

OPUS-RS solution : 018773_14_265_A0.14O OP1411920795926

opus <opus@ngs.noaa.gov>

Sun 9/28/2014 10:19 AM

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

FILE: 018773_14_265_A0.14O OP1411920795926

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: 0187265t.14oDATE: September 28, 2014
TIME: 16:18:27 UTCSOFTWARE: rsgps 1.37 RS54.prl 1.99.2 START: 2014/09/22 19:34:45
EPHEMERIS: igr18111.eph [rapid] STOP: 2014/09/22 20:42:30
NAV FILE: brdc2650.14n OBS USED: 5124 / 5509 : 93%
ANT NAME: CHCX90D-OPUS NONE QUALITY IND. 49.64/ 25.41
ARP HEIGHT: 1.8000 NORMALIZED RMS: 0.259

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2014.72559)

X: -1365503.257(m) 0.006(m) -1365504.118(m) 0.006(m)
Y: -4278587.317(m) 0.016(m) -4278586.065(m) 0.016(m)
Z: 4515153.070(m) 0.020(m) 4515153.029(m) 0.020(m)LAT: 45 20 41.07568 0.008(m) 45 20 41.09619 0.008(m)
E LON: 252 17 58.60581 0.006(m) 252 17 58.55066 0.006(m)
W LON: 107 42 1.39419 0.006(m) 107 42 1.44934 0.006(m)
EL HGT: 1117.430(m) 0.024(m) 1116.747(m) 0.024(m)
ORTHO HGT: 1131.224(m) 0.026(m) [NAVD88 (Computed using GEOID12A)]

UTM COORDINATES STATE PLANE COORDINATES

UTM (Zone 13) SPC (2500 MT)

Northing (Y) [meters] 5024795.739 123293.619
Easting (X) [meters] 288449.176 741001.168
Convergence [degrees] -1.92162635 1.31642427
Point Scale 1.00015029 0.99981056
Combined Factor 0.99997510 0.99963543

US NATIONAL GRID DESIGNATOR: 13TBL8844924795(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DI3062	BIL5 BILLINGS 5 CORS ARP	N455816.237	W1075947.298	73360.7
DM7161	WYSH SHERIDAN CORS ARP	N444801.769	W1070035.715	81344.6
DG9745	MTEI ENGINC CORS ARP	N454447.035	W1083600.736	83264.1
DL7758	P722 YNPBASSRCHMT2005 CORS ARP	N452725.985	W1093415.586	147015.1
DJ8992	P033 TENSLEEPTRWY2005 CORS ARP	N435710.415	W1072315.121	156674.2
DI3425	P052 LRRNCHJRDNMT2006 CORS ARP	N472229.026	W1070107.185	231689.6
DM7133	MTLW LEWISTOWN CORS ARP	N470314.929	W1092633.764	232800.4

NEAREST NGS PUBLISHED CONTROL POINT

QV0334	SKUNK	N452049.607	W1074009.948	2436.4
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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.