

Quagge, Paul

From: opus <opus@ngs.noaa.gov>
Sent: Tuesday, April 19, 2016 7:02 PM
To: Quagge, Paul
Subject: OPUS solution : 85141100.16o OP1461117630907

FILE: 85141100.16o OP1461117630907

2005 NOTE: The IGS precise and IGS rapid orbits were not available
2005 at processing time. The IGS ultra-rapid orbit was/will be used to
2005 process the data.
2005

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: paul.quagge@strand.com DATE: April 20, 2016
RINEX FILE: 8514110o.16o TIME: 02:01:37 UTC

SOFTWARE: page5 1209.04 master53.pl 160321 START: 2016/04/19 14:26:00
EPHEMERIS: igu18932.eph [ultra-rapid] STOP: 2016/04/19 18:33:30
NAV FILE: brdc1100.16n OBS USED: 7303 / 7684 : 95%
ANT NAME: TRM5800 NONE # FIXED AMB: 50 / 52 : 96%
ARP HEIGHT: 1.665 OVERALL RMS: 0.014(m)

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2016.2997)

X: -1990596.636(m) 0.010(m) -1990597.467(m) 0.010(m)
Y: -4943611.133(m) 0.021(m) -4943609.773(m) 0.021(m)
Z: 3492965.586(m) 0.016(m) 3492965.443(m) 0.016(m)

LAT: 33 25 6.31968 0.003(m) 33 25 6.33281 0.003(m)
E LON: 248 4 2.29542 0.011(m) 248 4 2.24592 0.011(m)
W LON: 111 55 57.70458 0.011(m) 111 55 57.75408 0.011(m)
EL HGT: 326.581(m) 0.026(m) 325.709(m) 0.026(m)
ORTHO HGT: 356.334(m) 0.047(m) [NAVD88 (Computed using GEOID12B)]

UTM COORDINATES STATE PLANE COORDINATES
UTM (Zone 12) SPC (0202 AZ C)
Northing (Y) [meters] 3698063.568 268153.457
Easting (X) [meters] 413283.515 211869.293
Convergence [degrees] -0.51371342 -0.00882799
Point Scale 0.99969271 0.99990003
Combined Factor 0.99964146 0.99984877

1.00015123 ←

1

TBC Local Site
Ground Coordinate
1.0001526168
.9998473832

0

RTS

US NATIONAL GRID DESIGNATOR: 12SVB1328398063(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DN2121	AZPA PEORIA FIREST 195 CORS ARP	N334133.856	W1121640.461	44199.4
DN4496	AZUP USERY MOUNTAIN PK CORS ARP	N332851.316	W1113711.994	29891.7
DL3063	AZTP TEMPE CORS ARP	N332644.464	W1115615.468	3058.7

NEAREST NGS PUBLISHED CONTROL POINT

DU0789	P 22	N332531.3	W1115617.0	917.0
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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.

NORTH Point

OPUS

N 879768.559
E 695109.229
Elev 1169.07

OBSERVED Control Point

N 879768.583
E 695109.255
Elev 1169.47

Record

N 879768.4711
E 695109.2815
Elev 1169.068



.09
.067
.07

Grid ②

NORTH PT

N 879768.583
E 695109.255
Elev 1169.07

① Grid

South P

N 878936.22
E 695116.34
Elev 1169.16

CGF =

1.00015261675

Quagge, Paul

From: opus <opus@ngs.noaa.gov>
Sent: Tuesday, April 19, 2016 7:21 PM
To: Quagge, Paul
Subject: OPUS solution : 78131100.16o OP1461118718878

FILE: 78131100.16o OP1461118718878

2005 NOTE: The IGS precise and IGS rapid orbits were not available
2005 at processing time. The IGS ultra-rapid orbit was/will be used to
2005 process the data.
2005

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: paul.quagge@strand.com DATE: April 20, 2016
RINEX FILE: 7813110n.16o TIME: 02:20:06 UTC

SOFTWARE: page5 1209.04 master92.pl 160321 START: 2016/04/19 13:50:00
EPHEMERIS: igu18932.eph [ultra-rapid] STOP: 2016/04/19 20:41:00
NAV FILE: brdc1100.16n OBS USED: 14505 / 15297 : 95%
ANT NAME: TRM5800 NONE # FIXED AMB: 87 / 94 : 93%
ARP HEIGHT: 1.716 OVERALL RMS: 0.018(m)

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2016.2998)

X: -1990646.796(m) 0.011(m) -1990647.627(m) 0.011(m)
Y: -4943741.602(m) 0.010(m) -4943740.242(m) 0.010(m)
Z: 3492753.814(m) 0.006(m) 3492753.671(m) 0.006(m)

LAT: 33 24 58.08437 0.006(m) 33 24 58.09750 0.006(m)
E LON: 248 4 2.38067 0.006(m) 248 4 2.33118 0.006(m)
W LON: 111 55 57.61933 0.006(m) 111 55 57.66882 0.006(m)
EL HGT: 326.608(m) 0.012(m) 325.736(m) 0.012(m)
ORTHO HGT: 356.362(m) 0.025(m) [NAVD88 (Computed using GEOID12B)]

UTM COORDINATES STATE PLANE COORDINATES

UTM (Zone 12) SPC (0202 AZ C)
Northing (Y) [meters] 3697809.916 267899.762
Easting (X) [meters] 413283.443 211871.457
Convergence [degrees] -0.51366929 -0.00881441
Point Scale 0.99969271 0.99990003
Combined Factor 0.99964145 0.99984876

TBC
1.0001526167

1.00015124

US NATIONAL GRID DESIGNATOR: 12SVB1328397809(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DN2121	AZPA PEORIA FIREST 195 CORS ARP	N334133.856	W1121640.461	44376.4
DL3063	AZTP TEMPE CORS ARP	N332644.464	W1115615.468	3310.1
DN4496	AZUP USERY MOUNTAIN PK CORS ARP	N332851.316	W1113711.994	29949.8

NEAREST NGS PUBLISHED CONTROL POINT

DU2334	S 518	N332434.31	W1115558.30	732.7
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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.

A

SOUTH PT

OBSERVED control PT

N 878936.22
E 695116.34
Elev 1169.51

opus

N 878936.227
E 695116.328

→ Elev 1169.16

Record

N 878935.2067
E 695116.6667
→ Elev 1169.22

South Pt
Aquees



1-800-WIN
21999 mmrcy.com

Opus BaseLine

Grid 831.516
Ground 831.559

831.64

Control observation

832.516

RTS

832.46
832.48

Ground

832.48

695131.4135
879343.0154
1168.83