EAST ON
UA0023'STATE HIGHWAY 22 FOR 1.5 MI (2.4 KM) TO SECONDARY STATE HIGHWAY 780 ON
UA0023'THE RIGHT. TURN RIGHT AND GO SOUTH THEN WEST ON HIGHWAY 780 FOR 0.3
UA0023'MI (0.5 KM) TO A PAVED ROAD LEFT. TURN LEFT AND GO SOUTH ON THE PAVED
UA0023'ROAD 0.05 MI (0.08 KM) TO AIRPORT BUILDING STRAIGHT AHEAD AND A PAVED
UA0023'ROAD RIGHT. TURN RIGHT AND GO WEST 0.1 MI (0.2 KM) TO END OF ROAD AND
UA0023'A ROAD LEFT. TURN LEFT AND GO 0.05 MI (0.08 KM) TO TAXIWAY. TURN
UA0023'RIGHT AND GO 0.1 MI (0.2 KM) TO A ACSESS RAMP LEFT. TURN LEFT AND GO
UA0023'SOUTH ABOUT 20 MT TO THE STATION ON THE RIGHT.

UA0023'

UA0023'LOCATED 28.3 MT NORTH OF THE CENTERLINE OF THE RUNWAY, 16.1 MT WEST
UA0023'FROM THE CENTERLINE OF THE TAXI RAMP AND 0.5 MT EAST FROM A WITNESS
UA0023'POST

UA0023

UA0023

STATION RECOVERY (1997)

UA0023

UA0023'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1997 (AJL)

UA0023'THE STATION IS LOCATED ABOUT 26.0 MI (41.8 KM) EAST OF

UA0023'CHARLOTTESVILLE,VA, 2.0 MI (3.2 KM) EAST OF LOUISA,VA, AT LOUISA

UA0023'COUNTY INDUSTRIAL AIRPARK, AT THE WEST END OF AIRPORT, IN GRASSY AREA

UA0023'BETWEEN RUNWAY AND TAXIWAY AT THE APPROACH END OF RUNWAY 9. OWNERSHIP

UA0023'-- LOUISA COUNTY. CONTACT LEE WILLIAMS,ASST. AIRPORT MANAGER OR RON

UA0023'REYOLDS,AIRPORT MANAGER,RT.1 BOX 311D,LOUISA,VA. 23093.PHONE

UA0023'540-967-0797 FOR ACCESS TO AIRPORT. THIS STATION IS DESIGNATED AS A

UA0023'PRIMARY AIRPORT CONTROL STATION. TO REACH STATION FROM THE JUNCTION

UA0023'OF STATE HIGHWAYS 208,22 AND U.S.HIGHAWY 33 ABOUT 1.0 MI (1.6 KM)

UA0023'SOUTHEAST OF LOUISA,GO EAST ON STATE HIGHWAY 22 FOR 1.5 MI (2.4 KM) TO

UA0023'SECONDARY STATE HIGHWAY 780 ON THE RIGHT.TURN RIGHT AND GO SOUTH THEN

UA0023'WEST ON HIGHWAY 780 FOR 0.3 MI (0.5 KM) TO A PAVED ROAD LEFT (AIRPORT

UA0023'ACCESS ROAD).TURN LEFT AND GO SOUTH ON PAVED ROAD FOR 0.05 MI (0.08

UA0023'KM) TO AIRPORT BUILDING STRAIGHT AHEAD AND A PAVED ROAD RIGHT.TURN

UA0023'RIGHT AND GO WEST FOR 0.1 MI (0.2 KM) TO END OF ROAD AND A ROAD

UA0023'LEFT.TURN LEFT AND GO 0.05 MI (0.08 KM) TO A TAXIWAY.TURN RIGHT ONTO

UA0023'TAXIWAY AND GO 0.10 MI (0.16 KM) TO THE TAXIWAY CONNECTOR D ON

UA0023'LEFT.TURN LEFT AND GO 75.0 FT (22.9 M) TO THE STATION ON THE RIGHT.

UA0023'THE STATION IS LOCATED 114.3 FT (34.8 M) NORTH OF THE CENTERLINE OF

UA0023'RUNWAY, 52.9 FT (16.1 M) WEST OF THE CENTERLINE OF TAXIWAY CONNECTOR

UA0023'D, 70.4 FT (21.5 M) NORTHEAST OF WHITE AND AMBER RUNWAY LIGHT, 127.0

UA0023'FT (38.7 M) SOUTH OF THE CENTERLINE OF TAXIWAY, 2.8 FT (0.9 M) EAST OF

UA0023'A SHORT WITNESS POST.THE STATION IS THE TOP CENTER OF A STAINLESS

UA0023'STEEL ROD DRIVEN TO REFUSAL TO A DEPTH OF 5.5 M (18.0 FT) RECESSED 0.5

UA0023'FT (15.2 CM) BELOW GROUND IN A 0.5 FT (15.2 CM) DIA. PVC PIPE WITH

UA0023'NGS LOGO CAP SURROUNDED BY CONCRETE.THE LOGO CAP AND CONCRETE ARE SET

UA0023'FLUSH TO THE GROUND. ED 2/97

UA0023

UA0023

STATION RECOVERY (1998)

UA0023

UA0023'RECOVERY NOTE BY US POWER SQUADRON 1998

UA0023'RECOVERED IN GOOD CONDITION.

UA0023

UA0023

STATION RECOVERY (2002)

UA0023

UA0023'RECOVERY NOTE BY GEOMETRICS GPS INCORPORATED 2002 (BCL)

UA0023'CONTACT INDUSTRIAL DEVELOPEMENT AUTHORITY COORDINATOR DAWN PICKHART

UA0023'(540)967-0050

UA0023

UA0023

STATION RECOVERY (2003)

UA0023

UA0023'RECOVERY NOTE BY VIRGINIA DEPARTMENT OF TRANSPORTATION 2003 (JCA)

UA0023'RECOVERED IN GOOD CONDITION.

UA0023

UA0023

STATION RECOVERY (2006)

UA0023

UA0023'RECOVERY NOTE BY US POWER SQUADRON 2006 (EEC)

UA0023'RECOVERED IN GOOD CONDITION.