

OPUS-RS solution : 018697_14_239_A0.14O OP1409763677853

opus <opus@ngs.noaa.gov>

Wed 9/3/2014 11:07 AM

To: John Freetly <John.Freetly@neciusa.com>;

FILE: 018697_14_239_A0.14O OP1409763677853

NGS OPUS-RS SOLUTION REPORT

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All computed coordinate accuracies are listed as 1-sigma RMS values.

For additional information: <http://www.ngs.noaa.gov/OPUS/about.jsp#accuracy>USER: john.freetly@neciusa.com
RINEX FILE: 0186239r.14oDATE: September 03, 2014
TIME: 17:07:00 UTCSOFTWARE: rsgps 1.37 RS91.prl 1.99.2 START: 2014/08/27 17:15:30
EPHEMERIS: igr18073.eph [rapid] STOP: 2014/08/27 17:46:45
NAV FILE: brdc2390.14n OBS USED: 2709 / 2744 : 99%
ANT NAME: CHCX90D-OPUS NONE QUALITY IND. 3.60/ 26.74
ARP HEIGHT: 1.80000 NORMALIZED RMS: 0.262

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2014.65405)

X: -1313025.980(m) 0.008(m) -1313026.840(m) 0.008(m)
Y: -4273112.850(m) 0.019(m) -4273111.598(m) 0.019(m)
Z: 4535710.526(m) 0.017(m) 4535710.487(m) 0.017(m)LAT: 45 36 30.70043 0.003(m) 45 36 30.72139 0.003(m)
E LON: 252 55 8.58579 0.008(m) 252 55 8.53089 0.008(m)
W LON: 107 4 51.41421 0.008(m) 107 4 51.46911 0.008(m)
EL HGT: 1112.623(m) 0.025(m) 1111.934(m) 0.025(m)
ORTHO HGT: 1127.286(m) 0.027(m) [NAVD88 (Computed using GEOID12A)]

UTM COORDINATES STATE PLANE COORDINATES

UTM (Zone 13) SPC (2500 MT)

Northing (Y) [meters] 5052659.839 153896.545
Easting (X) [meters] 337735.499 788616.193
Convergence [degrees] -1.48732065 1.76954642
Point Scale 0.99992372 0.99968927
Combined Factor 0.99974933 0.99951492

US NATIONAL GRID DESIGNATOR: 13TCL3773552659(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DI3062	BIL5 BILLINGS 5 CORS ARP	N455816.237	W1075947.298	81818.5
DM7161	WYSH SHERIDAN CORS ARP	N444801.769	W1070035.715	89990.8
DL7728	P051 BILLINGSAPMT2005 CORS ARP	N454823.741	W1083246.070	116215.3
DL7758	P722 YNPBASSRCHMT2005 CORS ARP	N452725.985	W1093415.586	195253.6
DI3425	P052 LRRNCHJRDNMT2006 CORS ARP	N472229.026	W1070107.185	196413.6
DI2260	P054 TEREKALAKAMT2006 CORS ARP	N455046.833	W1042629.062	207179.3
DM7133	MTLW LEWISTOWN CORS ARP	N470314.929	W1092633.764	242688.5

NEAREST NGS PUBLISHED CONTROL POINT

Information on nearest mark is not available due to database connectivity issues or has restrictions on when or how it can be published.

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.