

DPOS REPORT  
JAVAD POST-PROCESSING SERVICE  
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USER: FILE: 1\_104354.jps DATE: 4/6/2023 TIME: 1:37:32 PM

SOFTWARE: Justin v.3(10/29/2021 8:07:17 AM) START: 2/20/2023 2:44:14 PM  
EPHEMERIS: brdc STOP: 2/20/2023 8:27:32 PM  
OBS USED: 35370 / 37352 TIME SPAN: 343  
ANT NAME: JAVTRIMPH\_2A NONE FIXED AMB: Yes  
ANT HEIGHT: Vertical(ARP) 6.644(f) OVERALL RMS: 0.023(f)  
ANT DELTA N/E/H: 0.000/0.000/0.000

REF FRAME: NAD83(2011)(EPOCH:2010.0000) ITRF2014 (EPOCH:2023.1384)  
X: 2958543.060(f) 0.005(f) 2958540.053(f) 0.005(f)  
Y: -16946329.138(f) 0.018(f) -16946324.272(f) 0.018(f)  
Z: 11874892.714(f) 0.013(f) 11874892.398(f) 0.013(f)  
LAT: N 34° 47' 50.06833" 0.005(f) N 34° 47' 50.09573" 0.005(f)  
E LON: E 279° 54' 11.04592" 0.015(f) E 279° 54' 11.02051" 0.015(f)  
W LON: W 80° 05' 48.95408" 0.015(f) W 80° 05' 48.97949" 0.015(f)  
EL HGT: 281.839(f) 0.016(f) 277.298(f) 0.016(f)  
ORTHO HGT: 383.192(f) 0.016(f) [NAVD88 (Computed using GEOID18)]

UTM COORDINATES STATE PLANE COORDINATES  
UTM (Zone 17) SPC (South Carolina)  
Northing (Y) [feet] 12634284.141 1079604.198  
Easting (X) [feet] 1911451.570 2271129.256  
Convergence [degrees] 0.51370525 0.50066049  
Point Scale 0.99968411 0.99998738  
Combined Factor 0.99967063 0.99997389

US NATIONAL GRID DESIGNATOR:

BASE STATIONS USED  
PID DESIGNATION LATITUDE LONGITUDE DISTANCE(f)  
NONE NCAL N 35° 20' 17.30362" W 80° 12' 48.52479" 199945.339  
NONE NCMR N 34° 58' 54.77695" W 80° 31' 25.78995" 144597.240  
NONE NCPO N 34° 59' 33.17294" W 80° 10' 37.85759" 75050.424  
NONE NCRO N 34° 57' 51.98769" W 79° 47' 47.74096" 108712.627  
NONE NCTR N 35° 22' 01.84505" W 79° 52' 12.77124" 218259.791

RESIDUALS OF POSITION  
VECTOR dx (f) dy (f) dz (f) dN (f) dE (f) du (f)  
NCAL=>1 0.005 0.018 0.013 0.005 0.015 0.016  
NCTR=>1 0.005 0.018 0.013 0.005 0.015 0.016  
NCRO=>1 0.005 0.018 0.013 0.005 0.015 0.016

RESIDUALS OF POSITION  
VECTOR dx (f) dy (f) dz (f) dN (f) dE (f) du (f)  
NCPO=>1 0.005 0.018 0.013 0.005 0.015 0.016

Single solution report

Solution name NCAL - 1 Solution type Fixed  
Process time 4/6/2023 1:37:05 PM Fix ratio 97%  
Begin time 2/20/2023 2:44:30 PM Time span,min 343  
End time 2/20/2023 8:27:30 PM Interval,sec 30.000  
Measurement used 35370 of 37352 (5% RMS 0.013(m)  
discarded)  
Satellites used GPS(17)/GLONASS(15)  
Used observations

Ephemeris Broadcast Temperature, °C 20  
Cutoff angle, ° 12 Pressure,hPa 980  
Engine Default Humidity,% 50  
Processing mode Auto

Point name NCAL 1  
Session name nca10510.23d.gz 1\_104354.jps  
Receiver TRIMBLE ALLOY JAVAD TRIUMPH2  
Receiver number 00133  
Receiver ID 5841R40049 00KXUOF2ORPCT1HRZEKFI1CLJDG  
Antenna TRM115000.00 NONE JAVTRIMPH\_2A NONE  
Serial number 1430767454  
Antenna height,(m) Vertical(ARP) 0.000 Vertical(ARP) 2.025  
Ant. delta,(m) 0.000/0.000/0.000 0.000/0.000/0.000  
Phase center variations:  
X, m 885397.606 901763.010  
Y, m -5133108.747 -5165239.638  
Z, m 3668598.357 3619467.205  
Latitude N 35° 20' 17.33145" N 34° 47' 50.09579"  
Longitude W 80° 12' 48.55070" W 80° 05' 48.97949"  
Height, m 111.265 84.522

DX, (m): 16365.4088 Sigma X, m: 0.0027  
DY, (m): -32130.8928 Sigma Y, m: 0.0027  
DZ, (m): -49131.1465 Sigma Z, m: 0.0027  
Length, (m): 60943.3379 Sigma, (m): 0.0135

Covariance matrix: (m):

	X	Y	Z
X	7.490354E-006		
Y	-1.967076E-005	1.138886E-004	
Z	1.353728E-005	-7.784701E-005	6.039166E-005

Geodetic distance,(m): 60942.629 Zenith distance forward, °: S 0° 17' 59.14955"  
Forward azimuth, °: N 169° 55' 14.13092" Zenith distance backward, °: S 0° 14' 58.15733"  
Back azimuth, °: N 349° 59' 15.19575" Height difference, (m): -26.742

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Solution name      NCMR - 1          Solution type      Fixed
Process time      4/6/2023 1:37:06 PM Fix ratio          97%
Begin time        2/20/2023 2:44:30 PM Time span,min     343
End time          2/20/2023 8:27:30 PM Interval,sec     30.000
Measurement used  34576 of 37092 (7% RMS
                    discarded)
Satellites used   GPS(17)/GLONASS(15)
Used observations
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Ephemeris         Broadcast         Temperature,°C   20
Cutoff angle,°    12              Pressure,hPa     980
Engine            Default          Humidity,%       50
Processing mode    Auto
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Point name        NCMR              1
Session name      ncmr0510.23d.gz  1_104354.jps
Receiver          TRIMBLE ALLOY     JAVAD TRIUMPH2
Receiver number   00133
Receiver ID       6235R40121        00KXUOF2ORPCT1HRZEKF1CLJDG
Antenna          TRM115000.00     NONE             JAVTRIUMPH_2A   NONE
Serial number     62243G0056
Antenna height,(m) Vertical(ARP) 0.000 Vertical(ARP) 2.025
Ant. delta,(m)   0.000/0.000/0.000 0.000/0.000/0.000
Phase center variations:
X, m              861332.056        901763.010
Y, m              -5160305.322      -5165239.638
Z, m              3636302.907       3619467.205
Latitude          N 34° 58' 54.80438" N 34° 47' 50.09579"
Longitude         W 80° 31' 25.81595" W 80° 05' 48.97949"
Height, m         142.947           84.522
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DX,(m):           40430.9652          Sigma X, m:       0.0027
DY,(m):           -4934.2865          Sigma Y, m:       0.0027
DZ,(m):           -16835.7169          Sigma Z, m:       0.0027
Length,(m):       44073.2514          Sigma,(m):        0.0134
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Covariance matrix:(,m):	X	Y	Z
X	7.307688E-006		
Y	-1.565065E-005	1.140354E-004	
Z	1.183168E-005	-7.769595E-005	5.929510E-005

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Geodetic distance,(m): 44072.502          Zenith distance forward,°: S 0° 16' 25.99652"
Forward azimuth,°:  N 117° 34' 24.46800"          Zenith distance backward,°: S 0° 07' 19.13621"
Back azimuth,°:    N 297° 49' 03.53705"          Height difference,(m): -58.425
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Solution name      NCPO - 1          Solution type      Fixed
Process time      4/6/2023 1:37:08 PM Fix ratio          99%
Begin time        2/20/2023 2:44:30 PM Time span,min     343
End time          2/20/2023 8:27:30 PM Interval,sec     30.000
Measurement used  38202 of 37751 (-1% RMS
                    discarded)
Satellites used   GPS(17)/GLONASS(15)
Used observations
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Ephemeris         Broadcast         Temperature,°C   20
Cutoff angle,°    12              Pressure,hPa     980
Engine            Default          Humidity,%       50
Processing mode    Auto
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Point name        NCPO              1
Session name      ncpo0510.23d.gz  1_104354.jps
Receiver          TRIMBLE NETR5     JAVAD TRIUMPH2
Receiver number   00133
Receiver ID       4850K59828        00KXUOF2ORPCT1HRZEKF1CLJDG
Antenna          TRM57971.00     NONE             JAVTRIUMPH_2A   NONE
Serial number     1441009211
Antenna height,(m) Vertical(ARP) 0.000 Vertical(ARP) 2.025
Ant. delta,(m)   0.000/0.000/0.000 0.000/0.000/0.000
Phase center variations:
X, m              892412.664        901763.010
Y, m              -5154283.242      -5165239.638
Z, m              3637238.276       3619467.205
Latitude          N 34° 59' 33.20053" N 34° 47' 50.09579"
Longitude         W 80° 10' 37.88322" W 80° 05' 48.97949"
Height, m         83.550           84.522
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DX,(m):           9350.3511          Sigma X, m:       0.0027
DY,(m):           -10956.3865          Sigma Y, m:       0.0027
DZ,(m):           -17771.0731          Sigma Z, m:       0.0027
Length,(m):       22875.3691          Sigma,(m):        0.0134
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Covariance matrix:(,m):	X	Y	Z
X	7.093627E-006		
Y	-1.915303E-005	1.137929E-004	
Z	1.344861E-005	-7.762128E-005	5.914760E-005

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Geodetic distance,(m): 22875.079          Zenith distance forward,°: S 0° 06' 02.22009"
Forward azimuth,°:  N 161° 16'          Zenith distance backward,°: S 0° 06'
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Back azimuth,°: 25.17358"  
 N 341° 19'  
 10.44783"      Height difference,(m): 19.74953"  
 0.972

Solution name NCR0 - 1      Solution type Fixed  
 Process time 4/6/2023 1:37:09 PM      Fix ratio 100%  
 Begin time 2/20/2023 2:44:30 PM      Time span,min 343  
 End time 2/20/2023 8:27:30 PM      Interval,sec 30.000  
 Measurement used 37802 of 37496 (-1% discarded)      RMS 0.013(m)  
 Satellites used GPS(17)/GLONASS(15)  
 Used observations

Ephemeris Broadcast      Temperature,°C 20  
 Cutoff angle,° 12      Pressure,hPa 980  
 Engine Default      Humidity,% 50  
 Processing mode Auto

Point name NCR0      1  
 Session name ncro0510.23d.gz      1\_104354.jps  
 Receiver TRIMBLE ALLOY      JAVAD TRIUMPH2  
 Receiver number 00133  
 Receiver ID 6048R40082      00KXUOF2ORPCT1HRZEK1CLJJD  
 Antenna TRM115000.00 NONE      JAVTRIUMPH\_2A NONE  
 Serial number 60413G0122  
 Antenna height,(m) Vertical(ARP) 0.000      Vertical(ARP) 2.025  
 Ant. delta,(m) 0.000/0.000/0.000      0.000/0.000/0.000  
 Phase center variations:  
 X, m 926947.795      901763.010  
 Y, m -5150006.626      -5165239.638  
 Z, m 3634687.275      3619467.205  
 Latitude N 34° 57' 52.01540"      N 34° 47' 50.09579"  
 Longitude W 79° 47' 47.76615"      W 80° 05' 48.97949"  
 Height, m 90.492      84.522

DX,(m): -25184.7870      Sigma X, m: 0.0026  
 DY,(m): -15233.0230      Sigma Y, m: 0.0026  
 DZ,(m): -15220.0688      Sigma Z, m: 0.0026  
 Length,(m): 33135.6150      Sigma,(m): 0.0128

Covariance matrix:(,m):	X	Y	Z
X	6.539493E-006		
Y	-1.783167E-005	1.044888E-004	
Z	1.245102E-005	-7.090440E-005	5.376804E-005

Geodetic distance,(m): 33135.191      Zenith distance forward,°: S 0° 09'  
 Forward azimuth,°: S 123° 57'      Zenith distance backward,°: S 0° 08'  
 20.10975"      18.80858"  
 Back azimuth,°: N 55° 52'      Height difference,(m): -5.970  
 21.57332"

Solution name NCTR - 1      Solution type Fixed  
 Process time 4/6/2023 1:37:11 PM      Fix ratio 98%  
 Begin time 2/20/2023 2:44:30 PM      Time span,min 343  
 End time 2/20/2023 8:27:30 PM      Interval,sec 30.000  
 Measurement used 35944 of 36443 (1% discarded)      RMS 0.013(m)  
 Satellites used GPS(17)/GLONASS(15)  
 Used observations

Ephemeris Broadcast      Temperature,°C 20  
 Cutoff angle,° 12      Pressure,hPa 980  
 Engine Default      Humidity,% 50  
 Processing mode Auto

Point name NCTR      1  
 Session name nctr0510.23d.gz      1\_104354.jps  
 Receiver TRIMBLE NETR9      JAVAD TRIUMPH2  
 Receiver number 00133  
 Receiver ID 5246K53825      00KXUOF2ORPCT1HRZEK1CLJJD  
 Antenna TRM57971.00 NONE      JAVTRIUMPH\_2A NONE  
 Serial number 2122214112  
 Antenna height,(m) Vertical(ARP) 0.000      Vertical(ARP) 2.025  
 Ant. delta,(m) 0.000/0.000/0.000      0.000/0.000/0.000  
 Phase center variations:  
 X, m 915811.152      901763.010  
 Y, m -5125902.220      -5165239.638  
 Z, m 3671244.329      3619467.205  
 Latitude N 35° 22' 01.87305"      N 34° 47' 50.09579"  
 Longitude W 79° 52' 12.79679"      W 80° 05' 48.97949"  
 Height, m 142.681      84.522

DX,(m): -14048.1491      Sigma X, m: 0.0027  
 DY,(m): -39337.4149      Sigma Y, m: 0.0027  
 DZ,(m): -51777.1260      Sigma Z, m: 0.0027  
 Length,(m): 66525.5852      Sigma,(m): 0.0134

Covariance matrix:(,m):	X	Y	Z
X	7.211541E-006		
Y	-1.860792E-005	1.120619E-004	
Z	1.303772E-005	-7.754438E-005	6.036520E-005

Geodetic distance,(m):	66524.674	Zenith distance forward,°:	S 0° 20'
Forward azimuth,°:	S 161° 49'	Zenith distance backward,°:	S 0° 14'
Back azimuth,°:	38.28743"	Height difference,(m):	58.58205"
	N 18° 02'		-58.159
	32.60426"		

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