

## OPUS-RS solution : 018773\_14\_247\_A0.14O OP1410214243707

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

Mon 9/8/2014 4:15 PM

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## 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: 0187247b.14oDATE: September 08, 2014  
TIME: 22:15:09 UTCSOFTWARE: rsgps 1.37 RS52.prl 1.99.2      START: 2014/09/04 01:21:00  
EPHEMERIS: igr18084.eph [rapid]      STOP: 2014/09/04 02:31:40  
NAV FILE: brdc2470.14n      OBS USED: 3670 / 4075 : 90%  
ANT NAME: CHCX90D-OPUS      NONE      QUALITY IND. 36.77/ 66.16  
ARP HEIGHT: 1.800      NORMALIZED RMS:      0.269

REF FRAME: NAD\_83(2011)(EPOCH:2010.0000)      IGS08 (EPOCH:2014.67419)

X: -1358846.414(m) 0.004(m)      -1358847.273(m) 0.004(m)  
Y: -4293728.629(m) 0.014(m)      -4293727.375(m) 0.014(m)  
Z: 4502979.983(m) 0.012(m)      4502979.941(m) 0.012(m)LAT: 45 11 17.99627      0.008(m)      45 11 18.01682      0.008(m)  
E LON: 252 26 19.89716      0.006(m)      252 26 19.84232      0.006(m)  
W LON: 107 33 40.10284      0.006(m)      107 33 40.15768      0.006(m)  
EL HGT: 1206.811(m) 0.016(m)      1206.121(m) 0.016(m)  
ORTHO HGT: 1220.145(m) 0.018(m) [NAVD88 (Computed using GEOID12A)]

## UTM COORDINATES      STATE PLANE COORDINATES

UTM (Zone 13)      SPC (2500 MT )

Northing (Y) [meters]      5007063.241      106178.864  
Easting (X) [meters]      298805.743      752339.373  
Convergence [degrees]      -1.81754950      1.41828448  
Point Scale      1.00009774      0.99989218  
Combined Factor      0.99990855      0.99970303

US NATIONAL GRID DESIGNATOR: 13TBL9880507063(NAD 83)

## BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DM7161	WYSH SHERIDAN CORS ARP	N444801.769	W1070035.715	61224.1
DI3062	BIL5 BILLINGS 5 CORS ARP	N455816.237	W1075947.298	93421.1
DG9745	MTEI ENGINC CORS ARP	N454447.035	W1083600.736	102239.7
DL7758	P722 YNPBASSRCHMT2005 CORS ARP	N452725.985	W1093415.586	160411.9
DI3425	P052 LRRNCHJRDNMT2006 CORS ARP	N472229.026	W1070107.185	246625.8

## NEAREST NGS PUBLISHED CONTROL POINT

Information on nearest mark is not available due to database connectivity issues or has restrictions on when or how it can be published.

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.