

OPUS-RS solution : 018506_14_256_A0.14O OP1410879746599

opus <opus@ngs.noaa.gov>

Tue 9/16/2014 9:07 AM

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

FILE: 018506_14_256_A0.14O OP1410879746599

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 DATE: September 16, 2014
 RINEX FILE: 0185256s.14o TIME: 15:06:46 UTC

SOFTWARE: rsgps 1.37 RS53.prl 1.99.2 START: 2014/09/13 18:52:15
 EPHEMERIS: igr18096.eph [rapid] STOP: 2014/09/13 19:53:00
 NAV FILE: brdc2560.14n OBS USED: 4235 / 4823 : 88%
 ANT NAME: CHCX90D-OPUS NONE QUALITY IND. 14.60/ 44.48
 ARP HEIGHT: 1.8000 NORMALIZED RMS: 0.252

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2014.70084)

X: -1311920.108(m) 0.008(m) -1311920.971(m) 0.008(m)
 Y: -4244324.095(m) 0.012(m) -4244322.846(m) 0.012(m)
 Z: 4562623.568(m) 0.017(m) 4562623.533(m) 0.017(m)

LAT: 45 57 24.61254 0.004(m) 45 57 24.63359 0.004(m)
 E LON: 252 49 25.05621 0.006(m) 252 49 25.00081 0.006(m)
 W LON: 107 10 34.94379 0.006(m) 107 10 34.99919 0.006(m)
 EL HGT: 987.788(m) 0.021(m) 987.111(m) 0.021(m)
 ORTHO HGT: 1002.663(m) 0.023(m) [NAVD88 (Computed using GEOID12A)]

UTM COORDINATES STATE PLANE COORDINATES

UTM (Zone 13) SPC (2500 MT)

Northing (Y) [meters] 5091554.772 192353.139
 Easting (X) [meters] 331348.691 780030.158
 Convergence [degrees] -1.56477979 1.69974272
 Point Scale 0.99994968 0.99956070
 Combined Factor 0.99979486 0.99940594

US NATIONAL GRID DESIGNATOR: 13TCL3134891554(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DI3062	BIL5 BILLINGS 5 CORS ARP	N455816.237	W1075947.298	63597.5
DL7728	P051 BILLINGSAPMT2005 CORS ARP	N454823.741	W1083246.070	107649.9
DM7161	WYSH SHERIDAN CORS ARP	N4444801.769	W1070035.715	129195.2
DI3425	P052 LRRNCHJRDNMT2006 CORS ARP	N472229.026	W1070107.185	158099.3
DL7758	P722 YNPBASSRCHMT2005 CORS ARP	N452725.985	W1093415.586	194585.9
DM7133	MTLW LEWISTOWN CORS ARP	N470314.929	W1092633.764	212470.5
DI2260	P054 TEREKALAKAMT2006 CORS ARP	N455046.833	W1042629.062	212604.2

NEAREST NGS PUBLISHED CONTROL POINT

RU0594	AGATE	N460027.890	W1071437.488	7699.3
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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.