

OPUS-RS solution : 018697_14_266_A0.14O OP1411920991922

opus <opus@ngs.noaa.gov>

Sun 9/28/2014 10:21 AM

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

FILE: 018697_14_266_A0.14O OP1411920991922

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: 0186266a.14oDATE: September 28, 2014
TIME: 16:21:13 UTCSOFTWARE: rsgps 1.37 RS91.prl 1.99.2 START: 2014/09/23 00:46:15
EPHEMERIS: igr18112.eph [rapid] STOP: 2014/09/23 01:45:30
NAV FILE: brdc2660.14n OBS USED: 3843 / 4900 : 78%
ANT NAME: CHCX90D-OPUS NONE QUALITY IND. 17.51/ 65.19
ARP HEIGHT: 1.8000 NORMALIZED RMS: 0.244

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2014.72617)

X: -1363735.307(m) 0.004(m) -1363736.168(m) 0.004(m)
Y: -4273046.188(m) 0.009(m) -4273044.937(m) 0.009(m)
Z: 4520724.918(m) 0.013(m) 4520724.878(m) 0.013(m)LAT: 45 25 1.90408 0.010(m) 45 25 1.92463 0.010(m)
E LON: 252 17 58.58430 0.005(m) 252 17 58.52908 0.005(m)
W LON: 107 42 1.41570 0.005(m) 107 42 1.47092 0.005(m)
EL HGT: 998.098(m) 0.011(m) 997.417(m) 0.011(m)
ORTHO HGT: 1012.155(m) 0.014(m) [NAVD88 (Computed using GEOID12A)]

UTM COORDINATES STATE PLANE COORDINATES

UTM (Zone 13) SPC (2500 MT)

Northing (Y) [meters] 5032844.721 131342.111
Easting (X) [meters] 288718.930 740815.746
Convergence [degrees] -1.92402813 1.31641990
Point Scale 1.00014888 0.99977520
Combined Factor 0.99999240 0.99961878

US NATIONAL GRID DESIGNATOR: 13TBL8871832844(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DI3062	BIL5 BILLINGS 5 CORS ARP	N455816.237	W1075947.298	65758.8
DG9745	MTEI ENGINC CORS ARP	N454447.035	W1083600.736	79196.7
DM7161	WYSH SHERIDAN CORS ARP	N444801.769	W1070035.715	87478.0
DL7758	P722 YNPBASSRCHMT2005 CORS ARP	N452725.985	W1093415.586	146455.0
DJ8992	P033 TENSLEEPTRWY2005 CORS ARP	N435710.415	W1072315.121	164627.1
DI3425	P052 LRRNCHJRDNMT2006 CORS ARP	N472229.026	W1070107.185	223843.8
DM7133	MTLW LEWISTOWN CORS ARP	N470314.929	W1092633.764	226221.2

NEAREST NGS PUBLISHED CONTROL POINT

QV0461	SOAP	N452324.676	W1074313.096	3385.4
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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.