

OPUS solution : 018772_14_261_A0.14O OP1411501807348

opus <opus@ngs.noaa.gov>

Tue 9/23/2014 1:54 PM

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

FILE: 018772_14_261_A0.14O OP1411501807348

NGS OPUS SOLUTION REPORT

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All computed coordinate accuracies are listed as peak-to-peak values.

For additional information: <http://www.ngs.noaa.gov/OPUS/about.jsp#accuracy>USER: john.freetly@neciusa.com
RINEX FILE: 0187261r.14oDATE: September 23, 2014
TIME: 19:53:21 UTCSOFTWARE: page5 1209.04 master50.pl 022814 START: 2014/09/18 17:49:00
EPHEMERIS: igr18104.eph [rapid] STOP: 2014/09/18 22:01:00
NAV FILE: brdc2610.14n OBS USED: 9068 / 9616 : 94%
ANT NAME: CHCX90D-OPUS NONE # FIXED AMB: 39 / 45 : 87%
ARP HEIGHT: 1.8000 OVERALL RMS: 0.013(m)

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2014.7146)

X: -1331182.793(m) 0.003(m) -1331183.653(m) 0.003(m)
Y: -4296367.842(m) 0.019(m) -4296366.587(m) 0.019(m)
Z: 4508627.292(m) 0.006(m) 4508627.250(m) 0.006(m)LAT: 45 15 38.97632 0.016(m) 45 15 38.99709 0.016(m)
E LON: 252 47 5.90727 0.004(m) 252 47 5.85257 0.004(m)
W LON: 107 12 54.09273 0.004(m) 107 12 54.14743 0.004(m)
EL HGT: 1166.858(m) 0.011(m) 1166.164(m) 0.011(m)
ORTHO HGT: 1181.201(m) 0.020(m) [NAVD88 (Computed using GEOID12A)]

UTM COORDINATES STATE PLANE COORDINATES

UTM (Zone 13) SPC (2500 MT)

Northing (Y) [meters] 5014312.304 114964.409
Easting (X) [meters] 326216.299 779291.996
Convergence [degrees] -1.57376584 1.67146826
Point Scale 0.99997135 0.99985345
Combined Factor 0.99978845 0.99967057

US NATIONAL GRID DESIGNATOR: 13TCL2621614312(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL7728	P051 BILLINGSAPMT2005	CORS ARP N454823.741	W1083246.070	120391.7
DG9745	MTEI ENGINC	CORS ARP N454447.035	W1083600.736	120978.3
DM7161	WYSH SHERIDAN	CORS ARP N444801.769	W1070035.715	53660.7

NEAREST NGS PUBLISHED CONTROL POINT

QV0315	ROSEBUD	N451845.017	W1071020.228	6655.8
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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.