

OPUS-RS solution : 033845_14_258_A0.14O OP1410880906365

opus <opus@ngs.noaa.gov>

Tue 9/16/2014 9:30 AM

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

FILE: 033845_14_258_A0.14O OP1410880906365

2005 NOTE: The IGS precise and IGS rapid orbits were not available
 2005 at processing time. The IGS ultra-rapid orbit was/will be used to
 2005 process the data.
 2005

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 16, 2014
 RINEX FILE: 0338258o.14o TIME: 15:30:16 UTC

SOFTWARE: rsgps 1.37 RS52.prl 1.99.2 START: 2014/09/15 14:31:30
 EPHEMERIS: igu18101.eph [ultra-rapid] STOP: 2014/09/15 15:30:15
 NAV FILE: brdc2580.14n OBS USED: 6976 / 7416 : 94%
 ANT NAME: CHCX90D-OPUS NONE QUALITY IND. 4.04/ 64.17
 ARP HEIGHT: 2.000 NORMALIZED RMS: 0.270

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2014.70582)

X: -1317569.499(m) 0.009(m) -1317570.363(m) 0.009(m)
 Y: -4235273.882(m) 0.023(m) -4235272.635(m) 0.023(m)
 Z: 4569296.007(m) 0.024(m) 4569295.973(m) 0.024(m)

LAT: 46 2 37.09596 0.006(m) 46 2 37.11697 0.006(m)
 E LON: 252 43 9.77028 0.006(m) 252 43 9.71469 0.006(m)
 W LON: 107 16 50.22972 0.006(m) 107 16 50.28531 0.006(m)
 EL HGT: 945.193(m) 0.033(m) 944.520(m) 0.033(m)
 ORTHO HGT: 960.049(m) 0.035(m) [NAVD88 (Computed using GEOID12A)]

UTM COORDINATES STATE PLANE COORDINATES

UTM (Zone 13) SPC (2500 MT)

Northing (Y) [meters] 5101424.658 201758.707
 Easting (X) [meters] 323546.878 771682.364
 Convergence [degrees] -1.64216828 1.62348626

Point Scale	0.99998277	0.99953427
Combined Factor	0.99983462	0.99938619

US NATIONAL GRID DESIGNATOR: 13TCM2354601424(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DI3062	BIL5 BILLINGS 5 CORS ARP	N455816.237	W1075947.298	56034.5
DG9745	MTEI ENGINC CORS ARP	N454447.035	W1083600.736	107623.0
DM7161	WYSH SHERIDAN CORS ARP	N4444801.769	W1070035.715	139799.2
DI3425	P052 LRRNCHJRDNMT2006 CORS ARP	N472229.026	W1070107.185	149338.2
DL7758	P722 YNPBASSRCHMT2005 CORS ARP	N452725.985	W1093415.586	189781.5
DM7133	MTLW LEWISTOWN CORS ARP	N470314.929	W1092633.764	200299.1
DI2260	P054 TEREKALAKAMT2006 CORS ARP	N455046.833	W1042629.062	221254.4
DI2263	P055 GLENDIVEWTMT2006 CORS ARP	N470700.144	W1044106.394	231963.8

NEAREST NGS PUBLISHED CONTROL POINT

RU0594	AGATE	N460027.890	W1071437.488	4907.6
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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.