

OPUS-RS solution : 033845_14_262_A1.14O OP1411502144922

opus <opus@ngs.noaa.gov>

Tue 9/23/2014 2:12 PM

To: John Freetly <John.Freetly@neciusa.com>;

FILE: 033845_14_262_A1.14O OP1411502144922

NGS OPUS-RS SOLUTION REPORT

=====

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: 0338262v.14oDATE: September 23, 2014
TIME: 20:11:54 UTCSOFTWARE: rsgps 1.37 RS54.prl 1.99.2 START: 2014/09/19 21:28:00
EPHEMERIS: igr18105.eph [rapid] STOP: 2014/09/19 23:21:00
NAV FILE: brdc2620.14n OBS USED: 4250 / 5410 : 79%
ANT NAME: CHCX90D-OPUS NONE QUALITY IND. 45.61/ 44.88
ARP HEIGHT: 1.8000 NORMALIZED RMS: 0.387

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2014.71763)

X: -1335500.170(m) 0.005(m) -1335501.033(m) 0.005(m)
Y: -4244252.956(m) 0.006(m) -4244251.708(m) 0.006(m)
Z: 4555906.164(m) 0.006(m) 4555906.128(m) 0.006(m)LAT: 45 52 11.53817 0.003(m) 45 52 11.55901 0.003(m)
E LON: 252 31 59.71106 0.005(m) 252 31 59.65554 0.005(m)
W LON: 107 28 0.28894 0.005(m) 107 28 0.34446 0.005(m)
EL HGT: 1000.063(m) 0.009(m) 999.388(m) 0.009(m)
ORTHO HGT: 1014.835(m) 0.012(m) [NAVD88 (Computed using GEOID12A)]

UTM COORDINATES STATE PLANE COORDINATES

UTM (Zone 13) SPC (2500 MT)

Northing (Y) [meters] 5082548.499 182068.640
Easting (X) [meters] 308548.530 757788.764
Convergence [degrees] -1.77106857 1.48733317
Point Scale 1.00005063 0.99958942
Combined Factor 0.99989387 0.99943273

US NATIONAL GRID DESIGNATOR: 13TCL0854882548(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL7728	P051 BILLINGSAPMT2005 CORS ARP	N454823.741	W1083246.070	84162.9
DM7161	WYSH SHERIDAN CORS ARP	N444801.769	W1070035.715	124145.7
DL7758	P722 YNPBASSRCHMT2005 CORS ARP	N452725.985	W1093415.586	170302.5
DI3425	P052 LRRNCHJRDNMT2006 CORS ARP	N472229.026	W1070107.185	170788.2
DM7133	MTLW LEWISTOWN CORS ARP	N470314.929	W1092633.764	200936.1

NEAREST NGS PUBLISHED CONTROL POINT

QV0312	HOLMES	N455246.411	W1072542.711	3152.1
--------	--------	-------------	--------------	--------

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.