

## OPUS-RS solution : 018772\_14\_249\_A1.14O OP1410559863544

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

Fri 9/12/2014 4:15 PM

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

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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: 0187249x.14oDATE: September 12, 2014  
TIME: 22:15:18 UTCSOFTWARE: rsgps 1.37 RS92.prl 1.99.2      START: 2014/09/06 23:54:00  
EPHEMERIS: igr18086.eph [rapid]      STOP: 2014/09/07 00:59:45  
NAV FILE: brdc2490.14n      OBS USED: 2556 / 2848 : 90%  
ANT NAME: CHCX90D-OPUS      NONE      QUALITY IND. 6.17/ 15.32  
ARP HEIGHT: 1.8000      NORMALIZED RMS: 0.467

REF FRAME: NAD\_83(2011)(EPOCH:2010.0000)      IGS08 (EPOCH:2014.68224)

X: -1384643.377(m) 0.016(m)      -1384644.239(m) 0.016(m)  
Y: -4243965.016(m) 0.056(m)      -4243963.768(m) 0.056(m)  
Z: 4541609.010(m) 0.054(m)      4541608.974(m) 0.054(m)LAT: 45 41 6.93167 0.010(m)      45 41 6.95215 0.010(m)  
E LON: 251 55 49.71753 0.006(m)      251 55 49.66178 0.006(m)  
W LON: 108 4 10.28247 0.006(m)      108 4 10.33822 0.006(m)  
EL HGT: 1022.554(m) 0.079(m)      1021.886(m) 0.079(m)  
ORTHO HGT: 1036.310(m) 0.080(m) [NAVD88 (Computed using GEOID12A)]

## UTM COORDINATES      STATE PLANE COORDINATES

UTM (Zone 13)      SPC (2500 MT )

Northing (Y) [meters] 5063661.867      160526.299  
Easting (X) [meters] 260978.310      711391.758  
Convergence [degrees] -2.19731948      1.04640001  
Point Scale 1.00030245      0.99965785  
Combined Factor 1.00014212      0.99949762

US NATIONAL GRID DESIGNATOR: 13TBL6097863661(NAD 83)

## BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL7758	P722 YNPBASSRCHMT2005	CORS ARP	N452725.985 W1093415.586	119933.5
DM7161	WYSH SHERIDAN	CORS ARP	N4444801.769 W1070035.715	128819.4
DJ8992	P033 TENSLEEPTRWY2005	CORS ARP	N435710.415 W1072315.121	199956.6
DI3425	P052 LRRNCHJRDNMT2006	CORS ARP	N472229.026 W1070107.185	204394.5

## NEAREST NGS PUBLISHED CONTROL POINT

QW0513	HALEY	N454233.185	W1080857.784	6757.9
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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.