

## OPUS solution : 018773\_14\_250\_A0.14O OP1410560695025

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

Fri 9/12/2014 4:28 PM

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

FILE: 018773\_14\_250\_A0.14O OP1410560695025

## NGS OPUS SOLUTION REPORT

=====

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: 0187250q.14oDATE: September 12, 2014  
TIME: 22:27:39 UTCSOFTWARE: page5 1209.04 master51.pl 022814 START: 2014/09/07 16:39:00  
EPHEMERIS: igr18090.eph [rapid] STOP: 2014/09/07 19:15:00  
NAV FILE: brdc2500.14n OBS USED: 5948 / 6324 : 94%  
ANT NAME: CHCX90D-OPUS NONE # FIXED AMB: 38 / 38 : 100%  
ARP HEIGHT: 1.8000 OVERALL RMS: 0.013(m)

REF FRAME: NAD\_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2014.6842)

X: -1361784.903(m) 0.002(m) -1361785.762(m) 0.002(m)  
Y: -4295282.392(m) 0.004(m) -4295281.138(m) 0.004(m)  
Z: 4500724.675(m) 0.004(m) 4500724.632(m) 0.004(m)LAT: 45 9 32.09834 0.006(m) 45 9 32.11885 0.006(m)  
E LON: 252 24 33.11446 0.002(m) 252 24 33.05963 0.002(m)  
W LON: 107 35 26.88554 0.002(m) 107 35 26.94037 0.002(m)  
EL HGT: 1276.988(m) 0.001(m) 1276.298(m) 0.001(m)  
ORTHO HGT: 1289.981(m) 0.009(m) [NAVD88 (Computed using GEOID12A)]

## UTM COORDINATES STATE PLANE COORDINATES

UTM (Zone 13) SPC (2500 MT )

Northing (Y) [meters] 5003869.773 102853.750  
Easting (X) [meters] 296370.745 750088.928  
Convergence [degrees] -1.83767642 1.39658670  
Point Scale 1.00010987 0.99990833  
Combined Factor 0.99990968 0.99970818

US NATIONAL GRID DESIGNATOR: 13TBL9637003869(NAD 83)

## BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DM7161	WYSH SHERIDAN CORS ARP	N444801.769	W1070035.715	60722.0
DL7728	P051 BILLINGSAPMT2005 CORS ARP	N454823.741	W1083246.070	103748.0
DG9745	MTEI ENGINC CORS ARP	N454447.035	W1083600.736	102474.4

## NEAREST NGS PUBLISHED CONTROL POINT

QV0342	AIRWAY BCN 34 10 MI NW WYOLA	N451149.514	W1073456.179	4301.6
--------	------------------------------	-------------	--------------	--------

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.