

OPUS-RS solution : 018506_14_258_A2.14O OP1410885948029

opus <opus@ngs.noaa.gov>

Tue 9/16/2014 10:53 AM

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

FILE: 018506_14_258_A2.14O OP1410885948029

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: 0185258t.14o TIME: 16:51:21 UTC

SOFTWARE: rsgps 1.37 RS90.prl 1.99.2 START: 2014/09/15 19:57:00
 EPHEMERIS: igu18101.eph [ultra-rapid] STOP: 2014/09/15 21:10:30
 NAV FILE: brdc2580.14n OBS USED: 6728 / 6880 : 98%
 ANT NAME: CHCX90D-OPUS NONE QUALITY IND. 56.43/137.47
 ARP HEIGHT: 1.8000 NORMALIZED RMS: 0.238

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2014.70646)

X: -1302694.877(m) 0.007(m) -1302695.740(m) 0.007(m)
 Y: -4247165.452(m) 0.015(m) -4247164.203(m) 0.015(m)
 Z: 4562652.658(m) 0.015(m) 4562652.623(m) 0.015(m)

LAT: 45 57 25.24929 0.003(m) 45 57 25.27041 0.003(m)
 E LON: 252 56 53.24308 0.006(m) 252 56 53.18777 0.006(m)
 W LON: 107 3 6.75692 0.006(m) 107 3 6.81223 0.006(m)
 EL HGT: 1009.241(m) 0.021(m) 1008.561(m) 0.021(m)
 ORTHO HGT: 1024.102(m) 0.023(m) [NAVD88 (Computed using GEOID12A)]

UTM COORDINATES STATE PLANE COORDINATES

UTM (Zone 13) SPC (2500 MT)

Northing (Y) [meters] 5091318.429 192666.595
 Easting (X) [meters] 340996.519 789672.222
 Convergence [degrees] -1.47523470 1.79081232

Point Scale	0.99991081	0.99956064
Combined Factor	0.99975263	0.99940252

US NATIONAL GRID DESIGNATOR: 13TCL4099691318(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DI3062	BIL5 BILLINGS 5 CORS ARP	N455816.237	W1075947.298	73245.8
DL7728	P051 BILLINGSAPMT2005 CORS ARP	N454823.741	W1083246.070	117210.5
DM7161	WYSH SHERIDAN CORS ARP	N4444801.769	W1070035.715	128597.4
DI3425	P052 LRRNCHJRDNMT2006 CORS ARP	N472229.026	W1070107.185	157639.1
DI2260	P054 TEREKALAKAMT2006 CORS ARP	N455046.833	W1042629.062	202962.4
DL7758	P722 YNPBASSRCHMT2005 CORS ARP	N452725.985	W1093415.586	203900.8
DM7133	MTLW LEWISTOWN CORS ARP	N470314.929	W1092633.764	220350.5
DI2263	P055 GLENDIVEWTMT2006 CORS ARP	N470700.144	W1044106.394	222670.6

NEAREST NGS PUBLISHED CONTROL POINT

QV0309	HORSE	N455454.480	W1065802.378	8036.2
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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.