

OPUS-RS solution : 940123260R.14O OP1411151846217

opus <opus@ngs.noaa.gov>

Fri 9/19/2014 12:46 PM

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

FILE: 940123260R.14O OP1411151846217

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: 9401260r.14oDATE: September 19, 2014
TIME: 18:45:33 UTCSOFTWARE: rsgps 1.37 RS52.prl 1.99.2 START: 2014/09/17 17:18:55
EPHEMERIS: igr18103.eph [rapid] STOP: 2014/09/17 17:38:25
NAV FILE: brdc2600.14n OBS USED: 1596 / 1883 : 85%
ANT NAME: CHCX91R NONE QUALITY IND. 8.06/ 19.37
ARP HEIGHT: 1.8040 NORMALIZED RMS: 0.249

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2014.71158)

X: -1304033.545(m) 0.018(m) -1304034.407(m) 0.018(m)
Y: -4261357.097(m) 0.049(m) -4261355.846(m) 0.049(m)
Z: 4549272.050(m) 0.048(m) 4549272.013(m) 0.048(m)LAT: 45 46 59.02743 0.009(m) 45 46 59.04851 0.009(m)
E LON: 252 59 6.62233 0.005(m) 252 59 6.56723 0.005(m)
W LON: 107 0 53.37767 0.005(m) 107 0 53.43277 0.005(m)
EL HGT: 1126.202(m) 0.070(m) 1125.517(m) 0.070(m)
ORTHO HGT: 1141.015(m) 0.071(m) [NAVD88 (Computed using GEOID12A)]

UTM COORDINATES STATE PLANE COORDINATES

UTM (Zone 13) SPC (2500 MT)

Northing (Y) [meters] 5071918.853 173440.264
Easting (X) [meters] 343379.528 793154.855
Convergence [degrees] -1.44432802 1.81791440
Point Scale 0.99990158 0.99962034
Combined Factor 0.99972507 0.99944388

US NATIONAL GRID DESIGNATOR: 13TCL4337971918(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DI3062	BIL5 BILLINGS 5 CORS ARP	N455816.237	W1075947.298	79037.4
DM7161	WYSH SHERIDAN CORS ARP	N444801.769	W1070035.715	109220.0
DL7728	P051 BILLINGSAPMT2005 CORS ARP	N454823.741	W1083246.070	119103.3
DG9745	MTEI ENGINC CORS ARP	N454447.035	W1083600.736	123411.7
DI3425	P052 LRRNCHJRDNMT2006 CORS ARP	N472229.026	W1070107.185	176956.2
DI2260	P054 TEREKALAKAMT2006 CORS ARP	N455046.833	W1042629.062	200151.6
DL7758	P722 YNPBASSRCHMT2005 CORS ARP	N452725.985	W1093415.586	202645.9

NEAREST NGS PUBLISHED CONTROL POINT

QV0307	RICHARD	N454937.908	W1065438.575	9455.7
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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.