

John Freetly

From: opus <opus@ngs.noaa.gov>
Sent: Friday, September 19, 2014 9:53 AM
To: Jay Springer
Subject: OPUS-RS solution : 400422247T.14O OP1411141605673

FILE: 400422247T.14O OP1411141605673

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: jay.springer@neciusa.com DATE: September 19, 2014
RINEX FILE: 4004247t.14o TIME: 15:52:15 UTC

SOFTWARE: rsgps 1.37 RS51.prl 1.99.2 START: 2014/09/04 19:43:25
EPHEMERIS: igr18084.eph [rapid] STOP: 2014/09/04 20:41:05
NAV FILE: brdc2470.14n OBS USED: 4944 / 5008 : 99%
ANT NAME: CHCX91B NONE QUALITY IND. 5.71/ 23.02
ARP HEIGHT: 1.8 NORMALIZED RMS: 0.280

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2014.67628)

X:	-1316955.027(m)	0.008(m)	-1316955.891(m)	0.008(m)
Y:	-4227957.861(m)	0.015(m)	-4227956.614(m)	0.015(m)
Z:	4576382.532(m)	0.015(m)	4576382.499(m)	0.015(m)

LAT:	46 8 3.47299	0.005(m)	46 8 3.49405	0.005(m)
E LON:	252 41 55.87323	0.008(m)	252 41 55.81753	0.008(m)
W LON:	107 18 4.12677	0.008(m)	107 18 4.18247	0.008(m)
EL HGT:	1079.130(m)	0.020(m)	1078.459(m)	0.020(m)
ORTHO HGT:	1093.950(m)	0.022(m)	[NAVD88 (Computed using GEOID12A)]	

UTM COORDINATES STATE PLANE COORDINATES

UTM (Zone 13) SPC (2500 MT)

Northing (Y) [meters]	5111543.232	211782.299
Easting (X) [meters]	322250.326	769812.175
Convergence [degrees]	-1.65948100	1.60847071
Point Scale	0.99998841	0.99950907
Combined Factor	0.99981927	0.99934001

US NATIONAL GRID DESIGNATOR: 13TCM2225011543(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DI3062	BIL5 BILLINGS 5 CORS ARP	N455816.237	W1075947.298	56792.1
DG9745	MTEI ENGINC CORS ARP	N454447.035	W1083600.736	109590.7
DI3425	P052 LRRNCHJRDNMT2006 CORS ARP	N472229.026	W1070107.185	139591.0
DM7161	WYSH SHERIDAN CORS ARP	N444801.769	W1070035.715	150003.1
DL7758	P722 YNPBASSRCHMT2005 CORS ARP	N452725.985	W1093415.586	191873.7
DM7133	MTLW LEWISTOWN CORS ARP	N470314.929	W1092633.764	193374.4
DI2260	P054 TEREKALAKAMT2006 CORS ARP	N455046.833	W1042629.062	223877.3
DI2263	P055 GLENDIVEWTMT2006 CORS ARP	N470700.144	W1044106.394	228183.9

NEAREST NGS PUBLISHED CONTROL POINT

RU0596	TINSLEY	N460731.555	W1071757.147	998.2
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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.