

## OPUS-RS solution : 018697\_14\_260\_A2.14O OP1411501584478

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

Tue 9/23/2014 1:51 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: 0186260w.14oDATE: September 23, 2014  
TIME: 19:51:00 UTCSOFTWARE: rsgps 1.37 RS53.prl 1.99.2      START: 2014/09/17 22:33:30  
EPHEMERIS: igr18103.eph [rapid]      STOP: 2014/09/18 00:27:15  
NAV FILE: brdc2600.14n      OBS USED: 4856 / 5164 : 94%  
ANT NAME: CHCX90D-OPUS    NONE      QUALITY IND. 8.22/ 48.47  
ARP HEIGHT: 1.8000      NORMALIZED RMS:    0.348

REF FRAME: NAD\_83(2011)(EPOCH:2010.0000)      IGS08 (EPOCH:2014.71227)

X: -1371685.840(m) 0.008(m)      -1371686.699(m) 0.008(m)  
Y: -4297182.423(m) 0.007(m)      -4297181.169(m) 0.007(m)  
Z: 4496363.916(m) 0.010(m)      4496363.873(m) 0.010(m)LAT: 45 6 2.01339 0.004(m)      45 6 2.03382 0.004(m)  
E LON: 252 17 47.80287 0.006(m)      252 17 47.74801 0.006(m)  
W LON: 107 42 12.19713 0.006(m)      107 42 12.25199 0.006(m)  
EL HGT: 1581.463(m) 0.012(m)      1580.773(m) 0.012(m)  
ORTHO HGT: 1593.387(m) 0.015(m) [NAVD88 (Computed using GEOID12A)]

## UTM COORDINATES    STATE PLANE COORDINATES

UTM (Zone 13)      SPC (2500 MT )

Northing (Y) [meters]    4997677.026      96161.108  
Easting (X) [meters]    287304.866      741388.434  
Convergence [degrees]    -1.91565144      1.31422916  
Point Scale      1.00015629      0.99994113  
Combined Factor      0.99990836      0.99969326

US NATIONAL GRID DESIGNATOR: 13TBK8730497677(NAD 83)

## BASE STATIONS USED

| PID    | DESIGNATION                    | LATITUDE    | LONGITUDE    | DISTANCE(m) |
|--------|--------------------------------|-------------|--------------|-------------|
| DM7161 | WYSH SHERIDAN CORS ARP         | N444801.769 | W1070035.715 | 64098.8     |
| DI3062 | BIL5 BILLINGS 5 CORS ARP       | N455816.237 | W1075947.298 | 99454.0     |
| DG9745 | MTEI ENGINC CORS ARP           | N454447.035 | W1083600.736 | 100411.7    |
| DL7758 | P722 YNPBASSRCHMT2005 CORS ARP | N452725.985 | W1093415.586 | 151833.7    |

## NEAREST NGS PUBLISHED CONTROL POINT

|        |        |             |              |        |
|--------|--------|-------------|--------------|--------|
| QV0349 | SPRING | N450430.189 | W1074418.593 | 3959.4 |
|--------|--------|-------------|--------------|--------|

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.