

## OPUS solution : 018773\_14\_247\_A3.14O OP1410269816182

opus &lt;opus@ngs.noaa.gov&gt;

Tue 9/9/2014 7:40 AM

To:John Freetly &lt;John.Freetly@neciusa.com&gt;;

FILE: 018773\_14\_247\_A3.14O OP1410269816182

## 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

DATE: September 09, 2014

RINEX FILE: 0187247t.14o

TIME: 13:40:03 UTC

SOFTWARE: page5 1209.04 master93.pl 022814 START: 2014/09/04 19:16:00

EPHEMERIS: igr18084.eph [rapid] STOP: 2014/09/04 21:53:00

NAV FILE: brdc2470.14n OBS USED: 5904 / 6125 : 96%

ANT NAME: CHCX90D-OPUS NONE # FIXED AMB: 32 / 33 : 97%

ARP HEIGHT: 1.800 OVERALL RMS: 0.011(m)

REF FRAME: NAD\_83(2011)(EPOCH:2010.0000)

IGS08 (EPOCH:2014.6763)

X: -1357291.036(m) 0.002(m) -1357291.895(m) 0.002(m)

Y: -4294233.608(m) 0.012(m) -4294232.354(m) 0.012(m)

Z: 4502995.405(m) 0.002(m) 4502995.363(m) 0.002(m)

LAT: 45 11 18.06228 0.009(m) 45 11 18.08285 0.009(m)

E LON: 252 27 34.79129 0.004(m) 252 27 34.73646 0.004(m)

W LON: 107 32 25.20871 0.004(m) 107 32 25.26354 0.004(m)

EL HGT: 1226.525(m) 0.008(m) 1225.835(m) 0.008(m)

ORTHO HGT: 1239.922(m) 0.016(m) [NAVD88 (Computed using GEOID12A)]

## UTM COORDINATES STATE PLANE COORDINATES

UTM (Zone 13) SPC (2500 MT )

Northing (Y) [meters] 5007013.629 106221.581

Easting (X) [meters] 300440.085 753973.580

Convergence [degrees] -1.80277652 1.43350263

Point Scale 1.00008969 0.99989217

Combined Factor 0.99989741 0.99969993

US NATIONAL GRID DESIGNATOR: 13TCL0044007013(NAD 83)

## BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL7728	P051 BILLINGSAPMT2005	CORS ARP N454823.741	W1083246.070	104427.3
DG9745	MTEI ENGINC	CORS ARP N454447.035	W1083600.736	103536.8
DM7161	WYSH SHERIDAN	CORS ARP N444801.769	W1070035.715	60071.7

## NEAREST NGS PUBLISHED CONTROL POINT

QV0342	AIRWAY BCN 34 10 MI NW WYOLA	N451149.514	W1073456.179	3430.6
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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.