

OPUS solution : 018697_14_259_A2.14O OP1411073263359

opus <opus@ngs.noaa.gov>

Thu 9/18/2014 2:52 PM

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

FILE: 018697_14_259_A2.14O OP1411073263359

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
RINEX FILE: 0186259u.14oDATE: September 18, 2014
TIME: 20:51:36 UTCSOFTWARE: page5 1209.04 master90.pl 022814 START: 2014/09/16 20:52:00
EPHEMERIS: igr18102.eph [rapid] STOP: 2014/09/17 00:10:00
NAV FILE: brdc2590.14n OBS USED: 6828 / 7244 : 94%
ANT NAME: CHCX90D-OPUS NONE # FIXED AMB: 43 / 45 : 96%
ARP HEIGHT: 1.800 OVERALL RMS: 0.014(m)

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2014.7094)

X: -1374765.540(m) 0.009(m) -1374766.399(m) 0.009(m)
Y: -4296080.428(m) 0.010(m) -4296079.174(m) 0.010(m)
Z: 4496305.808(m) 0.009(m) 4496305.765(m) 0.009(m)LAT: 45 6 3.25711 0.015(m) 45 6 3.27752 0.015(m)
E LON: 252 15 18.31968 0.005(m) 252 15 18.26479 0.005(m)
W LON: 107 44 41.68032 0.005(m) 107 44 41.73521 0.005(m)
EL HGT: 1461.161(m) 0.003(m) 1460.472(m) 0.003(m)
ORTHO HGT: 1472.906(m) 0.011(m) [NAVD88 (Computed using GEOID12A)]

UTM COORDINATES STATE PLANE COORDINATES

UTM (Zone 13) SPC (2500 MT)

Northing (Y) [meters] 4997825.514 96125.402
Easting (X) [meters] 284039.252 738120.372
Convergence [degrees] -1.94510935 1.28385483
Point Scale 1.00017351 0.99994093
Combined Factor 0.99994443 0.99971191

US NATIONAL GRID DESIGNATOR: 13TBK8403997825(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ8992	P033 TENSLEEPTRWY2005	CORS ARP N435710.415	W1072315.121	130721.4
DG9745	MTEI ENGINC CORS ARP	N454447.035	W1083600.736	98137.1
DL7728	P051 BILLINGSAPMT2005	CORS ARP N454823.741	W1083246.070	100414.3

NEAREST NGS PUBLISHED CONTROL POINT

QV0349	SPRING	N450430.189	W1074418.593	2921.7
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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.