

OPUS-RS solution : 018506_14_260_A0.14O OP1411080819456

opus <opus@ngs.noaa.gov>

Thu 9/18/2014 5:00 PM

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

FILE: 018506_14_260_A0.14O OP1411080819456

6024

6024 ***** WARNING *****

6024 The Network Quality Indicator for the rover solution
6024 is less than 1.0. This is often a warning sign that
6024 one or more of the baselines involving your station were
6024 weakly determined. You should check other quality indicators,
6024 such as standard errors. If possible, corroborate
6024 this position with a solution involving a different time period.

6024 ***** WARNING *****

6024

6030 ***** WARNING *****

6030 One or both of the standard deviations associated with
6030 horizontal coordinates is greater than 5 cm, and/or the
6030 standard deviation associated with the vertical coordinate
6030 is greater than 10 cm. This means that the vectors used to
6030 determine your position did not agree as well as expected.
6030 Often this is the result of problems with the adopted coordinates
6030 at one or more of the reference stations selected by OPUS-RS.
6030 If a problem reference station can be identified, it can
6030 be excluded with the Exclude feature on the OPUS Options
6030 page.
6030

NGS OPUS-RS SOLUTION REPORT

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All computed coordinate accuracies are listed as 1-sigma RMS values.

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

USER: john.freetly@neciusa.com
RINEX FILE: 0185260q.14o

DATE: September 18, 2014
TIME: 22:59:43 UTC

SOFTWARE: rsgps 1.37 RS52.prl 1.99.2 START: 2014/09/17 16:44:45
EPHEMERIS: igr18103.eph [rapid] STOP: 2014/09/17 17:51:30
NAV FILE: brdc2600.14n OBS USED: 1765 / 2935 : 60%
ANT NAME: CHCX90D-OPUS NONE QUALITY IND. 7.76/ 0.21
ARP HEIGHT: 2.0000 NORMALIZED RMS: 0.703

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2014.71156)

X: -1305269.773(m) 0.142(m) -1305270.635(m) 0.142(m)
 Y: -4260965.726(m) 0.182(m) -4260964.475(m) 0.182(m)
 Z: 4549262.455(m) 0.039(m) 4549262.418(m) 0.039(m)

LAT: 45 46 59.09640 0.078(m) 45 46 59.11746 0.078(m)
 E LON: 252 58 6.60734 0.187(m) 252 58 6.55223 0.187(m)
 W LON: 107 1 53.39266 0.187(m) 107 1 53.44777 0.187(m)
 EL HGT: 1110.742(m) 0.116(m) 1110.058(m) 0.116(m)
 ORTHO HGT: 1125.549(m) 0.116(m) [NAVD88 (Computed using GEOID12A)]

UTM COORDINATES STATE PLANE COORDINATES

UTM (Zone 13) SPC (2500 MT)

Northing (Y) [meters] 5071953.790 173401.419
 Easting (X) [meters] 342083.707 791859.513
 Convergence [degrees] -1.45628387 1.80571962
 Point Scale 0.99990659 0.99962033
 Combined Factor 0.99973250 0.99944629

US NATIONAL GRID DESIGNATOR: 13TCL4208371953(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DM7161	WYSH SHERIDAN CORS ARP	N444801.769	W1070035.715	109234.5
DG9745	MTEI ENGINC CORS ARP	N454447.035	W1083600.736	122115.4
DI3425	P052 LRRNCHJRDNMT2006 CORS ARP	N472229.026	W1070107.185	176956.3
DI2260	P054 TEREKALAKAMT2006 CORS ARP	N455046.833	W1042629.062	201446.0
DM7133	MTLW LEWISTOWN CORS ARP	N470314.929	W1092633.764	233086.4

NEAREST NGS PUBLISHED CONTROL POINT

QV0307 RICHARD N454937.908 W1065438.575 10581.4

OPUS-RS Extended Output, Level 2

FINAL COORDINATES (ITRF at epoch of observations)

wysh	-1326396.427	-4335757.889	4472504.196
mtei	-1422329.056	-4226311.553	4546317.412
p052	-1266648.340	-4138194.562	4670709.497
p054	-1110122.545	-4310701.946	4554151.770
mtlw	-1449333.484	-4105829.835	4646773.513
0185	-1305270.635	-4260964.475	4549262.418

Covariance matrix of the stations:

1 6.0070E-07 1.3420E-06 -1.4540E-06 -1.0280E-07 -3.5850E-07 3.9320E-07 -9.7950E-08 -3.3000E-07 3.4990E-07
 -9.4100E-08 -2.7970E-07 3.1080E-07 -1.0560E-07 -3.7350E-07 4.0040E-07 -1.1160E-09 -1.1640E-07 1.2100E-07
 2 1.3420E-06 3.8620E-06 -3.9760E-06 -3.0630E-07 -9.0010E-07 1.0010E-06 -3.4830E-07 -9.3460E-07 9.8350E-07
 -3.8070E-07 -8.9060E-07 1.0030E-06 -3.0670E-07 -9.3670E-07 9.8930E-07 -1.5240E-07 -3.7950E-07 4.4980E-07
 3 -1.4540E-06 -3.9760E-06 4.4660E-06 4.0690E-07 1.0390E-06 -1.0910E-06 3.4050E-07 9.5290E-07 -1.0540E-06
 2.9090E-07 9.5560E-07 -9.8480E-07 4.1570E-07 1.0270E-06 -1.1350E-06 -3.0360E-09 2.4540E-09 8.8110E-08
 4 -1.0280E-07 -3.0630E-07 4.0690E-07 6.9210E-07 1.4090E-06 -1.5760E-06 -1.3560E-07 -3.9460E-07 3.9170E-07
 -1.6340E-07 -3.0080E-07 3.6860E-07 -9.0060E-08 -4.0720E-07 4.0940E-07 -8.9190E-08 -3.2780E-07 3.8150E-07
 5 -3.5850E-07 -9.0010E-07 1.0390E-06 1.4090E-06 3.7280E-06 -4.0220E-06 -3.4570E-07 -8.6610E-07 9.7660E-07
 -3.5650E-07 -8.6680E-07 9.9520E-07 -3.4670E-07 -8.9470E-07 1.0100E-06 -1.2050E-07 -2.2260E-07 2.9960E-07
 6 3.9320E-07 1.0010E-06 -1.0910E-06 -1.5760E-06 -4.0220E-06 4.6210E-06 3.9140E-07 1.0020E-06 -1.1080E-06
 3.7350E-07 9.6990E-07 -1.0610E-06 4.1690E-07 1.0480E-06 -1.1600E-06 1.0040E-07 2.0410E-07 -1.8760E-07
 7 -9.7950E-08 -3.4830E-07 3.4050E-07 -1.3560E-07 -3.4570E-07 3.9140E-07 5.4720E-07 1.1870E-06 -1.3480E-06
 1.4190E-08 -2.1010E-07 2.2630E-07 -1.2820E-07 -2.8320E-07 3.8960E-07 1.2630E-07 2.2470E-07 -2.5230E-07
 8 -3.3000E-07 -9.3460E-07 9.5290E-07 -3.9460E-07 -8.6610E-07 1.0020E-06 1.1870E-06 3.4010E-06 -3.7030E-06
 -9.5640E-08 -7.0420E-07 7.8250E-07 -3.6740E-07 -6.9640E-07 9.6450E-07 1.8610E-07 5.2770E-07 -5.3780E-07
 9 3.4990E-07 9.8350E-07 -1.0540E-06 3.9170E-07 9.7660E-07 -1.1080E-06 -1.3480E-06 -3.7030E-06 4.4060E-06
 2.2260E-07 8.3460E-07 -9.3180E-07 3.8440E-07 9.0920E-07 -1.1110E-06 -6.4260E-08 -1.5590E-07 1.8010E-07
 10 -9.4100E-08 -3.8070E-07 2.9090E-07 -1.6340E-07 -3.5650E-07 3.7350E-07 1.4190E-08 -9.5640E-08 2.2260E-07
 5.9540E-07 1.0730E-06 -1.2680E-06 -1.5240E-07 -2.3960E-07 3.8000E-07 2.3950E-07 5.0120E-07 -5.9500E-07
 11 -2.7970E-07 -8.9060E-07 9.5560E-07 -3.0080E-07 -8.6680E-07 9.6990E-07 -2.1010E-07 -7.0420E-07 8.3460E-07
 1.0730E-06 3.4570E-06 -3.6970E-06 -2.8520E-07 -7.9520E-07 9.3780E-07 5.9170E-08 7.3080E-08 -5.6920E-08
 12 3.1080E-07 1.0030E-06 -9.8480E-07 3.6860E-07 9.9520E-07 -1.0610E-06 2.2630E-07 7.8250E-07 -9.3180E-07
 -1.2680E-06 -3.6970E-06 4.2570E-06 3.6420E-07 9.1580E-07 -1.0800E-06 -1.4140E-07 -2.4520E-07 3.4910E-07
 13 -1.0560E-07 -3.0670E-07 4.1570E-07 -9.0060E-08 -3.4670E-07 4.1690E-07 -1.2820E-07 -3.6740E-07 3.8440E-07
 -1.5240E-07 -2.8520E-07 3.6420E-07 6.7620E-07 1.3050E-06 -1.5800E-06 -7.5570E-08 -2.8220E-07 3.4510E-07
 14 -3.7350E-07 -9.3670E-07 1.0270E-06 -4.0720E-07 -8.9470E-07 1.0480E-06 -2.8320E-07 -6.9640E-07 9.0920E-07
 -2.3960E-07 -7.9520E-07 9.1580E-07 1.3050E-06 3.5230E-06 -3.9010E-06 2.8030E-08 2.0190E-07 -1.5590E-07
 15 4.0040E-07 9.8930E-07 -1.1350E-06 4.0940E-07 1.0100E-06 -1.1600E-06 3.8960E-07 9.6450E-07 -1.1110E-06
 3.8000E-07 9.3780E-07 -1.0800E-06 -1.5800E-06 -3.9010E-06 4.6870E-06 1.0800E-07 1.9390E-07 -2.2890E-07
 16 -1.1160E-09 -1.5240E-07 -3.0360E-09 -8.9190E-08 -1.2050E-07 1.0040E-07 1.2630E-07 1.8610E-07 -6.4260E-08
 2.3950E-07 5.9170E-08 -1.4140E-07 -7.5570E-08 2.8030E-08 1.0800E-07 8.8770E-06 2.2010E-05 -2.4740E-05
 17 -1.1640E-07 -3.7950E-07 2.4540E-09 -3.2780E-07 -2.2260E-07 2.0410E-07 2.2470E-07 5.2770E-07 -1.5590E-07
 5.0120E-07 7.3080E-08 -2.4520E-07 -2.8220E-07 2.0190E-07 1.9390E-07 2.2010E-05 6.2810E-05 -6.8700E-05
 18 1.2100E-07 4.4980E-07 8.8110E-08 3.8150E-07 2.9960E-07 -1.8760E-07 -2.5230E-07 -5.3780E-07 1.8010E-07
 -5.9500E-07 -5.6920E-08 3.4910E-07 3.4510E-07 -1.5590E-07 -2.2890E-07 -2.4740E-05 -6.8700E-05 7.7680E-05

Covariance Matrix for the xyz OPUS Rover Position (meters^2).

0.0000088770	0.0000220100	-0.0000247400
0.0000220100	0.0000628100	-0.0000687000
-0.0000247400	-0.0000687000	0.0000776800

Covariance Matrix for the enu OPUS Position (meters^2).

0.0000011760	-0.0000002367	-0.0000047137
-0.0000002367	0.0000011037	0.0000020799
-0.0000047137	0.0000020799	0.0001470873

Horizontal network accuracy = 0.00262 meters.

Vertical network accuracy = 0.02378 meters.

		Vectors		
To	From	X	Y	Z
wysh	0185	-21125.792	-74793.414	-76758.222
mtei	0185	-117058.421	34652.921	-2945.006
p052	0185	38622.295	122769.913	121447.079
p054	0185	195148.090	-49737.472	4889.352
mtlw	0185	-144062.849	155134.640	97511.095

Covariance matrix of the 5 vectors

```

1  9.4799E-06  2.3621E-05 -2.6312E-05  8.8645E-06  2.1888E-05 -2.4568E-05  8.6539E-06  2.1610E-05 -2.4447E-05
8.5445E-06  2.1788E-05 -2.4409E-05  8.8481E-06  2.1725E-05 -2.4569E-05
2  2.3621E-05  6.7431E-05 -7.3128E-05  2.2184E-05  6.2512E-05 -6.8353E-05  2.1589E-05  6.1727E-05 -6.8010E-05
2.1281E-05  6.2226E-05 -6.7902E-05  2.2138E-05  6.2051E-05 -6.8354E-05
3  -2.6312E-05 -7.3128E-05  8.1970E-05 -2.4712E-05 -6.7963E-05  7.6688E-05 -2.4144E-05 -6.7212E-05  7.6358E-05
-2.3851E-05 -6.7690E-05  7.6258E-05 -2.4666E-05 -6.7520E-05  7.6686E-05
4  8.8645E-06  2.2184E-05 -2.4712E-05  9.7475E-06  2.3867E-05 -2.6798E-05  8.7043E-06  2.1757E-05 -2.4666E-05
8.5633E-06  2.1978E-05 -2.4611E-05  8.9517E-06  2.1903E-05 -2.4820E-05
5  2.1888E-05  6.2512E-05 -6.7963E-05  2.3867E-05  6.6983E-05 -7.3226E-05  2.1560E-05  6.1639E-05 -6.7867E-05
2.1273E-05  6.2093E-05 -6.7759E-05  2.2066E-05  6.1936E-05 -6.8184E-05
6  -2.4568E-05 -6.8353E-05  7.6688E-05 -2.6798E-05 -7.3226E-05  8.2676E-05 -2.4197E-05 -6.7364E-05  7.6580E-05
-2.3872E-05 -6.7877E-05  7.6457E-05 -2.4769E-05 -6.7700E-05  7.6937E-05
7  8.6539E-06  2.1589E-05 -2.4144E-05  8.7043E-06  2.1560E-05 -2.4197E-05  9.1716E-06  2.2786E-05 -2.5771E-05
8.5254E-06  2.1516E-05 -2.4120E-05  8.6981E-06  2.1474E-05 -2.4206E-05
8  2.1610E-05  6.1727E-05 -6.7212E-05  2.1757E-05  6.1639E-05 -6.7364E-05  2.2786E-05  6.5156E-05 -7.1709E-05
2.1227E-05  6.1505E-05 -6.7135E-05  2.1739E-05  6.1384E-05 -6.7392E-05
9  -2.4447E-05 -6.8010E-05  7.6358E-05 -2.4666E-05 -6.7867E-05  7.6580E-05 -2.5771E-05 -7.1709E-05  8.1726E-05
-2.3858E-05 -6.7653E-05  7.6219E-05 -2.4636E-05 -6.7479E-05  7.6618E-05
10  8.5445E-06  2.1281E-05 -2.3851E-05  8.5633E-06  2.1273E-05 -2.3872E-05  8.5254E-06  2.1227E-05 -2.3858E-05
8.9934E-06  2.2523E-05 -2.5272E-05  8.5607E-06  2.1241E-05 -2.3873E-05
11  2.1788E-05  6.2226E-05 -6.7690E-05  2.1978E-05  6.2093E-05 -6.7877E-05  2.1516E-05  6.1505E-05 -6.7653E-05
2.2523E-05  6.6121E-05 -7.2095E-05  2.1948E-05  6.1740E-05 -6.7899E-05
12  -2.4409E-05 -6.7902E-05  7.6258E-05 -2.4611E-05 -6.7759E-05  7.6457E-05 -2.4120E-05 -6.7135E-05  7.6219E-05
-2.5272E-05 -7.2095E-05  8.1239E-05 -2.4580E-05 -6.7383E-05  7.6480E-05
13  8.8481E-06  2.2138E-05 -2.4666E-05  8.9517E-06  2.2066E-05 -2.4769E-05  8.6981E-06  2.1739E-05 -2.4636E-05
8.5607E-06  2.1948E-05 -2.4580E-05  9.7043E-06  2.3569E-05 -2.6773E-05
14  2.1725E-05  6.2051E-05 -6.7520E-05  2.1903E-05  6.1936E-05 -6.7700E-05  2.1474E-05  6.1384E-05 -6.7479E-05
2.1241E-05  6.1740E-05 -6.7383E-05  2.3569E-05  6.5929E-05 -7.2639E-05
15  -2.4569E-05 -6.8354E-05  7.6686E-05 -2.4820E-05 -6.8184E-05  7.6937E-05 -2.4206E-05 -6.7392E-05  7.6618E-05
-2.3873E-05 -6.7899E-05  7.6480E-05 -2.6773E-05 -7.2639E-05  8.2825E-05

```

Correlation matrix of the 5 vectors

```

1  1.0000E+00  9.3425E-01 -9.4390E-01  9.2216E-01  8.6862E-01 -8.7757E-01  9.2808E-01  8.6953E-01 -8.7830E-01
9.2539E-01  8.7023E-01 -8.7955E-01  9.2249E-01  8.6899E-01 -8.7679E-01
2  9.3425E-01  1.0000E+00 -9.8362E-01  8.6529E-01  9.3014E-01 -9.1545E-01  8.6814E-01  9.3126E-01 -9.1615E-01
8.6415E-01  9.3191E-01 -9.1742E-01  8.6541E-01  9.3064E-01 -9.1465E-01
3  -9.4390E-01 -9.8362E-01  1.0000E+00 -8.7423E-01 -9.1720E-01  9.3156E-01 -8.8057E-01 -9.1969E-01  9.3293E-01
-8.7845E-01 -9.1945E-01  9.3449E-01 -8.7457E-01 -9.1847E-01  9.3070E-01
4  9.2216E-01  8.6529E-01 -8.7423E-01  1.0000E+00  9.3406E-01 -9.4398E-01  9.2059E-01  8.6333E-01 -8.7391E-01
9.1460E-01  8.6570E-01 -8.7460E-01  9.2040E-01  8.6399E-01 -8.7353E-01
5  8.6862E-01  9.3014E-01 -9.1720E-01  9.3406E-01  1.0000E+00 -9.8399E-01  8.6985E-01  9.3303E-01 -9.1727E-01
8.6672E-01  9.3301E-01 -9.1855E-01  8.6548E-01  9.3201E-01 -9.1541E-01

```

6 -8.7757E-01 -9.1545E-01 9.3156E-01 -9.4398E-01 -9.8399E-01 1.0000E+00 -8.7871E-01 -9.1783E-01 9.3163E-01
-8.7546E-01 -9.1805E-01 9.3293E-01 -8.7444E-01 -9.1698E-01 9.2974E-01
7 9.2808E-01 8.6814E-01 -8.8057E-01 9.2059E-01 8.6985E-01 -8.7871E-01 1.0000E+00 9.3212E-01 -9.4132E-01
9.3871E-01 8.7372E-01 -8.8364E-01 9.2197E-01 8.7328E-01 -8.7826E-01
8 8.6953E-01 9.3126E-01 -9.1969E-01 8.6333E-01 9.3303E-01 -9.1783E-01 9.3212E-01 1.0000E+00 -9.8270E-01
8.7690E-01 9.3706E-01 -9.2276E-01 8.6452E-01 9.3657E-01 -9.1738E-01
9 -8.7830E-01 -9.1615E-01 9.3293E-01 -8.7391E-01 -9.1727E-01 9.3163E-01 -9.4132E-01 -9.8270E-01 1.0000E+00
-8.8003E-01 -9.2031E-01 9.3541E-01 -8.7481E-01 -9.1928E-01 9.3126E-01
10 9.2539E-01 8.6415E-01 -8.7845E-01 9.1460E-01 8.6672E-01 -8.7546E-01 9.3871E-01 8.7690E-01 -8.8003E-01
1.0000E+00 9.2361E-01 -9.3495E-01 9.1635E-01 8.7232E-01 -8.7471E-01
11 8.7023E-01 9.3191E-01 -9.1945E-01 8.6570E-01 9.3301E-01 -9.1805E-01 8.7372E-01 9.3706E-01 -9.2031E-01
9.2361E-01 1.0000E+00 -9.8368E-01 8.6644E-01 9.3510E-01 -9.1752E-01
12 -8.7955E-01 -9.1742E-01 9.3449E-01 -8.7460E-01 -9.1855E-01 9.3293E-01 -8.8364E-01 -9.2276E-01 9.3541E-01
-9.3495E-01 -9.8368E-01 1.0000E+00 -8.7540E-01 -9.2073E-01 9.3236E-01
13 9.2249E-01 8.6541E-01 -8.7457E-01 9.2040E-01 8.6548E-01 -8.7444E-01 9.2197E-01 8.6452E-01 -8.7481E-01
9.1635E-01 8.6644E-01 -8.7540E-01 1.0000E+00 9.3180E-01 -9.4436E-01
14 8.6899E-01 9.3064E-01 -9.1847E-01 8.6399E-01 9.3201E-01 -9.1698E-01 8.7328E-01 9.3657E-01 -9.1928E-01
8.7232E-01 9.3510E-01 -9.2073E-01 9.3180E-01 1.0000E+00 -9.8299E-01
15 -8.7679E-01 -9.1465E-01 9.3070E-01 -8.7353E-01 -9.1541E-01 9.2974E-01 -8.7826E-01 -9.1738E-01 9.3126E-01
-8.7471E-01 -9.1752E-01 9.3236E-01 -9.4436E-01 -9.8299E-01 1.0000E+00

G-FILE for the vectors

Axx2014 9172014 917

B201409171600201409171700 5 rsgps 1.37IGS

lant_info.003 NGS

C00060001 -211257921 30 -747934141 82 -767582220 90
C00060002 -1170584207 31 346529212 81 -29450062 90
C00060003 386222947 30 1227699129 80 1214470789 90
C00060004 1951480896 29 -497374715 81 48893521 90
C00060005 -1440628492 31 1551346396 81 975110949 91
D 1 2 9342480 1 3 -9438951 1 4 9221588 1 5 8686172 1 6 -8775673
D 1 7 9280791 1 8 8695254 1 9 -8782952 1 10 9253859 1 11 8702343
D 1 12 -8795531 1 13 9224943 1 14 8689917 1 15 -8767940 2 3 -9836226
D 2 4 8652904 2 5 9301449 2 6 -9154547 2 7 8681369 2 8 9312599
D 2 9 -9161486 2 10 8641518 2 11 9319050 2 12 -9174205 2 13 8654134
D 2 14 9306350 2 15 -9146532 3 4 -8742329 3 5 -9171979 3 6 9315647
D 3 7 -8805676 3 8 -9196921 3 9 9329253 3 10 -8784537 3 11 -9194498
D 3 12 9344944 3 13 -8745713 3 14 -9184674 3 15 9306959 4 5 9340587
D 4 6 -9439833 4 7 9205865 4 8 8633342 4 9 -8739062 4 10 9146027
D 4 11 8657040 4 12 -8746013 4 13 9203994 4 14 8639925 4 15 -8735286
D 5 6 -9839892 5 7 8698518 5 8 9330294 5 9 -9172690 5 10 8667218
D 5 11 9330148 5 12 -9185516 5 13 8654812 5 14 9320115 5 15 -9154110
D 6 7 -8787054 6 8 -9178330 6 9 9316283 6 10 -8754569 6 11 -9180471
D 6 12 9329279 6 13 -8744363 6 14 -9169819 6 15 9297409 7 8 9321235
D 7 9 -9413183 7 10 9387063 7 11 8737162 7 12 -8836351 7 13 9219711
D 7 14 8732787 7 15 -8782579 8 9 -9826978 8 10 8769039 8 11 9370559
D 8 12 -9227586 8 13 8645192 8 14 9365703 8 15 -9173809 9 10 -8800250
D 9 11 -9203130 9 12 9354097 9 13 -8748132 9 14 -9192849 9 15 9312577
D 10 11 9236085 10 12 -9349513 10 13 9163529 10 14 8723235 10 15 -8747115

D 11 12 -9836792 11 13 8664418 11 14 9350983 11 15 -9175191 12 13 -8754035
 D 12 14 -9207258 12 15 9323624 13 14 9317993 13 15 -9443553 14 15 -9829937

ITRF position of 0185 as determined by individual baselines

	X	Y	Z
wysh	-1305270.560	-4260964.516	4549262.407
mtei	-1305270.505	-4260964.679	4549262.457
p052	-1305270.488	-4260964.630	4549262.406
p054	-1305270.510	-4260964.677	4549262.483
mtlw	-1305270.492	-4260964.627	4549262.424

Residuals of position determined by individual baselines from the final position

	X	Y	Z	East	North	Up
wysh	0.075	-0.042	-0.011	0.084	-0.020	0.005
mtei	0.130	-0.205	0.039	0.184	-0.086	0.138
p052	0.147	-0.155	-0.012	0.186	-0.084	0.065
p054	0.125	-0.202	0.065	0.179	-0.067	0.156
mtlw	0.143	-0.153	0.006	0.182	-0.070	0.077

STATE PLANE COORDINATES - International Foot

SPC (2500 MT)

Northing (Y) [feet] 568902.293
 Easting (X) [feet] 2597964.281
 Convergence [degrees] 1.80571962
 Point Scale 0.99962033
 Combined Factor 0.99944629

** Orthometric Heights Above Future Geopotential Datum.

Prototype orthometric heights are now being made available as a precursor to the completion of GRAV-D and the replacement of NAVD 88 with a new geopotential reference system. The following height reflects the current best estimate of the true orthometric height, based on the existing gravimetric geoid model. This height is subject to change as data and modeling for the gravimetric geoid change throughout the lifetime of the GRAV-D project, or as new realizations of the ITRF are adopted. However, at the completion of GRAV-D, these heights will supersede the NAVD 88 heights

APPROX ORTHO HGT: 1124.687 (m) [PROTOTYPE (Computed using USGG2012,GRS80,IGS08)]

dop from interpolation is 0.403
 scatter (mean square distance from rover) is 33675.641
 average edop for rover is 1.000
 average ndop for rover is 1.220
 average hdop for rover is 1.577
 average vdop for rover is 3.750
 average gdop for rover is 4.910

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.