

OPUS-RS solution : 018697_14_261_A1.14O OP1411507460432

opus <opus@ngs.noaa.gov>

Tue 9/23/2014 3:42 PM

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

FILE: 018697_14_261_A1.14O OP1411507460432

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: 0186261w.14oDATE: September 23, 2014
TIME: 21:41:56 UTCSOFTWARE: rsgps 1.37 RS50.prl 1.99.2 START: 2014/09/18 22:02:20
EPHEMERIS: igr18104.eph [rapid] STOP: 2014/09/18 23:02:05
NAV FILE: brdc2610.14n OBS USED: 3378 / 3756 : 90%
ANT NAME: CHCX90D-OPUS NONE QUALITY IND. 4.70/ 29.83
ARP HEIGHT: 1.800 NORMALIZED RMS: 0.374

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2014.71490)

X: -1334694.723(m) 0.006(m) -1334695.582(m) 0.006(m)
Y: -4302480.053(m) 0.012(m) -4302478.798(m) 0.012(m)
Z: 4501832.002(m) 0.014(m) 4501831.959(m) 0.014(m)LAT: 45 10 25.83996 0.008(m) 45 10 25.86067 0.008(m)
E LON: 252 45 55.13514 0.006(m) 252 45 55.08055 0.006(m)
W LON: 107 14 4.86486 0.006(m) 107 14 4.91945 0.006(m)
EL HGT: 1188.696(m) 0.016(m) 1188.000(m) 0.016(m)
ORTHO HGT: 1202.774(m) 0.019(m) [NAVD88 (Computed using GEOID12A)]

UTM COORDINATES STATE PLANE COORDINATES

UTM (Zone 13) SPC (2500 MT)

Northing (Y) [meters] 5004691.912 105257.968
Easting (X) [meters] 324406.290 778029.386
Convergence [degrees] -1.58535135 1.65708768
Point Scale 0.99997913 0.99990010
Combined Factor 0.99979280 0.99971379

US NATIONAL GRID DESIGNATOR: 13TCL2440604691(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DM7161	WYSH SHERIDAN CORS ARP	N444801.769	W1070035.715	45127.5
DI3064	BIL6 BILLINGS 6 CORS ARP	N455816.251	W1075948.499	106749.5
DI3062	BIL5 BILLINGS 5 CORS ARP	N455816.237	W1075947.298	106734.6
DL7728	P051 BILLINGSAPMT2005 CORS ARP	N454823.741	W1083246.070	124337.5
DJ8992	P033 TENSLEEPTRWY2005 CORS ARP	N435710.415	W1072315.121	136243.3
DL7758	P722 YNPBASSRCHMT2005 CORS ARP	N452725.985	W1093415.586	185909.2

NEAREST NGS PUBLISHED CONTROL POINT

QV0414	BEAR	N450830.066	W1070941.881	6760.1
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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.