

## OPUS-RS solution : 033845\_14\_269\_A0.14O OP1412003651527

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

Mon 9/29/2014 9:20 AM

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: 0338269s.14oDATE: September 29, 2014  
TIME: 15:19:48 UTCSOFTWARE: rsgps 1.37 RS90.prl 1.99.2      START: 2014/09/26 18:53:30  
EPHEMERIS: igr18115.eph [rapid]      STOP: 2014/09/26 19:22:30  
NAV FILE: brdc2690.14n      OBS USED: 1926 / 1926 : 100%  
ANT NAME: CHCX90D-OPUS    NONE      QUALITY IND. 11.20/ 1.87  
ARP HEIGHT: 2.0000      NORMALIZED RMS:    0.321

REF FRAME: NAD\_83(2011)(EPOCH:2010.0000)      IGS08 (EPOCH:2014.73643)

X: -1406024.325(m) 0.011(m)      -1406025.186(m) 0.011(m)  
Y: -4272919.421(m) 0.037(m)      -4272918.170(m) 0.037(m)  
Z: 4508509.285(m) 0.039(m)      4508509.244(m) 0.039(m)LAT: 45 15 26.26120 0.007(m)      45 15 26.28141 0.007(m)  
E LON: 251 47 9.47481 0.005(m)      251 47 9.41938 0.005(m)  
W LON: 108 12 50.52519 0.005(m)      108 12 50.58062 0.005(m)  
EL HGT: 1389.798(m) 0.054(m)      1389.122(m) 0.054(m)  
ORTHO HGT: 1401.724(m) 0.055(m) [NAVD88 (Computed using GEOID12A)]

## UTM COORDINATES    STATE PLANE COORDINATES

UTM (Zone 12)      SPC (2500 MT )

Northing (Y) [meters]    5015309.421      112785.018  
Easting (X) [meters]    718591.059      700920.325  
Convergence [degrees]    1.97958215      0.94068897  
Point Scale      1.00018754      0.99985530  
Combined Factor      0.99996965      0.99963748

US NATIONAL GRID DESIGNATOR: 12TYR1859115309(NAD 83)

## BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DG9745	MTEI ENGINC CORS ARP	N454447.035	W1083600.736	62188.8
DI3064	BIL6 BILLINGS 6 CORS ARP	N455816.251	W1075948.499	81148.4
DM7161	WYSH SHERIDAN CORS ARP	N444801.769	W1070035.715	107638.0
DL7758	P722 YNPBASSRCHMT2005 CORS ARP	N452725.985	W1093415.586	108643.4
AI5647	MAWY MAMMOTH WYOMING CORS ARP	N445824.319	W1104121.433	197346.2
DM7133	MTLW LEWISTOWN CORS ARP	N470314.929	W1092633.764	221158.6

## NEAREST NGS PUBLISHED CONTROL POINT

QW0530	END	N451213.965	W1080520.555	11462.0
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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.