

OPUS solution : 940123251T.14O OP1410384919104

opus <opus@ngs.noaa.gov>

Wed 9/10/2014 3:39 PM

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

FILE: 940123251T.14O OP1410384919104

NGS OPUS SOLUTION REPORT

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All computed coordinate accuracies are listed as peak-to-peak values.

For additional information: <http://www.ngs.noaa.gov/OPUS/about.jsp#accuracy>

USER: john.freetly@neciusa.com DATE: September 10, 2014
 RINEX FILE: 9401251t.14o TIME: 21:38:41 UTC

SOFTWARE: page5 1209.04 master91.pl 022814 START: 2014/09/08 19:32:00
 EPHEMERIS: igr18091.eph [rapid] STOP: 2014/09/08 22:01:00
 NAV FILE: brdc2510.14n OBS USED: 5337 / 5586 : 96%
 ANT NAME: CHCX91R NONE # FIXED AMB: 33 / 36 : 92%
 ARP HEIGHT: 2.000 OVERALL RMS: 0.013(m)

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2014.6873)

X: -1411569.594(m) 0.004(m) -1411570.455(m) 0.004(m)
 Y: -4258944.577(m) 0.009(m) -4258943.328(m) 0.009(m)
 Z: 4519776.781(m) 0.005(m) 4519776.742(m) 0.005(m)

LAT: 45 24 8.36991 0.008(m) 45 24 8.39012 0.008(m)
 E LON: 251 39 46.51329 0.004(m) 251 39 46.45765 0.004(m)
 W LON: 108 20 13.48671 0.004(m) 108 20 13.54235 0.004(m)
 EL HGT: 1296.255(m) 0.007(m) 1295.585(m) 0.007(m)
 ORTHO HGT: 1308.659(m) 0.015(m) [NAVD88 (Computed using GEOID12A)]

UTM COORDINATES STATE PLANE COORDINATES

UTM (Zone 12) SPC (2500 MT)

Northing (Y) [meters] 5031094.882 128747.757
 Easting (X) [meters] 708403.907 691025.463
 Convergence [degrees] 1.89682444 0.85068113
 Point Scale 1.00013403 0.99978233
 Combined Factor 0.99993082 0.99957919

US NATIONAL GRID DESIGNATOR: 12TYR0840331094(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL7758	P722 YNPBASSRCHMT2005	CORS ARP	N452725.985 W1093415.586	96772.0
DI3064	BIL6 BILLINGS 6	CORS ARP	N455816.251 W1075948.499	68569.8
DL7728	P051 BILLINGSAPMT2005	CORS ARP	N454823.741 W1083246.070	47809.5

NEAREST NGS PUBLISHED CONTROL POINT

QW0678	22 DHW	N452420.	W1081934.	929.7
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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.