

OPUS-RS solution : 033845_14_246_A0.14O OP1409944998061

opus <opus@ngs.noaa.gov>

Fri 9/5/2014 1:27 PM

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

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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: 0338246q.14oDATE: September 05, 2014
TIME: 19:27:26 UTCSOFTWARE: rsgps 1.37 RS53.prl 1.99.2 START: 2014/09/03 16:49:45
EPHEMERIS: igr18083.eph [rapid] STOP: 2014/09/03 18:09:15
NAV FILE: brdc2460.14n OBS USED: 4851 / 5712 : 85%
ANT NAME: CHCX90D-OPUS NONE QUALITY IND. 15.98/ 52.23
ARP HEIGHT: 1.8000 NORMALIZED RMS: 0.259

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2014.67323)

X: -1324465.400(m) 0.004(m) -1324466.264(m) 0.004(m)
Y: -4225477.441(m) 0.013(m) -4225476.195(m) 0.013(m)
Z: 4576259.163(m) 0.014(m) 4576259.130(m) 0.014(m)LAT: 46 8 3.68342 0.005(m) 46 8 3.70441 0.005(m)
E LON: 252 35 47.50834 0.004(m) 252 35 47.45258 0.004(m)
W LON: 107 24 12.49166 0.004(m) 107 24 12.54742 0.004(m)
EL HGT: 901.767(m) 0.019(m) 901.099(m) 0.019(m)
ORTHO HGT: 916.588(m) 0.021(m) [NAVD88 (Computed using GEOID12A)]

UTM COORDINATES STATE PLANE COORDINATES

UTM (Zone 13) SPC (2500 MT)

Northing (Y) [meters] 5111783.805 211572.111
Easting (X) [meters] 314346.818 761911.731
Convergence [degrees] -1.73331484 1.53362058
Point Scale 1.00002372 0.99950906
Combined Factor 0.99988237 0.99936778

US NATIONAL GRID DESIGNATOR: 13TCM1434611783(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL7728	P051 BILLINGSAPMT2005	CORS ARP	N454823.741 W1083246.070	95774.8
DI3425	P052 LRRNCHJRDNMT2006	CORS ARP	N472229.026 W1070107.185	141003.1
DM7161	WYSH SHERIDAN	CORS ARP	N444801.769 W1070035.715	151429.4
DL7758	P722 YNPBASSRCHMT2005	CORS ARP	N452725.985 W1093415.586	184583.0
DM7133	MTLW LEWISTOWN	CORS ARP	N470314.929 W1092633.764	186760.1
DI2260	P054 TEREKALAKAMT2006	CORS ARP	N455046.833 W1042629.062	231722.7
DI2263	P055 GLENDIVEWTMT2006	CORS ARP	N470700.144 W1044106.394	235086.3

NEAREST NGS PUBLISHED CONTROL POINT

Information on nearest mark is not available due to database connectivity issues or has restrictions on when or how it can be published.

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.