

OPUS-RS solution : 018506_14_260_A1.14O OP1411139949769

opus <opus@ngs.noaa.gov>

Fri 9/19/2014 9:27 AM

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

FILE: 018506_14_260_A1.14O OP1411139949769

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: 0185260x.14oDATE: September 19, 2014
TIME: 15:26:32 UTCSOFTWARE: rsgps 1.37 RS91.prl 1.99.2 START: 2014/09/17 23:26:15
EPHEMERIS: igr18103.eph [rapid] STOP: 2014/09/18 00:25:15
NAV FILE: brdc2600.14n OBS USED: 4501 / 4648 : 97%
ANT NAME: CHCX90D-OPUS NONE QUALITY IND. 3.35/ 32.77
ARP HEIGHT: 1.8000 NORMALIZED RMS: 0.323

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2014.71232)

X: -1321139.622(m) 0.010(m) -1321140.485(m) 0.010(m)
Y: -4241411.211(m) 0.020(m) -4241409.963(m) 0.020(m)
Z: 4562588.000(m) 0.020(m) 4562587.965(m) 0.020(m)LAT: 45 57 24.97094 0.004(m) 45 57 24.99191 0.004(m)
E LON: 252 41 56.13709 0.005(m) 252 41 56.08160 0.005(m)
W LON: 107 18 3.86291 0.005(m) 107 18 3.91840 0.005(m)
EL HGT: 927.603(m) 0.029(m) 926.928(m) 0.029(m)
ORTHO HGT: 942.497(m) 0.031(m) [NAVD88 (Computed using GEOID12A)]

UTM COORDINATES STATE PLANE COORDINATES

UTM (Zone 13) SPC (2500 MT)

Northing (Y) [meters] 5091837.373 192085.265
Easting (X) [meters] 321685.952 770370.959
Convergence [degrees] -1.65448561 1.60852432
Point Scale 0.99999090 0.99956067
Combined Factor 0.99984550 0.99941534

US NATIONAL GRID DESIGNATOR: 13TCL2168591837(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DM7161	WYSH SHERIDAN CORS ARP	N444801.769	W1070035.715	130553.6
DI3064	BIL6 BILLINGS 6 CORS ARP	N455816.251	W1075948.499	53959.1
DI3062	BIL5 BILLINGS 5 CORS ARP	N455816.237	W1075947.298	53933.3
DL7728	P051 BILLINGSAPMT2005 CORS ARP	N454823.741	W1083246.070	98098.9
DL7758	P722 YNPBASSRCHMT2005 CORS ARP	N452725.985	W1093415.586	185302.9
DM7133	MTLW LEWISTOWN CORS ARP	N470314.929	W1092633.764	204701.3
DI2260	P054 TEREKALAKAMT2006 CORS ARP	N455046.833	W1042629.062	222263.6

NEAREST NGS PUBLISHED CONTROL POINT

RU0594	AGATE	N460027.890	W1071437.488	7187.3
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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.