

## OPUS-RS solution : 018772\_14\_262\_A0.14O OP1411502084847

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

Tue 9/23/2014 2:10 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

DATE: September 23, 2014

RINEX FILE: 0187262q.14o

TIME: 20:09:57 UTC

SOFTWARE: rsgps 1.37 RS54.prl 1.99.2      START: 2014/09/19 16:33:30  
 EPHEMERIS: igr18105.eph [rapid]      STOP: 2014/09/19 17:35:30  
 NAV FILE: brdc2620.14n      OBS USED: 2240 / 2680 : 84%  
 ANT NAME: CHCX90D-OPUS      NONE      QUALITY IND. 4.17/ 43.71  
 ARP HEIGHT: 1.8000      NORMALIZED RMS: 0.366

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

IGS08 (EPOCH:2014.71702)

X: -1416964.381(m) 0.011(m)      -1416965.243(m) 0.011(m)  
 Y: -4254721.720(m) 0.017(m)      -4254720.472(m) 0.017(m)  
 Z: 4522053.152(m) 0.027(m)      4522053.114(m) 0.027(m)

LAT: 45 25 53.31958 0.010(m)      45 25 53.33975 0.010(m)  
 E LON: 251 34 49.87096 0.008(m)      251 34 49.81521 0.008(m)  
 W LON: 108 25 10.12904 0.008(m)      108 25 10.18479 0.008(m)  
 EL HGT: 1298.492(m) 0.031(m)      1297.825(m) 0.031(m)  
 ORTHO HGT: 1311.073(m) 0.033(m) [NAVD88 (Computed using GEOID12A)]

## UTM COORDINATES      STATE PLANE COORDINATES

UTM (Zone 12)      SPC (2500 MT )

Northing (Y) [meters]      5034123.310      131894.380  
 Easting (X) [meters]      701851.212      684531.443  
 Convergence [degrees]      1.83901081      0.79040471  
 Point Scale      1.00010097      0.99976841  
 Combined Factor      0.99989741      0.99956492

US NATIONAL GRID DESIGNATOR: 12TYR0185134123(NAD 83)

## BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DI3064	BIL6 BILLINGS 6 CORS ARP	N455816.251	W1075948.499	68436.3
DM7161	WYSH SHERIDAN CORS ARP	N444801.769	W1070035.715	131243.5
AI5647	MAWY MAMMOTH WYOMING CORS ARP	N445824.319	W1104121.433	185491.2
DM7133	MTLW LEWISTOWN CORS ARP	N470314.929	W1092633.764	196904.3

## NEAREST NGS PUBLISHED CONTROL POINT

QW0682	26 DHW	N452421.	W1082624.	3274.2
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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.