



Tommy Stone &lt;thstone@ucsd.edu&gt;

**OPUS solution : opmt2920.19o OP1731636163226**

opus <opus@ngs.noaa.gov>  
 Reply-To: ngs.opus@noaa.gov  
 To: thstone@ucsd.edu

Thu, Nov 14, 2024 at 6:03 PM

FILE: opmt2920.19o OP1731636163226

1008 NOTE: You provided a zero or negative antenna height.  
 1008 If ARP HGT = 0.0, OPUS solves for the position of your selected antenna's reference point (ARP).  
 1008 If ARP HGT < 0.0, OPUS solves for a location inside or above the antenna  
 1008

NGS OPUS SOLUTION REPORT  
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All computed coordinate accuracies are listed as peak-to-peak values.

For additional information: [https://urldefense.com/v3/\\_\\_https://www.ngs.noaa.gov/OPUS/about.jsp\\*accuracy\\_\\_;lw!!Mih3wAlEyKq0egm1xalZ4WD8Rdg7S9JkM67iIL7Qs3xip7rLoQ5PLqP63GK7dKy7X38L0Y0QalM9HdjhQN91Qe3\\$](https://urldefense.com/v3/__https://www.ngs.noaa.gov/OPUS/about.jsp*accuracy__;lw!!Mih3wAlEyKq0egm1xalZ4WD8Rdg7S9JkM67iIL7Qs3xip7rLoQ5PLqP63GK7dKy7X38L0Y0QalM9HdjhQN91Qe3$)

USER: [thstone@ucsd.edu](mailto:thstone@ucsd.edu) DATE: November 15, 2024  
 RINEX FILE: opmt2920.19o TIME: 02:03:27 UTC

SOFTWARE: page5 2008.25 [master250.pl](https://www.master250.pl) 160321 START: 2019/10/19 00:00:00  
 EPHEMERIS: igs20756.eph [precise] STOP: 2019/10/19 23:59:00  
 NAV FILE: brdc2920.19n OBS USED: 54814 / 55481 : 99%  
 ANT NAME: ASH700936E NONE # FIXED AMB: 178 / 180 : 99%  
 ARP HEIGHT: 0.000 OVERALL RMS: 0.012(m)

REF FRAME: NAD\_83(2011)(EPOCH:2010.0000) ITRF2014 (EPOCH:2019.7986)

X:	4202778.454(m)	0.010(m)	4202777.302(m)	0.010(m)
Y:	171366.583(m)	0.004(m)	171368.267(m)	0.004(m)
Z:	4778659.827(m)	0.011(m)	4778660.503(m)	0.011(m)

LAT: 48 50 9.27902 0.006(m) 48 50 9.31981 0.006(m)  
 E LON: 2 20 5.70736 0.003(m) 2 20 5.79214 0.003(m)  
 W LON: 357 39 54.29264 0.003(m) 357 39 54.20786 0.003(m)  
 EL HGT: 122.981(m) 0.015(m) 122.777(m) 0.015(m)  
 ORTHO HGT: [No NGS Geoid Model Available.]

UTM COORDINATES STATE PLANE COORDINATES  
 UTM (Zone 31) \*\*\* NOTE \*\*\*

Northing (Y) [meters] 5409428.280 Please manually select  
 Easting (X) [meters] 451194.820 SPC zone.  
 Convergence [degrees] -0.50070000  
 Point Scale 0.99962926  
 Combined Factor 0.99960999

US NATIONAL GRID DESIGNATOR: 31UDQ5119509428(NAD 83)

## BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
OAK2		344026.2		
LROC		400225.7		
HERS		267750.1		

NEAREST NGS PUBLISHED CONTROL POINT

DE6606 ST. JOHN'S CORS ARP N473542.824 W0524039.911 3999841.5

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.