

ADDISON, VERMONT LiDAR DATA ACQUISITION AND PROCESSING

POST-FLIGHT AERIAL ACQUISITION AND CALIBRATION REPORT

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1. SUMMARY / SCOPE

1.1. SUMMARY

This report contains a summary of the Addison, Vermont LiDAR acquisition task order, issued by the U.S. Geological Survey (USGS). The intent of this document is to provide specific parameter information for the LiDAR data acquisition/collection work completed for this project.

1.2. SCOPE

The scope of the task order included the acquisition of aerial topographic LiDAR using state of the art technology, along with necessary surveyed ground control points (GCPs) and airborne GPS and inertial navigation systems, for the Addison, Vermont and surrounding areas. The aerial data collection was designed with the following specifications listed in Table 1 below.

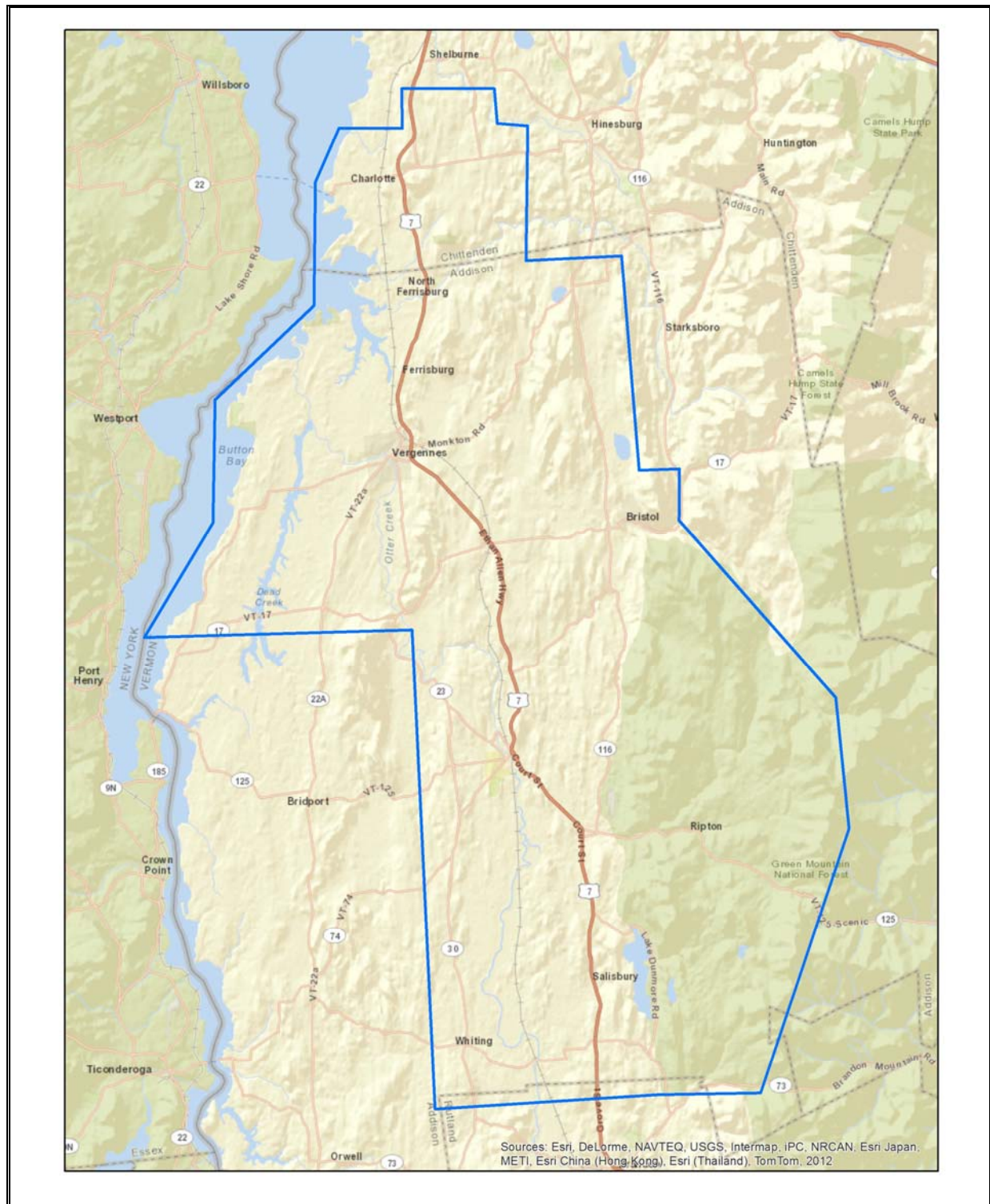
Table 1. Planned LiDAR Specifications

LiDAR				
Average Point Density	Flight Altitude (AGL)	Field of View	Side Overlap	RMSEz
4.3 pts / m ²	6000 ft	35.0 degrees	11.68%	12.5 cm or better

1.3. LOCATION / COVERAGE

The LiDAR project boundary consists of the approximately 478 square miles as shown in Figure 1 on the following page.

Figure 1. LiDAR Project Boundary



1.4. DURATION

The first mission was flown on December 6, 2012 and it took four different lifts to complete coverage of the area. See section 2.4 for more details.

1.5. ISSUES

The primary issues of concern with this task order were the weather encountered during collection and sensor issues during our initial collection of the project area.

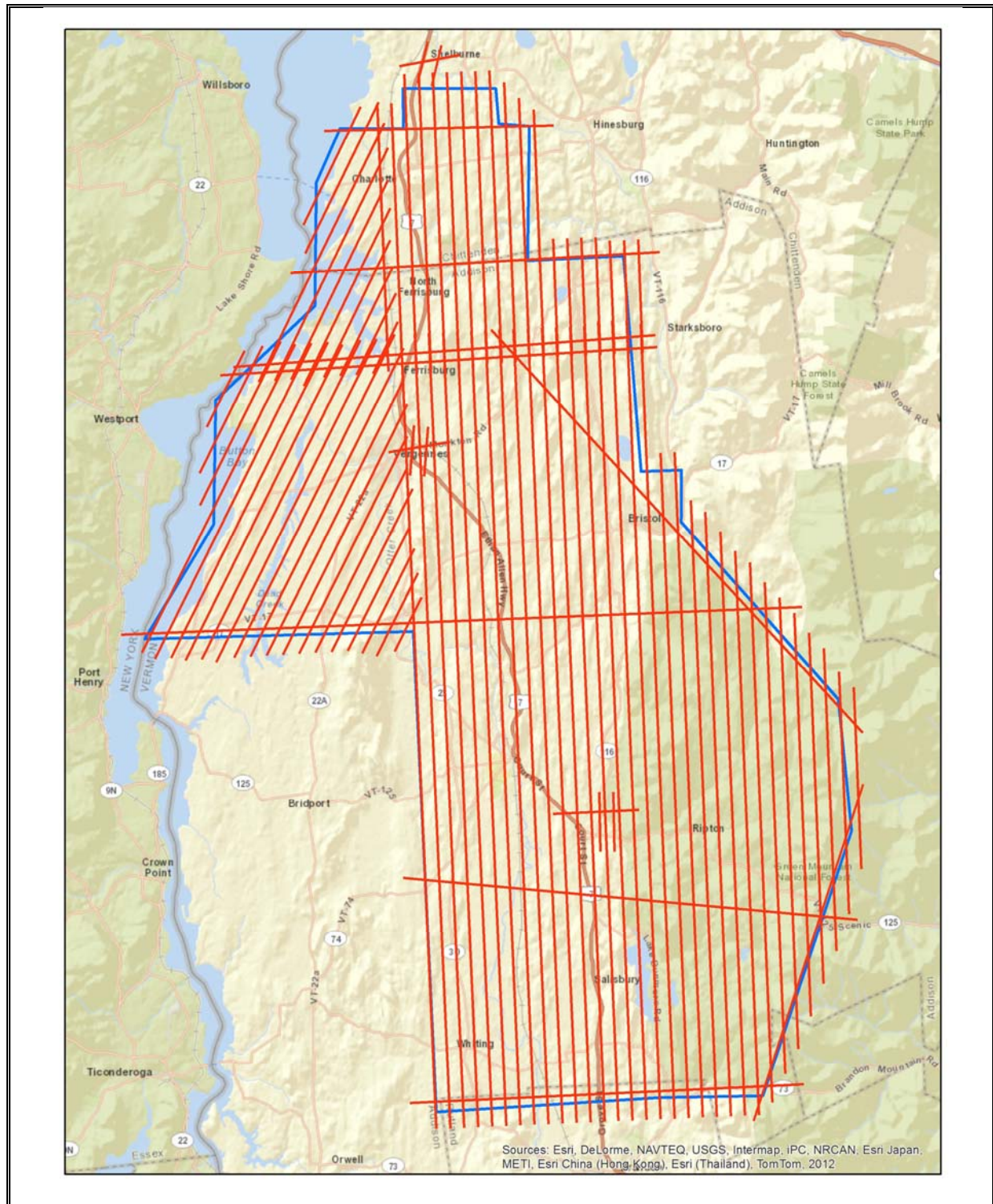
Original data was collected for the project over a 5 day window in November, 2012. However, internal issues with the Leica sensor were discovered during initial office processing. These issues were discussed with Leica, and the data was found to be unfixable in the office environment. Because of this, the LiDAR unit was serviced in Danbury, CT and the project area was reflight in December, 2012.

During the collection of the first mission on December 6, 2012, the base station was found to have stopped collecting at some point during the flight. The surrounding CORS stations were used to assist in the creation of the final trajectory for this mission.

2. PLANNING / EQUIPMENT

The entire target area was comprised of 115 planned flight lines and approximately 1545 flight line miles. Please refer to Figure 2 on the following page.

Figure 2. Planned Flight Lines



Detailed project flight planning calculations were performed for the project using Leica Mission Pro ALTM Nav planning software. Flight planning was based on the unique project requirements and characteristics of the project site. The basis of planning included: required accuracies, type of development, amount / type of vegetation within project area, required data posting, and potential altitude restrictions for flights in project vicinity. A brief summary of the aerial acquisition parameters for the project are shown in the LiDAR System Specification Table 2 below:

Table 2. LiDAR System Specifications

LiDAR System Specifications	
Terrain and Aircraft	Flying Height AGL: 1828 m; 6000 feet
	Recommended Ground Speed (GS): 120 kts
Scanner	Field of View (FOV): 35 degrees
	Scan Rate Setting used (SR): 36.3 Hz
Laser	Laser Pulse Rate used: 303400 Hz
	Multi Pulse in Air Mode: Enabled
Coverage	Full Swath Width: 1152.73 m
	Line Spacing (No DTM): 1018.15 m
Point Spacing and Density	Maximum Point Spacing Across Track: 0.85 m
	Maximum Point Spacing Along Track: 0.85 m
	Average Point Density: 4.3 pts / m ²

2.1. EQUIPMENT: AIRCRAFT

Flights for the project were accomplished through the use of a customized Piper Navajo (Tail Number N22GE). This aircraft, depicted on the cover of the report, provided an ideal, stable aerial base for LiDAR acquisition. This aerial platform has relatively fast cruise speeds which are beneficial for project mobilization / demobilization while maintaining relatively slow stall speeds which proved ideal for collection of high-density, consistent data posting using a state-of-the-art Leica LiDAR system.

2.2. LiDAR SENSOR

Photo Science utilized an Leica LiDAR sensor, serial number during the project. The system is capable of collecting data at a maximum frequency of 500 kHz, which affords elevation data collection of up to 500,000 points per second. The system utilizes a Multi-Pulse in the Air option (MPIA). The sensor is also equipped with the ability to measure up to 4 returns per outgoing pulse from the laser and these come in the form of 1st, 2nd, 3rd and last returns. The intensity of the returns is also captured during aerial acquisition.

Figure 3. Leica ALS70 LiDAR System



Figure 4. Unit Installed in Plane.



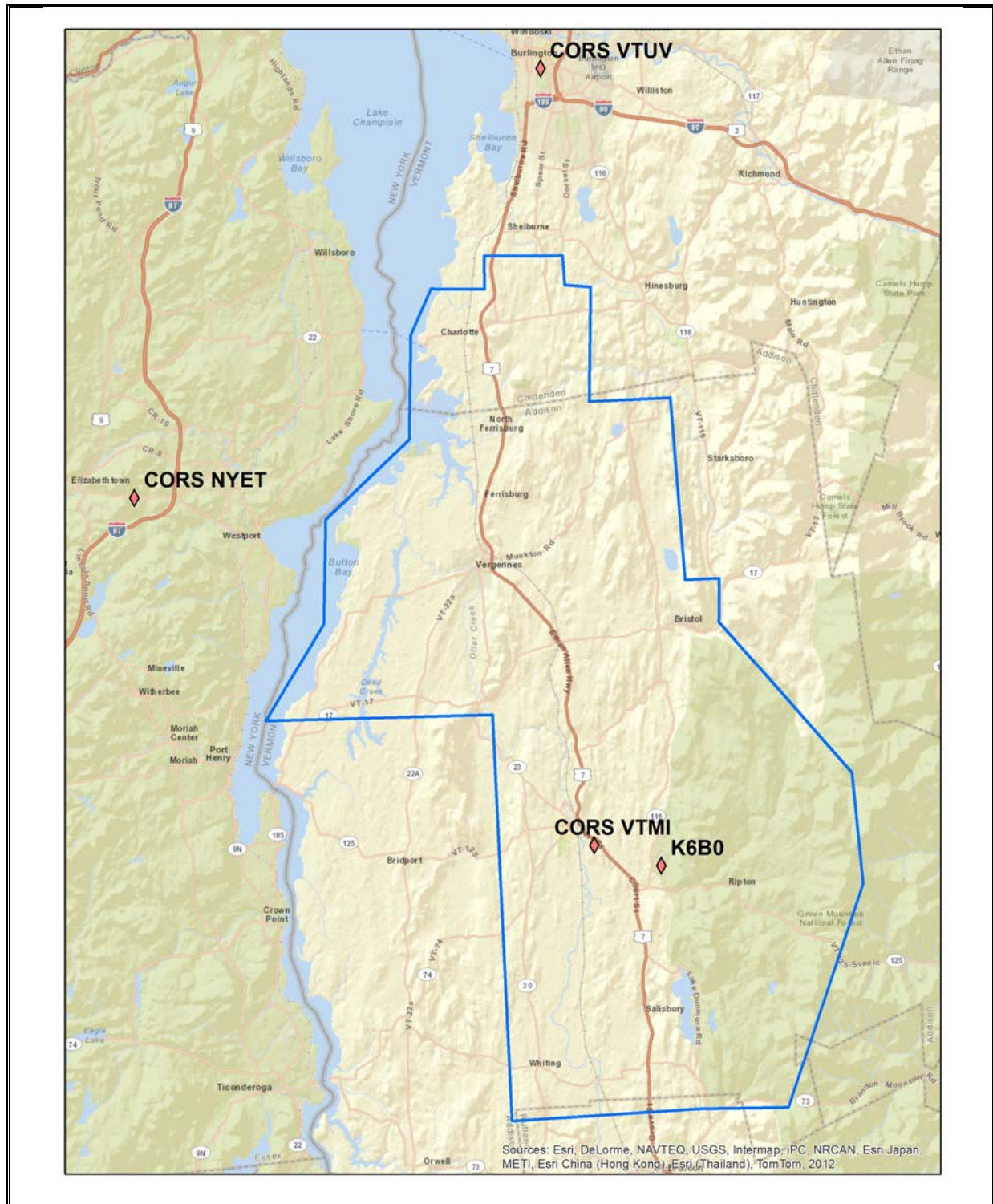
2.3. BASE STATION INFORMATION

GPS base stations were utilized during all phases of flight. Base station at, K6B0 was occupied with a R7 GNSS and a Trimble Zephyr Geodetic Antenna during airborne operations of the project. Both base station locations were verified using NGS OPUS service and subsequent surveys. The table below, Table 3, lists the location values and the figure on the following page, Figure 5, shows a map of the locations in relation to the area of interest. Data sheets, graphical depiction of base station locations and log sheets used during station occupation are available in Appendix A.

Table 3. Base Station Locations by Lift

CORS / Base Station	Latitude	Longitude	Ellipsoidal Height (m)
K6B0	43 59 10.43224	-73 05 45.5532121	122.378
CORS NYET	44 12 34.85080	-73 32 25.85231	174.246
CORS VTMI	43 59 55.02507	-73 09 09.38024	96.027
CORS VTUV	44 28 09.21279	-73 11 52.37575	112.41

Figure 5. Base Station and CORS location



2.4. TIME PERIOD

Project specific flights were conducted over 3 days. Four sorties, or aircraft lifts were completed. Accomplished sorties are listed below:

- 20121206A_7170
- 20121207B_7170
- 20121209A_7170
- 20121109B_7170

3. PROCESSING SUMMARY

Applanix + POSPac Mobile Mapping Suite software was used for post-processing of airborne GPS and inertial data (IMU), which is critical to the positioning and orientation of the LiDAR sensor during all flights. POSPac combines aircraft raw trajectory data with stationary GPS base station data yielding a "Smoothed Best Estimate Trajectory (SBET) necessary for additional post processing software to develop the resulting geo-referenced point cloud from the LiDAR missions.

During the sensor trajectory processing (combining GPS & IMU datasets) certain statistical graphs and tables are generated within the Applanix POSPac processing environment which are commonly used as indicators of processing stability and accuracy. This data for analysis include: Max horizontal / vertical GPS variance, separation plot, altitude plot, PDOP plot, base station baseline length, processing mode, number of satellite vehicles, and mission trajectory. All relevant graphs produced in the POSPac processing environment for each sortie during the Photo Science Addison project mobilization are available in Appendix B.

The generated point cloud is the mathematical three dimensional composite of all returns from all laser pulses as determined from the aerial mission. Laser point data are imported into TerraScan and a manual calibration is performed to assess the system offsets for pitch, roll, heading and scale. At this point this data is ready for analysis, classification, and filtering to generate a bare earth surface model in which the above-ground features are removed from the data set. Point clouds were created using the Leica ALS Post Processing software. GeoCue distributive processing software was used in the creation of some files needed in downstream processing, as well as in the tiling of the dataset into more manageable file sizes.

All data will be manually reviewed and any remaining artifacts removed using functionality provided by TerraScan and TerraModeler. Hydro Breaklines meeting the USGS Version 1 specification are collected through heads-up digitization off the bare earth surface model and then dropped to the LiDAR surface. Bare earth raster DEM files are created using proprietary python scripting algorithms created in ESRI Arc Map. These deliverable surfaces are then reviewed in Global Mapper. This surface also is used as a final check of the bare earth dataset. GeoCue will then be used to create the deliverable industry-standard LAS files for the Calibrated Classified Point Cloud as well as intensity images of the project area. In-house software will then be used to perform final statistical analysis of the classes in the LAS files. All graphic statistical analysis will be provided within this Final Report as well as a FOCUS report.

3.1. FLIGHT LOGS

Flight logs were completed by LiDAR sensor technicians for each mission during acquisition. These logs depict various information including:

- Job / Project #

- Flight Date / Lift Number
- FOV (Field of View)
- Scan Rate (HZ)
- Pulse Rate Frequency (Hz)
- Ground Speed
- Altitude
- Base Station
- PDOP avoidance times
- Flight Line #
- Flight Line Start and Stop Times
- Flight Line Altitude (AMSL)
- Heading
- Speed
- Returns
- Crab

Notes: (Visibility, winds, ride, weather, temperature, dewpoint, pressure, etc). Project specific flight logs for each sortie are available in Appendix C.

3.2. LAS CLASSIFICATION SCHEME

The classification classes are determined by the USGS Version 1.0 specifications and are an industry standard for the classification of LIDAR point clouds. All data starts the process as Class 1 (Unclassified), and then through automated classification routines, the classifications are determined using TerraScan macro processing.

The classes used in the dataset are as follows and have the following descriptions:

- Class 1 – Processed, but Unclassified – These points would be the catch all for points that do not fit any of the other deliverable classes. This would cover things like vegetation, buildings, cars, bridges, etc.
- Class 2 – Bare earth ground – This is the bare earth surface
- Class 7 – Noise – Low or high points, manually identified above or below the surface that could be noise points in point cloud.
- Class 9 – In-land Water – Points found inside of inland lake/ponds
- Class 10 – Ignored Ground – Points found to be close to breakline features. Points are typically moved to this class from Class 2. This class is ignored during the DEM creation.
- Class 11 – Withheld – Points found to be noise during automated processing.
- Class 13 – Hydro-Enforcement Ground (Unclassified) – Ground points found inside of the hydro-enforcement breaklines. These points were classified through automated processing methods and were used as part of the hydro-flattening process.
- Class 17 – Overlap Default (Unclassified) – Points found in the overlap between flight lines. These points are created through automated processing methods and not cleaned up during processing.
- Class 18 – Overlap Bare-earth ground – Points found in the overlap between flight lines. These points are created through automated processing, matching the specifications determined during the automated process, that are close to the Class 2 dataset (when analyzed using height from ground analysis)
- Class 25 – Overlap In-land Water – Points found in the overlap between flight lines that are located inside of inland lake/ponds. These points are created through automated processing methods and not cleaned up during processing.

3.3. CLASSIFIED LAS PROCESS

The bare earth surface is then manually reviewed to ensure correct classification on the Class 2 (Ground) points. After the bare-earth surface is finalized, it is then used to generate all hydro-breaklines through heads-up digitization.

All ground (ASPRS Class 2) LiDAR data inside of the Lake Pond and Double Line Drain hydro flattening breaklines were then classified to water (ASPRS Class 9) using TerraScan macro functionality. A buffer of 1 meter was also used around each hydro flattened feature to classify these ground (ASPRS Class 2) points to Ignored ground (ASPRS Class 10). All Lake Pond Island and Double Line Drain Island features were checked to ensure that the ground (ASPRS Class 2) points were reclassified to the correct classification after the automated classification was completed.

All overlap data was processed through automated functionality provided by TerraScan to classify the overlapping flight line data to approved classes by USGS. The overlap data was classified to Class 17 (Overlap Default) and Class 18 (Overlap Ground). These classes were created through automated processes only and were not verified for classification accuracy. Due to software limitations within TerraScan, these classes were used to trip the withheld bit within various software packages. These processes were reviewed and accepted by USGS through numerous conference calls and pilot study areas.

All data was manually reviewed and any remaining artifacts removed using functionality provided by TerraScan and TerraModeler. Global Mapper was used as a final check of the bare earth dataset. GeoCue was then used to create the deliverable industry-standard LAS files for both the All Point Cloud Data and the Bare Earth. Photo Science proprietary software was used to perform final statistical analysis of the classes in the LAS files, on a per tile level to verify final classification metrics and full LAS header information.

3.4. HYDRO FLATTENING BREAKLINE PROCESS

Class 2 LiDAR was used to create a bare earth surface model. The surface model was then used to heads-up digitize 2D breaklines of inland streams and rivers with a 30 meter nominal width and Inland Ponds and Lakes of 8,000 sq. meters or greater surface area.

Elevation values were assigned to all Inland Ponds and Lakes, Inland Pond and Lake Islands, Inland Stream and River Islands, using TerraModeler functionality.

Elevation values were assigned to all Inland streams and rivers using Photo Science proprietary software.

All ground (ASPRS Class 2) LiDAR data inside of the collected inland breaklines were then classified to water (ASPRS Class 9) using TerraScan macro functionality. A buffer of 1 meter was also used around each hydro flattened feature. These points were moved from ground (ASPRS Class 2) to Ignored Ground (ASPRS Class 10).

Hydro enforcement was also a requirement of this task order. This was accomplished by connecting any collected hydro feature that met the collection parameters. Any ground (ASPRS Class 2) LiDAR data inside of this collected feature was then moved to Class 13. A mutually agreed upon class between USGS and Photo Science.

The breakline files were then translated to ESRI Shapefile format using ESRI conversion tools.

3.5. HYDRO FLATTENING/ENFORCEMENT RASTER DEM PROCESS

Class 2 LiDAR in conjunction with the hydro breaklines were used to create a 1.6 meter Raster DEM. Using automated scripting routines within ArcMap, an ERDAS Imagine IMG file was created for each tile. Each surface is reviewed using Global Mapper to check for any surface anomalies or incorrect elevations found within the surface.

Class 2 LiDAR in conjunction with the hydro breaklines and any collected enforcement lines were used to create a 1.6 meter Hydro Enforcement Raster DEM. Using automated scripting routines within ArcMap, an ERDAS Imagine IMG file was created for each tile. Each surface is reviewed using Global Mapper to check for any surface anomalies or incorrect elevations found within the surface.

3.6. CONTOUR GENERATION PROCESS

Using automated scripting routines within ArcMap, a terrain surface was created using the ground (ASPRS Class 2) LiDAR data as well as the hydro-flattening breaklines. This surface was then used to generate the final 0.5 meter contour dataset in ESRI GeoDatabase format. The contours were initial created in UTM Zone 18 meters and then reprojected to Vermont State Plane coordinates for a match between the final contour datasets.

3.7. INTENSITY IMAGE GENERATION PROCESS

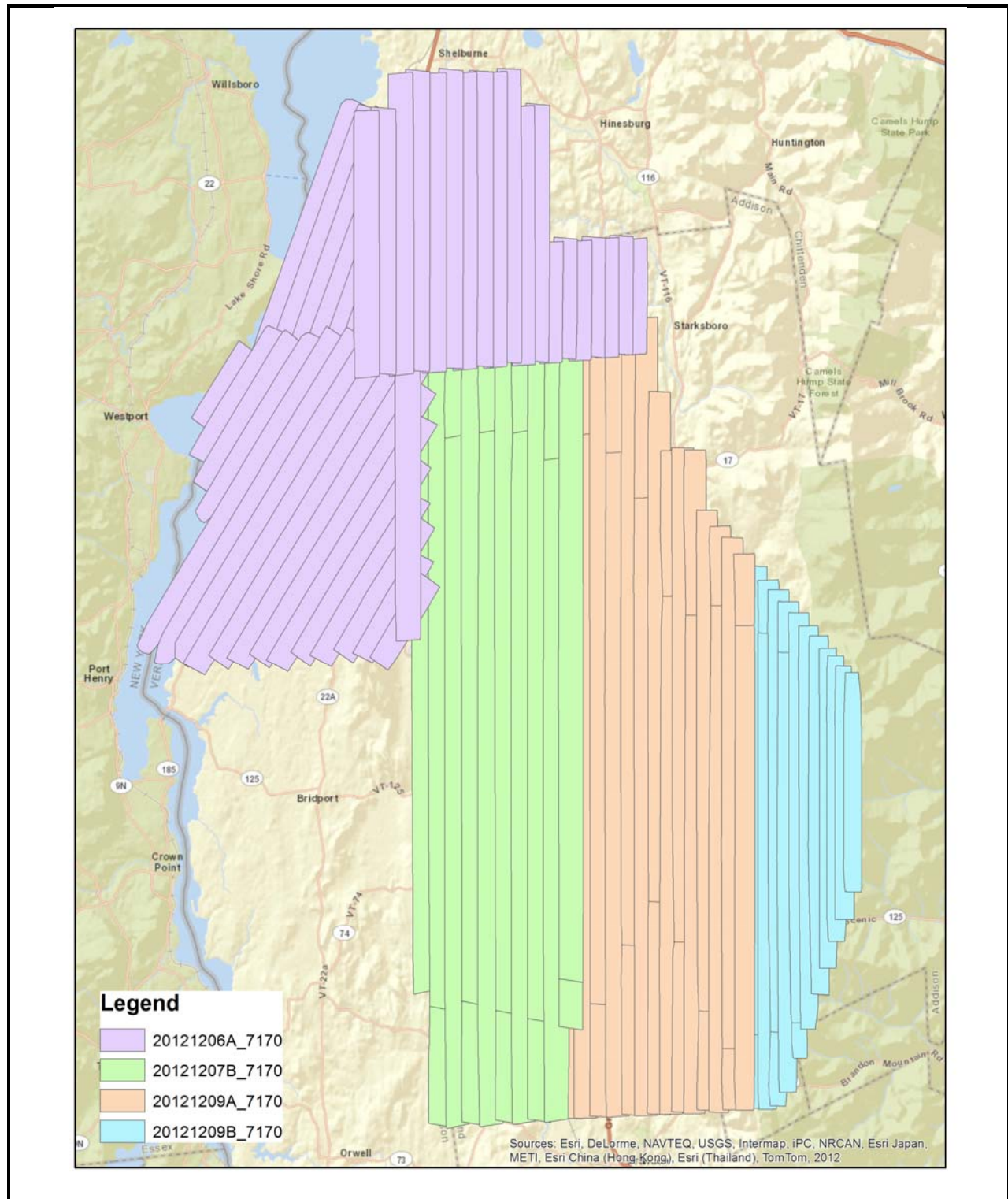
GeoCue software was used to create the deliverable Intensity Images. All overlap classes (ASPRS class 17/18/25) were ignored during this process. This helps to ensure a more aesthetically pleasing image.

The GeoCue software was then used to verify full project coverage as well. TIF/TWF files were then provided as the deliverable for this dataset requirement.

4. PROJECT COVERAGE VERIFICATION

The Addison project area coverage verification was performed by comparing coverage of processed .LAS files captured during project collection to generated project shape files depicting boundaries of specified project areas. The project area has 100% .LAS coverage. Please refer to Figure 6 on the following page.

Figure 6. LAS File Coverage



5. GROUND CONTROL AND CHECK POINT COLLECTION

Photo Science completed a GPS survey of variously selected ground control points for LiDAR accuracy validation. Figure 7 shows control point locations across project area. Table 4 depicts the Final Control Report as computed in TerraScan as a quality assurance check.

The project is being delivered in two different horizontal projections. We are reporting the accuracy assessments below in UTM Zone 18 North, Meters. The tested Vertical Accuracy for the LiDAR calibration points was found to be 6.1 centimeters.

The accuracy (ACCz) of the derived DEM was calculated three ways:

- Fundamental Vertical Accuracy (FVA): The data meets the required FVA of 24.5 cm at the 95% confidence level, derived according to the NSSDA, i.e., based on RMSE of 12.5 cm in the "open terrain" land cover category. The tested FVA for the UTM18, Meters dataset has been found to be at an RMSE of 3.3 centimeters.
- Supplemental Vertical Accuracy (SVA): The data meets the target SVA of 36.6 cm at a 95th percentile level, derived according to ASPRS Guidelines, vertical Accuracy Reporting for LiDAR Data, i.e., based on the 95th percentile error for each of the land cover classes:
 - o Bare Earth / Open Terrain – See Table 5
 - o Urban – See Table 9
 - o Tall Weeds / Crops (not Low Veg) – See Table 8
 - o Brush Lands and Trees (not Med Veg) – See Table 7
 - o Forested and Fully Grown (not High Veg) – See Table 6
- Consolidated Vertical Accuracy (CVA): The data meets the required CVA of 36.3 cm at a 95th percentile level, derived according to ASPRS Guidelines, Vertical Accuracy Reporting for LiDAR Data, i.e., based on the 95th percentile error in all land cover categories combined. The tested CVA for the UTM18, Meters dataset has been found to be at an RMSE of 16.5 centimeters. At the 95th percentile, the value was found to be at 32.2 centimeters.

Figure 7. Control Point Locations

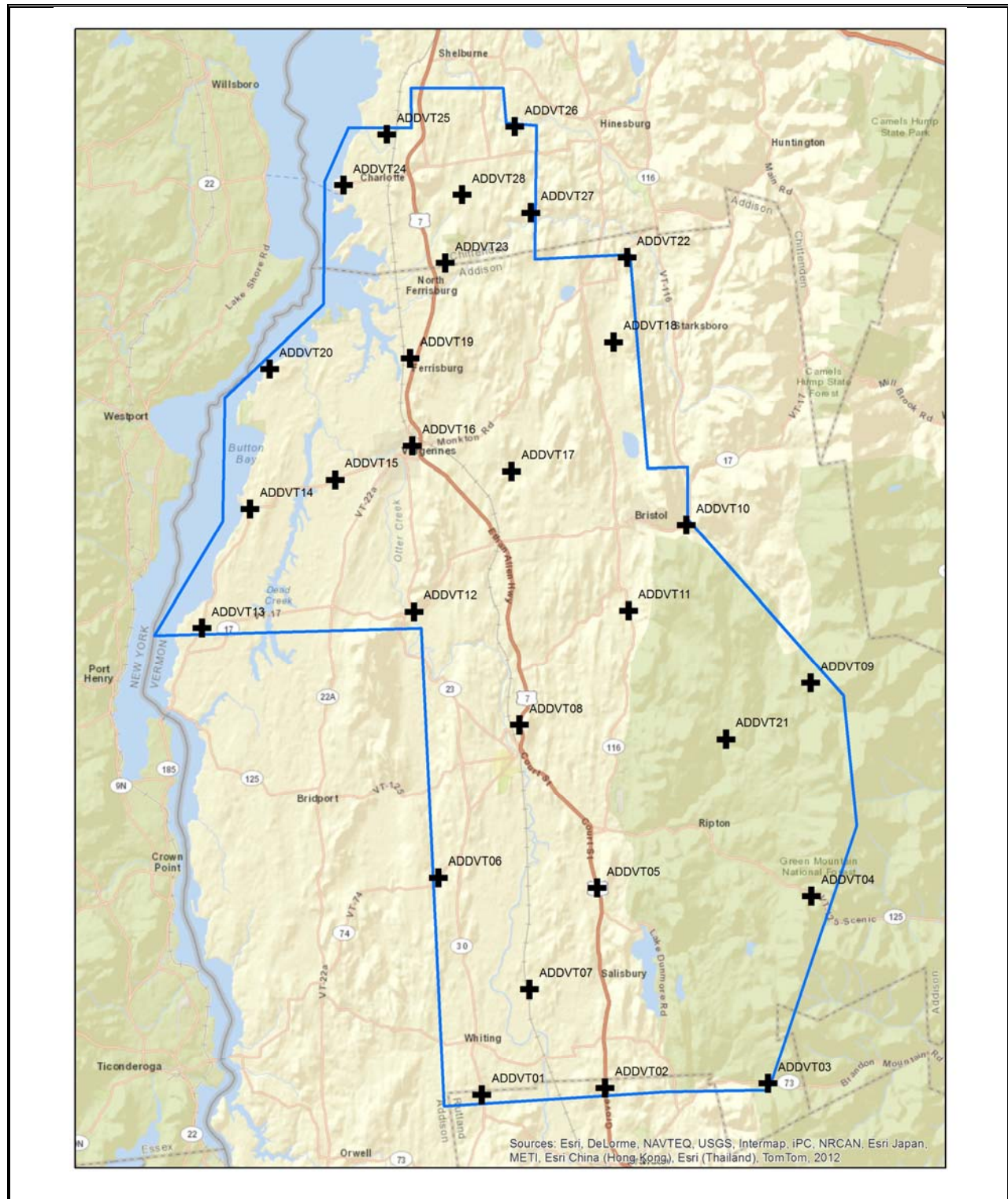


Figure 8. QC Ground Control Points by Type

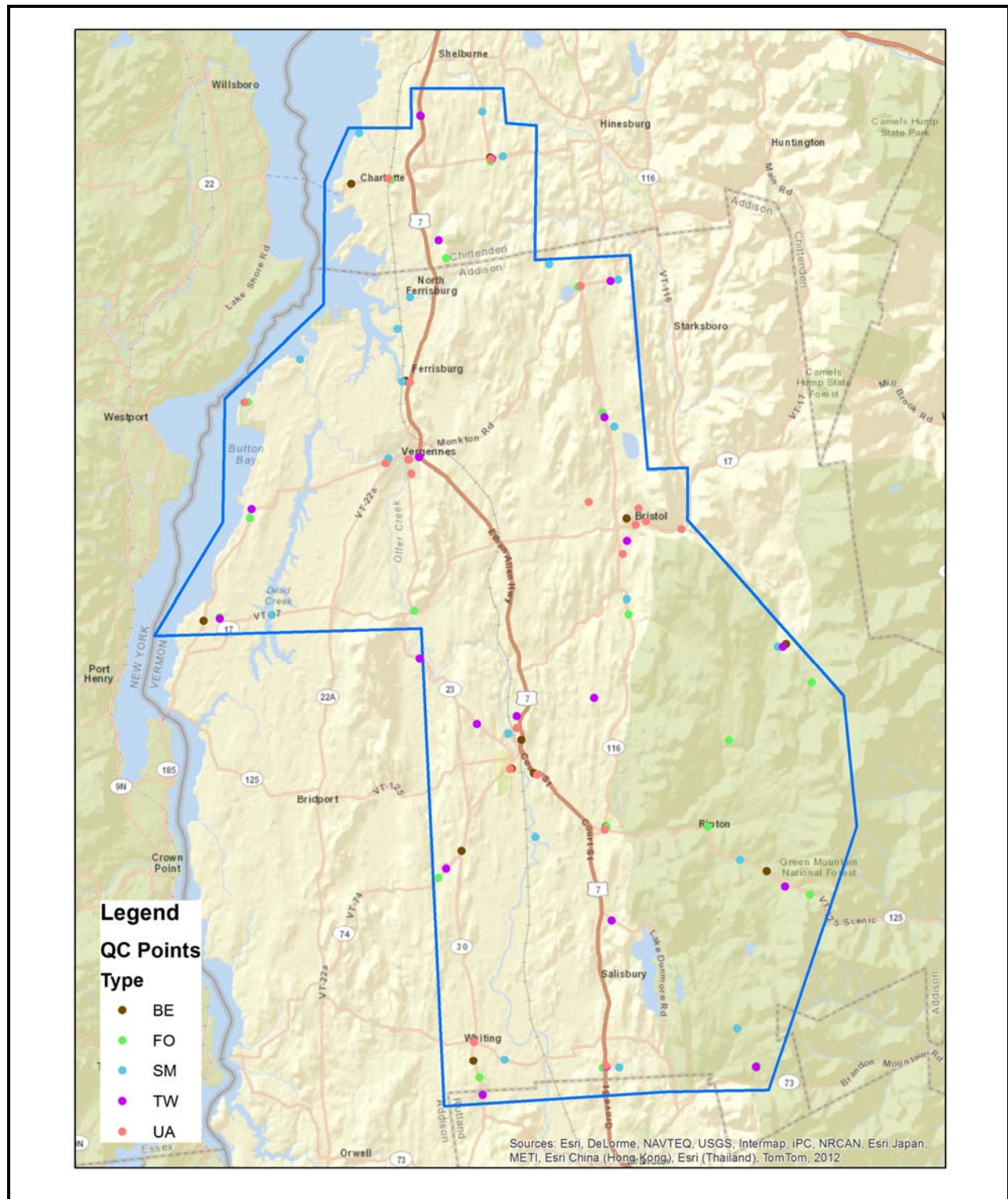


Table 4. Final Control Report (units = meters)

Addison, VT Final Control Report					
Number	Easting	Northing	Known Z	Laser Z	Dz
ADDVT01	645133.44	4855291.05	130.93	130.94	0.01
ADDVT02	652234.22	4855836.53	142.42	142.46	0.04
ADDVT03	661644.09	4856311.97	465.16	465.16	0.00
ADDVT04	663877.62	4867156.26	554.28	554.27	-0.01
ADDVT05	651514.36	4867324.86	134.20	134.20	0.00
ADDVT06	642364.98	4867702.88	103.94	103.94	0.00
ADDVT07	647745.73	4861398.99	111.71	111.65	-0.06
ADDVT08	646837.21	4876577.10	158.36	158.39	0.03
ADDVT09	663535.29	4879395.45	451.42	451.37	-0.05
ADDVT10	656167.58	4888275.04	187.84	187.74	-0.10
ADDVT11	652963.22	4883282.84	120.55	120.60	0.05
ADDVT12	640628.38	4882957.99	59.51	59.63	0.12
ADDVT13	628454.53	4881773.74	51.00	50.98	-0.02
ADDVT14	631090.79	4888649.69	52.78	52.70	-0.08
ADDVT15	635946.32	4890407.36	41.44	41.27	-0.17
ADDVT16	640330.40	4892423.90	55.10	55.12	0.02
ADDVT17	646062.65	4891094.44	85.33	85.32	-0.01
ADDVT18	651748.20	4898647.72	161.91	161.90	-0.01
ADDVT19	640107.05	4897463.64	54.48	54.47	-0.01
ADDVT20	632052.33	4896683.20	40.22	40.29	0.07
ADDVT21	658733.86	4876037.45	452.80	452.72	-0.08
ADDVT22	652402.53	4903494.89	152.08	152.01	-0.07
ADDVT23	641994.11	4902941.52	106.25	106.20	-0.05
ADDVT24	636060.80	4907247.06	51.23	51.27	0.04
ADDVT25	638496.50	4910239.72	56.77	56.71	-0.05
ADDVT26	645802.07	4910835.35	111.99	111.93	-0.06
ADDVT27	646835.54	4905916.53	121.34	121.39	0.06
ADDVT28	642880.43	4906844.10	104.40	104.46	0.06
Average dz	-0.01 m				
Minimum dz	-0.17 m				
Maximum dz	+0.12 m				
Root Mean Square	0.06 m				
Std Deviation	0.06 m				

Table 5. Bare Earth Quality Control Report (units = meters)

Number	Easting	Northing	Known Z	Laser Z	Dz
BE01	647713.06	4873859.19	109.98	110.00	0.02
BE02	646432.79	4874112.23	121.37	121.36	-0.01
BE03	646957.53	4875753.06	118.60	118.69	0.09
BE04	651939.67	4870879.18	124.55	124.51	-0.04
BE05	652224.33	4857093.27	159.23	159.22	-0.01
BE06	643649.70	4869297.79	114.35	114.39	0.04
BE07	661258.68	4868573.52	439.55	439.56	0.01
BE08	652715.12	4888615.33	174.85	174.86	0.01
BE09	640130.88	4891689.52	51.17	51.16	-0.01
BE10	638799.94	4891453.94	53.30	53.35	0.05
BE11	639864.35	4896194.17	53.71	53.73	0.02
BE12	630654.21	4894773.23	40.77	40.75	-0.02
BE13	628538.66	4882216.36	57.94	57.89	-0.05
BE14	649742.84	4901808.35	182.97	182.98	0.01
BE15	644420.01	4909033.12	110.70	110.71	0.01
BE16	640395.25	4911335.03	110.96	110.94	-0.02
BE17	636504.22	4907343.87	43.18	43.21	0.03
BE18	644589.07	4857236.77	138.08	138.12	0.04
BE19	660938.58	4857228.82	479.82	479.82	0.00
BE20	662038.35	4881612.50	398.60	398.57	-0.03
Average dz	0.01 m				
Minimum dz	-0.05 m				
Maximum dz	+0.09 m				
Root Mean Square	0.03 m				
Std Deviation	0.18 m				

Table 6. Forest Quality Control Report (units = meters)

Number	Easting	Northing	Known Z	Laser Z	Dz
FO01R	640620.04	4883046.58	66.18	66.15	-0.03
FO02R	652944.36	4883111.94	117.28	117.39	0.11
FO03R	663560.23	4879407.27	452.51	452.73	0.22
FO04R	658883.63	4876001.59	458.25	458.17	-0.08
FO05	663764.86	4867260.85	560.01	559.90	-0.11
FO06R	660939.15	4857289.87	481.41	481.41	0.00
FO07R	652061.26	4856978.80	150.56	150.57	0.01
FO08R	645041.71	4856324.62	148.04	148.04	0.00
FO09R	642338.79	4867752.51	103.27	103.34	0.07
FO10R	651968.99	4870845.15	124.92	124.98	0.06
FO11R	629456.92	4882444.91	47.35	47.29	-0.06
FO12R	631087.80	4888167.53	47.14	47.16	0.02
FO13R	630843.74	4894788.86	39.19	39.12	-0.07
FO14R	638942.81	4891713.81	48.12	48.10	-0.02
FO15R	649623.07	4901773.46	167.76	167.90	0.14
FO16R	644456.17	4908808.33	127.72	127.66	-0.06
FO17R	638765.76	4907621.14	52.64	52.57	-0.07
FO18R	642035.27	4903254.90	120.52	120.50	-0.02
FO19R	657788.77	4870976.10	332.13	332.18	0.05
FO20R	651183.97	4894607.56	144.64	144.80	0.17
Average dz	0.02 m				
Minimum dz	-0.11 m				
Maximum dz	+0.22 m				
Root Mean Square	0.09 m				
Std Deviation	0.09 m				

Table 7. Mangrove Quality Control Report (units = meters)

Number	Easting	Northing	Known Z	Laser Z	Dz
SM01	639660.89	4896165.72	51.38	51.51	0.13
SM02	633761.06	4897296.09	30.48	30.54	0.06
SM03	638966.61	4891701.27	49.18	49.28	0.10
SM04	632445.36	4882620.10	30.88	30.89	0.01
SM05	646179.33	4876099.04	95.97	96.14	0.17
SM06	647887.34	4870197.55	104.74	104.91	0.17
SM07	646387.83	4857321.10	105.13	105.29	0.16
SM08	653023.32	4857026.25	135.81	135.98	0.17
SM09	659759.16	4859456.33	506.43	506.38	-0.05
SM10	659700.40	4869147.02	396.02	395.97	-0.05
SM11	661573.11	4881441.60	386.13	386.18	0.05
SM12	652829.85	4883962.18	100.56	100.64	0.08
SM13	651872.81	4893831.28	142.76	142.84	0.08
SM14	651908.40	4902224.53	132.00	132.30	0.30
SM15	647922.17	4903038.07	122.02	122.11	0.09
SM16	639317.84	4899124.27	32.68	32.68	0.01
SM17	636894.11	4910287.54	29.26	29.24	-0.02
SM18	643925.77	4911653.73	70.43	70.39	-0.04
SM19	645142.85	4909103.85	124.83	125.05	0.22
SM20	639992.01	4900947.67	31.17	31.30	0.13
Average dz	0.09 m				
Minimum dz	-0.05 m				
Maximum dz	+0.30 m				
Root Mean Square	0.13 m				
Std Deviation	0.10 m				

Table 8. High Grass, Weeds, and Crops Quality Control Report (units = meters)

Number	Easting	Northing	Known Z	Laser Z	Dz
TW01	645174.19	4855285.74	129.07	129.46	0.39
TW02	652270.89	4857042.07	161.46	161.40	-0.06
TW03	660904.11	4857257.64	480.09	480.18	0.09
TW04	662333.35	4867716.62	449.28	449.60	0.32
TW05	652378.46	4865513.35	127.74	127.95	0.21
TW06	642776.49	4868276.95	77.55	77.95	0.40
TW07	644380.20	4876575.34	126.30	126.55	0.25
TW08	646650.80	4877084.56	119.18	119.31	0.13
TW09	651080.48	4878237.86	139.85	140.16	0.31
TW10	661864.23	4881453.64	393.20	393.70	0.50
TW11	652771.37	4887310.61	117.55	117.74	0.19
TW12	640988.91	4880286.23	51.27	51.45	0.18
TW13	629450.84	4882346.98	46.31	46.46	0.15
TW14	631160.52	4888682.40	50.84	51.07	0.23
TW15	640703.89	4891829.86	49.16	49.87	0.71
TW16	651308.20	4894343.19	144.69	144.87	0.18
TW17	651472.85	4902139.04	135.70	135.98	0.28
TW18	641565.44	4904264.87	89.94	90.23	0.29
TW19	644536.51	4908947.64	114.21	114.33	0.12
TW20	640382.36	4911354.10	110.85	111.46	0.61
Average dz	0.28 m				
Minimum dz	-0.06 m				
Maximum dz	+0.71 m				
Root Mean Square	0.33 m				
Std Deviation	0.18 m				

Table 9. Urban Area Quality Control Report (units = meters)

Number	Easting	Northing	Known Z	Laser Z	Dz
UA01	647897.79	4873782.36	112.80	112.76	-0.04
UA02	646351.53	4874075.20	119.92	119.80	-0.12
UA03	646660.64	4876405.06	117.23	117.24	0.01
UA04	651869.03	4870695.35	124.25	124.24	-0.01
UA05	652253.13	4857107.15	161.59	161.63	0.04
UA06	644606.25	4858327.14	119.80	119.77	-0.03
UA07	655888.64	4888070.35	186.86	186.75	-0.11
UA08	652535.95	4886539.81	110.57	110.61	0.05
UA09	653237.40	4888260.70	140.78	140.76	-0.02
UA10	653827.37	4888474.92	173.13	173.09	-0.04
UA11	653377.26	4889200.07	173.33	173.28	-0.05
UA12	650516.12	4889511.02	133.35	133.37	0.02
UA13	640306.55	4890886.19	59.75	59.67	-0.07
UA14	640152.89	4891679.93	51.67	51.62	-0.05
UA15	638778.68	4891448.72	53.39	53.45	0.06
UA16	630680.22	4894773.87	40.44	40.44	0.00
UA17	640102.04	4896125.88	59.01	58.96	-0.05
UA18	649784.57	4901802.84	181.56	181.51	-0.05
UA19	638636.11	4907705.80	50.23	50.18	-0.05
UA20	644459.32	4908923.80	118.46	118.45	-0.01
Average dz	-0.03 m				
Minimum dz	-0.12 m				
Maximum dz	+0.06 m				
Root Mean Square	0.05 m				
Std Deviation	0.05 m				

**APPENDIX A
BASE STATION LOCATION / DATA SHEETS**



*Station Occupation Report
For Airborne GPS*

Project:

Addison North/South

Location:

KVT8

Completed by:

Mike Cox

Project Number: 065-074

Date: 12-6-12

Receiver:

R7 GASS

Receiver Type:

5033K17602

Antenna Type:

Zephyr Geodetic Model Z

Station ID:

Start - H.I. (m):

2 m

End - H.I. (m):

2 m

H.I. (ft):

Start Time:

10:40

End Time:

6:15

Time Zone:

EST

Operator:

Comments

Part# 57971



Receiver was not on when we returned
to pick it up.

Donot know how long it was running.



Shelburne
Vermont

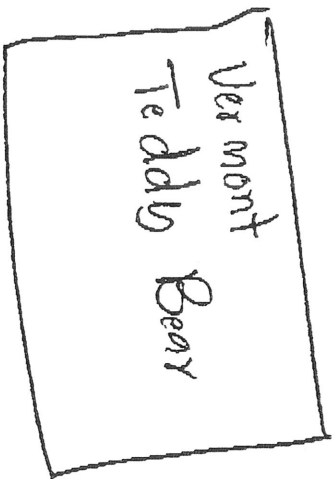
Hangers

Airpark Rd

HOME

Base

Access Runway VT8





**Station Occupation Report
For Airborne GPS**

Project: Addison South

Location: 6B8

Completed by: Mike Cox

Project Number: 7508-074

Date: 12-7-12

Receiver: R7 GASS

Receiver Type: SO33K17602

Antenna Type: Zephyr Geodetic Model 2

Station ID: _____

Start -- H.I. (m): 2 m

End -- H.I. (m): 2 m

H.I. (ft): _____

Start Time: 7:30 AM

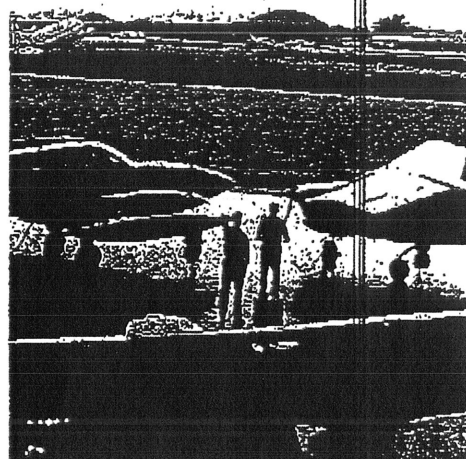
End Time: 2:40 PM

Time Zone: EST

Operator: _____

Comments

Part # 57971





*Station Occupation Report
For Airborne GPS*

Project:

Addison South REV

Location:

GBØ

Completed by:

Mike Cox

Project Number: 7505-074

Date: 12-9-12

Receiver:

R7 GNSS

Receiver Type:

S033K17602

Antenna Type:

Zephyr Geodetic Model 2

Station ID:

Start -- H.I. (m):

2 m

End -- H.I. (m):

2 m

H.I. (ft):

Start Time:

12:30 ~~7:30 AM~~ PM

End Time:

9:00 PM

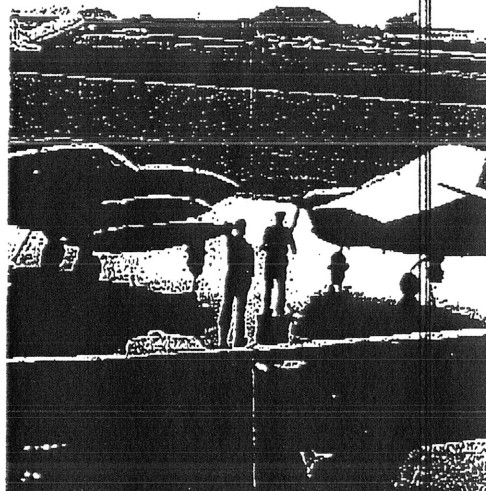
Time Zone:

EST

Operator:

Comments

Part # 57971



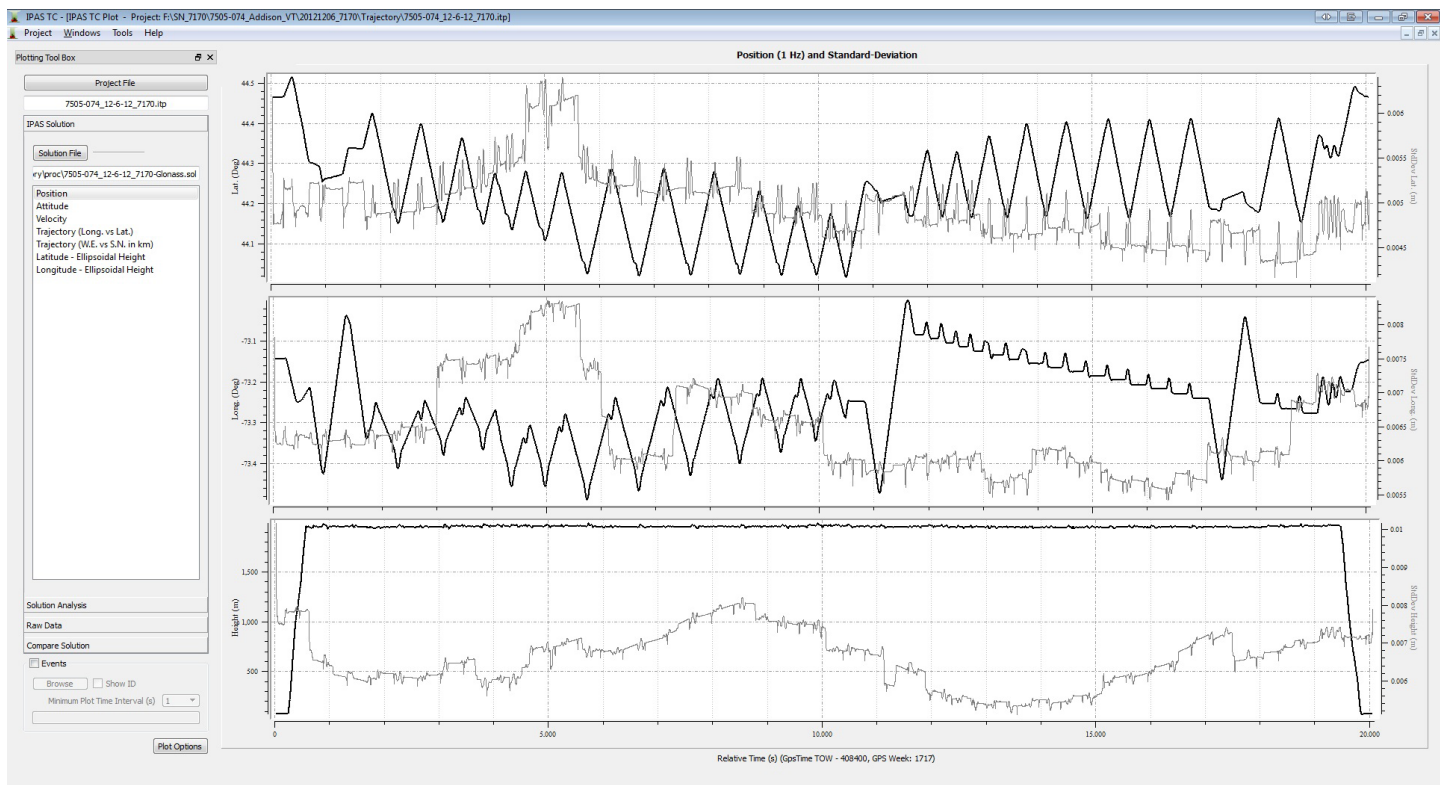
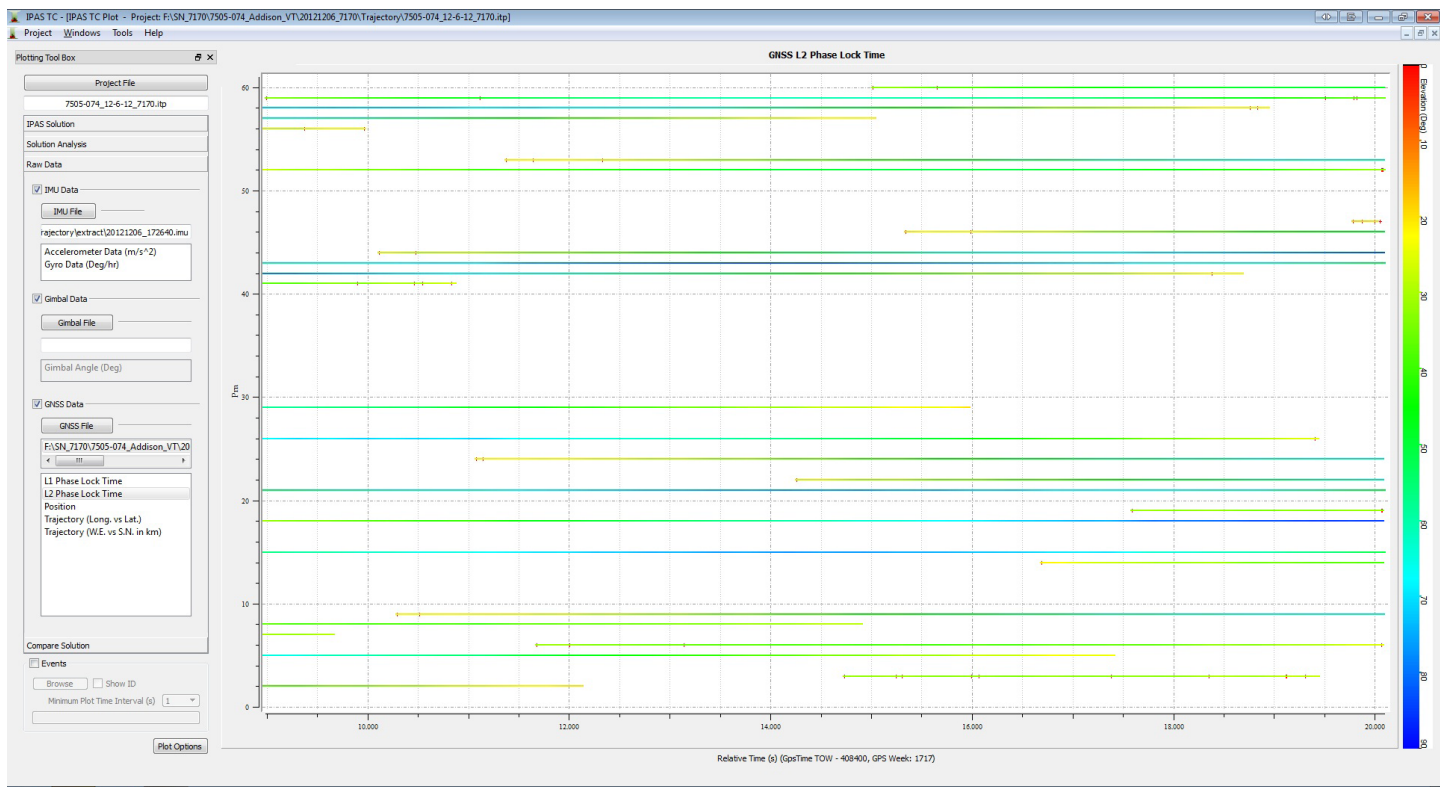
**APPENDIX B
AIRBORNE GPS/IMU PROCESSING REPORT**

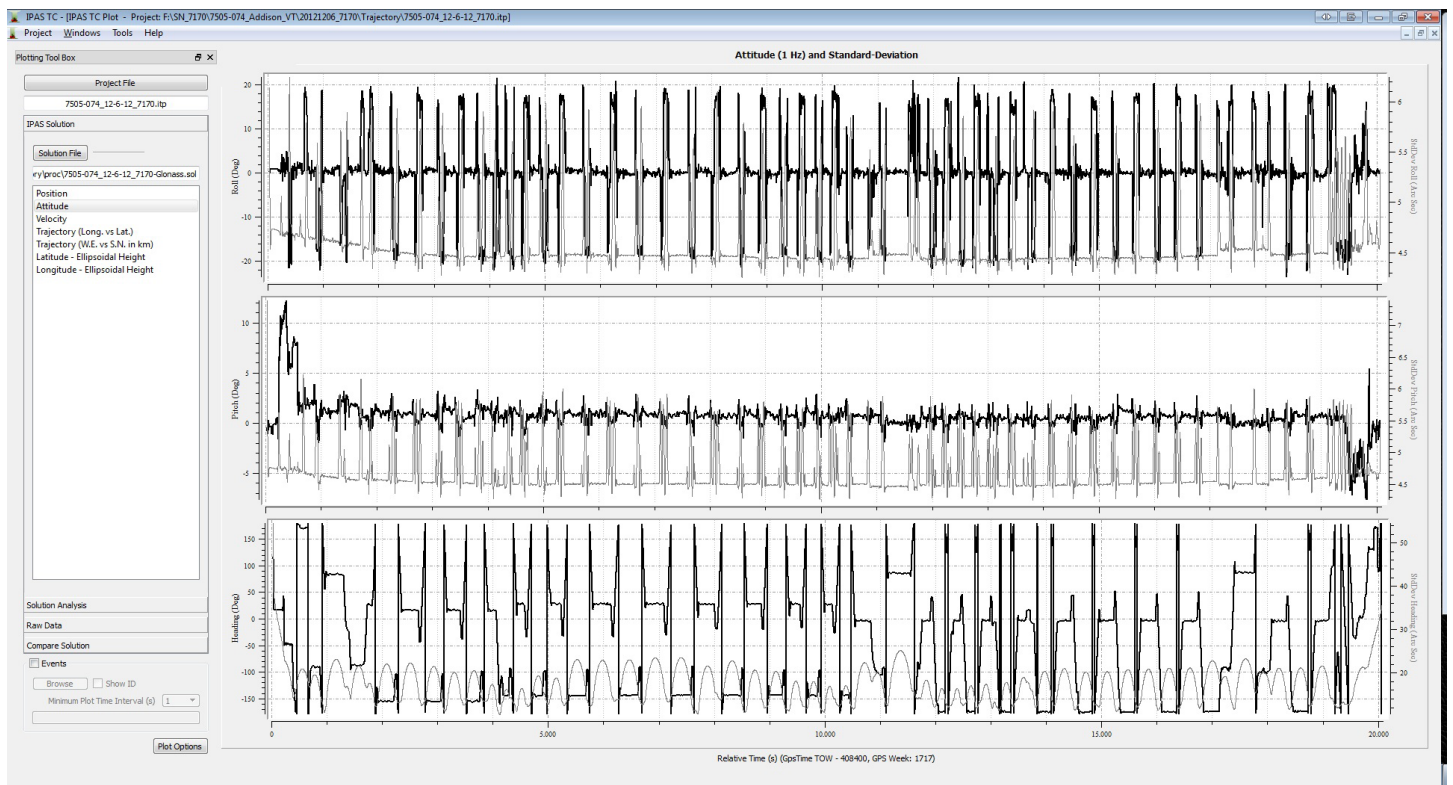
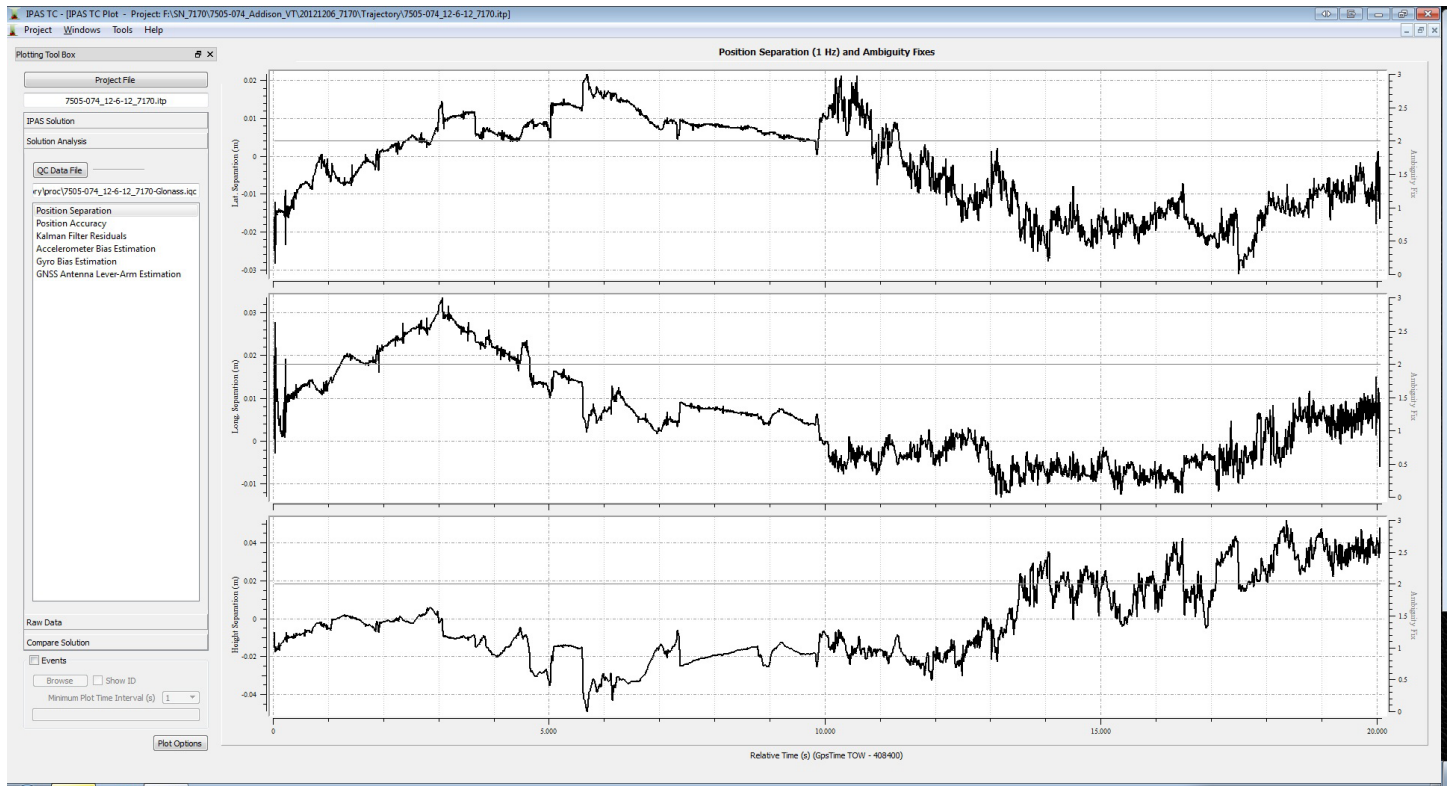
Lift GNSS Reports

There are five lifts, each with separate graph reports generated from processing software. The lifts are as follows:

120612A_7170
120712A_7170
120712B_7170
120912A_7170
120912B_7170

120612A_7170





CORS Datasheet: NYET

The NGS Data Sheet

See file dsdata.txt for more information about the datasheet.

PROGRAM = datasheet95, VERSION = 8.2

1 National Geodetic Survey, Retrieval Date = JULY 24, 2013

DI0452 *****

DI0452 CORS - This is a GPS Continuously Operating Reference Station.

DI0452 DESIGNATION - ELIZABETHTOWN CORS ARP

DI0452 CORS_ID - NYET

DI0452 PID - DI0452

DI0452 STATE/COUNTY- NY/ESSEX

DI0452 COUNTRY - US

DI0452 USGS QUAD -

DI0452

DI0452 *CURRENT SURVEY CONTROL

DI0452

DI0452* NAD 83(2011) POSITION- 44 12 34.85080(N) 073 32 25.85231(W) ADJUSTED

DI0452* NAD 83(2011) ELLIP HT- 174.246 (meters) (08/??/11) ADJUSTED

DI0452* NAD 83(2011) EPOCH - 2010.00

DI0452* NAVD 88 ORTHO HEIGHT - *(meters) *(feet)

DI0452

DI0452 NAD 83(2011) X - 1,297,510.807 (meters) COMP

DI0452 NAD 83(2011) Y - -4,391,724.353 (meters) COMP

DI0452 NAD 83(2011) Z - 4,424,943.020 (meters) COMP

DI0452 GEOID HEIGHT - -28.80 (meters) GEOID12A

DI0452 HORZ ORDER - SPECIAL (CORS)

DI0452 ELLP ORDER - SPECIAL (CORS)

DI0452

DI0452 FGDC Geospatial Positioning Accuracy Standards (95% confidence, cm)

DI0452 Type Horiz Ellip Dist(km)

DI0452 -----

DI0452 NETWORK 1.13 3.53

DI0452 -----

DI0452 NOTE: Click here for information on individual local accuracy

DI0452 values and other accuracy information.

DI0452

DI0452

DI0452.The coordinates were established by GPS observations

DI0452.and adjusted by the National Geodetic Survey in August 2011.

DI0452

DI0452.NAD 83(2011) refers to NAD 83 coordinates where the reference

DI0452.frame has been affixed to the stable North American Tectonic Plate.

DI0452

DI0452.The coordinates are valid at the epoch date displayed above

DI0452.which is a decimal equivalence of Year/Month/Day.

DI0452

DI0452.The PID for the CORS L1 Phase Center is DI0453.

DI0452

DI0452.The XYZ, and position/ellipsoidal ht. are equivalent.

DI0452

DI0452.The ellipsoidal height was determined by GPS observations

DI0452.and is referenced to NAD 83.

DI0452

DI0452. The following values were computed from the NAD 83(2011) position.

DI0452

DI0452; North East Units Scale Factor Converg.

DI0452;SPC NY E - 597,507.218 226,677.572 MT 0.99997229 +0 40 08.6

DI0452;SPC NY E - 1,960,321.60 743,691.33 sFT 0.99997229 +0 40 08.6

DI0452

DI0452! - Elev Factor x Scale Factor = Combined Factor

DI0452!SPC NY E - 0.99997268 x 0.99997229 = 0.99994497

DI0452

DI0452 SUPERSEDED SURVEY CONTROL

DI0452

DI0452 NAD 83(CORS)- 44 12 34.85111(N) 073 32 25.85283(W) AD(2002.00) c

DI0452 ELLIP H (06/??/06) 174.253 (m) GP(2002.00) c c

DI0452

DI0452.Superseded values are not recommended for survey control.

DI0452

DI0452.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.

DI0452.See file dsdata.txt to determine how the superseded data were derived.

DI0452

DI0452_U.S. NATIONAL GRID SPATIAL ADDRESS: 18TXP1660096197(NAD 83)

DI0452

DI0452_MARKER: STATION IS THE ANTENNA REFERENCE POINT OF THE GPS ANTENNA

DI0452

DI0452 STATION DESCRIPTION

DI0452

DI0452'DESCRIBED BY NATIONAL GEODETIC SURVEY 2011

DI0452'STATION IS A GPS CORS. LATEST INFORMATION INCLUDING POSITIONS AND

DI0452'VELOCITIES ARE AVAILABLE IN THE COORDINATE AND LOG FILES ACCESSIBLE

DI0452'BY ANONYMOUS FTP OR THE WORLDWIDE WEB.

DI0452' ftp://cors.ngs.noaa.gov/cors/README.txt

DI0452' ftp://cors.ngs.noaa.gov/cors/coord/coord_08

DI0452' ftp://cors.ngs.noaa.gov/cors/station_log

DI0452' http://geodesy.noaa.gov/CORS

*** retrieval complete.

Elapsed Time = 00:00:04

CORS Datasheet: VTMI

The NGS Data Sheet

See file dsdata.txt for more information about the datasheet.

PROGRAM = datasheet95, VERSION = 8.2

1 National Geodetic Survey, Retrieval Date = JULY 24, 2013

DL2744 *****

DL2744 CORS - This is a GPS Continuously Operating Reference Station.

DL2744 DESIGNATION - MIDDLEBURY CORS ARP

DL2744 CORS_ID - VTMI

DL2744 PID - DL2744

DL2744 STATE/COUNTY- VT/ADDISON

DL2744 COUNTRY - US

DL2744 USGS QUAD - CORNWALL (1983)

DL2744

DL2744 *CURRENT SURVEY CONTROL

DL2744

DL2744* NAD 83(2011) POSITION- 43 59 55.02507(N) 073 09 09.38024(W) ADJUSTED

DL2744* NAD 83(2011) ELLIP HT- 96.027 (meters) (08/??/11) ADJUSTED

DL2744* NAD 83(2011) EPOCH - 2010.00

DL2744* NAVD 88 ORTHO HEIGHT - *(meters) *(feet)

DL2744

DL2744 NAD 83(2011) X - 1,331,928.348 (meters) COMP

DL2744 NAD 83(2011) Y - -4,398,407.105 (meters) COMP

DL2744 NAD 83(2011) Z - 4,408,047.862 (meters) COMP

DL2744 GEOID HEIGHT - -28.67 (meters) GEOID12A

DL2744 HORZ ORDER - SPECIAL (CORS)

DL2744 ELLP ORDER - SPECIAL (CORS)

DL2744

DL2744. Formal positional accuracy estimates are not available for this CORS

DL2744. because its coordinates were determined in part using modeled

DL2744. velocities. Approximate one-sigma accuracies for latitude, longitude,

DL2744. and ellipsoid height can be obtained from the short-term time series.

DL2744. Additional information regarding modeled velocities is available on

DL2744. the CORS Coordinates and Multi-Year CORS Solution FAQ web pages.

DL2744

DL2744. The coordinates were established by GPS observations

DL2744. and adjusted by the National Geodetic Survey in August 2011.

DL2744

DL2744. NAD 83(2011) refers to NAD 83 coordinates where the reference

DL2744. frame has been affixed to the stable North American Tectonic Plate.

DL2744

DL2744. The coordinates are valid at the epoch date displayed above

DL2744. which is a decimal equivalence of Year/Month/Day.

DL2744

DL2744. The PID for the CORS L1 Phase Center is DL2745.

DL2744

DL2744. The XYZ, and position/ellipsoidal ht. are equivalent.

DL2744

DL2744. The ellipsoidal height was determined by GPS observations

DL2744. and is referenced to NAD 83.

DL2744

DL2744. The following values were computed from the NAD 83(2011) position.

DL2744

DL2744; North East Units Scale Factor Converg.

DL2744;SPC VT - 166,693.997 447,657.600 MT 0.99999797 -0 27 12.0

DL2744;SPC VT - 546,895.22 1,468,689.98 sFT 0.99999797 -0 27 12.0

DL2744

DL2744! - Elev Factor x Scale Factor = Combined Factor

DL2744!SPC VT - 0.99998494 x 0.99999797 = 0.99998291

DL2744

DL2744 SUPERSEDED SURVEY CONTROL

DL2744

DL2744 NAD 83(CORS)- 43 59 55.02543(N) 073 09 09.38148(W) AD(2002.00) c

DL2744 ELLIP H (05/??/09) 96.034 (m) GP(2002.00) c c

DL2744

DL2744.Superseded values are not recommended for survey control.

DL2744

DL2744.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.

DL2744.See file dsdata.txt to determine how the superseded data were derived.

DL2744

DL2744_U.S. NATIONAL GRID SPATIAL ADDRESS: 18TXP4811773378(NAD 83)

DL2744

DL2744_MARKER: STATION IS THE ANTENNA REFERENCE POINT OF THE GPS ANTENNA

DL2744

DL2744 STATION DESCRIPTION

DL2744

DL2744'DESCRIBED BY NATIONAL GEODETIC SURVEY 2011

DL2744'STATION IS A GPS CORS. LATEST INFORMATION INCLUDING POSITIONS AND

DL2744'VELOCITIES ARE AVAILABLE IN THE COORDINATE AND LOG FILES ACCESSIBLE

DL2744'BY ANONYMOUS FTP OR THE WORLDWIDE WEB.

DL2744' <ftp://cors.ngs.noaa.gov/cors/README.txt>

DL2744' ftp://cors.ngs.noaa.gov/cors/coord/coord_08

DL2744' ftp://cors.ngs.noaa.gov/cors/station_log

DL2744' <http://geodesy.noaa.gov/CORS>

*** retrieval complete.

Elapsed Time = 00:00:02

CORS Datasheet: VTUV

The NGS Data Sheet

See file dsdata.txt for more information about the datasheet.

PROGRAM = datasheet95, VERSION = 8.2

1 National Geodetic Survey, Retrieval Date = JULY 24, 2013

DG9783 *****

DG9783 CORS - This is a GPS Continuously Operating Reference Station.

DG9783 DESIGNATION - UVM COOLIDGE CORS ARP

DG9783 CORS_ID - VTUV

DG9783 PID - DG9783

DG9783 STATE/COUNTY- VT/CHITTENDEN

DG9783 COUNTRY - US

DG9783 USGS QUAD - BURLINGTON (1987)

DG9783

DG9783 *CURRENT SURVEY CONTROL

DG9783

DG9783* NAD 83(2011) POSITION- 44 28 09.21279(N) 073 11 52.37575(W) ADJUSTED

DG9783* NAD 83(2011) ELLIP HT- 112.410 (meters) (08/??/11) ADJUSTED

DG9783* NAD 83(2011) EPOCH - 2010.00

DG9783* NAVD 88 ORTHO HEIGHT - *(meters) *(feet)

DG9783

DG9783 NAD 83(2011) X - 1,317,910.674 (meters) COMP

DG9783 NAD 83(2011) Y - -4,364,547.689 (meters) COMP

DG9783 NAD 83(2011) Z - 4,445,527.201 (meters) COMP

DG9783 GEOID HEIGHT - -29.01 (meters) GEOID12A

DG9783 HORZ ORDER - SPECIAL (CORS)

DG9783 ELLP ORDER - SPECIAL (CORS)

DG9783

DG9783 FGDC Geospatial Positioning Accuracy Standards (95% confidence, cm)

DG9783 Type Horiz Ellip Dist(km)

DG9783 -----

DG9783 NETWORK 0.58 1.75

DG9783 -----

DG9783 NOTE: Click here for information on individual local accuracy

DG9783 values and other accuracy information.

DG9783

DG9783

DG9783.The coordinates were established by GPS observations

DG9783.and adjusted by the National Geodetic Survey in August 2011.

DG9783

DG9783.NAD 83(2011) refers to NAD 83 coordinates where the reference

DG9783.frame has been affixed to the stable North American Tectonic Plate.

DG9783

DG9783.The coordinates are valid at the epoch date displayed above

DG9783.which is a decimal equivalence of Year/Month/Day.

DG9783

DG9783.The PID for the CORS L1 Phase Center is DG9784.

DG9783

DG9783.The XYZ, and position/ellipsoidal ht. are equivalent.

DG9783

DG9783.The ellipsoidal height was determined by GPS observations

DG9783.and is referenced to NAD 83.

DG9783

DG9783. The following values were computed from the NAD 83(2011) position.

DG9783

DG9783; North East Units Scale Factor Converg.

DG9783;SPC VT - 219,014.396 444,470.507 MT 1.00000219 -0 29 20.0

DG9783;SPC VT - 718,549.73 1,458,233.66 sFT 1.00000219 -0 29 20.0

DG9783

DG9783! - Elev Factor x Scale Factor = Combined Factor

DG9783!SPC VT - 0.99998237 x 1.00000219 = 0.99998456

DG9783

DG9783 SUPERSEDED SURVEY CONTROL

DG9783

DG9783 NAD 83(CORS)- 44 28 09.21307(N) 073 11 52.37630(W) AD(2002.00) c

DG9783 ELLIP H (04/??/05) 112.417 (m) GP(2002.00) c c

DG9783

DG9783.Superseded values are not recommended for survey control.

DG9783

DG9783.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.

DG9783.See file dsdata.txt to determine how the superseded data were derived.

DG9783

DG9783_U.S. NATIONAL GRID SPATIAL ADDRESS: 18TXQ4334025570(NAD 83)

DG9783

DG9783_MARKER: STATION IS THE ANTENNA REFERENCE POINT OF THE GPS ANTENNA

DG9783

DG9783 STATION DESCRIPTION

DG9783

DG9783'DESCRIBED BY NATIONAL GEODETIC SURVEY 2011

DG9783'STATION IS A GPS CORS. LATEST INFORMATION INCLUDING POSITIONS AND

DG9783'VELOCITIES ARE AVAILABLE IN THE COORDINATE AND LOG FILES ACCESSIBLE

DG9783'BY ANONYMOUS FTP OR THE WORLDWIDE WEB.

DG9783' ftp://cors.ngs.noaa.gov/cors/README.txt

DG9783' ftp://cors.ngs.noaa.gov/cors/coord/coord_08

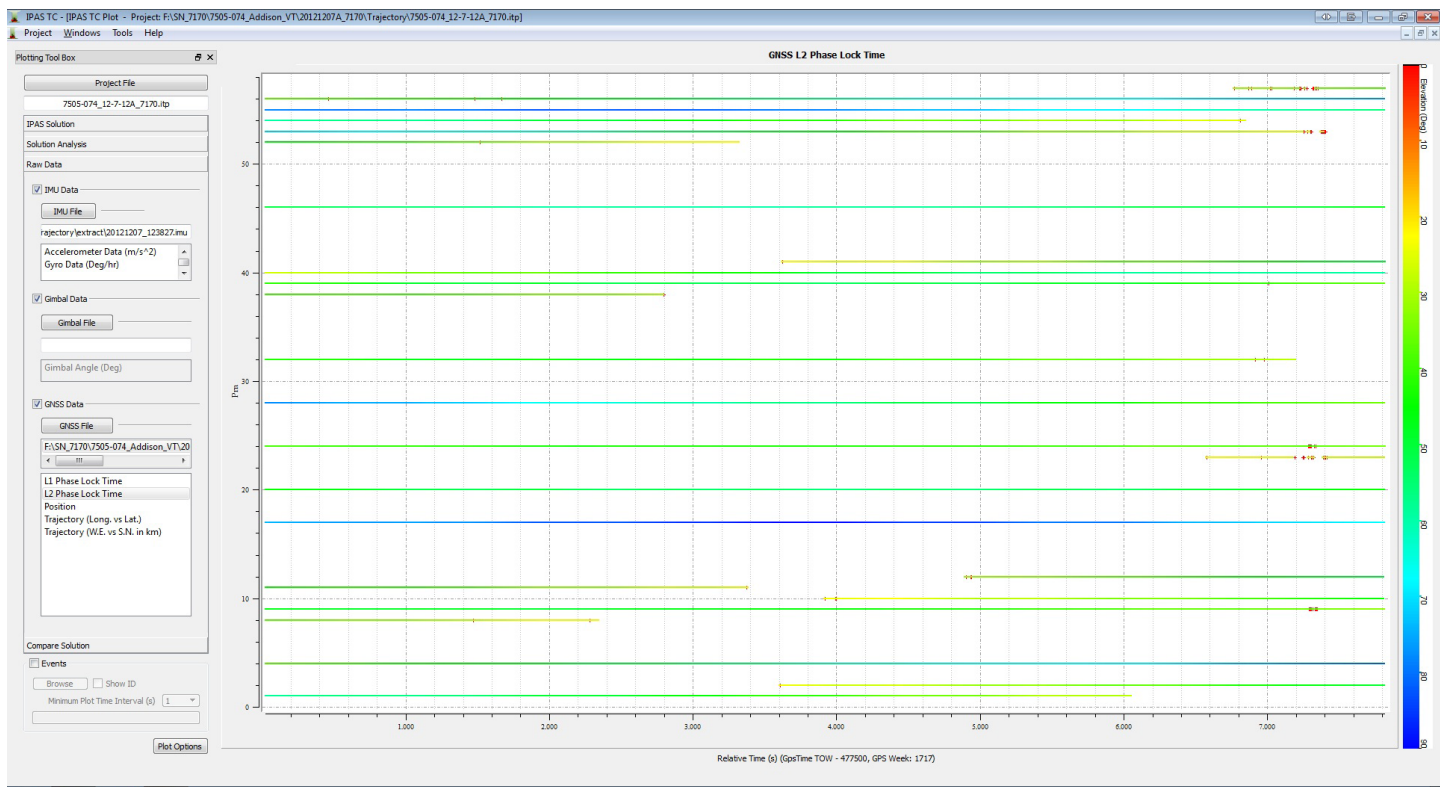
DG9783' ftp://cors.ngs.noaa.gov/cors/station_log

DG9783' http://geodesy.noaa.gov/CORS

*** retrieval complete.

Elapsed Time = 00:00:01

120712A_7170



IPAS TC - Setup GNSS Base Station

Project File F:\SN_7170\7505-074_Addison_VT\20121207A_7170\Trajectory\7505-074_12-7-12A_7170.itp

Base GNSS Station

PSI_Base ☐ Disable

GPB File Information

GNSS File: F:\SN_7170\7505-074_Addison_VT\20121207A_7170\Base 12-7-12\76023420.gpb

Data Rate (Hz): 2 Data Time (s): 476751.0 ~ 502969.5 L2C phase correction: 0.00 cycles Edit

Position

Latitude (DMS): 43 59 10.43224 Longitude (DMS): -73 05 45.5532121

Ellipsoidal Height (m): 122.378 Antenna Height (m): 2.000

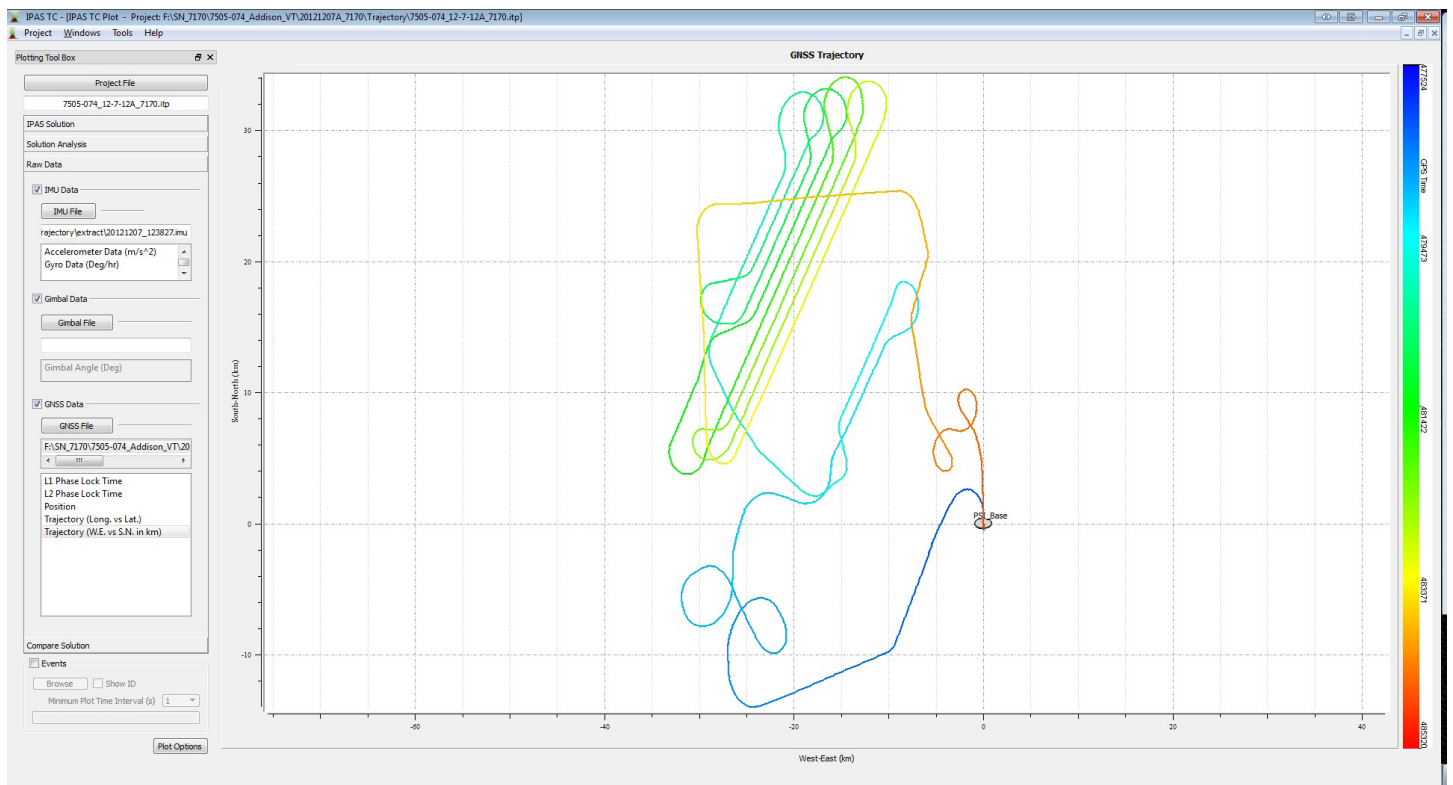
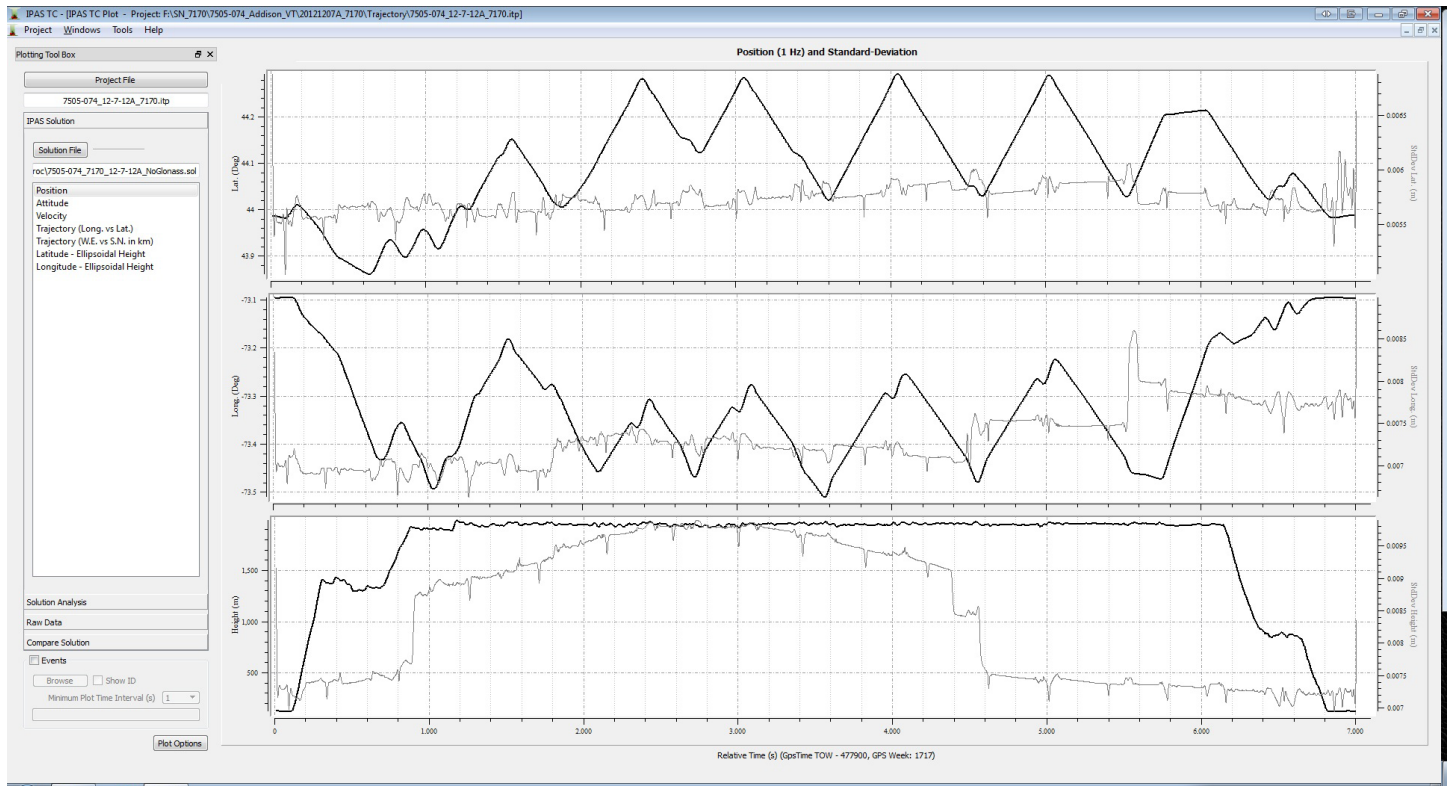
Antenna Profile: TRM57971.00

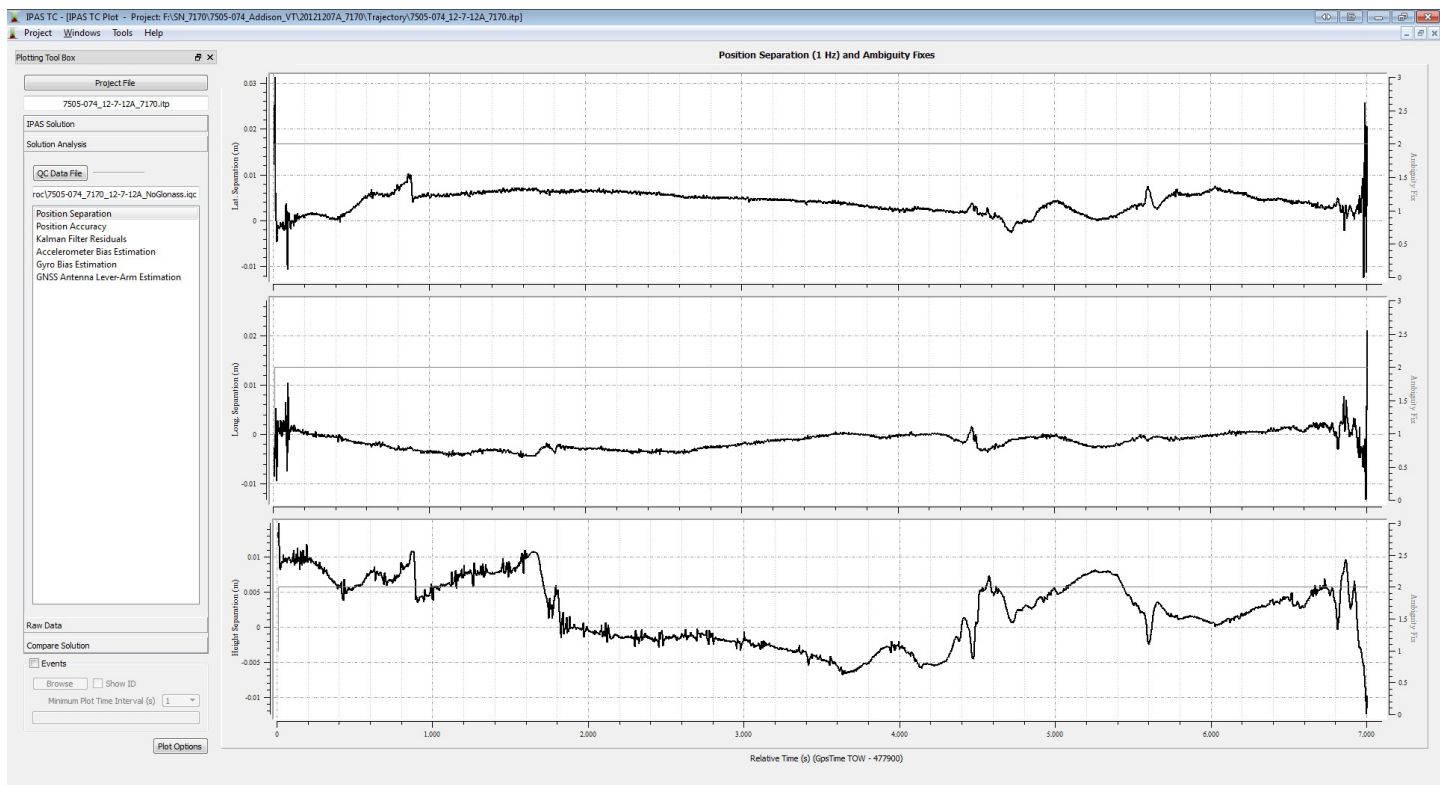
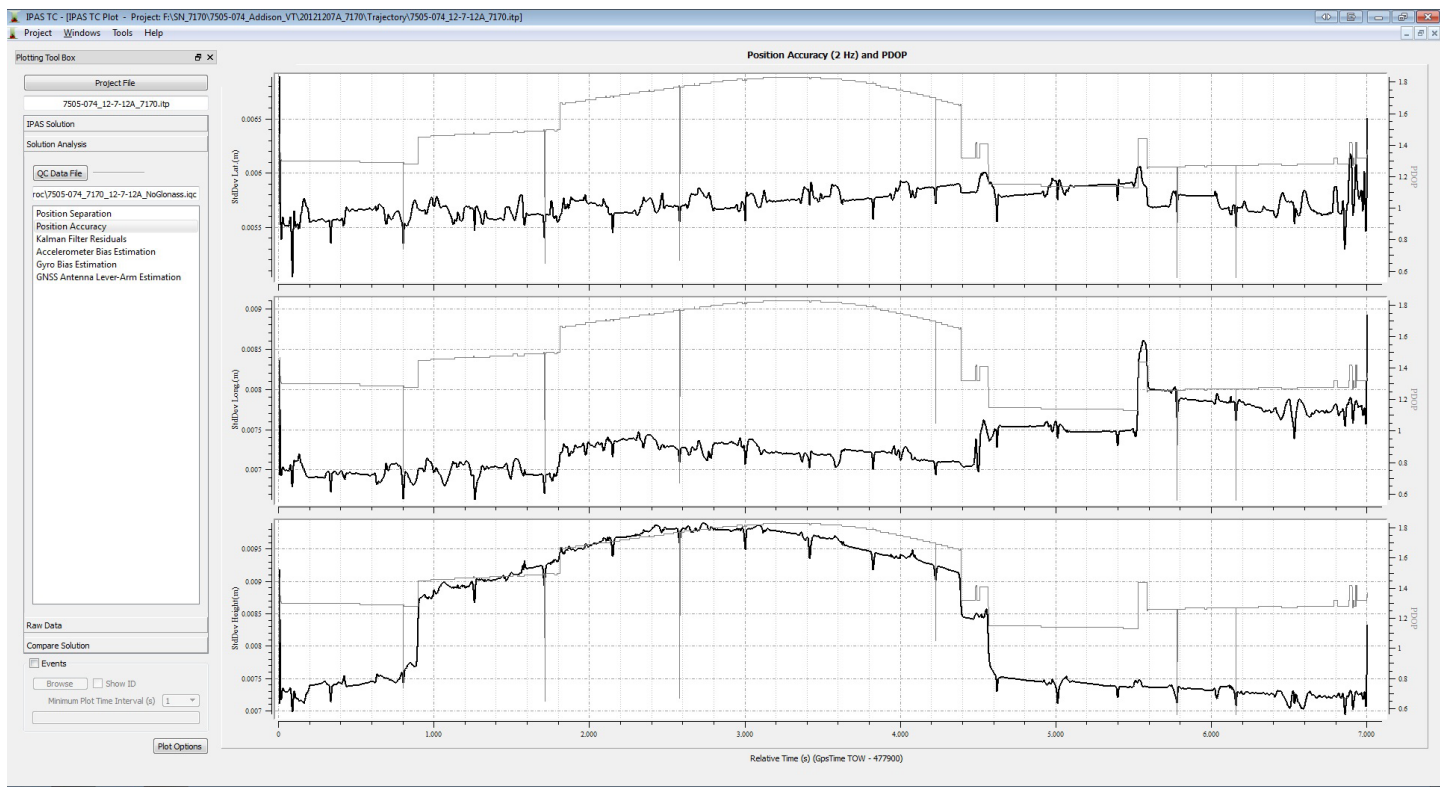
Add Base Station Download Service Data Edit Position or GNSS Data Delete This Station

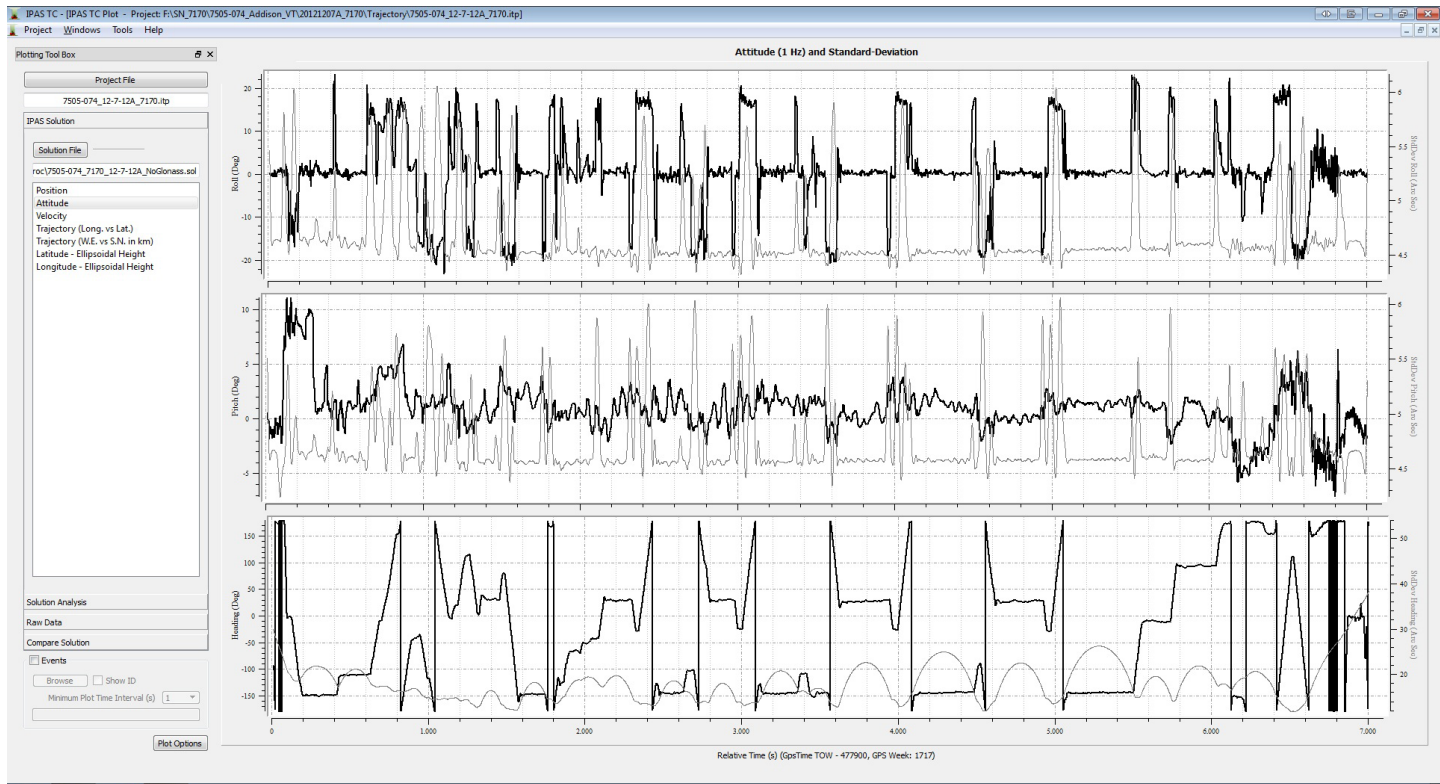
Options For GNSS

☒ Use Differential GNSS ☐ Use Precise Point Positioning

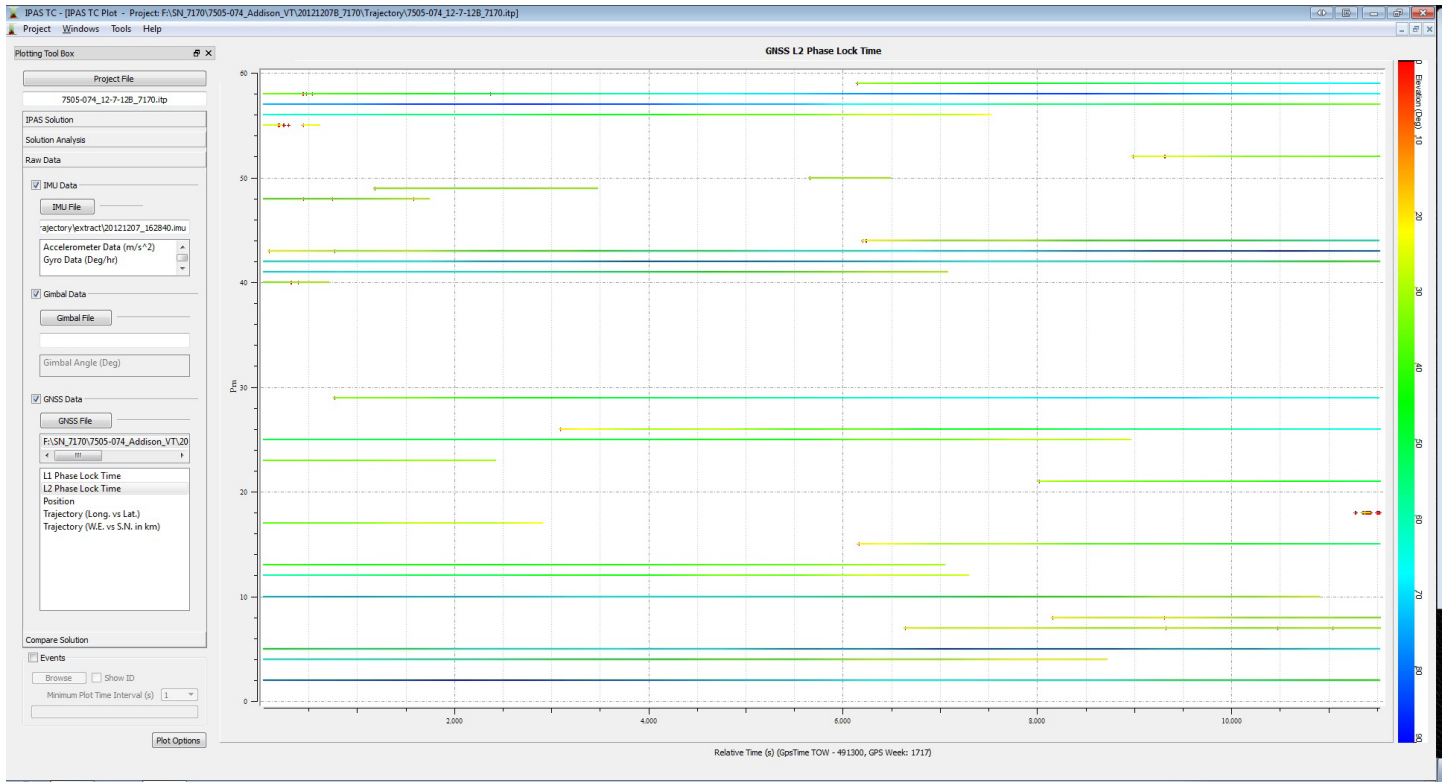
Accept Cancel







120712B_7170



IPAS TC - Setup GNSS Base Station

Project File F:\SN_7170\7505-074_Addison_VT\20121207B_7170\Trajectory\7505-074_12-7-12B_7170.itp

Base GNSS Station

PSI_Base ☐ Disable

GPB File Information

GNSS File: F:\SN_7170\7505-074_Addison_VT\20121207B_7170\Base 12-7-12\76023420.gpb

Data Rate (Hz): 2 Data Time (s): 476751.0 ~ 502969.5 L2C phase correction: 0.00 cycles Edit

Position

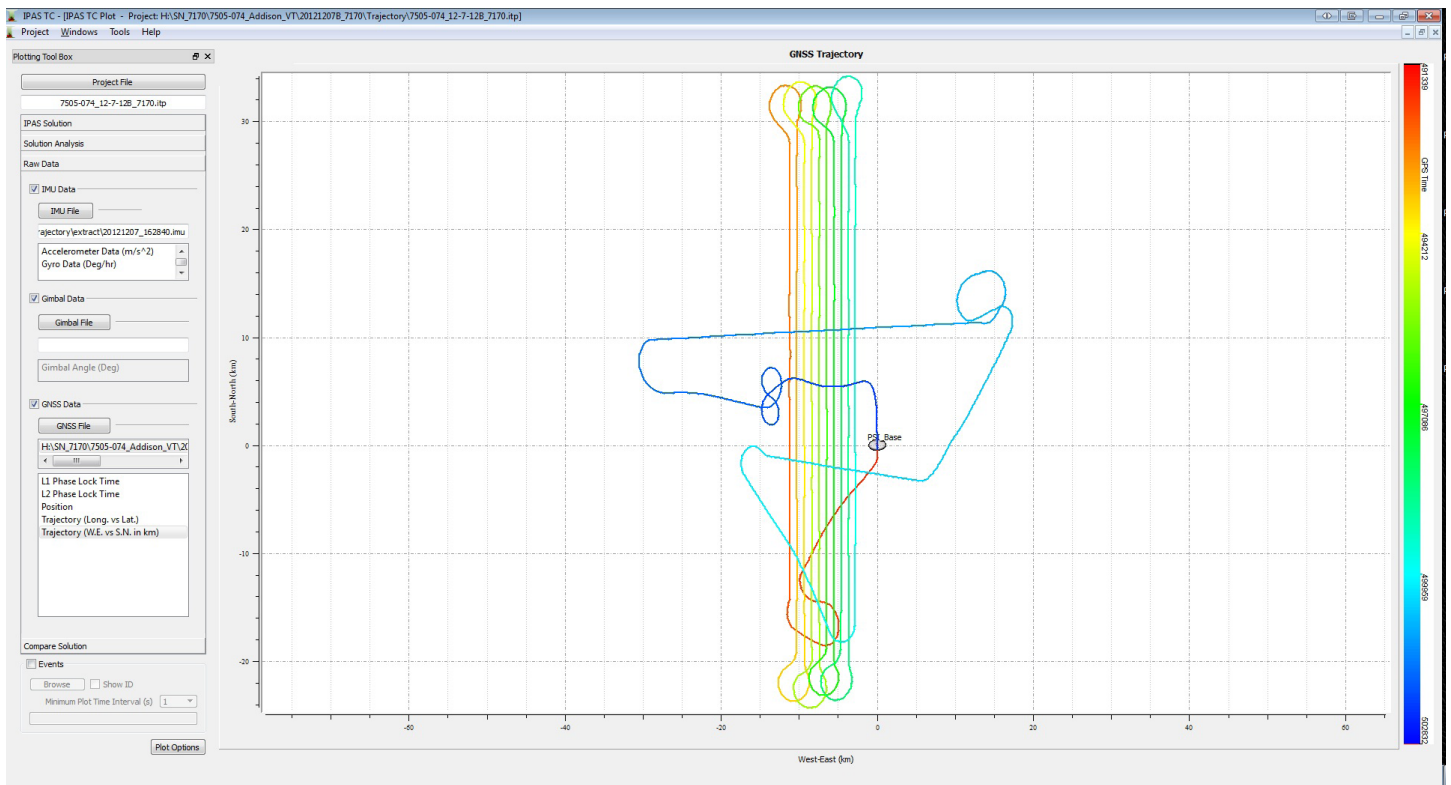
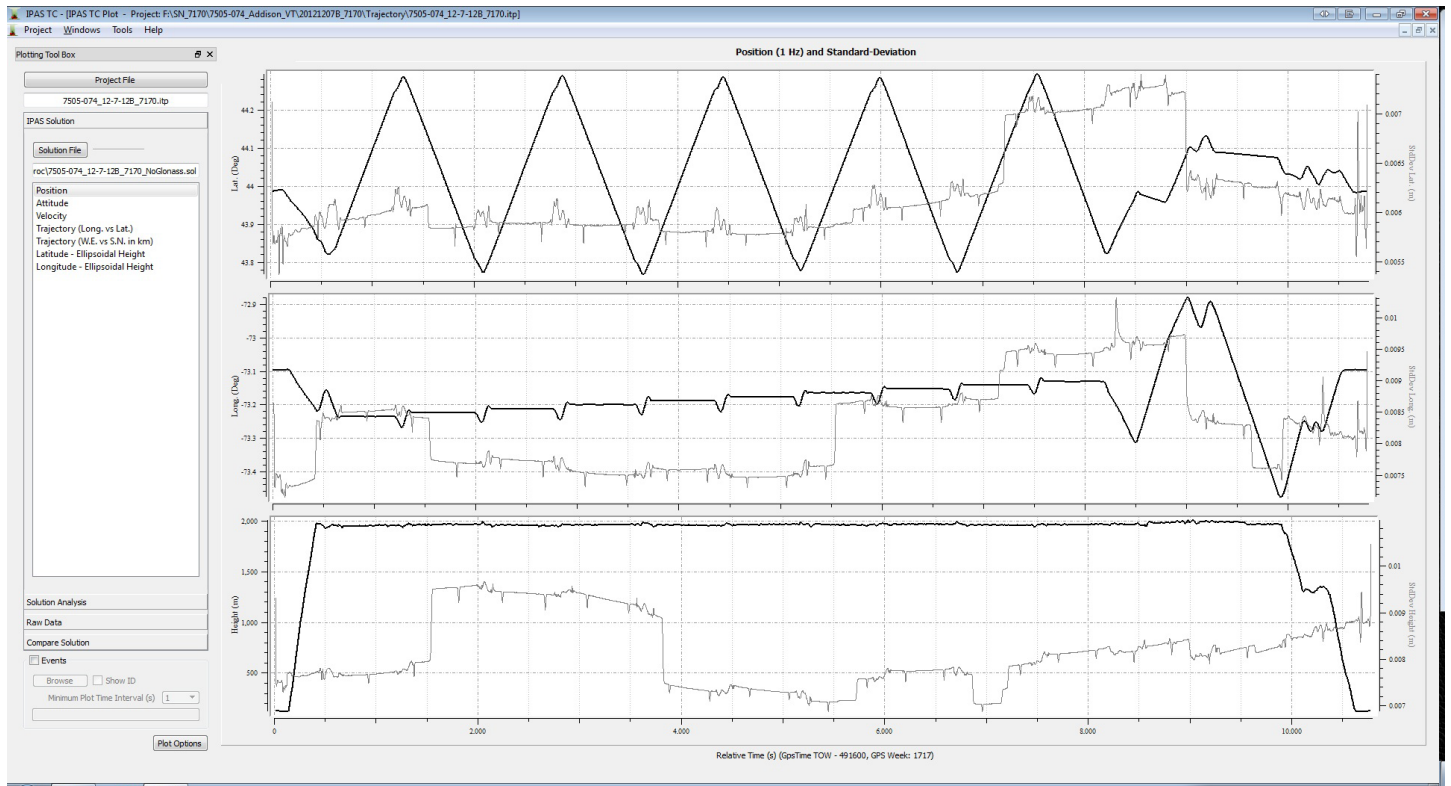
Latitude (DMS): 43 59 10.43224 Longitude (DMS): -73 05 45.5532121
Ellipsoidal Height (m): 122.378 Antenna Height (m): 2.000
Antenna Profile: TRM57971.00

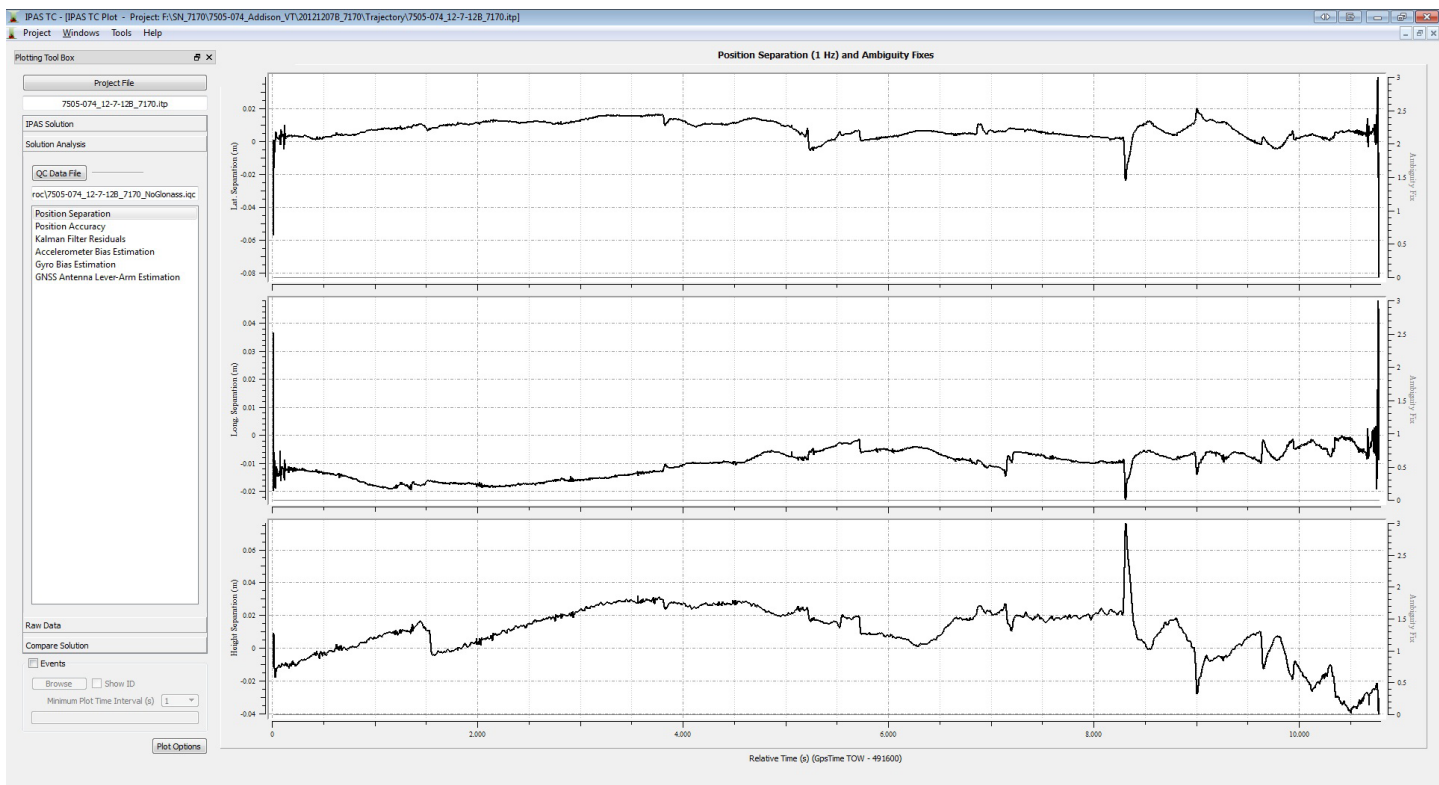
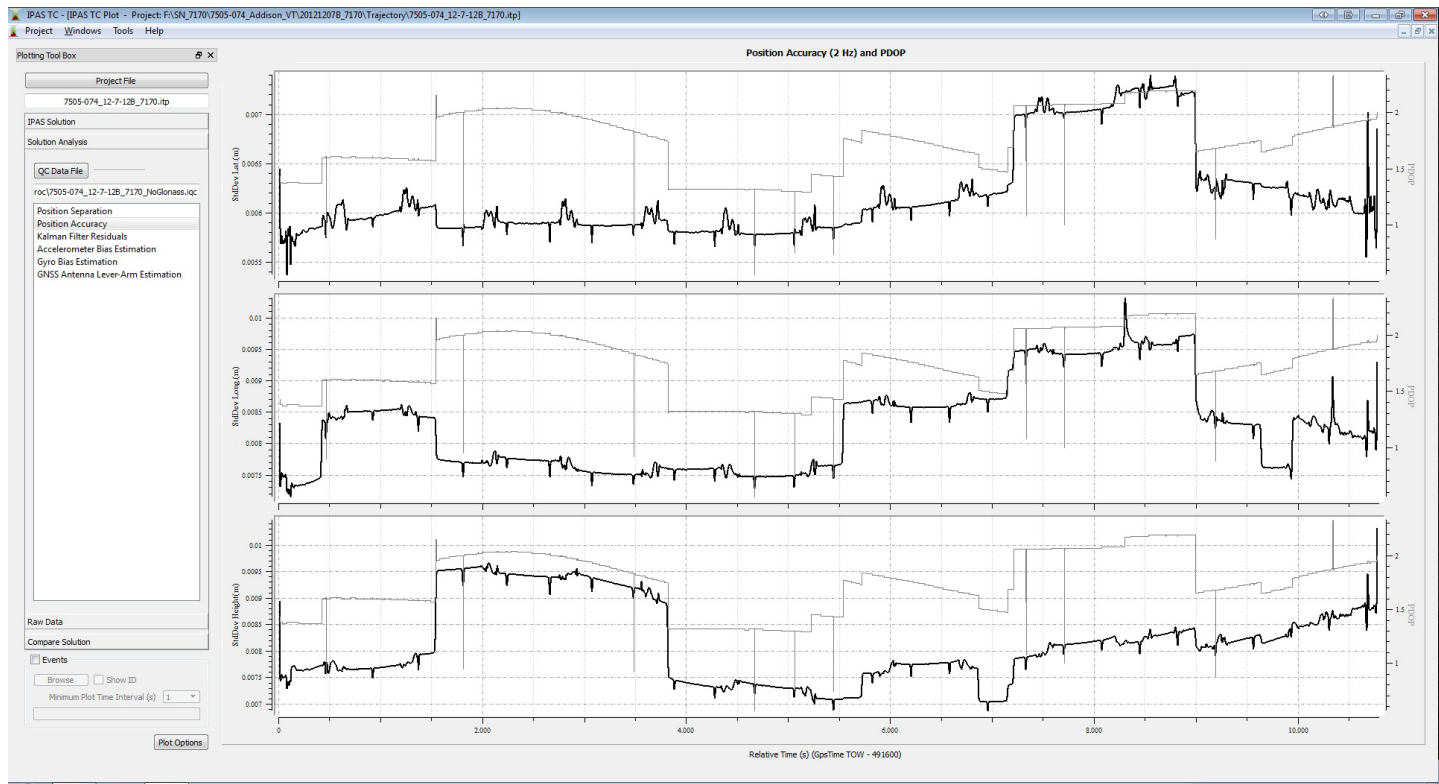
Add Base Station Download Service Data Edit Position or GNSS Data Delete This Station

Options For GNSS

☒ Use Differential GNSS ☐ Use Precise Point Positioning

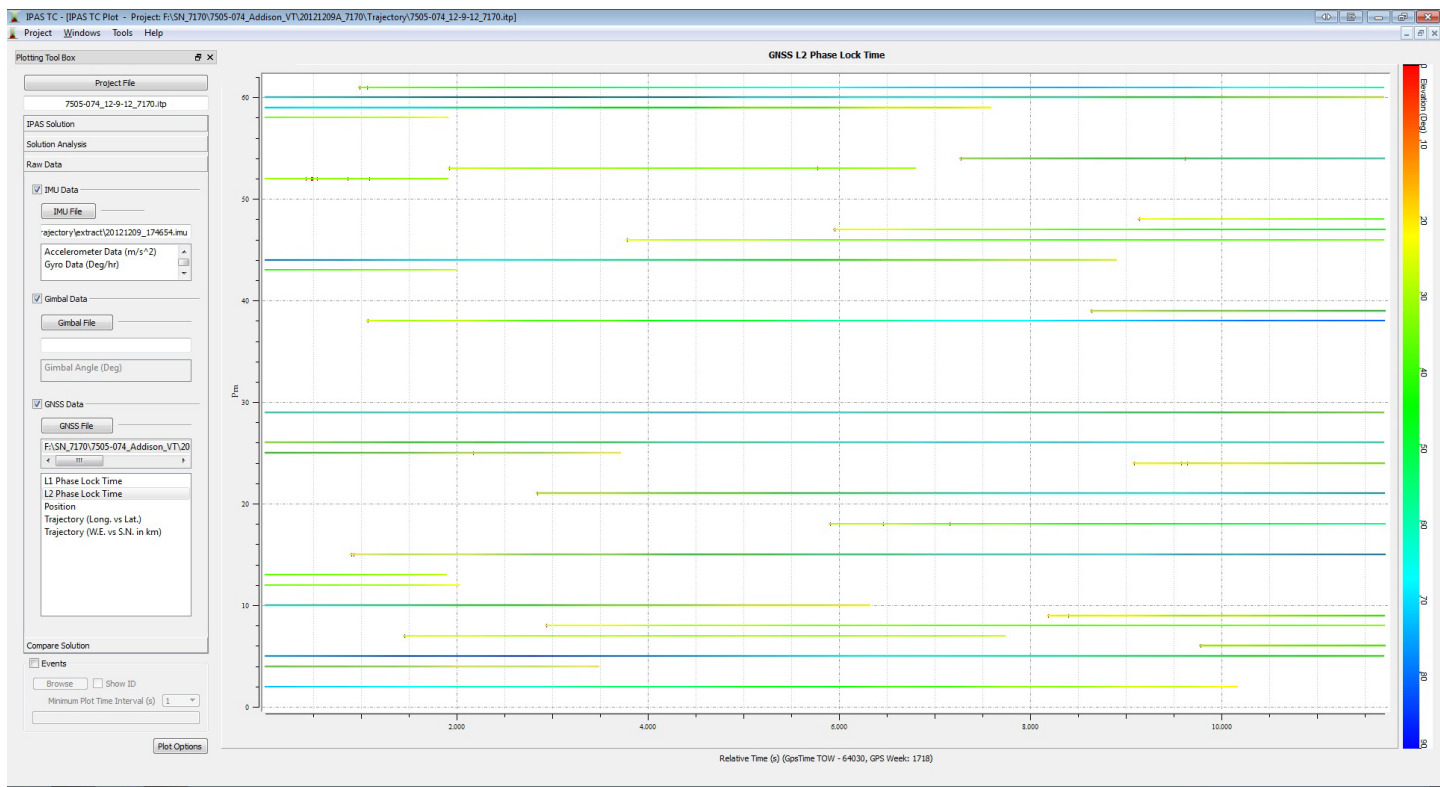
Accept Cancel







120912A_7170



IPAS TC - Setup GNSS Base Station

Project File F:\SN_7170\7505-074_Addison_VT\20121209A_7170\Trajectory\7505-074_12-9-12_7170.itp

Base GNSS Station

PSI_Base ☐ Disable

GPB File Information

GNSS File: F:\SN_7170\7505-074_Addison_VT\20121209A_7170\Base 12-9-12\76023441.gpb

Data Rate (Hz): 2 Data Time (s): 61898.0 ~ 93409.5 L2C phase correction: 0.00 cycles Edit

Position

Latitude (DMS): 43 59 10.43224 Longitude (DMS): -73 05 45.5532121

Ellipsoidal Height (m): 122.378 Antenna Height (m): 2.000

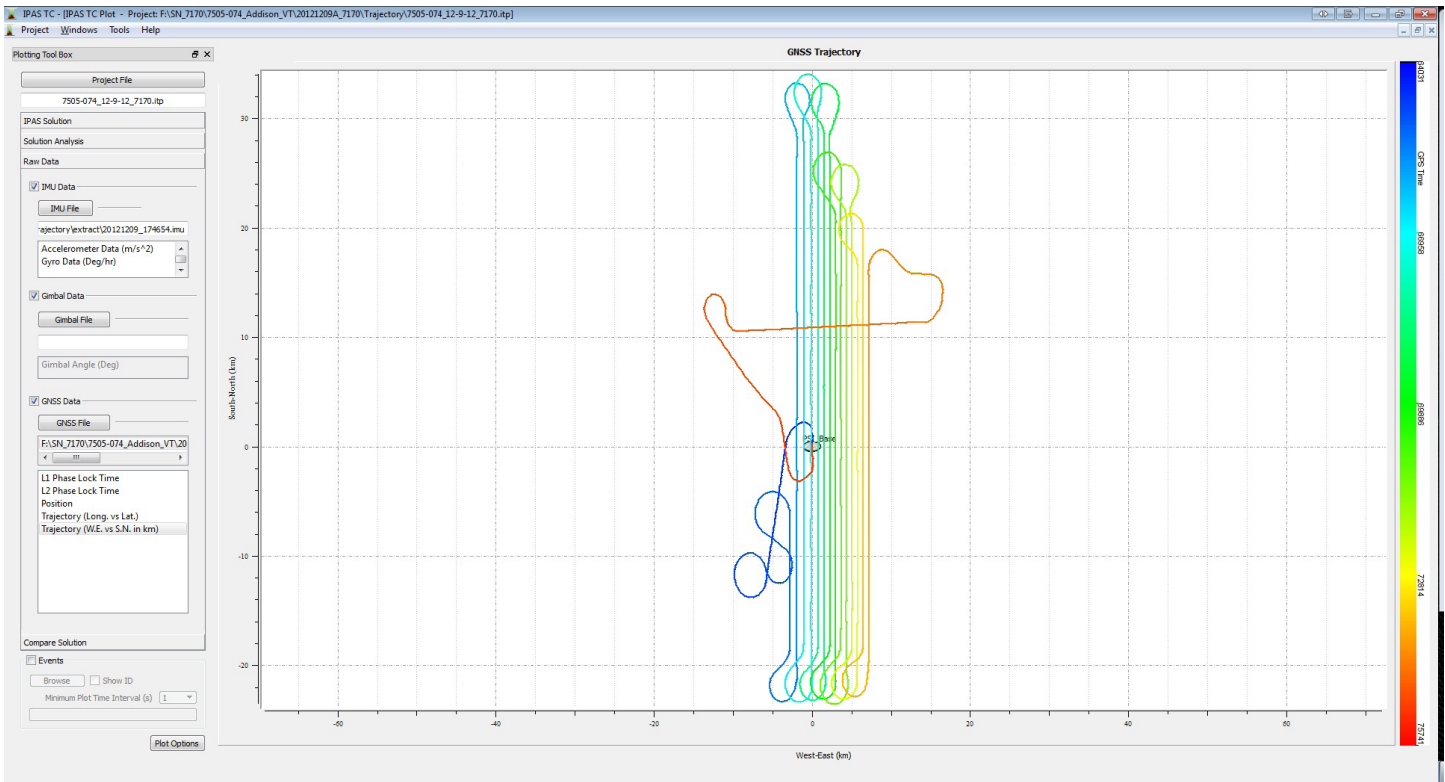
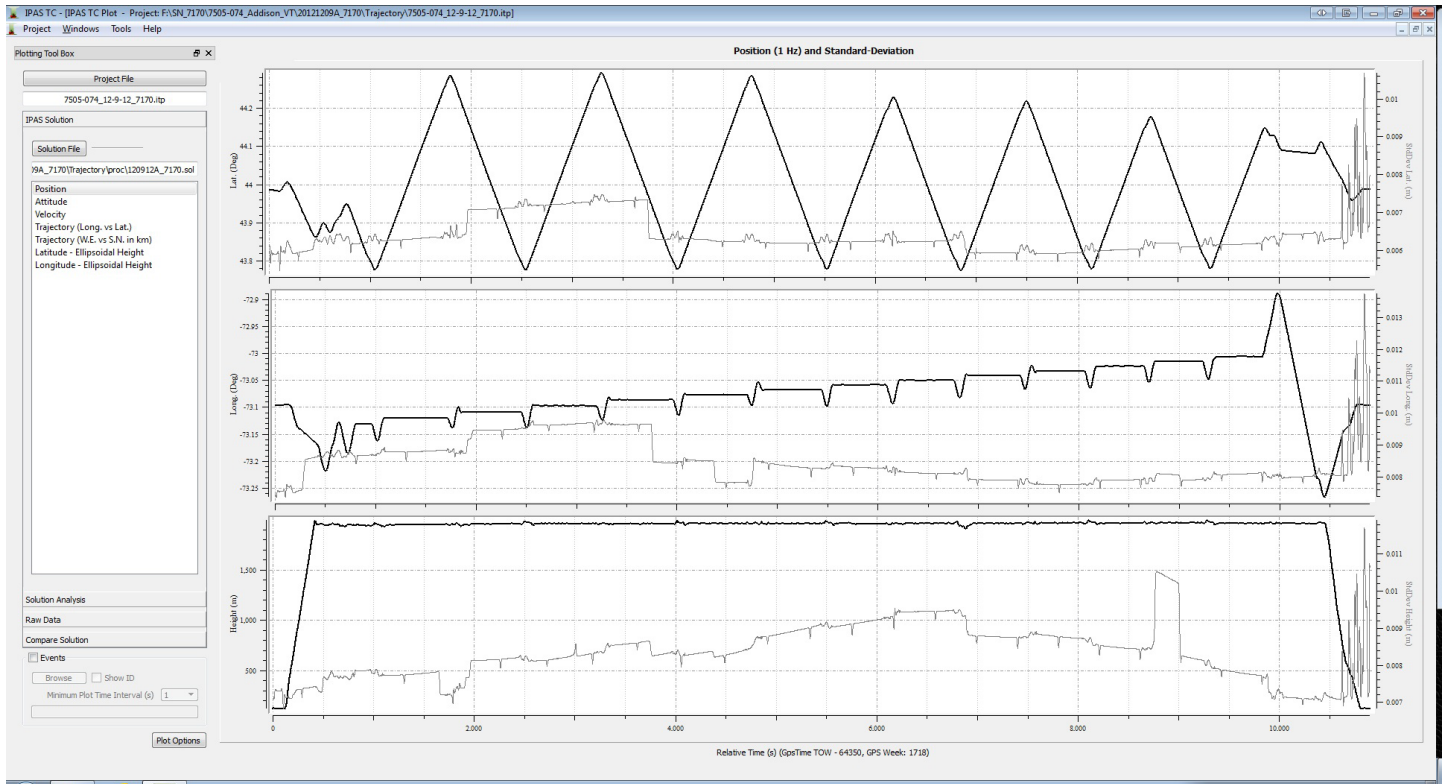
Antenna Profile: TRM57971.00

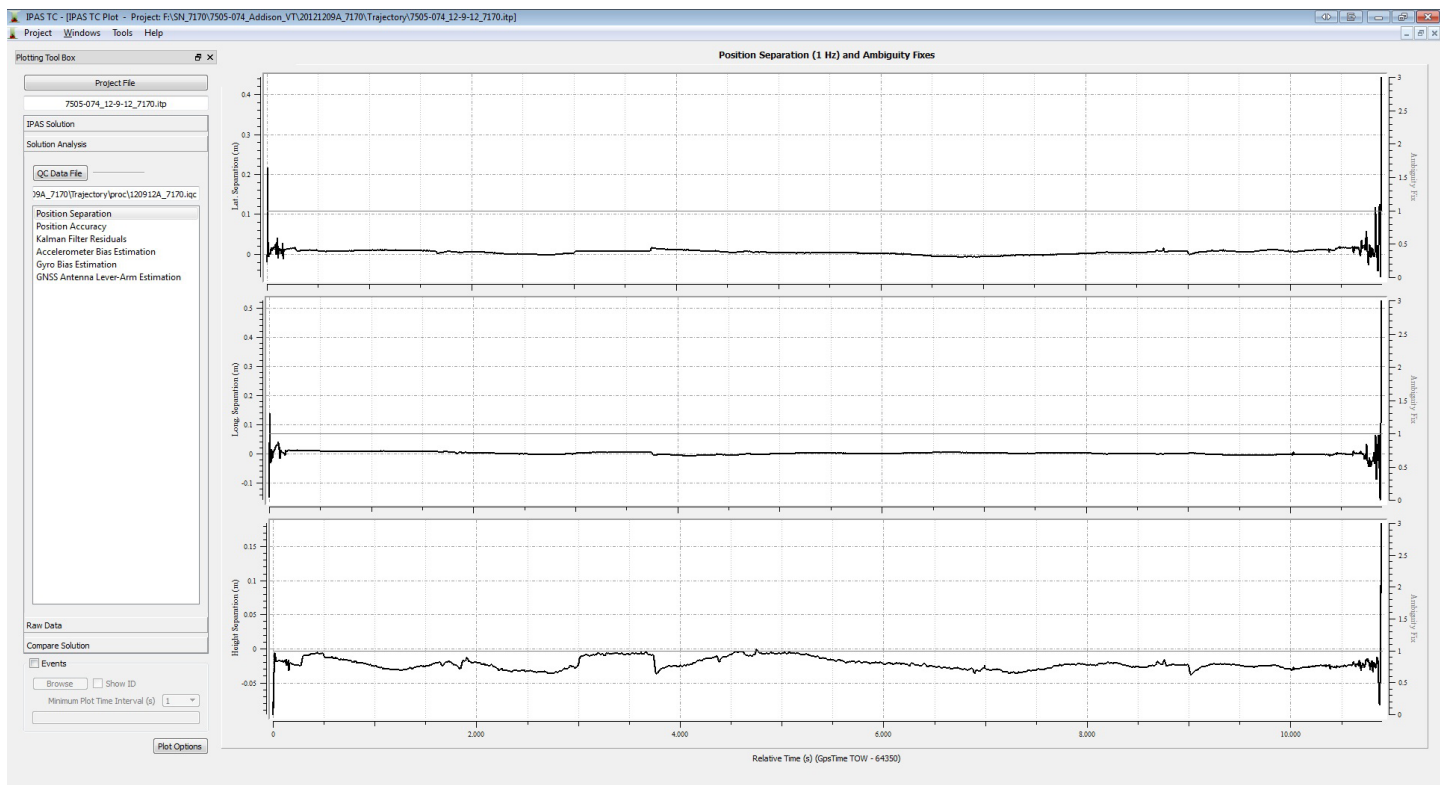
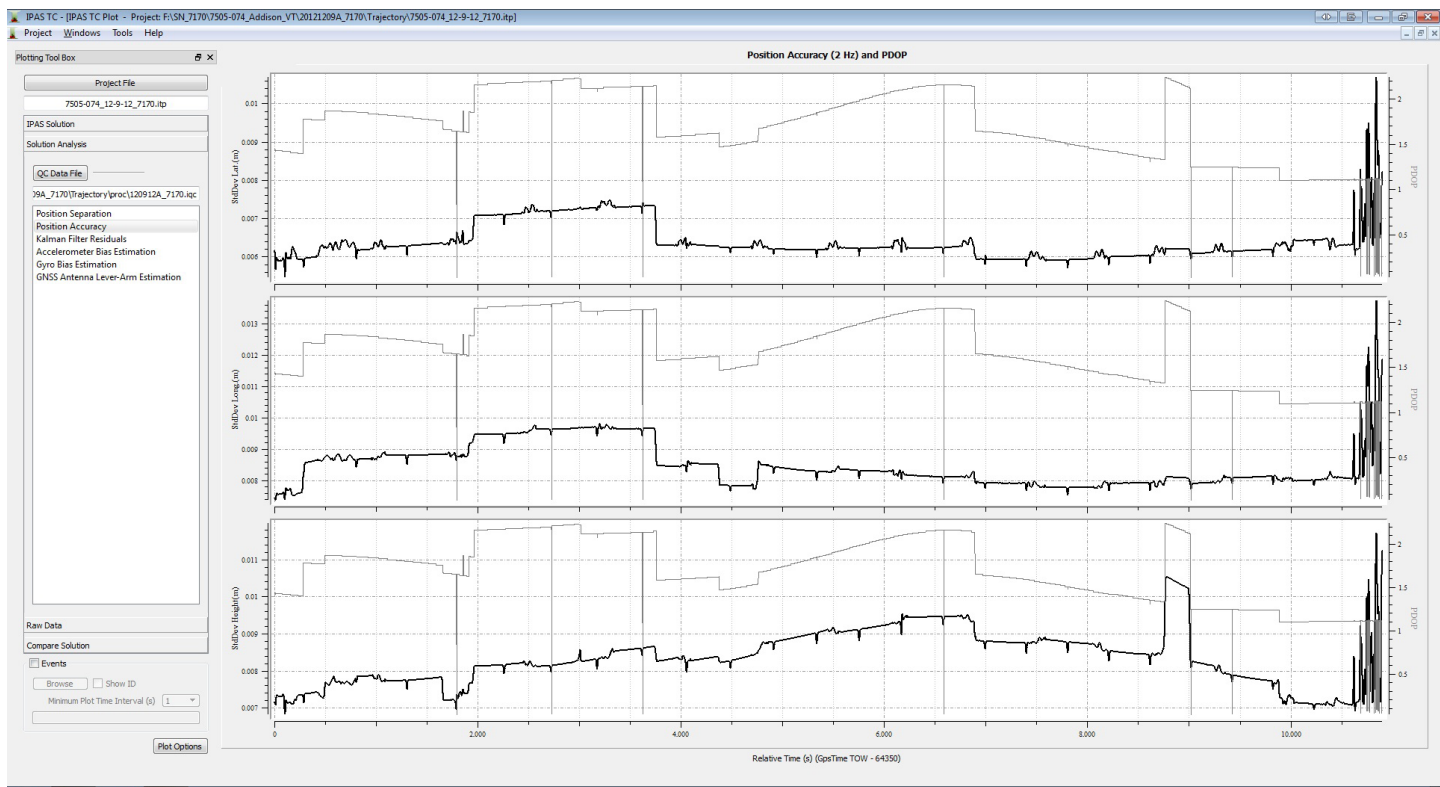
Add Base Station Download Service Data Edit Position or GNSS Data Delete This Station

Options For GNSS

☒ Use Differential GNSS ☐ Use Precise Point Positioning

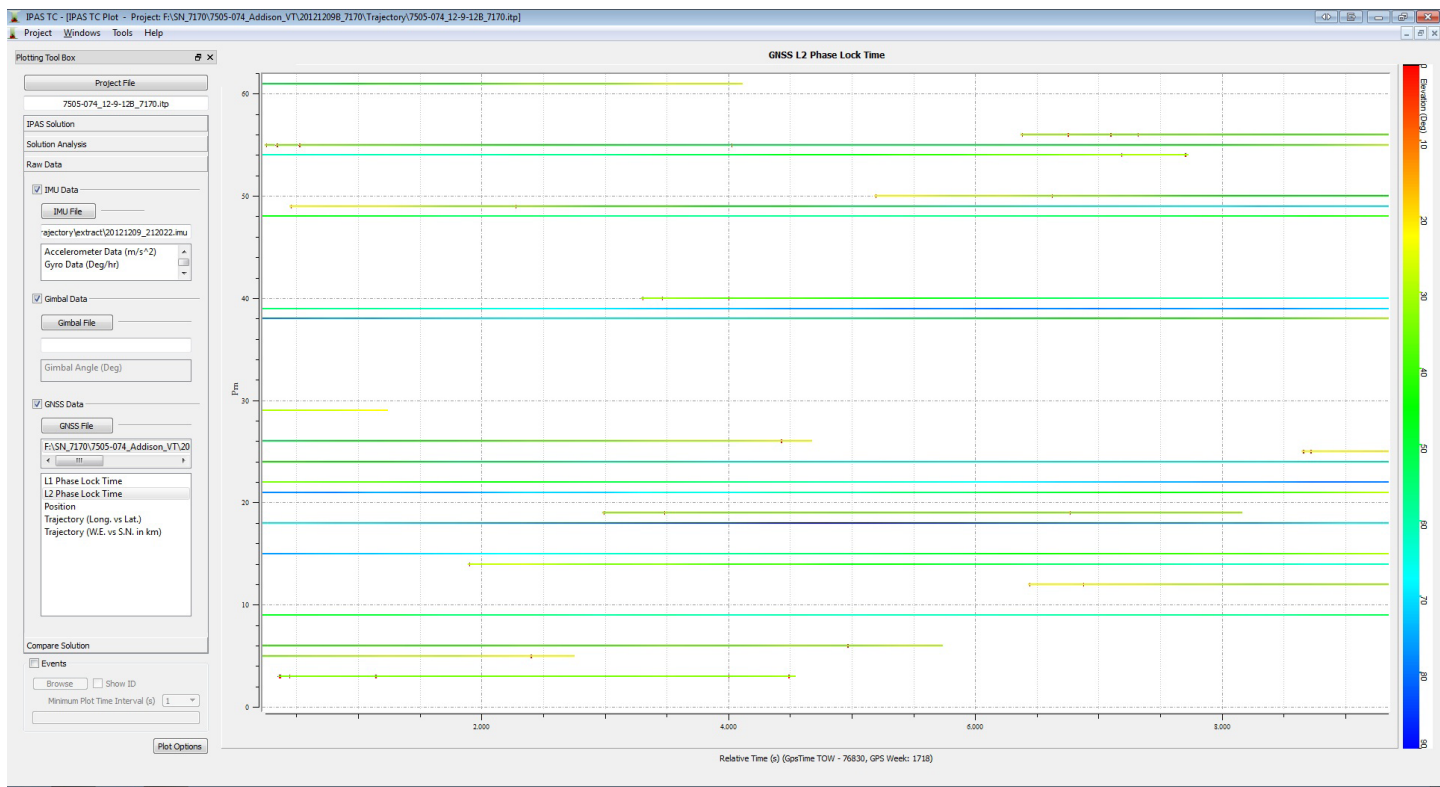
Accept Cancel







120912B_7170



IPAS TC - Setup GNSS Base Station

Project File F:\SN_7170\7505-074_Addison_VT\20121209B_7170\Trajectory\7505-074_12-9-12B_7170.itp

Base GNSS Station

PSI_Base ☐ Disable

GPB File Information

GNSS File: F:\SN_7170\7505-074_Addison_VT\20121209B_7170\Base 12-9-12\76023441.gpb

Data Rate (Hz): 2 Data Time (s): 61898.0 ~ 93409.5 L2C phase correction: 0.00 cycles

Position

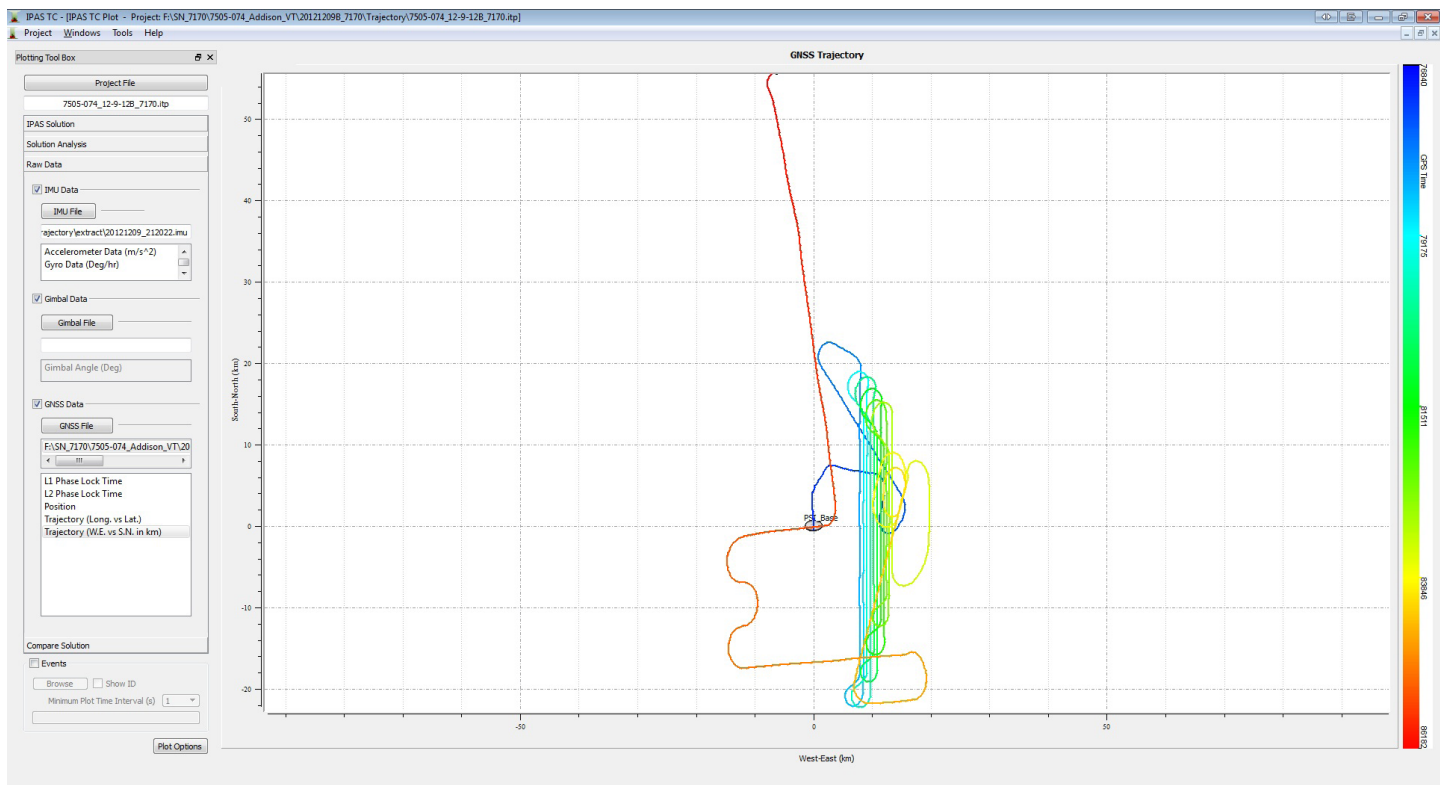
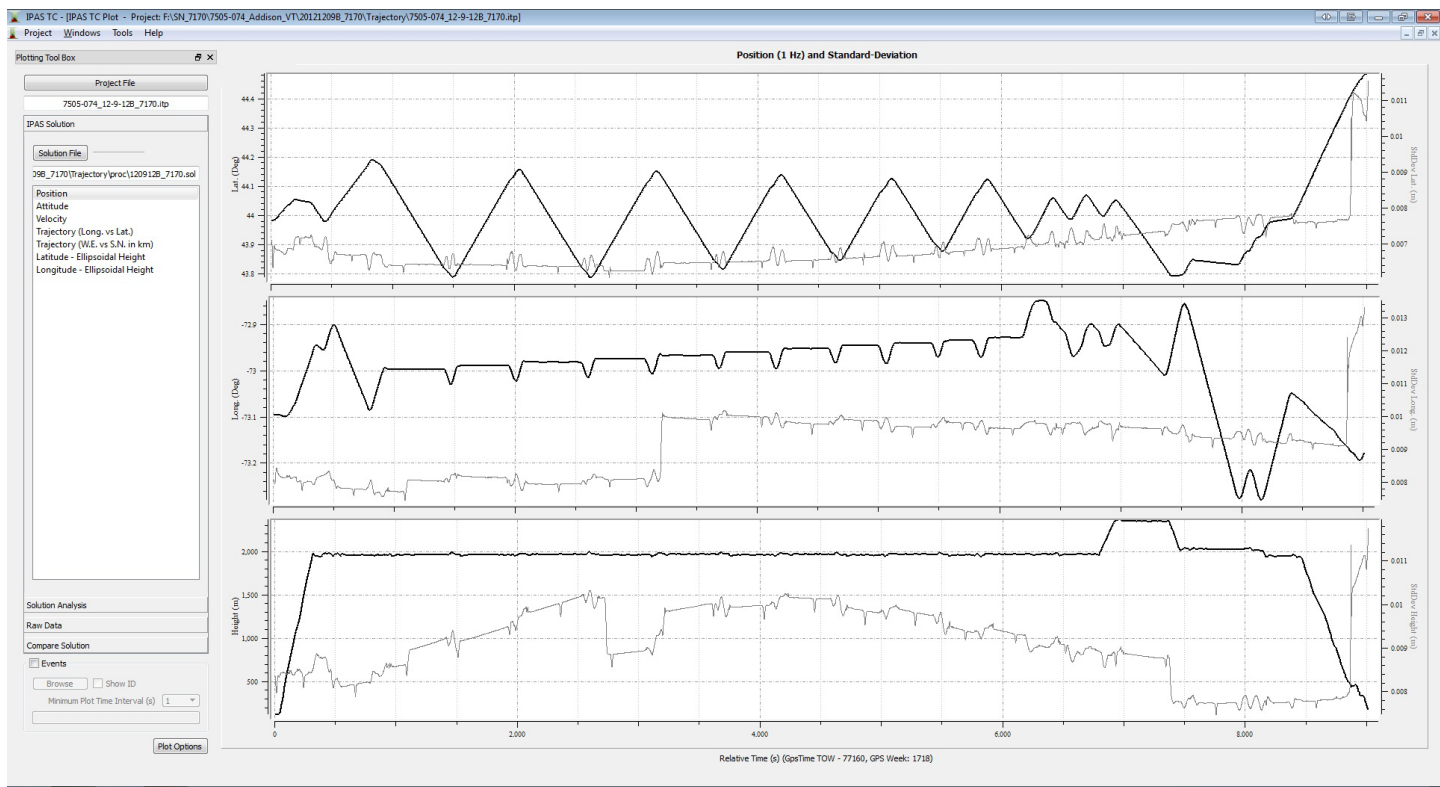
Latitude (DMS): 43 59 10.43224 Longitude (DMS): -73 05 45.5532121

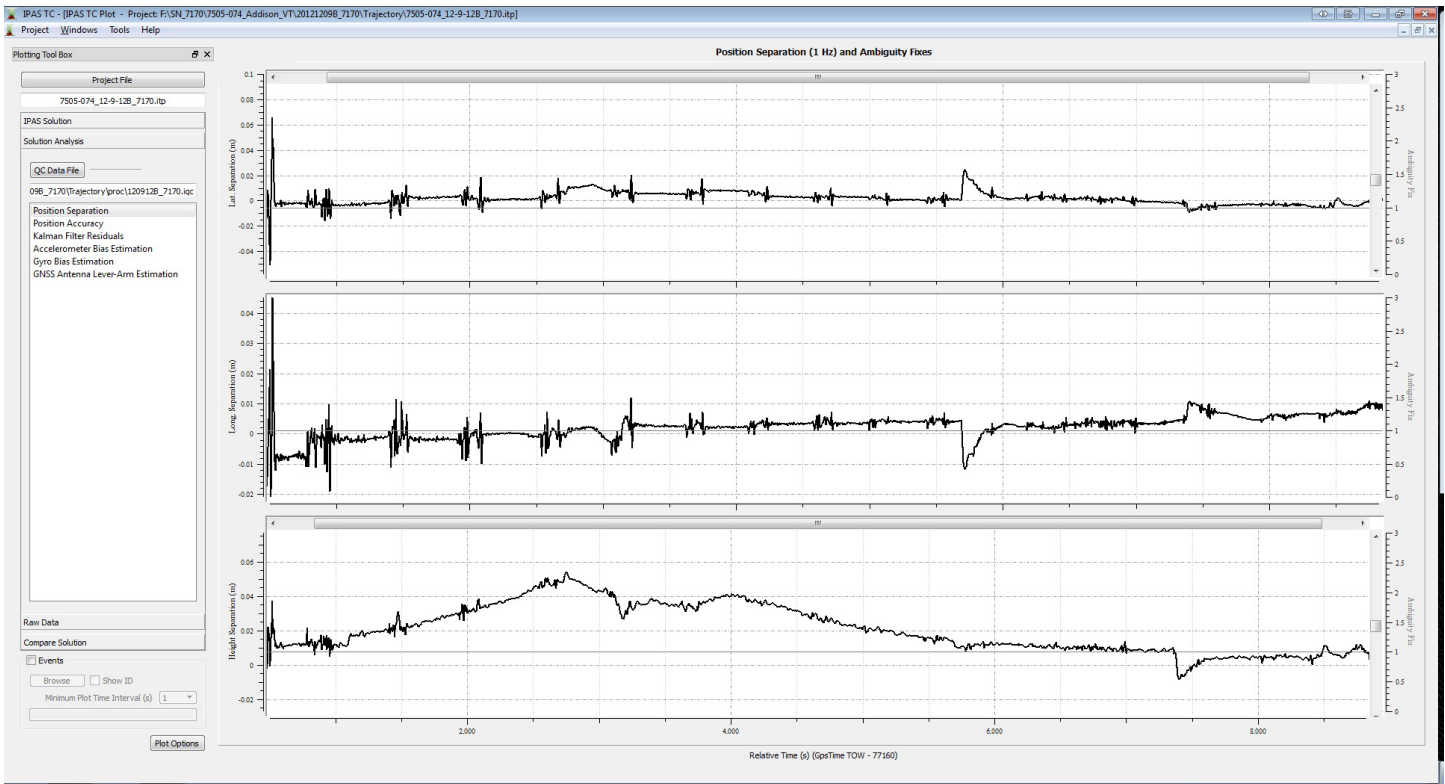
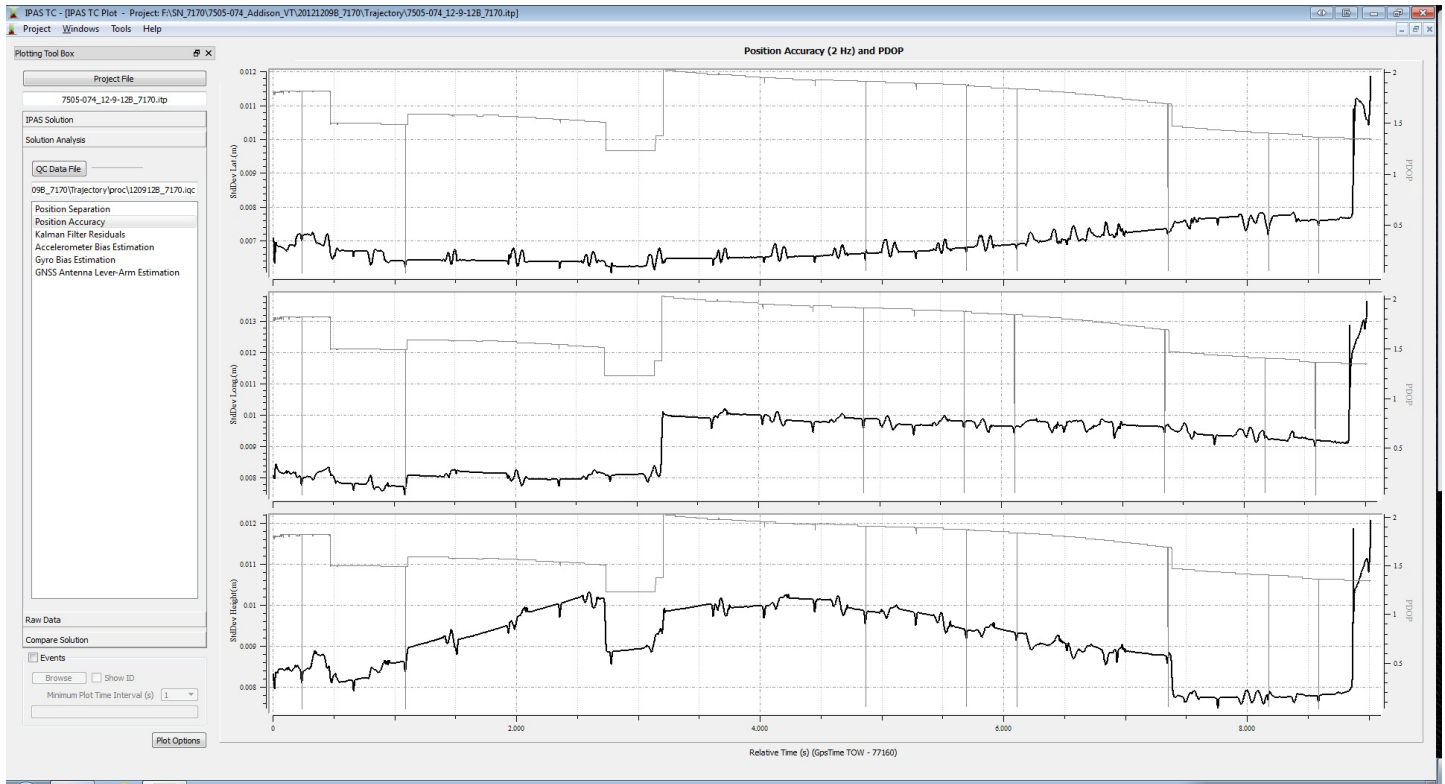
Ellipsoidal Height (m): 122.378 Antenna Height (m): 2.000

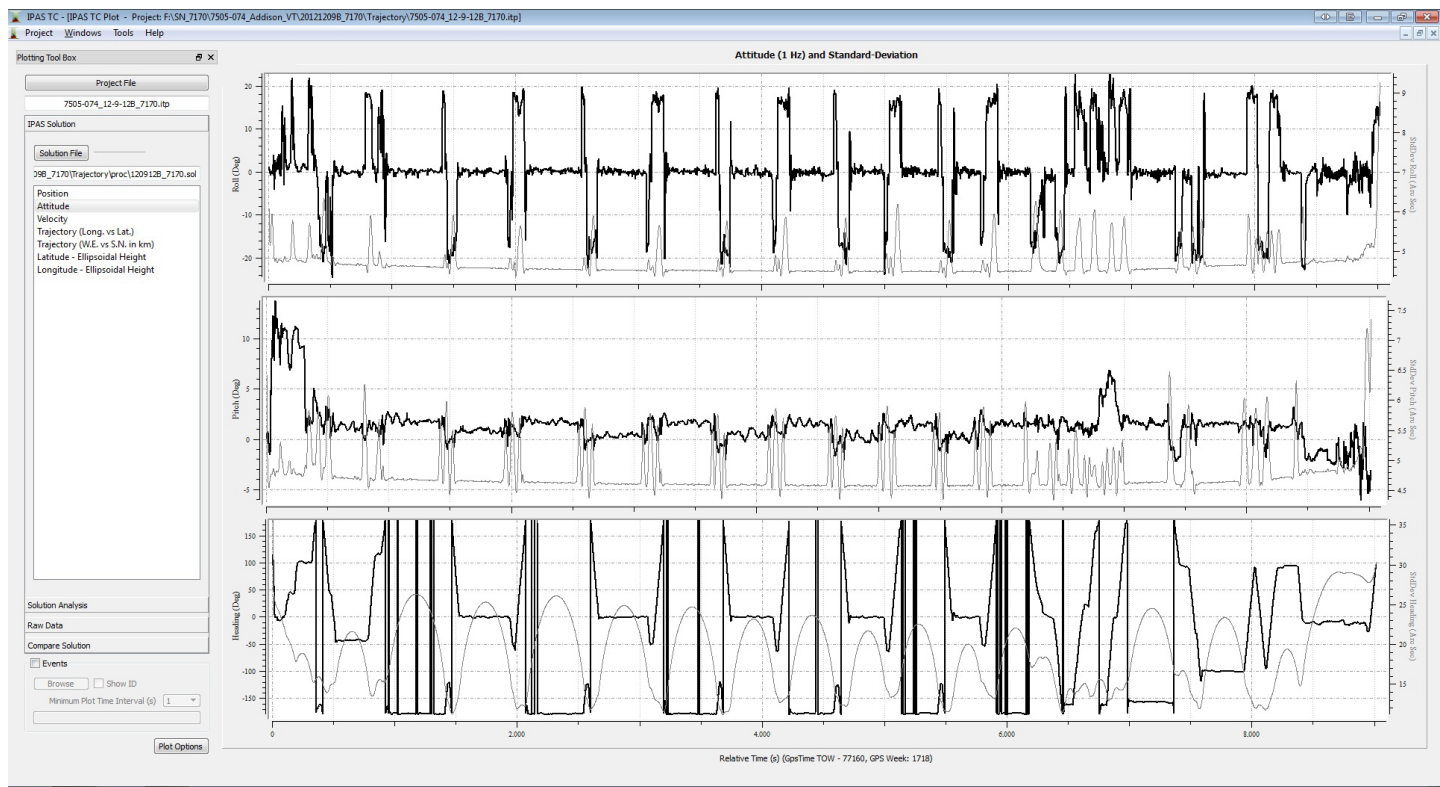
Antenna Profile: TRM57971.00

Options For GNSS

☒ Use Differential GNSS ☐ Use Precise Point Positioning







APPENDIX C FLIGHT LOGS

12-6-12

7505-074

SN7170/N22GE

NORTH/SOUTH REV

LIDAR MISSION RECORD SHEET - Leica

Project Name	Addison
Project Number	7505-074
Field Notes	Addison North REV

Project Scanning Requirements			
Field of View	40	°	Ground Speed (kts): 150
Scan Rate	24.4	Hz	Altitude AGL (ft): 1500
Pulse Rate Frequency	138	kHz	MPIA or SPIA ☒
Laser Output Current	77	%	

GPS Base Location(s)	VT8
PDOP Avoidance	
Static or Flyover?	17:36 → If flyover, times: 22:46

PHOTO SCIENCE Geospatial Solutions	
Pilot	JONES
Tech	COX
Aircraft	N22GE

Data Information	
LIDAR Unit	Leica ALS70 sn7170
HD #	7170 SSD#3
IPAS File #	20121206-172406
from → to	000 → 049
FGMS File #	

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Date Flown	12-6-12				
Takeoff Time (Z)	17:25	Local	12:25	Airport	BTV
Landing Time (Z)	23:00	Local	6:00	Airport	

Weather	Ground	Airport
Begin Temp	-1	BTV
Begin Dewpoint	-9	
Begin Pressure	30.35	
End Temp	-2	BTV
End Dewpoint	-9	
End Pressure	30.27	

Flight Line Name	Line #	Start	Stop	Alt (AMSL)	Heading	Speed	Returns	Crab	NOTES (weather, visibility, winds, ride, etc.)
20121206-174319	127	1743	1747	6400	100	154 kts	100 %		High Overcast Lite Wind Smooth Ride
20121206-175115	126	1750	1754	6400	204	152 kts	100 %		
20121206-175929	119	1759	1803	6385	213	151 kts	80 %		Low Returns along water edge
20121206-180640	120	1806	1810	6410	034	148 kts	80 %		
20121206-181340	121	1813	1817	6400	215	155 kts	100 %		
20121206-182014	122	1820	1823	6430	033	147 kts	80 %		
20121206-182647	123	1826	1829	6400	213	150 kts	80 %		
20121206-183232	124	1832	1834	6415	034	151 kts	100 %		
20121206-183635	249	1836	1837	6415	224	150 kts	70 %		Addison South FH Plan
20121206-184047	248	1840	1842	6420	045	152 kts	60 %		
20121206-184542	247	1845	1847	6425	224	145 kts	70 %		
20121206-185054	246	1850	1852	6425	046	151 kts	50 %		
20121206-185626	235	1856	1901	6425	226	150 kts	85 %		
20121206-190354	236	1903	1908	6420	045	156 kts	85 %		
20121206-191158	237	1911	1916	6400	225	149 kts	90 %		
20121206-191945	238	1919	1924	6405	044	152 kts	95 %		
20121206-192752	239	1927	1932	6410	225	152 kts	95 %		
20121206-193531	240	1935	1939	6425	045	156 kts	90 %		
20121206-194346	241	1943	1947	6410	225	151 kts	100 %		
20121206-195023	242	1950	1953	6410	044	153 kts	100 %		

LIDAR MISSION RECORD SHEET - Leica

Project Name	Addison
Project Number	7505-074
FCMS Profile	Addison South REV

Project Scanning Requirements			
Field of View	40	Ground Speed (kts)	150
Scan Rate	24.4	Hz	Altitude AGL (ft)
Pulse Rate Frequency	138	kHz	MPIA or SPIA?
Laser Output Current	27	%	

GPS Base Location(s)	VT8
PDOP Avoidance	
Static or Flyover?	→ Flyovers, times:

PHOTO SCIENCE
Geospatial Solutions

Pilot	Jones
Tech	Cox
Aircraft	N22GE

Data Information	
LIDAR Unit	Leica ALS70 sn7170
HD #	
IPAS File #	
from → to	→
FCMS File #	

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Date Flown	12-6-12	
Takeoff Time (Z)	17:25	Local: 12:25
Landing Time (Z)		Local:
		Airport: BTV

Weather	Ground	Airport
Begin Temp		
Begin Dewpoint		
Begin Pressure		
End Temp		
End Dewpoint		
End Pressure		

Flight Line Name	Line #	Start	Stop	Alt. (AMSL)	Heading	Speed	Returns	Crab	NOTES (weather, visibility, winds, ride, etc.)
20121206-195719	243	1957	2000	6415	226	147 kts	97 %		
20121206-200309	244	2003	2005	6410	044	154 kts	100 %		
20121206-200852	245	2008	2010	6460	226	149 kts	100 %		
20121206-201349	250	2013	2016	6440	045	156 kts	95 %		
20121206-201903	251	2019	2020	6445	226	153 kts	97 %		
20121206-202303	234	2023	2026	6415	015	152 kts	100 %		
20121206-203245	234	2032	2038	6420	100	157 kts	80 %		
20121206-204314	100	2043	2044	6430	014	147 kts	100 %		Addison North Flt Plan
20121206-204746	101	2047	2049	6420	194	153 kts	100 %		
20121206-205219	102	2052	2053	6390	013	151 kts	98 %		
20121206-205642	103	2056	2058	6395	194	153 kts	100 %		
20121206-210112	104	2101	2102	6390	013	152 kts	100 %		
20121206-210730	105	2107	2108	6380	194	153 kts	100 %		
20121206-211203	106	2112	2113	6395	014	153 kts	100 %		
20121206-211759	107	2117	2121	6380	194	151 kts	100 %		
20121206-212350	108	2123	2127	6380	013	153 kts	97 %		
20121206-212950	109	2129	2133	6385	193	150 kts	100 %		
20121206-213624	110	2136	2139	6390	014	153 kts	100 %		
20121206-214243	111	2142	2146	6395	195	151 kts	100 %		
20121206-214905	112	2149	2152	6400	014	157 kts	100 %		

PHOTO SCIENCE
General Substrates

Project Name	Addison
Project Number	7503-074
Form Title	Addison North REV

Pilot	Jones
Tech	Cox
Aircraft	N22GE

Date Flown	12-6-12		
Takeoff Time (Z):	7:25	Local	12:25
		Altitude	1000
Landing Time (Z):		Local	
		Altitude	

Project's Scanning Requirements			
Field of View	4.0	• Ground Speed (kts):	150
Scan Rate	24.4	Hz	Altitude AGL (ft): 6500
Pulse Rate Frequency	138	kHz	MPIA or SPIA?
Laser Output Current	27	%	

Data Information	
LIDAR Unit	Leica ALS70 an7170
HD #	
IPAS File #	
from → to	→
FCMS File #	

Weather	Ground	Airport
Begin Temp		
Begin Dewpoint		
Begin Pressure		
End Temp		
End Dewpoint		
End Pressure		

GPS Base Location(s)	VT 8
PDOP Avoidance	
Static or Flyover?	→ Flyovers, times

Flight Line Name	Line #	Start	Stop	Alt. (AMSL)	Heading	Speed	Returns	Grab	NOTES (weather, visibility, winds, ride, etc.)
20121206-215515	113	2155	2158	6380	195	149 kts	100 %	-	
20121206-220133	114	2201	2205	6400	014	154 kts	100 %	-	
20121206-220755	115	2207	2211	6390	194	148 kts	100 %	-	
20121206-221714	125	2217	2222	6405	009	158 kts	100 %	-	
20121206-222811	116	2228	2231	6435	014	150 kts	100 %	-	
20121206-223510	117	2235	2238	6405	194	148 kts	100 %	-	
20121206-224138	118	2241	2244	6430	015	157 kts	95 %	-	
						kts	%	-	
						kts	%	-	
						kts	%	-	
10						kts	%	-	
						kts	%	-	
						kts	%	-	
						kts	%	-	
						kts	%	-	
						kts	%	-	
15						kts	%	-	
						kts	%	-	
						kts	%	-	
						kts	%	-	
						kts	%	-	
20						kts	%	-	

SOUTH REV

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General Solutions

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Date Flown:	12-7-12		600
Takeoff Time (Z):	12:35	Local: 7:35	Airport: 3:35
Landing Time (Z):	15:00	Local: 10:00	Airport: 6:00

Data Information	
LIDAR Unit	Leica AL570 an7170
HD #	7170 SSD # 3
SPAS File #	2012107-123541
from → to	000 → 019
FCMS File #	

Weather	Ground	Airport
Begin Temp	-3	6800
Begin Dewpoint		
Begin Pressure	3008	5138
End Temp	0	
End Dewpoint		
End Pressure	3008	

GPS Base Location(s)	680
PDOP Avoidance	
☒ Station or Flyover?	→ If flyovers, times:

Flight Line Name	Line #	Start	Stop	Alt. (AMSL)	Heading	Speed	Returns	Crab	NOTES (weather, visibility, winds, ride, etc.)
20121207-130739	251	1307	1308	6890	046	132 kts	100%		Overcast 15 miles 25 knots Smooth
20121207-131158	250	1311	1313	6410	226	120 kts	100%		Cloud
20121207-132153	249	1321	1323	6375	046	153 kts	50%		
20121207-132624	248	1326	1328	6410	225	144 kts	50%		
20121207-133148	247	1331	1333	6320	045	150 kts	50%		
20121207-133733	246	1337	1340	6415	226	131 kts	100%		
20121207-134602	235	1346	1350	6390	046	158 kts	75%		
20121207-135408	236	1354	1359	6380	225	135 kts	100%		
20121207-140213	237	1402	1406	6375	045	159 kts	100%		
20121207-141018	238	1410	1414	6410	225	134 kts	100%		Stopped Short Cloud
20121207-142150	239	1421	1425	6340	100	140 kts	50%		
						kts	%		
						kts	%		
						kts	%		
15						kts	%		
						kts	%		
						kts	%		
						kts	%		
						kts	%		
20						kts	%		

Lift 1

MISSION PAGE 1 OF 1

Project Name	Addison
Project Number	7505-074
Project Manager	Addison Soth RGV

Pilot	Sones
Tech	Cox
Aircraft	N22GE

Date Flown	12-7-12		
Takeoff Time (Z):	16:30	Local: 11:30	Airport: 680
Landing Time (Z):	14:30	Local: 2:30	Airport: 680

Project's Learning Requirements			
Field of View	40	* Ground Speed (kts):	50
Scan Rate	24.4	Hz	Altitude AGL (ft):
Pulse Rate Frequency	138	kHz	MPIA or SPIA:
Laser Output Current	27	%	

Data Information	
LIDAR Unit	Leica ALS70 sn7170
HD #	7170550 #3
IPAS File #	20127207-162605
from → to	000 → 028
FCMB File #	

Weather	Ground	Altport
Begin Temp	0	bBØ
Begin Dewpoint		
Begin Pressure	3002	bBØ
End Temp	1	
End Dewpoint		
End Pressure	3003	

GPS Base Location(s)	6130	
PDOP Avoidance		
Stall or Flyover?		→ If flyovers, times:

17 2

12-9-12

7505-074

SN 7170 / N22GE

ADDISON
SOUTH

LIDAR MISSION RECORD SHEET - Leica

Project Name	Addison
Project Number	7505-074
FCMS File #	Addison South REV

Project's Scanning Requirements			
Field of View	40	Ground Speed (kts)	150
Scan Rate	24.4	Hz	Altitude AGL (ft)
Pulse Rate Frequency	138	kHz	MPIA or SPIA?
Laser Output Current	27	%	

GPS Base Location(s)	6B0
PDOP Avoidance	
Static or Flyover?	→ If flyovers, times:

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Geophysical Services

Pilot	Jones
Tech	Co
Aircraft	N22GE

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Date Flown	12-9-12
Takeoff Time (Z)	17:45
Landing Time (Z)	20:55
Local	12:45
Local	3:55
Altitude	6B0
Altitude	6B0

Data Information	
LIDAR Unit	Leica ALS70 sn7170
ID #	7170 SSB# 3
IPAS File #	201209-174406
from → to	000 → 02B
FCMS File #	

Weather	Ground	Altitude
Begin Temp	0	
Begin Dewpoint		6B0
Begin Pressure	3025	6B0
End Temp	-2	
End Dewpoint		6B0
End Pressure	3030	

overcast 20 miles lite wind smooth

Flight Line Name	Line #	Start	Stop	Alt. (AMSL)	Heading	Speed	Returns	Crab	NOTES (weather, visibility, winds, rds, etc.)
20121209-180632	224	1806	1808	6370	195	155 kts	100 %		South End of line
20121209-181103	223	1811	1820	6370	015	149 kts	100 %		
20121209-182326	222	1823	1833	6390	194	159 kts	100 %		
20121209-183551	221	1835	1845	6420	013	154 kts	100 %		
20121209-184833	220	1848	1858	6425	193	153 kts	100 %		
20121209-190056	219	1900	1910	6450	014	153 kts	100 %		
20121209-191404	218	1914	1922	6480	194	155 kts	100 %		
20121209-192533	217	1925	1933	6435	015	160 kts	100 %		
20121209-193652	216	1936	1944	6440	194	156 kts	100 %		
20121209-194748	215	1947	1955	6450	014	155 kts	100 %		
20121209-195917	214	1959	2006	6455	194	158 kts	100 %		
20121209-200915	213	2009	2016	6450	015	158 kts	100 %		
20121209-201910	212	2019	2026	6460	195	157 kts	100 %		
20121209-202850	211	2028	2035	6445	014	157 kts	100 %		
20121209-204009	252	2040	2044	6450	283	144 kts	100 %		Crossline
						kts	%		
						kts	%		
						kts	%		
						kts	%		
						kts	%		
						kts	%		

Lift 1

LIDAR MISSION RECORD SHEET - Leica

Project Name	Addison
Project Number	7505-024
FCMS Job File	Addison South REV

Project's Scanning Requirements			
Field of View	40	Ground Speed (kts)	150
Scan Rate	24.4 Hz	Altitude AGL (ft)	1800
Pulse Rate Frequency	138 kHz	MPIA or SPIA?	
Laser Output Current	27 %		

GPS Base Location(s)	630
PDOP Avoidance	
Static or Flyover?	→ If flyovers, times: 23:45

PHOTO SCIENCE Geospatial Solutions	
Pilot	Jones
Tech	COX
Aircraft	N22GE

Data Information	
LIDAR Unit	Leica ALS70 sn7170
HD #	7170550 3
IPAS File #	20121209-211757
from → to	000 → 023
FCMS File #	

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Date Flown	12-9-12		
Takeoff Time (Z)	21:20	Local	4:20
		Airport	630
Landing Time (Z)	23:58	Local	8:58
		Airport	BTV

Weather	Ground	Airport
Begin Temp	-3	630
Begin Dewpoint		
Begin Pressure	30.30	BTV
End Temp	-2	
End Dewpoint	-5	
End Pressure	30.28	

Dark High Clouds 20 miles Lateral Smooth
 NOTES (weather, visibility, winds, tide, etc.)

Flight Line Name	Line #	Start	Stop	Alt (AMSL)	Heading	Speed	Returns	Crab	
20121209-213409	253	2134	2138	6455	333	157 kts	100 %		
20121209-214120	215	2142	2149	6435	195	146 kts	100 %		
20121209-215145	209	2151	2158	6425	015	157 kts	100 %		
20121209-220124	208	2201	2208	6455	193	146 kts	100 %		
20121209-221054	207	2210	2216	6420	015	158 kts	100 %		
20121209-222025	206	2220	2226	6450	194	145 kts	100 %		
20121209-222902	205	2229	2233	6430	014	159 kts	100 %		
20121209-223724	204	2237	2241	6430	194	144 kts	100 %		
20121209-224509	203	2245	2248	6420	014	160 kts	100 %		
20121209-225130	202	2252	2256	6425	194	142 kts	100 %		
20121209-225902	201	2259	2302	6410	013	163 kts	100 %		
20121209-230545	200	2305	2308	6450	194	141 kts	100 %		
20121209-232313	257	2323	2328	7700	215	132 kts	100 %		
20121209-233258	255	2332	2337	6645	281	157 kts	100 %		
						kts	%		
						kts	%		
						kts	%		
						kts	%		
						kts	%		
						kts	%		
						kts	%		

Lift 2

APPENDIX D

GROUND CONTROL SURVEY REPORT

August 9, 2013

Survey Report of
LiDAR Quality Control Points

Addison, Vermont LiDAR
USGS Contract: G10PC00026
USGS Task Order: G12PD01111
Photo Science Project No. 7505-074



1400 Independence Road
Rolla, Missouri 65401

Presented by



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859-277-8700

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Section 1 – Project Procedure Summary
GPS Project Summary

Section 2 – Coordinate Summary

Section 3 – Network Adjustment Report

Section 4 – NGS OPUS-RS Solution Reports

Section 5 – Field Data Log Sheets

Section 6 – NGS Data Sheets

Section 1 – Project Procedure Summary

GPS Project Summary

Section 1 – Project Procedure Summary

Photo Science was contracted by U.S. Geological Survey (USGS) to locate one-hundred new LiDAR quality control points for the Addison, Vermont LiDAR project. The control points were measured on relatively flat terrain on surfaces that typically consisted of sand, grass, concrete, or pavement. Field work was conducted by two staff surveyors from September 12, 2012 through September 23, 2012 and December 12, 2012 through December 16, 2012. The work was performed with Trimble R8-3 GNSS receivers.

A static GPS survey was conducted with a minimum session of thirty minutes for approximately one-half of the quality control points. Optimally, each ground control point was occupied twice, on two different days and at two different times of the day, to obtain different atmospheric conditions and significantly different satellite geometry. A Real Time Kinematic (RTK) survey was conducted for the remaining quality control points utilizing the Vermont Enhanced CORS and Transmission of Real-time Corrections (VECTOR).

The location of the forested points could not be directly surveyed by GPS methodology because of the likelihood of loss of signal lock due to tree canopy. Therefore, an eccentric point was set outside of the tree line, remaining as close to the quality control point as possible. These eccentric points were located by one of the two GPS techniques described above. A magnetic bearing measured with a compass, a horizontal distance measured with a fiberglass tape, and vertical difference measured with a level and level rod were recorded between the eccentric point and the quality control point.

The majority of the GPS data was post processed and adjusted utilizing Trimble Business Center software with the Network Adjustment Report being located in Section 3 of this report. The National Geodetic Survey (NGS) Datasheets that were utilized as control monuments in the post processing of this GPS network can be found in Section 6 of this report. Field data log sheets, including photographs of the quality control point, equipment used, and coordinates derived for each point are included as Section 5 of this report.

In May 2013, an initial comparison of the forested points “as surveyed” and the LiDAR data indicated the possibility of survey blunders being prevalent in this sole category of quality control points. It was determined that the likely source of error was utilizing a compass bearing together with inordinately long distances between the eccentric points and the quality control points resulting in inaccurate “as surveyed” coordinates for these points. To test this theory, and determine if survey blunders did exist, a staff surveyor was sent to the site during the last week in May 2013 to resurvey a group of the forested points. The methodology of this resurvey was to establish a pair of intervisible GPS points outside of the tree canopy and determine the location of the forested points by measuring the horizontal angle, vertical angle, and distance from these pairs of GPS points with a total station. During this week, seven of the forested points were resurveyed, ultimately proving that survey blunders had existed in this category of quality control points. In July 2013, the remaining forested points were resurveyed.

The pairs of GPS points required to locate each of the forested category quality control points were typically submitted to the NGS Online Positioning User Service (OPUS). The solution reports for these GPS points are included in Section 4 of this report.

The horizontal coordinates are Universal Transverse Mercator (UTM) system Zone 18 North and State Plane Coordinate System Vermont (FIPSZONE 4400), North American Datum of 1983 (NAD 83 (2011)), and are reported in meters. The vertical elevations are North American Vertical Datum of 1988 (NAVD 88) utilizing the GEOID12A model and are reported in meters.

GPS Project Summary

Project	TO #028 - Addison, VT	
Photo Science Project Number	7505-074	
Date	August 9, 2013	
Person Responsible for Calculations	David Simmons	
Coordinate Projection	UTM Zone 18 North / Vermont (FIPZONE 4400)	
Horizontal Datum	NAD 83(2011)	
Vertical Datum	NAVD 88	
Geoid Model Utilized	GEOID12A	
Units	Meters	
GPS Hardware Used	Trimble R8-3 GNSS	
Crew Size for GPS Operations	1-2 person	
Observation Methodology	RTK & Static	
Control Points Utilized	Horizontal Order	Vertical Order
NYET (PID DI0452)	Special (CORS)	
VACP (PID AF9563)	Special (CORS)	
VTC1 (PIDDJ8951)	Special (CORS)	
VTMI (PID DL2744)	Special (CORS)	
VTRI (PID DN8745)	Special (CORS)	
VTRU (PID DK4109)	Special (CORS)	
VTUV (PID DG9783)	Special (CORS)	

*Cooperative Base Network Control Station

Section 2 – Coordinate Summary

7505-074 - Addison, Vermont LiDAR

Coordinate System:

Horizontal Datum - NAD 83(2011)

Vermont (FIPSZONE 4400)

UTM Zone 18 N

Vertical Datum - NAVD 88

Geoid - GEOID12A

Units - Meters

Point ID	Grid North	Grid East	UTM North	UTM East	Ortho Height	Ellipsoid Height
BE01	167186.919	447267.789	4873859.190	647713.058	109.983	81.300
BE02	167478.689	445995.608	4874112.229	646432.788	121.374	92.644
BE03	169103.078	446569.930	4875753.062	646957.529	118.599	89.899
BE04	164079.827	451402.644	4870879.184	651939.665	124.548	96.081
BE05	150290.108	451269.965	4857093.268	652224.328	159.232	130.650
BE06	162750.113	443067.495	4869297.790	643649.698	114.350	85.511
BE07	161492.718	460648.338	4868573.520	661258.676	439.545	411.735
BE08	181786.179	452716.002	4888615.331	652715.120	174.851	146.451
BE09	185241.876	440229.309	4891689.523	640130.880	51.173	22.267
BE10	185046.828	438891.598	4891453.940	638799.943	53.300	24.369
BE11	189753.298	440099.871	4896194.169	639864.352	53.711	24.774
BE12	188612.953	430849.005	4894773.226	630654.209	40.773	11.773
BE13	176123.435	428352.354	4882216.362	628538.658	57.936	28.961
BE14	195064.982	450146.088	4901808.345	649742.836	182.965	154.329
BE15	202449.547	445045.170	4909033.121	644420.006	110.696	81.816
BE16	204873.474	441091.857	4911335.028	640395.248	110.963	81.946
BE17	201002.116	437080.267	4907343.866	636504.223	43.183	14.136
BE18	150664.403	443641.564	4857236.774	644589.070	138.077	109.183
BE19	150162.162	459985.088	4857228.815	660938.578	479.824	451.891
BE20	174502.865	461823.033	4881612.500	662038.354	398.597	370.864
FO01R	176586.627	440455.722	4883046.579	640620.039	66.177	37.329
FO02R	176277.785	452778.001	4883111.936	652944.358	117.279	88.899
FO03R	172252.347	463277.369	4879407.271	663560.225	452.508	424.893
FO04R	168989.869	458499.325	4876001.592	658883.626	458.246	430.337
FO05	160104.675	463113.762	4867260.846	663764.858	560.012	532.354
FO06R	150223.177	459987.507	4857289.871	660939.151	481.412	453.479
FO07R	150180.611	451103.496	4856978.801	652061.262	150.561	121.969
FO08R	149738.852	444066.488	4856324.623	645041.711	148.038	119.150
FO09R	161245.012	441710.180	4867752.511	642338.790	103.269	74.389
FO10R	164044.919	451430.923	4870845.153	651968.985	124.917	96.452

Point ID	Grid North	Grid East	UTM North	UTM East	Ortho Height	Ellipsoid Height
FO11R	176324.047	429277.333	4882444.907	629456.917	47.347	18.365
FO12R	181995.725	431081.642	4888167.530	631087.802	47.136	18.140
FO13R	188622.819	431038.961	4894788.862	630843.736	39.191	10.191
FO14R	185302.281	439042.321	4891713.812	638942.806	48.119	19.188
FO15R	195033.758	450025.299	4901773.462	649623.068	167.757	139.116
FO16R	202223.724	445074.473	4908808.329	644456.174	127.721	98.843
FO17R	201210.375	439349.613	4907621.142	638765.764	52.638	23.613
FO18R	196745.807	442485.086	4903254.895	642035.265	120.517	91.590
FO19R	163999.484	457252.557	4870976.102	657788.771	332.131	304.106
FO20R	187822.841	451367.568	4894607.562	651183.969	144.635	116.126
SM01	189731.050	439895.603	4896165.722	639660.889	51.377	22.436
SM02	191040.635	434031.817	4897296.091	633761.056	30.483	1.487
SM03	185289.017	439065.733	4891701.268	638966.606	49.181	20.251
SM04	176408.464	432270.356	4882620.101	632445.364	30.883	1.899
SM05	169472.546	445802.475	4876099.042	646179.329	95.971	67.246
SM06	163521.203	447331.041	4870197.549	647887.338	104.738	76.045
SM07	150694.320	445442.309	4857321.101	646387.833	105.128	76.286
SM08	150198.960	452066.647	4857026.251	653023.316	135.814	107.278
SM09	152424.474	458873.478	4859456.332	659759.157	506.432	478.449
SM10	162113.195	459108.038	4869147.024	659700.395	396.018	368.115
SM11	174346.156	461352.791	4881441.602	661573.113	386.127	358.369
SM12	177131.198	452689.350	4883962.176	652829.851	100.563	72.175
SM13	187025.885	452032.559	4893831.284	651872.813	142.762	114.293
SM14	195415.072	452323.570	4902224.529	651908.401	131.997	103.457
SM15	196349.739	448363.497	4903038.071	647922.173	122.016	93.295
SM16	192699.174	439642.695	4899124.274	639317.840	32.675	3.714
SM17	203933.068	437559.799	4910287.536	636894.114	29.264	0.188
SM18	205084.395	444631.011	4911653.733	643925.773	70.429	41.513
SM19	202498.217	445769.937	4909103.852	645142.849	124.828	95.974
SM20	194501.506	440372.184	4900947.669	639992.014	31.168	2.207
TW01	148696.287	444167.518	4855285.737	645174.185	129.068	100.177
TW02	150237.523	451314.965	4857042.072	652270.891	161.457	132.878
TW03	150192.019	459951.508	4857257.641	660904.113	480.087	452.151
TW04	160603.617	461696.633	4867716.624	662333.349	449.282	421.534
TW05	158702.579	451678.768	4865513.346	652378.455	127.736	99.263
TW06	161756.031	442163.627	4868276.945	642776.486	77.548	48.681
TW07	170003.261	444018.361	4876575.344	644380.198	126.301	97.528
TW08	170443.448	446303.687	4877084.562	646650.804	119.177	90.474
TW09	171461.987	450766.858	4878237.858	651080.478	139.849	111.351
TW10	174349.355	461644.156	4881453.641	661864.229	393.195	365.453

Point ID	Grid North	Grid East	UTM North	UTM East	Ortho Height	Ellipsoid Height
TW11	180480.210	452732.586	4887310.606	652771.367	117.548	89.152
TW12	173815.899	440740.692	4880286.229	640988.909	51.271	22.430
TW13	176226.326	429268.288	4882346.978	629450.844	46.311	17.329
TW14	182508.255	431169.991	4888682.399	631160.522	50.836	21.839
TW15	185364.747	440806.411	4891829.858	640703.885	49.156	20.264
TW16	187554.778	451483.714	4894343.185	651308.200	144.692	116.191
TW17	195342.878	451885.569	4902139.041	651472.849	135.704	107.143
TW18	197769.781	442046.176	4904264.865	641565.444	89.941	60.996
TW19	202360.545	445159.029	4908947.643	644536.508	114.213	85.336
TW20	204892.936	441079.556	4911354.102	640382.361	110.848	81.831
UA01	167104.519	447450.132	4873782.364	647897.791	112.804	84.128
UA02	167444.139	445913.258	4874075.204	646351.534	119.916	91.184
UA03	169763.872	446292.913	4876405.064	646660.642	117.232	88.525
UA04	163898.196	451326.468	4870695.349	651869.034	124.250	95.777
UA05	150303.110	451299.177	4857107.145	652253.130	161.590	133.010
UA06	151753.913	443691.705	4858327.143	644606.248	119.800	90.912
UA07	181144.970	455871.804	4888070.352	655888.638	186.864	158.692
UA08	179716.845	452473.833	4886539.814	652535.945	110.565	82.156
UA09	181415.804	453227.315	4888260.699	653237.396	140.780	112.415
UA10	181612.018	453823.584	4888474.917	653827.369	173.132	144.808
UA11	182350.584	453395.677	4889200.067	653377.263	173.327	144.970
UA12	182748.380	450544.992	4889511.021	650516.118	133.350	104.827
UA13	184433.437	440380.504	4890886.187	640306.551	59.745	30.850
UA14	185231.614	440251.025	4891679.928	640152.894	51.669	22.764
UA15	185042.255	438870.178	4891448.719	638778.675	53.393	24.461
UA16	188612.806	430875.034	4894773.871	630680.224	40.442	11.442
UA17	189677.799	440335.411	4896125.882	640102.040	59.012	30.080
UA18	195058.205	450187.643	4901802.837	649784.573	181.559	152.924
UA19	201298.958	439222.573	4907705.797	638636.106	50.225	21.197
UA20	202339.058	445081.136	4908923.795	644459.317	118.460	89.582

Section 3 – Network Adjustment Report

Project Information		Coordinate System	
Name:	Vermont LIDAR Checkpoints.vce	Name:	US State Plane 1983 (2011)
Size:	10 MB	Datum:	NAD 1983 (2011)
Modified:	8/9/2013 5:38:18 AM (UTC:-4)	Zone:	Vermont 4400
Time zone:	Eastern Standard Time	Geoid:	GEOID12A (Conus)
Reference number:		Vertical datum:	

Network Adjustment Report

Adjustment Settings

Set-Up Errors

GNSS

Error in Height of Antenna: 0.000 m

Centering Error: 0.000 m

Covariance Display

Horizontal:

Propagated Linear Error [E]: U.S.

Constant Term [C]: 0.000 m

Scale on Linear Error [S]: 1.960

Three-Dimensional

Propagated Linear Error [E]: U.S.

Constant Term [C]: 0.000 m

Scale on Linear Error [S]: 1.960

Adjustment Statistics

Number of Iterations for Successful Adjustment: 2

Network Reference Factor: 1.00

Chi Square Test (95%): Passed

Precision Confidence Level: 95%

Degrees of Freedom: 1823

Post Processed Vector Statistics

Reference Factor: 1.00

Redundancy Number: 1683.55

A Priori Scalar: 2.31

RTK Vector Statistics

Reference Factor: 0.97

Redundancy Number: 139.45

A Priori Scalar: 1.73

Control Point Constraints

Point ID	Type	East σ (Meter)	North σ (Meter)	Height σ (Meter)	Elevation σ (Meter)
<u>NYET</u>	Local	Fixed	Fixed	Fixed	
<u>VCAP</u>	Local	Fixed	Fixed	Fixed	
<u>VTC1</u>	Local	Fixed	Fixed	Fixed	
<u>VTMI</u>	Local	Fixed	Fixed	Fixed	
<u>VTRI</u>	Local	Fixed	Fixed	Fixed	
<u>VTRU</u>	Local	Fixed	Fixed	Fixed	
<u>VTUV</u>	Local	Fixed	Fixed	Fixed	
Fixed = 0.000001(Meter)					

Adjusted Grid Coordinates

Point ID	Easting (Meter)	Easting Error (Meter)	Northing (Meter)	Northing Error (Meter)	Elevation (Meter)	Elevation Error (Meter)	Constraint
<u>BE1</u>	447267.789	0.010	167186.919	0.011	109.983	0.030	
<u>BE10</u>	438891.598	0.009	185046.828	0.016	53.300	0.031	
<u>BE11</u>	440099.871	0.008	189753.298	0.009	53.711	0.026	
<u>BE12</u>	430849.005	0.009	188612.954	0.011	40.773	0.020	
<u>BE13</u>	428352.354	0.003	176123.435	0.003	57.936	0.009	
<u>BE14</u>	450146.088	0.003	195064.982	0.004	182.965	0.007	
<u>BE15</u>	445045.170	0.003	202449.547	0.005	110.696	0.008	
<u>BE16</u>	441091.857	0.010	204873.474	0.011	110.963	0.030	
<u>BE17</u>	437080.267	0.005	201002.116	0.005	43.183	0.012	
<u>BE18</u>	443641.564	0.003	150664.403	0.004	138.078	0.008	
<u>BE19</u>	459985.088	0.003	150162.162	0.003	479.825	0.009	
<u>BE2</u>	445995.608	0.010	167478.689	0.011	121.374	0.027	
<u>BE20</u>	461823.033	0.003	174502.865	0.004	398.597	0.007	
<u>BE3</u>	446569.930	0.009	169103.078	0.011	118.599	0.019	
<u>BE4</u>	451402.644	0.010	164079.827	0.010	124.548	0.026	
<u>BE5</u>	451269.965	0.004	150290.108	0.004	159.232	0.007	
<u>BE6</u>	443067.495	0.009	162750.113	0.010	114.350	0.028	
<u>BE7</u>	460648.338	0.003	161492.718	0.003	439.547	0.007	
<u>BE8</u>	452716.002	0.009	181786.179	0.012	174.851	0.036	
<u>BE9</u>	440229.309	0.008	185241.876	0.012	51.173	0.020	
<u>FO5</u>	463113.762	0.034	160104.675	0.046	560.012	0.099	
<u>GPS14A</u>	439044.961	0.004	185289.242	0.006	50.270	0.010	
<u>GPS15A</u>	450037.837	0.031	195033.988	0.020	169.112	0.051	
<u>GPS16A</u>	445045.288	0.010	202222.807	0.010	126.196	0.036	
<u>GPS19A</u>	457277.756	0.005	164008.779	0.005	332.995	0.011	
<u>GPS1A</u>	440442.822	0.009	176562.235	0.007	63.187	0.016	
<u>GPS2A</u>	452791.993	0.010	176285.502	0.010	116.854	0.040	
<u>GPS3A</u>	463270.818	0.004	172261.047	0.004	452.048	0.012	

<u>GPS4A</u>	458494.121	0.004	168978.391	0.004	458.212	0.013	
<u>GPS7A</u>	451129.974	0.009	150201.917	0.012	151.838	0.031	
<u>GPS9A</u>	441734.217	0.019	161237.569	0.020	103.042	0.045	
<u>NYET</u>	416841.600	?	190464.713	?	203.047	?	LLh
<u>SM1</u>	439895.603	0.010	189731.050	0.011	51.377	0.033	
<u>SM10</u>	459108.038	0.003	162113.195	0.004	396.019	0.009	
<u>SM11</u>	461352.791	0.003	174346.156	0.004	386.127	0.007	
<u>SM12</u>	452689.350	0.014	177131.197	0.015	100.563	0.046	
<u>SM13</u>	452032.559	0.010	187025.885	0.014	142.762	0.039	
<u>SM14</u>	452323.570	0.009	195415.072	0.011	131.997	0.032	
<u>SM15</u>	448363.497	0.010	196349.739	0.014	122.016	0.030	
<u>SM16</u>	439642.695	0.009	192699.174	0.009	32.675	0.020	
<u>SM17</u>	437559.799	0.004	203933.068	0.004	29.264	0.008	
<u>SM18</u>	444631.011	0.003	205084.395	0.005	70.428	0.007	
<u>SM19</u>	445769.937	0.011	202498.217	0.015	124.828	0.032	
<u>SM2</u>	434031.816	0.011	191040.635	0.012	30.483	0.029	
<u>SM20</u>	440372.184	0.009	194501.506	0.012	31.168	0.025	
<u>SM3</u>	439065.733	0.004	185289.016	0.004	49.180	0.009	
<u>SM4</u>	432270.356	0.003	176408.464	0.004	30.883	0.007	
<u>SM5</u>	445802.475	0.011	169472.546	0.011	95.971	0.036	
<u>SM6</u>	447331.041	0.008	163521.203	0.008	104.738	0.015	
<u>SM7</u>	445442.309	0.010	150694.320	0.017	105.128	0.034	
<u>SM8</u>	452066.647	0.004	150198.960	0.004	135.814	0.010	
<u>SM9</u>	458873.478	0.003	152424.474	0.003	506.432	0.007	
<u>TW01</u>	444167.518	0.003	148696.287	0.004	129.068	0.007	
<u>TW02</u>	451314.965	0.003	150237.523	0.004	161.457	0.009	
<u>TW03</u>	459951.508	0.004	150192.019	0.005	480.087	0.010	
<u>TW04</u>	461696.633	0.003	160603.616	0.004	449.282	0.008	
<u>TW05</u>	451678.768	0.003	158702.578	0.004	127.736	0.008	
<u>TW06</u>	442163.627	0.003	161756.031	0.004	77.548	0.007	
<u>TW07</u>	444018.361	0.003	170003.261	0.004	126.301	0.007	
<u>TW08</u>	446303.687	0.003	170443.448	0.004	119.177	0.007	
<u>TW09</u>	450766.858	0.003	171461.987	0.004	139.849	0.010	
<u>TW10</u>	461644.156	0.003	174349.355	0.004	393.195	0.007	
<u>TW11</u>	452732.586	0.005	180480.210	0.008	117.548	0.015	
<u>TW12</u>	440740.692	0.003	173815.899	0.004	51.271	0.007	
<u>TW13</u>	429268.288	0.003	176226.326	0.004	46.310	0.009	
<u>TW14</u>	431169.991	0.003	182508.255	0.004	50.836	0.007	
<u>TW15</u>	440806.410	0.003	185364.747	0.004	49.156	0.007	
<u>TW16</u>	451483.714	0.003	187554.778	0.004	144.692	0.009	
<u>TW17</u>	451885.569	0.003	195342.878	0.004	135.704	0.007	
<u>TW18</u>	442046.176	0.004	197769.781	0.005	89.940	0.008	
<u>TW19</u>	445159.029	0.003	202360.545	0.004	114.212	0.010	

<u>TW20</u>	441079.556	0.003	204892.936	0.004	110.848	0.008	
<u>UA1</u>	447450.132	0.009	167104.519	0.011	112.804	0.029	
<u>UA10</u>	453823.584	0.016	181612.018	0.038	173.132	0.048	
<u>UA11</u>	453395.677	0.013	182350.584	0.021	173.327	0.037	
<u>UA12</u>	450544.992	0.010	182748.379	0.016	133.350	0.034	
<u>UA13</u>	440380.504	0.011	184433.437	0.017	59.745	0.038	
<u>UA14</u>	440251.025	0.009	185231.613	0.012	51.669	0.020	
<u>UA15</u>	438870.178	0.009	185042.254	0.011	53.393	0.026	
<u>UA16</u>	430875.034	0.010	188612.806	0.013	40.442	0.024	
<u>UA17</u>	440335.411	0.009	189677.799	0.012	59.012	0.026	
<u>UA18</u>	450187.643	0.003	195058.205	0.004	181.558	0.009	
<u>UA19</u>	439222.572	0.003	201298.958	0.004	50.224	0.007	
<u>UA2</u>	445913.258	0.011	167444.139	0.012	119.916	0.028	
<u>UA20</u>	445081.136	0.003	202339.058	0.004	118.460	0.009	
<u>UA3</u>	446292.913	0.010	169763.872	0.012	117.232	0.023	
<u>UA4</u>	451326.468	0.008	163898.196	0.010	124.250	0.029	
<u>UA5</u>	451299.177	0.003	150303.110	0.004	161.590	0.008	
<u>UA6</u>	443691.705	0.003	151753.913	0.004	119.800	0.008	
<u>UA7</u>	455871.804	0.041	181144.970	0.054	186.864	0.083	
<u>UA8</u>	452473.833	0.009	179716.845	0.011	110.565	0.032	
<u>UA9</u>	453227.315	0.008	181415.804	0.012	140.780	0.033	
<u>VCAP</u>	493422.284	?	195751.917	?	188.199	?	LLh
<u>VTC1</u>	491691.259	?	159893.355	?	432.571	?	LLh
<u>VTMI</u>	447657.600	?	166693.997	?	124.695	?	LLh
<u>VTRI</u>	460589.806	?	212677.541	?	140.562	?	LLh
<u>VTRU</u>	461296.266	?	123101.674	?	189.591	?	LLh
<u>VTUV</u>	444470.507	?	219014.396	?	141.421	?	LLh

Adjusted Geodetic Coordinates

Point ID	Latitude	Longitude	Height (Meter)	Height Error (Meter)	Constraint
<u>BE1</u>	N44°00'10.89481"	W73°09'27.05211"	81.300	0.030	
<u>BE10</u>	N44°09'47.17544"	W73°15'50.45018"	24.369	0.031	
<u>BE11</u>	N44°12'20.01106"	W73°14'58.00239"	24.774	0.026	
<u>BE12</u>	N44°11'40.12403"	W73°21'54.09236"	11.773	0.020	
<u>BE13</u>	N44°04'54.64596"	W73°23'40.39623"	28.961	0.009	
<u>BE14</u>	N44°15'14.81636"	W73°07'27.35146"	154.329	0.007	
<u>BE15</u>	N44°19'12.73221"	W73°11'20.07345"	81.815	0.008	
<u>BE16</u>	N44°20'30.14370"	W73°14'19.45505"	81.946	0.030	
<u>BE17</u>	N44°18'23.51646"	W73°17'18.86427"	14.135	0.012	
<u>BE18</u>	N43°51'14.61627"	W73°12'03.52009"	109.183	0.008	
<u>BE19</u>	N43°51'02.18126"	W72°59'51.61570"	451.891	0.009	
<u>BE2</u>	N44°00'20.01516"	W73°10'24.26102"	92.644	0.027	

<u>BE20</u>	N44°04'11.16858"	W72°58'35.61923"	370.864	0.007	
<u>BE3</u>	N44°01'12.79416"	W73°09'59.07070"	89.898	0.019	
<u>BE4</u>	N43°58'31.25406"	W73°06'20.43281"	96.081	0.026	
<u>BE5</u>	N43°51'04.44245"	W73°06'21.84636"	130.650	0.007	
<u>BE6</u>	N43°57'46.02110"	W73°12'33.86943"	85.511	0.028	
<u>BE7</u>	N43°57'09.42179"	W72°59'24.93064"	411.737	0.007	
<u>BE8</u>	N44°08'05.22661"	W73°05'27.20599"	146.451	0.036	
<u>BE9</u>	N44°09'53.89268"	W73°14'50.32559"	22.267	0.020	
<u>FO5</u>	N43°56'24.90861"	W72°57'34.01305"	532.354	0.099	
<u>GPS14A</u>	N44°09'55.07506"	W73°15'43.64914"	21.340	0.010	
<u>GPS15A</u>	N44°15'13.78557"	W73°07'32.22035"	140.471	0.051	
<u>GPS16A</u>	N44°19'05.38661"	W73°11'19.98215"	97.317	0.036	
<u>GPS19A</u>	N43°58'30.26490"	W73°01'56.82376"	304.972	0.011	
<u>GPS1A</u>	N44°05'12.75787"	W73°14'37.18565"	34.339	0.016	
<u>GPS2A</u>	N44°05'07.03067"	W73°05'22.01551"	88.475	0.040	
<u>GPS3A</u>	N44°02'58.80114"	W72°57'29.99946"	424.433	0.012	
<u>GPS4A</u>	N44°01'11.52861"	W73°01'03.65062"	430.302	0.013	
<u>GPS7A</u>	N43°51'01.55180"	W73°06'28.08495"	123.248	0.031	
<u>GPS9A</u>	N43°56'56.64132"	W73°13'33.07609"	74.163	0.045	
<u>NYET</u>	N44°12'34.85080"	W73°32'25.85231"	174.246	?	LLh
<u>SM1</u>	N44°12'19.22983"	W73°15'07.19300"	22.436	0.033	
<u>SM10</u>	N43°57'29.22294"	W73°00'34.18255"	368.116	0.009	
<u>SM11</u>	N44°04'06.00262"	W72°58'56.70925"	358.369	0.007	
<u>SM12</u>	N44°05'34.40620"	W73°05'26.90185"	72.175	0.046	
<u>SM13</u>	N44°10'54.82322"	W73°05'59.67036"	114.294	0.039	
<u>SM14</u>	N44°15'26.68313"	W73°05'49.31351"	103.457	0.032	
<u>SM15</u>	N44°15'55.99203"	W73°08'48.15964"	93.295	0.030	
<u>SM16</u>	N44°13'55.31231"	W73°15'19.81277"	3.714	0.020	
<u>SM17</u>	N44°19'58.61629"	W73°16'58.49281"	0.188	0.008	
<u>SM18</u>	N44°20'37.97907"	W73°11'39.76982"	41.513	0.007	
<u>SM19</u>	N44°19'14.50490"	W73°10'47.38571"	95.974	0.032	
<u>SM2</u>	N44°12'59.83221"	W73°19'31.87345"	1.487	0.029	
<u>SM20</u>	N44°14'53.91801"	W73°14'47.68169"	2.207	0.025	
<u>SM3</u>	N44°09'55.07397"	W73°15'42.71414"	20.250	0.009	
<u>SM4</u>	N44°05'05.22109"	W73°20'44.44219"	1.899	0.007	
<u>SM5</u>	N44°01'24.56194"	W73°10'33.66397"	67.245	0.036	
<u>SM6</u>	N43°58'12.14644"	W73°09'22.90393"	76.045	0.015	
<u>SM7</u>	N43°51'16.07220"	W73°10'42.90616"	76.286	0.034	
<u>SM8</u>	N43°51'01.67686"	W73°05'46.14807"	107.278	0.010	
<u>SM9</u>	N43°52'15.26115"	W73°00'42.01144"	478.449	0.007	
<u>TW01</u>	N43°50'10.99440"	W73°11'39.23193"	100.177	0.007	
<u>TW02</u>	N43°51'02.74938"	W73°06'19.81439"	132.878	0.009	
<u>TW03</u>	N43°51'03.14208"	W72°59'53.12719"	452.151	0.010	

<u>TW04</u>	N43°56'40.81394"	W72°58'37.68556"	421.534	0.008	
<u>TW05</u>	N43°55'37.10038"	W73°06'06.28596"	99.263	0.008	
<u>TW06</u>	N43°57'13.56061"	W73°13'14.02258"	48.681	0.007	
<u>TW07</u>	N44°01'41.27439"	W73°11'53.97315"	97.528	0.007	
<u>TW08</u>	N44°01'56.15018"	W73°10'11.51353"	90.474	0.007	
<u>TW09</u>	N44°02'30.27585"	W73°06'51.42431"	111.351	0.010	
<u>TW10</u>	N44°04'06.16137"	W72°58'43.61732"	365.453	0.007	
<u>TW11</u>	N44°07'22.91918"	W73°05'26.03830"	89.152	0.015	
<u>TW12</u>	N44°03'43.86982"	W73°14'22.68855"	22.430	0.007	
<u>TW13</u>	N44°04'58.29953"	W73°22'59.28158"	17.328	0.009	
<u>TW14</u>	N44°08'22.46410"	W73°21'36.76329"	21.839	0.007	
<u>TW15</u>	N44°09'58.04243"	W73°14'24.40172"	20.263	0.007	
<u>TW16</u>	N44°11'11.82777"	W73°06'24.55577"	116.191	0.009	
<u>TW17</u>	N44°15'24.24057"	W73°06'09.03418"	107.143	0.007	
<u>TW18</u>	N44°16'40.28558"	W73°13'33.53657"	60.996	0.008	
<u>TW19</u>	N44°19'09.87980"	W73°11'14.90177"	85.336	0.010	
<u>TW20</u>	N44°20'30.77059"	W73°14'20.01827"	81.830	0.008	
<u>UA1</u>	N44°00'08.27216"	W73°09'18.83820"	84.128	0.029	
<u>UA10</u>	N44°07'59.83876"	W73°04'37.32583"	144.808	0.048	
<u>UA11</u>	N44°08'23.66942"	W73°04'56.81021"	144.970	0.037	
<u>UA12</u>	N44°08'35.88338"	W73°07'05.19479"	104.827	0.034	
<u>UA13</u>	N44°09'27.74600"	W73°14'43.19098"	30.850	0.038	
<u>UA14</u>	N44°09'53.56659"	W73°14'49.34402"	22.764	0.020	
<u>UA15</u>	N44°09'47.02083"	W73°15'51.41230"	24.461	0.026	
<u>UA16</u>	N44°11'40.12813"	W73°21'52.92029"	11.442	0.024	
<u>UA17</u>	N44°12'17.63457"	W73°14'47.36330"	30.080	0.026	
<u>UA18</u>	N44°15'14.60706"	W73°07'25.47603"	152.924	0.009	
<u>UA19</u>	N44°18'33.78888"	W73°15'42.33899"	21.197	0.007	
<u>UA2</u>	N44°00'18.87399"	W73°10'27.94480"	91.183	0.028	
<u>UA20</u>	N44°19'09.16251"	W73°11'18.40857"	89.581	0.009	
<u>UA3</u>	N44°01'34.13015"	W73°10'11.74933"	88.525	0.023	
<u>UA4</u>	N43°58'25.35125"	W73°06'23.79053"	95.777	0.029	
<u>UA5</u>	N43°51'04.87065"	W73°06'20.54273"	133.010	0.008	
<u>UA6</u>	N43°51'49.92928"	W73°12'01.68836"	90.912	0.008	
<u>UA7</u>	N44°07'45.16211"	W73°03'05.04667"	158.692	0.083	
<u>UA8</u>	N44°06'58.12707"	W73°05'37.42845"	82.156	0.032	
<u>UA9</u>	N44°07'53.34538"	W73°05'04.08595"	112.415	0.033	
<u>VCAP</u>	N44°15'43.10641"	W72°34'56.55478"	160.539	?	LLh
<u>VTC1</u>	N43°56'21.21809"	W72°36'12.56537"	405.144	?	LLh
<u>VTMI</u>	N43°59'55.02507"	W73°09'09.38024"	96.027	?	LLh
<u>VTRI</u>	N44°24'47.72636"	W72°59'41.37328"	112.262	?	LLh
<u>VTRU</u>	N43°36'25.63963"	W72°58'45.90373"	161.449	?	LLh
<u>VTUV</u>	N44°28'09.21279"	W73°11'52.37575"	112.410	?	LLh

Adjusted ECEF Coordinates

Point ID	X (Meter)	X Error (Meter)	Y (Meter)	Y Error (Meter)	Z (Meter)	Z Error (Meter)	3D Error (Meter)	Constraint
<u>BE1</u>	1331449.302	0.011	-4398183.966	0.022	4408389.878	0.024	0.034	
<u>BE10</u>	1319696.663	0.013	-4388761.778	0.025	4421127.259	0.022	0.036	
<u>BE11</u>	1319865.073	0.009	-4385277.999	0.019	4424510.372	0.020	0.029	
<u>BE12</u>	1311259.183	0.009	-4388745.045	0.017	4423618.690	0.015	0.024	
<u>BE13</u>	1311491.389	0.003	-4397784.087	0.007	4414648.950	0.007	0.010	
<u>BE14</u>	1328377.332	0.004	-4378871.159	0.006	4428466.926	0.006	0.009	
<u>BE15</u>	1321937.900	0.004	-4375408.842	0.007	4433673.250	0.006	0.010	
<u>BE16</u>	1317650.751	0.011	-4374958.119	0.019	4435382.542	0.024	0.033	
<u>BE17</u>	1314616.254	0.005	-4378671.714	0.010	4432538.997	0.008	0.014	
<u>BE18</u>	1331437.160	0.004	-4410205.017	0.007	4396488.370	0.006	0.010	
<u>BE19</u>	1347227.818	0.003	-4405943.440	0.006	4396449.025	0.007	0.010	
<u>BE2</u>	1330175.137	0.011	-4398373.705	0.021	4408600.238	0.019	0.031	
<u>BE20</u>	1343884.854	0.003	-4389226.781	0.005	4413922.684	0.006	0.008	
<u>BE3</u>	1330383.927	0.010	-4397125.955	0.015	4409769.898	0.016	0.024	
<u>BE4</u>	1336051.850	0.011	-4399031.456	0.018	4406187.483	0.020	0.029	
<u>BE5</u>	1338808.470	0.004	-4408216.436	0.006	4396276.804	0.005	0.009	
<u>BE6</u>	1328363.141	0.009	-4402363.799	0.020	4405175.347	0.022	0.031	
<u>BE7</u>	1345489.996	0.003	-4398225.156	0.005	4404588.603	0.005	0.008	
<u>BE8</u>	1333614.553	0.012	-4386935.017	0.026	4418954.417	0.026	0.039	
<u>BE9</u>	1320933.826	0.010	-4388237.147	0.014	4421274.523	0.019	0.025	
<u>FO5</u>	1348159.794	0.044	-4398495.673	0.060	4403683.069	0.087	0.114	
<u>GPS14A</u>	1319791.821	0.005	-4388553.501	0.007	4421300.056	0.008	0.012	
<u>GPS15A</u>	1328277.532	0.041	-4378914.263	0.036	4428434.467	0.031	0.063	
<u>GPS16A</u>	1321988.859	0.009	-4375570.513	0.026	4433521.861	0.027	0.039	
<u>GPS19A</u>	1341722.834	0.005	-4397484.431	0.008	4406310.554	0.009	0.013	
<u>GPS1A</u>	1322957.642	0.010	-4393946.237	0.013	4415054.249	0.011	0.020	
<u>GPS2A</u>	1334826.410	0.013	-4390524.402	0.029	4414964.939	0.028	0.043	
<u>GPS3A</u>	1345747.669	0.005	-4390320.989	0.009	4412354.729	0.009	0.013	
<u>GPS4A</u>	1341872.875	0.003	-4393917.816	0.010	4409978.358	0.009	0.014	
<u>GPS7A</u>	1338691.550	0.011	-4408310.961	0.021	4396207.337	0.026	0.035	
<u>GPS9A</u>	1327402.368	0.023	-4403749.957	0.029	4404070.317	0.038	0.053	
<u>NYET</u>	1297510.260	?	-4391722.925	?	4424942.928	?	?	LLh
<u>SM1</u>	1319674.037	0.011	-4385351.299	0.024	4424491.456	0.025	0.036	
<u>SM10</u>	1343880.108	0.004	-4398240.909	0.007	4404998.306	0.007	0.010	
<u>SM11</u>	1343465.891	0.004	-4389461.631	0.005	4413799.424	0.005	0.008	
<u>SM12</u>	1334548.000	0.016	-4389982.337	0.033	4415560.495	0.034	0.050	
<u>SM13</u>	1331857.233	0.011	-4383633.514	0.026	4422687.529	0.032	0.043	
<u>SM14</u>	1330373.551	0.010	-4377959.849	0.023	4428693.770	0.025	0.035	
<u>SM15</u>	1326391.885	0.014	-4378500.491	0.025	4429334.562	0.020	0.035	
<u>SM16</u>	1318805.992	0.011	-4383438.632	0.015	4426603.837	0.016	0.024	

<u>SM17</u>	1314455.916	0.004	-4376568.138	0.006	4434629.375	0.007	0.010	
<u>SM18</u>	1320980.109	0.004	-4373747.210	0.006	4435527.247	0.005	0.009	
<u>SM19</u>	1322623.143	0.014	-4375172.396	0.025	4433722.288	0.023	0.037	
<u>SM2</u>	1313790.584	0.012	-4386189.592	0.022	4425375.129	0.022	0.033	
<u>SM20</u>	1319124.717	0.010	-4382023.654	0.019	4427898.731	0.019	0.029	
<u>SM3</u>	1319811.496	0.005	-4388546.792	0.007	4421299.272	0.006	0.010	
<u>SM4</u>	1315171.787	0.004	-4396427.542	0.005	4414864.586	0.005	0.008	
<u>SM5</u>	1329568.684	0.013	-4397091.819	0.024	4410015.333	0.028	0.040	
<u>SM6</u>	1332274.217	0.009	-4400589.774	0.011	4405749.144	0.012	0.018	
<u>SM7</u>	1333144.813	0.017	-4409631.810	0.031	4396497.982	0.018	0.039	
<u>SM8</u>	1339583.675	0.004	-4408025.115	0.008	4396199.057	0.008	0.012	
<u>SM9</u>	1345700.221	0.003	-4404796.004	0.005	4398093.834	0.006	0.008	
<u>TW01</u>	1332347.867	0.003	-4411344.129	0.006	4395065.929	0.006	0.009	
<u>TW02</u>	1338862.884	0.003	-4408239.423	0.006	4396240.664	0.007	0.010	
<u>TW03</u>	1347189.579	0.005	-4405933.844	0.008	4396470.592	0.006	0.011	
<u>TW04</u>	1346678.849	0.003	-4398509.577	0.006	4403959.663	0.007	0.009	
<u>TW05</u>	1337438.619	0.004	-4402511.557	0.006	4402319.911	0.006	0.009	
<u>TW06</u>	1327699.228	0.003	-4403262.752	0.006	4404428.582	0.005	0.009	
<u>TW07</u>	1327759.244	0.003	-4397286.808	0.005	4410407.275	0.006	0.009	
<u>TW08</u>	1329849.516	0.003	-4396316.409	0.005	4410732.484	0.006	0.009	
<u>TW09</u>	1333905.272	0.004	-4394338.065	0.008	4411504.201	0.007	0.011	
<u>TW10</u>	1343744.986	0.003	-4389377.959	0.005	4413807.872	0.006	0.009	
<u>TW11</u>	1333891.884	0.007	-4387758.040	0.014	4417977.213	0.009	0.018	
<u>TW12</u>	1323814.315	0.004	-4395672.365	0.006	4413074.912	0.005	0.009	
<u>TW13</u>	1312343.146	0.004	-4397439.398	0.007	4414721.863	0.006	0.010	
<u>TW14</u>	1312847.193	0.003	-4392714.574	0.006	4419249.476	0.006	0.009	
<u>TW15</u>	1321459.192	0.003	-4387984.267	0.006	4421365.005	0.005	0.008	
<u>TW16</u>	1331222.441	0.003	-4383445.442	0.007	4423065.233	0.007	0.010	
<u>TW17</u>	1329971.035	0.003	-4378139.893	0.006	4428642.345	0.005	0.008	
<u>TW18</u>	1320050.652	0.004	-4379395.514	0.007	4430290.967	0.005	0.010	
<u>TW19</u>	1322066.125	0.004	-4375436.991	0.008	4433612.718	0.007	0.011	
<u>TW20</u>	1317634.881	0.003	-4374948.688	0.006	4435396.300	0.006	0.009	
<u>UA1</u>	1331641.332	0.010	-4398186.709	0.021	4408333.616	0.022	0.032	
<u>UA10</u>	1334708.753	0.019	-4386722.046	0.028	4418833.916	0.053	0.063	
<u>UA11</u>	1334145.345	0.019	-4386358.164	0.030	4419361.924	0.027	0.044	
<u>UA12</u>	1331330.291	0.012	-4386908.919	0.028	4419604.506	0.025	0.039	
<u>UA13</u>	1321249.468	0.017	-4388735.724	0.031	4420701.554	0.024	0.043	
<u>UA14</u>	1320956.833	0.011	-4388237.917	0.015	4421267.649	0.017	0.025	
<u>UA15</u>	1319677.168	0.009	-4388771.181	0.018	4421123.899	0.021	0.029	
<u>UA16</u>	1311284.028	0.011	-4388737.282	0.018	4423618.550	0.020	0.029	
<u>UA17</u>	1320107.102	0.012	-4385262.530	0.019	4424461.489	0.019	0.030	
<u>UA18</u>	1328418.162	0.004	-4378862.432	0.007	4428461.319	0.007	0.011	
<u>UA19</u>	1316602.857	0.004	-4377848.781	0.006	4432770.824	0.005	0.009	

<u>UA2</u>	1330103.363	0.013	-4398419.878	0.021	4408573.888	0.021	0.033	
<u>UA20</u>	1321997.088	0.004	-4375477.182	0.007	4433599.843	0.007	0.011	
<u>UA3</u>	1329980.852	0.012	-4396768.730	0.017	4410242.471	0.019	0.028	
<u>UA4</u>	1336016.936	0.009	-4399174.038	0.021	4406056.159	0.022	0.032	
<u>UA5</u>	1338834.165	0.003	-4408200.842	0.006	4396287.970	0.006	0.009	
<u>UA6</u>	1331254.251	0.004	-4409457.629	0.006	4397261.587	0.006	0.009	
<u>UA7</u>	1336766.018	0.052	-4386435.746	0.061	4418518.438	0.070	0.107	
<u>UA8</u>	1333803.043	0.012	-4388336.580	0.023	4417422.998	0.024	0.035	
<u>UA9</u>	1334173.465	0.012	-4387006.447	0.023	4418667.510	0.025	0.036	
<u>VCAP</u>	1369550.407	?	-4365534.839	?	4429096.663	?	?	LLh
<u>VTC1</u>	1375456.098	?	-4390023.234	?	4403512.772	?	?	LLh
<u>VTMI</u>	1331927.801	?	-4398405.673	?	4408047.767	?	?	LLh
<u>VTRI</u>	1334643.301	?	-4364012.356	?	4441086.569	?	?	LLh
<u>VTRU</u>	1354044.031	?	-4423195.217	?	4376698.504	?	?	LLh
<u>VTUV</u>	1317910.127	?	-4364546.262	?	4445527.111	?	?	LLh

Error Ellipse Components

Point ID	Semi-major axis (Meter)	Semi-minor axis (Meter)	Azimuth
<u>BE1</u>	0.014	0.012	153°
<u>BE10</u>	0.022	0.009	159°
<u>BE11</u>	0.012	0.010	150°
<u>BE12</u>	0.014	0.011	0°
<u>BE13</u>	0.004	0.003	164°
<u>BE14</u>	0.005	0.004	166°
<u>BE15</u>	0.006	0.004	173°
<u>BE16</u>	0.015	0.011	30°
<u>BE17</u>	0.006	0.006	168°
<u>BE18</u>	0.005	0.004	175°
<u>BE19</u>	0.004	0.003	162°
<u>BE2</u>	0.014	0.012	36°
<u>BE20</u>	0.005	0.004	162°
<u>BE3</u>	0.014	0.011	168°
<u>BE4</u>	0.013	0.011	44°
<u>BE5</u>	0.005	0.004	148°
<u>BE6</u>	0.013	0.010	152°
<u>BE7</u>	0.004	0.004	151°
<u>BE8</u>	0.016	0.010	160°
<u>BE9</u>	0.015	0.011	175°
<u>FO5</u>	0.058	0.041	167°
<u>GPS14A</u>	0.007	0.005	174°
<u>GPS15A</u>	0.043	0.016	118°
<u>GPS16A</u>	0.014	0.011	135°

<u>GPS19A</u>	0.007	0.005	140°
<u>GPS1A</u>	0.013	0.006	122°
<u>GPS2A</u>	0.013	0.012	44°
<u>GPS3A</u>	0.005	0.005	58°
<u>GPS4A</u>	0.005	0.004	25°
<u>GPS7A</u>	0.015	0.011	18°
<u>GPS9A</u>	0.031	0.015	136°
<u>SM1</u>	0.014	0.012	149°
<u>SM10</u>	0.005	0.004	36°
<u>SM11</u>	0.005	0.004	143°
<u>SM12</u>	0.020	0.016	147°
<u>SM13</u>	0.019	0.010	158°
<u>SM14</u>	0.014	0.011	4°
<u>SM15</u>	0.019	0.011	160°
<u>SM16</u>	0.012	0.011	42°
<u>SM17</u>	0.005	0.004	158°
<u>SM18</u>	0.006	0.003	159°
<u>SM19</u>	0.020	0.011	152°
<u>SM2</u>	0.016	0.012	148°
<u>SM20</u>	0.015	0.011	171°
<u>SM3</u>	0.005	0.005	170°
<u>SM4</u>	0.005	0.004	150°
<u>SM5</u>	0.016	0.012	41°
<u>SM6</u>	0.010	0.009	137°
<u>SM7</u>	0.022	0.010	159°
<u>SM8</u>	0.005	0.004	164°
<u>SM9</u>	0.004	0.003	161°
<u>TW01</u>	0.006	0.003	166°
<u>TW02</u>	0.005	0.004	172°
<u>TW03</u>	0.006	0.005	21°
<u>TW04</u>	0.005	0.004	160°
<u>TW05</u>	0.005	0.004	19°
<u>TW06</u>	0.005	0.003	173°
<u>TW07</u>	0.005	0.004	165°
<u>TW08</u>	0.005	0.004	179°
<u>TW09</u>	0.005	0.004	10°
<u>TW10</u>	0.006	0.004	160°
<u>TW11</u>	0.010	0.007	7°
<u>TW12</u>	0.005	0.004	0°
<u>TW13</u>	0.005	0.004	5°
<u>TW14</u>	0.005	0.003	177°
<u>TW15</u>	0.005	0.003	170°
<u>TW16</u>	0.005	0.004	9°

<u>TW17</u>	0.005	0.003	169°
<u>TW18</u>	0.006	0.005	164°
<u>TW19</u>	0.006	0.004	19°
<u>TW20</u>	0.005	0.003	175°
<u>UA1</u>	0.014	0.010	150°
<u>UA10</u>	0.049	0.015	17°
<u>UA11</u>	0.029	0.012	154°
<u>UA12</u>	0.020	0.012	2°
<u>UA13</u>	0.022	0.011	155°
<u>UA14</u>	0.015	0.011	175°
<u>UA15</u>	0.014	0.010	20°
<u>UA16</u>	0.017	0.012	163°
<u>UA17</u>	0.015	0.011	152°
<u>UA18</u>	0.005	0.004	158°
<u>UA19</u>	0.005	0.004	175°
<u>UA2</u>	0.016	0.012	39°
<u>UA20</u>	0.005	0.004	14°
<u>UA3</u>	0.016	0.011	146°
<u>UA4</u>	0.013	0.009	151°
<u>UA5</u>	0.005	0.004	155°
<u>UA6</u>	0.005	0.004	24°
<u>UA7</u>	0.075	0.038	149°
<u>UA8</u>	0.014	0.011	160°
<u>UA9</u>	0.015	0.011	176°

Adjusted GPS Observations

Transformation
Parameters

Deflection in Latitude: -0.025 sec (95%) 0.010 sec

Deflection in Longitude: -0.019 sec (95%) 0.007 sec

Azimuth Rotation: -0.011 sec (95%) 0.002 sec

Scale Factor: 1.00000002 (95%) 0.00000001

Observation ID		Observation	A-posteriori Error	Residual	Standardized Residual
<u>NYET --> UA5 (PV2074)</u>	Az.	138°38'52"	0.011 sec	0.010 sec	0.455
	ΔHt.	-41.258 m	0.008 m	0.075 m	6.123
	Ellip Dist.	52916.668 m	0.004 m	0.001 m	0.104
<u>VTRI --> SM17 (PV1552)</u>	Az.	248°51'44"	0.032 sec	0.023 sec	0.340
	ΔHt.	-112.075 m	0.008 m	-0.062 m	-4.974
	Ellip Dist.	24634.351 m	0.003 m	0.000 m	0.063

<u>VTRU --> UA18 (PV3364)</u>	Az.	350°53'28"	0.010 sec	0.417 sec	4.097
	ΔHt.	-8.494 m	0.009 m	-0.066 m	-4.833
	Ellip Dist.	72809.804 m	0.004 m	-0.021 m	-2.527
<u>VCAP --> SM9 (PV1052)</u>	Az.	218°30'41"	0.012 sec	-0.035 sec	-1.692
	ΔHt.	317.897 m	0.007 m	0.054 m	4.418
	Ellip Dist.	55417.121 m	0.003 m	0.000 m	0.066
<u>VTUV --> SM9 (PV545)</u>	Az.	167°18'32"	0.008 sec	-0.081 sec	-4.181
	ΔHt.	366.009 m	0.007 m	0.009 m	0.693
	Ellip Dist.	68130.228 m	0.003 m	0.001 m	0.085
<u>NYET --> SM18 (PV2106)</u>	Az.	61°31'31"	0.032 sec	0.001 sec	0.024
	ΔHt.	-132.731 m	0.007 m	0.054 m	4.174
	Ellip Dist.	31399.671 m	0.003 m	0.008 m	1.364
<u>NYET --> SM9 (PV2099)</u>	Az.	131°25'21"	0.010 sec	0.019 sec	0.748
	ΔHt.	304.181 m	0.007 m	0.049 m	3.980
	Ellip Dist.	56689.085 m	0.003 m	0.013 m	2.381
<u>VTRU --> BE14 (PV3365)</u>	Az.	350°51'35"	0.009 sec	-0.005 sec	-0.323
	ΔHt.	-7.089 m	0.007 m	-0.048 m	-3.680
	Ellip Dist.	72822.851 m	0.004 m	0.002 m	0.342
<u>VTRU --> SM18 (PV3363)</u>	Az.	348°10'35"	0.007 sec	-0.023 sec	-2.392
	ΔHt.	-119.900 m	0.007 m	-0.043 m	-3.670
	Ellip Dist.	83660.115 m	0.005 m	0.012 m	1.463
<u>NYET --> UA18 (PV2104)</u>	Az.	81°25'51"	0.024 sec	-0.024 sec	-0.505
	ΔHt.	-21.325 m	0.009 m	0.046 m	3.582
	Ellip Dist.	33660.278 m	0.003 m	-0.006 m	-1.015
<u>VTRU --> UA19 (PV3339)</u>	Az.	343°54'12"	0.008 sec	-0.007 sec	-0.512
	ΔHt.	-140.217 m	0.007 m	-0.038 m	-3.580
	Ellip Dist.	81253.484 m	0.004 m	0.003 m	0.439
<u>VTUV --> SM3 (PV501)</u>	Az.	188°37'02"	0.025 sec	-0.014 sec	-0.418
	ΔHt.	-92.173 m	0.009 m	0.043 m	3.520
	Ellip Dist.	34155.515 m	0.004 m	0.002 m	0.432

<u>NYET --> BE14 (PV2105)</u>	Az.	81°24'35"	0.024 sec	0.018 sec	0.409
	ΔHt.	-19.921 m	0.007 m	0.050 m	3.518
	Ellip Dist.	33620.039 m	0.003 m	-0.014 m	-2.365
<u>VTC1 --> UA18 (PV2644)</u>	Az.	310°12'05"	0.013 sec	0.391 sec	3.514
	ΔHt.	-252.199 m	0.009 m	-0.094 m	-3.220
	Ellip Dist.	54399.056 m	0.004 m	-0.116 m	-3.342
<u>VTUV --> TW08 (PV4480)</u>	Az.	177°21'05"	0.013 sec	-0.030 sec	-1.337
	ΔHt.	-21.957 m	0.007 m	0.045 m	3.459
	Ellip Dist.	48605.492 m	0.004 m	-0.004 m	-0.549
<u>VTUV --> UA18 (PV550)</u>	Az.	166°05'22"	0.028 sec	-0.021 sec	-0.402
	ΔHt.	40.503 m	0.009 m	0.044 m	3.418
	Ellip Dist.	24628.984 m	0.004 m	-0.010 m	-1.386
<u>VCAP --> TW17 (PV3600)</u>	Az.	269°22'42"	0.020 sec	-0.014 sec	-0.419
	ΔHt.	-53.390 m	0.007 m	0.021 m	1.700
	Ellip Dist.	41539.764 m	0.003 m	0.016 m	3.310
<u>VTRU --> UA20 (PV3370)</u>	Az.	348°06'06"	0.009 sec	-0.436 sec	-3.207
	ΔHt.	-71.833 m	0.009 m	0.078 m	1.853
	Ellip Dist.	80880.201 m	0.004 m	0.020 m	1.955
<u>VTRU --> SM4 (PV3318)</u>	Az.	331°05'56"	0.011 sec	-0.017 sec	-0.737
	ΔHt.	-159.524 m	0.007 m	0.034 m	2.984
	Ellip Dist.	60696.942 m	0.004 m	0.002 m	0.207
<u>VTUV --> SM11 (PV532)</u>	Az.	158°48'31"	0.014 sec	0.000 sec	0.013
	ΔHt.	245.938 m	0.007 m	0.035 m	2.943
	Ellip Dist.	47752.500 m	0.004 m	-0.003 m	-0.347
<u>VTUV-SM3 (V264)</u>	Az.	188°37'02"	0.025 sec	0.019 sec	0.498
	ΔHt.	-92.173 m	0.009 m	-0.037 m	-2.938
	Ellip Dist.	34155.515 m	0.004 m	0.007 m	0.886
<u>VTRI --> TW06 (PV4156)</u>	Az.	199°32'54"	0.012 sec	-0.013 sec	-0.587
	ΔHt.	-63.599 m	0.007 m	0.034 m	2.856
	Ellip Dist.	54153.137 m	0.004 m	-0.001 m	-0.171

<u>VTRU --> SM17 (PV3341)</u>	Az.	343°18'06"	0.009 sec	-0.020 sec	-1.501
	ΔHt.	-161.224 m	0.008 m	-0.039 m	-2.811
	Ellip Dist.	84244.815 m	0.004 m	0.001 m	0.166
<u>VCAP --> TW16 (PV3601)</u>	Az.	258°53'00"	0.019 sec	0.019 sec	0.565
	ΔHt.	-44.345 m	0.009 m	0.015 m	0.973
	Ellip Dist.	42733.209 m	0.003 m	0.014 m	2.806
<u>VTRI-SM3 (V265)</u>	Az.	217°49'04"	0.025 sec	-0.020 sec	-0.600
	ΔHt.	-92.020 m	0.009 m	-0.021 m	-1.741
	Ellip Dist.	34834.291 m	0.004 m	0.018 m	2.783
<u>NYET --> SM11 (PV2086)</u>	Az.	109°10'54"	0.015 sec	-0.042 sec	-1.408
	ΔHt.	184.109 m	0.007 m	0.037 m	2.776
	Ellip Dist.	47339.215 m	0.004 m	-0.002 m	-0.287
<u>VTRU --> TW08 (PV4315)</u>	Az.	342°05'44"	0.013 sec	0.036 sec	1.439
	ΔHt.	-70.953 m	0.007 m	-0.019 m	-1.460
	Ellip Dist.	49659.515 m	0.004 m	0.017 m	2.765
<u>VTRU --> BE14 (PV3367)</u>	Az.	350°51'35"	0.009 sec	0.006 sec	0.454
	ΔHt.	-7.089 m	0.007 m	0.006 m	0.583
	Ellip Dist.	72822.851 m	0.004 m	-0.017 m	-2.741
<u>VTC1 --> UA5 (PV2617)</u>	Az.	256°34'19"	0.018 sec	-0.011 sec	-0.339
	ΔHt.	-272.132 m	0.008 m	-0.039 m	-2.725
	Ellip Dist.	41515.980 m	0.003 m	-0.004 m	-0.842
<u>VTUV --> BE13 (PV507)</u>	Az.	200°06'32"	0.014 sec	0.017 sec	0.712
	ΔHt.	-83.464 m	0.009 m	-0.048 m	-2.689
	Ellip Dist.	45818.885 m	0.003 m	-0.006 m	-1.025
<u>VTC1 --> SM17 (PV2624)</u>	Az.	309°03'29"	0.010 sec	0.033 sec	1.850
	ΔHt.	-404.930 m	0.008 m	0.037 m	2.673
	Ellip Dist.	69784.537 m	0.004 m	-0.002 m	-0.437
<u>NYET --> SM9 (PV2102)</u>	Az.	131°25'21"	0.010 sec	-0.004 sec	-0.277
	ΔHt.	304.181 m	0.007 m	-0.021 m	-1.777
	Ellip Dist.	56689.085 m	0.003 m	-0.014 m	-2.651

<u>VTRU --> BE13 (PV3321)</u>	Az.	327°48'49"	0.010 sec	-0.033 sec	-1.991
	ΔHt.	-132.461 m	0.009 m	0.043 m	2.555
	Ellip Dist.	62422.654 m	0.003 m	-0.005 m	-0.952
<u>VTUV --> UA5 (PV520)</u>	Az.	173°50'17"	0.009 sec	-0.025 sec	-1.720
	ΔHt.	20.570 m	0.008 m	0.031 m	2.555
	Ellip Dist.	69049.944 m	0.004 m	0.001 m	0.221
<u>VTMI --> TW17 (PV4003)</u>	Az.	7°56'26"	0.020 sec	-0.010 sec	-0.275
	ΔHt.	11.127 m	0.007 m	-0.014 m	-1.186
	Ellip Dist.	28959.321 m	0.004 m	0.020 m	2.530
<u>NYET --> TW04 (PV3489)</u>	Az.	122°55'43"	0.014 sec	-0.012 sec	-0.410
	ΔHt.	247.269 m	0.008 m	-0.033 m	-2.505
	Ellip Dist.	53884.990 m	0.004 m	-0.001 m	-0.065
<u>VTUV --> SM4 (PV504)</u>	Az.	195°29'31"	0.016 sec	0.061 sec	2.241
	ΔHt.	-110.527 m	0.007 m	-0.027 m	-2.484
	Ellip Dist.	44317.784 m	0.004 m	-0.014 m	-2.276
<u>VTUV --> TW06 (PV4485)</u>	Az.	181°49'14"	0.010 sec	-0.006 sec	-0.370
	ΔHt.	-63.752 m	0.007 m	-0.028 m	-2.480
	Ellip Dist.	57304.609 m	0.004 m	0.003 m	0.454
<u>VTRU-SM6 (V194)</u>	Az.	340°36'28"	0.036 sec	-0.008 sec	-0.328
	ΔHt.	-85.385 m	0.015 m	0.027 m	2.477
	Ellip Dist.	42764.501 m	0.008 m	-0.007 m	-1.155
<u>VTC1 --> SM9 (PV2642)</u>	Az.	257°06'25"	0.021 sec	0.009 sec	0.248
	ΔHt.	73.307 m	0.007 m	-0.031 m	-2.430
	Ellip Dist.	33657.878 m	0.003 m	0.000 m	-0.006
<u>VTMI --> TW07 (PV3998)</u>	Az.	311°49'40"	0.139 sec	0.095 sec	0.406
	ΔHt.	1.503 m	0.007 m	-0.021 m	-1.663
	Ellip Dist.	4918.870 m	0.004 m	0.016 m	2.393
<u>VTUV-BE9 (V232)</u>	Az.	186°40'13"	0.052 sec	-0.057 sec	-2.380
	ΔHt.	-90.156 m	0.020 m	0.005 m	0.477
	Ellip Dist.	34037.616 m	0.012 m	0.002 m	0.318

<u>VTRU --> UA6 (PV3329)</u>	Az.	328°06'03"	0.022 sec	-0.047 sec	-1.295
	ΔHt.	-70.522 m	0.008 m	-0.027 m	-2.379
	Ellip Dist.	33628.694 m	0.003 m	0.000 m	0.034
<u>VTRI --> TW08 (PV4155)</u>	Az.	198°20'37"	0.014 sec	-0.026 sec	-1.199
	ΔHt.	-21.804 m	0.007 m	0.031 m	2.378
	Ellip Dist.	44585.286 m	0.004 m	-0.008 m	-1.063
<u>NYET --> BE20 (PV2087)</u>	Az.	108°48'45"	0.015 sec	-0.044 sec	-1.335
	ΔHt.	196.604 m	0.007 m	0.030 m	2.355
	Ellip Dist.	47729.003 m	0.003 m	-0.004 m	-0.720
<u>NYET --> TW16 (PV3475)</u>	Az.	94°04'34"	0.025 sec	0.018 sec	0.425
	ΔHt.	-58.061 m	0.009 m	-0.037 m	-2.349
	Ellip Dist.	34763.468 m	0.003 m	0.008 m	1.366
<u>NYET --> BE15 (PV2111)</u>	Az.	66°15'04"	0.032 sec	-0.154 sec	-2.340
	ΔHt.	-92.430 m	0.008 m	0.009 m	0.524
	Ellip Dist.	30643.650 m	0.003 m	0.004 m	0.718
<u>VTRU --> SM9 (PV3362)</u>	Az.	354°56'43"	0.019 sec	-0.034 sec	-1.109
	ΔHt.	317.012 m	0.007 m	-0.030 m	-2.321
	Ellip Dist.	29423.200 m	0.003 m	0.000 m	0.071
<u>VTUV --> TW06 (PV4481)</u>	Az.	181°49'14"	0.010 sec	-0.009 sec	-0.469
	ΔHt.	-63.752 m	0.007 m	0.029 m	2.287
	Ellip Dist.	57304.609 m	0.004 m	-0.004 m	-0.473
<u>VTC1 --> UA6 (PV2612)</u>	Az.	260°18'15"	0.015 sec	0.008 sec	0.303
	ΔHt.	-314.228 m	0.008 m	0.000 m	0.000
	Ellip Dist.	48685.786 m	0.003 m	-0.013 m	-2.283
<u>VTRI --> TW20 (PV4130)</u>	Az.	247°54'07"	0.039 sec	0.001 sec	0.007
	ΔHt.	-30.432 m	0.008 m	0.007 m	0.425
	Ellip Dist.	21006.072 m	0.003 m	0.012 m	2.281
<u>VTMI-SM6 (V195)</u>	Az.	185°25'24"	0.499 sec	-0.021 sec	-0.115
	ΔHt.	-19.983 m	0.015 m	-0.012 m	-2.260
	Ellip Dist.	3189.561 m	0.008 m	-0.002 m	-0.648

<u>NYET --> UA5 (PV2077)</u>	Az.	138°38'52"	0.011 sec	0.002 sec	0.129
	ΔHt.	-41.258 m	0.008 m	-0.032 m	-2.255
	Ellip Dist.	52916.668 m	0.004 m	-0.009 m	-1.402
<u>VTRU-SM7 (V174)</u>	Az.	329°47'17"	0.056 sec	-0.076 sec	-2.254
	ΔHt.	-85.150 m	0.034 m	0.045 m	2.169
	Ellip Dist.	31823.263 m	0.018 m	-0.012 m	-1.276
<u>VCAP --> SM17 (PV1037)</u>	Az.	278°16'27"	0.014 sec	0.017 sec	0.795
	ΔHt.	-160.340 m	0.008 m	0.032 m	2.253
	Ellip Dist.	56459.397 m	0.004 m	-0.001 m	-0.124
<u>VCAP --> BE20 (PV1040)</u>	Az.	236°01'25"	0.020 sec	0.043 sec	1.140
	ΔHt.	210.321 m	0.007 m	0.029 m	2.253
	Ellip Dist.	38080.417 m	0.003 m	0.001 m	0.143
<u>VTUV --> BE14 (PV551)</u>	Az.	166°10'48"	0.026 sec	0.032 sec	0.603
	ΔHt.	41.908 m	0.007 m	0.034 m	2.247
	Ellip Dist.	24612.776 m	0.004 m	-0.002 m	-0.251
<u>VTC1 --> UA6 (PV2609)</u>	Az.	260°18'15"	0.015 sec	-0.009 sec	-0.365
	ΔHt.	-314.228 m	0.008 m	-0.024 m	-2.241
	Ellip Dist.	48685.786 m	0.003 m	0.006 m	1.068
<u>VTRU --> SM18 (PV3366)</u>	Az.	348°10'35"	0.007 sec	-0.001 sec	-0.093
	ΔHt.	-119.900 m	0.007 m	-0.007 m	-0.548
	Ellip Dist.	83660.115 m	0.005 m	-0.015 m	-2.235
<u>VTMI-BE4 (V192)</u>	Az.	124°27'47"	0.473 sec	0.082 sec	0.424
	ΔHt.	0.052 m	0.026 m	-0.010 m	-1.528
	Ellip Dist.	4567.212 m	0.009 m	-0.011 m	-2.228
<u>VTUV-SM12 (V240)</u>	Az.	168°24'38"	0.064 sec	0.018 sec	2.134
	ΔHt.	-40.254 m	0.046 m	0.027 m	2.188
	Ellip Dist.	42682.125 m	0.015 m	0.001 m	0.812
<u>NYET --> SM17 (PV2081)</u>	Az.	56°14'49"	0.032 sec	0.059 sec	0.896
	ΔHt.	-174.056 m	0.008 m	0.028 m	2.166
	Ellip Dist.	24710.404 m	0.003 m	0.003 m	0.543

<u>VTRI --> SM3 (PV1526)</u>	Az.	217°49'04"	0.025 sec	0.024 sec	0.727
	ΔHt.	-92.020 m	0.009 m	0.024 m	2.165
	Ellip Dist.	34834.291 m	0.004 m	0.000 m	-0.001
<u>VTRI --> UA6 (PV1543)</u>	Az.	195°09'28"	0.011 sec	-0.022 sec	-0.984
	ΔHt.	-21.373 m	0.008 m	0.042 m	2.149
	Ellip Dist.	63224.154 m	0.004 m	-0.011 m	-1.580
<u>VTUV --> TW05 (PV4487)</u>	Az.	172°41'52"	0.011 sec	-0.012 sec	-0.634
	ΔHt.	-13.173 m	0.008 m	0.029 m	2.149
	Ellip Dist.	60741.206 m	0.004 m	-0.002 m	-0.355
<u>VCAP --> BE5 (PV1026)</u>	Az.	222°46'48"	0.013 sec	0.074 sec	2.144
	ΔHt.	-29.902 m	0.007 m	0.008 m	0.654
	Ellip Dist.	61998.255 m	0.003 m	0.013 m	1.143
<u>VTRI --> BE19 (PV1571)</u>	Az.	180°12'35"	0.009 sec	0.003 sec	0.157
	ΔHt.	339.603 m	0.009 m	0.036 m	2.130
	Ellip Dist.	62519.335 m	0.003 m	-0.008 m	-1.280
<u>VTUV-UA11 (V253)</u>	Az.	165°49'51"	0.058 sec	-0.039 sec	-1.493
	ΔHt.	32.543 m	0.037 m	-0.022 m	-1.489
	Ellip Dist.	37734.658 m	0.023 m	-0.006 m	-2.127
<u>VTUV --> TW04 (PV4482)</u>	Az.	163°04'54"	0.011 sec	0.012 sec	0.825
	ΔHt.	309.097 m	0.008 m	0.029 m	2.126
	Ellip Dist.	60898.455 m	0.004 m	-0.003 m	-0.428
<u>VCAP --> UA5 (PV1030)</u>	Az.	222°46'06"	0.012 sec	0.013 sec	0.623
	ΔHt.	-27.542 m	0.008 m	-0.027 m	-2.090
	Ellip Dist.	61968.860 m	0.003 m	0.000 m	-0.079
<u>VCAP --> BE7 (PV1046)</u>	Az.	223°40'25"	0.015 sec	0.025 sec	0.816
	ΔHt.	251.189 m	0.007 m	-0.024 m	-2.082
	Ellip Dist.	47412.567 m	0.003 m	0.003 m	0.545
<u>VTUV --> BE18 (PV514)</u>	Az.	180°12'31"	0.009 sec	0.000 sec	-0.026
	ΔHt.	-3.255 m	0.008 m	0.029 m	2.071
	Ellip Dist.	68354.842 m	0.004 m	0.002 m	0.326

<u>VTRU --> BE5 (PV3333)</u>	Az.	339°25'34"	0.024 sec	-0.074 sec	-2.064
	ΔHt.	-30.786 m	0.007 m	0.015 m	1.300
	Ellip Dist.	28978.583 m	0.004 m	-0.005 m	-0.702
<u>VTRU --> TW20 (PV4293)</u>	Az.	345°46'59"	0.007 sec	0.028 sec	2.060
	ΔHt.	-79.582 m	0.008 m	0.009 m	0.770
	Ellip Dist.	84253.269 m	0.004 m	0.010 m	1.336
<u>NYET --> BE17 (PV2083)</u>	Az.	61°46'11"	0.045 sec	-0.080 sec	-1.121
	ΔHt.	-160.109 m	0.012 m	0.033 m	2.056
	Ellip Dist.	22816.861 m	0.005 m	0.005 m	1.031
<u>NYET --> BE18 (PV2068)</u>	Az.	145°19'18"	0.014 sec	0.057 sec	2.051
	ΔHt.	-65.083 m	0.008 m	-0.006 m	-0.447
	Ellip Dist.	47981.133 m	0.004 m	-0.005 m	-0.980
<u>VTRU-SM19 (V171)</u>	Az.	348°36'07"	0.025 sec	-0.026 sec	-2.048
	ΔHt.	-65.440 m	0.032 m	-0.022 m	-0.754
	Ellip Dist.	80901.155 m	0.016 m	0.006 m	0.547
<u>VTRI --> TW05 (PV4166)</u>	Az.	189°01'48"	0.011 sec	0.015 sec	0.729
	ΔHt.	-13.020 m	0.008 m	-0.024 m	-2.047
	Ellip Dist.	54706.269 m	0.004 m	0.009 m	1.140
<u>VTRI-BE9 (V231)</u>	Az.	216°14'04"	0.060 sec	0.070 sec	2.046
	ΔHt.	-90.003 m	0.020 m	-0.010 m	-0.852
	Ellip Dist.	34165.447 m	0.010 m	0.004 m	0.678
<u>VTMI --> TW20 (PV3986)</u>	Az.	349°46'28"	0.015 sec	0.041 sec	1.406
	ΔHt.	-14.180 m	0.008 m	0.006 m	0.473
	Ellip Dist.	38761.101 m	0.004 m	0.016 m	2.040
<u>VTRI --> UA18 (PV1575)</u>	Az.	210°12'40"	0.037 sec	-0.042 sec	-0.762
	ΔHt.	40.656 m	0.009 m	-0.009 m	-0.654
	Ellip Dist.	20461.072 m	0.004 m	-0.017 m	-2.040
<u>VTMI --> TW14 (PV3995)</u>	Az.	313°21'07"	0.031 sec	0.020 sec	0.287
	ΔHt.	-74.179 m	0.007 m	-0.017 m	-1.325
	Ellip Dist.	22845.614 m	0.003 m	0.012 m	2.020

<u>VTUV-SM19 (V170)</u>	Az.	175°00'47"	0.131 sec	-0.142 sec	-2.019
	ΔHt.	-16.443 m	0.032 m	0.001 m	0.138
	Ellip Dist.	16567.199 m	0.015 m	-0.001 m	-0.129
<u>VTRU --> GPS3A (PV3311)</u>	Az.	1°58'05"	0.018 sec	-0.032 sec	-0.381
	ΔHt.	263.004 m	0.012 m	0.095 m	2.018
	Ellip Dist.	49199.917 m	0.004 m	0.002 m	0.132
<u>NYET --> TW10 (PV3477)</u>	Az.	109°03'31"	0.017 sec	0.025 sec	0.660
	ΔHt.	191.194 m	0.007 m	-0.026 m	-1.994
	Ellip Dist.	47612.197 m	0.004 m	0.004 m	0.616
<u>VTRI --> TW14 (PV4142)</u>	Az.	223°56'03"	0.017 sec	0.008 sec	0.286
	ΔHt.	-90.431 m	0.007 m	-0.023 m	-1.964
	Ellip Dist.	42139.148 m	0.003 m	0.008 m	1.201
<u>VTRU --> TW18 (PV4295)</u>	Az.	345°12'37"	0.010 sec	0.019 sec	1.264
	ΔHt.	-100.420 m	0.008 m	0.021 m	1.957
	Ellip Dist.	77110.134 m	0.005 m	-0.004 m	-0.527
<u>NYET --> TW17 (PV3474)</u>	Az.	81°20'58"	0.024 sec	0.021 sec	0.492
	ΔHt.	-67.106 m	0.007 m	-0.025 m	-1.947
	Ellip Dist.	35381.214 m	0.003 m	0.006 m	1.258
<u>VTMI --> TW15 (PV3989)</u>	Az.	339°23'44"	0.029 sec	0.001 sec	0.012
	ΔHt.	-75.755 m	0.007 m	0.005 m	0.404
	Ellip Dist.	19888.032 m	0.004 m	0.014 m	1.935
<u>VTRI --> SM9 (PV1573)</u>	Az.	181°17'13"	0.009 sec	0.028 sec	1.933
	ΔHt.	366.162 m	0.007 m	-0.003 m	-0.241
	Ellip Dist.	60278.469 m	0.003 m	-0.007 m	-1.369
<u>NYET --> TW11 (PV3476)</u>	Az.	104°49'15"	0.043 sec	-0.069 sec	-1.396
	ΔHt.	-85.103 m	0.015 m	-0.038 m	-1.929
	Ellip Dist.	37253.241 m	0.005 m	0.006 m	0.844
<u>VTMI --> BE7 (PV2756)</u>	Az.	111°22'02"	0.048 sec	-0.129 sec	-1.299
	ΔHt.	315.706 m	0.007 m	0.029 m	1.916
	Ellip Dist.	13993.443 m	0.003 m	0.010 m	1.476

<u>NYET --> TW06 (PV3488)</u>	Az.	137°51'45"	0.018 sec	0.014 sec	0.441
	ΔHt.	-125.581 m	0.007 m	-0.024 m	-1.913
	Ellip Dist.	38279.467 m	0.004 m	0.003 m	0.443
<u>VCAP --> BE14 (PV1058)</u>	Az.	269°01'59"	0.018 sec	0.024 sec	0.709
	ΔHt.	-6.204 m	0.007 m	-0.026 m	-1.907
	Ellip Dist.	43282.694 m	0.003 m	0.010 m	1.753
<u>VTRU --> TW12 (PV4299)</u>	Az.	337°36'14"	0.013 sec	0.049 sec	1.905
	ΔHt.	-138.995 m	0.007 m	0.000 m	0.019
	Ellip Dist.	54722.023 m	0.004 m	0.007 m	0.981
<u>VTC1 --> BE14 (PV2647)</u>	Az.	310°10'42"	0.013 sec	0.004 sec	0.223
	ΔHt.	-250.795 m	0.007 m	-0.009 m	-0.836
	Ellip Dist.	54435.145 m	0.004 m	-0.012 m	-1.896
<u>VTRU --> TW04 (PV4321)</u>	Az.	0°16'48"	0.019 sec	0.067 sec	1.893
	ΔHt.	260.100 m	0.008 m	-0.007 m	-0.544
	Ellip Dist.	37504.742 m	0.004 m	-0.004 m	-0.549
<u>VCAP --> SM11 (PV1039)</u>	Az.	236°13'14"	0.020 sec	0.076 sec	1.891
	ΔHt.	197.826 m	0.007 m	0.018 m	1.468
	Ellip Dist.	38558.318 m	0.003 m	-0.002 m	-0.338
<u>VTC1 --> SM17 (PV2621)</u>	Az.	309°03'29"	0.010 sec	-0.012 sec	-0.773
	ΔHt.	-404.930 m	0.008 m	-0.021 m	-1.885
	Ellip Dist.	69784.537 m	0.004 m	-0.002 m	-0.285
<u>NYET --> SM11 (PV2096)</u>	Az.	109°10'54"	0.015 sec	0.009 sec	0.398
	ΔHt.	184.109 m	0.007 m	-0.021 m	-1.878
	Ellip Dist.	47339.215 m	0.004 m	0.001 m	0.222
<u>VTC1 --> BE20 (PV2627)</u>	Az.	295°59'34"	0.021 sec	0.085 sec	1.873
	ΔHt.	-34.270 m	0.007 m	0.018 m	1.423
	Ellip Dist.	33250.735 m	0.003 m	-0.004 m	-0.708
<u>VTC1 --> BE18 (PV2611)</u>	Az.	259°03'21"	0.016 sec	0.008 sec	0.232
	ΔHt.	-295.958 m	0.008 m	-0.013 m	-0.822
	Ellip Dist.	48928.986 m	0.003 m	-0.009 m	-1.861

<u>VTC1 --> BE5 (PV2616)</u>	Az.	256°33'50"	0.020 sec	-0.030 sec	-0.933
	ΔHt.	-274.492 m	0.007 m	-0.021 m	-1.858
	Ellip Dist.	41547.406 m	0.003 m	-0.005 m	-0.970
<u>VTRU --> TW10 (PV4309)</u>	Az.	0°03'25"	0.013 sec	0.040 sec	1.853
	ΔHt.	204.025 m	0.007 m	0.004 m	0.334
	Ellip Dist.	51249.765 m	0.004 m	-0.008 m	-0.846
<u>VTC1 --> TW06 (PV3746)</u>	Az.	272°04'55"	0.018 sec	0.015 sec	0.522
	ΔHt.	-356.455 m	0.007 m	0.021 m	1.849
	Ellip Dist.	49563.634 m	0.003 m	-0.002 m	-0.442
<u>VTRU --> TW05 (PV4322)</u>	Az.	344°33'03"	0.020 sec	0.042 sec	1.240
	ΔHt.	-62.170 m	0.008 m	0.017 m	1.231
	Ellip Dist.	36877.564 m	0.004 m	0.012 m	1.846
<u>VCAP --> TW14 (PV3596)</u>	Az.	257°55'57"	0.013 sec	-0.014 sec	-0.644
	ΔHt.	-138.696 m	0.008 m	-0.010 m	-0.909
	Ellip Dist.	63646.363 m	0.003 m	0.009 m	1.831
<u>VTRU --> TW13 (PV4298)</u>	Az.	328°34'57"	0.012 sec	0.015 sec	0.768
	ΔHt.	-144.094 m	0.009 m	0.006 m	0.372
	Ellip Dist.	62032.288 m	0.004 m	0.011 m	1.831
<u>VTUV --> BE19 (PV546)</u>	Az.	166°48'54"	0.008 sec	-0.023 sec	-1.424
	ΔHt.	339.450 m	0.009 m	0.013 m	0.779
	Ellip Dist.	70579.089 m	0.003 m	-0.010 m	-1.815
<u>VTRU --> UA5 (PV3337)</u>	Az.	339°29'21"	0.021 sec	0.003 sec	0.090
	ΔHt.	-28.427 m	0.008 m	-0.026 m	-1.815
	Ellip Dist.	28980.693 m	0.004 m	-0.010 m	-1.453
<u>VTUV --> BE20 (PV533)</u>	Az.	158°12'53"	0.013 sec	-0.046 sec	-1.812
	ΔHt.	258.433 m	0.007 m	0.023 m	1.772
	Ellip Dist.	47774.740 m	0.004 m	-0.005 m	-0.722
<u>VTMI --> TW15 (PV3994)</u>	Az.	339°23'44"	0.029 sec	0.042 sec	0.767
	ΔHt.	-75.755 m	0.007 m	-0.025 m	-1.803
	Ellip Dist.	19888.032 m	0.004 m	0.005 m	0.509

<u>VTRI --> TW08 (PV4159)</u>	Az.	198°20'37"	0.014 sec	-0.036 sec	-0.926
	ΔHt.	-21.804 m	0.007 m	-0.024 m	-1.799
	Ellip Dist.	44585.286 m	0.004 m	0.012 m	1.476
<u>VTC1 --> SM11 (PV2626)</u>	Az.	295°24'02"	0.021 sec	0.042 sec	1.091
	ΔHt.	-46.765 m	0.007 m	-0.007 m	-0.601
	Ellip Dist.	33606.096 m	0.004 m	0.013 m	1.790
<u>VTRU --> BE19 (PV3345)</u>	Az.	356°53'40"	0.021 sec	0.029 sec	0.706
	ΔHt.	290.453 m	0.009 m	-0.026 m	-1.542
	Ellip Dist.	27092.691 m	0.003 m	-0.012 m	-1.790
<u>VTRI --> TW17 (PV4150)</u>	Az.	206°19'00"	0.035 sec	-0.045 sec	-0.649
	ΔHt.	-5.125 m	0.007 m	-0.002 m	-0.181
	Ellip Dist.	19397.513 m	0.004 m	0.014 m	1.788
<u>VTRU --> SM3 (PV3315)</u>	Az.	339°59'47"	0.013 sec	0.028 sec	1.774
	ΔHt.	-141.170 m	0.009 m	0.009 m	0.851
	Ellip Dist.	66041.688 m	0.004 m	0.003 m	0.572
<u>VTUV --> SM9 (PV548)</u>	Az.	167°18'32"	0.008 sec	0.005 sec	0.405
	ΔHt.	366.009 m	0.007 m	-0.012 m	-0.985
	Ellip Dist.	68130.228 m	0.003 m	-0.009 m	-1.771
<u>VTMI --> TW16 (PV4004)</u>	Az.	9°56'21"	0.029 sec	-0.030 sec	-0.559
	ΔHt.	20.172 m	0.009 m	0.000 m	-0.010
	Ellip Dist.	21208.854 m	0.004 m	0.016 m	1.762
<u>VCAP --> TW05 (PV3620)</u>	Az.	228°21'09"	0.012 sec	-0.015 sec	-0.621
	ΔHt.	-61.285 m	0.008 m	-0.005 m	-0.408
	Ellip Dist.	55815.136 m	0.004 m	0.012 m	1.759
<u>VTC1 --> SM3 (PV2595)</u>	Az.	295°41'18"	0.015 sec	0.031 sec	1.751
	ΔHt.	-384.875 m	0.009 m	-0.005 m	-0.508
	Ellip Dist.	58433.814 m	0.004 m	-0.001 m	-0.223
<u>VTUV --> BE17 (PV526)</u>	Az.	201°49'11"	0.050 sec	0.036 sec	0.642
	ΔHt.	-98.281 m	0.012 m	0.014 m	0.557
	Ellip Dist.	19469.266 m	0.005 m	0.023 m	1.739

<u>NYET --> BE5 (PV2076)</u>	Az.	138°40'51"	0.013 sec	0.000 sec	-0.023
	ΔHt.	-43.618 m	0.007 m	-0.019 m	-1.733
	Ellip Dist.	52907.522 m	0.004 m	-0.005 m	-0.739
<u>NYET --> SM18 (PV2103)</u>	Az.	61°31'31"	0.032 sec	-0.104 sec	-1.732
	ΔHt.	-132.731 m	0.007 m	-0.006 m	-0.428
	Ellip Dist.	31399.671 m	0.003 m	0.002 m	0.494
<u>VTC1 --> GPS3A (PV2594)</u>	Az.	293°26'43"	0.029 sec	-0.001 sec	-0.035
	ΔHt.	19.298 m	0.012 m	-0.028 m	-1.723
	Ellip Dist.	30995.752 m	0.004 m	-0.005 m	-1.002
<u>VTRU --> BE7 (PV3349)</u>	Az.	358°42'05"	0.018 sec	0.030 sec	1.005
	ΔHt.	250.304 m	0.007 m	0.021 m	1.717
	Ellip Dist.	38397.170 m	0.003 m	0.002 m	0.372
<u>VTUV --> UA5 (PV523)</u>	Az.	173°50'17"	0.009 sec	0.001 sec	0.043
	ΔHt.	20.570 m	0.008 m	-0.022 m	-1.682
	Ellip Dist.	69049.944 m	0.004 m	-0.010 m	-1.716
<u>NYET --> TW20 (PV3461)</u>	Az.	58°30'34"	0.029 sec	-0.059 sec	-1.211
	ΔHt.	-92.413 m	0.008 m	-0.021 m	-1.709
	Ellip Dist.	28206.551 m	0.003 m	0.007 m	1.022
<u>VTC1 --> BE7 (PV2633)</u>	Az.	272°52'39"	0.023 sec	0.019 sec	0.413
	ΔHt.	6.598 m	0.007 m	-0.021 m	-1.706
	Ellip Dist.	31084.962 m	0.003 m	0.006 m	0.780
<u>VTC1 --> BE19 (PV2625)</u>	Az.	252°51'58"	0.020 sec	-0.046 sec	-1.095
	ΔHt.	46.748 m	0.009 m	-0.028 m	-1.699
	Ellip Dist.	33166.825 m	0.003 m	-0.003 m	-0.724
<u>VCAP --> TW10 (PV3607)</u>	Az.	235°58'57"	0.024 sec	0.047 sec	1.241
	ΔHt.	204.910 m	0.007 m	0.024 m	1.696
	Ellip Dist.	38314.530 m	0.003 m	0.005 m	0.810
<u>VTRU --> TW01 (PV4323)</u>	Az.	325°52'36"	0.021 sec	-0.006 sec	-0.167
	ΔHt.	-61.259 m	0.007 m	0.020 m	1.695
	Ellip Dist.	30797.624 m	0.004 m	0.003 m	0.437

<u>VCAP --> GPS3A (PV1004)</u>	Az.	232°01'15"	0.023 sec	0.062 sec	0.740
	ΔHt.	263.888 m	0.012 m	0.070 m	1.680
	Ellip Dist.	38223.254 m	0.004 m	0.006 m	0.386
<u>BE14 --> BE5 (PV55)</u>	Az.	178°07'41"	0.021 sec	0.015 sec	0.617
	ΔHt.	-23.697 m	0.010 m	-0.022 m	-1.675
	Ellip Dist.	44789.245 m	0.005 m	0.002 m	0.249
<u>VCAP --> SM9 (PV1055)</u>	Az.	218°30'41"	0.012 sec	0.033 sec	1.668
	ΔHt.	317.897 m	0.007 m	-0.007 m	-0.578
	Ellip Dist.	55417.121 m	0.003 m	0.001 m	0.240
<u>VTUV-SM2 (V222)</u>	Az.	199°58'33"	0.082 sec	0.000 sec	0.002
	ΔHt.	-110.933 m	0.029 m	-0.015 m	-1.202
	Ellip Dist.	29857.669 m	0.011 m	0.008 m	1.668
<u>VCAP --> UA5 (PV1027)</u>	Az.	222°46'06"	0.012 sec	0.021 sec	0.802
	ΔHt.	-27.542 m	0.008 m	0.253 m	1.666
	Ellip Dist.	61968.860 m	0.003 m	0.069 m	1.254
<u>NYET --> GPS19A (PV2053)</u>	Az.	122°28'16"	0.017 sec	0.036 sec	1.605
	ΔHt.	130.709 m	0.011 m	0.030 m	1.658
	Ellip Dist.	48321.128 m	0.005 m	0.001 m	0.137
<u>VCAP --> TW13 (PV3597)</u>	Az.	253°00'54"	0.013 sec	-0.038 sec	-1.647
	ΔHt.	-143.209 m	0.009 m	0.004 m	0.303
	Ellip Dist.	67060.447 m	0.003 m	0.002 m	0.319
<u>VCAP --> UA18 (PV1057)</u>	Az.	269°01'24"	0.018 sec	-0.015 sec	-0.315
	ΔHt.	-7.609 m	0.009 m	-0.064 m	-1.494
	Ellip Dist.	43241.252 m	0.003 m	-0.144 m	-1.645
<u>VTC1 --> BE13 (PV2601)</u>	Az.	284°18'01"	0.010 sec	-0.009 sec	-0.548
	ΔHt.	-376.167 m	0.009 m	0.024 m	1.642
	Ellip Dist.	65386.054 m	0.003 m	-0.005 m	-0.965
<u>BE17 --> UA20 (PV50)</u>	Az.	79°57'46"	0.157 sec	-0.087 sec	-0.455
	ΔHt.	75.445 m	0.014 m	0.002 m	0.114
	Ellip Dist.	8111.745 m	0.006 m	0.011 m	1.635

<u>NYET --> UA19 (PV2079)</u>	Az.	63°26'35"	0.035 sec	0.007 sec	0.114
	ΔHt.	-153.048 m	0.007 m	0.021 m	1.630
	Ellip Dist.	24864.709 m	0.003 m	0.002 m	0.369
<u>VCAP --> BE15 (PV1062)</u>	Az.	277°49'29"	0.020 sec	-0.027 sec	-0.914
	ΔHt.	-78.714 m	0.008 m	-0.017 m	-1.627
	Ellip Dist.	48839.612 m	0.003 m	0.001 m	0.155
<u>VTMI --> SM11 (PV2753)</u>	Az.	60°21'08"	0.049 sec	-0.050 sec	-0.431
	ΔHt.	262.343 m	0.007 m	0.003 m	0.196
	Ellip Dist.	15688.174 m	0.003 m	0.010 m	1.619
<u>VTRU --> SM17 (PV3344)</u>	Az.	343°18'06"	0.009 sec	0.002 sec	0.010
	ΔHt.	-161.224 m	0.008 m	0.037 m	1.611
	Ellip Dist.	84244.815 m	0.004 m	0.003 m	0.079
<u>NYET --> BE18 (PV2071)</u>	Az.	145°19'18"	0.014 sec	0.019 sec	0.861
	ΔHt.	-65.083 m	0.008 m	-0.025 m	-1.609
	Ellip Dist.	47981.133 m	0.004 m	-0.001 m	-0.147
<u>SM18 --> SM8 (PV56)</u>	Az.	171°48'05"	0.016 sec	0.022 sec	0.833
	ΔHt.	65.741 m	0.012 m	-0.011 m	-0.709
	Ellip Dist.	55386.987 m	0.006 m	-0.020 m	-1.607
<u>VTMI --> GPS1A (PV2752)</u>	Az.	323°22'31"	0.100 sec	-0.013 sec	-0.110
	ΔHt.	-61.683 m	0.016 m	0.020 m	0.628
	Ellip Dist.	12224.335 m	0.010 m	0.017 m	1.602
<u>NYET --> BE13 (PV2061)</u>	Az.	140°31'25"	0.033 sec	0.104 sec	1.599
	ΔHt.	-145.293 m	0.009 m	0.006 m	0.318
	Ellip Dist.	18388.694 m	0.003 m	-0.001 m	-0.170
<u>VTMI --> TW13 (PV3991)</u>	Az.	296°56'48"	0.041 sec	0.103 sec	1.359
	ΔHt.	-78.692 m	0.009 m	-0.009 m	-0.513
	Ellip Dist.	20712.862 m	0.003 m	0.010 m	1.594
<u>VCAP --> TW13 (PV3592)</u>	Az.	253°00'54"	0.013 sec	0.003 sec	0.130
	ΔHt.	-143.209 m	0.009 m	0.022 m	1.593
	Ellip Dist.	67060.447 m	0.003 m	0.004 m	0.805

<u>VTRU --> SM10 (PV3348)</u>	Az.	356°27'28"	0.019 sec	0.015 sec	0.508
	ΔHt.	206.683 m	0.009 m	0.032 m	1.590
	Ellip Dist.	39073.484 m	0.004 m	0.001 m	0.118
<u>VTMI --> TW11 (PV4001)</u>	Az.	19°45'21"	0.078 sec	-0.065 sec	-0.520
	ΔHt.	-6.870 m	0.015 m	-0.004 m	-0.156
	Ellip Dist.	14690.727 m	0.008 m	0.018 m	1.586
<u>VTMI-SM2 (V221)</u>	Az.	330°18'42"	0.069 sec	0.067 sec	1.584
	ΔHt.	-94.528 m	0.029 m	0.024 m	1.356
	Ellip Dist.	27899.989 m	0.013 m	0.008 m	1.005
<u>VCAP --> SM11 (PV1049)</u>	Az.	236°13'14"	0.020 sec	-0.020 sec	-0.659
	ΔHt.	197.826 m	0.007 m	-0.009 m	-0.776
	Ellip Dist.	38558.318 m	0.003 m	0.009 m	1.582
<u>VTMI --> SM9 (PV2695)</u>	Az.	141°22'47"	0.031 sec	-0.052 sec	-0.588
	ΔHt.	382.414 m	0.007 m	-0.033 m	-1.579
	Ellip Dist.	18149.961 m	0.003 m	-0.008 m	-0.880
<u>VTMI --> TW12 (PV3997)</u>	Az.	315°22'59"	0.078 sec	0.103 sec	0.657
	ΔHt.	-73.593 m	0.007 m	-0.005 m	-0.338
	Ellip Dist.	9927.972 m	0.004 m	0.014 m	1.568
<u>VTRU --> TW06 (PV4320)</u>	Az.	333°20'03"	0.015 sec	0.018 sec	0.696
	ΔHt.	-112.749 m	0.007 m	-0.020 m	-1.564
	Ellip Dist.	43130.531 m	0.004 m	0.008 m	1.103
<u>VTRI --> TW15 (PV4141)</u>	Az.	215°34'17"	0.022 sec	-0.075 sec	-1.562
	ΔHt.	-92.007 m	0.007 m	-0.013 m	-1.058
	Ellip Dist.	33725.128 m	0.004 m	0.008 m	1.260
<u>VTRI --> TW14 (PV4137)</u>	Az.	223°56'03"	0.017 sec	-0.007 sec	-0.193
	ΔHt.	-90.431 m	0.007 m	0.024 m	1.556
	Ellip Dist.	42139.148 m	0.003 m	0.003 m	0.653
<u>VTUV-SM7 (V175)</u>	Az.	178°41'56"	0.030 sec	-0.006 sec	-0.378
	ΔHt.	-36.153 m	0.034 m	-0.024 m	-1.556
	Ellip Dist.	68326.894 m	0.017 m	-0.010 m	-1.216

<u>VTUV --> BE17 (PV529)</u>	Az.	201°49'11"	0.050 sec	-0.024 sec	-0.344
	ΔHt.	-98.281 m	0.012 m	-0.026 m	-1.552
	Ellip Dist.	19469.266 m	0.005 m	-0.003 m	-0.436
<u>VTC1 --> SM9 (PV2639)</u>	Az.	257°06'25"	0.021 sec	-0.021 sec	-0.534
	ΔHt.	73.307 m	0.007 m	0.020 m	1.548
	Ellip Dist.	33657.878 m	0.003 m	-0.004 m	-0.628
<u>VTUV --> GPS14A (PV502)</u>	Az.	188°39'06"	0.026 sec	-0.023 sec	-0.604
	ΔHt.	-91.083 m	0.010 m	0.022 m	1.547
	Ellip Dist.	34158.584 m	0.006 m	-0.009 m	-1.001
<u>VTRU --> TW14 (PV4297)</u>	Az.	332°46'36"	0.009 sec	0.022 sec	1.543
	ΔHt.	-139.581 m	0.008 m	0.018 m	1.216
	Ellip Dist.	66608.776 m	0.004 m	0.001 m	0.078
<u>VCAP --> UA19 (PV1035)</u>	Az.	275°47'09"	0.016 sec	0.003 sec	0.107
	ΔHt.	-139.332 m	0.007 m	0.020 m	1.542
	Ellip Dist.	54483.858 m	0.003 m	-0.002 m	-0.290
<u>VCAP --> BE18 (PV1024)</u>	Az.	227°46'31"	0.011 sec	-0.006 sec	-0.279
	ΔHt.	-51.367 m	0.008 m	-0.023 m	-1.539
	Ellip Dist.	67165.430 m	0.003 m	-0.007 m	-1.368
<u>VCAP --> TW12 (PV3593)</u>	Az.	247°20'12"	0.015 sec	0.001 sec	0.019
	ΔHt.	-138.110 m	0.007 m	0.021 m	1.532
	Ellip Dist.	57067.219 m	0.003 m	-0.003 m	-0.439
<u>VTC1 --> UA20 (PV2650)</u>	Az.	312°15'01"	0.013 sec	-0.067 sec	-0.761
	ΔHt.	-315.538 m	0.009 m	0.031 m	1.530
	Ellip Dist.	63042.137 m	0.004 m	-0.005 m	-0.160
<u>VTUV --> TW02 (PV4489)</u>	Az.	173°49'50"	0.009 sec	-0.013 sec	-0.705
	ΔHt.	20.438 m	0.009 m	-0.002 m	-0.107
	Ellip Dist.	69116.773 m	0.004 m	0.014 m	1.529
<u>VTRU --> BE18 (PV3328)</u>	Az.	327°01'40"	0.020 sec	-0.033 sec	-0.780
	ΔHt.	-52.252 m	0.008 m	-0.023 m	-1.528
	Ellip Dist.	32732.388 m	0.004 m	-0.004 m	-0.664

<u>NYET --> TW10 (PV3481)</u>	Az.	109°03'31"	0.017 sec	-0.025 sec	-0.933
	ΔHt.	191.194 m	0.007 m	-0.007 m	-0.582
	Ellip Dist.	47612.197 m	0.004 m	-0.009 m	-1.525
<u>VTRU --> TW02 (PV4328)</u>	Az.	339°28'25"	0.022 sec	0.044 sec	0.958
	ΔHt.	-28.559 m	0.009 m	0.001 m	0.091
	Ellip Dist.	28913.686 m	0.004 m	0.011 m	1.512
<u>VTUV --> SM18 (PV549)</u>	Az.	178°51'05"	0.044 sec	0.081 sec	0.939
	ΔHt.	-70.903 m	0.007 m	0.010 m	0.647
	Ellip Dist.	13930.899 m	0.005 m	-0.016 m	-1.511
<u>VTUV-SM15 (V261)</u>	Az.	169°45'56"	0.081 sec	0.002 sec	0.055
	ΔHt.	-19.125 m	0.030 m	-0.001 m	-0.074
	Ellip Dist.	22996.580 m	0.015 m	0.011 m	1.501
<u>VTMI-GPS15A (V298)</u>	Az.	4°20'48"	0.231 sec	-0.108 sec	-1.126
	ΔHt.	44.456 m	0.051 m	-0.036 m	-1.500
	Ellip Dist.	28439.878 m	0.018 m	0.006 m	1.330
<u>VTRI --> BE13 (PV1532)</u>	Az.	221°03'52"	0.014 sec	0.027 sec	1.164
	ΔHt.	-83.311 m	0.009 m	-0.028 m	-1.499
	Ellip Dist.	48738.499 m	0.003 m	-0.003 m	-0.627
<u>VTRI --> SM11 (PV1567)</u>	Az.	178°30'52"	0.018 sec	0.045 sec	1.499
	ΔHt.	246.091 m	0.007 m	-0.011 m	-0.968
	Ellip Dist.	38339.636 m	0.004 m	0.008 m	1.423
<u>VTRU-UA11 (V252)</u>	Az.	352°04'20"	0.040 sec	0.089 sec	0.641
	ΔHt.	-16.454 m	0.037 m	0.040 m	1.497
	Ellip Dist.	59774.148 m	0.022 m	-0.089 m	-0.834
<u>VTRI --> TW12 (PV4144)</u>	Az.	206°42'41"	0.017 sec	0.001 sec	0.037
	ΔHt.	-89.845 m	0.007 m	-0.015 m	-1.389
	Ellip Dist.	43637.550 m	0.004 m	0.009 m	1.494
<u>VTRU --> TW03 (PV4329)</u>	Az.	356°49'36"	0.032 sec	0.071 sec	1.488
	ΔHt.	290.714 m	0.010 m	-0.003 m	-0.220
	Ellip Dist.	27124.157 m	0.005 m	-0.001 m	-0.125

<u>VTMI --> TW19 (PV3984)</u>	Az.	355°32'17"	0.020 sec	0.002 sec	0.052
	ΔHt.	-10.676 m	0.010 m	0.007 m	0.329
	Ellip Dist.	35753.978 m	0.004 m	0.012 m	1.484
<u>VTRU --> TW08 (PV4319)</u>	Az.	342°05'44"	0.013 sec	0.019 sec	0.828
	ΔHt.	-70.953 m	0.007 m	-0.020 m	-1.483
	Ellip Dist.	49659.515 m	0.004 m	-0.012 m	-1.188
<u>VTRU --> TW07 (PV4300)</u>	Az.	339°26'41"	0.012 sec	0.032 sec	1.481
	ΔHt.	-63.899 m	0.007 m	0.002 m	0.139
	Ellip Dist.	49983.246 m	0.004 m	-0.008 m	-0.871
<u>VTUV --> TW08 (PV4484)</u>	Az.	177°21'05"	0.013 sec	0.004 sec	0.135
	ΔHt.	-21.957 m	0.007 m	-0.008 m	-0.648
	Ellip Dist.	48605.492 m	0.004 m	0.013 m	1.479
<u>VTMI --> TW17 (PV3999)</u>	Az.	7°56'26"	0.020 sec	-0.010 sec	-0.264
	ΔHt.	11.127 m	0.007 m	0.003 m	0.195
	Ellip Dist.	28959.321 m	0.004 m	0.010 m	1.476
<u>VTRU --> UA18 (PV3368)</u>	Az.	350°53'28"	0.010 sec	0.000 sec	-0.031
	ΔHt.	-8.494 m	0.009 m	-0.009 m	-0.487
	Ellip Dist.	72809.804 m	0.004 m	-0.009 m	-1.473
<u>NYET --> TW09 (PV3486)</u>	Az.	118°31'48"	0.022 sec	0.030 sec	0.717
	ΔHt.	-62.908 m	0.010 m	-0.012 m	-0.686
	Ellip Dist.	38884.042 m	0.003 m	-0.009 m	-1.466
<u>VTRI --> SM11 (PV1557)</u>	Az.	178°30'52"	0.018 sec	0.006 sec	0.187
	ΔHt.	246.091 m	0.007 m	0.015 m	1.251
	Ellip Dist.	38339.636 m	0.004 m	-0.010 m	-1.464
<u>VTRI --> BE18 (PV1542)</u>	Az.	194°56'29"	0.010 sec	0.008 sec	0.426
	ΔHt.	-3.102 m	0.008 m	0.022 m	1.462
	Ellip Dist.	64287.894 m	0.004 m	-0.001 m	-0.197
<u>VCAP --> UA6 (PV1022)</u>	Az.	228°26'35"	0.010 sec	0.012 sec	0.691
	ΔHt.	-69.638 m	0.008 m	-0.006 m	-0.600
	Ellip Dist.	66401.369 m	0.004 m	0.008 m	1.459

<u>VTRI --> TW11 (PV4152)</u>	Az.	193°22'07"	0.034 sec	-0.014 sec	-0.263
	ΔHt.	-23.122 m	0.015 m	0.016 m	0.761
	Ellip Dist.	33142.601 m	0.008 m	0.024 m	1.458
<u>VTUV-UA17 (V273)</u>	Az.	187°32'08"	0.069 sec	-0.058 sec	-1.456
	ΔHt.	-82.342 m	0.026 m	-0.001 m	-0.050
	Ellip Dist.	29626.447 m	0.011 m	0.004 m	0.567
<u>VTRU-BE4 (V193)</u>	Az.	346°05'41"	0.050 sec	0.044 sec	1.451
	ΔHt.	-65.350 m	0.026 m	0.025 m	0.954
	Ellip Dist.	42156.099 m	0.009 m	-0.005 m	-0.896
<u>VCAP --> TW14 (PV3591)</u>	Az.	257°55'57"	0.013 sec	-0.012 sec	-0.523
	ΔHt.	-138.696 m	0.008 m	0.022 m	1.450
	Ellip Dist.	63646.363 m	0.003 m	-0.003 m	-0.625
<u>VTRI --> SM10 (PV1559)</u>	Az.	181°20'01"	0.014 sec	-0.011 sec	-0.484
	ΔHt.	255.833 m	0.009 m	0.029 m	1.449
	Ellip Dist.	50586.865 m	0.004 m	-0.008 m	-1.268
<u>VTMI-SM15 (V260)</u>	Az.	0°54'33"	0.068 sec	-0.016 sec	-0.461
	ΔHt.	-2.720 m	0.030 m	0.000 m	-0.021
	Ellip Dist.	29664.220 m	0.014 m	0.011 m	1.443
<u>VTUV-GPS15A (V299)</u>	Az.	166°26'30"	0.226 sec	-0.125 sec	-0.803
	ΔHt.	28.051 m	0.051 m	0.041 m	1.441
	Ellip Dist.	24618.227 m	0.025 m	0.011 m	0.319
<u>VTUV-UA3 (V206)</u>	Az.	177°23'38"	0.042 sec	-0.010 sec	-0.924
	ΔHt.	-23.905 m	0.023 m	-0.011 m	-1.437
	Ellip Dist.	49284.190 m	0.012 m	-0.002 m	-0.560
<u>VTRU --> TW09 (PV4314)</u>	Az.	347°23'05"	0.015 sec	0.004 sec	0.032
	ΔHt.	-50.077 m	0.010 m	-0.029 m	-1.434
	Ellip Dist.	49493.909 m	0.004 m	-0.001 m	-0.043
<u>VTC1 --> UA19 (PV2619)</u>	Az.	308°12'22"	0.012 sec	0.023 sec	1.220
	ΔHt.	-383.923 m	0.007 m	-0.015 m	-1.432
	Ellip Dist.	66839.743 m	0.004 m	-0.001 m	-0.125

<u>VTRU --> UA20 (PV3372)</u>	Az.	348°06'06"	0.009 sec	-0.009 sec	-0.797
	ΔHt.	-71.833 m	0.009 m	0.021 m	1.430
	Ellip Dist.	80880.201 m	0.004 m	-0.001 m	-0.157
<u>VTC1 --> TW07 (PV3730)</u>	Az.	281°54'04"	0.017 sec	-0.023 sec	-0.706
	ΔHt.	-307.605 m	0.007 m	0.015 m	1.430
	Ellip Dist.	48734.119 m	0.003 m	-0.008 m	-1.428
<u>VTMI --> TW12 (PV3992)</u>	Az.	315°22'59"	0.078 sec	0.176 sec	0.885
	ΔHt.	-73.593 m	0.007 m	-0.007 m	-0.380
	Ellip Dist.	9927.972 m	0.004 m	0.011 m	1.426
<u>VTRI --> BE7 (PV1564)</u>	Az.	179°35'23"	0.013 sec	0.024 sec	0.975
	ΔHt.	299.454 m	0.007 m	-0.017 m	-1.421
	Ellip Dist.	51185.718 m	0.003 m	-0.002 m	-0.242
<u>VTMI --> SM10 (PV2755)</u>	Az.	111°21'03"	0.065 sec	-0.194 sec	-1.420
	ΔHt.	272.085 m	0.009 m	0.026 m	1.041
	Ellip Dist.	12332.843 m	0.003 m	-0.003 m	-0.425
<u>VTC1 --> TW08 (PV3745)</u>	Az.	283°00'49"	0.017 sec	0.045 sec	1.418
	ΔHt.	-314.659 m	0.007 m	0.000 m	-0.017
	Ellip Dist.	46598.621 m	0.003 m	-0.002 m	-0.326
<u>NYET --> TW17 (PV3478)</u>	Az.	81°20'58"	0.024 sec	0.008 sec	0.186
	ΔHt.	-67.106 m	0.007 m	-0.013 m	-1.120
	Ellip Dist.	35381.214 m	0.003 m	0.007 m	1.414
<u>VTRI --> TW10 (PV4149)</u>	Az.	178°04'45"	0.017 sec	-0.035 sec	-1.188
	ΔHt.	253.175 m	0.007 m	-0.016 m	-1.237
	Ellip Dist.	38343.348 m	0.004 m	0.014 m	1.414
<u>VCAP --> TW07 (PV3594)</u>	Az.	242°24'54"	0.016 sec	-0.040 sec	-1.412
	ΔHt.	-63.014 m	0.007 m	0.013 m	1.252
	Ellip Dist.	55712.417 m	0.003 m	0.003 m	0.533
<u>VCAP --> BE18 (PV1021)</u>	Az.	227°46'31"	0.011 sec	0.016 sec	0.956
	ΔHt.	-51.367 m	0.008 m	0.020 m	1.410
	Ellip Dist.	67165.430 m	0.003 m	0.005 m	0.780

<u>NYET --> BE19 (PV2100)</u>	Az.	132°19'35"	0.010 sec	-0.010 sec	-0.439
	ΔHt.	277.622 m	0.009 m	0.026 m	1.410
	Ellip Dist.	59038.698 m	0.003 m	-0.005 m	-0.912
<u>VTC1 --> GPS19A (PV2592)</u>	Az.	276°44'51"	0.028 sec	0.067 sec	0.903
	ΔHt.	-100.165 m	0.011 m	-0.027 m	-1.408
	Ellip Dist.	34659.630 m	0.005 m	-0.014 m	-0.456
<u>NYET --> UA19 (PV2082)</u>	Az.	63°26'35"	0.035 sec	0.038 sec	0.247
	ΔHt.	-153.048 m	0.007 m	0.042 m	1.402
	Ellip Dist.	24864.709 m	0.003 m	0.006 m	1.009
<u>VTUV-UA9 (V249)</u>	Az.	166°24'07"	0.046 sec	-0.033 sec	-1.399
	ΔHt.	-0.012 m	0.033 m	-0.015 m	-1.126
	Ellip Dist.	38605.008 m	0.012 m	0.007 m	1.125
<u>VTRU --> BE18 (PV3331)</u>	Az.	327°01'40"	0.020 sec	-0.046 sec	-1.398
	ΔHt.	-52.252 m	0.008 m	0.013 m	0.802
	Ellip Dist.	32732.388 m	0.004 m	-0.003 m	-0.370
<u>VTRU-UA4 (V188)</u>	Az.	345°56'07"	0.038 sec	-0.030 sec	-1.397
	ΔHt.	-65.653 m	0.029 m	0.016 m	0.815
	Ellip Dist.	41997.578 m	0.010 m	-0.002 m	-0.409
<u>VTRU --> TW19 (PV4291)</u>	Az.	348°09'31"	0.010 sec	0.018 sec	1.164
	ΔHt.	-76.078 m	0.010 m	0.008 m	0.494
	Ellip Dist.	80885.680 m	0.004 m	0.011 m	1.391
<u>NYET --> TW08 (PV3483)</u>	Az.	123°28'26"	0.021 sec	-0.043 sec	-0.974
	ΔHt.	-83.785 m	0.007 m	0.021 m	1.387
	Ellip Dist.	35620.336 m	0.003 m	0.001 m	0.096
<u>VTMI-SM5 (V197)</u>	Az.	325°49'02"	0.772 sec	-0.257 sec	-0.830
	ΔHt.	-28.780 m	0.036 m	-0.003 m	-0.271
	Ellip Dist.	3340.935 m	0.010 m	0.005 m	1.381
<u>VTUV --> TW12 (PV4469)</u>	Az.	184°13'49"	0.015 sec	-0.013 sec	-0.486
	ΔHt.	-89.998 m	0.007 m	-0.002 m	-0.163
	Ellip Dist.	45351.920 m	0.004 m	0.009 m	1.377

<u>VTMI-UA17 (V272)</u>	Az.	341°52'30"	0.074 sec	-0.051 sec	-1.374
	ΔHt.	-65.937 m	0.026 m	0.005 m	0.433
	Ellip Dist.	24121.908 m	0.012 m	0.005 m	0.909
<u>VTC1 --> TW14 (PV3727)</u>	Az.	290°25'01"	0.012 sec	0.004 sec	0.210
	ΔHt.	-383.287 m	0.007 m	0.020 m	1.370
	Ellip Dist.	64609.389 m	0.003 m	-0.005 m	-0.817
<u>VCAP --> TW08 (PV3613)</u>	Az.	241°42'06"	0.015 sec	-0.048 sec	-1.369
	ΔHt.	-70.069 m	0.007 m	-0.005 m	-0.415
	Ellip Dist.	53486.533 m	0.003 m	0.007 m	1.302
<u>VCAP --> SM8 (PV1028)</u>	Az.	222°10'41"	0.014 sec	-0.003 sec	-0.042
	ΔHt.	-53.274 m	0.010 m	0.016 m	1.094
	Ellip Dist.	61526.822 m	0.004 m	-0.013 m	-1.366
<u>VCAP --> BE19 (PV1038)</u>	Az.	216°12'03"	0.011 sec	-0.021 sec	-0.949
	ΔHt.	291.338 m	0.009 m	-0.015 m	-0.997
	Ellip Dist.	56538.936 m	0.003 m	0.006 m	1.366
<u>VTC1 --> TW15 (PV3731)</u>	Az.	296°31'08"	0.014 sec	-0.008 sec	-0.317
	ΔHt.	-384.862 m	0.007 m	-0.003 m	-0.228
	Ellip Dist.	56905.045 m	0.003 m	-0.009 m	-1.365
<u>VTUV-GPS16A (V293)</u>	Az.	177°33'05"	0.123 sec	0.019 sec	0.250
	ΔHt.	-15.100 m	0.036 m	-0.029 m	-1.361
	Ellip Dist.	16801.396 m	0.010 m	-0.001 m	-0.123
<u>VCAP --> UA19 (PV1032)</u>	Az.	275°47'09"	0.016 sec	-0.007 sec	-0.266
	ΔHt.	-139.332 m	0.007 m	-0.015 m	-1.357
	Ellip Dist.	54483.858 m	0.003 m	-0.003 m	-0.634
<u>VTMI --> TW10 (PV4002)</u>	Az.	60°51'10"	0.058 sec	0.096 sec	0.743
	ΔHt.	269.427 m	0.007 m	0.002 m	0.127
	Ellip Dist.	15944.703 m	0.003 m	0.009 m	1.357
<u>VTRI-BE11 (V271)</u>	Az.	221°26'42"	0.064 sec	-0.034 sec	-0.878
	ΔHt.	-87.495 m	0.026 m	-0.002 m	-0.104
	Ellip Dist.	30746.838 m	0.008 m	0.006 m	1.354

<u>VTC1 --> TW04 (PV3747)</u>	Az.	271°17'05"	0.028 sec	0.014 sec	0.310
	ΔHt.	16.395 m	0.008 m	0.020 m	1.354
	Ellip Dist.	30003.883 m	0.003 m	0.001 m	0.141
<u>VTC1 --> TW15 (PV3726)</u>	Az.	296°31'08"	0.014 sec	0.001 sec	0.028
	ΔHt.	-384.862 m	0.007 m	0.015 m	1.354
	Ellip Dist.	56905.045 m	0.003 m	0.001 m	0.110
<u>NYET --> UA20 (PV2112)</u>	Az.	66°28'04"	0.027 sec	-0.059 sec	-1.340
	ΔHt.	-84.664 m	0.009 m	0.021 m	1.305
	Ellip Dist.	30633.760 m	0.004 m	0.002 m	0.311
<u>VTMI --> BE13 (PV2749)</u>	Az.	295°34'44"	0.030 sec	0.093 sec	1.339
	ΔHt.	-67.059 m	0.009 m	-0.011 m	-0.627
	Ellip Dist.	21484.785 m	0.003 m	0.004 m	0.593
<u>VTMI --> GPS19A (PV2788)</u>	Az.	105°08'33"	0.090 sec	-0.345 sec	-1.334
	ΔHt.	208.942 m	0.011 m	0.001 m	0.041
	Ellip Dist.	9987.962 m	0.005 m	0.003 m	0.337
<u>VCAP --> TW19 (PV3588)</u>	Az.	277°44'22"	0.019 sec	-0.051 sec	-1.334
	ΔHt.	-75.193 m	0.010 m	0.004 m	0.168
	Ellip Dist.	48714.677 m	0.003 m	0.002 m	0.218
<u>VTRU --> UA5 (PV3334)</u>	Az.	339°29'21"	0.021 sec	-0.051 sec	-1.332
	ΔHt.	-28.427 m	0.008 m	0.007 m	0.542
	Ellip Dist.	28980.693 m	0.004 m	0.002 m	0.208
<u>VTRU --> UA19 (PV3342)</u>	Az.	343°54'12"	0.008 sec	-0.017 sec	-1.331
	ΔHt.	-140.217 m	0.007 m	0.006 m	0.497
	Ellip Dist.	81253.484 m	0.004 m	0.001 m	0.113
<u>VTUV --> BE7 (PV535)</u>	Az.	163°48'17"	0.011 sec	-0.017 sec	-0.897
	ΔHt.	299.301 m	0.007 m	0.016 m	1.327
	Ellip Dist.	59753.849 m	0.003 m	0.002 m	0.375
<u>VTMI-BE11 (V270)</u>	Az.	341°23'57"	0.066 sec	0.021 sec	0.684
	ΔHt.	-71.243 m	0.026 m	0.002 m	0.165
	Ellip Dist.	24266.175 m	0.010 m	0.006 m	1.326

<u>VTUV --> TW05 (PV4491)</u>	Az.	172°41'52"	0.011 sec	0.012 sec	0.641
	ΔHt.	-13.173 m	0.008 m	-0.013 m	-1.120
	Ellip Dist.	60741.206 m	0.004 m	0.010 m	1.326
<u>VTUV --> TW13 (PV4463)</u>	Az.	199°04'21"	0.015 sec	0.032 sec	1.316
	ΔHt.	-95.097 m	0.009 m	0.009 m	0.589
	Ellip Dist.	45407.833 m	0.004 m	0.003 m	0.462
<u>VCAP --> SM10 (PV1045)</u>	Az.	225°30'45"	0.014 sec	-0.025 sec	-0.275
	ΔHt.	207.568 m	0.009 m	-0.027 m	-1.313
	Ellip Dist.	48053.713 m	0.004 m	0.000 m	0.002
<u>VTRI --> BE17 (PV1554)</u>	Az.	243°14'38"	0.039 sec	-0.014 sec	-0.220
	ΔHt.	-98.128 m	0.012 m	-0.021 m	-1.309
	Ellip Dist.	26249.158 m	0.005 m	-0.003 m	-0.603
<u>VTUV --> UA6 (PV515)</u>	Az.	180°10'38"	0.010 sec	-0.013 sec	-0.797
	ΔHt.	-21.526 m	0.008 m	0.014 m	1.308
	Ellip Dist.	67264.819 m	0.004 m	-0.002 m	-0.273
<u>VTC1 --> SM4 (PV2605)</u>	Az.	285°27'37"	0.012 sec	-0.013 sec	-0.743
	ΔHt.	-403.230 m	0.007 m	-0.003 m	-0.243
	Ellip Dist.	61674.167 m	0.004 m	-0.007 m	-1.305
<u>VTUV-GPS7A (V172)</u>	Az.	173°59'10"	0.028 sec	-0.012 sec	-1.305
	ΔHt.	10.808 m	0.031 m	0.009 m	0.779
	Ellip Dist.	69134.131 m	0.011 m	-0.003 m	-0.770
<u>NYET --> TW01 (PV3491)</u>	Az.	146°04'58"	0.013 sec	0.029 sec	1.298
	ΔHt.	-74.091 m	0.007 m	-0.001 m	-0.101
	Ellip Dist.	49911.785 m	0.004 m	0.002 m	0.239
<u>VTMI --> UA6 (PV2688)</u>	Az.	194°24'49"	0.044 sec	0.059 sec	0.678
	ΔHt.	-5.120 m	0.008 m	0.017 m	1.296
	Ellip Dist.	15457.498 m	0.004 m	-0.002 m	-0.320
<u>VCAP --> BE17 (PV1036)</u>	Az.	275°15'58"	0.018 sec	0.011 sec	0.445
	ΔHt.	-146.393 m	0.012 m	-0.018 m	-1.295
	Ellip Dist.	56587.113 m	0.005 m	0.001 m	0.087

<u>VTRU-UA9 (V248)</u>	Az.	351°47'23"	0.030 sec	-0.020 sec	-1.294
	ΔHt.	-49.009 m	0.033 m	0.018 m	0.895
	Ellip Dist.	58870.522 m	0.012 m	0.005 m	0.864
<u>VCAP --> BE19 (PV1053)</u>	Az.	216°12'03"	0.011 sec	0.018 sec	1.001
	ΔHt.	291.338 m	0.009 m	0.022 m	1.291
	Ellip Dist.	56538.936 m	0.003 m	-0.005 m	-0.749
<u>VTRI --> SM9 (PV1570)</u>	Az.	181°17'13"	0.009 sec	-0.022 sec	-1.286
	ΔHt.	366.162 m	0.007 m	-0.014 m	-1.138
	Ellip Dist.	60278.469 m	0.003 m	0.002 m	0.306
<u>VCAP --> TW17 (PV3604)</u>	Az.	269°22'42"	0.020 sec	-0.010 sec	-0.256
	ΔHt.	-53.390 m	0.007 m	0.003 m	0.292
	Ellip Dist.	41539.764 m	0.003 m	0.006 m	1.283
<u>NYET --> SM3 (PV2055)</u>	Az.	102°23'04"	0.039 sec	-0.003 sec	-0.056
	ΔHt.	-154.001 m	0.009 m	-0.016 m	-1.281
	Ellip Dist.	22818.201 m	0.004 m	0.000 m	0.048
<u>VTRU --> TW12 (PV4304)</u>	Az.	337°36'14"	0.013 sec	0.008 sec	0.375
	ΔHt.	-138.995 m	0.007 m	0.014 m	1.278
	Ellip Dist.	54722.023 m	0.004 m	-0.002 m	-0.252
<u>VTMI-UA4 (V189)</u>	Az.	126°51'19"	0.360 sec	-0.216 sec	-1.276
	ΔHt.	-0.251 m	0.029 m	-0.008 m	-0.756
	Ellip Dist.	4612.730 m	0.010 m	0.002 m	0.332
<u>NYET --> GPS14A (PV2056)</u>	Az.	102°23'45"	0.053 sec	0.013 sec	0.224
	ΔHt.	-152.911 m	0.010 m	-0.015 m	-1.275
	Ellip Dist.	22797.919 m	0.004 m	-0.006 m	-0.920
<u>VTUV --> SM11 (PV542)</u>	Az.	158°48'31"	0.014 sec	0.019 sec	0.832
	ΔHt.	245.938 m	0.007 m	-0.014 m	-1.271
	Ellip Dist.	47752.500 m	0.004 m	0.007 m	1.249
<u>VTRI --> UA20 (PV1583)</u>	Az.	235°57'56"	0.042 sec	0.028 sec	0.356
	ΔHt.	-22.683 m	0.009 m	-0.026 m	-1.267
	Ellip Dist.	18638.907 m	0.004 m	0.001 m	0.189

<u>VTUV --> TW15 (PV4466)</u>	Az.	185°43'37"	0.017 sec	-0.034 sec	-0.913
	ΔHt.	-92.160 m	0.007 m	-0.017 m	-1.267
	Ellip Dist.	33848.397 m	0.004 m	0.011 m	1.217
<u>VTC1 --> TW17 (PV3736)</u>	Az.	311°36'53"	0.013 sec	0.010 sec	0.455
	ΔHt.	-297.980 m	0.007 m	0.015 m	1.262
	Ellip Dist.	53303.853 m	0.004 m	-0.002 m	-0.352
<u>VTRU --> TW01 (PV4327)</u>	Az.	325°52'36"	0.021 sec	0.043 sec	1.261
	ΔHt.	-61.259 m	0.007 m	-0.009 m	-0.688
	Ellip Dist.	30797.624 m	0.004 m	0.003 m	0.288
<u>VCAP --> SM17 (PV1034)</u>	Az.	278°16'27"	0.014 sec	-0.030 sec	-1.260
	ΔHt.	-160.340 m	0.008 m	0.013 m	1.221
	Ellip Dist.	56459.397 m	0.004 m	-0.002 m	-0.422
<u>VTUV --> TW19 (PV4459)</u>	Az.	177°08'40"	0.044 sec	0.032 sec	0.267
	ΔHt.	-27.081 m	0.010 m	0.006 m	0.132
	Ellip Dist.	16668.052 m	0.004 m	0.014 m	1.257
<u>VTC1 --> BE13 (PV2603)</u>	Az.	284°18'01"	0.010 sec	0.008 sec	0.386
	ΔHt.	-376.167 m	0.009 m	-0.013 m	-0.841
	Ellip Dist.	65386.054 m	0.003 m	-0.007 m	-1.255
<u>VCAP --> TW07 (PV3599)</u>	Az.	242°24'54"	0.016 sec	0.025 sec	1.025
	ΔHt.	-63.014 m	0.007 m	0.007 m	0.552
	Ellip Dist.	55712.417 m	0.003 m	0.006 m	1.255
<u>VTUV-BE1 (V203)</u>	Az.	176°25'25"	0.039 sec	-0.023 sec	-1.254
	ΔHt.	-31.132 m	0.030 m	-0.015 m	-1.012
	Ellip Dist.	51902.903 m	0.011 m	0.005 m	0.986
<u>VTRI --> UA20 (PV1581)</u>	Az.	235°57'56"	0.042 sec	0.003 sec	0.041
	ΔHt.	-22.683 m	0.009 m	-0.019 m	-1.250
	Ellip Dist.	18638.907 m	0.004 m	-0.005 m	-0.543
<u>VTMI --> BE13 (PV2747)</u>	Az.	295°34'44"	0.030 sec	0.007 sec	0.121
	ΔHt.	-67.059 m	0.009 m	0.021 m	1.243
	Ellip Dist.	21484.785 m	0.003 m	0.005 m	0.884

<u>VTUV --> TW14 (PV4467)</u>	Az.	199°31'52"	0.016 sec	0.013 sec	0.506
	ΔHt.	-90.584 m	0.007 m	-0.016 m	-1.242
	Ellip Dist.	38853.138 m	0.004 m	0.002 m	0.223
<u>VTRU --> TW16 (PV4307)</u>	Az.	351°00'40"	0.010 sec	0.020 sec	1.240
	ΔHt.	-45.230 m	0.009 m	0.011 m	0.706
	Ellip Dist.	65196.582 m	0.004 m	0.003 m	0.428
<u>VTRI --> TW06 (PV4160)</u>	Az.	199°32'54"	0.012 sec	-0.007 sec	-0.342
	ΔHt.	-63.599 m	0.007 m	-0.015 m	-1.231
	Ellip Dist.	54153.137 m	0.004 m	0.003 m	0.483
<u>VTRU --> TW17 (PV4310)</u>	Az.	352°14'43"	0.008 sec	0.015 sec	1.230
	ΔHt.	-54.275 m	0.007 m	-0.006 m	-0.550
	Ellip Dist.	72852.500 m	0.004 m	0.006 m	0.751
<u>VTRU --> TW17 (PV4306)</u>	Az.	352°14'43"	0.008 sec	0.016 sec	1.229
	ΔHt.	-54.275 m	0.007 m	0.009 m	0.731
	Ellip Dist.	72852.500 m	0.004 m	0.001 m	0.212
<u>VTC1 --> TW16 (PV3737)</u>	Az.	304°27'16"	0.017 sec	-0.016 sec	-0.647
	ΔHt.	-288.935 m	0.009 m	0.019 m	1.229
	Ellip Dist.	48804.885 m	0.003 m	-0.002 m	-0.334
<u>VTRI --> TW17 (PV4146)</u>	Az.	206°19'00"	0.035 sec	-0.004 sec	-0.050
	ΔHt.	-5.125 m	0.007 m	-0.001 m	-0.042
	Ellip Dist.	19397.513 m	0.004 m	0.009 m	1.227
<u>VTC1 --> TW08 (PV3749)</u>	Az.	283°00'49"	0.017 sec	-0.045 sec	-1.223
	ΔHt.	-314.659 m	0.007 m	-0.010 m	-0.772
	Ellip Dist.	46598.621 m	0.003 m	-0.007 m	-0.883
<u>VTC1 --> TW20 (PV3723)</u>	Az.	311°34'05"	0.011 sec	0.027 sec	1.217
	ΔHt.	-323.287 m	0.008 m	0.014 m	1.193
	Ellip Dist.	67725.065 m	0.004 m	-0.001 m	-0.207
<u>VTC1 --> TW01 (PV3757)</u>	Az.	256°40'15"	0.019 sec	-0.007 sec	-0.169
	ΔHt.	-304.965 m	0.007 m	-0.004 m	-0.340
	Ellip Dist.	48826.019 m	0.003 m	-0.006 m	-1.216

<u>VTC1 --> TW13 (PV3733)</u>	Az.	284°35'26"	0.013 sec	-0.022 sec	-0.848
	ΔHt.	-387.800 m	0.009 m	-0.006 m	-0.388
	Ellip Dist.	64525.180 m	0.003 m	-0.007 m	-1.215
<u>VTRI --> TW03 (PV4169)</u>	Az.	180°14'27"	0.014 sec	-0.011 sec	-0.141
	ΔHt.	339.864 m	0.010 m	-0.018 m	-1.213
	Ellip Dist.	62489.812 m	0.005 m	0.004 m	0.317
<u>VTRI --> BE20 (PV1568)</u>	Az.	177°48'16"	0.016 sec	0.010 sec	0.362
	ΔHt.	258.586 m	0.007 m	-0.009 m	-0.710
	Ellip Dist.	38195.254 m	0.004 m	0.008 m	1.213
<u>VTUV-BE8 (V251)</u>	Az.	167°01'26"	0.044 sec	0.001 sec	0.031
	ΔHt.	34.024 m	0.036 m	-0.018 m	-1.210
	Ellip Dist.	38130.539 m	0.013 m	0.000 m	0.031
<u>GPS19A --> BE19 (PV62)</u>	Az.	168°34'03"	0.070 sec	-0.091 sec	-1.208
	ΔHt.	146.913 m	0.014 m	-0.015 m	-0.887
	Ellip Dist.	14109.017 m	0.006 m	0.004 m	0.631
<u>VTC1 --> TW13 (PV3728)</u>	Az.	284°35'26"	0.013 sec	0.003 sec	0.126
	ΔHt.	-387.800 m	0.009 m	0.017 m	1.208
	Ellip Dist.	64525.180 m	0.003 m	-0.001 m	-0.205
<u>NYET --> TW15 (PV3469)</u>	Az.	101°17'19"	0.035 sec	0.064 sec	0.849
	ΔHt.	-153.988 m	0.007 m	-0.015 m	-1.070
	Ellip Dist.	24500.804 m	0.003 m	0.008 m	1.208
<u>NYET --> SM10 (PV2088)</u>	Az.	123°07'43"	0.016 sec	-0.008 sec	-0.274
	ΔHt.	193.852 m	0.009 m	0.027 m	1.158
	Ellip Dist.	50893.926 m	0.003 m	-0.006 m	-1.207
<u>VTRU-BE8 (V250)</u>	Az.	351°20'58"	0.029 sec	0.001 sec	0.101
	ΔHt.	-14.973 m	0.036 m	0.027 m	1.207
	Ellip Dist.	59309.224 m	0.013 m	0.000 m	-0.079
<u>VTRI --> TW13 (PV4143)</u>	Az.	220°19'36"	0.015 sec	-0.021 sec	-0.773
	ΔHt.	-94.944 m	0.009 m	-0.017 m	-1.206
	Ellip Dist.	48059.520 m	0.004 m	0.005 m	0.621

<u>VTC1 --> TW12 (PV3729)</u>	Az.	285°12'40"	0.016 sec	0.037 sec	1.203
	ΔHt.	-382.701 m	0.007 m	0.016 m	1.129
	Ellip Dist.	52819.547 m	0.003 m	-0.004 m	-0.744
<u>VTRU --> TW10 (PV4313)</u>	Az.	0°03'25"	0.013 sec	0.001 sec	0.058
	ΔHt.	204.025 m	0.007 m	0.012 m	0.920
	Ellip Dist.	51249.765 m	0.004 m	0.008 m	1.201
<u>VTRI --> GPS14A (PV1527)</u>	Az.	217°50'41"	0.030 sec	-0.055 sec	-1.201
	ΔHt.	-90.930 m	0.010 m	0.003 m	0.168
	Ellip Dist.	34846.952 m	0.005 m	-0.005 m	-0.417
<u>BE19 --> UA6 (PV57)</u>	Az.	275°14'05"	0.060 sec	-0.036 sec	-0.347
	ΔHt.	-360.976 m	0.011 m	-0.030 m	-1.201
	Ellip Dist.	16371.066 m	0.004 m	-0.001 m	-0.101
<u>VTUV-SM14 (V301)</u>	Az.	161°06'23"	0.077 sec	0.045 sec	1.075
	ΔHt.	-8.964 m	0.032 m	0.020 m	1.201
	Ellip Dist.	24871.721 m	0.011 m	0.002 m	0.306
<u>VTC1 --> GPS4A (PV2635)</u>	Az.	285°14'00"	0.023 sec	-0.003 sec	-0.061
	ΔHt.	25.167 m	0.013 m	0.033 m	1.200
	Ellip Dist.	34418.776 m	0.004 m	-0.004 m	-0.545
<u>VTRU --> TW15 (PV4301)</u>	Az.	341°27'06"	0.009 sec	0.017 sec	1.199
	ΔHt.	-141.157 m	0.007 m	-0.008 m	-0.709
	Ellip Dist.	65548.271 m	0.004 m	0.000 m	0.008
<u>VTC1 --> SM18 (PV2646)</u>	Az.	313°46'00"	0.010 sec	-0.007 sec	-0.400
	ΔHt.	-363.606 m	0.007 m	0.008 m	0.617
	Ellip Dist.	65246.281 m	0.005 m	-0.008 m	-1.198
<u>NYET --> TW13 (PV3471)</u>	Az.	138°09'43"	0.042 sec	0.006 sec	0.064
	ΔHt.	-156.926 m	0.009 m	-0.024 m	-1.197
	Ellip Dist.	18897.824 m	0.004 m	0.008 m	1.031
<u>VCAP --> BE13 (PV1014)</u>	Az.	253°09'25"	0.010 sec	-0.019 sec	-1.197
	ΔHt.	-131.576 m	0.009 m	0.007 m	0.427
	Ellip Dist.	67966.836 m	0.003 m	0.002 m	0.385

<u>VTRU --> BE7 (PV3353)</u>	Az.	358°42'05"	0.018 sec	-0.038 sec	-1.195
	ΔHt.	250.304 m	0.007 m	0.003 m	0.257
	Ellip Dist.	38397.170 m	0.003 m	0.002 m	0.222
<u>VTMI --> BE20 (PV2754)</u>	Az.	60°40'48"	0.048 sec	-0.045 sec	-0.425
	ΔHt.	274.838 m	0.007 m	-0.005 m	-0.355
	Ellip Dist.	16175.394 m	0.003 m	0.008 m	1.194
<u>VTRI --> BE19 (PV1556)</u>	Az.	180°12'35"	0.009 sec	-0.016 sec	-0.989
	ΔHt.	339.603 m	0.009 m	-0.019 m	-1.193
	Ellip Dist.	62519.335 m	0.003 m	0.004 m	0.696
<u>VTMI-GPS16A (V292)</u>	Az.	355°20'24"	0.058 sec	-0.003 sec	-0.130
	ΔHt.	1.305 m	0.036 m	0.019 m	1.191
	Ellip Dist.	35624.735 m	0.010 m	0.000 m	0.026
<u>VTUV-BE3 (V208)</u>	Az.	177°06'16"	0.036 sec	0.023 sec	1.190
	ΔHt.	-22.532 m	0.019 m	-0.012 m	-1.062
	Ellip Dist.	49955.422 m	0.012 m	0.004 m	0.420
<u>VCAP --> SM4 (PV1011)</u>	Az.	252°23'23"	0.012 sec	0.026 sec	1.188
	ΔHt.	-158.639 m	0.007 m	0.000 m	0.015
	Ellip Dist.	64139.314 m	0.003 m	0.001 m	0.148
<u>VTRI --> TW04 (PV4157)</u>	Az.	178°26'15"	0.013 sec	0.001 sec	0.065
	ΔHt.	309.250 m	0.008 m	0.017 m	1.187
	Ellip Dist.	52086.588 m	0.004 m	-0.002 m	-0.380
<u>NYET --> SM17 (PV2084)</u>	Az.	56°14'49"	0.032 sec	-0.055 sec	-1.187
	ΔHt.	-174.056 m	0.008 m	0.012 m	0.717
	Ellip Dist.	24710.404 m	0.003 m	0.005 m	0.811
<u>VTUV-GPS2A (V236)</u>	Az.	168°29'32"	0.049 sec	0.005 sec	0.228
	ΔHt.	-23.954 m	0.040 m	-0.009 m	-0.411
	Ellip Dist.	43531.808 m	0.010 m	0.006 m	1.181
<u>VCAP --> TW18 (PV3589)</u>	Az.	272°11'30"	0.019 sec	-0.035 sec	-1.176
	ΔHt.	-99.535 m	0.008 m	-0.005 m	-0.489
	Ellip Dist.	51416.768 m	0.004 m	0.002 m	0.386

<u>VTUV-GPS9A (V183)</u>	Az.	182°13'30"	0.070 sec	-0.072 sec	-0.979
	ΔHt.	-38.271 m	0.045 m	0.042 m	1.174
	Ellip Dist.	57841.359 m	0.019 m	-0.003 m	-0.326
<u>VCAP --> SM4 (PV1018)</u>	Az.	252°23'23"	0.012 sec	-0.022 sec	-1.172
	ΔHt.	-158.639 m	0.007 m	-0.002 m	-0.228
	Ellip Dist.	64139.314 m	0.003 m	-0.001 m	-0.114
<u>VTUV-SM1 (V269)</u>	Az.	188°23'30"	0.073 sec	-0.060 sec	-1.169
	ΔHt.	-89.985 m	0.033 m	-0.022 m	-0.929
	Ellip Dist.	29638.403 m	0.011 m	0.002 m	0.275
<u>VTUV --> BE19 (PV531)</u>	Az.	166°48'54"	0.008 sec	0.000 sec	0.035
	ΔHt.	339.450 m	0.009 m	-0.018 m	-1.169
	Ellip Dist.	70579.089 m	0.003 m	-0.001 m	-0.098
<u>VTMI --> TW02 (PV3907)</u>	Az.	167°01'02"	0.036 sec	-0.084 sec	-1.168
	ΔHt.	36.843 m	0.009 m	-0.020 m	-1.017
	Ellip Dist.	16858.066 m	0.004 m	0.005 m	0.544
<u>VTMI-BE16 (V296)</u>	Az.	349°47'15"	0.055 sec	0.013 sec	0.525
	ΔHt.	-14.064 m	0.030 m	-0.015 m	-1.160
	Ellip Dist.	38739.835 m	0.011 m	0.004 m	0.915
<u>NYET --> TW14 (PV3470)</u>	Az.	118°19'05"	0.047 sec	-0.004 sec	-0.041
	ΔHt.	-152.412 m	0.008 m	-0.016 m	-1.155
	Ellip Dist.	16388.686 m	0.003 m	-0.001 m	-0.118
<u>VTC1 --> BE15 (PV2649)</u>	Az.	312°18'08"	0.013 sec	-0.001 sec	-0.071
	ΔHt.	-323.304 m	0.008 m	-0.013 m	-1.154
	Ellip Dist.	63143.150 m	0.004 m	0.002 m	0.324
<u>VTRU --> BE5 (PV3336)</u>	Az.	339°25'34"	0.024 sec	-0.036 sec	-0.975
	ΔHt.	-30.786 m	0.007 m	-0.006 m	-0.453
	Ellip Dist.	28978.583 m	0.004 m	-0.008 m	-1.153
<u>VCAP --> TW12 (PV3598)</u>	Az.	247°20'12"	0.015 sec	-0.025 sec	-0.992
	ΔHt.	-138.110 m	0.007 m	0.003 m	0.230
	Ellip Dist.	57067.219 m	0.003 m	0.007 m	1.151

<u>NYET --> TW14 (PV3465)</u>	Az.	118°19'05"	0.047 sec	0.044 sec	0.445
	ΔHt.	-152.412 m	0.008 m	-0.009 m	-0.367
	Ellip Dist.	16388.686 m	0.003 m	0.012 m	1.150
<u>VTRU-BE3 (V209)</u>	Az.	341°55'00"	0.037 sec	0.020 sec	1.145
	ΔHt.	-71.529 m	0.019 m	0.008 m	0.902
	Ellip Dist.	48301.540 m	0.012 m	-0.001 m	-0.193
<u>VCAP --> TW15 (PV3595)</u>	Az.	258°46'31"	0.017 sec	-0.038 sec	-1.144
	ΔHt.	-140.272 m	0.007 m	-0.006 m	-0.483
	Ellip Dist.	53632.426 m	0.003 m	-0.001 m	-0.119
<u>VTMI --> TW13 (PV3996)</u>	Az.	296°56'48"	0.041 sec	0.036 sec	0.404
	ΔHt.	-78.692 m	0.009 m	-0.019 m	-1.144
	Ellip Dist.	20712.862 m	0.003 m	-0.005 m	-0.667
<u>VTC1 --> UA5 (PV2614)</u>	Az.	256°34'19"	0.018 sec	-0.003 sec	-0.098
	ΔHt.	-272.132 m	0.008 m	-0.005 m	-0.418
	Ellip Dist.	41515.980 m	0.003 m	-0.006 m	-1.142
<u>VTUV --> BE20 (PV543)</u>	Az.	158°12'53"	0.013 sec	0.005 sec	0.236
	ΔHt.	258.433 m	0.007 m	-0.013 m	-1.136
	Ellip Dist.	47774.740 m	0.004 m	0.005 m	0.856
<u>VTRU-GPS7A (V173)</u>	Az.	339°06'20"	0.072 sec	-0.065 sec	-1.136
	ΔHt.	-38.189 m	0.031 m	-0.008 m	-0.351
	Ellip Dist.	28944.725 m	0.011 m	0.000 m	0.002
<u>VTRI --> BE20 (PV1558)</u>	Az.	177°48'16"	0.016 sec	-0.028 sec	-0.635
	ΔHt.	258.586 m	0.007 m	0.012 m	0.618
	Ellip Dist.	38195.254 m	0.004 m	-0.009 m	-1.133
<u>VTRI --> SM18 (PV1577)</u>	Az.	244°12'32"	0.058 sec	-0.056 sec	-0.505
	ΔHt.	-70.750 m	0.007 m	-0.017 m	-1.132
	Ellip Dist.	17673.257 m	0.003 m	0.002 m	0.336
<u>NYET --> UA6 (PV2069)</u>	Az.	144°31'51"	0.016 sec	0.024 sec	0.947
	ΔHt.	-83.354 m	0.008 m	0.007 m	0.640
	Ellip Dist.	47109.923 m	0.003 m	-0.007 m	-1.132

<u>VCAP --> SM18 (PV1056)</u>	Az.	280°46'15"	0.018 sec	0.033 sec	0.838
	ΔHt.	-119.015 m	0.007 m	0.006 m	0.391
	Ellip Dist.	49676.859 m	0.003 m	0.007 m	1.128
<u>VTRI --> TW05 (PV4162)</u>	Az.	189°01'48"	0.011 sec	-0.014 sec	-0.716
	ΔHt.	-13.020 m	0.008 m	0.016 m	1.127
	Ellip Dist.	54706.269 m	0.004 m	-0.005 m	-0.727
<u>VCAP --> TW08 (PV3609)</u>	Az.	241°42'06"	0.015 sec	0.011 sec	0.512
	ΔHt.	-70.069 m	0.007 m	0.015 m	1.127
	Ellip Dist.	53486.533 m	0.003 m	-0.007 m	-1.043
<u>VTC1 --> TW11 (PV3738)</u>	Az.	297°46'52"	0.035 sec	-0.031 sec	-0.757
	ΔHt.	-315.978 m	0.015 m	0.022 m	1.126
	Ellip Dist.	44064.648 m	0.006 m	-0.005 m	-0.761
<u>VTRU-GPS2A (V235)</u>	Az.	350°34'58"	0.039 sec	0.006 sec	0.274
	ΔHt.	-72.951 m	0.040 m	0.003 m	0.154
	Ellip Dist.	53860.174 m	0.010 m	0.005 m	1.125
<u>VTUV-UA13 (V227)</u>	Az.	186°15'28"	0.071 sec	0.043 sec	1.120
	ΔHt.	-81.574 m	0.038 m	0.010 m	0.361
	Ellip Dist.	34821.818 m	0.016 m	-0.001 m	-0.135
<u>VTUV --> TW07 (PV4465)</u>	Az.	180°02'30"	0.013 sec	-0.019 sec	-0.774
	ΔHt.	-14.902 m	0.007 m	-0.007 m	-0.537
	Ellip Dist.	49013.106 m	0.004 m	0.011 m	1.120
<u>VTUV --> SM18 (PV552)</u>	Az.	178°51'05"	0.044 sec	-0.116 sec	-1.119
	ΔHt.	-70.903 m	0.007 m	0.004 m	0.270
	Ellip Dist.	13930.899 m	0.005 m	0.005 m	0.512
<u>VTRU-UA8 (V241)</u>	Az.	350°48'37"	0.032 sec	0.010 sec	0.678
	ΔHt.	-79.268 m	0.032 m	0.023 m	1.115
	Ellip Dist.	57299.197 m	0.011 m	0.004 m	0.638
<u>NYET --> TW06 (PV3484)</u>	Az.	137°51'45"	0.018 sec	0.002 sec	0.063
	ΔHt.	-125.581 m	0.007 m	0.013 m	1.110
	Ellip Dist.	38279.467 m	0.004 m	-0.001 m	-0.154

<u>VTC1 --> BE14 (PV2645)</u>	Az.	310°10'42"	0.013 sec	0.042 sec	1.108
	ΔHt.	-250.795 m	0.007 m	-0.040 m	-1.043
	Ellip Dist.	54435.145 m	0.004 m	-0.001 m	-0.014
<u>VTMI --> TW06 (PV4009)</u>	Az.	227°35'52"	0.107 sec	0.267 sec	1.107
	ΔHt.	-47.347 m	0.007 m	0.002 m	0.119
	Ellip Dist.	7386.954 m	0.003 m	-0.009 m	-1.060
<u>VTRI --> TW20 (PV4133)</u>	Az.	247°54'07"	0.039 sec	0.016 sec	0.219
	ΔHt.	-30.432 m	0.008 m	-0.014 m	-1.105
	Ellip Dist.	21006.072 m	0.003 m	-0.001 m	-0.201
<u>VCAP --> BE14 (PV1060)</u>	Az.	269°01'59"	0.018 sec	-0.013 sec	-0.451
	ΔHt.	-6.204 m	0.007 m	0.013 m	1.104
	Ellip Dist.	43282.694 m	0.003 m	-0.002 m	-0.381
<u>NYET --> TW02 (PV3492)</u>	Az.	138°40'51"	0.013 sec	0.025 sec	1.104
	ΔHt.	-41.390 m	0.009 m	-0.013 m	-0.563
	Ellip Dist.	52976.734 m	0.004 m	0.003 m	0.248
<u>NYET --> UA18 (PV2108)</u>	Az.	81°25'51"	0.024 sec	-0.018 sec	-0.465
	ΔHt.	-21.325 m	0.009 m	-0.020 m	-1.102
	Ellip Dist.	33660.278 m	0.003 m	-0.002 m	-0.476
<u>UA5 --> BE14 (PV53)</u>	Az.	358°06'11"	0.019 sec	-0.006 sec	-0.141
	ΔHt.	21.338 m	0.010 m	0.026 m	1.102
	Ellip Dist.	44776.991 m	0.005 m	-0.001 m	-0.054
<u>VTUV --> UA19 (PV528)</u>	Az.	196°00'47"	0.035 sec	-0.074 sec	-0.979
	ΔHt.	-91.220 m	0.007 m	-0.009 m	-0.643
	Ellip Dist.	18476.300 m	0.004 m	0.009 m	1.099
<u>VTMI --> TW16 (PV4000)</u>	Az.	9°56'21"	0.029 sec	0.014 sec	0.234
	ΔHt.	20.172 m	0.009 m	-0.001 m	-0.048
	Ellip Dist.	21208.854 m	0.004 m	0.008 m	1.099
<u>VTRI --> UA5 (PV1548)</u>	Az.	188°07'39"	0.010 sec	0.008 sec	0.448
	ΔHt.	20.723 m	0.008 m	-0.007 m	-0.531
	Ellip Dist.	63063.304 m	0.003 m	-0.006 m	-1.099

<u>VTRU-BE1 (V202)</u>	Az.	342°00'59"	0.042 sec	-0.022 sec	-0.910
	ΔHt.	-80.129 m	0.030 m	0.015 m	0.949
	Ellip Dist.	46263.914 m	0.011 m	0.006 m	1.098
<u>VTC1 --> SM11 (PV2636)</u>	Az.	295°24'02"	0.021 sec	-0.005 sec	-0.152
	ΔHt.	-46.765 m	0.007 m	-0.013 m	-1.097
	Ellip Dist.	33606.096 m	0.004 m	-0.004 m	-0.760
<u>NYET --> BE15 (PV2109)</u>	Az.	66°15'04"	0.032 sec	0.011 sec	0.230
	ΔHt.	-92.430 m	0.008 m	0.014 m	1.095
	Ellip Dist.	30643.650 m	0.003 m	-0.002 m	-0.396
<u>VTRI --> BE13 (PV1534)</u>	Az.	221°03'52"	0.014 sec	0.001 sec	0.030
	ΔHt.	-83.311 m	0.009 m	-0.013 m	-0.838
	Ellip Dist.	48738.499 m	0.003 m	-0.006 m	-1.094
<u>NYET --> BE19 (PV2085)</u>	Az.	132°19'35"	0.010 sec	0.017 sec	1.092
	ΔHt.	277.622 m	0.009 m	0.016 m	0.985
	Ellip Dist.	59038.698 m	0.003 m	0.002 m	0.384
<u>VTMI --> TW18 (PV3985)</u>	Az.	349°18'35"	0.025 sec	0.019 sec	0.438
	ΔHt.	-35.018 m	0.008 m	0.000 m	-0.008
	Ellip Dist.	31578.305 m	0.005 m	0.011 m	1.091
<u>VCAP --> UA20 (PV1063)</u>	Az.	277°42'07"	0.018 sec	-0.024 sec	-0.711
	ΔHt.	-70.948 m	0.009 m	-0.017 m	-1.088
	Ellip Dist.	48788.944 m	0.003 m	0.000 m	-0.007
<u>VTRU --> UA6 (PV3332)</u>	Az.	328°06'03"	0.022 sec	0.013 sec	0.303
	ΔHt.	-70.522 m	0.008 m	0.023 m	1.087
	Ellip Dist.	33628.694 m	0.003 m	-0.001 m	-0.198
<u>VTMI-SM14 (V300)</u>	Az.	8°46'23"	0.063 sec	0.023 sec	0.799
	ΔHt.	7.441 m	0.032 m	-0.018 m	-1.083
	Ellip Dist.	29097.767 m	0.011 m	0.003 m	0.580
<u>VTC1 --> SM18 (PV2643)</u>	Az.	313°46'00"	0.010 sec	0.020 sec	1.082
	ΔHt.	-363.606 m	0.007 m	-0.013 m	-0.843
	Ellip Dist.	65246.281 m	0.005 m	0.002 m	0.170

<u>VTRI --> TW19 (PV4131)</u>	Az.	235°53'15"	0.042 sec	0.038 sec	0.451
	ΔHt.	-26.928 m	0.010 m	-0.020 m	-1.081
	Ellip Dist.	18562.194 m	0.004 m	0.001 m	0.145
<u>VTUV --> BE5 (PV522)</u>	Az.	173°51'48"	0.010 sec	-0.006 sec	-0.389
	ΔHt.	18.210 m	0.007 m	-0.012 m	-1.080
	Ellip Dist.	69059.999 m	0.004 m	-0.005 m	-0.861
<u>VTUV --> TW17 (PV4475)</u>	Az.	162°07'08"	0.023 sec	0.024 sec	0.560
	ΔHt.	-5.278 m	0.007 m	0.002 m	0.125
	Ellip Dist.	24805.793 m	0.004 m	0.009 m	1.078
<u>VTMI --> TW07 (PV3993)</u>	Az.	311°49'40"	0.139 sec	0.198 sec	0.755
	ΔHt.	1.503 m	0.007 m	-0.012 m	-1.075
	Ellip Dist.	4918.870 m	0.004 m	0.002 m	0.224
<u>VTUV-UA8 (V242)</u>	Az.	168°00'04"	0.045 sec	0.016 sec	0.629
	ΔHt.	-30.271 m	0.032 m	-0.014 m	-1.074
	Ellip Dist.	40104.375 m	0.011 m	0.003 m	0.486
<u>VTC1 --> TW04 (PV3751)</u>	Az.	271°17'05"	0.028 sec	-0.058 sec	-1.072
	ΔHt.	16.395 m	0.008 m	-0.013 m	-1.027
	Ellip Dist.	30003.883 m	0.003 m	-0.004 m	-0.645
<u>VTC1 --> TW05 (PV3752)</u>	Az.	268°13'25"	0.021 sec	0.020 sec	0.568
	ΔHt.	-305.875 m	0.008 m	0.015 m	1.071
	Ellip Dist.	40031.182 m	0.003 m	-0.004 m	-0.725
<u>VTC1 --> UA18 (PV2648)</u>	Az.	310°12'05"	0.013 sec	0.002 sec	0.087
	ΔHt.	-252.199 m	0.009 m	-0.018 m	-1.066
	Ellip Dist.	54399.056 m	0.004 m	-0.006 m	-1.018
<u>VTUV --> TW17 (PV4471)</u>	Az.	162°07'08"	0.023 sec	0.010 sec	0.219
	ΔHt.	-5.278 m	0.007 m	0.005 m	0.302
	Ellip Dist.	24805.793 m	0.004 m	0.009 m	1.062
<u>VTRI --> TW07 (PV4140)</u>	Az.	200°52'39"	0.015 sec	-0.031 sec	-1.056
	ΔHt.	-14.749 m	0.007 m	-0.008 m	-0.722
	Ellip Dist.	45779.242 m	0.004 m	0.008 m	1.060

<u>NYET --> TW20 (PV3458)</u>	Az.	58°30'34"	0.029 sec	0.026 sec	0.329
	ΔHt.	-92.413 m	0.008 m	-0.023 m	-1.053
	Ellip Dist.	28206.551 m	0.003 m	-0.005 m	-0.910
<u>VCAP --> SM18 (PV1059)</u>	Az.	280°46'15"	0.018 sec	0.004 sec	0.152
	ΔHt.	-119.015 m	0.007 m	0.014 m	1.037
	Ellip Dist.	49676.859 m	0.003 m	-0.007 m	-1.052
<u>VTRU --> SM8 (PV3335)</u>	Az.	340°51'33"	0.025 sec	0.041 sec	1.047
	ΔHt.	-54.159 m	0.010 m	-0.001 m	-0.118
	Ellip Dist.	28626.379 m	0.004 m	-0.006 m	-0.772
<u>VCAP --> TW06 (PV3610)</u>	Az.	236°23'23"	0.014 sec	-0.003 sec	-0.130
	ΔHt.	-111.864 m	0.007 m	0.013 m	1.044
	Ellip Dist.	61508.738 m	0.003 m	-0.002 m	-0.275
<u>VTUV --> TW09 (PV4479)</u>	Az.	171°58'13"	0.015 sec	-0.019 sec	-0.922
	ΔHt.	-1.080 m	0.010 m	0.018 m	1.041
	Ellip Dist.	47967.545 m	0.004 m	0.004 m	0.541
<u>VTUV-GPS14A (V263)</u>	Az.	188°39'06"	0.026 sec	0.045 sec	1.037
	ΔHt.	-91.083 m	0.010 m	-0.014 m	-1.023
	Ellip Dist.	34158.584 m	0.006 m	0.005 m	0.652
<u>VTRI --> TW15 (PV4136)</u>	Az.	215°34'17"	0.022 sec	0.012 sec	0.330
	ΔHt.	-92.007 m	0.007 m	0.012 m	1.034
	Ellip Dist.	33725.128 m	0.004 m	0.003 m	0.468
<u>VCAP --> TW04 (PV3615)</u>	Az.	222°00'47"	0.017 sec	-0.033 sec	-1.033
	ΔHt.	260.985 m	0.008 m	-0.011 m	-0.931
	Ellip Dist.	47350.275 m	0.003 m	0.007 m	0.999
<u>VTRI-UA14 (V230)</u>	Az.	216°11'41"	0.064 sec	0.006 sec	0.163
	ΔHt.	-89.506 m	0.020 m	-0.001 m	-0.070
	Ellip Dist.	34160.755 m	0.011 m	-0.008 m	-1.029
<u>VTRU-BE2 (V179)</u>	Az.	340°38'40"	0.047 sec	-0.025 sec	-0.770
	ΔHt.	-68.784 m	0.027 m	0.021 m	1.023
	Ellip Dist.	46941.136 m	0.010 m	0.001 m	0.099

<u>VCAP --> BE15 (PV1064)</u>	Az.	277°49'29"	0.020 sec	-0.038 sec	-1.022
	ΔHt.	-78.714 m	0.008 m	0.016 m	1.019
	Ellip Dist.	48839.612 m	0.003 m	-0.004 m	-0.594
<u>VTRU --> BE19 (PV3360)</u>	Az.	356°53'40"	0.021 sec	-0.025 sec	-0.554
	ΔHt.	290.453 m	0.009 m	0.019 m	1.012
	Ellip Dist.	27092.691 m	0.003 m	0.002 m	0.294
<u>VTMI-SM1 (V268)</u>	Az.	340°55'31"	0.085 sec	-0.033 sec	-1.011
	ΔHt.	-73.580 m	0.033 m	0.011 m	0.941
	Ellip Dist.	24309.480 m	0.011 m	0.003 m	0.644
<u>VTMI --> TW05 (PV3909)</u>	Az.	152°50'10"	0.086 sec	0.037 sec	0.199
	ΔHt.	3.232 m	0.008 m	-0.015 m	-1.011
	Ellip Dist.	8946.134 m	0.004 m	-0.001 m	-0.133
<u>VTRI --> BE7 (PV1560)</u>	Az.	179°35'23"	0.013 sec	-0.020 sec	-0.926
	ΔHt.	299.454 m	0.007 m	0.012 m	1.008
	Ellip Dist.	51185.718 m	0.003 m	-0.001 m	-0.241
<u>VTRU --> GPS19A (PV3313)</u>	Az.	354°03'28"	0.022 sec	0.003 sec	0.071
	ΔHt.	143.540 m	0.011 m	-0.003 m	-0.126
	Ellip Dist.	41104.647 m	0.005 m	-0.009 m	-1.005
<u>VTC1 --> TW02 (PV3754)</u>	Az.	256°28'44"	0.021 sec	-0.050 sec	-1.005
	ΔHt.	-272.264 m	0.009 m	0.009 m	0.448
	Ellip Dist.	41515.825 m	0.003 m	-0.001 m	-0.252
<u>NYET --> GPS1A (PV2059)</u>	Az.	119°46'32"	0.037 sec	0.171 sec	0.625
	ΔHt.	-139.916 m	0.017 m	0.038 m	0.458
	Ellip Dist.	27390.794 m	0.010 m	0.021 m	1.004
<u>VTC1 --> TW05 (PV3756)</u>	Az.	268°13'25"	0.021 sec	-0.041 sec	-1.003
	ΔHt.	-305.875 m	0.008 m	-0.007 m	-0.542
	Ellip Dist.	40031.182 m	0.003 m	0.006 m	0.996
<u>VCAP --> TW10 (PV3603)</u>	Az.	235°58'57"	0.024 sec	-0.048 sec	-0.579
	ΔHt.	204.910 m	0.007 m	-0.008 m	-0.650
	Ellip Dist.	38314.530 m	0.003 m	0.006 m	0.995

<u>VTUV --> TW10 (PV4474)</u>	Az.	158°28'52"	0.013 sec	-0.005 sec	-0.222
	ΔHt.	253.022 m	0.007 m	-0.005 m	-0.433
	Ellip Dist.	47853.307 m	0.004 m	0.010 m	0.990
<u>NYET --> BE13 (PV2063)</u>	Az.	140°31'25"	0.033 sec	-0.057 sec	-0.797
	ΔHt.	-145.293 m	0.009 m	0.018 m	0.990
	Ellip Dist.	18388.694 m	0.003 m	-0.007 m	-0.857
<u>VTRI --> BE5 (PV1547)</u>	Az.	188°09'07"	0.012 sec	0.013 sec	0.762
	ΔHt.	18.364 m	0.007 m	-0.005 m	-0.404
	Ellip Dist.	63080.473 m	0.004 m	-0.006 m	-0.989
<u>VTUV --> UA20 (PV556)</u>	Az.	177°24'53"	0.043 sec	0.033 sec	0.414
	ΔHt.	-22.836 m	0.009 m	0.016 m	0.988
	Ellip Dist.	16686.488 m	0.004 m	0.008 m	0.872
<u>VTUV-UA14 (V229)</u>	Az.	186°37'55"	0.055 sec	0.011 sec	0.470
	ΔHt.	-89.659 m	0.020 m	0.003 m	0.429
	Ellip Dist.	34045.101 m	0.012 m	0.005 m	0.988
<u>VTURU --> TW04 (PV4317)</u>	Az.	0°16'48"	0.019 sec	-0.004 sec	-0.162
	ΔHt.	260.100 m	0.008 m	0.007 m	0.454
	Ellip Dist.	37504.742 m	0.004 m	0.006 m	0.987
<u>VTUV-BE16 (V297)</u>	Az.	192°56'57"	0.134 sec	0.015 sec	0.203
	ΔHt.	-30.470 m	0.030 m	0.017 m	0.987
	Ellip Dist.	14538.882 m	0.011 m	0.007 m	0.905
<u>VCAP --> TW15 (PV3590)</u>	Az.	258°46'31"	0.017 sec	0.010 sec	0.365
	ΔHt.	-140.272 m	0.007 m	0.012 m	0.983
	Ellip Dist.	53632.426 m	0.003 m	0.003 m	0.506
<u>VTC1 --> BE5 (PV2613)</u>	Az.	256°33'50"	0.020 sec	-0.012 sec	-0.357
	ΔHt.	-274.492 m	0.007 m	-0.006 m	-0.522
	Ellip Dist.	41547.406 m	0.003 m	-0.005 m	-0.980
<u>VTMI --> TW08 (PV4012)</u>	Az.	339°41'31"	0.158 sec	0.131 sec	0.426
	ΔHt.	-5.551 m	0.007 m	-0.013 m	-0.980
	Ellip Dist.	3986.415 m	0.004 m	-0.004 m	-0.408

<u>VCAP --> TW11 (PV3602)</u>	Az.	249°22'14"	0.035 sec	-0.007 sec	-0.174
	ΔHt.	-71.387 m	0.015 m	0.019 m	0.889
	Ellip Dist.	43462.306 m	0.006 m	0.008 m	0.979
<u>VTRI --> BE14 (PV1576)</u>	Az.	210°19'15"	0.035 sec	0.039 sec	0.646
	ΔHt.	42.061 m	0.007 m	0.004 m	0.240
	Ellip Dist.	20476.400 m	0.003 m	-0.008 m	-0.973
<u>VTRI --> TW09 (PV4154)</u>	Az.	193°03'37"	0.016 sec	-0.024 sec	-0.970
	ΔHt.	-0.927 m	0.010 m	0.014 m	0.799
	Ellip Dist.	42370.438 m	0.004 m	-0.001 m	-0.084
<u>VTRU-SM5 (V196)</u>	Az.	341°11'31"	0.051 sec	0.032 sec	0.970
	ΔHt.	-94.182 m	0.036 m	0.007 m	0.223
	Ellip Dist.	48891.297 m	0.010 m	-0.006 m	-0.823
<u>VTUV --> SM17 (PV530)</u>	Az.	204°07'49"	0.046 sec	-0.072 sec	-0.970
	ΔHt.	-112.228 m	0.008 m	-0.004 m	-0.221
	Ellip Dist.	16589.169 m	0.004 m	-0.003 m	-0.434
<u>VTRU --> TW13 (PV4303)</u>	Az.	328°34'57"	0.012 sec	0.027 sec	0.968
	ΔHt.	-144.094 m	0.009 m	-0.016 m	-0.776
	Ellip Dist.	62032.288 m	0.004 m	-0.012 m	-0.805
<u>VTUV --> BE13 (PV509)</u>	Az.	200°06'32"	0.014 sec	-0.001 sec	-0.031
	ΔHt.	-83.464 m	0.009 m	-0.015 m	-0.968
	Ellip Dist.	45818.885 m	0.003 m	-0.004 m	-0.655
<u>VTRI --> SM18 (PV1574)</u>	Az.	244°12'32"	0.058 sec	0.089 sec	0.733
	ΔHt.	-70.750 m	0.007 m	0.006 m	0.381
	Ellip Dist.	17673.257 m	0.003 m	-0.005 m	-0.967
<u>VTC1 --> UA20 (PV2652)</u>	Az.	312°15'01"	0.013 sec	0.007 sec	0.409
	ΔHt.	-315.538 m	0.009 m	0.014 m	0.966
	Ellip Dist.	63042.137 m	0.004 m	-0.003 m	-0.592
<u>VTMI --> TW05 (PV3905)</u>	Az.	152°50'10"	0.086 sec	-0.146 sec	-0.780
	ΔHt.	3.232 m	0.008 m	0.008 m	0.466
	Ellip Dist.	8946.134 m	0.004 m	-0.007 m	-0.964

<u>VTRU --> BE20 (PV3347)</u>	Az.	0°15'18"	0.012 sec	-0.018 sec	-0.880
	ΔHt.	209.436 m	0.007 m	-0.012 m	-0.960
	Ellip Dist.	51404.800 m	0.004 m	0.008 m	0.961
<u>VTC1 --> TW10 (PV3743)</u>	Az.	295°37'15"	0.023 sec	-0.004 sec	-0.110
	ΔHt.	-39.680 m	0.007 m	0.009 m	0.698
	Ellip Dist.	33344.673 m	0.004 m	0.006 m	0.958
<u>VCAP --> TW03 (PV3619)</u>	Az.	216°14'46"	0.015 sec	0.017 sec	0.739
	ΔHt.	291.598 m	0.010 m	0.019 m	0.956
	Ellip Dist.	56534.737 m	0.005 m	0.006 m	0.817
<u>VTRU --> TW05 (PV4326)</u>	Az.	344°33'03"	0.020 sec	0.032 sec	0.956
	ΔHt.	-62.170 m	0.008 m	-0.005 m	-0.366
	Ellip Dist.	36877.564 m	0.004 m	-0.001 m	-0.116
<u>VTC1 --> TW01 (PV3753)</u>	Az.	256°40'15"	0.019 sec	-0.007 sec	-0.245
	ΔHt.	-304.965 m	0.007 m	0.011 m	0.952
	Ellip Dist.	48826.019 m	0.003 m	0.003 m	0.474
<u>NYET --> BE7 (PV2093)</u>	Az.	122°45'17"	0.013 sec	-0.011 sec	-0.475
	ΔHt.	237.472 m	0.007 m	0.004 m	0.335
	Ellip Dist.	52519.895 m	0.003 m	-0.007 m	-0.948
<u>VTMI --> TW01 (PV3910)</u>	Az.	190°31'19"	0.035 sec	-0.020 sec	-0.261
	ΔHt.	4.143 m	0.007 m	-0.013 m	-0.947
	Ellip Dist.	18332.981 m	0.004 m	-0.004 m	-0.446
<u>VTUV --> TW01 (PV4492)</u>	Az.	179°45'39"	0.009 sec	-0.003 sec	-0.172
	ΔHt.	-12.263 m	0.007 m	-0.012 m	-0.946
	Ellip Dist.	70318.605 m	0.004 m	-0.001 m	-0.172
<u>NYET --> TW07 (PV3473)</u>	Az.	126°15'06"	0.021 sec	-0.018 sec	-0.510
	ΔHt.	-76.731 m	0.007 m	-0.006 m	-0.436
	Ellip Dist.	34017.509 m	0.004 m	-0.006 m	-0.946
<u>VTC1 --> SM10 (PV2628)</u>	Az.	273°49'32"	0.024 sec	-0.007 sec	-0.167
	ΔHt.	-37.023 m	0.009 m	0.020 m	0.946
	Ellip Dist.	32659.644 m	0.003 m	-0.004 m	-0.704

<u>VTRU --> SM4 (PV3325)</u>	Az.	331°05'56"	0.011 sec	0.003 sec	0.159
	ΔHt.	-159.524 m	0.007 m	0.009 m	0.811
	Ellip Dist.	60696.942 m	0.004 m	-0.006 m	-0.944
<u>NYET --> GPS3A (PV2051)</u>	Az.	110°41'03"	0.018 sec	-0.029 sec	-0.612
	ΔHt.	250.172 m	0.012 m	-0.043 m	-0.944
	Ellip Dist.	49869.765 m	0.004 m	-0.018 m	-0.688
<u>VTRU --> GPS14A (PV3316)</u>	Az.	339°58'47"	0.014 sec	0.013 sec	0.881
	ΔHt.	-140.080 m	0.010 m	0.011 m	0.941
	Ellip Dist.	66048.895 m	0.006 m	0.001 m	0.079
<u>VTRU-SM12 (V239)</u>	Az.	350°37'00"	0.050 sec	0.104 sec	0.477
	ΔHt.	-89.251 m	0.046 m	-0.089 m	-0.939
	Ellip Dist.	54711.485 m	0.015 m	-0.030 m	-0.505
<u>VCAP --> UA6 (PV1025)</u>	Az.	228°26'35"	0.010 sec	-0.001 sec	-0.062
	ΔHt.	-69.638 m	0.008 m	0.018 m	0.934
	Ellip Dist.	66401.369 m	0.004 m	-0.005 m	-0.831
<u>VCAP --> SM3 (PV1008)</u>	Az.	259°02'50"	0.016 sec	0.018 sec	0.933
	ΔHt.	-140.285 m	0.009 m	0.009 m	0.803
	Ellip Dist.	55355.419 m	0.004 m	-0.003 m	-0.520
<u>VTMI-BE12 (V215)</u>	Az.	322°03'46"	0.072 sec	0.000 sec	-0.013
	ΔHt.	-84.243 m	0.020 m	0.000 m	-0.020
	Ellip Dist.	27621.633 m	0.010 m	0.004 m	0.931
<u>VTMI-GPS14A (V262)</u>	Az.	334°41'39"	0.045 sec	-0.041 sec	-0.736
	ΔHt.	-74.678 m	0.010 m	0.002 m	0.136
	Ellip Dist.	20492.868 m	0.006 m	0.008 m	0.930
<u>VTUV --> TW20 (PV4455)</u>	Az.	193°00'51"	0.042 sec	0.023 sec	0.210
	ΔHt.	-30.585 m	0.008 m	0.004 m	0.218
	Ellip Dist.	14522.821 m	0.004 m	0.008 m	0.930
<u>VTMI-BE12 (V216)</u>	Az.	322°03'46"	0.072 sec	0.001 sec	0.016
	ΔHt.	-84.243 m	0.020 m	0.001 m	0.079
	Ellip Dist.	27621.633 m	0.010 m	-0.005 m	-0.930

<u>VCAP --> GPS4A (PV1044)</u>	Az.	232°28'18"	0.017 sec	0.003 sec	0.129
	ΔHt.	269.757 m	0.013 m	-0.003 m	-0.181
	Ellip Dist.	44010.283 m	0.004 m	0.006 m	0.929
<u>VTRI --> TW19 (PV4134)</u>	Az.	235°53'15"	0.042 sec	-0.073 sec	-0.921
	ΔHt.	-26.928 m	0.010 m	-0.008 m	-0.457
	Ellip Dist.	18562.194 m	0.004 m	0.006 m	0.676
<u>VTMI --> TW14 (PV3990)</u>	Az.	313°21'07"	0.031 sec	0.050 sec	0.919
	ΔHt.	-74.179 m	0.007 m	0.002 m	0.139
	Ellip Dist.	22845.614 m	0.003 m	0.003 m	0.331
<u>VTRI --> SM10 (PV1563)</u>	Az.	181°20'01"	0.014 sec	-0.019 sec	-0.811
	ΔHt.	255.833 m	0.009 m	-0.011 m	-0.918
	Ellip Dist.	50586.865 m	0.004 m	-0.001 m	-0.090
<u>NYET --> SM8 (PV2075)</u>	Az.	138°05'48"	0.014 sec	-0.085 sec	-0.412
	ΔHt.	-66.990 m	0.010 m	0.069 m	0.918
	Ellip Dist.	53497.950 m	0.004 m	-0.007 m	-0.215
<u>UA5 --> UA18 (PV54)</u>	Az.	358°09'22"	0.020 sec	0.001 sec	0.052
	ΔHt.	19.933 m	0.012 m	0.016 m	0.917
	Ellip Dist.	44769.167 m	0.005 m	-0.002 m	-0.360
<u>NYET --> TW18 (PV3460)</u>	Az.	73°06'39"	0.038 sec	-0.005 sec	-0.047
	ΔHt.	-113.251 m	0.008 m	-0.016 m	-0.916
	Ellip Dist.	26241.167 m	0.004 m	0.000 m	-0.005
<u>VCAP --> GPS19A (PV1006)</u>	Az.	228°39'09"	0.023 sec	-0.022 sec	-0.669
	ΔHt.	144.425 m	0.011 m	0.006 m	0.320
	Ellip Dist.	48105.915 m	0.004 m	0.005 m	0.916
<u>VTRU-BE6 (V180)</u>	Az.	334°58'37"	0.040 sec	-0.004 sec	-0.171
	ΔHt.	-75.919 m	0.028 m	0.015 m	0.913
	Ellip Dist.	43638.459 m	0.011 m	0.000 m	0.084
<u>VTRI --> BE14 (PV1578)</u>	Az.	210°19'15"	0.035 sec	0.021 sec	0.295
	ΔHt.	42.061 m	0.007 m	0.012 m	0.912
	Ellip Dist.	20476.400 m	0.003 m	-0.002 m	-0.360

<u>VTMI --> SM4 (PV2751)</u>	Az.	301°48'43"	0.037 sec	0.040 sec	0.591
	ΔHt.	-94.122 m	0.007 m	0.011 m	0.911
	Ellip Dist.	18197.045 m	0.004 m	0.001 m	0.187
<u>VTUV-BE2 (V178)</u>	Az.	177°49'05"	0.041 sec	-0.010 sec	-0.613
	ΔHt.	-19.787 m	0.027 m	-0.008 m	-0.911
	Ellip Dist.	51558.217 m	0.011 m	-0.001 m	-0.257
<u>VTC1 --> TW17 (PV3740)</u>	Az.	311°36'53"	0.013 sec	0.008 sec	0.370
	ΔHt.	-297.980 m	0.007 m	0.001 m	0.043
	Ellip Dist.	53303.853 m	0.004 m	0.006 m	0.910
<u>VTU --> TW15 (PV4296)</u>	Az.	341°27'06"	0.009 sec	0.002 sec	0.107
	ΔHt.	-141.157 m	0.007 m	0.011 m	0.907
	Ellip Dist.	65548.271 m	0.004 m	-0.003 m	-0.354
<u>VTUV-BE6 (V181)</u>	Az.	180°56'30"	0.033 sec	-0.002 sec	-0.161
	ΔHt.	-26.922 m	0.028 m	-0.012 m	-0.907
	Ellip Dist.	56281.604 m	0.010 m	0.000 m	0.052
<u>VTC1 --> TW03 (PV3759)</u>	Az.	252°55'57"	0.028 sec	-0.037 sec	-0.906
	ΔHt.	47.008 m	0.010 m	0.000 m	-0.031
	Ellip Dist.	33190.189 m	0.004 m	0.001 m	0.125
<u>VTC1 --> TW20 (PV3720)</u>	Az.	311°34'05"	0.011 sec	-0.014 sec	-0.906
	ΔHt.	-323.287 m	0.008 m	0.012 m	0.805
	Ellip Dist.	67725.065 m	0.004 m	-0.002 m	-0.240
<u>VCAP --> BE20 (PV1050)</u>	Az.	236°01'25"	0.020 sec	-0.023 sec	-0.651
	ΔHt.	210.321 m	0.007 m	-0.011 m	-0.904
	Ellip Dist.	38080.417 m	0.003 m	0.003 m	0.616
<u>VTC1 --> BE19 (PV2640)</u>	Az.	252°51'58"	0.020 sec	0.022 sec	0.597
	ΔHt.	46.748 m	0.009 m	0.003 m	0.187
	Ellip Dist.	33166.825 m	0.003 m	-0.005 m	-0.902
<u>VTMI --> TW10 (PV4006)</u>	Az.	60°51'10"	0.058 sec	-0.096 sec	-0.901
	ΔHt.	269.427 m	0.007 m	-0.002 m	-0.144
	Ellip Dist.	15944.703 m	0.003 m	0.004 m	0.611

<u>NYET --> GPS4A (PV2091)</u>	Az.	116°33'44"	0.017 sec	-0.006 sec	-0.243
	ΔHt.	256.041 m	0.013 m	-0.006 m	-0.340
	Ellip Dist.	46867.200 m	0.004 m	-0.005 m	-0.900
<u>VTRU --> GPS3A (PV3314)</u>	Az.	1°58'05"	0.018 sec	-0.005 sec	-0.256
	ΔHt.	263.004 m	0.012 m	0.001 m	0.074
	Ellip Dist.	49199.917 m	0.004 m	-0.005 m	-0.899
<u>VTUV-UA1 (V204)</u>	Az.	176°13'41"	0.035 sec	-0.016 sec	-0.781
	ΔHt.	-28.304 m	0.029 m	-0.015 m	-0.898
	Ellip Dist.	51995.321 m	0.011 m	0.004 m	0.643
<u>VTUV --> TW09 (PV4483)</u>	Az.	171°58'13"	0.015 sec	0.025 sec	0.898
	ΔHt.	-1.080 m	0.010 m	-0.012 m	-0.670
	Ellip Dist.	47967.545 m	0.004 m	-0.003 m	-0.373
<u>VTRI-UA13 (V228)</u>	Az.	215°14'21"	0.096 sec	-0.039 sec	-0.896
	ΔHt.	-81.421 m	0.038 m	0.002 m	0.124
	Ellip Dist.	34729.788 m	0.012 m	-0.002 m	-0.445
<u>VTRI --> TW16 (PV4151)</u>	Az.	199°34'42"	0.023 sec	0.000 sec	-0.002
	ΔHt.	3.920 m	0.009 m	-0.006 m	-0.391
	Ellip Dist.	26722.487 m	0.004 m	0.008 m	0.895
<u>VTRI --> UA19 (PV1553)</u>	Az.	241°37'04"	0.036 sec	-0.024 sec	-0.328
	ΔHt.	-91.067 m	0.007 m	-0.014 m	-0.887
	Ellip Dist.	24208.184 m	0.003 m	0.001 m	0.178
<u>VTUV --> TW16 (PV4472)</u>	Az.	166°56'42"	0.020 sec	-0.005 sec	-0.116
	ΔHt.	3.767 m	0.009 m	0.010 m	0.514
	Ellip Dist.	32231.940 m	0.004 m	0.007 m	0.884
<u>VCAP --> TW04 (PV3611)</u>	Az.	222°00'47"	0.017 sec	0.022 sec	0.869
	ΔHt.	260.985 m	0.008 m	0.010 m	0.724
	Ellip Dist.	47350.275 m	0.003 m	0.003 m	0.552
<u>VTUV --> BE15 (PV557)</u>	Az.	177°31'29"	0.040 sec	-0.051 sec	-0.658
	ΔHt.	-30.602 m	0.008 m	0.001 m	0.037
	Ellip Dist.	16574.787 m	0.005 m	0.008 m	0.865

<u>VTMI-SM20 (V276)</u>	Az.	344°51'52"	0.063 sec	0.019 sec	0.612
	ΔHt.	-93.808 m	0.025 m	-0.008 m	-0.865
	Ellip Dist.	28745.963 m	0.012 m	0.003 m	0.769
<u>VTC1 --> BE7 (PV2629)</u>	Az.	272°52'39"	0.023 sec	-0.006 sec	-0.161
	ΔHt.	6.598 m	0.007 m	0.011 m	0.842
	Ellip Dist.	31084.962 m	0.003 m	-0.005 m	-0.862
<u>VTRU --> BE17 (PV3343)</u>	Az.	342°23'54"	0.012 sec	0.003 sec	0.013
	ΔHt.	-147.278 m	0.012 m	0.018 m	0.857
	Ellip Dist.	81577.819 m	0.005 m	-0.005 m	-0.164
<u>VTC1 --> TW09 (PV3748)</u>	Az.	285°42'46"	0.021 sec	-0.011 sec	-0.271
	ΔHt.	-293.782 m	0.010 m	-0.002 m	-0.102
	Ellip Dist.	42529.126 m	0.003 m	0.005 m	0.852
<u>VTC1 --> SM8 (PV2618)</u>	Az.	256°10'50"	0.022 sec	-0.025 sec	-0.851
	ΔHt.	-297.864 m	0.010 m	-0.013 m	-0.554
	Ellip Dist.	40794.275 m	0.004 m	-0.005 m	-0.734
<u>VTUV-UA15 (V224)</u>	Az.	188°52'25"	0.050 sec	-0.013 sec	-0.493
	ΔHt.	-87.963 m	0.026 m	-0.004 m	-0.275
	Ellip Dist.	34430.450 m	0.011 m	0.005 m	0.848
<u>VTUV --> TW03 (PV4494)</u>	Az.	166°50'11"	0.013 sec	-0.009 sec	-0.378
	ΔHt.	339.711 m	0.010 m	-0.013 m	-0.846
	Ellip Dist.	70542.585 m	0.005 m	0.004 m	0.588
<u>VTRU-UA1 (V205)</u>	Az.	342°12'04"	0.037 sec	-0.010 sec	-0.589
	ΔHt.	-77.300 m	0.029 m	0.011 m	0.844
	Ellip Dist.	46130.345 m	0.011 m	0.004 m	0.698
<u>VTRU --> TW07 (PV4305)</u>	Az.	339°26'41"	0.012 sec	0.011 sec	0.260
	ΔHt.	-63.899 m	0.007 m	0.004 m	0.090
	Ellip Dist.	49983.246 m	0.004 m	0.008 m	0.843
<u>VTRU --> TW09 (PV4318)</u>	Az.	347°23'05"	0.015 sec	-0.019 sec	-0.645
	ΔHt.	-50.077 m	0.010 m	-0.015 m	-0.842
	Ellip Dist.	49493.909 m	0.004 m	0.005 m	0.590

<u>VCAP --> TW02 (PV3618)</u>	Az.	222°42'59"	0.013 sec	-0.026 sec	-0.833
	ΔHt.	-27.674 m	0.009 m	-0.001 m	-0.048
	Ellip Dist.	62006.259 m	0.004 m	0.003 m	0.594
<u>NYET --> BE14 (PV2107)</u>	Az.	81°24'35"	0.024 sec	-0.005 sec	-0.136
	ΔHt.	-19.921 m	0.007 m	-0.010 m	-0.831
	Ellip Dist.	33620.039 m	0.003 m	-0.001 m	-0.111
<u>VTMI --> GPS4A (PV2758)</u>	Az.	77°38'33"	0.069 sec	-0.021 sec	-0.157
	ΔHt.	334.274 m	0.013 m	0.021 m	0.830
	Ellip Dist.	11074.780 m	0.004 m	0.002 m	0.248
<u>VTC1 --> TW02 (PV3758)</u>	Az.	256°28'44"	0.021 sec	0.030 sec	0.829
	ΔHt.	-272.264 m	0.009 m	0.001 m	0.113
	Ellip Dist.	41515.825 m	0.003 m	-0.001 m	-0.112
<u>VTUV --> TW10 (PV4478)</u>	Az.	158°28'52"	0.013 sec	0.009 sec	0.419
	ΔHt.	253.022 m	0.007 m	0.011 m	0.826
	Ellip Dist.	47853.307 m	0.004 m	0.000 m	0.047
<u>VTUV --> BE14 (PV553)</u>	Az.	166°10'48"	0.026 sec	-0.037 sec	-0.823
	ΔHt.	41.908 m	0.007 m	0.006 m	0.451
	Ellip Dist.	24612.776 m	0.004 m	0.001 m	0.110
<u>NYET --> TW05 (PV3490)</u>	Az.	131°37'57"	0.018 sec	-0.025 sec	-0.823
	ΔHt.	-75.001 m	0.008 m	0.003 m	0.232
	Ellip Dist.	47142.117 m	0.003 m	-0.001 m	-0.278
<u>VTMI --> TW11 (PV4005)</u>	Az.	19°45'21"	0.078 sec	-0.111 sec	-0.820
	ΔHt.	-6.870 m	0.015 m	-0.008 m	-0.273
	Ellip Dist.	14690.727 m	0.008 m	0.011 m	0.597
<u>VTMI --> TW06 (PV4013)</u>	Az.	227°35'52"	0.107 sec	-0.093 sec	-0.287
	ΔHt.	-47.347 m	0.007 m	-0.016 m	-0.820
	Ellip Dist.	7386.954 m	0.003 m	0.000 m	-0.019
<u>NYET --> SM4 (PV2065)</u>	Az.	131°36'36"	0.032 sec	0.033 sec	0.587
	ΔHt.	-172.356 m	0.007 m	-0.010 m	-0.819
	Ellip Dist.	20870.906 m	0.004 m	0.003 m	0.399

<u>VTRI --> GPS19A (PV1523)</u>	Az.	183°32'54"	0.020 sec	-0.036 sec	-0.244
	ΔHt.	192.690 m	0.011 m	-0.016 m	-0.554
	Ellip Dist.	48782.068 m	0.005 m	-0.013 m	-0.815
<u>VTRI-UA15 (V223)</u>	Az.	217°49'11"	0.050 sec	0.017 sec	0.803
	ΔHt.	-87.810 m	0.026 m	0.006 m	0.396
	Ellip Dist.	35149.140 m	0.011 m	-0.003 m	-0.538
<u>VTRI --> TW02 (PV4168)</u>	Az.	188°06'16"	0.010 sec	0.003 sec	0.223
	ΔHt.	20.591 m	0.009 m	-0.010 m	-0.802
	Ellip Dist.	63125.856 m	0.004 m	-0.004 m	-0.477
<u>VCAP --> TW05 (PV3616)</u>	Az.	228°21'09"	0.012 sec	-0.006 sec	-0.313
	ΔHt.	-61.285 m	0.008 m	0.011 m	0.801
	Ellip Dist.	55815.136 m	0.004 m	-0.004 m	-0.588
<u>VTRI --> TW01 (PV4167)</u>	Az.	194°03'05"	0.010 sec	-0.014 sec	-0.733
	ΔHt.	-12.109 m	0.007 m	-0.009 m	-0.801
	Ellip Dist.	66055.733 m	0.004 m	0.003 m	0.450
<u>VTRI --> TW10 (PV4153)</u>	Az.	178°04'45"	0.017 sec	-0.002 sec	-0.083
	ΔHt.	253.175 m	0.007 m	-0.011 m	-0.800
	Ellip Dist.	38343.348 m	0.004 m	0.000 m	0.050
<u>VCAP --> TW06 (PV3614)</u>	Az.	236°23'23"	0.014 sec	-0.007 sec	-0.279
	ΔHt.	-111.864 m	0.007 m	-0.011 m	-0.799
	Ellip Dist.	61508.738 m	0.003 m	0.004 m	0.655
<u>VTC1 --> TW19 (PV3724)</u>	Az.	312°18'44"	0.015 sec	-0.011 sec	-0.425
	ΔHt.	-319.783 m	0.010 m	0.007 m	0.372
	Ellip Dist.	62999.052 m	0.004 m	-0.008 m	-0.793
<u>NYET --> SM10 (PV2092)</u>	Az.	123°07'43"	0.016 sec	0.021 sec	0.792
	ΔHt.	193.852 m	0.009 m	-0.003 m	-0.227
	Ellip Dist.	50893.926 m	0.003 m	-0.004 m	-0.683
<u>VTRI --> BE18 (PV1539)</u>	Az.	194°56'29"	0.010 sec	-0.014 sec	-0.789
	ΔHt.	-3.102 m	0.008 m	0.003 m	0.235
	Ellip Dist.	64287.894 m	0.004 m	0.000 m	0.003

<u>VTRU --> TW03 (PV4325)</u>	Az.	356°49'36"	0.032 sec	-0.015 sec	-0.322
	ΔHt.	290.714 m	0.010 m	0.012 m	0.533
	Ellip Dist.	27124.157 m	0.005 m	0.007 m	0.788
<u>VCAP --> TW01 (PV3617)</u>	Az.	226°15'05"	0.013 sec	-0.016 sec	-0.785
	ΔHt.	-60.375 m	0.007 m	0.008 m	0.682
	Ellip Dist.	68120.945 m	0.003 m	0.004 m	0.717
<u>VTUV-SM20 (V277)</u>	Az.	189°00'13"	0.076 sec	0.008 sec	0.171
	ΔHt.	-110.213 m	0.025 m	0.012 m	0.734
	Ellip Dist.	24853.007 m	0.012 m	0.007 m	0.784
<u>VCAP --> TW03 (PV3623)</u>	Az.	216°14'46"	0.015 sec	-0.011 sec	-0.258
	ΔHt.	291.598 m	0.010 m	-0.006 m	-0.344
	Ellip Dist.	56534.737 m	0.005 m	0.007 m	0.782
<u>VTRI --> TW01 (PV4163)</u>	Az.	194°03'05"	0.010 sec	-0.001 sec	-0.048
	ΔHt.	-12.109 m	0.007 m	0.001 m	0.058
	Ellip Dist.	66055.733 m	0.004 m	0.005 m	0.775
<u>NYET --> TW08 (PV3487)</u>	Az.	123°28'26"	0.021 sec	0.034 sec	0.775
	ΔHt.	-83.785 m	0.007 m	-0.010 m	-0.645
	Ellip Dist.	35620.336 m	0.003 m	0.002 m	0.212
<u>VTRU --> TW18 (PV4292)</u>	Az.	345°12'37"	0.010 sec	0.022 sec	0.774
	ΔHt.	-100.420 m	0.008 m	0.006 m	0.433
	Ellip Dist.	77110.134 m	0.005 m	0.000 m	0.046
<u>NYET --> TW12 (PV3472)</u>	Az.	124°08'15"	0.028 sec	0.036 sec	0.773
	ΔHt.	-151.827 m	0.007 m	-0.005 m	-0.390
	Ellip Dist.	29125.654 m	0.004 m	0.003 m	0.337
<u>VTRI --> TW09 (PV4158)</u>	Az.	193°03'37"	0.016 sec	0.021 sec	0.711
	ΔHt.	-0.927 m	0.010 m	-0.013 m	-0.770
	Ellip Dist.	42370.438 m	0.004 m	-0.003 m	-0.369
<u>VTRI --> TW16 (PV4147)</u>	Az.	199°34'42"	0.023 sec	-0.004 sec	-0.080
	ΔHt.	3.920 m	0.009 m	0.005 m	0.314
	Ellip Dist.	26722.487 m	0.004 m	0.005 m	0.768

<u>VTRU-UA3 (V207)</u>	Az.	341°50'37"	0.039 sec	0.018 sec	0.230
	ΔHt.	-72.902 m	0.024 m	0.034 m	0.767
	Ellip Dist.	49015.370 m	0.012 m	0.003 m	0.228
<u>VCAP --> SM10 (PV1041)</u>	Az.	225°30'45"	0.014 sec	0.017 sec	0.767
	ΔHt.	207.568 m	0.009 m	0.013 m	0.624
	Ellip Dist.	48053.713 m	0.004 m	0.002 m	0.326
<u>VTRI --> SM17 (PV1555)</u>	Az.	248°51'44"	0.032 sec	0.040 sec	0.767
	ΔHt.	-112.075 m	0.008 m	-0.005 m	-0.273
	Ellip Dist.	24634.351 m	0.003 m	-0.004 m	-0.395
<u>VTRI --> TW18 (PV4135)</u>	Az.	230°51'27"	0.041 sec	0.006 sec	0.082
	ΔHt.	-51.270 m	0.008 m	-0.010 m	-0.766
	Ellip Dist.	23793.167 m	0.004 m	0.002 m	0.243
<u>VCAP --> TW11 (PV3606)</u>	Az.	249°22'14"	0.035 sec	0.040 sec	0.107
	ΔHt.	-71.387 m	0.015 m	-0.096 m	-0.766
	Ellip Dist.	43462.306 m	0.006 m	-0.013 m	-0.156
<u>VTC1 --> UA19 (PV2622)</u>	Az.	308°12'22"	0.012 sec	0.022 sec	0.115
	ΔHt.	-383.923 m	0.007 m	0.030 m	0.764
	Ellip Dist.	66839.743 m	0.004 m	-0.012 m	-0.266
<u>VTRU --> SM9 (PV3359)</u>	Az.	354°56'43"	0.019 sec	-0.030 sec	-0.762
	ΔHt.	317.012 m	0.007 m	0.005 m	0.346
	Ellip Dist.	29423.200 m	0.003 m	0.001 m	0.140
<u>VTUV --> TW14 (PV4462)</u>	Az.	199°31'52"	0.016 sec	-0.027 sec	-0.761
	ΔHt.	-90.584 m	0.007 m	0.012 m	0.747
	Ellip Dist.	38853.138 m	0.004 m	0.004 m	0.573
<u>VTUV --> TW16 (PV4476)</u>	Az.	166°56'42"	0.020 sec	0.017 sec	0.360
	ΔHt.	3.767 m	0.009 m	0.013 m	0.761
	Ellip Dist.	32231.940 m	0.004 m	0.005 m	0.534
<u>VTUV --> GPS3A (PV497)</u>	Az.	157°36'25"	0.018 sec	0.070 sec	0.205
	ΔHt.	312.000 m	0.012 m	0.049 m	0.759
	Ellip Dist.	50392.211 m	0.004 m	-0.015 m	-0.436

<u>VTUV --> TW15 (PV4461)</u>	Az.	185°43'37"	0.017 sec	0.024 sec	0.757
	ΔHt.	-92.160 m	0.007 m	-0.005 m	-0.385
	Ellip Dist.	33848.397 m	0.004 m	-0.002 m	-0.271
<u>BE15 --> UA19 (PV49)</u>	Az.	258°20'26"	0.204 sec	0.008 sec	0.029
	ΔHt.	-60.618 m	0.010 m	0.002 m	0.144
	Ellip Dist.	5935.160 m	0.004 m	0.004 m	0.757
<u>VTC1 --> BE17 (PV2623)</u>	Az.	306°53'54"	0.015 sec	0.038 sec	0.202
	ΔHt.	-390.984 m	0.012 m	0.018 m	0.752
	Ellip Dist.	68355.334 m	0.005 m	-0.011 m	-0.117
<u>NYET --> BE20 (PV2097)</u>	Az.	108°48'45"	0.015 sec	-0.001 sec	-0.035
	ΔHt.	196.604 m	0.007 m	-0.008 m	-0.664
	Ellip Dist.	47729.003 m	0.003 m	-0.004 m	-0.750
<u>BE15 --> UA19 (PV51)</u>	Az.	258°20'26"	0.204 sec	-0.041 sec	-0.183
	ΔHt.	-60.618 m	0.010 m	0.003 m	0.280
	Ellip Dist.	5935.160 m	0.004 m	0.003 m	0.749
<u>VTRI --> TW18 (PV4132)</u>	Az.	230°51'27"	0.041 sec	0.027 sec	0.451
	ΔHt.	-51.270 m	0.008 m	-0.010 m	-0.657
	Ellip Dist.	23793.167 m	0.004 m	0.006 m	0.744
<u>VTMI --> TW04 (PV4014)</u>	Az.	112°59'56"	0.051 sec	-0.086 sec	-0.437
	ΔHt.	325.502 m	0.008 m	-0.008 m	-0.320
	Ellip Dist.	15303.335 m	0.004 m	0.011 m	0.736
<u>VTMI --> TW01 (PV3906)</u>	Az.	190°31'19"	0.035 sec	0.048 sec	0.733
	ΔHt.	4.143 m	0.007 m	-0.006 m	-0.470
	Ellip Dist.	18332.981 m	0.004 m	-0.004 m	-0.542
<u>VTRU --> TW11 (PV4312)</u>	Az.	351°10'44"	0.020 sec	0.102 sec	0.292
	ΔHt.	-72.272 m	0.015 m	-0.116 m	-0.733
	Ellip Dist.	58014.835 m	0.008 m	-0.002 m	-0.021
<u>VTRU --> SM11 (PV3356)</u>	Az.	359°43'52"	0.014 sec	0.016 sec	0.729
	ΔHt.	196.941 m	0.007 m	-0.006 m	-0.564
	Ellip Dist.	51245.409 m	0.004 m	-0.004 m	-0.721

<u>VTRU --> TW14 (PV4302)</u>	Az.	332°46'36"	0.009 sec	0.008 sec	0.417
	ΔHt.	-139.581 m	0.008 m	-0.007 m	-0.572
	Ellip Dist.	66608.776 m	0.004 m	0.004 m	0.728
<u>VCAP --> TW09 (PV3608)</u>	Az.	240°17'01"	0.016 sec	-0.014 sec	-0.489
	ΔHt.	-49.192 m	0.010 m	0.013 m	0.728
	Ellip Dist.	49087.716 m	0.004 m	-0.001 m	-0.130
<u>NYET --> UA20 (PV2110)</u>	Az.	66°28'04"	0.027 sec	-0.015 sec	-0.312
	ΔHt.	-84.664 m	0.009 m	0.011 m	0.725
	Ellip Dist.	30633.760 m	0.004 m	0.002 m	0.294
<u>VTRU --> TW16 (PV4311)</u>	Az.	351°00'40"	0.010 sec	0.014 sec	0.693
	ΔHt.	-45.230 m	0.009 m	-0.007 m	-0.473
	Ellip Dist.	65196.582 m	0.004 m	0.006 m	0.719
<u>VTUV --> SM10 (PV534)</u>	Az.	165°05'13"	0.013 sec	-0.012 sec	-0.637
	ΔHt.	255.680 m	0.009 m	0.011 m	0.655
	Ellip Dist.	58754.174 m	0.004 m	-0.004 m	-0.718
<u>VCAP --> SM8 (PV1031)</u>	Az.	222°10'41"	0.014 sec	0.004 sec	0.172
	ΔHt.	-53.274 m	0.010 m	0.004 m	0.190
	Ellip Dist.	61526.822 m	0.004 m	0.004 m	0.716
<u>VTUV --> TW02 (PV4493)</u>	Az.	173°49'50"	0.009 sec	0.007 sec	0.281
	ΔHt.	20.438 m	0.009 m	-0.008 m	-0.557
	Ellip Dist.	69116.773 m	0.004 m	-0.006 m	-0.711
<u>VTMI --> TW02 (PV3911)</u>	Az.	167°01'02"	0.036 sec	0.001 sec	0.009
	ΔHt.	36.843 m	0.009 m	-0.003 m	-0.185
	Ellip Dist.	16858.066 m	0.004 m	-0.006 m	-0.708
<u>NYET --> TW04 (PV3485)</u>	Az.	122°55'43"	0.014 sec	0.002 sec	0.109
	ΔHt.	247.269 m	0.008 m	0.007 m	0.361
	Ellip Dist.	53884.990 m	0.004 m	-0.006 m	-0.707
<u>VTC1 --> TW03 (PV3755)</u>	Az.	252°55'57"	0.028 sec	0.008 sec	0.158
	ΔHt.	47.008 m	0.010 m	0.015 m	0.700
	Ellip Dist.	33190.189 m	0.004 m	-0.001 m	-0.137

<u>VTUV-SM16 (V275)</u>	Az.	189°54'29"	0.071 sec	0.010 sec	0.283
	ΔHt.	-108.707 m	0.020 m	0.007 m	0.634
	Ellip Dist.	26754.269 m	0.009 m	0.003 m	0.699
<u>BE17 --> BE15 (PV48)</u>	Az.	79°08'58"	0.176 sec	-0.011 sec	-0.020
	ΔHt.	67.679 m	0.014 m	0.036 m	0.697
	Ellip Dist.	8095.296 m	0.006 m	-0.002 m	-0.106
<u>VTMI --> TW03 (PV3908)</u>	Az.	142°51'41"	0.045 sec	-0.018 sec	-0.231
	ΔHt.	356.116 m	0.010 m	0.012 m	0.500
	Ellip Dist.	20578.229 m	0.004 m	-0.006 m	-0.696
<u>VTUV --> BE5 (PV519)</u>	Az.	173°51'48"	0.010 sec	-0.329 sec	-0.695
	ΔHt.	18.210 m	0.007 m	0.005 m	0.069
	Ellip Dist.	69059.999 m	0.004 m	-0.005 m	-0.395
<u>VTMI --> BE19 (PV2791)</u>	Az.	142°50'10"	0.028 sec	-0.036 sec	-0.694
	ΔHt.	355.855 m	0.009 m	-0.003 m	-0.193
	Ellip Dist.	20622.235 m	0.003 m	-0.001 m	-0.112
<u>NYET --> TW18 (PV3463)</u>	Az.	73°06'39"	0.038 sec	-0.012 sec	-0.177
	ΔHt.	-113.251 m	0.008 m	-0.009 m	-0.693
	Ellip Dist.	26241.167 m	0.004 m	-0.002 m	-0.289
<u>VCAP --> TW02 (PV3622)</u>	Az.	222°42'59"	0.013 sec	0.012 sec	0.693
	ΔHt.	-27.674 m	0.009 m	-0.004 m	-0.302
	Ellip Dist.	62006.259 m	0.004 m	0.000 m	-0.069
<u>NYET --> TW19 (PV3462)</u>	Az.	66°29'13"	0.027 sec	-0.025 sec	-0.534
	ΔHt.	-88.909 m	0.010 m	-0.011 m	-0.692
	Ellip Dist.	30713.894 m	0.004 m	0.001 m	0.110
<u>VTRU --> BE20 (PV3357)</u>	Az.	0°15'18"	0.012 sec	0.011 sec	0.555
	ΔHt.	209.436 m	0.007 m	0.001 m	0.074
	Ellip Dist.	51404.800 m	0.004 m	-0.004 m	-0.690
<u>VTUV-UA2 (V177)</u>	Az.	177°54'38"	0.045 sec	0.007 sec	0.363
	ΔHt.	-21.248 m	0.028 m	0.015 m	0.688
	Ellip Dist.	51590.380 m	0.012 m	-0.002 m	-0.315

<u>VTUV --> SM10 (PV538)</u>	Az.	165°05'13"	0.013 sec	-0.013 sec	-0.080
	ΔHt.	255.680 m	0.009 m	-0.012 m	-0.686
	Ellip Dist.	58754.174 m	0.004 m	0.004 m	0.360
<u>VTUV --> BE18 (PV517)</u>	Az.	180°12'31"	0.009 sec	-0.010 sec	-0.680
	ΔHt.	-3.255 m	0.008 m	-0.010 m	-0.637
	Ellip Dist.	68354.842 m	0.004 m	-0.005 m	-0.645
<u>VTRI --> GPS19A (PV1524)</u>	Az.	183°32'54"	0.020 sec	-0.008 sec	-0.342
	ΔHt.	192.690 m	0.011 m	-0.004 m	-0.200
	Ellip Dist.	48782.068 m	0.005 m	0.005 m	0.668
<u>VTUV --> SM4 (PV511)</u>	Az.	195°29'31"	0.016 sec	-0.017 sec	-0.666
	ΔHt.	-110.527 m	0.007 m	0.003 m	0.247
	Ellip Dist.	44317.784 m	0.004 m	0.003 m	0.568
<u>VTRI --> TW02 (PV4164)</u>	Az.	188°06'16"	0.010 sec	-0.013 sec	-0.618
	ΔHt.	20.591 m	0.009 m	-0.013 m	-0.665
	Ellip Dist.	63125.856 m	0.004 m	0.003 m	0.463
<u>VCAP --> GPS3A (PV1007)</u>	Az.	232°01'15"	0.023 sec	0.011 sec	0.442
	ΔHt.	263.888 m	0.012 m	-0.003 m	-0.221
	Ellip Dist.	38223.254 m	0.004 m	0.004 m	0.665
<u>VCAP --> BE7 (PV1042)</u>	Az.	223°40'25"	0.015 sec	-0.015 sec	-0.664
	ΔHt.	251.189 m	0.007 m	0.005 m	0.377
	Ellip Dist.	47412.567 m	0.003 m	-0.003 m	-0.505
<u>VTMI --> TW04 (PV4010)</u>	Az.	112°59'56"	0.051 sec	-0.085 sec	-0.664
	ΔHt.	325.502 m	0.008 m	0.009 m	0.344
	Ellip Dist.	15303.335 m	0.004 m	-0.004 m	-0.398
<u>VTRU --> SM8 (PV3338)</u>	Az.	340°51'33"	0.025 sec	-0.012 sec	-0.254
	ΔHt.	-54.159 m	0.010 m	0.001 m	0.055
	Ellip Dist.	28626.379 m	0.004 m	-0.004 m	-0.664
<u>VTUV --> TW19 (PV4456)</u>	Az.	177°08'40"	0.044 sec	0.054 sec	0.663
	ΔHt.	-27.081 m	0.010 m	-0.005 m	-0.261
	Ellip Dist.	16668.052 m	0.004 m	0.003 m	0.320

<u>NYET --> TW16 (PV3479)</u>	Az.	94°04'34"	0.025 sec	-0.007 sec	-0.116
	ΔHt.	-58.061 m	0.009 m	-0.012 m	-0.656
	Ellip Dist.	34763.468 m	0.003 m	0.002 m	0.328
<u>NYET --> TW12 (PV3467)</u>	Az.	124°08'15"	0.028 sec	-0.041 sec	-0.656
	ΔHt.	-151.827 m	0.007 m	-0.010 m	-0.581
	Ellip Dist.	29125.654 m	0.004 m	-0.001 m	-0.180
<u>VTUV --> TW13 (PV4468)</u>	Az.	199°04'21"	0.015 sec	-0.020 sec	-0.653
	ΔHt.	-95.097 m	0.009 m	-0.001 m	-0.041
	Ellip Dist.	45407.833 m	0.004 m	0.002 m	0.188
<u>VCAP --> UA20 (PV1065)</u>	Az.	277°42'07"	0.018 sec	0.017 sec	0.649
	ΔHt.	-70.948 m	0.009 m	-0.006 m	-0.374
	Ellip Dist.	48788.944 m	0.003 m	0.002 m	0.410
<u>VTRI --> TW12 (PV4139)</u>	Az.	206°42'41"	0.017 sec	-0.002 sec	-0.052
	ΔHt.	-89.845 m	0.007 m	-0.002 m	-0.152
	Ellip Dist.	43637.550 m	0.004 m	-0.006 m	-0.645
<u>VTMI --> TW03 (PV3912)</u>	Az.	142°51'41"	0.045 sec	-0.046 sec	-0.645
	ΔHt.	356.116 m	0.010 m	-0.008 m	-0.623
	Ellip Dist.	20578.229 m	0.004 m	0.003 m	0.420
<u>VTC1 --> TW12 (PV3734)</u>	Az.	285°12'40"	0.016 sec	-0.016 sec	-0.644
	ΔHt.	-382.701 m	0.007 m	0.000 m	-0.030
	Ellip Dist.	52819.547 m	0.003 m	0.001 m	0.235
<u>GPS4A --> GPS1A (PV58)</u>	Az.	292°25'43"	0.066 sec	0.142 sec	0.642
	ΔHt.	-395.957 m	0.021 m	-0.050 m	-0.538
	Ellip Dist.	19579.767 m	0.011 m	0.010 m	0.455
<u>VTRI --> UA19 (PV1550)</u>	Az.	241°37'04"	0.036 sec	0.003 sec	0.046
	ΔHt.	-91.067 m	0.007 m	-0.003 m	-0.213
	Ellip Dist.	24208.184 m	0.003 m	-0.004 m	-0.639
<u>NYET --> SM8 (PV2078)</u>	Az.	138°05'48"	0.014 sec	0.007 sec	0.320
	ΔHt.	-66.990 m	0.010 m	-0.009 m	-0.368
	Ellip Dist.	53497.950 m	0.004 m	-0.004 m	-0.638

<u>VTC1 --> GPS19A (PV2593)</u>	Az.	276°44'51"	0.028 sec	-0.020 sec	-0.391
	ΔHt.	-100.165 m	0.011 m	-0.006 m	-0.266
	Ellip Dist.	34659.630 m	0.005 m	-0.005 m	-0.634
<u>VTRU --> TW06 (PV4316)</u>	Az.	333°20'03"	0.015 sec	0.016 sec	0.633
	ΔHt.	-112.749 m	0.007 m	0.003 m	0.266
	Ellip Dist.	43130.531 m	0.004 m	0.003 m	0.420
<u>NYET --> BE5 (PV2073)</u>	Az.	138°40'51"	0.013 sec	0.031 sec	0.098
	ΔHt.	-43.618 m	0.007 m	0.114 m	0.630
	Ellip Dist.	52907.522 m	0.004 m	0.001 m	0.022
<u>VTMI --> TW09 (PV4007)</u>	Az.	32°39'19"	0.124 sec	0.078 sec	0.244
	ΔHt.	15.325 m	0.010 m	-0.016 m	-0.622
	Ellip Dist.	5692.230 m	0.004 m	0.002 m	0.183
<u>VTUV --> GPS4A (PV537)</u>	Az.	163°51'23"	0.015 sec	0.002 sec	0.074
	ΔHt.	317.869 m	0.013 m	-0.011 m	-0.615
	Ellip Dist.	51964.411 m	0.004 m	-0.001 m	-0.108
<u>VTC1 --> SM10 (PV2632)</u>	Az.	273°49'32"	0.024 sec	-0.026 sec	-0.614
	ΔHt.	-37.023 m	0.009 m	-0.005 m	-0.439
	Ellip Dist.	32659.644 m	0.003 m	-0.002 m	-0.367
<u>VTMI --> GPS3A (PV2790)</u>	Az.	69°55'20"	0.052 sec	-0.044 sec	-0.568
	ΔHt.	328.406 m	0.012 m	-0.011 m	-0.614
	Ellip Dist.	16576.212 m	0.004 m	0.001 m	0.203
<u>VTRU --> GPS1A (PV3319)</u>	Az.	338°21'30"	0.026 sec	-0.067 sec	-0.492
	ΔHt.	-127.085 m	0.017 m	0.075 m	0.614
	Ellip Dist.	57384.106 m	0.009 m	-0.024 m	-0.269
<u>VCAP --> GPS14A (PV1009)</u>	Az.	259°03'06"	0.022 sec	-0.009 sec	-0.185
	ΔHt.	-139.195 m	0.010 m	0.007 m	0.401
	Ellip Dist.	55375.774 m	0.004 m	-0.005 m	-0.614
<u>VCAP --> TW20 (PV3584)</u>	Az.	279°50'54"	0.016 sec	-0.016 sec	-0.614
	ΔHt.	-78.697 m	0.008 m	0.007 m	0.506
	Ellip Dist.	53135.974 m	0.003 m	0.001 m	0.175

<u>VTUV --> TW11 (PV4477)</u>	Az.	167°24'40"	0.030 sec	0.013 sec	0.158
	ΔHt.	-23.275 m	0.015 m	0.031 m	0.608
	Ellip Dist.	39410.098 m	0.008 m	0.015 m	0.453
<u>VTRI --> GPS4A (PV1562)</u>	Az.	182°24'02"	0.017 sec	0.007 sec	0.239
	ΔHt.	318.022 m	0.013 m	-0.012 m	-0.607
	Ellip Dist.	43750.062 m	0.004 m	0.000 m	-0.048
<u>NYET --> TW09 (PV3482)</u>	Az.	118°31'48"	0.022 sec	-0.001 sec	-0.020
	ΔHt.	-62.908 m	0.010 m	0.006 m	0.309
	Ellip Dist.	38884.042 m	0.003 m	0.004 m	0.607
<u>VTRU-UA2 (V176)</u>	Az.	340°32'08"	0.054 sec	0.020 sec	0.604
	ΔHt.	-70.245 m	0.028 m	-0.007 m	-0.600
	Ellip Dist.	46935.398 m	0.010 m	-0.001 m	-0.128
<u>VTRI --> UA18 (PV1579)</u>	Az.	210°12'40"	0.037 sec	0.017 sec	0.234
	ΔHt.	40.656 m	0.009 m	0.012 m	0.597
	Ellip Dist.	20461.072 m	0.004 m	-0.001 m	-0.103
<u>VTRU --> BE13 (PV3323)</u>	Az.	327°48'49"	0.010 sec	0.000 sec	0.020
	ΔHt.	-132.461 m	0.009 m	-0.004 m	-0.267
	Ellip Dist.	62422.654 m	0.003 m	-0.004 m	-0.597
<u>VTC1 --> TW11 (PV3742)</u>	Az.	297°46'52"	0.035 sec	0.094 sec	0.347
	ΔHt.	-315.978 m	0.015 m	-0.076 m	-0.594
	Ellip Dist.	44064.648 m	0.006 m	-0.003 m	-0.050
<u>VTRI --> TW04 (PV4161)</u>	Az.	178°26'15"	0.013 sec	-0.019 sec	-0.352
	ΔHt.	309.250 m	0.008 m	-0.008 m	-0.591
	Ellip Dist.	52086.588 m	0.004 m	-0.002 m	-0.238
<u>VTRU --> TW02 (PV4324)</u>	Az.	339°28'25"	0.022 sec	0.019 sec	0.487
	ΔHt.	-28.559 m	0.009 m	0.014 m	0.591
	Ellip Dist.	28913.686 m	0.004 m	-0.004 m	-0.326
<u>VTMI-SM16 (V274)</u>	Az.	342°24'58"	0.072 sec	0.021 sec	0.561
	ΔHt.	-92.301 m	0.020 m	-0.006 m	-0.588
	Ellip Dist.	27212.188 m	0.009 m	0.002 m	0.466

<u>VTRU --> GPS4A (PV3355)</u>	Az.	356°10'22"	0.017 sec	0.002 sec	0.022
	ΔHt.	268.872 m	0.013 m	0.018 m	0.587
	Ellip Dist.	45962.954 m	0.004 m	-0.003 m	-0.328
<u>VTMI --> BE18 (PV2687)</u>	Az.	193°36'45"	0.037 sec	0.010 sec	0.117
	ΔHt.	13.150 m	0.008 m	0.010 m	0.585
	Ellip Dist.	16525.016 m	0.004 m	-0.002 m	-0.231
<u>VTC1 --> TW10 (PV3739)</u>	Az.	295°37'15"	0.023 sec	-0.024 sec	-0.505
	ΔHt.	-39.680 m	0.007 m	0.007 m	0.584
	Ellip Dist.	33344.673 m	0.004 m	-0.001 m	-0.170
<u>VTC1 --> GPS4A (PV2631)</u>	Az.	285°14'00"	0.023 sec	-0.008 sec	-0.225
	ΔHt.	25.167 m	0.013 m	-0.011 m	-0.583
	Ellip Dist.	34418.776 m	0.004 m	-0.003 m	-0.461
<u>NYET --> BE7 (PV2089)</u>	Az.	122°45'17"	0.013 sec	-0.005 sec	-0.219
	ΔHt.	237.472 m	0.007 m	0.008 m	0.579
	Ellip Dist.	52519.895 m	0.003 m	0.002 m	0.327
<u>VTC1 --> TW19 (PV3721)</u>	Az.	312°18'44"	0.015 sec	0.014 sec	0.572
	ΔHt.	-319.783 m	0.010 m	0.008 m	0.410
	Ellip Dist.	62999.052 m	0.004 m	-0.001 m	-0.241
<u>VTRI --> BE15 (PV1582)</u>	Az.	236°18'36"	0.051 sec	-0.059 sec	-0.570
	ΔHt.	-30.449 m	0.008 m	-0.001 m	-0.054
	Ellip Dist.	18607.883 m	0.004 m	0.001 m	0.159
<u>VTUV --> SM17 (PV527)</u>	Az.	204°07'49"	0.046 sec	-0.024 sec	-0.243
	ΔHt.	-112.228 m	0.008 m	-0.007 m	-0.526
	Ellip Dist.	16589.169 m	0.004 m	0.004 m	0.568
<u>VTC1 --> TW16 (PV3741)</u>	Az.	304°27'16"	0.017 sec	0.011 sec	0.280
	ΔHt.	-288.935 m	0.009 m	-0.009 m	-0.567
	Ellip Dist.	48804.885 m	0.003 m	-0.002 m	-0.364
<u>VCAP --> TW20 (PV3587)</u>	Az.	279°50'54"	0.016 sec	0.008 sec	0.254
	ΔHt.	-78.697 m	0.008 m	0.001 m	0.050
	Ellip Dist.	53135.974 m	0.003 m	-0.003 m	-0.567

<u>NYET --> GPS1A (PV2066)</u>	Az.	119°46'32"	0.037 sec	-0.051 sec	-0.565
	ΔHt.	-139.916 m	0.017 m	0.003 m	0.052
	Ellip Dist.	27390.794 m	0.010 m	-0.017 m	-0.373
<u>VTMI --> BE18 (PV2690)</u>	Az.	193°36'45"	0.037 sec	-0.046 sec	-0.530
	ΔHt.	13.150 m	0.008 m	-0.008 m	-0.446
	Ellip Dist.	16525.016 m	0.004 m	-0.005 m	-0.563
<u>VTRU-GPS9A (V182)</u>	Az.	332°30'44"	0.065 sec	-0.010 sec	-0.562
	ΔHt.	-87.268 m	0.045 m	-0.015 m	-0.483
	Ellip Dist.	42860.756 m	0.024 m	-0.003 m	-0.234
<u>VTRI --> GPS3A (PV1522)</u>	Az.	175°51'35"	0.022 sec	0.101 sec	0.202
	ΔHt.	312.154 m	0.012 m	0.040 m	0.561
	Ellip Dist.	40506.050 m	0.004 m	-0.006 m	-0.322
<u>NYET --> TW19 (PV3459)</u>	Az.	66°29'13"	0.027 sec	-0.027 sec	-0.561
	ΔHt.	-88.909 m	0.010 m	-0.005 m	-0.265
	Ellip Dist.	30713.894 m	0.004 m	-0.004 m	-0.555
<u>VTUV --> BE7 (PV539)</u>	Az.	163°48'17"	0.011 sec	-0.001 sec	-0.026
	ΔHt.	299.301 m	0.007 m	-0.004 m	-0.347
	Ellip Dist.	59753.849 m	0.003 m	0.004 m	0.558
<u>VTMI --> TW18 (PV3988)</u>	Az.	349°18'35"	0.025 sec	0.021 sec	0.498
	ΔHt.	-35.018 m	0.008 m	0.002 m	0.144
	Ellip Dist.	31578.305 m	0.005 m	0.005 m	0.558
<u>VTRU --> TW20 (PV4290)</u>	Az.	345°46'59"	0.007 sec	0.008 sec	0.556
	ΔHt.	-79.582 m	0.008 m	0.004 m	0.225
	Ellip Dist.	84253.269 m	0.004 m	-0.002 m	-0.207
<u>VTUV --> UA19 (PV525)</u>	Az.	196°00'47"	0.035 sec	0.006 sec	0.101
	ΔHt.	-91.220 m	0.007 m	0.007 m	0.554
	Ellip Dist.	18476.300 m	0.004 m	-0.001 m	-0.141
<u>VTMI --> TW19 (PV3987)</u>	Az.	355°32'17"	0.020 sec	0.022 sec	0.549
	ΔHt.	-10.676 m	0.010 m	0.005 m	0.284
	Ellip Dist.	35753.978 m	0.004 m	0.000 m	-0.043

<u>NYET --> BE17 (PV2080)</u>	Az.	61°46'11"	0.045 sec	0.042 sec	0.357
	ΔHt.	-160.109 m	0.012 m	0.021 m	0.548
	Ellip Dist.	22816.861 m	0.005 m	-0.005 m	-0.321
<u>VTRU --> SM11 (PV3346)</u>	Az.	359°43'52"	0.014 sec	-0.005 sec	-0.033
	ΔHt.	196.941 m	0.007 m	-0.013 m	-0.546
	Ellip Dist.	51245.409 m	0.004 m	0.004 m	0.431
<u>VTRU --> GPS4A (PV3351)</u>	Az.	356°10'22"	0.017 sec	-0.014 sec	-0.545
	ΔHt.	268.872 m	0.013 m	0.001 m	0.072
	Ellip Dist.	45962.954 m	0.004 m	0.002 m	0.369
<u>VTC1 --> GPS14A (PV2596)</u>	Az.	295°40'47"	0.020 sec	0.012 sec	0.280
	ΔHt.	-383.786 m	0.010 m	0.002 m	0.125
	Ellip Dist.	58452.620 m	0.005 m	0.003 m	0.543
<u>NYET --> SM4 (PV2058)</u>	Az.	131°36'36"	0.032 sec	0.016 sec	0.284
	ΔHt.	-172.356 m	0.007 m	-0.004 m	-0.299
	Ellip Dist.	20870.906 m	0.004 m	-0.004 m	-0.543
<u>VTUV --> TW18 (PV4457)</u>	Az.	186°01'20"	0.039 sec	0.033 sec	0.538
	ΔHt.	-51.423 m	0.008 m	-0.005 m	-0.350
	Ellip Dist.	21382.415 m	0.005 m	0.004 m	0.442
<u>VTC1 --> TW18 (PV3722)</u>	Az.	307°16'09"	0.014 sec	0.015 sec	0.156
	ΔHt.	-344.125 m	0.008 m	0.008 m	0.534
	Ellip Dist.	62445.278 m	0.005 m	-0.013 m	-0.126
<u>VTRU --> TW19 (PV4294)</u>	Az.	348°09'31"	0.010 sec	0.007 sec	0.280
	ΔHt.	-76.078 m	0.010 m	0.009 m	0.395
	Ellip Dist.	80885.680 m	0.004 m	-0.009 m	-0.529
<u>VTUV --> SM8 (PV524)</u>	Az.	173°12'53"	0.011 sec	0.006 sec	0.344
	ΔHt.	-5.162 m	0.010 m	0.001 m	0.050
	Ellip Dist.	69233.617 m	0.004 m	-0.003 m	-0.529
<u>NYET --> GPS19A (PV2052)</u>	Az.	122°28'16"	0.017 sec	-0.003 sec	-0.021
	ΔHt.	130.709 m	0.011 m	-0.029 m	-0.528
	Ellip Dist.	48321.128 m	0.005 m	-0.017 m	-0.210

<u>VTRI --> BE5 (PV1544)</u>	Az.	188°09'07"	0.012 sec	-0.015 sec	-0.291
	ΔHt.	18.364 m	0.007 m	0.007 m	0.526
	Ellip Dist.	63080.473 m	0.004 m	-0.004 m	-0.456
<u>VTC1 --> TW09 (PV3744)</u>	Az.	285°42'46"	0.021 sec	-0.004 sec	-0.122
	ΔHt.	-293.782 m	0.010 m	-0.010 m	-0.522
	Ellip Dist.	42529.126 m	0.003 m	-0.002 m	-0.479
<u>VTRU --> SM10 (PV3352)</u>	Az.	356°27'28"	0.019 sec	-0.016 sec	-0.518
	ΔHt.	206.683 m	0.009 m	0.006 m	0.514
	Ellip Dist.	39073.484 m	0.004 m	-0.002 m	-0.254
<u>VTC1 --> SM4 (PV2598)</u>	Az.	285°27'37"	0.012 sec	0.021 sec	0.511
	ΔHt.	-403.230 m	0.007 m	-0.001 m	-0.041
	Ellip Dist.	61674.167 m	0.004 m	-0.003 m	-0.134
<u>VTC1 --> TW14 (PV3732)</u>	Az.	290°25'01"	0.012 sec	-0.006 sec	-0.263
	ΔHt.	-383.287 m	0.007 m	-0.005 m	-0.403
	Ellip Dist.	64609.389 m	0.003 m	0.002 m	0.505
<u>VTRU-UA12 (V254)</u>	Az.	349°26'59"	0.035 sec	-0.034 sec	-0.504
	ΔHt.	-56.596 m	0.034 m	0.017 m	0.299
	Ellip Dist.	60608.635 m	0.016 m	-0.052 m	-0.431
<u>VTUV --> GPS19A (PV499)</u>	Az.	166°24'22"	0.015 sec	0.083 sec	0.346
	ΔHt.	192.537 m	0.011 m	-0.013 m	-0.223
	Ellip Dist.	56477.271 m	0.005 m	-0.030 m	-0.500
<u>VTC1 --> GPS3A (PV2591)</u>	Az.	293°26'43"	0.029 sec	-0.011 sec	-0.079
	ΔHt.	19.298 m	0.012 m	0.039 m	0.494
	Ellip Dist.	30995.752 m	0.004 m	0.001 m	0.070
<u>VTRI --> UA5 (PV1545)</u>	Az.	188°07'39"	0.010 sec	-0.013 sec	-0.344
	ΔHt.	20.723 m	0.008 m	0.007 m	0.494
	Ellip Dist.	63063.304 m	0.003 m	-0.004 m	-0.461
<u>VTRI --> GPS1A (PV1530)</u>	Az.	208°48'36"	0.052 sec	-0.071 sec	-0.288
	ΔHt.	-77.935 m	0.016 m	0.031 m	0.273
	Ellip Dist.	41354.983 m	0.005 m	0.022 m	0.492

<u>VTUV --> TW03 (PV4490)</u>	Az.	166°50'11"	0.013 sec	0.003 sec	0.146
	ΔHt.	339.711 m	0.010 m	0.011 m	0.492
	Ellip Dist.	70542.585 m	0.005 m	0.000 m	-0.050
<u>VCAP --> UA18 (PV1061)</u>	Az.	269°01'24"	0.018 sec	-0.014 sec	-0.478
	ΔHt.	-7.609 m	0.009 m	-0.007 m	-0.381
	Ellip Dist.	43241.252 m	0.003 m	0.000 m	-0.007
<u>NYET --> TW11 (PV3480)</u>	Az.	104°49'15"	0.043 sec	0.163 sec	0.476
	ΔHt.	-85.103 m	0.015 m	0.005 m	0.064
	Ellip Dist.	37253.241 m	0.005 m	-0.017 m	-0.289
<u>VTMI --> GPS3A (PV2787)</u>	Az.	69°55'20"	0.052 sec	-0.054 sec	-0.272
	ΔHt.	328.406 m	0.012 m	0.025 m	0.474
	Ellip Dist.	16576.212 m	0.004 m	0.005 m	0.334
<u>VCAP --> TW09 (PV3612)</u>	Az.	240°17'01"	0.016 sec	0.004 sec	0.128
	ΔHt.	-49.192 m	0.010 m	0.006 m	0.360
	Ellip Dist.	49087.716 m	0.004 m	0.004 m	0.473
<u>VTRI --> TW13 (PV4138)</u>	Az.	220°19'36"	0.015 sec	0.010 sec	0.396
	ΔHt.	-94.944 m	0.009 m	0.007 m	0.464
	Ellip Dist.	48059.520 m	0.004 m	0.000 m	0.003
<u>VTC1 --> TW07 (PV3735)</u>	Az.	281°54'04"	0.017 sec	0.010 sec	0.380
	ΔHt.	-307.605 m	0.007 m	-0.005 m	-0.350
	Ellip Dist.	48734.119 m	0.003 m	0.003 m	0.463
<u>VTRI --> BE15 (PV1580)</u>	Az.	236°18'36"	0.051 sec	-0.005 sec	-0.056
	ΔHt.	-30.449 m	0.008 m	-0.006 m	-0.462
	Ellip Dist.	18607.883 m	0.004 m	0.003 m	0.413
<u>VTRI --> UA6 (PV1540)</u>	Az.	195°09'28"	0.011 sec	-0.004 sec	-0.223
	ΔHt.	-21.373 m	0.008 m	0.004 m	0.345
	Ellip Dist.	63224.154 m	0.004 m	-0.003 m	-0.462
<u>VTUV-UA12 (V255)</u>	Az.	170°00'14"	0.057 sec	-0.009 sec	-0.330
	ΔHt.	-7.599 m	0.034 m	0.003 m	0.215
	Ellip Dist.	36771.302 m	0.016 m	0.000 m	-0.460

<u>VTUV-UA10 (V247)</u>	Az.	165°28'22"	0.124 sec	-0.031 sec	-0.458
	ΔHt.	32.381 m	0.048 m	0.013 m	0.430
	Ellip Dist.	38554.245 m	0.034 m	-0.005 m	-0.276
<u>VCAP --> BE5 (PV1029)</u>	Az.	222°46'48"	0.013 sec	-0.009 sec	-0.454
	ΔHt.	-29.902 m	0.007 m	0.003 m	0.228
	Ellip Dist.	61998.255 m	0.003 m	0.001 m	0.191
<u>VTC1 --> TW06 (PV3750)</u>	Az.	272°04'55"	0.018 sec	-0.013 sec	-0.407
	ΔHt.	-356.455 m	0.007 m	-0.006 m	-0.450
	Ellip Dist.	49563.634 m	0.003 m	-0.001 m	-0.215
<u>VTMI --> TW20 (PV3983)</u>	Az.	349°46'28"	0.015 sec	-0.012 sec	-0.443
	ΔHt.	-14.180 m	0.008 m	0.006 m	0.382
	Ellip Dist.	38761.101 m	0.004 m	0.002 m	0.233
<u>NYET --> GPS4A (PV2095)</u>	Az.	116°33'44"	0.017 sec	-0.001 sec	-0.019
	ΔHt.	256.041 m	0.013 m	-0.012 m	-0.408
	Ellip Dist.	46867.200 m	0.004 m	-0.005 m	-0.438
<u>VTMI-SM13 (V256)</u>	Az.	11°41'22"	0.109 sec	-0.019 sec	-0.434
	ΔHt.	18.274 m	0.039 m	-0.003 m	-0.275
	Ellip Dist.	20797.361 m	0.014 m	0.001 m	0.197
<u>VTRI --> SM4 (PV1536)</u>	Az.	217°38'18"	0.017 sec	-0.009 sec	-0.337
	ΔHt.	-110.374 m	0.007 m	-0.001 m	-0.072
	Ellip Dist.	46015.609 m	0.003 m	0.002 m	0.422
<u>VTUV --> TW20 (PV4458)</u>	Az.	193°00'51"	0.042 sec	-0.033 sec	-0.419
	ΔHt.	-30.585 m	0.008 m	-0.001 m	-0.066
	Ellip Dist.	14522.821 m	0.004 m	0.000 m	-0.031
<u>VTUV --> BE15 (PV555)</u>	Az.	177°31'29"	0.040 sec	0.028 sec	0.415
	ΔHt.	-30.602 m	0.008 m	0.004 m	0.303
	Ellip Dist.	16574.787 m	0.005 m	0.001 m	0.141
<u>VTUV-SM13 (V257)</u>	Az.	166°12'42"	0.054 sec	-0.014 sec	-0.411
	ΔHt.	1.869 m	0.039 m	-0.010 m	-0.099
	Ellip Dist.	32870.286 m	0.015 m	0.010 m	0.224

<u>VTUV --> TW12 (PV4464)</u>	Az.	184°13'49"	0.015 sec	-0.009 sec	-0.352
	ΔHt.	-89.998 m	0.007 m	-0.001 m	-0.058
	Ellip Dist.	45351.920 m	0.004 m	-0.003 m	-0.408
<u>NYET --> TW15 (PV3464)</u>	Az.	101°17'19"	0.035 sec	0.006 sec	0.090
	ΔHt.	-153.988 m	0.007 m	0.000 m	0.007
	Ellip Dist.	24500.804 m	0.003 m	-0.002 m	-0.403
<u>VTMI --> TW08 (PV4008)</u>	Az.	339°41'31"	0.158 sec	0.172 sec	0.319
	ΔHt.	-5.551 m	0.007 m	-0.008 m	-0.372
	Ellip Dist.	3986.415 m	0.004 m	-0.004 m	-0.390
<u>VTUV --> GPS3A (PV500)</u>	Az.	157°36'25"	0.018 sec	-0.010 sec	-0.388
	ΔHt.	312.000 m	0.012 m	0.004 m	0.241
	Ellip Dist.	50392.211 m	0.004 m	0.000 m	-0.070
<u>VTRI-BE10 (V226)</u>	Az.	217°47'49"	0.090 sec	-0.007 sec	-0.379
	ΔHt.	-87.901 m	0.031 m	0.004 m	0.387
	Ellip Dist.	35132.311 m	0.011 m	0.001 m	0.231
<u>VTUV --> TW11 (PV4473)</u>	Az.	167°24'40"	0.030 sec	-0.004 sec	-0.103
	ΔHt.	-23.275 m	0.015 m	0.005 m	0.217
	Ellip Dist.	39410.098 m	0.008 m	0.004 m	0.386
<u>VTUV --> TW01 (PV4488)</u>	Az.	179°45'39"	0.009 sec	-0.002 sec	-0.121
	ΔHt.	-12.263 m	0.007 m	0.007 m	0.382
	Ellip Dist.	70318.605 m	0.004 m	0.000 m	0.003
<u>VTMI --> FO5 (PV2757)</u>	Az.	112°38'12"	0.519 sec	-0.024 sec	-0.063
	ΔHt.	436.322 m	0.099 m	0.005 m	0.068
	Ellip Dist.	16802.333 m	0.038 m	-0.008 m	-0.373
<u>VTUV --> GPS1A (PV512)</u>	Az.	184°55'57"	0.046 sec	-0.008 sec	-0.115
	ΔHt.	-78.088 m	0.016 m	-0.009 m	-0.371
	Ellip Dist.	42642.591 m	0.006 m	-0.003 m	-0.283
<u>VCAP --> TW16 (PV3605)</u>	Az.	258°53'00"	0.019 sec	-0.003 sec	-0.073
	ΔHt.	-44.345 m	0.009 m	-0.004 m	-0.233
	Ellip Dist.	42733.209 m	0.003 m	0.002 m	0.370

<u>VTRI --> TW03 (PV4165)</u>	Az.	180°14'27"	0.014 sec	0.009 sec	0.188
	ΔHt.	339.864 m	0.010 m	-0.003 m	-0.088
	Ellip Dist.	62489.812 m	0.005 m	-0.003 m	-0.358
<u>VCAP --> GPS4A (PV1048)</u>	Az.	232°28'18"	0.017 sec	-0.004 sec	-0.122
	ΔHt.	269.757 m	0.013 m	0.009 m	0.357
	Ellip Dist.	44010.283 m	0.004 m	0.000 m	-0.006
<u>VTRU --> BE15 (PV3369)</u>	Az.	348°05'32"	0.009 sec	0.023 sec	0.078
	ΔHt.	-79.598 m	0.008 m	-0.036 m	-0.355
	Ellip Dist.	80995.658 m	0.005 m	-0.012 m	-0.165
<u>VTRI --> TW07 (PV4145)</u>	Az.	200°52'39"	0.015 sec	0.004 sec	0.073
	ΔHt.	-14.749 m	0.007 m	0.035 m	0.194
	Ellip Dist.	45779.242 m	0.004 m	0.020 m	0.352
<u>NYET --> TW13 (PV3466)</u>	Az.	138°09'43"	0.042 sec	0.026 sec	0.318
	ΔHt.	-156.926 m	0.009 m	0.001 m	0.072
	Ellip Dist.	18897.824 m	0.004 m	-0.002 m	-0.341
<u>VTUV --> TW18 (PV4460)</u>	Az.	186°01'20"	0.039 sec	0.001 sec	0.013
	ΔHt.	-51.423 m	0.008 m	0.005 m	0.338
	Ellip Dist.	21382.415 m	0.005 m	0.001 m	0.144
<u>VTUV --> TW07 (PV4470)</u>	Az.	180°02'30"	0.013 sec	0.007 sec	0.335
	ΔHt.	-14.902 m	0.007 m	0.002 m	0.141
	Ellip Dist.	49013.106 m	0.004 m	0.001 m	0.222
<u>NYET --> GPS3A (PV2054)</u>	Az.	110°41'03"	0.018 sec	0.045 sec	0.334
	ΔHt.	250.172 m	0.012 m	-0.005 m	-0.164
	Ellip Dist.	49869.765 m	0.004 m	0.004 m	0.084
<u>VTRI --> BE17 (PV1551)</u>	Az.	243°14'38"	0.039 sec	-0.050 sec	-0.333
	ΔHt.	-98.128 m	0.012 m	0.004 m	0.060
	Ellip Dist.	26249.158 m	0.005 m	0.005 m	0.213
<u>VTMI-UA16 (V213)</u>	Az.	322°06'20"	0.075 sec	0.008 sec	0.329
	ΔHt.	-84.574 m	0.024 m	0.001 m	0.140
	Ellip Dist.	27605.686 m	0.013 m	0.000 m	0.042

<u>VTRI --> SM8 (PV1549)</u>	Az.	187°25'25"	0.012 sec	0.007 sec	0.323
	ΔHt.	-5.009 m	0.010 m	0.004 m	0.181
	Ellip Dist.	63058.034 m	0.004 m	-0.001 m	-0.148
<u>VTUV --> UA18 (PV554)</u>	Az.	166°05'22"	0.028 sec	-0.010 sec	-0.214
	ΔHt.	40.503 m	0.009 m	-0.001 m	-0.033
	Ellip Dist.	24628.984 m	0.004 m	-0.002 m	-0.320
<u>VTC1 --> SM8 (PV2615)</u>	Az.	256°10'50"	0.022 sec	-0.002 sec	-0.022
	ΔHt.	-297.864 m	0.010 m	0.005 m	0.238
	Ellip Dist.	40794.275 m	0.004 m	-0.004 m	-0.320
<u>VCAP --> TW19 (PV3585)</u>	Az.	277°44'22"	0.019 sec	0.007 sec	0.229
	ΔHt.	-75.193 m	0.010 m	0.000 m	-0.011
	Ellip Dist.	48714.677 m	0.003 m	0.002 m	0.319
<u>VTRU --> BE15 (PV3371)</u>	Az.	348°05'32"	0.009 sec	-0.059 sec	-0.148
	ΔHt.	-79.598 m	0.008 m	0.032 m	0.319
	Ellip Dist.	80995.658 m	0.005 m	0.010 m	0.117
<u>VTUV --> GPS4A (PV541)</u>	Az.	163°51'23"	0.015 sec	-0.007 sec	-0.309
	ΔHt.	317.869 m	0.013 m	0.007 m	0.268
	Ellip Dist.	51964.411 m	0.004 m	0.002 m	0.214
<u>VTMI --> GPS19A (PV2789)</u>	Az.	105°08'33"	0.090 sec	0.014 sec	0.071
	ΔHt.	208.942 m	0.011 m	0.005 m	0.176
	Ellip Dist.	9987.962 m	0.005 m	0.002 m	0.296
<u>VTC1 --> TW18 (PV3725)</u>	Az.	307°16'09"	0.014 sec	-0.003 sec	-0.159
	ΔHt.	-344.125 m	0.008 m	0.003 m	0.273
	Ellip Dist.	62445.278 m	0.005 m	-0.002 m	-0.285
<u>VTRI --> GPS4A (PV1566)</u>	Az.	182°24'02"	0.017 sec	-0.008 sec	-0.277
	ΔHt.	318.022 m	0.013 m	0.001 m	0.028
	Ellip Dist.	43750.062 m	0.004 m	0.000 m	-0.013
<u>VCAP --> TW01 (PV3621)</u>	Az.	226°15'05"	0.013 sec	0.001 sec	0.020
	ΔHt.	-60.375 m	0.007 m	-0.003 m	-0.277
	Ellip Dist.	68120.945 m	0.003 m	0.001 m	0.129

<u>VTUV --> GPS1A (PV505)</u>	Az.	184°55'57"	0.046 sec	-0.020 sec	-0.094
	ΔHt.	-78.088 m	0.016 m	0.039 m	0.248
	Ellip Dist.	42642.591 m	0.006 m	0.021 m	0.275
<u>VTUV --> TW04 (PV4486)</u>	Az.	163°04'54"	0.011 sec	-0.017 sec	-0.274
	ΔHt.	309.097 m	0.008 m	0.001 m	0.047
	Ellip Dist.	60898.455 m	0.004 m	0.002 m	0.202
<u>VTC1 --> BE20 (PV2637)</u>	Az.	295°59'34"	0.021 sec	-0.004 sec	-0.121
	ΔHt.	-34.270 m	0.007 m	-0.002 m	-0.180
	Ellip Dist.	33250.735 m	0.003 m	-0.002 m	-0.272
<u>VTUV-UA7 (V244)</u>	Az.	162°45'25"	0.173 sec	-0.008 sec	-0.061
	ΔHt.	46.265 m	0.083 m	-0.011 m	-0.271
	Ellip Dist.	39548.696 m	0.059 m	0.014 m	0.261
<u>VTUV-BE10 (V225)</u>	Az.	188°50'22"	0.065 sec	0.039 sec	0.258
	ΔHt.	-88.054 m	0.031 m	-0.001 m	-0.037
	Ellip Dist.	34422.461 m	0.016 m	-0.010 m	-0.269
<u>VCAP --> BE13 (PV1016)</u>	Az.	253°09'25"	0.010 sec	0.004 sec	0.176
	ΔHt.	-131.576 m	0.009 m	-0.004 m	-0.267
	Ellip Dist.	67966.836 m	0.003 m	0.000 m	0.044
<u>VTUV --> GPS19A (PV498)</u>	Az.	166°24'22"	0.015 sec	-0.004 sec	-0.008
	ΔHt.	192.537 m	0.011 m	-0.019 m	-0.232
	Ellip Dist.	56477.271 m	0.005 m	-0.013 m	-0.264
<u>VTRU --> FO5 (PV3350)</u>	Az.	2°28'49"	0.190 sec	0.044 sec	0.261
	ΔHt.	370.920 m	0.099 m	0.004 m	0.047
	Ellip Dist.	37048.288 m	0.046 m	-0.004 m	-0.113
<u>VCAP --> GPS19A (PV1005)</u>	Az.	228°39'09"	0.023 sec	-0.013 sec	-0.053
	ΔHt.	144.425 m	0.011 m	-0.009 m	-0.246
	Ellip Dist.	48105.915 m	0.004 m	-0.008 m	-0.204
<u>VCAP --> GPS1A (PV1019)</u>	Az.	250°01'55"	0.032 sec	0.046 sec	0.196
	ΔHt.	-126.200 m	0.016 m	-0.002 m	-0.045
	Ellip Dist.	56348.838 m	0.007 m	0.014 m	0.240

<u>VTC1 --> GPS1A (PV2606)</u>	Az.	287°56'43"	0.020 sec	0.007 sec	0.135
	ΔHt.	-370.790 m	0.016 m	-0.008 m	-0.235
	Ellip Dist.	53892.156 m	0.010 m	0.004 m	0.055
<u>VTRU-UA10 (V246)</u>	Az.	352°23'22"	0.070 sec	-0.023 sec	-0.228
	ΔHt.	-16.616 m	0.047 m	-0.004 m	-0.124
	Ellip Dist.	58986.410 m	0.037 m	-0.009 m	-0.188
<u>VTRI --> SM8 (PV1546)</u>	Az.	187°25'25"	0.012 sec	-0.072 sec	-0.180
	ΔHt.	-5.009 m	0.010 m	-0.029 m	-0.228
	Ellip Dist.	63058.034 m	0.004 m	-0.009 m	-0.152
<u>VTC1 --> GPS1A (PV2599)</u>	Az.	287°56'43"	0.020 sec	-0.064 sec	-0.205
	ΔHt.	-370.790 m	0.016 m	0.042 m	0.228
	Ellip Dist.	53892.156 m	0.010 m	-0.002 m	-0.021
<u>VTRU --> GPS1A (PV3326)</u>	Az.	338°21'30"	0.026 sec	0.001 sec	0.029
	ΔHt.	-127.085 m	0.017 m	0.005 m	0.227
	Ellip Dist.	57384.106 m	0.009 m	-0.002 m	-0.104
<u>VCAP --> GPS1A (PV1012)</u>	Az.	250°01'55"	0.032 sec	-0.082 sec	-0.220
	ΔHt.	-126.200 m	0.016 m	0.043 m	0.196
	Ellip Dist.	56348.838 m	0.007 m	0.006 m	0.091
<u>VTUV-UA16 (V214)</u>	Az.	203°36'23"	0.070 sec	0.009 sec	0.140
	ΔHt.	-100.979 m	0.024 m	-0.001 m	-0.035
	Ellip Dist.	33302.654 m	0.012 m	0.002 m	0.216
<u>VTC1 --> BE18 (PV2608)</u>	Az.	259°03'21"	0.016 sec	-0.006 sec	-0.207
	ΔHt.	-295.958 m	0.008 m	-0.002 m	-0.106
	Ellip Dist.	48928.986 m	0.003 m	-0.001 m	-0.199
<u>VTRI --> TW11 (PV4148)</u>	Az.	193°22'07"	0.034 sec	-0.006 sec	-0.129
	ΔHt.	-23.122 m	0.015 m	0.001 m	0.033
	Ellip Dist.	33142.601 m	0.008 m	0.002 m	0.204
<u>VTRI --> GPS3A (PV1525)</u>	Az.	175°51'35"	0.022 sec	0.003 sec	0.127
	ΔHt.	312.154 m	0.012 m	0.000 m	0.005
	Ellip Dist.	40506.050 m	0.004 m	-0.001 m	-0.184

<u>VTRU --> TW11 (PV4308)</u>	Az.	351°10'44"	0.020 sec	0.049 sec	0.183
	ΔHt.	-72.272 m	0.015 m	0.014 m	0.138
	Ellip Dist.	58014.835 m	0.008 m	-0.010 m	-0.127
<u>NYET --> UA6 (PV2072)</u>	Az.	144°31'51"	0.016 sec	-0.040 sec	-0.183
	ΔHt.	-83.354 m	0.008 m	0.006 m	0.079
	Ellip Dist.	47109.923 m	0.003 m	-0.002 m	-0.036
<u>VTUV --> UA20 (PV558)</u>	Az.	177°24'53"	0.043 sec	-0.008 sec	-0.115
	ΔHt.	-22.836 m	0.009 m	-0.003 m	-0.181
	Ellip Dist.	16686.488 m	0.004 m	-0.001 m	-0.141
<u>VTRU --> GPS19A (PV3312)</u>	Az.	354°03'28"	0.022 sec	0.014 sec	0.133
	ΔHt.	143.540 m	0.011 m	0.003 m	0.177
	Ellip Dist.	41104.647 m	0.005 m	0.002 m	0.179
<u>VTC1 --> FO5 (PV2630)</u>	Az.	270°21'07"	0.331 sec	-0.023 sec	-0.093
	ΔHt.	127.214 m	0.099 m	-0.006 m	-0.082
	Ellip Dist.	28579.101 m	0.034 m	-0.005 m	-0.172
<u>NYET --> TW07 (PV3468)</u>	Az.	126°15'06"	0.021 sec	0.007 sec	0.115
	ΔHt.	-76.731 m	0.007 m	0.002 m	0.103
	Ellip Dist.	34017.509 m	0.004 m	0.001 m	0.142
<u>VTRI --> GPS1A (PV1537)</u>	Az.	208°48'36"	0.052 sec	0.001 sec	0.014
	ΔHt.	-77.935 m	0.016 m	0.003 m	0.128
	Ellip Dist.	41354.983 m	0.005 m	0.000 m	0.056
<u>VTRU-UA7 (V245)</u>	Az.	354°19'43"	0.134 sec	0.000 sec	0.006
	ΔHt.	-2.732 m	0.083 m	0.006 m	0.080
	Ellip Dist.	58297.078 m	0.056 m	0.003 m	0.093

Covariance Terms

From Point	To Point		Components	A-posteriori Error	Horiz. Precision (Ratio)	3D Precision (Ratio)
<u>BE13</u>	<u>NYET</u>	Az.	320°37'31"	0.033 sec	1 : 5474530	1 : 5475773
		ΔHt.	145.285 m	0.009 m		
		ΔElev.	145.111 m	0.009 m		
		Ellip Dist.	18388.691 m	0.003 m		

<u>BE13</u>	<u>VCAP</u>	Az.	72°35'27"	0.010 sec	1 : 24276322	1 : 24305056
		ΔHt.	131.578 m	0.009 m		
		ΔElev.	130.263 m	0.009 m		
		Ellip Dist.	67966.825 m	0.003 m		
<u>BE13</u>	<u>VTC1</u>	Az.	103°45'02"	0.010 sec	1 : 21946306	1 : 22051504
		ΔHt.	376.183 m	0.009 m		
		ΔElev.	374.635 m	0.009 m		
		Ellip Dist.	65386.043 m	0.003 m		
<u>BE14</u>	<u>BE5</u>	Az.	178°07'41"	0.021 sec	1 : 8497602	1 : 8490370
		ΔHt.	-23.679 m	0.010 m		
		ΔElev.	-23.733 m	0.010 m		
		Ellip Dist.	44789.238 m	0.005 m		
<u>BE14</u>	<u>NYET</u>	Az.	261°42'01"	0.023 sec	1 : 11099238	1 : 11105020
		ΔHt.	19.917 m	0.007 m		
		ΔElev.	20.082 m	0.007 m		
		Ellip Dist.	33620.033 m	0.003 m		
<u>BE14</u>	<u>UA5</u>	Az.	178°05'25"	0.019 sec	1 : 8677374	1 : 8669519
		ΔHt.	-21.319 m	0.010 m		
		ΔElev.	-21.375 m	0.010 m		
		Ellip Dist.	44776.983 m	0.005 m		
<u>BE14</u>	<u>VCAP</u>	Az.	88°39'18"	0.018 sec	1 : 14116925	1 : 14130749
		ΔHt.	6.210 m	0.007 m		
		ΔElev.	5.234 m	0.007 m		
		Ellip Dist.	43282.687 m	0.003 m		
<u>BE14</u>	<u>VTC1</u>	Az.	129°48'58"	0.013 sec	1 : 15213315	1 : 15227439
		ΔHt.	250.815 m	0.007 m		
		ΔElev.	249.606 m	0.007 m		
		Ellip Dist.	54435.136 m	0.004 m		
<u>BE15</u>	<u>BE17</u>	Az.	259°13'08"	0.176 sec	1 : 1452402	1 : 1453445
		ΔHt.	-67.680 m	0.014 m		
		ΔElev.	-67.513 m	0.014 m		
		Ellip Dist.	8095.295 m	0.006 m		
<u>BE15</u>	<u>NYET</u>	Az.	246°29'48"	0.032 sec	1 : 9097617	1 : 9068873
		ΔHt.	92.431 m	0.008 m		
		ΔElev.	92.351 m	0.008 m		
		Ellip Dist.	30643.645 m	0.003 m		
<u>BE15</u>	<u>UA19</u>	Az.	258°20'26"	0.204 sec	1 : 1489827	1 : 1486243
		ΔHt.	-60.619 m	0.010 m		
		ΔElev.	-60.472 m	0.010 m		
		Ellip Dist.	5935.159 m	0.004 m		

<u>BE15</u>	<u>VCAP</u>	Az.	97°24'04"	0.020 sec	1 : 14647878	1 : 14678772
		ΔHt.	78.724 m	0.008 m		
		ΔElev.	77.503 m	0.008 m		
		Ellip Dist.	48839.604 m	0.003 m		
<u>BE15</u>	<u>VTC1</u>	Az.	131°53'41"	0.013 sec	1 : 14930770	1 : 14953212
		ΔHt.	323.329 m	0.008 m		
		ΔElev.	321.875 m	0.008 m		
		Ellip Dist.	63143.140 m	0.004 m		
<u>BE17</u>	<u>NYET</u>	Az.	241°56'44"	0.045 sec	1 : 4915676	1 : 4899616
		ΔHt.	160.111 m	0.012 m		
		ΔElev.	159.864 m	0.012 m		
		Ellip Dist.	22816.857 m	0.005 m		
<u>BE17</u>	<u>VCAP</u>	Az.	94°46'23"	0.018 sec	1 : 12168435	1 : 12172621
		ΔHt.	146.404 m	0.012 m		
		ΔElev.	145.016 m	0.012 m		
		Ellip Dist.	56587.104 m	0.005 m		
<u>BE17</u>	<u>VTC1</u>	Az.	126°25'17"	0.014 sec	1 : 14136139	1 : 14112611
		ΔHt.	391.009 m	0.012 m		
		ΔElev.	389.388 m	0.012 m		
		Ellip Dist.	68355.323 m	0.005 m		
<u>BE18</u>	<u>NYET</u>	Az.	325°33'28"	0.013 sec	1 : 13412174	1 : 13447878
		ΔHt.	65.063 m	0.008 m		
		ΔElev.	64.969 m	0.008 m		
		Ellip Dist.	47981.125 m	0.004 m		
<u>BE18</u>	<u>VCAP</u>	Az.	47°20'43"	0.011 sec	1 : 20672733	1 : 20635209
		ΔHt.	51.356 m	0.008 m		
		ΔElev.	50.122 m	0.008 m		
		Ellip Dist.	67165.419 m	0.003 m		
<u>BE18</u>	<u>VTC1</u>	Az.	78°38'30"	0.016 sec	1 : 16692836	1 : 16669489
		ΔHt.	295.961 m	0.008 m		
		ΔElev.	294.493 m	0.008 m		
		Ellip Dist.	48928.978 m	0.003 m		
<u>BE19</u>	<u>GPS19A</u>	Az.	348°35'30"	0.070 sec	1 : 2432077	1 : 2436749
		ΔHt.	-146.919 m	0.014 m		
		ΔElev.	-146.829 m	0.014 m		
		Ellip Dist.	14109.014 m	0.006 m		
<u>BE19</u>	<u>NYET</u>	Az.	312°42'14"	0.010 sec	1 : 18800582	1 : 18855703
		ΔHt.	-277.645 m	0.009 m		
		ΔElev.	-276.778 m	0.009 m		
		Ellip Dist.	59038.689 m	0.003 m		

<u>BE19</u>	<u>UA6</u>	Az.	275°14'06"	0.060 sec	1 : 3875763	1 : 3881313
		ΔHt.	-360.979 m	0.011 m		
		ΔElev.	-360.025 m	0.011 m		
		Ellip Dist.	16371.063 m	0.004 m		
<u>BE19</u>	<u>VCAP</u>	Az.	35°54'43"	0.011 sec	1 : 19463619	1 : 19466100
		ΔHt.	-291.352 m	0.009 m		
		ΔElev.	-291.626 m	0.009 m		
		Ellip Dist.	56538.927 m	0.003 m		
<u>BE19</u>	<u>VTC1</u>	Az.	72°35'34"	0.020 sec	1 : 12262067	1 : 12260722
		ΔHt.	-46.747 m	0.009 m		
		ΔElev.	-47.254 m	0.009 m		
		Ellip Dist.	33166.820 m	0.003 m		
<u>BE20</u>	<u>NYET</u>	Az.	289°12'19"	0.015 sec	1 : 14744197	1 : 14765105
		ΔHt.	-196.618 m	0.007 m		
		ΔElev.	-195.550 m	0.007 m		
		Ellip Dist.	47728.995 m	0.003 m		
<u>BE20</u>	<u>VCAP</u>	Az.	55°44'57"	0.020 sec	1 : 12909148	1 : 12913695
		ΔHt.	-210.325 m	0.007 m		
		ΔElev.	-210.398 m	0.007 m		
		Ellip Dist.	38080.411 m	0.003 m		
<u>BE20</u>	<u>VTC1</u>	Az.	115°44'01"	0.021 sec	1 : 9948135	1 : 9963810
		ΔHt.	34.280 m	0.007 m		
		ΔElev.	33.974 m	0.007 m		
		Ellip Dist.	33250.729 m	0.003 m		
<u>BE5</u>	<u>NYET</u>	Az.	318°58'58"	0.013 sec	1 : 13000941	1 : 13007236
		ΔHt.	43.596 m	0.007 m		
		ΔElev.	43.815 m	0.007 m		
		Ellip Dist.	52907.514 m	0.004 m		
<u>BE5</u>	<u>VCAP</u>	Az.	42°24'57"	0.013 sec	1 : 18333652	1 : 18317816
		ΔHt.	29.889 m	0.007 m		
		ΔElev.	28.967 m	0.007 m		
		Ellip Dist.	61998.245 m	0.003 m		
<u>BE5</u>	<u>VTC1</u>	Az.	76°12'55"	0.020 sec	1 : 12201499	1 : 12218715
		ΔHt.	274.494 m	0.007 m		
		ΔElev.	273.339 m	0.007 m		
		Ellip Dist.	41547.399 m	0.003 m		
<u>BE7</u>	<u>NYET</u>	Az.	303°08'16"	0.013 sec	1 : 15434760	1 : 15443223
		ΔHt.	-237.491 m	0.007 m		
		ΔElev.	-236.500 m	0.007 m		
		Ellip Dist.	52519.887 m	0.003 m		

<u>BE7</u>	<u>VCAP</u>	Az.	43°23'23"	0.015 sec	1 : 14832403	1 : 14816279
		ΔHt.	-251.198 m	0.007 m		
		ΔElev.	-251.348 m	0.007 m		
		Ellip Dist.	47412.559 m	0.003 m		
<u>BE7</u>	<u>VTC1</u>	Az.	92°36'33"	0.022 sec	1 : 9553092	1 : 9557579
		ΔHt.	-6.593 m	0.007 m		
		ΔElev.	-6.976 m	0.007 m		
		Ellip Dist.	31084.957 m	0.003 m		
<u>FO5</u>	<u>VTC1</u>	Az.	90°06'17"	0.331 sec	1 : 847932	1 : 852312
		ΔHt.	-127.210 m	0.099 m		
		ΔElev.	-127.441 m	0.099 m		
		Ellip Dist.	28579.096 m	0.034 m		
<u>GPS14A</u>	<u>NYET</u>	Az.	282°35'23"	0.052 sec	1 : 5135782	1 : 5156601
		ΔHt.	152.906 m	0.010 m		
		ΔElev.	152.776 m	0.010 m		
		Ellip Dist.	22797.916 m	0.004 m		
<u>GPS14A</u>	<u>VCAP</u>	Az.	78°34'39"	0.022 sec	1 : 13097856	1 : 13074057
		ΔHt.	139.199 m	0.010 m		
		ΔElev.	137.929 m	0.010 m		
		Ellip Dist.	55375.765 m	0.004 m		
<u>GPS14A</u>	<u>VTC1</u>	Az.	115°13'19"	0.019 sec	1 : 12260241	1 : 12290202
		ΔHt.	383.804 m	0.010 m		
		ΔElev.	382.300 m	0.010 m		
		Ellip Dist.	58452.611 m	0.005 m		
<u>GPS19A</u>	<u>NYET</u>	Az.	302°49'28"	0.017 sec	1 : 9107773	1 : 9121082
		ΔHt.	-130.726 m	0.011 m		
		ΔElev.	-129.949 m	0.011 m		
		Ellip Dist.	48321.121 m	0.005 m		
<u>GPS19A</u>	<u>VCAP</u>	Az.	48°20'21"	0.023 sec	1 : 12699931	1 : 12708535
		ΔHt.	-144.433 m	0.011 m		
		ΔElev.	-144.796 m	0.011 m		
		Ellip Dist.	48105.907 m	0.004 m		
<u>GPS19A</u>	<u>VTC1</u>	Az.	96°26'59"	0.027 sec	1 : 7326771	1 : 7344642
		ΔHt.	100.172 m	0.011 m		
		ΔElev.	99.575 m	0.011 m		
		Ellip Dist.	34659.624 m	0.005 m		
<u>GPS1A</u>	<u>NYET</u>	Az.	299°58'57"	0.037 sec	1 : 2651597	1 : 2654442
		ΔHt.	139.907 m	0.016 m		
		ΔElev.	139.860 m	0.016 m		
		Ellip Dist.	27390.790 m	0.010 m		

<u>GPS1A</u>	<u>VCAP</u>	Az.	69°34'16"	0.032 sec	1 : 7542923	1 : 7596770
		ΔHt.	126.200 m	0.016 m		
		ΔElev.	125.012 m	0.016 m		
		Ellip Dist.	56348.829 m	0.007 m		
<u>GPS1A</u>	<u>VTC1</u>	Az.	107°30'02"	0.020 sec	1 : 5331969	1 : 5336828
		ΔHt.	370.805 m	0.016 m		
		ΔElev.	369.384 m	0.016 m		
		Ellip Dist.	53892.147 m	0.010 m		
<u>GPS3A</u>	<u>NYET</u>	Az.	291°05'22"	0.018 sec	1 : 11755240	1 : 11772595
		ΔHt.	-250.187 m	0.012 m		
		ΔElev.	-249.001 m	0.012 m		
		Ellip Dist.	49869.757 m	0.004 m		
<u>GPS3A</u>	<u>VCAP</u>	Az.	51°45'32"	0.023 sec	1 : 8854367	1 : 8838757
		ΔHt.	-263.894 m	0.012 m		
		ΔElev.	-263.849 m	0.012 m		
		Ellip Dist.	38223.248 m	0.004 m		
<u>GPS3A</u>	<u>VTC1</u>	Az.	113°11'55"	0.028 sec	1 : 7313437	1 : 7310832
		ΔHt.	-19.289 m	0.012 m		
		ΔElev.	-19.477 m	0.012 m		
		Ellip Dist.	30995.747 m	0.004 m		
<u>GPS4A</u>	<u>GPS1A</u>	Az.	292°25'43"	0.066 sec	1 : 1817523	1 : 1819141
		ΔHt.	-395.963 m	0.021 m		
		ΔElev.	-395.025 m	0.021 m		
		Ellip Dist.	19579.763 m	0.011 m		
<u>GPS4A</u>	<u>NYET</u>	Az.	296°55'34"	0.017 sec	1 : 13253222	1 : 13347594
		ΔHt.	-256.056 m	0.013 m		
		ΔElev.	-255.165 m	0.013 m		
		Ellip Dist.	46867.193 m	0.004 m		
<u>GPS4A</u>	<u>VCAP</u>	Az.	52°10'06"	0.017 sec	1 : 11780587	1 : 11667626
		ΔHt.	-269.763 m	0.013 m		
		ΔElev.	-270.013 m	0.013 m		
		Ellip Dist.	44010.275 m	0.004 m		
<u>GPS4A</u>	<u>VTC1</u>	Az.	104°56'45"	0.023 sec	1 : 9712627	1 : 9700180
		ΔHt.	-25.158 m	0.013 m		
		ΔElev.	-25.641 m	0.013 m		
		Ellip Dist.	34418.770 m	0.004 m		
<u>NYET</u>	<u>TW01</u>	Az.	146°04'58"	0.012 sec	1 : 11487832	1 : 11519662
		ΔHt.	-74.069 m	0.007 m		
		ΔElev.	-73.979 m	0.007 m		
		Ellip Dist.	49911.777 m	0.004 m		

<u>NYET</u>	<u>TW02</u>	Az.	138°40'52"	0.013 sec	1 : 13374614	1 : 13416391
		ΔHt.	-41.368 m	0.009 m		
		ΔElev.	-41.589 m	0.009 m		
		Ellip Dist.	52976.725 m	0.004 m		
<u>NYET</u>	<u>TW04</u>	Az.	122°55'43"	0.014 sec	1 : 13929712	1 : 14000720
		ΔHt.	247.288 m	0.008 m		
		ΔElev.	246.235 m	0.008 m		
		Ellip Dist.	53884.981 m	0.004 m		
<u>NYET</u>	<u>TW05</u>	Az.	131°37'57"	0.018 sec	1 : 14721500	1 : 14792642
		ΔHt.	-74.983 m	0.008 m		
		ΔElev.	-75.311 m	0.008 m		
		Ellip Dist.	47142.110 m	0.003 m		
<u>NYET</u>	<u>TW06</u>	Az.	137°51'45"	0.018 sec	1 : 9939079	1 : 9988906
		ΔHt.	-125.565 m	0.007 m		
		ΔElev.	-125.499 m	0.007 m		
		Ellip Dist.	38279.461 m	0.004 m		
<u>NYET</u>	<u>TW07</u>	Az.	126°15'06"	0.021 sec	1 : 9016277	1 : 9050222
		ΔHt.	-76.718 m	0.007 m		
		ΔElev.	-76.746 m	0.007 m		
		Ellip Dist.	34017.504 m	0.004 m		
<u>NYET</u>	<u>TW08</u>	Az.	123°28'26"	0.021 sec	1 : 10751478	1 : 10790207
		ΔHt.	-83.772 m	0.007 m		
		ΔElev.	-83.870 m	0.007 m		
		Ellip Dist.	35620.330 m	0.003 m		
<u>NYET</u>	<u>TW09</u>	Az.	118°31'48"	0.022 sec	1 : 11579675	1 : 11616013
		ΔHt.	-62.895 m	0.010 m		
		ΔElev.	-63.197 m	0.010 m		
		Ellip Dist.	38884.036 m	0.003 m		
<u>NYET</u>	<u>TW10</u>	Az.	109°03'31"	0.017 sec	1 : 13225588	1 : 13317836
		ΔHt.	191.207 m	0.007 m		
		ΔElev.	190.148 m	0.007 m		
		Ellip Dist.	47612.190 m	0.004 m		
<u>NYET</u>	<u>TW11</u>	Az.	104°49'15"	0.043 sec	1 : 6860336	1 : 6883548
		ΔHt.	-85.094 m	0.015 m		
		ΔElev.	-85.499 m	0.015 m		
		Ellip Dist.	37253.235 m	0.005 m		
<u>NYET</u>	<u>TW12</u>	Az.	124°08'15"	0.027 sec	1 : 8113100	1 : 8145660
		ΔHt.	-151.816 m	0.007 m		
		ΔElev.	-151.776 m	0.007 m		
		Ellip Dist.	29125.649 m	0.004 m		

<u>NYET</u>	<u>TW13</u>	Az.	138°09'43"	0.041 sec	1 : 5055833	1 : 5086647
		ΔHt.	-156.918 m	0.009 m		
		ΔElev.	-156.736 m	0.009 m		
		Ellip Dist.	18897.821 m	0.004 m		
<u>NYET</u>	<u>TW14</u>	Az.	118°19'05"	0.046 sec	1 : 5187572	1 : 5193914
		ΔHt.	-152.407 m	0.007 m		
		ΔElev.	-152.211 m	0.007 m		
		Ellip Dist.	16388.683 m	0.003 m		
<u>NYET</u>	<u>TW15</u>	Az.	101°17'19"	0.035 sec	1 : 8286277	1 : 8338962
		ΔHt.	-153.983 m	0.007 m		
		ΔElev.	-153.891 m	0.007 m		
		Ellip Dist.	24500.800 m	0.003 m		
<u>NYET</u>	<u>TW16</u>	Az.	94°04'34"	0.024 sec	1 : 11828756	1 : 11812515
		ΔHt.	-58.055 m	0.009 m		
		ΔElev.	-58.355 m	0.009 m		
		Ellip Dist.	34763.462 m	0.003 m		
<u>NYET</u>	<u>TW17</u>	Az.	81°20'58"	0.024 sec	1 : 13375490	1 : 13381023
		ΔHt.	-67.103 m	0.007 m		
		ΔElev.	-67.343 m	0.007 m		
		Ellip Dist.	35381.208 m	0.003 m		
<u>NYET</u>	<u>TW18</u>	Az.	73°06'39"	0.038 sec	1 : 6788332	1 : 6780165
		ΔHt.	-113.250 m	0.008 m		
		ΔElev.	-113.106 m	0.008 m		
		Ellip Dist.	26241.163 m	0.004 m		
<u>NYET</u>	<u>TW19</u>	Az.	66°29'13"	0.027 sec	1 : 7802409	1 : 7754065
		ΔHt.	-88.910 m	0.010 m		
		ΔElev.	-88.835 m	0.010 m		
		Ellip Dist.	30713.889 m	0.004 m		
<u>NYET</u>	<u>TW20</u>	Az.	58°30'34"	0.028 sec	1 : 9119513	1 : 9077852
		ΔHt.	-92.416 m	0.008 m		
		ΔElev.	-92.199 m	0.008 m		
		Ellip Dist.	28206.546 m	0.003 m		
<u>SM10</u>	<u>NYET</u>	Az.	303°29'53"	0.016 sec	1 : 15829325	1 : 15844176
		ΔHt.	-193.870 m	0.009 m		
		ΔElev.	-192.972 m	0.009 m		
		Ellip Dist.	50893.918 m	0.003 m		
<u>SM10</u>	<u>VCAP</u>	Az.	45°12'55"	0.014 sec	1 : 12314936	1 : 12309778
		ΔHt.	-207.577 m	0.009 m		
		ΔElev.	-207.820 m	0.009 m		
		Ellip Dist.	48053.705 m	0.004 m		

<u>SM10</u>	<u>VTC1</u>	Az.	93°32'38"	0.024 sec	1 : 9528530	1 : 9519327
		ΔHt.	37.028 m	0.009 m		
		ΔElev.	36.552 m	0.009 m		
		Ellip Dist.	32659.639 m	0.003 m		
<u>SM11</u>	<u>NYET</u>	Az.	289°34'13"	0.015 sec	1 : 13139836	1 : 13143959
		ΔHt.	-184.123 m	0.007 m		
		ΔElev.	-183.080 m	0.007 m		
		Ellip Dist.	47339.208 m	0.004 m		
<u>SM11</u>	<u>VCAP</u>	Az.	55°56'30"	0.020 sec	1 : 11910733	1 : 11906955
		ΔHt.	-197.830 m	0.007 m		
		ΔElev.	-197.928 m	0.007 m		
		Ellip Dist.	38558.312 m	0.003 m		
<u>SM11</u>	<u>VTC1</u>	Az.	115°08'14"	0.021 sec	1 : 9222919	1 : 9227291
		ΔHt.	46.775 m	0.007 m		
		ΔElev.	46.444 m	0.007 m		
		Ellip Dist.	33606.091 m	0.004 m		
<u>SM17</u>	<u>NYET</u>	Az.	236°25'36"	0.032 sec	1 : 7136482	1 : 7141053
		ΔHt.	174.058 m	0.008 m		
		ΔElev.	173.783 m	0.008 m		
		Ellip Dist.	24710.400 m	0.003 m		
<u>SM17</u>	<u>VCAP</u>	Az.	97°47'06"	0.014 sec	1 : 15915609	1 : 15933597
		ΔHt.	160.351 m	0.008 m		
		ΔElev.	158.935 m	0.008 m		
		Ellip Dist.	56459.388 m	0.004 m		
<u>SM17</u>	<u>VTC1</u>	Az.	128°35'06"	0.010 sec	1 : 18633619	1 : 18670927
		ΔHt.	404.956 m	0.008 m		
		ΔElev.	403.307 m	0.008 m		
		Ellip Dist.	69784.526 m	0.004 m		
<u>SM18</u>	<u>NYET</u>	Az.	241°46'01"	0.032 sec	1 : 11830943	1 : 11816463
		ΔHt.	132.733 m	0.007 m		
		ΔElev.	132.618 m	0.007 m		
		Ellip Dist.	31399.666 m	0.003 m		
<u>SM18</u>	<u>SM8</u>	Az.	171°48'05"	0.016 sec	1 : 8687335	1 : 8677474
		ΔHt.	65.765 m	0.012 m		
		ΔElev.	65.386 m	0.012 m		
		Ellip Dist.	55386.978 m	0.006 m		
<u>SM18</u>	<u>VCAP</u>	Az.	100°20'36"	0.018 sec	1 : 14513458	1 : 14571468
		ΔHt.	119.026 m	0.007 m		
		ΔElev.	117.771 m	0.007 m		
		Ellip Dist.	49676.851 m	0.003 m		

<u>SM18</u>	<u>VTC1</u>	Az.	133°21'18"	0.010 sec	1 : 14120621	1 : 14118910
		ΔHt.	363.631 m	0.007 m		
		ΔElev.	362.143 m	0.007 m		
		Ellip Dist.	65246.270 m	0.005 m		
<u>SM19</u>	<u>VTRU</u>	Az.	168°27'47"	0.025 sec	1 : 5187354	1 : 5177676
		ΔHt.	65.475 m	0.032 m		
		ΔElev.	64.762 m	0.032 m		
		Ellip Dist.	80901.142 m	0.016 m		
<u>SM3</u>	<u>NYET</u>	Az.	282°34'43"	0.038 sec	1 : 5573952	1 : 5582788
		ΔHt.	153.996 m	0.009 m		
		ΔElev.	153.867 m	0.009 m		
		Ellip Dist.	22818.197 m	0.004 m		
<u>SM3</u>	<u>VCAP</u>	Az.	78°34'24"	0.016 sec	1 : 13635099	1 : 13631206
		ΔHt.	140.289 m	0.009 m		
		ΔElev.	139.019 m	0.009 m		
		Ellip Dist.	55355.410 m	0.004 m		
<u>SM3</u>	<u>VTC1</u>	Az.	115°13'50"	0.015 sec	1 : 14132526	1 : 14117851
		ΔHt.	384.894 m	0.009 m		
		ΔElev.	383.391 m	0.009 m		
		Ellip Dist.	58433.804 m	0.004 m		
<u>SM4</u>	<u>NYET</u>	Az.	311°44'45"	0.031 sec	1 : 5483325	1 : 5497133
		ΔHt.	172.347 m	0.007 m		
		ΔElev.	172.164 m	0.007 m		
		Ellip Dist.	20870.902 m	0.004 m		
<u>SM4</u>	<u>VCAP</u>	Az.	71°51'28"	0.012 sec	1 : 20455170	1 : 20481739
		ΔHt.	158.640 m	0.007 m		
		ΔElev.	157.316 m	0.007 m		
		Ellip Dist.	64139.303 m	0.003 m		
<u>SM4</u>	<u>VTC1</u>	Az.	104°56'41"	0.012 sec	1 : 17551254	1 : 17577502
		ΔHt.	403.245 m	0.007 m		
		ΔElev.	401.688 m	0.007 m		
		Ellip Dist.	61674.156 m	0.004 m		
<u>SM8</u>	<u>NYET</u>	Az.	318°24'19"	0.014 sec	1 : 12895168	1 : 12902109
		ΔHt.	66.968 m	0.010 m		
		ΔElev.	67.233 m	0.010 m		
		Ellip Dist.	53497.941 m	0.004 m		
<u>SM8</u>	<u>VCAP</u>	Az.	41°49'15"	0.014 sec	1 : 16573513	1 : 16552607
		ΔHt.	53.261 m	0.010 m		
		ΔElev.	52.385 m	0.010 m		
		Ellip Dist.	61526.812 m	0.004 m		

<u>SM8</u>	<u>VTC1</u>	Az.	75°50'21"	0.022 sec	1 : 11720475	1 : 11764458
		ΔHt.	297.866 m	0.010 m		
		ΔElev.	296.757 m	0.010 m		
		Ellip Dist.	40794.268 m	0.003 m		
<u>SM9</u>	<u>NYET</u>	Az.	311°47'24"	0.010 sec	1 : 17566293	1 : 17622892
		ΔHt.	-304.203 m	0.007 m		
		ΔElev.	-303.385 m	0.007 m		
		Ellip Dist.	56689.076 m	0.003 m		
<u>SM9</u>	<u>VCAP</u>	Az.	38°12'47"	0.012 sec	1 : 19462896	1 : 19415099
		ΔHt.	-317.910 m	0.007 m		
		ΔElev.	-318.233 m	0.007 m		
		Ellip Dist.	55417.112 m	0.003 m		
<u>SM9</u>	<u>VTC1</u>	Az.	76°49'26"	0.021 sec	1 : 12892723	1 : 12884703
		ΔHt.	-73.305 m	0.007 m		
		ΔElev.	-73.861 m	0.007 m		
		Ellip Dist.	33657.872 m	0.003 m		
<u>UA18</u>	<u>NYET</u>	Az.	261°43'18"	0.024 sec	1 : 10122473	1 : 10126986
		ΔHt.	21.322 m	0.009 m		
		ΔElev.	21.488 m	0.009 m		
		Ellip Dist.	33660.272 m	0.003 m		
<u>UA18</u>	<u>UA5</u>	Az.	178°08'37"	0.020 sec	1 : 8781328	1 : 8772488
		ΔHt.	-19.914 m	0.012 m		
		ΔElev.	-19.969 m	0.012 m		
		Ellip Dist.	44769.159 m	0.005 m		
<u>UA18</u>	<u>VCAP</u>	Az.	88°38'44"	0.018 sec	1 : 12812833	1 : 12827482
		ΔHt.	7.615 m	0.009 m		
		ΔElev.	6.641 m	0.009 m		
		Ellip Dist.	43241.245 m	0.003 m		
<u>UA18</u>	<u>VTC1</u>	Az.	129°50'21"	0.013 sec	1 : 14288164	1 : 14314579
		ΔHt.	252.220 m	0.009 m		
		ΔElev.	251.013 m	0.009 m		
		Ellip Dist.	54399.047 m	0.004 m		
<u>UA19</u>	<u>NYET</u>	Az.	243°38'15"	0.035 sec	1 : 7887843	1 : 7868791
		ΔHt.	153.049 m	0.007 m		
		ΔElev.	152.822 m	0.007 m		
		Ellip Dist.	24864.705 m	0.003 m		
<u>UA19</u>	<u>VCAP</u>	Az.	95°18'42"	0.016 sec	1 : 18195709	1 : 18211189
		ΔHt.	139.342 m	0.007 m		
		ΔElev.	137.975 m	0.007 m		
		Ellip Dist.	54483.849 m	0.003 m		

<u>UA19</u>	<u>VTC1</u>	Az.	127°44'52"	0.012 sec	1 : 18153070	1 : 18178977
		ΔHt.	383.947 m	0.007 m		
		ΔElev.	382.346 m	0.007 m		
		Ellip Dist.	66839.733 m	0.004 m		
<u>UA20</u>	<u>BE17</u>	Az.	260°01'57"	0.157 sec	1 : 1456443	1 : 1458238
		ΔHt.	-75.446 m	0.014 m		
		ΔElev.	-75.277 m	0.014 m		
		Ellip Dist.	8111.744 m	0.006 m		
<u>UA20</u>	<u>NYET</u>	Az.	246°42'48"	0.027 sec	1 : 8235934	1 : 8215784
		ΔHt.	84.665 m	0.009 m		
		ΔElev.	84.587 m	0.009 m		
		Ellip Dist.	30633.755 m	0.004 m		
<u>UA20</u>	<u>VCAP</u>	Az.	97°16'43"	0.018 sec	1 : 14294945	1 : 14294050
		ΔHt.	70.958 m	0.009 m		
		ΔElev.	69.739 m	0.009 m		
		Ellip Dist.	48788.937 m	0.003 m		
<u>UA20</u>	<u>VTC1</u>	Az.	131°50'34"	0.013 sec	1 : 17461445	1 : 17510166
		ΔHt.	315.563 m	0.009 m		
		ΔElev.	314.111 m	0.009 m		
		Ellip Dist.	63042.127 m	0.004 m		
<u>UA5</u>	<u>NYET</u>	Az.	318°57'00"	0.011 sec	1 : 14501375	1 : 14510060
		ΔHt.	41.236 m	0.008 m		
		ΔElev.	41.457 m	0.008 m		
		Ellip Dist.	52916.660 m	0.004 m		
<u>UA5</u>	<u>VCAP</u>	Az.	42°24'16"	0.012 sec	1 : 20823998	1 : 20790696
		ΔHt.	27.529 m	0.008 m		
		ΔElev.	26.609 m	0.008 m		
		Ellip Dist.	61968.850 m	0.003 m		
<u>UA5</u>	<u>VTC1</u>	Az.	76°13'26"	0.018 sec	1 : 14400159	1 : 14441036
		ΔHt.	272.134 m	0.008 m		
		ΔElev.	270.981 m	0.008 m		
		Ellip Dist.	41515.973 m	0.003 m		
<u>UA6</u>	<u>NYET</u>	Az.	324°46'02"	0.016 sec	1 : 13845483	1 : 13865914
		ΔHt.	83.334 m	0.008 m		
		ΔElev.	83.247 m	0.008 m		
		Ellip Dist.	47109.915 m	0.003 m		
<u>UA6</u>	<u>VCAP</u>	Az.	48°00'48"	0.010 sec	1 : 18044986	1 : 18033257
		ΔHt.	69.627 m	0.008 m		
		ΔElev.	68.399 m	0.008 m		
		Ellip Dist.	66401.358 m	0.004 m		

<u>UA6</u>	<u>VTC1</u>	Az.	79°53'24"	0.015 sec	1 : 14216901	1 : 14204988
		ΔHt.	314.232 m	0.008 m		
		ΔElev.	312.771 m	0.008 m		
		Ellip Dist.	48685.778 m	0.003 m		
<u>VCAP</u>	<u>TW01</u>	Az.	226°15'05"	0.013 sec	1 : 20789155	1 : 20782571
		ΔHt.	-60.362 m	0.007 m		
		ΔElev.	-59.131 m	0.007 m		
		Ellip Dist.	68120.934 m	0.003 m		
<u>VCAP</u>	<u>TW02</u>	Az.	222°42'59"	0.013 sec	1 : 17445098	1 : 17436358
		ΔHt.	-27.661 m	0.009 m		
		ΔElev.	-26.742 m	0.009 m		
		Ellip Dist.	62006.249 m	0.004 m		
<u>VCAP</u>	<u>TW03</u>	Az.	216°14'46"	0.015 sec	1 : 12246664	1 : 12206298
		ΔHt.	291.612 m	0.010 m		
		ΔElev.	291.888 m	0.010 m		
		Ellip Dist.	56534.728 m	0.005 m		
<u>VCAP</u>	<u>TW04</u>	Az.	222°00'47"	0.017 sec	1 : 13723137	1 : 13714573
		ΔHt.	260.995 m	0.008 m		
		ΔElev.	261.083 m	0.008 m		
		Ellip Dist.	47350.267 m	0.003 m		
<u>VCAP</u>	<u>TW05</u>	Az.	228°21'09"	0.012 sec	1 : 13949429	1 : 13944875
		ΔHt.	-61.276 m	0.008 m		
		ΔElev.	-60.463 m	0.008 m		
		Ellip Dist.	55815.127 m	0.004 m		
<u>VCAP</u>	<u>TW06</u>	Az.	236°23'23"	0.013 sec	1 : 19744897	1 : 19749011
		ΔHt.	-111.858 m	0.007 m		
		ΔElev.	-110.651 m	0.007 m		
		Ellip Dist.	61508.728 m	0.003 m		
<u>VCAP</u>	<u>TW07</u>	Az.	242°24'54"	0.016 sec	1 : 19192669	1 : 19189283
		ΔHt.	-63.011 m	0.007 m		
		ΔElev.	-61.898 m	0.007 m		
		Ellip Dist.	55712.408 m	0.003 m		
<u>VCAP</u>	<u>TW08</u>	Az.	241°42'06"	0.015 sec	1 : 16926891	1 : 16922758
		ΔHt.	-70.065 m	0.007 m		
		ΔElev.	-69.022 m	0.007 m		
		Ellip Dist.	53486.525 m	0.003 m		
<u>VCAP</u>	<u>TW09</u>	Az.	240°17'01"	0.016 sec	1 : 13287429	1 : 13285372
		ΔHt.	-49.188 m	0.010 m		
		ΔElev.	-48.350 m	0.010 m		
		Ellip Dist.	49087.708 m	0.004 m		

<u>VCAP</u>	<u>TW10</u>	Az.	235°58'57"	0.024 sec	1 : 12850577	1 : 12845412
		ΔHt.	204.914 m	0.007 m		
		ΔElev.	204.996 m	0.007 m		
		Ellip Dist.	38314.523 m	0.003 m		
<u>VCAP</u>	<u>TW11</u>	Az.	249°22'14"	0.035 sec	1 : 7310523	1 : 7314364
		ΔHt.	-71.387 m	0.015 m		
		ΔElev.	-70.651 m	0.015 m		
		Ellip Dist.	43462.299 m	0.006 m		
<u>VCAP</u>	<u>TW12</u>	Az.	247°20'12"	0.014 sec	1 : 16610148	1 : 16619347
		ΔHt.	-138.109 m	0.007 m		
		ΔElev.	-136.928 m	0.007 m		
		Ellip Dist.	57067.210 m	0.003 m		
<u>VCAP</u>	<u>TW13</u>	Az.	253°00'54"	0.013 sec	1 : 19925404	1 : 19928750
		ΔHt.	-143.211 m	0.009 m		
		ΔElev.	-141.889 m	0.009 m		
		Ellip Dist.	67060.436 m	0.003 m		
<u>VCAP</u>	<u>TW14</u>	Az.	257°55'57"	0.013 sec	1 : 22747050	1 : 22750341
		ΔHt.	-138.700 m	0.007 m		
		ΔElev.	-137.363 m	0.007 m		
		Ellip Dist.	63646.353 m	0.003 m		
<u>VCAP</u>	<u>TW15</u>	Az.	258°46'31"	0.017 sec	1 : 20057982	1 : 20065324
		ΔHt.	-140.276 m	0.007 m		
		ΔElev.	-139.043 m	0.007 m		
		Ellip Dist.	53632.417 m	0.003 m		
<u>VCAP</u>	<u>TW16</u>	Az.	258°53'00"	0.019 sec	1 : 13838685	1 : 13837239
		ΔHt.	-44.348 m	0.009 m		
		ΔElev.	-43.507 m	0.009 m		
		Ellip Dist.	42733.202 m	0.003 m		
<u>VCAP</u>	<u>TW17</u>	Az.	269°22'42"	0.020 sec	1 : 15394749	1 : 15401955
		ΔHt.	-53.396 m	0.007 m		
		ΔElev.	-52.495 m	0.007 m		
		Ellip Dist.	41539.758 m	0.003 m		
<u>VCAP</u>	<u>TW18</u>	Az.	272°11'30"	0.019 sec	1 : 12951213	1 : 12954085
		ΔHt.	-99.543 m	0.008 m		
		ΔElev.	-98.259 m	0.008 m		
		Ellip Dist.	51416.759 m	0.004 m		
<u>VCAP</u>	<u>TW19</u>	Az.	277°44'22"	0.019 sec	1 : 14482428	1 : 14491128
		ΔHt.	-75.203 m	0.010 m		
		ΔElev.	-73.987 m	0.010 m		
		Ellip Dist.	48714.669 m	0.003 m		

<u>VCAP</u>	<u>TW20</u>	Az.	279°50'54"	0.016 sec	1 : 18405608	1 : 18418056
		ΔHt.	-78.709 m	0.008 m		
		ΔElev.	-77.351 m	0.008 m		
		Ellip Dist.	53135.965 m	0.003 m		
<u>VTC1</u>	<u>TW01</u>	Az.	256°40'15"	0.019 sec	1 : 17551047	1 : 17569239
		ΔHt.	-304.967 m	0.007 m		
		ΔElev.	-303.503 m	0.007 m		
		Ellip Dist.	48826.011 m	0.003 m		
<u>VTC1</u>	<u>TW02</u>	Az.	256°28'44"	0.021 sec	1 : 13964827	1 : 13991748
		ΔHt.	-272.266 m	0.009 m		
		ΔElev.	-271.113 m	0.009 m		
		Ellip Dist.	41515.818 m	0.003 m		
<u>VTC1</u>	<u>TW03</u>	Az.	252°55'57"	0.028 sec	1 : 7709808	1 : 7705395
		ΔHt.	47.007 m	0.010 m		
		ΔElev.	47.516 m	0.010 m		
		Ellip Dist.	33190.184 m	0.004 m		
<u>VTC1</u>	<u>TW04</u>	Az.	271°17'05"	0.028 sec	1 : 8948144	1 : 8948211
		ΔHt.	16.390 m	0.008 m		
		ΔElev.	16.711 m	0.008 m		
		Ellip Dist.	30003.878 m	0.003 m		
<u>VTC1</u>	<u>TW05</u>	Az.	268°13'25"	0.021 sec	1 : 12658137	1 : 12624636
		ΔHt.	-305.881 m	0.008 m		
		ΔElev.	-304.835 m	0.008 m		
		Ellip Dist.	40031.176 m	0.003 m		
<u>VTC1</u>	<u>TW06</u>	Az.	272°04'55"	0.018 sec	1 : 17821414	1 : 17843466
		ΔHt.	-356.463 m	0.007 m		
		ΔElev.	-355.023 m	0.007 m		
		Ellip Dist.	49563.625 m	0.003 m		
<u>VTC1</u>	<u>TW07</u>	Az.	281°54'04"	0.017 sec	1 : 15297180	1 : 15331493
		ΔHt.	-307.616 m	0.007 m		
		ΔElev.	-306.270 m	0.007 m		
		Ellip Dist.	48734.111 m	0.003 m		
<u>VTC1</u>	<u>TW08</u>	Az.	283°00'49"	0.017 sec	1 : 15501914	1 : 15521477
		ΔHt.	-314.670 m	0.007 m		
		ΔElev.	-313.394 m	0.007 m		
		Ellip Dist.	46598.614 m	0.003 m		
<u>VTC1</u>	<u>TW09</u>	Az.	285°42'46"	0.021 sec	1 : 13054401	1 : 13032642
		ΔHt.	-293.793 m	0.010 m		
		ΔElev.	-292.721 m	0.010 m		
		Ellip Dist.	42529.119 m	0.003 m		

<u>VTC1</u>	<u>TW10</u>	Az.	295°37'15"	0.023 sec	1 : 8828861	1 : 8836647
		ΔHt.	-39.691 m	0.007 m		
		ΔElev.	-39.376 m	0.007 m		
		Ellip Dist.	33344.667 m	0.004 m		
<u>VTC1</u>	<u>TW11</u>	Az.	297°46'52"	0.035 sec	1 : 7652431	1 : 7606241
		ΔHt.	-315.992 m	0.015 m		
		ΔElev.	-315.023 m	0.015 m		
		Ellip Dist.	44064.641 m	0.006 m		
<u>VTC1</u>	<u>TW12</u>	Az.	285°12'40"	0.016 sec	1 : 15615102	1 : 15607845
		ΔHt.	-382.714 m	0.007 m		
		ΔElev.	-381.300 m	0.007 m		
		Ellip Dist.	52819.539 m	0.003 m		
<u>VTC1</u>	<u>TW13</u>	Az.	284°35'26"	0.013 sec	1 : 19821417	1 : 19807821
		ΔHt.	-387.816 m	0.009 m		
		ΔElev.	-386.260 m	0.009 m		
		Ellip Dist.	64525.170 m	0.003 m		
<u>VTC1</u>	<u>TW14</u>	Az.	290°25'01"	0.012 sec	1 : 21498966	1 : 21551520
		ΔHt.	-383.305 m	0.007 m		
		ΔElev.	-381.735 m	0.007 m		
		Ellip Dist.	64609.378 m	0.003 m		
<u>VTC1</u>	<u>TW15</u>	Az.	296°31'08"	0.014 sec	1 : 16961219	1 : 16946644
		ΔHt.	-384.881 m	0.007 m		
		ΔElev.	-383.415 m	0.007 m		
		Ellip Dist.	56905.035 m	0.003 m		
<u>VTC1</u>	<u>TW16</u>	Az.	304°27'16"	0.017 sec	1 : 15250535	1 : 15285618
		ΔHt.	-288.953 m	0.009 m		
		ΔElev.	-287.879 m	0.009 m		
		Ellip Dist.	48804.877 m	0.003 m		
<u>VTC1</u>	<u>TW17</u>	Az.	311°36'53"	0.013 sec	1 : 14572703	1 : 14578716
		ΔHt.	-298.001 m	0.007 m		
		ΔElev.	-296.867 m	0.007 m		
		Ellip Dist.	53303.844 m	0.004 m		
<u>VTC1</u>	<u>TW18</u>	Az.	307°16'09"	0.014 sec	1 : 13755045	1 : 13737920
		ΔHt.	-344.148 m	0.008 m		
		ΔElev.	-342.630 m	0.008 m		
		Ellip Dist.	62445.268 m	0.005 m		
<u>VTC1</u>	<u>TW19</u>	Az.	312°18'44"	0.015 sec	1 : 17747536	1 : 17738347
		ΔHt.	-319.808 m	0.010 m		
		ΔElev.	-318.359 m	0.010 m		
		Ellip Dist.	62999.042 m	0.004 m		

<u>VTC1</u>	<u>TW20</u>	Az.	311°34'05"	0.011 sec	1 : 19092159	1 : 19129560
		ΔHt.	-323.314 m	0.008 m		
		ΔElev.	-321.723 m	0.008 m		
		Ellip Dist.	67725.054 m	0.004 m		
<u>VTMI</u>	<u>BE11</u>	Az.	341°23'57"	0.066 sec	1 : 2513657	1 : 2514857
		ΔHt.	-71.253 m	0.026 m		
		ΔElev.	-70.985 m	0.026 m		
		Ellip Dist.	24266.171 m	0.010 m		
<u>VTMI</u>	<u>BE12</u>	Az.	322°03'46"	0.072 sec	1 : 2726106	1 : 2729516
		ΔHt.	-84.254 m	0.020 m		
		ΔElev.	-83.923 m	0.020 m		
		Ellip Dist.	27621.628 m	0.010 m		
<u>VTMI</u>	<u>BE13</u>	Az.	295°34'44"	0.030 sec	1 : 6906725	1 : 6925647
		ΔHt.	-67.066 m	0.009 m		
		ΔElev.	-66.760 m	0.009 m		
		Ellip Dist.	21484.782 m	0.003 m		
<u>VTMI</u>	<u>BE16</u>	Az.	349°47'15"	0.055 sec	1 : 3621738	1 : 3629112
		ΔHt.	-14.081 m	0.030 m		
		ΔElev.	-13.733 m	0.030 m		
		Ellip Dist.	38739.829 m	0.011 m		
<u>VTMI</u>	<u>BE18</u>	Az.	193°36'45"	0.038 sec	1 : 4498615	1 : 4491654
		ΔHt.	13.156 m	0.008 m		
		ΔElev.	13.382 m	0.008 m		
		Ellip Dist.	16525.014 m	0.004 m		
<u>VTMI</u>	<u>BE19</u>	Az.	142°50'10"	0.028 sec	1 : 6432233	1 : 6482898
		ΔHt.	355.864 m	0.009 m		
		ΔElev.	355.129 m	0.009 m		
		Ellip Dist.	20622.232 m	0.003 m		
<u>VTMI</u>	<u>BE20</u>	Az.	60°40'48"	0.048 sec	1 : 5559169	1 : 5525103
		ΔHt.	274.837 m	0.007 m		
		ΔElev.	273.902 m	0.007 m		
		Ellip Dist.	16175.392 m	0.003 m		
<u>VTMI</u>	<u>BE4</u>	Az.	124°27'47"	0.473 sec	1 : 508550	1 : 508313
		ΔHt.	0.054 m	0.026 m		
		ΔElev.	-0.147 m	0.026 m		
		Ellip Dist.	4567.211 m	0.009 m		
<u>VTMI</u>	<u>BE7</u>	Az.	111°22'02"	0.048 sec	1 : 4181243	1 : 4187318
		ΔHt.	315.710 m	0.007 m		
		ΔElev.	314.851 m	0.007 m		
		Ellip Dist.	13993.440 m	0.003 m		

<u>VTMI</u>	<u>FO5</u>	Az.	112°38'12"	0.519 sec	1 : 440398	1 : 438623
		ΔHt.	436.327 m	0.099 m		
		ΔElev.	435.317 m	0.099 m		
		Ellip Dist.	16802.330 m	0.038 m		
<u>VTMI</u>	<u>GPS14A</u>	Az.	334°41'39"	0.045 sec	1 : 3530558	1 : 3536377
		ΔHt.	-74.687 m	0.010 m		
		ΔElev.	-74.425 m	0.010 m		
		Ellip Dist.	20492.865 m	0.006 m		
<u>VTMI</u>	<u>GPS15A</u>	Az.	4°20'48"	0.232 sec	1 : 1568316	1 : 1557519
		ΔHt.	44.444 m	0.051 m		
		ΔElev.	44.417 m	0.051 m		
		Ellip Dist.	28439.873 m	0.018 m		
<u>VTMI</u>	<u>GPS16A</u>	Az.	355°20'24"	0.058 sec	1 : 3463032	1 : 3457625
		ΔHt.	1.290 m	0.036 m		
		ΔElev.	1.501 m	0.036 m		
		Ellip Dist.	35624.729 m	0.010 m		
<u>VTMI</u>	<u>GPS19A</u>	Az.	105°08'33"	0.090 sec	1 : 2013750	1 : 2022615
		ΔHt.	208.945 m	0.011 m		
		ΔElev.	208.300 m	0.011 m		
		Ellip Dist.	9987.961 m	0.005 m		
<u>VTMI</u>	<u>GPS1A</u>	Az.	323°22'31"	0.101 sec	1 : 1254428	1 : 1249379
		ΔHt.	-61.688 m	0.016 m		
		ΔElev.	-61.508 m	0.016 m		
		Ellip Dist.	12224.333 m	0.010 m		
<u>VTMI</u>	<u>GPS3A</u>	Az.	69°55'20"	0.052 sec	1 : 3840475	1 : 3859081
		ΔHt.	328.406 m	0.012 m		
		ΔElev.	327.353 m	0.012 m		
		Ellip Dist.	16576.209 m	0.004 m		
<u>VTMI</u>	<u>GPS4A</u>	Az.	77°38'33"	0.069 sec	1 : 3050185	1 : 3202101
		ΔHt.	334.275 m	0.013 m		
		ΔElev.	333.517 m	0.013 m		
		Ellip Dist.	11074.778 m	0.004 m		
<u>VTMI</u>	<u>SM1</u>	Az.	340°55'31"	0.085 sec	1 : 2147038	1 : 2148685
		ΔHt.	-73.591 m	0.033 m		
		ΔElev.	-73.319 m	0.033 m		
		Ellip Dist.	24309.476 m	0.011 m		
<u>VTMI</u>	<u>SM10</u>	Az.	111°21'03"	0.065 sec	1 : 3784806	1 : 3798827
		ΔHt.	272.089 m	0.009 m		
		ΔElev.	271.323 m	0.009 m		
		Ellip Dist.	12332.841 m	0.003 m		

<u>VTMI</u>	<u>SM11</u>	Az.	60°21'08"	0.049 sec	1 : 4828320	1 : 4833502
		ΔHt.	262.342 m	0.007 m		
		ΔElev.	261.432 m	0.007 m		
		Ellip Dist.	15688.172 m	0.003 m		
<u>VTMI</u>	<u>SM13</u>	Az.	11°41'22"	0.110 sec	1 : 1548147	1 : 1541693
		ΔHt.	18.267 m	0.039 m		
		ΔElev.	18.067 m	0.039 m		
		Ellip Dist.	20797.358 m	0.013 m		
<u>VTMI</u>	<u>SM14</u>	Az.	8°46'23"	0.063 sec	1 : 2583127	1 : 2582277
		ΔHt.	7.430 m	0.032 m		
		ΔElev.	7.302 m	0.032 m		
		Ellip Dist.	29097.763 m	0.011 m		
<u>VTMI</u>	<u>SM15</u>	Az.	0°54'33"	0.068 sec	1 : 2082316	1 : 2078303
		ΔHt.	-2.732 m	0.030 m		
		ΔElev.	-2.679 m	0.030 m		
		Ellip Dist.	29664.216 m	0.014 m		
<u>VTMI</u>	<u>SM16</u>	Az.	342°24'58"	0.072 sec	1 : 2958119	1 : 2958996
		ΔHt.	-92.313 m	0.020 m		
		ΔElev.	-92.020 m	0.020 m		
		Ellip Dist.	27212.184 m	0.009 m		
<u>VTMI</u>	<u>SM2</u>	Az.	330°18'42"	0.069 sec	1 : 2124839	1 : 2125839
		ΔHt.	-94.540 m	0.029 m		
		ΔElev.	-94.212 m	0.029 m		
		Ellip Dist.	27899.984 m	0.013 m		
<u>VTMI</u>	<u>SM20</u>	Az.	344°51'52"	0.063 sec	1 : 2407496	1 : 2409100
		ΔHt.	-93.820 m	0.025 m		
		ΔElev.	-93.527 m	0.025 m		
		Ellip Dist.	28745.958 m	0.012 m		
<u>VTMI</u>	<u>SM4</u>	Az.	301°48'43"	0.037 sec	1 : 4889886	1 : 4892071
		ΔHt.	-94.128 m	0.007 m		
		ΔElev.	-93.813 m	0.007 m		
		Ellip Dist.	18197.042 m	0.004 m		
<u>VTMI</u>	<u>SM5</u>	Az.	325°49'02"	0.770 sec	1 : 345022	1 : 347280
		ΔHt.	-28.782 m	0.036 m		
		ΔElev.	-28.724 m	0.036 m		
		Ellip Dist.	3340.935 m	0.010 m		
<u>VTMI</u>	<u>SM6</u>	Az.	185°25'24"	0.498 sec	1 : 417994	1 : 417728
		ΔHt.	-19.982 m	0.015 m		
		ΔElev.	-19.958 m	0.015 m		
		Ellip Dist.	3189.561 m	0.008 m		

<u>VTMI</u>	<u>SM9</u>	Az.	141°22'47"	0.031 sec	1 : 5474963	1 : 5516779
		ΔHt.	382.422 m	0.007 m		
		ΔElev.	381.737 m	0.007 m		
		Ellip Dist.	18149.957 m	0.003 m		
<u>VTMI</u>	<u>TW01</u>	Az.	190°31'19"	0.036 sec	1 : 4323557	1 : 4314372
		ΔHt.	4.150 m	0.007 m		
		ΔElev.	4.372 m	0.007 m		
		Ellip Dist.	18332.978 m	0.004 m		
<u>VTMI</u>	<u>TW02</u>	Az.	167°01'02"	0.036 sec	1 : 3918201	1 : 3924382
		ΔHt.	36.851 m	0.009 m		
		ΔElev.	36.762 m	0.009 m		
		Ellip Dist.	16858.063 m	0.004 m		
<u>VTMI</u>	<u>TW03</u>	Az.	142°51'41"	0.045 sec	1 : 4841811	1 : 4787575
		ΔHt.	356.124 m	0.010 m		
		ΔElev.	355.392 m	0.010 m		
		Ellip Dist.	20578.225 m	0.004 m		
<u>VTMI</u>	<u>TW04</u>	Az.	112°59'56"	0.051 sec	1 : 4130946	1 : 4180001
		ΔHt.	325.507 m	0.008 m		
		ΔElev.	324.587 m	0.008 m		
		Ellip Dist.	15303.332 m	0.004 m		
<u>VTMI</u>	<u>TW05</u>	Az.	152°50'10"	0.085 sec	1 : 2438951	1 : 2445674
		ΔHt.	3.236 m	0.008 m		
		ΔElev.	3.040 m	0.008 m		
		Ellip Dist.	8946.132 m	0.004 m		
<u>VTMI</u>	<u>TW06</u>	Az.	227°35'52"	0.107 sec	1 : 2210224	1 : 2207070
		ΔHt.	-47.346 m	0.007 m		
		ΔElev.	-47.147 m	0.007 m		
		Ellip Dist.	7386.953 m	0.003 m		
<u>VTMI</u>	<u>TW07</u>	Az.	311°49'40"	0.138 sec	1 : 1263691	1 : 1266597
		ΔHt.	1.501 m	0.007 m		
		ΔElev.	1.606 m	0.007 m		
		Ellip Dist.	4918.869 m	0.004 m		
<u>VTMI</u>	<u>TW08</u>	Az.	339°41'31"	0.158 sec	1 : 1026604	1 : 1027948
		ΔHt.	-5.553 m	0.007 m		
		ΔElev.	-5.519 m	0.007 m		
		Ellip Dist.	3986.415 m	0.004 m		
<u>VTMI</u>	<u>TW09</u>	Az.	32°39'19"	0.124 sec	1 : 1376817	1 : 1375915
		ΔHt.	15.324 m	0.010 m		
		ΔElev.	15.154 m	0.010 m		
		Ellip Dist.	5692.229 m	0.004 m		

<u>VTMI</u>	<u>TW10</u>	Az.	60°51'10"	0.058 sec	1 : 5467393	1 : 5460188
		ΔHt.	269.426 m	0.007 m		
		ΔElev.	268.500 m	0.007 m		
		Ellip Dist.	15944.700 m	0.003 m		
<u>VTMI</u>	<u>TW11</u>	Az.	19°45'21"	0.078 sec	1 : 1909415	1 : 1906733
		ΔHt.	-6.875 m	0.015 m		
		ΔElev.	-7.148 m	0.015 m		
		Ellip Dist.	14690.725 m	0.008 m		
<u>VTMI</u>	<u>TW12</u>	Az.	315°22'59"	0.077 sec	1 : 2648585	1 : 2646853
		ΔHt.	-73.597 m	0.007 m		
		ΔElev.	-73.424 m	0.007 m		
		Ellip Dist.	9927.970 m	0.004 m		
<u>VTMI</u>	<u>TW13</u>	Az.	296°56'48"	0.041 sec	1 : 6117281	1 : 6122949
		ΔHt.	-78.699 m	0.009 m		
		ΔElev.	-78.385 m	0.009 m		
		Ellip Dist.	20712.859 m	0.003 m		
<u>VTMI</u>	<u>TW14</u>	Az.	313°21'07"	0.031 sec	1 : 6575823	1 : 6600633
		ΔHt.	-74.188 m	0.007 m		
		ΔElev.	-73.859 m	0.007 m		
		Ellip Dist.	22845.610 m	0.003 m		
<u>VTMI</u>	<u>TW15</u>	Az.	339°23'44"	0.029 sec	1 : 4655621	1 : 4654769
		ΔHt.	-75.764 m	0.007 m		
		ΔElev.	-75.539 m	0.007 m		
		Ellip Dist.	19888.028 m	0.004 m		
<u>VTMI</u>	<u>TW16</u>	Az.	9°56'21"	0.029 sec	1 : 5150213	1 : 5149022
		ΔHt.	20.164 m	0.009 m		
		ΔElev.	19.997 m	0.009 m		
		Ellip Dist.	21208.851 m	0.004 m		
<u>VTMI</u>	<u>TW17</u>	Az.	7°56'26"	0.020 sec	1 : 7248274	1 : 7237387
		ΔHt.	11.116 m	0.007 m		
		ΔElev.	11.008 m	0.007 m		
		Ellip Dist.	28959.316 m	0.004 m		
<u>VTMI</u>	<u>TW18</u>	Az.	349°18'35"	0.025 sec	1 : 6511383	1 : 6506434
		ΔHt.	-35.031 m	0.008 m		
		ΔElev.	-34.755 m	0.008 m		
		Ellip Dist.	31578.300 m	0.005 m		
<u>VTMI</u>	<u>TW19</u>	Az.	355°32'17"	0.020 sec	1 : 8073594	1 : 8084477
		ΔHt.	-10.691 m	0.010 m		
		ΔElev.	-10.483 m	0.010 m		
		Ellip Dist.	35753.973 m	0.004 m		

<u>VTMI</u>	<u>TW20</u>	Az.	349°46'28"	0.015 sec	1 : 9442197	1 : 9446913
		ΔHt.	-14.197 m	0.008 m		
		ΔElev.	-13.847 m	0.008 m		
		Ellip Dist.	38761.095 m	0.004 m		
<u>VTMI</u>	<u>UA16</u>	Az.	322°06'20"	0.075 sec	1 : 2126937	1 : 2131583
		ΔHt.	-84.585 m	0.024 m		
		ΔElev.	-84.253 m	0.024 m		
		Ellip Dist.	27605.681 m	0.013 m		
<u>VTMI</u>	<u>UA17</u>	Az.	341°52'30"	0.074 sec	1 : 1986124	1 : 1983220
		ΔHt.	-65.947 m	0.026 m		
		ΔElev.	-65.684 m	0.026 m		
		Ellip Dist.	24121.904 m	0.012 m		
<u>VTMI</u>	<u>UA4</u>	Az.	126°51'19"	0.359 sec	1 : 470145	1 : 470791
		ΔHt.	-0.250 m	0.029 m		
		ΔElev.	-0.445 m	0.029 m		
		Ellip Dist.	4612.729 m	0.010 m		
<u>VTMI</u>	<u>UA6</u>	Az.	194°24'49"	0.044 sec	1 : 4125982	1 : 4127552
		ΔHt.	-5.115 m	0.008 m		
		ΔElev.	-4.895 m	0.008 m		
		Ellip Dist.	15457.495 m	0.004 m		
<u>VTRI</u>	<u>BE10</u>	Az.	217°47'49"	0.091 sec	1 : 3212718	1 : 3200227
		ΔHt.	-87.893 m	0.031 m		
		ΔElev.	-87.262 m	0.031 m		
		Ellip Dist.	35132.306 m	0.011 m		
<u>VTRI</u>	<u>BE11</u>	Az.	221°26'42"	0.064 sec	1 : 3911338	1 : 3909638
		ΔHt.	-87.488 m	0.026 m		
		ΔElev.	-86.852 m	0.026 m		
		Ellip Dist.	30746.834 m	0.008 m		
<u>VTRI</u>	<u>BE13</u>	Az.	221°03'52"	0.014 sec	1 : 16270338	1 : 16264329
		ΔHt.	-83.301 m	0.009 m		
		ΔElev.	-82.627 m	0.009 m		
		Ellip Dist.	48738.491 m	0.003 m		
<u>VTRI</u>	<u>BE14</u>	Az.	210°19'15"	0.035 sec	1 : 5931292	1 : 5921755
		ΔHt.	42.067 m	0.007 m		
		ΔElev.	42.403 m	0.007 m		
		Ellip Dist.	20476.397 m	0.003 m		
<u>VTRI</u>	<u>BE15</u>	Az.	236°18'36"	0.051 sec	1 : 5168732	1 : 5157603
		ΔHt.	-30.447 m	0.008 m		
		ΔElev.	-29.866 m	0.008 m		
		Ellip Dist.	18607.880 m	0.004 m		

<u>VTRI</u>	<u>BE17</u>	Az.	243°14'38"	0.039 sec	1 : 5667724	1 : 5674114
		ΔHt.	-98.127 m	0.012 m		
		ΔElev.	-97.379 m	0.012 m		
		Ellip Dist.	26249.154 m	0.005 m		
<u>VTRI</u>	<u>BE18</u>	Az.	194°56'29"	0.010 sec	1 : 17554735	1 : 17540867
		ΔHt.	-3.079 m	0.008 m		
		ΔElev.	-2.485 m	0.008 m		
		Ellip Dist.	64287.884 m	0.004 m		
<u>VTRI</u>	<u>BE19</u>	Az.	180°12'35"	0.009 sec	1 : 19489772	1 : 19520755
		ΔHt.	339.629 m	0.009 m		
		ΔElev.	339.262 m	0.009 m		
		Ellip Dist.	62519.325 m	0.003 m		
<u>VTRI</u>	<u>BE20</u>	Az.	177°48'16"	0.016 sec	1 : 10234249	1 : 10237910
		ΔHt.	258.602 m	0.007 m		
		ΔElev.	258.035 m	0.007 m		
		Ellip Dist.	38195.248 m	0.004 m		
<u>VTRI</u>	<u>BE5</u>	Az.	188°09'07"	0.012 sec	1 : 16659031	1 : 16638664
		ΔHt.	18.388 m	0.007 m		
		ΔElev.	18.670 m	0.007 m		
		Ellip Dist.	63080.463 m	0.004 m		
<u>VTRI</u>	<u>BE7</u>	Az.	179°35'23"	0.013 sec	1 : 15065047	1 : 15051199
		ΔHt.	299.475 m	0.007 m		
		ΔElev.	298.984 m	0.007 m		
		Ellip Dist.	51185.709 m	0.003 m		
<u>VTRI</u>	<u>BE9</u>	Az.	216°14'04"	0.060 sec	1 : 3266121	1 : 3254640
		ΔHt.	-89.995 m	0.020 m		
		ΔElev.	-89.389 m	0.020 m		
		Ellip Dist.	34165.442 m	0.010 m		
<u>VTRI</u>	<u>GPS14A</u>	Az.	217°50'41"	0.030 sec	1 : 6738480	1 : 6718992
		ΔHt.	-90.922 m	0.010 m		
		ΔElev.	-90.292 m	0.010 m		
		Ellip Dist.	34846.946 m	0.005 m		
<u>VTRI</u>	<u>GPS19A</u>	Az.	183°32'54"	0.020 sec	1 : 10371461	1 : 10364147
		ΔHt.	192.710 m	0.011 m		
		ΔElev.	192.433 m	0.011 m		
		Ellip Dist.	48782.060 m	0.005 m		
<u>VTRI</u>	<u>GPS1A</u>	Az.	208°48'36"	0.051 sec	1 : 8497426	1 : 8510856
		ΔHt.	-77.923 m	0.016 m		
		ΔElev.	-77.375 m	0.016 m		
		Ellip Dist.	41354.977 m	0.005 m		

<u>VTRI</u>	<u>GPS3A</u>	Az.	175°51'35"	0.022 sec	1 : 9584786	1 : 9589167
		ΔHt.	312.171 m	0.012 m		
		ΔElev.	311.486 m	0.012 m		
		Ellip Dist.	40506.043 m	0.004 m		
<u>VTRI</u>	<u>GPS4A</u>	Az.	182°24'02"	0.017 sec	1 : 11662586	1 : 11619564
		ΔHt.	318.040 m	0.013 m		
		ΔElev.	317.650 m	0.013 m		
		Ellip Dist.	43750.055 m	0.004 m		
<u>VTRI</u>	<u>SM10</u>	Az.	181°20'01"	0.014 sec	1 : 13632479	1 : 13655404
		ΔHt.	255.854 m	0.009 m		
		ΔElev.	255.457 m	0.009 m		
		Ellip Dist.	50586.857 m	0.004 m		
<u>VTRI</u>	<u>SM11</u>	Az.	178°30'52"	0.018 sec	1 : 10728711	1 : 10707100
		ΔHt.	246.107 m	0.007 m		
		ΔElev.	245.565 m	0.007 m		
		Ellip Dist.	38339.630 m	0.004 m		
<u>VTRI</u>	<u>SM17</u>	Az.	248°51'44"	0.032 sec	1 : 7155496	1 : 7152205
		ΔHt.	-112.074 m	0.008 m		
		ΔElev.	-111.298 m	0.008 m		
		Ellip Dist.	24634.347 m	0.003 m		
<u>VTRI</u>	<u>SM18</u>	Az.	244°12'32"	0.058 sec	1 : 6732631	1 : 6712632
		ΔHt.	-70.749 m	0.007 m		
		ΔElev.	-70.134 m	0.007 m		
		Ellip Dist.	17673.254 m	0.003 m		
<u>VTRI</u>	<u>SM3</u>	Az.	217°49'04"	0.025 sec	1 : 8392102	1 : 8390996
		ΔHt.	-92.012 m	0.009 m		
		ΔElev.	-91.382 m	0.009 m		
		Ellip Dist.	34834.285 m	0.004 m		
<u>VTRI</u>	<u>SM4</u>	Az.	217°38'18"	0.017 sec	1 : 14356208	1 : 14347198
		ΔHt.	-110.363 m	0.007 m		
		ΔElev.	-109.680 m	0.007 m		
		Ellip Dist.	46015.602 m	0.003 m		
<u>VTRI</u>	<u>SM8</u>	Az.	187°25'25"	0.012 sec	1 : 15177098	1 : 15164768
		ΔHt.	-4.984 m	0.010 m		
		ΔElev.	-4.748 m	0.010 m		
		Ellip Dist.	63058.024 m	0.004 m		
<u>VTRI</u>	<u>SM9</u>	Az.	181°17'13"	0.009 sec	1 : 18252841	1 : 18252432
		ΔHt.	366.187 m	0.007 m		
		ΔElev.	365.870 m	0.007 m		
		Ellip Dist.	60278.459 m	0.003 m		

<u>VTRI</u>	<u>TW01</u>	Az.	194°03'05"	0.010 sec	1 : 15844415	1 : 15816182
		ΔHt.	-12.085 m	0.007 m		
		ΔElev.	-11.495 m	0.007 m		
		Ellip Dist.	66055.722 m	0.004 m		
<u>VTRI</u>	<u>TW02</u>	Az.	188°06'16"	0.010 sec	1 : 14970251	1 : 14959182
		ΔHt.	20.616 m	0.009 m		
		ΔElev.	20.895 m	0.009 m		
		Ellip Dist.	63125.846 m	0.004 m		
<u>VTRI</u>	<u>TW03</u>	Az.	180°14'27"	0.014 sec	1 : 13594221	1 : 13544266
		ΔHt.	339.889 m	0.010 m		
		ΔElev.	339.525 m	0.010 m		
		Ellip Dist.	62489.802 m	0.005 m		
<u>VTRI</u>	<u>TW04</u>	Az.	178°26'15"	0.013 sec	1 : 12656190	1 : 12664176
		ΔHt.	309.272 m	0.008 m		
		ΔElev.	308.720 m	0.008 m		
		Ellip Dist.	52086.580 m	0.004 m		
<u>VTRI</u>	<u>TW05</u>	Az.	189°01'48"	0.011 sec	1 : 12858070	1 : 12865016
		ΔHt.	-12.999 m	0.008 m		
		ΔElev.	-12.827 m	0.008 m		
		Ellip Dist.	54706.260 m	0.004 m		
<u>VTRI</u>	<u>TW06</u>	Az.	199°32'54"	0.012 sec	1 : 13418872	1 : 13401703
		ΔHt.	-63.581 m	0.007 m		
		ΔElev.	-63.014 m	0.007 m		
		Ellip Dist.	54153.128 m	0.004 m		
<u>VTRI</u>	<u>TW07</u>	Az.	200°52'39"	0.015 sec	1 : 12033425	1 : 12008925
		ΔHt.	-14.734 m	0.007 m		
		ΔElev.	-14.261 m	0.007 m		
		Ellip Dist.	45779.234 m	0.004 m		
<u>VTRI</u>	<u>TW08</u>	Az.	198°20'37"	0.014 sec	1 : 11535258	1 : 11523993
		ΔHt.	-21.788 m	0.007 m		
		ΔElev.	-21.386 m	0.007 m		
		Ellip Dist.	44585.279 m	0.004 m		
<u>VTRI</u>	<u>TW09</u>	Az.	193°03'37"	0.016 sec	1 : 9930132	1 : 9928815
		ΔHt.	-0.911 m	0.010 m		
		ΔElev.	-0.713 m	0.010 m		
		Ellip Dist.	42370.431 m	0.004 m		
<u>VTRI</u>	<u>TW10</u>	Az.	178°04'45"	0.016 sec	1 : 8814245	1 : 8817246
		ΔHt.	253.191 m	0.007 m		
		ΔElev.	252.633 m	0.007 m		
		Ellip Dist.	38343.342 m	0.004 m		

<u>VTRI</u>	<u>TW11</u>	Az.	193°22'07"	0.034 sec	1 : 4262912	1 : 4264068
		ΔHt.	-23.110 m	0.015 m		
		ΔElev.	-23.015 m	0.015 m		
		Ellip Dist.	33142.596 m	0.008 m		
<u>VTRI</u>	<u>TW12</u>	Az.	206°42'41"	0.016 sec	1 : 11023922	1 : 11023276
		ΔHt.	-89.832 m	0.007 m		
		ΔElev.	-89.291 m	0.007 m		
		Ellip Dist.	43637.543 m	0.004 m		
<u>VTRI</u>	<u>TW13</u>	Az.	220°19'36"	0.015 sec	1 : 12294833	1 : 12285198
		ΔHt.	-94.934 m	0.009 m		
		ΔElev.	-94.252 m	0.009 m		
		Ellip Dist.	48059.512 m	0.004 m		
<u>VTRI</u>	<u>TW14</u>	Az.	223°56'03"	0.017 sec	1 : 12486827	1 : 12456386
		ΔHt.	-90.423 m	0.007 m		
		ΔElev.	-89.726 m	0.007 m		
		Ellip Dist.	42139.141 m	0.003 m		
<u>VTRI</u>	<u>TW15</u>	Az.	215°34'17"	0.022 sec	1 : 9457445	1 : 9440798
		ΔHt.	-91.999 m	0.007 m		
		ΔElev.	-91.406 m	0.007 m		
		Ellip Dist.	33725.122 m	0.004 m		
<u>VTRI</u>	<u>TW16</u>	Az.	199°34'42"	0.023 sec	1 : 6552226	1 : 6548533
		ΔHt.	3.929 m	0.009 m		
		ΔElev.	4.130 m	0.009 m		
		Ellip Dist.	26722.483 m	0.004 m		
<u>VTRI</u>	<u>TW17</u>	Az.	206°19'00"	0.035 sec	1 : 5316645	1 : 5305112
		ΔHt.	-5.119 m	0.007 m		
		ΔElev.	-4.859 m	0.007 m		
		Ellip Dist.	19397.510 m	0.004 m		
<u>VTRI</u>	<u>TW18</u>	Az.	230°51'27"	0.041 sec	1 : 5913594	1 : 5912283
		ΔHt.	-51.266 m	0.008 m		
		ΔElev.	-50.622 m	0.008 m		
		Ellip Dist.	23793.163 m	0.004 m		
<u>VTRI</u>	<u>TW19</u>	Az.	235°53'15"	0.043 sec	1 : 4453664	1 : 4450519
		ΔHt.	-26.926 m	0.010 m		
		ΔElev.	-26.350 m	0.010 m		
		Ellip Dist.	18562.191 m	0.004 m		
<u>VTRI</u>	<u>TW20</u>	Az.	247°54'07"	0.039 sec	1 : 7189719	1 : 7176262
		ΔHt.	-30.432 m	0.008 m		
		ΔElev.	-29.714 m	0.008 m		
		Ellip Dist.	21006.068 m	0.003 m		

<u>VTRI</u>	<u>UA13</u>	Az.	215°14'21"	0.096 sec	1 : 3001934	1 : 2996112
		ΔHt.	-81.412 m	0.038 m		
		ΔElev.	-80.817 m	0.038 m		
		Ellip Dist.	34729.783 m	0.012 m		
<u>VTRI</u>	<u>UA14</u>	Az.	216°11'41"	0.064 sec	1 : 3107941	1 : 3099231
		ΔHt.	-89.498 m	0.020 m		
		ΔElev.	-88.893 m	0.020 m		
		Ellip Dist.	34160.750 m	0.011 m		
<u>VTRI</u>	<u>UA15</u>	Az.	217°49'11"	0.050 sec	1 : 3274540	1 : 3268515
		ΔHt.	-87.801 m	0.026 m		
		ΔElev.	-87.170 m	0.026 m		
		Ellip Dist.	35149.134 m	0.011 m		
<u>VTRI</u>	<u>UA18</u>	Az.	210°12'40"	0.037 sec	1 : 5786698	1 : 5775988
		ΔHt.	40.662 m	0.009 m		
		ΔElev.	40.996 m	0.009 m		
		Ellip Dist.	20461.069 m	0.004 m		
<u>VTRI</u>	<u>UA19</u>	Az.	241°37'04"	0.036 sec	1 : 7581076	1 : 7559937
		ΔHt.	-91.065 m	0.007 m		
		ΔElev.	-90.338 m	0.007 m		
		Ellip Dist.	24208.180 m	0.003 m		
<u>VTRI</u>	<u>UA20</u>	Az.	235°57'56"	0.042 sec	1 : 4812524	1 : 4807353
		ΔHt.	-22.681 m	0.009 m		
		ΔElev.	-22.102 m	0.009 m		
		Ellip Dist.	18638.904 m	0.004 m		
<u>VTRI</u>	<u>UA5</u>	Az.	188°07'39"	0.010 sec	1 : 18225623	1 : 18202626
		ΔHt.	20.748 m	0.008 m		
		ΔElev.	21.028 m	0.008 m		
		Ellip Dist.	63063.294 m	0.003 m		
<u>VTRI</u>	<u>UA6</u>	Az.	195°09'28"	0.011 sec	1 : 16878632	1 : 16883179
		ΔHt.	-21.350 m	0.008 m		
		ΔElev.	-20.762 m	0.008 m		
		Ellip Dist.	63224.144 m	0.004 m		
<u>VTRU</u>	<u>BE1</u>	Az.	342°00'59"	0.042 sec	1 : 4046546	1 : 4048757
		ΔHt.	-80.149 m	0.030 m		
		ΔElev.	-79.608 m	0.030 m		
		Ellip Dist.	46263.906 m	0.011 m		
<u>VTRU</u>	<u>BE13</u>	Az.	327°48'49"	0.009 sec	1 : 18305076	1 : 18316837
		ΔHt.	-132.488 m	0.009 m		
		ΔElev.	-131.655 m	0.009 m		
		Ellip Dist.	62422.644 m	0.003 m		

<u>VTRU</u>	<u>BE14</u>	Az.	350°51'35"	0.009 sec	1 : 19016783	1 : 19012457
		ΔHt.	-7.120 m	0.007 m		
		ΔElev.	-6.626 m	0.007 m		
		Ellip Dist.	72822.839 m	0.004 m		
<u>VTRU</u>	<u>BE15</u>	Az.	348°05'32"	0.008 sec	1 : 16689330	1 : 16689031
		ΔHt.	-79.634 m	0.008 m		
		ΔElev.	-78.894 m	0.008 m		
		Ellip Dist.	80995.645 m	0.005 m		
<u>VTRU</u>	<u>BE17</u>	Az.	342°23'55"	0.012 sec	1 : 16329420	1 : 16311200
		ΔHt.	-147.314 m	0.012 m		
		ΔElev.	-146.408 m	0.012 m		
		Ellip Dist.	81577.806 m	0.005 m		
<u>VTRU</u>	<u>BE18</u>	Az.	327°01'40"	0.020 sec	1 : 9104024	1 : 9101577
		ΔHt.	-52.266 m	0.008 m		
		ΔElev.	-51.513 m	0.008 m		
		Ellip Dist.	32732.383 m	0.004 m		
<u>VTRU</u>	<u>BE19</u>	Az.	356°53'40"	0.021 sec	1 : 8401802	1 : 8357502
		ΔHt.	290.442 m	0.009 m		
		ΔElev.	290.234 m	0.009 m		
		Ellip Dist.	27092.687 m	0.003 m		
<u>VTRU</u>	<u>BE2</u>	Az.	340°38'40"	0.047 sec	1 : 4600186	1 : 4600951
		ΔHt.	-68.805 m	0.027 m		
		ΔElev.	-68.217 m	0.027 m		
		Ellip Dist.	46941.128 m	0.010 m		
<u>VTRU</u>	<u>BE20</u>	Az.	0°15'18"	0.012 sec	1 : 13846804	1 : 13826698
		ΔHt.	209.415 m	0.007 m		
		ΔElev.	209.006 m	0.007 m		
		Ellip Dist.	51404.792 m	0.004 m		
<u>VTRU</u>	<u>BE3</u>	Az.	341°55'00"	0.037 sec	1 : 4182254	1 : 4183690
		ΔHt.	-71.551 m	0.019 m		
		ΔElev.	-70.992 m	0.019 m		
		Ellip Dist.	48301.533 m	0.012 m		
<u>VTRU</u>	<u>BE4</u>	Az.	346°05'41"	0.050 sec	1 : 4472245	1 : 4476967
		ΔHt.	-65.368 m	0.026 m		
		ΔElev.	-65.042 m	0.026 m		
		Ellip Dist.	42156.092 m	0.009 m		
<u>VTRU</u>	<u>BE5</u>	Az.	339°25'34"	0.024 sec	1 : 7135940	1 : 7132042
		ΔHt.	-30.799 m	0.007 m		
		ΔElev.	-30.359 m	0.007 m		
		Ellip Dist.	28978.579 m	0.004 m		

<u>VTRU</u>	<u>BE6</u>	Az.	334°58'37"	0.040 sec	1 : 4162886	1 : 4166586
		ΔHt.	-75.938 m	0.028 m		
		ΔElev.	-75.241 m	0.028 m		
		Ellip Dist.	43638.452 m	0.010 m		
<u>VTRU</u>	<u>BE7</u>	Az.	358°42'05"	0.017 sec	1 : 11288432	1 : 11289004
		ΔHt.	250.288 m	0.007 m		
		ΔElev.	249.956 m	0.007 m		
		Ellip Dist.	38397.163 m	0.003 m		
<u>VTRU</u>	<u>BE8</u>	Az.	351°20'58"	0.029 sec	1 : 4709089	1 : 4705517
		ΔHt.	-14.998 m	0.036 m		
		ΔElev.	-14.739 m	0.036 m		
		Ellip Dist.	59309.215 m	0.013 m		
<u>VTRU</u>	<u>FO5</u>	Az.	2°28'49"	0.191 sec	1 : 811504	1 : 804162
		ΔHt.	370.905 m	0.099 m		
		ΔElev.	370.422 m	0.099 m		
		Ellip Dist.	37048.282 m	0.046 m		
<u>VTRU</u>	<u>GPS14A</u>	Az.	339°58'47"	0.014 sec	1 : 11234202	1 : 11244589
		ΔHt.	-140.109 m	0.010 m		
		ΔElev.	-139.320 m	0.010 m		
		Ellip Dist.	66048.884 m	0.006 m		
<u>VTRU</u>	<u>GPS19A</u>	Az.	354°03'28"	0.022 sec	1 : 8293809	1 : 8270713
		ΔHt.	143.523 m	0.011 m		
		ΔElev.	143.405 m	0.011 m		
		Ellip Dist.	41104.640 m	0.005 m		
<u>VTRU</u>	<u>GPS1A</u>	Az.	338°21'30"	0.027 sec	1 : 6545519	1 : 6518946
		ΔHt.	-127.110 m	0.016 m		
		ΔElev.	-126.404 m	0.016 m		
		Ellip Dist.	57384.097 m	0.009 m		
<u>VTRU</u>	<u>GPS2A</u>	Az.	350°34'58"	0.039 sec	1 : 5454524	1 : 5455315
		ΔHt.	-72.974 m	0.040 m		
		ΔElev.	-72.737 m	0.040 m		
		Ellip Dist.	53860.165 m	0.010 m		
<u>VTRU</u>	<u>GPS3A</u>	Az.	1°58'05"	0.018 sec	1 : 11610731	1 : 11609920
		ΔHt.	262.984 m	0.012 m		
		ΔElev.	262.458 m	0.012 m		
		Ellip Dist.	49199.909 m	0.004 m		
<u>VTRU</u>	<u>GPS4A</u>	Az.	356°10'22"	0.016 sec	1 : 12320560	1 : 12347847
		ΔHt.	268.853 m	0.013 m		
		ΔElev.	268.621 m	0.013 m		
		Ellip Dist.	45962.947 m	0.004 m		

<u>VTRU</u>	<u>GPS7A</u>	Az.	339°06'20"	0.072 sec	1 : 2690488	1 : 2697422
		ΔHt.	-38.201 m	0.031 m		
		ΔElev.	-37.753 m	0.031 m		
		Ellip Dist.	28944.721 m	0.011 m		
<u>VTRU</u>	<u>GPS9A</u>	Az.	332°30'44"	0.066 sec	1 : 1790156	1 : 1788960
		ΔHt.	-87.286 m	0.045 m		
		ΔElev.	-86.548 m	0.045 m		
		Ellip Dist.	42860.749 m	0.024 m		
<u>VTRU</u>	<u>SM10</u>	Az.	356°27'28"	0.019 sec	1 : 10690636	1 : 10692597
		ΔHt.	206.667 m	0.009 m		
		ΔElev.	206.428 m	0.009 m		
		Ellip Dist.	39073.478 m	0.004 m		
<u>VTRU</u>	<u>SM11</u>	Az.	359°43'52"	0.014 sec	1 : 14380285	1 : 14379090
		ΔHt.	196.920 m	0.007 m		
		ΔElev.	196.537 m	0.007 m		
		Ellip Dist.	51245.401 m	0.004 m		
<u>VTRU</u>	<u>SM12</u>	Az.	350°37'00"	0.050 sec	1 : 3560491	1 : 3558375
		ΔHt.	-89.274 m	0.046 m		
		ΔElev.	-89.027 m	0.046 m		
		Ellip Dist.	54711.476 m	0.015 m		
<u>VTRU</u>	<u>SM17</u>	Az.	343°18'06"	0.009 sec	1 : 21971228	1 : 21980042
		ΔHt.	-161.261 m	0.008 m		
		ΔElev.	-160.327 m	0.008 m		
		Ellip Dist.	84244.801 m	0.004 m		
<u>VTRU</u>	<u>SM18</u>	Az.	348°10'35"	0.007 sec	1 : 17023442	1 : 17001722
		ΔHt.	-119.936 m	0.007 m		
		ΔElev.	-119.162 m	0.007 m		
		Ellip Dist.	83660.101 m	0.005 m		
<u>VTRU</u>	<u>SM3</u>	Az.	339°59'47"	0.013 sec	1 : 15452213	1 : 15445412
		ΔHt.	-141.199 m	0.009 m		
		ΔElev.	-140.410 m	0.009 m		
		Ellip Dist.	66041.677 m	0.004 m		
<u>VTRU</u>	<u>SM4</u>	Az.	331°05'56"	0.011 sec	1 : 15661890	1 : 15652108
		ΔHt.	-159.550 m	0.007 m		
		ΔElev.	-158.708 m	0.007 m		
		Ellip Dist.	60696.933 m	0.004 m		
<u>VTRU</u>	<u>SM5</u>	Az.	341°11'31"	0.051 sec	1 : 4726926	1 : 4741753
		ΔHt.	-94.204 m	0.036 m		
		ΔElev.	-93.620 m	0.036 m		
		Ellip Dist.	48891.289 m	0.010 m		

<u>VTRU</u>	<u>SM6</u>	Az.	340°36'28"	0.036 sec	1 : 5435107	1 : 5432269
		ΔHt.	-85.404 m	0.015 m		
		ΔElev.	-84.853 m	0.015 m		
		Ellip Dist.	42764.493 m	0.008 m		
<u>VTRU</u>	<u>SM7</u>	Az.	329°47'17"	0.055 sec	1 : 1785481	1 : 1780486
		ΔHt.	-85.163 m	0.034 m		
		ΔElev.	-84.463 m	0.034 m		
		Ellip Dist.	31823.258 m	0.018 m		
<u>VTRU</u>	<u>SM8</u>	Az.	340°51'33"	0.025 sec	1 : 6690836	1 : 6694340
		ΔHt.	-54.171 m	0.010 m		
		ΔElev.	-53.776 m	0.010 m		
		Ellip Dist.	28626.375 m	0.004 m		
<u>VTRU</u>	<u>SM9</u>	Az.	354°56'43"	0.019 sec	1 : 8787652	1 : 8764134
		ΔHt.	317.000 m	0.007 m		
		ΔElev.	316.842 m	0.007 m		
		Ellip Dist.	29423.195 m	0.003 m		
<u>VTRU</u>	<u>TW01</u>	Az.	325°52'37"	0.020 sec	1 : 7088706	1 : 7096152
		ΔHt.	-61.272 m	0.007 m		
		ΔElev.	-60.523 m	0.007 m		
		Ellip Dist.	30797.618 m	0.004 m		
<u>VTRU</u>	<u>TW02</u>	Az.	339°28'25"	0.022 sec	1 : 6785893	1 : 6794221
		ΔHt.	-28.571 m	0.009 m		
		ΔElev.	-28.133 m	0.009 m		
		Ellip Dist.	28913.682 m	0.004 m		
<u>VTRU</u>	<u>TW03</u>	Az.	356°49'36"	0.032 sec	1 : 5930853	1 : 5982458
		ΔHt.	290.702 m	0.010 m		
		ΔElev.	290.497 m	0.010 m		
		Ellip Dist.	27124.153 m	0.005 m		
<u>VTRU</u>	<u>TW04</u>	Az.	0°16'48"	0.018 sec	1 : 9152841	1 : 9130189
		ΔHt.	260.085 m	0.008 m		
		ΔElev.	259.691 m	0.008 m		
		Ellip Dist.	37504.735 m	0.004 m		
<u>VTRU</u>	<u>TW05</u>	Az.	344°33'03"	0.019 sec	1 : 9411352	1 : 9424677
		ΔHt.	-62.186 m	0.008 m		
		ΔElev.	-61.855 m	0.008 m		
		Ellip Dist.	36877.557 m	0.004 m		
<u>VTRU</u>	<u>TW06</u>	Az.	333°20'03"	0.014 sec	1 : 10392592	1 : 10399359
		ΔHt.	-112.768 m	0.007 m		
		ΔElev.	-112.043 m	0.007 m		
		Ellip Dist.	43130.524 m	0.004 m		

<u>VTRU</u>	<u>TW07</u>	Az.	339°26'41"	0.012 sec	1 : 11791154	1 : 11797435
		ΔHt.	-63.921 m	0.007 m		
		ΔElev.	-63.290 m	0.007 m		
		Ellip Dist.	49983.238 m	0.004 m		
<u>VTRU</u>	<u>TW08</u>	Az.	342°05'44"	0.013 sec	1 : 12715117	1 : 12726366
		ΔHt.	-70.975 m	0.007 m		
		ΔElev.	-70.414 m	0.007 m		
		Ellip Dist.	49659.506 m	0.004 m		
<u>VTRU</u>	<u>TW09</u>	Az.	347°23'05"	0.014 sec	1 : 11971618	1 : 11978887
		ΔHt.	-50.098 m	0.010 m		
		ΔElev.	-49.741 m	0.010 m		
		Ellip Dist.	49493.901 m	0.004 m		
<u>VTRU</u>	<u>TW10</u>	Az.	0°03'25"	0.013 sec	1 : 11860073	1 : 11835672
		ΔHt.	204.004 m	0.007 m		
		ΔElev.	203.604 m	0.007 m		
		Ellip Dist.	51249.757 m	0.004 m		
<u>VTRU</u>	<u>TW11</u>	Az.	351°10'44"	0.020 sec	1 : 7565575	1 : 7562088
		ΔHt.	-72.297 m	0.015 m		
		ΔElev.	-72.043 m	0.015 m		
		Ellip Dist.	58014.825 m	0.008 m		
<u>VTRU</u>	<u>TW12</u>	Az.	337°36'14"	0.013 sec	1 : 13635221	1 : 13631916
		ΔHt.	-139.019 m	0.007 m		
		ΔElev.	-138.320 m	0.007 m		
		Ellip Dist.	54722.014 m	0.004 m		
<u>VTRU</u>	<u>TW13</u>	Az.	328°34'57"	0.012 sec	1 : 15839383	1 : 15847771
		ΔHt.	-144.121 m	0.009 m		
		ΔElev.	-143.280 m	0.009 m		
		Ellip Dist.	62032.278 m	0.004 m		
<u>VTRU</u>	<u>TW14</u>	Az.	332°46'37"	0.009 sec	1 : 17446943	1 : 17478432
		ΔHt.	-139.610 m	0.007 m		
		ΔElev.	-138.755 m	0.007 m		
		Ellip Dist.	66608.765 m	0.004 m		
<u>VTRU</u>	<u>TW15</u>	Az.	341°27'06"	0.009 sec	1 : 15285952	1 : 15284510
		ΔHt.	-141.186 m	0.007 m		
		ΔElev.	-140.435 m	0.007 m		
		Ellip Dist.	65548.261 m	0.004 m		
<u>VTRU</u>	<u>TW16</u>	Az.	351°00'40"	0.010 sec	1 : 16187068	1 : 16203043
		ΔHt.	-45.258 m	0.009 m		
		ΔElev.	-44.898 m	0.009 m		
		Ellip Dist.	65196.571 m	0.004 m		

<u>VTRU</u>	<u>TW17</u>	Az.	352°14'43"	0.008 sec	1 : 17651907	1 : 17647169
		ΔHt.	-54.306 m	0.007 m		
		ΔElev.	-53.887 m	0.007 m		
		Ellip Dist.	72852.488 m	0.004 m		
<u>VTRU</u>	<u>TW18</u>	Az.	345°12'37"	0.010 sec	1 : 15864552	1 : 15854816
		ΔHt.	-100.453 m	0.008 m		
		ΔElev.	-99.650 m	0.008 m		
		Ellip Dist.	77110.122 m	0.005 m		
<u>VTRU</u>	<u>TW19</u>	Az.	348°09'31"	0.009 sec	1 : 18787689	1 : 18805189
		ΔHt.	-76.113 m	0.010 m		
		ΔElev.	-75.378 m	0.010 m		
		Ellip Dist.	80885.666 m	0.004 m		
<u>VTRU</u>	<u>TW20</u>	Az.	345°46'59"	0.007 sec	1 : 20619184	1 : 20634818
		ΔHt.	-79.619 m	0.008 m		
		ΔElev.	-78.743 m	0.008 m		
		Ellip Dist.	84253.256 m	0.004 m		
<u>VTRU</u>	<u>UA1</u>	Az.	342°12'04"	0.037 sec	1 : 4056373	1 : 4056107
		ΔHt.	-77.321 m	0.029 m		
		ΔElev.	-76.787 m	0.029 m		
		Ellip Dist.	46130.337 m	0.011 m		
<u>VTRU</u>	<u>UA10</u>	Az.	352°23'22"	0.069 sec	1 : 1617691	1 : 1621822
		ΔHt.	-16.641 m	0.048 m		
		ΔElev.	-16.459 m	0.048 m		
		Ellip Dist.	58986.400 m	0.036 m		
<u>VTRU</u>	<u>UA11</u>	Az.	352°04'20"	0.041 sec	1 : 2723149	1 : 2718675
		ΔHt.	-16.479 m	0.037 m		
		ΔElev.	-16.263 m	0.037 m		
		Ellip Dist.	59774.138 m	0.022 m		
<u>VTRU</u>	<u>UA12</u>	Az.	349°26'59"	0.035 sec	1 : 3828783	1 : 3830813
		ΔHt.	-56.622 m	0.034 m		
		ΔElev.	-56.241 m	0.034 m		
		Ellip Dist.	60608.625 m	0.016 m		
<u>VTRU</u>	<u>UA18</u>	Az.	350°53'28"	0.010 sec	1 : 18630141	1 : 18622103
		ΔHt.	-8.525 m	0.009 m		
		ΔElev.	-8.032 m	0.009 m		
		Ellip Dist.	72809.793 m	0.004 m		
<u>VTRU</u>	<u>UA19</u>	Az.	343°54'12"	0.008 sec	1 : 18730062	1 : 18733272
		ΔHt.	-140.252 m	0.007 m		
		ΔElev.	-139.366 m	0.007 m		
		Ellip Dist.	81253.471 m	0.004 m		

<u>VTRU</u>	<u>UA2</u>	Az.	340°32'08"	0.054 sec	1 : 4461035	1 : 4466757
		ΔHt.	-70.266 m	0.028 m		
		ΔElev.	-69.675 m	0.028 m		
		Ellip Dist.	46935.390 m	0.011 m		
<u>VTRU</u>	<u>UA20</u>	Az.	348°06'06"	0.009 sec	1 : 19743845	1 : 19761755
		ΔHt.	-71.868 m	0.009 m		
		ΔElev.	-71.131 m	0.009 m		
		Ellip Dist.	80880.187 m	0.004 m		
<u>VTRU</u>	<u>UA3</u>	Az.	341°50'37"	0.039 sec	1 : 3990577	1 : 3987351
		ΔHt.	-72.924 m	0.023 m		
		ΔElev.	-72.359 m	0.023 m		
		Ellip Dist.	49015.362 m	0.012 m		
<u>VTRU</u>	<u>UA4</u>	Az.	345°56'08"	0.038 sec	1 : 4189881	1 : 4190177
		ΔHt.	-65.672 m	0.029 m		
		ΔElev.	-65.341 m	0.029 m		
		Ellip Dist.	41997.571 m	0.010 m		
<u>VTRU</u>	<u>UA5</u>	Az.	339°29'21"	0.020 sec	1 : 7835153	1 : 7835104
		ΔHt.	-28.439 m	0.008 m		
		ΔElev.	-28.001 m	0.008 m		
		Ellip Dist.	28980.688 m	0.004 m		
<u>VTRU</u>	<u>UA6</u>	Az.	328°06'03"	0.022 sec	1 : 9800385	1 : 9803711
		ΔHt.	-70.537 m	0.008 m		
		ΔElev.	-69.791 m	0.008 m		
		Ellip Dist.	33628.688 m	0.003 m		
<u>VTRU</u>	<u>UA7</u>	Az.	354°19'43"	0.136 sec	1 : 1042748	1 : 1040731
		ΔHt.	-2.757 m	0.083 m		
		ΔElev.	-2.727 m	0.083 m		
		Ellip Dist.	58297.068 m	0.056 m		
<u>VTRU</u>	<u>UA8</u>	Az.	350°48'38"	0.032 sec	1 : 5012518	1 : 5010505
		ΔHt.	-79.293 m	0.032 m		
		ΔElev.	-79.025 m	0.032 m		
		Ellip Dist.	57299.187 m	0.011 m		
<u>VTRU</u>	<u>UA9</u>	Az.	351°47'23"	0.030 sec	1 : 4977695	1 : 4979406
		ΔHt.	-49.034 m	0.033 m		
		ΔElev.	-48.810 m	0.033 m		
		Ellip Dist.	58870.512 m	0.012 m		
<u>VTUV</u>	<u>BE1</u>	Az.	176°25'25"	0.039 sec	1 : 4651310	1 : 4645155
		ΔHt.	-31.110 m	0.030 m		
		ΔElev.	-31.438 m	0.030 m		
		Ellip Dist.	51902.895 m	0.011 m		

<u>VTUV</u>	<u>BE10</u>	Az.	188°50'23"	0.065 sec	1 : 2229414	1 : 2223346
		ΔHt.	-88.041 m	0.031 m		
		ΔElev.	-88.120 m	0.031 m		
		Ellip Dist.	34422.455 m	0.015 m		
<u>VTUV</u>	<u>BE13</u>	Az.	200°06'32"	0.014 sec	1 : 14185537	1 : 14171723
		ΔHt.	-83.449 m	0.009 m		
		ΔElev.	-83.485 m	0.009 m		
		Ellip Dist.	45818.877 m	0.003 m		
<u>VTUV</u>	<u>BE14</u>	Az.	166°10'48"	0.025 sec	1 : 6420418	1 : 6418908
		ΔHt.	41.919 m	0.007 m		
		ΔElev.	41.544 m	0.007 m		
		Ellip Dist.	24612.772 m	0.004 m		
<u>VTUV</u>	<u>BE15</u>	Az.	177°31'29"	0.040 sec	1 : 3415637	1 : 3416254
		ΔHt.	-30.595 m	0.008 m		
		ΔElev.	-30.724 m	0.008 m		
		Ellip Dist.	16574.784 m	0.005 m		
<u>VTUV</u>	<u>BE16</u>	Az.	192°56'57"	0.133 sec	1 : 1271045	1 : 1270005
		ΔHt.	-30.464 m	0.030 m		
		ΔElev.	-30.458 m	0.030 m		
		Ellip Dist.	14538.880 m	0.011 m		
<u>VTUV</u>	<u>BE17</u>	Az.	201°49'11"	0.050 sec	1 : 3995248	1 : 4006089
		ΔHt.	-98.275 m	0.012 m		
		ΔElev.	-98.238 m	0.012 m		
		Ellip Dist.	19469.263 m	0.005 m		
<u>VTUV</u>	<u>BE18</u>	Az.	180°12'31"	0.009 sec	1 : 18244238	1 : 18239022
		ΔHt.	-3.227 m	0.008 m		
		ΔElev.	-3.343 m	0.008 m		
		Ellip Dist.	68354.831 m	0.004 m		
<u>VTUV</u>	<u>BE19</u>	Az.	166°48'54"	0.008 sec	1 : 21689614	1 : 21729565
		ΔHt.	339.481 m	0.009 m		
		ΔElev.	338.404 m	0.009 m		
		Ellip Dist.	70579.078 m	0.003 m		
<u>VTUV</u>	<u>BE2</u>	Az.	177°49'05"	0.041 sec	1 : 4863796	1 : 4869496
		ΔHt.	-19.766 m	0.027 m		
		ΔElev.	-20.047 m	0.027 m		
		Ellip Dist.	51558.209 m	0.011 m		
<u>VTUV</u>	<u>BE20</u>	Az.	158°12'53"	0.012 sec	1 : 12615524	1 : 12626428
		ΔHt.	258.454 m	0.007 m		
		ΔElev.	257.176 m	0.007 m		
		Ellip Dist.	47774.732 m	0.004 m		

<u>VTUV</u>	<u>BE3</u>	Az.	177°06'16"	0.036 sec	1 : 4345722	1 : 4342897
		ΔHt.	-22.512 m	0.019 m		
		ΔElev.	-22.822 m	0.019 m		
		Ellip Dist.	49955.414 m	0.011 m		
<u>VTUV</u>	<u>BE5</u>	Az.	173°51'48"	0.010 sec	1 : 17487516	1 : 17466188
		ΔHt.	18.240 m	0.007 m		
		ΔElev.	17.811 m	0.007 m		
		Ellip Dist.	69059.988 m	0.004 m		
<u>VTUV</u>	<u>BE6</u>	Az.	180°56'30"	0.032 sec	1 : 5632972	1 : 5623569
		ΔHt.	-26.899 m	0.028 m		
		ΔElev.	-27.071 m	0.028 m		
		Ellip Dist.	56281.595 m	0.010 m		
<u>VTUV</u>	<u>BE7</u>	Az.	163°48'17"	0.011 sec	1 : 17336535	1 : 17327235
		ΔHt.	299.327 m	0.007 m		
		ΔElev.	298.126 m	0.007 m		
		Ellip Dist.	59753.839 m	0.003 m		
<u>VTUV</u>	<u>BE8</u>	Az.	167°01'26"	0.043 sec	1 : 3008396	1 : 3005913
		ΔHt.	34.041 m	0.036 m		
		ΔElev.	33.431 m	0.036 m		
		Ellip Dist.	38130.532 m	0.013 m		
<u>VTUV</u>	<u>BE9</u>	Az.	186°40'13"	0.052 sec	1 : 2915633	1 : 2909231
		ΔHt.	-90.143 m	0.020 m		
		ΔElev.	-90.248 m	0.020 m		
		Ellip Dist.	34037.610 m	0.012 m		
<u>VTUV</u>	<u>GPS14A</u>	Az.	188°39'06"	0.026 sec	1 : 5838721	1 : 5828744
		ΔHt.	-91.070 m	0.010 m		
		ΔElev.	-91.150 m	0.010 m		
		Ellip Dist.	34158.579 m	0.006 m		
<u>VTUV</u>	<u>GPS15A</u>	Az.	166°26'30"	0.226 sec	1 : 998415	1 : 990044
		ΔHt.	28.061 m	0.051 m		
		ΔElev.	27.692 m	0.051 m		
		Ellip Dist.	24618.224 m	0.025 m		
<u>VTUV</u>	<u>GPS16A</u>	Az.	177°33'05"	0.123 sec	1 : 1646065	1 : 1642795
		ΔHt.	-15.093 m	0.036 m		
		ΔElev.	-15.224 m	0.036 m		
		Ellip Dist.	16801.394 m	0.010 m		
<u>VTUV</u>	<u>GPS19A</u>	Az.	166°24'22"	0.015 sec	1 : 11027004	1 : 11016862
		ΔHt.	192.562 m	0.011 m		
		ΔElev.	191.575 m	0.011 m		
		Ellip Dist.	56477.261 m	0.005 m		

<u>VTUV</u>	<u>GPS1A</u>	Az.	184°55'57"	0.046 sec	1 : 6760203	1 : 6724480
		ΔHt.	-78.071 m	0.016 m		
		ΔElev.	-78.234 m	0.016 m		
		Ellip Dist.	42642.584 m	0.006 m		
<u>VTUV</u>	<u>GPS2A</u>	Az.	168°29'32"	0.048 sec	1 : 4427307	1 : 4432884
		ΔHt.	-23.935 m	0.040 m		
		ΔElev.	-24.567 m	0.040 m		
		Ellip Dist.	43531.801 m	0.010 m		
<u>VTUV</u>	<u>GPS3A</u>	Az.	157°36'25"	0.018 sec	1 : 12000601	1 : 12013366
		ΔHt.	312.023 m	0.012 m		
		ΔElev.	310.628 m	0.012 m		
		Ellip Dist.	50392.203 m	0.004 m		
<u>VTUV</u>	<u>GPS4A</u>	Az.	163°51'23"	0.014 sec	1 : 14120735	1 : 14125891
		ΔHt.	317.892 m	0.013 m		
		ΔElev.	316.791 m	0.013 m		
		Ellip Dist.	51964.402 m	0.004 m		
<u>VTUV</u>	<u>GPS7A</u>	Az.	173°59'10"	0.028 sec	1 : 6079146	1 : 6088672
		ΔHt.	10.838 m	0.031 m		
		ΔElev.	10.417 m	0.031 m		
		Ellip Dist.	69134.120 m	0.011 m		
<u>VTUV</u>	<u>GPS9A</u>	Az.	182°13'30"	0.070 sec	1 : 3016367	1 : 2999279
		ΔHt.	-38.247 m	0.045 m		
		ΔElev.	-38.378 m	0.045 m		
		Ellip Dist.	57841.349 m	0.019 m		
<u>VTUV</u>	<u>SM1</u>	Az.	188°23'30"	0.073 sec	1 : 2747331	1 : 2743554
		ΔHt.	-89.974 m	0.033 m		
		ΔElev.	-90.044 m	0.033 m		
		Ellip Dist.	29638.398 m	0.011 m		
<u>VTUV</u>	<u>SM10</u>	Az.	165°05'13"	0.013 sec	1 : 16700475	1 : 16743267
		ΔHt.	255.706 m	0.009 m		
		ΔElev.	254.598 m	0.009 m		
		Ellip Dist.	58754.164 m	0.004 m		
<u>VTUV</u>	<u>SM11</u>	Az.	158°48'31"	0.014 sec	1 : 12905096	1 : 12885924
		ΔHt.	245.959 m	0.007 m		
		ΔElev.	244.707 m	0.007 m		
		Ellip Dist.	47752.492 m	0.004 m		
<u>VTUV</u>	<u>SM12</u>	Az.	168°24'38"	0.063 sec	1 : 2766237	1 : 2762817
		ΔHt.	-40.235 m	0.046 m		
		ΔElev.	-40.857 m	0.046 m		
		Ellip Dist.	42682.118 m	0.015 m		

<u>VTUV</u>	<u>SM13</u>	Az.	166°12'43"	0.054 sec	1 : 2173914	1 : 2172078
		ΔHt.	1.884 m	0.039 m		
		ΔElev.	1.342 m	0.039 m		
		Ellip Dist.	32870.281 m	0.015 m		
<u>VTUV</u>	<u>SM14</u>	Az.	161°06'23"	0.076 sec	1 : 2268624	1 : 2271214
		ΔHt.	-8.953 m	0.032 m		
		ΔElev.	-9.424 m	0.032 m		
		Ellip Dist.	24871.717 m	0.011 m		
<u>VTUV</u>	<u>SM15</u>	Az.	169°45'56"	0.081 sec	1 : 1561030	1 : 1560623
		ΔHt.	-19.115 m	0.030 m		
		ΔElev.	-19.405 m	0.030 m		
		Ellip Dist.	22996.576 m	0.015 m		
<u>VTUV</u>	<u>SM16</u>	Az.	189°54'29"	0.071 sec	1 : 2848642	1 : 2847376
		ΔHt.	-108.696 m	0.020 m		
		ΔElev.	-108.745 m	0.020 m		
		Ellip Dist.	26754.265 m	0.009 m		
<u>VTUV</u>	<u>SM17</u>	Az.	204°07'49"	0.045 sec	1 : 4563216	1 : 4550176
		ΔHt.	-112.222 m	0.008 m		
		ΔElev.	-112.157 m	0.008 m		
		Ellip Dist.	16589.166 m	0.004 m		
<u>VTUV</u>	<u>SM18</u>	Az.	178°51'05"	0.044 sec	1 : 2939635	1 : 2938883
		ΔHt.	-70.897 m	0.007 m		
		ΔElev.	-70.992 m	0.007 m		
		Ellip Dist.	13930.896 m	0.005 m		
<u>VTUV</u>	<u>SM19</u>	Az.	175°00'48"	0.131 sec	1 : 1092041	1 : 1089800
		ΔHt.	-16.436 m	0.032 m		
		ΔElev.	-16.592 m	0.032 m		
		Ellip Dist.	16567.196 m	0.015 m		
<u>VTUV</u>	<u>SM2</u>	Az.	199°58'33"	0.082 sec	1 : 2731486	1 : 2724991
		ΔHt.	-110.923 m	0.029 m		
		ΔElev.	-110.937 m	0.029 m		
		Ellip Dist.	29857.665 m	0.011 m		
<u>VTUV</u>	<u>SM20</u>	Az.	189°00'13"	0.075 sec	1 : 2125487	1 : 2123033
		ΔHt.	-110.203 m	0.025 m		
		ΔElev.	-110.252 m	0.025 m		
		Ellip Dist.	24853.003 m	0.012 m		
<u>VTUV</u>	<u>SM3</u>	Az.	188°37'02"	0.025 sec	1 : 8031963	1 : 8033612
		ΔHt.	-92.160 m	0.009 m		
		ΔElev.	-92.240 m	0.009 m		
		Ellip Dist.	34155.509 m	0.004 m		

<u>VTUV</u>	<u>SM4</u>	Az.	195°29'31"	0.016 sec	1 : 12717368	1 : 12700673
		ΔHt.	-110.511 m	0.007 m		
		ΔElev.	-110.538 m	0.007 m		
		Ellip Dist.	44317.777 m	0.003 m		
<u>VTUV</u>	<u>SM7</u>	Az.	178°41'56"	0.030 sec	1 : 4006737	1 : 3999932
		ΔHt.	-36.124 m	0.034 m		
		ΔElev.	-36.293 m	0.034 m		
		Ellip Dist.	68326.883 m	0.017 m		
<u>VTUV</u>	<u>SM8</u>	Az.	173°12'53"	0.010 sec	1 : 16271651	1 : 16263838
		ΔHt.	-5.132 m	0.010 m		
		ΔElev.	-5.606 m	0.010 m		
		Ellip Dist.	69233.605 m	0.004 m		
<u>VTUV</u>	<u>SM9</u>	Az.	167°18'32"	0.008 sec	1 : 20158080	1 : 20173164
		ΔHt.	366.039 m	0.007 m		
		ΔElev.	365.012 m	0.007 m		
		Ellip Dist.	68130.216 m	0.003 m		
<u>VTUV</u>	<u>TW01</u>	Az.	179°45'39"	0.008 sec	1 : 15939300	1 : 15919210
		ΔHt.	-12.233 m	0.007 m		
		ΔElev.	-12.353 m	0.007 m		
		Ellip Dist.	70318.593 m	0.004 m		
<u>VTUV</u>	<u>TW02</u>	Az.	173°49'50"	0.009 sec	1 : 16046689	1 : 16046791
		ΔHt.	20.468 m	0.009 m		
		ΔElev.	20.037 m	0.009 m		
		Ellip Dist.	69116.762 m	0.004 m		
<u>VTUV</u>	<u>TW03</u>	Az.	166°50'11"	0.012 sec	1 : 15708576	1 : 15666185
		ΔHt.	339.741 m	0.010 m		
		ΔElev.	338.667 m	0.010 m		
		Ellip Dist.	70542.573 m	0.004 m		
<u>VTUV</u>	<u>TW04</u>	Az.	163°04'54"	0.011 sec	1 : 14504590	1 : 14524438
		ΔHt.	309.124 m	0.008 m		
		ΔElev.	307.861 m	0.008 m		
		Ellip Dist.	60898.445 m	0.004 m		
<u>VTUV</u>	<u>TW05</u>	Az.	172°41'52"	0.011 sec	1 : 14926511	1 : 14956020
		ΔHt.	-13.147 m	0.008 m		
		ΔElev.	-13.685 m	0.008 m		
		Ellip Dist.	60741.196 m	0.004 m		
<u>VTUV</u>	<u>TW06</u>	Az.	181°49'14"	0.010 sec	1 : 13429771	1 : 13423401
		ΔHt.	-63.729 m	0.007 m		
		ΔElev.	-63.873 m	0.007 m		
		Ellip Dist.	57304.600 m	0.004 m		

<u>VTUV</u>	<u>TW07</u>	Az.	180°02'30"	0.012 sec	1 : 11793086	1 : 11777565
		ΔHt.	-14.882 m	0.007 m		
		ΔElev.	-15.120 m	0.007 m		
		Ellip Dist.	49013.098 m	0.004 m		
<u>VTUV</u>	<u>TW08</u>	Az.	177°21'06"	0.012 sec	1 : 12227057	1 : 12227451
		ΔHt.	-21.936 m	0.007 m		
		ΔElev.	-22.244 m	0.007 m		
		Ellip Dist.	48605.484 m	0.004 m		
<u>VTUV</u>	<u>TW09</u>	Az.	171°58'13"	0.014 sec	1 : 11464826	1 : 11477746
		ΔHt.	-1.059 m	0.010 m		
		ΔElev.	-1.571 m	0.010 m		
		Ellip Dist.	47967.537 m	0.004 m		
<u>VTUV</u>	<u>TW10</u>	Az.	158°28'52"	0.012 sec	1 : 10690703	1 : 10706017
		ΔHt.	253.043 m	0.007 m		
		ΔElev.	251.774 m	0.007 m		
		Ellip Dist.	47853.299 m	0.004 m		
<u>VTUV</u>	<u>TW11</u>	Az.	167°24'40"	0.029 sec	1 : 5189644	1 : 5200392
		ΔHt.	-23.258 m	0.015 m		
		ΔElev.	-23.873 m	0.015 m		
		Ellip Dist.	39410.092 m	0.008 m		
<u>VTUV</u>	<u>TW12</u>	Az.	184°13'49"	0.015 sec	1 : 11038175	1 : 11044742
		ΔHt.	-89.980 m	0.007 m		
		ΔElev.	-90.150 m	0.007 m		
		Ellip Dist.	45351.913 m	0.004 m		
<u>VTUV</u>	<u>TW13</u>	Az.	199°04'21"	0.015 sec	1 : 10879642	1 : 10877712
		ΔHt.	-95.082 m	0.009 m		
		ΔElev.	-95.110 m	0.009 m		
		Ellip Dist.	45407.826 m	0.004 m		
<u>VTUV</u>	<u>TW14</u>	Az.	199°31'52"	0.016 sec	1 : 10170182	1 : 10147866
		ΔHt.	-90.571 m	0.007 m		
		ΔElev.	-90.585 m	0.007 m		
		Ellip Dist.	38853.132 m	0.004 m		
<u>VTUV</u>	<u>TW15</u>	Az.	185°43'37"	0.017 sec	1 : 8038861	1 : 8034001
		ΔHt.	-92.147 m	0.007 m		
		ΔElev.	-92.265 m	0.007 m		
		Ellip Dist.	33848.392 m	0.004 m		
<u>VTUV</u>	<u>TW16</u>	Az.	166°56'42"	0.020 sec	1 : 8092103	1 : 8104744
		ΔHt.	3.781 m	0.009 m		
		ΔElev.	3.272 m	0.009 m		
		Ellip Dist.	32231.935 m	0.004 m		

<u>VTUV</u>	<u>TW17</u>	Az.	162°07'08"	0.022 sec	1 : 6030084	1 : 6033825
		ΔHt.	-5.267 m	0.007 m		
		ΔElev.	-5.717 m	0.007 m		
		Ellip Dist.	24805.789 m	0.004 m		
<u>VTUV</u>	<u>TW18</u>	Az.	186°01'20"	0.039 sec	1 : 4524454	1 : 4524272
		ΔHt.	-51.414 m	0.008 m		
		ΔElev.	-51.480 m	0.008 m		
		Ellip Dist.	21382.412 m	0.005 m		
<u>VTUV</u>	<u>TW19</u>	Az.	177°08'40"	0.043 sec	1 : 3744087	1 : 3753008
		ΔHt.	-27.074 m	0.010 m		
		ΔElev.	-27.208 m	0.010 m		
		Ellip Dist.	16668.049 m	0.004 m		
<u>VTUV</u>	<u>TW20</u>	Az.	193°00'52"	0.042 sec	1 : 3625419	1 : 3618503
		ΔHt.	-30.580 m	0.008 m		
		ΔElev.	-30.573 m	0.008 m		
		Ellip Dist.	14522.819 m	0.004 m		
<u>VTUV</u>	<u>UA1</u>	Az.	176°13'41"	0.035 sec	1 : 4771611	1 : 4761898
		ΔHt.	-28.282 m	0.029 m		
		ΔElev.	-28.617 m	0.029 m		
		Ellip Dist.	51995.312 m	0.011 m		
<u>VTUV</u>	<u>UA10</u>	Az.	165°28'22"	0.122 sec	1 : 1115851	1 : 1121574
		ΔHt.	32.398 m	0.048 m		
		ΔElev.	31.711 m	0.048 m		
		Ellip Dist.	38554.239 m	0.035 m		
<u>VTUV</u>	<u>UA11</u>	Az.	165°49'51"	0.058 sec	1 : 1680651	1 : 1677753
		ΔHt.	32.560 m	0.037 m		
		ΔElev.	31.907 m	0.037 m		
		Ellip Dist.	37734.652 m	0.022 m		
<u>VTUV</u>	<u>UA12</u>	Az.	170°00'14"	0.056 sec	1 : 2319305	1 : 2322082
		ΔHt.	-7.583 m	0.034 m		
		ΔElev.	-8.071 m	0.034 m		
		Ellip Dist.	36771.296 m	0.016 m		
<u>VTUV</u>	<u>UA13</u>	Az.	186°15'28"	0.071 sec	1 : 2198239	1 : 2195512
		ΔHt.	-81.560 m	0.038 m		
		ΔElev.	-81.676 m	0.038 m		
		Ellip Dist.	34821.813 m	0.016 m		
<u>VTUV</u>	<u>UA14</u>	Az.	186°37'55"	0.055 sec	1 : 2788259	1 : 2784820
		ΔHt.	-89.646 m	0.020 m		
		ΔElev.	-89.751 m	0.020 m		
		Ellip Dist.	34045.095 m	0.012 m		

<u>VTUV</u>	<u>UA15</u>	Az.	188°52'25"	0.050 sec	1 : 3153609	1 : 3150902
		ΔHt.	-87.949 m	0.026 m		
		ΔElev.	-88.028 m	0.026 m		
		Ellip Dist.	34430.445 m	0.011 m		
<u>VTUV</u>	<u>UA16</u>	Az.	203°36'23"	0.070 sec	1 : 2813489	1 : 2803852
		ΔHt.	-100.968 m	0.024 m		
		ΔElev.	-100.979 m	0.024 m		
		Ellip Dist.	33302.649 m	0.012 m		
<u>VTUV</u>	<u>UA17</u>	Az.	187°32'08"	0.069 sec	1 : 2668837	1 : 2663524
		ΔHt.	-82.330 m	0.026 m		
		ΔElev.	-82.409 m	0.026 m		
		Ellip Dist.	29626.442 m	0.011 m		
<u>VTUV</u>	<u>UA18</u>	Az.	166°05'22"	0.028 sec	1 : 6276166	1 : 6273256
		ΔHt.	40.514 m	0.009 m		
		ΔElev.	40.138 m	0.009 m		
		Ellip Dist.	24628.980 m	0.004 m		
<u>VTUV</u>	<u>UA19</u>	Az.	196°00'47"	0.035 sec	1 : 4385213	1 : 4380806
		ΔHt.	-91.213 m	0.007 m		
		ΔElev.	-91.196 m	0.007 m		
		Ellip Dist.	18476.297 m	0.004 m		
<u>VTUV</u>	<u>UA2</u>	Az.	177°54'38"	0.044 sec	1 : 4438032	1 : 4449695
		ΔHt.	-21.227 m	0.028 m		
		ΔElev.	-21.505 m	0.028 m		
		Ellip Dist.	51590.372 m	0.012 m		
<u>VTUV</u>	<u>UA20</u>	Az.	177°24'53"	0.043 sec	1 : 3992830	1 : 3995904
		ΔHt.	-22.829 m	0.009 m		
		ΔElev.	-22.961 m	0.009 m		
		Ellip Dist.	16686.485 m	0.004 m		
<u>VTUV</u>	<u>UA3</u>	Az.	177°23'38"	0.042 sec	1 : 4242733	1 : 4233485
		ΔHt.	-23.885 m	0.023 m		
		ΔElev.	-24.189 m	0.023 m		
		Ellip Dist.	49284.182 m	0.012 m		
<u>VTUV</u>	<u>UA5</u>	Az.	173°50'17"	0.009 sec	1 : 19099669	1 : 19079352
		ΔHt.	20.600 m	0.008 m		
		ΔElev.	20.169 m	0.008 m		
		Ellip Dist.	69049.933 m	0.004 m		
<u>VTUV</u>	<u>UA6</u>	Az.	180°10'38"	0.010 sec	1 : 18255344	1 : 18271111
		ΔHt.	-21.498 m	0.008 m		
		ΔElev.	-21.621 m	0.008 m		
		Ellip Dist.	67264.809 m	0.004 m		

<u>VTUV</u>	<u>UA7</u>	Az.	162°45'25"	0.172 sec	1 : 672822	1 : 671792
		ΔHt.	46.282 m	0.083 m		
		ΔElev.	45.443 m	0.083 m		
		Ellip Dist.	39548.690 m	0.059 m		
<u>VTUV</u>	<u>UA8</u>	Az.	168°00'04"	0.044 sec	1 : 3498724	1 : 3496827
		ΔHt.	-30.254 m	0.032 m		
		ΔElev.	-30.855 m	0.032 m		
		Ellip Dist.	40104.369 m	0.011 m		
<u>VTUV</u>	<u>UA9</u>	Az.	166°24'07"	0.045 sec	1 : 3281455	1 : 3283693
		ΔHt.	0.005 m	0.033 m		
		ΔElev.	-0.640 m	0.033 m		
		Ellip Dist.	38605.002 m	0.012 m		

Date: 8/9/2013 9:54:51 AM

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Section 4 – NGS OPUS-RS Solution Reports

POINT: GPS1B (1ST OBSERVATION)
FILE: 18841983.T02

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: dsimmons@photoscience.com
RINEX FILE: 1884198p.13o

DATE: July 22, 2013
TIME: 19:46:01 UTC

SOFTWARE: rsgps 1.37 RS90.prl 1.89 START: 2013/07/17 15:38:58
EPHEMERIS: igr17493.eph [rapid] STOP: 2013/07/17 16:09:08
NAV FILE: brdc1980.13n OBS USED: 3573 / 3636 : 98%
ANT NAME: TRMR8_GNSS QUALITY IND. 16.78/ 28.02
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.350

REF FRAME: NAD_83 (2011) (EPOCH:2010.0000) IGS08 (EPOCH:2013.54154)

X:	1322984.202 (m)	0.010 (m)	1322983.365 (m)	0.010 (m)
Y:	-4393963.931 (m)	0.030 (m)	-4393962.528 (m)	0.030 (m)
Z:	4415028.873 (m)	0.026 (m)	4415028.858 (m)	0.026 (m)

LAT:	44 5 11.64504	0.007 (m)	44 5 11.68042	0.007 (m)
E LON:	286 45 23.72323	0.011 (m)	286 45 23.70539	0.011 (m)
W LON:	73 14 36.27677	0.011 (m)	73 14 36.29461	0.011 (m)
EL HGT:	33.192 (m)	0.039 (m)	32.043 (m)	0.039 (m)
ORTHO HGT:	62.039 (m)	0.041 (m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 18)	SPC (4400 VT)
Northing (Y) [meters]	4882987.908	176527.706
Easting (X) [meters]	640628.832	440462.731
Convergence [degrees]	1.22233720	-0.51723864
Point Scale	0.99984323	1.00000786
Combined Factor	0.99983803	1.00000266

US NATIONAL GRID DESIGNATOR: 18TXP4062882987 (NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE (m)
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	27426.3
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	41375.9
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	53865.5
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	57345.5
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	68120.5
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	70984.0
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	81299.7
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	93691.7
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	103239.0

NEAREST NGS PUBLISHED CONTROL POINT Information on nearest mark is not available due to database connectivity issues or has restrictions on when or how it can be published.

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.

POINT: GPS1B (2ND OBSERVATION)
FILE: 18842002.T02

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: dsimmons@photoscience.com
RINEX FILE: 1884200m.13o

DATE: July 22, 2013
TIME: 19:59:17 UTC

SOFTWARE: rsgps 1.37 RS94.prl 1.89 START: 2013/07/19 12:44:53
EPHEMERIS: igr17495.eph [rapid] STOP: 2013/07/19 13:13:08
NAV FILE: brdc2000.13n OBS USED: 2583 / 3087 : 84%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 11.46/ 1.90
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.396

REF FRAME: NAD_83 (2011) (EPOCH:2010.0000) IGS08 (EPOCH:2013.54669)

X:	1322984.204 (m)	0.009 (m)	1322983.367 (m)	0.009 (m)
Y:	-4393963.967 (m)	0.039 (m)	-4393962.564 (m)	0.039 (m)
Z:	4415028.898 (m)	0.031 (m)	4415028.883 (m)	0.031 (m)

LAT:	44 5 11.64483	0.011 (m)	44 5 11.68021	0.011 (m)
E LON:	286 45 23.72285	0.010 (m)	286 45 23.70501	0.010 (m)
W LON:	73 14 36.27715	0.010 (m)	73 14 36.29499	0.010 (m)
EL HGT:	33.234 (m)	0.048 (m)	32.085 (m)	0.048 (m)
ORTHO HGT:	62.081 (m)	0.050 (m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 18)	SPC (4400 VT)
Northing (Y) [meters]	4882987.901	176527.700
Easting (X) [meters]	640628.823	440462.723
Convergence [degrees]	1.22233712	-0.51723872
Point Scale	0.99984323	1.00000786
Combined Factor	0.99983802	1.00000265

US NATIONAL GRID DESIGNATOR: 18TXP4062882987 (NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE (m)
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	27426.3
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	41375.9
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	53865.5
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	57345.5
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	68120.5
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	81299.7
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	93691.7
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	103239.0
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	108695.7

NEAREST NGS PUBLISHED CONTROL POINT Information on nearest mark is not available due to database connectivity issues or has restrictions on when or how it can be published.

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.

POINT: GPS2B (1ST OBSERVATION)
FILE: 18841982.T02

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: dsimmons@photoscience.com
RINEX FILE: 18841980.13o

DATE: July 22, 2013
TIME: 19:43:10 UTC

SOFTWARE: rsgps 1.37 RS93.prl 1.89 START: 2013/07/17 14:29:13
EPHEMERIS: igr17493.eph [rapid] STOP: 2013/07/17 14:57:26
NAV FILE: brdc1980.13n OBS USED: 2817 / 3051 : 92%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 16.75/ 19.41
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.331

REF FRAME: NAD_83 (2011) (EPOCH:2010.0000) IGS08 (EPOCH:2013.54141)

X:	1334809.789 (m)	0.007 (m)	1334808.952 (m)	0.007 (m)
Y:	-4390510.955 (m)	0.017 (m)	-4390509.551 (m)	0.017 (m)
Z:	4414984.386 (m)	0.018 (m)	4414984.372 (m)	0.018 (m)

LAT:	44 5 7.91448	0.007 (m)	44 5 7.94992	0.007 (m)
E LON:	286 54 37.44072	0.006 (m)	286 54 37.42308	0.006 (m)
W LON:	73 5 22.55928	0.006 (m)	73 5 22.57692	0.006 (m)
EL HGT:	88.128 (m)	0.023 (m)	86.978 (m)	0.023 (m)
ORTHO HGT:	116.508 (m)	0.026 (m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 18)	SPC (4400 VT)
Northing (Y) [meters]	4883147.061	176312.866
Easting (X) [meters]	652945.382	452780.091
Convergence [degrees]	1.32938229	-0.41021066
Point Scale	0.99988770	0.99999170
Combined Factor	0.99987388	0.99997788

US NATIONAL GRID DESIGNATOR: 18TXP5294583147 (NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE (m)
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	37194.8
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	42237.4
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	53890.0
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	72230.2
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	78636.7
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	91800.2
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	97481.3
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	101165.6
DJ8955	VTD9 DERBY CORS ARP	N445703.499	W0720936.723	121278.9

NEAREST NGS PUBLISHED CONTROL POINT Information on nearest mark is not available due to database connectivity issues or has restrictions on when or how it can be published.

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.

POINT: GPS2B (2ND OBSERVATION)
FILE: 18842003.T02

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: dsimmons@photoscience.com
RINEX FILE: 18842000.13o

DATE: July 22, 2013
TIME: 20:01:32 UTC

SOFTWARE: rsgps 1.37 RS74.prl 1.89 START: 2013/07/19 14:38:33
EPHEMERIS: igr17495.eph [rapid] STOP: 2013/07/19 15:00:11
NAV FILE: brdc2000.13n OBS USED: 2016 / 2223 : 91%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 17.89/ 23.47
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.357

REF FRAME: NAD_83 (2011) (EPOCH:2010.0000) IGS08 (EPOCH:2013.54690)

X:	1334809.799 (m)	0.010 (m)	1334808.962 (m)	0.010 (m)
Y:	-4390511.018 (m)	0.039 (m)	-4390509.614 (m)	0.039 (m)
Z:	4414984.426 (m)	0.024 (m)	4414984.412 (m)	0.024 (m)

LAT:	44 5 7.91398	0.013 (m)	44 5 7.94942	0.013 (m)
E LON:	286 54 37.44032	0.011 (m)	286 54 37.42269	0.011 (m)
W LON:	73 5 22.55968	0.011 (m)	73 5 22.57731	0.011 (m)
EL HGT:	88.201 (m)	0.044 (m)	87.051 (m)	0.044 (m)
ORTHO HGT:	116.581 (m)	0.045 (m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 18)	SPC (4400 VT)
Northing (Y) [meters]	4883147.045	176312.851
Easting (X) [meters]	652945.374	452780.082
Convergence [degrees]	1.32938221	-0.41021074
Point Scale	0.99988770	0.99999170
Combined Factor	0.99987387	0.99997787

US NATIONAL GRID DESIGNATOR: 18TXP5294583147 (NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE (m)
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	37194.9
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	42237.4
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	53890.0
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	72230.2
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	91800.3
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	97481.2
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	101165.6
DJ8955	VTD9 DERBY CORS ARP	N445703.499	W0720936.723	121279.0
DL3079	VTIP ISLAND POND CORS ARP	N444912.180	W0715325.838	125581.3

NEAREST NGS PUBLISHED CONTROL POINT Information on nearest mark is not available due to database connectivity issues or has restrictions on when or how it can be published.

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.

POINT: GPS3B
FILE: 18842003.T02

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: dsimmons@photoscience.com
RINEX FILE: 18842000.13o

DATE: July 22, 2013
TIME: 20:01:32 UTC

SOFTWARE: rsgps 1.37 RS74.prl 1.89 START: 2013/07/19 14:38:33
EPHEMERIS: igr17495.eph [rapid] STOP: 2013/07/19 15:00:11
NAV FILE: brdc2000.13n OBS USED: 2016 / 2223 : 91%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 17.89/ 23.47
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.357

REF FRAME: NAD_83 (2011) (EPOCH:2010.0000) IGS08 (EPOCH:2013.54690)

X:	1334809.799 (m)	0.010 (m)	1334808.962 (m)	0.010 (m)
Y:	-4390511.018 (m)	0.039 (m)	-4390509.614 (m)	0.039 (m)
Z:	4414984.426 (m)	0.024 (m)	4414984.412 (m)	0.024 (m)

LAT:	44 5 7.91398	0.013 (m)	44 5 7.94942	0.013 (m)
E LON:	286 54 37.44032	0.011 (m)	286 54 37.42269	0.011 (m)
W LON:	73 5 22.55968	0.011 (m)	73 5 22.57731	0.011 (m)
EL HGT:	88.201 (m)	0.044 (m)	87.051 (m)	0.044 (m)
ORTHO HGT:	116.581 (m)	0.045 (m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 18)	SPC (4400 VT)
Northing (Y) [meters]	4883147.045	176312.851
Easting (X) [meters]	652945.374	452780.082
Convergence [degrees]	1.32938221	-0.41021074
Point Scale	0.99988770	0.99999170
Combined Factor	0.99987387	0.99997787

US NATIONAL GRID DESIGNATOR: 18TXP5294583147 (NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE (m)
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	37194.9
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	42237.4
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	53890.0
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	72230.2
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	91800.3
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	97481.2
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	101165.6
DJ8955	VTD9 DERBY CORS ARP	N445703.499	W0720936.723	121279.0
DL3079	VTIP ISLAND POND CORS ARP	N444912.180	W0715325.838	125581.3

NEAREST NGS PUBLISHED CONTROL POINT Information on nearest mark is not available due to database connectivity issues or has restrictions on when or how it can be published.

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.

POINT: GPS4B (1ST OBSERVATION)
FILE: 11551980.T02

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

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: dsimmons@photoscience.com DATE: August 09, 2013
RINEX FILE: 1155198m.13o TIME: 15:54:28 UTC

SOFTWARE: rsgps 1.37 RS53.prl 1.89 START: 2013/07/17 12:09:18
EPHEMERIS: igs17493.eph [precise] STOP: 2013/07/17 12:38:32
NAV FILE: brdc1980.13n OBS USED: 2331 / 2601 : 90%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 19.16/ 0.75
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.359

REF FRAME: NAD_83 (2011) (EPOCH:2010.0000) IGS08 (EPOCH:2013.54114)

X:	1341816.770 (m)	0.007 (m)	1341815.933 (m)	0.007 (m)
Y:	-4393933.060 (m)	0.030 (m)	-4393931.655 (m)	0.030 (m)
Z:	4409979.226 (m)	0.021 (m)	4409979.211 (m)	0.021 (m)

LAT:	44 1 11.62175	0.009 (m)	44 1 11.65716	0.009 (m)
E LON:	286 58 53.73572	0.003 (m)	286 58 53.71820	0.003 (m)
W LON:	73 1 6.26428	0.003 (m)	73 1 6.28180	0.003 (m)
EL HGT:	428.440 (m)	0.036 (m)	427.287 (m)	0.036 (m)
ORTHO HGT:	456.354 (m)	0.038 (m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 18)	SPC (4400 VT)
Northing (Y) [meters]	4875991.436	168981.631
Easting (X) [meters]	658820.514	458435.929
Convergence [degrees]	1.37731214	-0.36025019
Point Scale	0.99991024	0.99998553
Combined Factor	0.99984307	0.99991835

US NATIONAL GRID DESIGNATOR: 18TXP5882075991(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	34478.0
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	43752.6
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	46816.8
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	51948.6
DJ8957	VTOR BRADFORD CORS ARP	N440028.165	W0720651.609	72510.6
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	81231.5
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	87845.7
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	92928.5
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	104555.7

NEAREST NGS PUBLISHED CONTROL POINT

PG1971	SOUTH MOUNTAIN FIRE TOWER	N440113.891	W0730254.491	2407.6
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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.

POINT: GPS4B (2ND OBSERVATION)
FILE: 18842004.T02

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: dsimmons@photoscience.com
RINEX FILE: 1884200q.13o

DATE: July 22, 2013
TIME: 20:08:13 UTC

SOFTWARE: rsgps 1.37 RS93.prl 1.89 START: 2013/07/19 16:06:08
EPHEMERIS: igr17495.eph [rapid] STOP: 2013/07/19 16:39:33
NAV FILE: brdc2000.13n OBS USED: 3752 / 3752 : 100%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 21.65/ 39.69
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.396

REF FRAME: NAD_83 (2011) (EPOCH:2010.0000) IGS08 (EPOCH:2013.54708)

X:	1341816.756 (m)	0.014 (m)	1341815.919 (m)	0.014 (m)
Y:	-4393932.990 (m)	0.027 (m)	-4393931.585 (m)	0.027 (m)
Z:	4409979.213 (m)	0.021 (m)	4409979.198 (m)	0.021 (m)

LAT:	44 1 11.62305	0.009 (m)	44 1 11.65845	0.009 (m)
E LON:	286 58 53.73604	0.010 (m)	286 58 53.71852	0.010 (m)
W LON:	73 1 6.26396	0.010 (m)	73 1 6.28148	0.010 (m)
EL HGT:	428.380 (m)	0.035 (m)	427.227 (m)	0.035 (m)
ORTHO HGT:	456.294 (m)	0.037 (m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 18)	SPC (4400 VT)
Northing (Y) [meters]	4875991.476	168981.671
Easting (X) [meters]	658820.520	458435.936
Convergence [degrees]	1.37731221	-0.36025013
Point Scale	0.99991024	0.99998553
Combined Factor	0.99984308	0.99991836

US NATIONAL GRID DESIGNATOR: 18TXP5882075991(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE (m)
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	34478.0
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	43752.5
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	51948.6
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	72510.6
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	81231.4
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	87845.6
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	92928.6
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	104555.8

NEAREST NGS PUBLISHED CONTROL POINT Information on nearest mark is not available due to database connectivity issues or has restrictions on when or how it can be published.

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.

POINT: GPS6A (1ST OBSERVATION)
FILE: 11551990.T02

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: dsimmons@photoscience.com
RINEX FILE: 11551991.13o

DATE: July 22, 2013
TIME: 19:13:38 UTC

SOFTWARE: rsgps 1.37 RS52.prl 1.89
EPHEMERIS: igr17494.eph [rapid]
NAV FILE: brdc1990.13n
ANT NAME: TRMR8_GNSS NONE
ARP HEIGHT: 2.000
START: 2013/07/18 11:35:04
STOP: 2013/07/18 11:54:28
OBS USED: 1368 / 1512 : 90%
QUALITY IND. 22.96/ 18.25
NORMALIZED RMS: 0.306

REF FRAME: NAD_83 (2011) (EPOCH:2010.0000) IGS08 (EPOCH:2013.54381)

X:	1347202.234 (m)	0.005 (m)	1347201.398 (m)	0.005 (m)
Y:	-4405923.315 (m)	0.017 (m)	-4405921.908 (m)	0.017 (m)
Z:	4396480.412 (m)	0.012 (m)	4396480.396 (m)	0.012 (m)

LAT:	43 51 3.54659	0.012 (m)	43 51 3.58190	0.012 (m)
E LON:	287 0 7.54779	0.007 (m)	287 0 7.53041	0.007 (m)
W LON:	72 59 52.45221	0.007 (m)	72 59 52.46959	0.007 (m)
EL HGT:	453.191 (m)	0.017 (m)	452.033 (m)	0.017 (m)
ORTHO HGT:	481.125 (m)	0.021 (m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 18)	SPC (4400 VT)
Northing (Y) [meters]	4857270.486	150204.412
Easting (X) [meters]	660918.881	459966.658
Convergence [degrees]	1.38731954	-0.34494465
Point Scale	0.99991850	0.99998399
Combined Factor	0.99984745	0.99991293

US NATIONAL GRID DESIGNATOR: 18TXP6091857270 (NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE (m)
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	27138.6
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	33174.3
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	58999.7
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	62480.7
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	70537.4
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	88843.1
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	98734.6
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	103250.9
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	106679.0

NEAREST NGS PUBLISHED CONTROL POINT Information on nearest mark is not available due to database connectivity issues or has restrictions on when or how it can be published.

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.

POINT: GPS6A (2ND OBSERVATION)
FILE: 11552008.T02

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: dsimmons@photoscience.com
RINEX FILE: 1155200v.13o

DATE: July 22, 2013
TIME: 19:39:11 UTC

SOFTWARE: rsgps 1.37 RS90.prl 1.89 START: 2013/07/19 21:29:27
EPHEMERIS: igr17495.eph [rapid] STOP: 2013/07/19 21:59:45
NAV FILE: brdc2000.13n OBS USED: 2360 / 2776 : 85%
ANT NAME: TRMR8_GNSS QUALITY IND. 7.31/ 14.91
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.523

REF FRAME: NAD_83 (2011) (EPOCH:2010.0000) IGS08 (EPOCH:2013.54769)

X:	1347202.242 (m)	0.016 (m)	1347201.406 (m)	0.016 (m)
Y:	-4405923.308 (m)	0.028 (m)	-4405921.901 (m)	0.028 (m)
Z:	4396480.407 (m)	0.035 (m)	4396480.391 (m)	0.035 (m)

LAT:	43 51 3.54657	0.012 (m)	43 51 3.58189	0.012 (m)
E LON:	287 0 7.54822	0.012 (m)	287 0 7.53085	0.012 (m)
W LON:	72 59 52.45178	0.012 (m)	72 59 52.46915	0.012 (m)
EL HGT:	453.184 (m)	0.044 (m)	452.027 (m)	0.044 (m)
ORTHO HGT:	481.118 (m)	0.046 (m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 18)	SPC (4400 VT)
Northing (Y) [meters]	4857270.486	150204.412
Easting (X) [meters]	660918.891	459966.668
Convergence [degrees]	1.38731963	-0.34494456
Point Scale	0.99991850	0.99998399
Combined Factor	0.99984745	0.99991293

US NATIONAL GRID DESIGNATOR: 18TXP6091857270 (NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE (m)
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	27138.6
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	33174.3
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	62480.7
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	70537.4
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	88843.1
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	98734.6
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	103251.0
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	106679.0

NEAREST NGS PUBLISHED CONTROL POINT Information on nearest mark is not available due to database connectivity issues or has restrictions on when or how it can be published.

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.

POINT: GPS6B (1ST OBSERVATION)
FILE: 18841990.T02

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: dsimmons@photoscience.com
RINEX FILE: 18841991.13o

DATE: July 22, 2013
TIME: 19:49:56 UTC

SOFTWARE: rsgps 1.37 RS90.prl 1.89	START: 2013/07/18 11:31:50
EPHEMERIS: igr17494.eph [rapid]	STOP: 2013/07/18 11:58:25
NAV FILE: brdc1990.13n	OBS USED: 2052 / 2115 : 97%
ANT NAME: TRMR8_GNSS NONE	QUALITY IND. 22.60/ 3.05
ARP HEIGHT: 2.000	NORMALIZED RMS: 0.308

REF FRAME: NAD_83 (2011) (EPOCH:2010.0000) IGS08 (EPOCH:2013.54381)

X:	1347215.092 (m)	0.004 (m)	1347214.256 (m)	0.004 (m)
Y:	-4405940.258 (m)	0.018 (m)	-4405938.851 (m)	0.018 (m)
Z:	4396458.542 (m)	0.022 (m)	4396458.526 (m)	0.022 (m)

LAT:	43 51 2.58757	0.013 (m)	43 51 2.62289	0.013 (m)
E LON:	287 0 7.87647	0.006 (m)	287 0 7.85910	0.006 (m)
W LON:	72 59 52.12353	0.006 (m)	72 59 52.14090	0.006 (m)
EL HGT:	452.435 (m)	0.025 (m)	451.278 (m)	0.025 (m)
ORTHO HGT:	480.369 (m)	0.028 (m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 18)	SPC (4400 VT)
Northing (Y) [meters]	4857241.076	150174.770
Easting (X) [meters]	660926.936	459973.821
Convergence [degrees]	1.38737613	-0.34487972
Point Scale	0.99991853	0.99998398
Combined Factor	0.99984760	0.99991304

US NATIONAL GRID DESIGNATOR: 18TXP6092657241(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE (m)
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	27108.7
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	33176.1
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	59025.2
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	62510.3
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	70567.9
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	88863.3
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	98747.2
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	103256.3
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	106709.0

NEAREST NGS PUBLISHED CONTROL POINT Information on nearest mark is not available due to database connectivity issues or has restrictions on when or how it can be published.

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.

POINT: GPS6B (2ND OBSERVATION)
FILE: 18842008.T02

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: dsimmons@photoscience.com
RINEX FILE: 1884200v.13o

DATE: July 22, 2013
TIME: 20:15:26 UTC

SOFTWARE: rsgps 1.37 RS13.prl 1.89 START: 2013/07/19 21:24:30
EPHEMERIS: igr17495.eph [rapid] STOP: 2013/07/19 22:02:29
NAV FILE: brdc2000.13n OBS USED: 3192 / 3856 : 83%
ANT NAME: TRMR8_GNSS QUALITY IND. 5.32/ 17.03
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.520

REF FRAME: NAD_83 (2011) (EPOCH:2010.0000) IGS08 (EPOCH:2013.54769)

X:	1347215.081 (m)	0.011 (m)	1347214.245 (m)	0.011 (m)
Y:	-4405940.230 (m)	0.021 (m)	-4405938.823 (m)	0.021 (m)
Z:	4396458.520 (m)	0.026 (m)	4396458.504 (m)	0.026 (m)

LAT:	43 51 2.58773	0.013 (m)	43 51 2.62304	0.013 (m)
E LON:	287 0 7.87637	0.012 (m)	287 0 7.85899	0.012 (m)
W LON:	72 59 52.12363	0.012 (m)	72 59 52.14101	0.012 (m)
EL HGT:	452.398 (m)	0.030 (m)	451.241 (m)	0.030 (m)
ORTHO HGT:	480.332 (m)	0.033 (m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 18)	SPC (4400 VT)
Northing (Y) [meters]	4857241.081	150174.775
Easting (X) [meters]	660926.933	459973.819
Convergence [degrees]	1.38737611	-0.34487974
Point Scale	0.99991853	0.99998398
Combined Factor	0.99984760	0.99991305

US NATIONAL GRID DESIGNATOR: 18TXP6092657241(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE (m)
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	27108.7
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	33176.1
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	62510.3
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	70567.9
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	88863.3
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	98747.2
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	103256.3
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	106709.0

NEAREST NGS PUBLISHED CONTROL POINT Information on nearest mark is not available due to database connectivity issues or has restrictions on when or how it can be published.

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.

POINT: GPS7B
FILE: 18841411.T02

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-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: clea@photoscience.com DATE: May 22, 2013
RINEX FILE: 1884141s.13o TIME: 13:12:42 UTC

SOFTWARE: rsgps 1.37 RS64.prl 1.87 START: 2013/05/21 18:48:55
EPHEMERIS: igu17412.eph [ultra-rapid] STOP: 2013/05/21 19:24:14
NAV FILE: brdc1410.13n OBS USED: 3474 / 3474 : 100%
ANT NAME: TRM_R8_GNSS NONE QUALITY IND. 10.83/ 26.25
ARP HEIGHT: 2.00 NORMALIZED RMS: 0.312

REF FRAME: NAD_83 (2011) (EPOCH:2010.0000) IGS08 (EPOCH:2013.38574)

X:	1338763.804 (m)	0.008 (m)	1338762.971 (m)	0.008 (m)
Y:	-4408278.139 (m)	0.025 (m)	-4408276.732 (m)	0.025 (m)
Z:	4396225.632 (m)	0.025 (m)	4396225.615 (m)	0.025 (m)

LAT:	43 51 2.24506	0.006 (m)	43 51 2.28031	0.006 (m)
E LON:	286 53 35.43261	0.004 (m)	286 53 35.41523	0.004 (m)
W LON:	73 6 24.56739	0.004 (m)	73 6 24.58477	0.004 (m)
EL HGT:	127.244 (m)	0.036 (m)	126.087 (m)	0.036 (m)
ORTHO HGT:	155.829 (m)	0.038 (m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 18)	SPC (4400 VT)
Northing (Y) [meters]	4857024.082	150222.736
Easting (X) [meters]	652165.128	451208.695
Convergence [degrees]	1.31180632	-0.42040436
Point Scale	0.99988479	0.99999355
Combined Factor	0.99986484	0.99997360

US NATIONAL GRID DESIGNATOR: 18TXP5216557024 (NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE (m)
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	28937.3
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	41625.2
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	52920.0
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	56353.4
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	62090.5
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	69122.0
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	73253.4
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	81138.0
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	92698.8

NEAREST NGS PUBLISHED CONTROL POINT

AH3601	A97029	N435103.	W0730635.	233.8
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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.

POINT: GPS8A
FILE: 11551410.T02

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.
6011 Warning - OPUS-RS was able to find a set of reference stations
6011 with data suitable for use with your dataset. However, your
6011 position does not fall within the polygon enclosing these reference
6011 stations. This means that the geographic interpolation algorithms
6011 performed within OPUS-RS must instead perform extrapolation.
6011 Extrapolation, especially if your position is far from the
6011 reference stations, is prone to error. Use this solution with
6011 caution. Your station is 2.3 KM outside the polygon enclosing the reference stations.

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: clea@photoscience.com DATE: May 22, 2013
RINEX FILE: 1155141r.13o TIME: 13:09:57 UTC

SOFTWARE: rsgps 1.37 RS51.prl 1.87 START: 2013/05/21 17:15:18
EPHEMERIS: igu17412.eph [ultra-rapid] STOP: 2013/05/21 18:00:22
NAV FILE: brdc1410.13n OBS USED: 3645 / 4527 : 81%
ANT NAME: TRM_R8_GNSS NONE QUALITY IND. 12.07/ 26.67
ARP HEIGHT: 2.00 NORMALIZED RMS: 0.364

REF FRAME: NAD_83 (2011) (EPOCH:2010.0000) IGS08 (EPOCH:2013.38557)

X:	1332011.258 (m)	0.008 (m)	1332010.425 (m)	0.008 (m)
Y:	-4410736.547 (m)	0.019 (m)	-4410735.140 (m)	0.019 (m)
Z:	4395806.679 (m)	0.025 (m)	4395806.662 (m)	0.025 (m)

LAT:	43 50 43.57425	0.007 (m)	43 50 43.60949	0.007 (m)
E LON:	286 48 14.20193	0.006 (m)	286 48 14.18444	0.006 (m)
W LON:	73 11 45.79807	0.006 (m)	73 11 45.81556	0.006 (m)
EL HGT:	122.387 (m)	0.031 (m)	121.230 (m)	0.031 (m)
ORTHO HGT:	151.276 (m)	0.033 (m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 18)	SPC (4400 VT)
Northing (Y) [meters]	4856287.688	149703.020
Easting (X) [meters]	645005.621	444029.292
Convergence [degrees]	1.24983741	-0.48218045
Point Scale	0.99985862	1.00000280
Combined Factor	0.99983943	0.99998361

US NATIONAL GRID DESIGNATOR: 18TXP4500556287 (NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE (m)
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	31715.0
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	48742.9
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	57390.6
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	65117.0
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	69313.5
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	85416.6
DJ8957	VT0X BRADFORD CORS ARP	N440028.165	W0720651.609	88721.7
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	95071.8
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	99177.1

NEAREST NGS PUBLISHED CONTROL POINT

OD0553	H 12	N435134.889	W0731209.128	1669.9
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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.

POINT: GPS8B
FILE: 18841410.T02

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-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: clea@photoscience.com DATE: May 22, 2013
RINEX FILE: 1884141r.13o TIME: 13:11:26 UTC

SOFTWARE: rsgps 1.37 RS52.prl 1.87 START: 2013/05/21 17:10:04
EPHEMERIS: igu17412.eph [ultra-rapid] STOP: 2013/05/21 18:05:10
NAV FILE: brdc1410.13n OBS USED: 4923 / 5733 : 86%
ANT NAME: TRM_R8_GNSS NONE QUALITY IND. 11.58/ 50.79
ARP HEIGHT: 2.00 NORMALIZED RMS: 0.367

REF FRAME: NAD_83 (2011) (EPOCH:2010.0000) IGS08 (EPOCH:2013.38557)

X:	1332017.012 (m)	0.010 (m)	1332016.179 (m)	0.010 (m)
Y:	-4410787.641 (m)	0.026 (m)	-4410786.234 (m)	0.026 (m)
Z:	4395758.338 (m)	0.026 (m)	4395758.321 (m)	0.026 (m)

LAT:	43 50 41.30954	0.008 (m)	43 50 41.34478	0.008 (m)
E LON:	286 48 13.78726	0.006 (m)	286 48 13.76977	0.006 (m)
W LON:	73 11 46.21274	0.006 (m)	73 11 46.23023	0.006 (m)
EL HGT:	125.376 (m)	0.037 (m)	124.219 (m)	0.037 (m)
ORTHO HGT:	154.266 (m)	0.039 (m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 18)	SPC (4400 VT)
Northing (Y) [meters]	4856217.615	149633.203
Easting (X) [meters]	644997.886	444019.442
Convergence [degrees]	1.24974330	-0.48225474
Point Scale	0.99985859	1.00000282
Combined Factor	0.99983893	0.99998316

US NATIONAL GRID DESIGNATOR: 18TXP4499756217 (NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE (m)
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	31661.8
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	48767.2
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	57326.2
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	65187.1
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	69507.1
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	85371.9
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	88745.5
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	95138.1
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	99235.5

NEAREST NGS PUBLISHED CONTROL POINT

OD0553	H 12	N435134.889	W0731209.128	1733.8
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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.

POINT: GPS9B (1ST OBSERVATION)
FILE: 18841991.T02

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: dsimmons@photoscience.com
RINEX FILE: 1884199m.13o

DATE: July 22, 2013
TIME: 19:54:36 UTC

SOFTWARE: rsgps 1.37 RS92.prl 1.89
EPHEMERIS: igr17494.eph [rapid]
NAV FILE: brdc1990.13n
ANT NAME: TRMR8_GNSS NONE
ARP HEIGHT: 2.000
START: 2013/07/18 12:51:17
STOP: 2013/07/18 13:21:36
OBS USED: 3033 / 3177 : 95%
QUALITY IND. 22.93/ 29.03
NORMALIZED RMS: 0.341

REF FRAME: NAD_83 (2011) (EPOCH:2010.0000) IGS08 (EPOCH:2013.54396)

X:	1327422.308 (m)	0.010 (m)	1327421.472 (m)	0.010 (m)
Y:	-4403775.930 (m)	0.028 (m)	-4403774.525 (m)	0.028 (m)
Z:	4404042.003 (m)	0.022 (m)	4404041.987 (m)	0.022 (m)

LAT:	43 56 55.32447	0.009 (m)	43 56 55.35977	0.009 (m)
E LON:	286 46 27.43897	0.006 (m)	286 46 27.42126	0.006 (m)
W LON:	73 13 32.56103	0.006 (m)	73 13 32.57874	0.006 (m)
EL HGT:	75.393 (m)	0.035 (m)	74.239 (m)	0.035 (m)
ORTHO HGT:	104.272 (m)	0.038 (m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 18)	SPC (4400 VT)
Northing (Y) [meters]	4867705.418	161196.826
Easting (X) [meters]	642375.392	441745.345
Convergence [degrees]	1.23158740	-0.50366801
Point Scale	0.99984932	1.00000601
Combined Factor	0.99983750	0.99999419

US NATIONAL GRID DESIGNATOR: 18TXP4237567705 (NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE (m)
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	38429.0
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	42820.2
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	49966.7
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	54822.3
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	57882.2
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	62167.8
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	78834.6
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	83354.1
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	86561.4

NEAREST NGS PUBLISHED CONTROL POINT Information on nearest mark is not available due to database connectivity issues or has restrictions on when or how it can be published.

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.

POINT: GPS9B (2ND OBSERVATION)
FILE: 18842007.T02

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: dsimmons@photoscience.com
RINEX FILE: 1884200u.13o

DATE: July 22, 2013
TIME: 20:04:41 UTC

SOFTWARE: rsgps 1.37 RS90.prl 1.89
EPHEMERIS: igr17495.eph [rapid]
NAV FILE: brdc2000.13n
ANT NAME: TRMR8_GNSS NONE
ARP HEIGHT: 2.000
START: 2013/07/19 20:24:57
STOP: 2013/07/19 20:48:18
OBS USED: 2115 / 2979 : 71%
QUALITY IND. 15.03/ 7.95
NORMALIZED RMS: 0.522

REF FRAME: NAD_83 (2011) (EPOCH:2010.0000) IGS08 (EPOCH:2013.54756)

X:	1327422.314 (m)	0.011 (m)	1327421.478 (m)	0.011 (m)
Y:	-4403775.951 (m)	0.040 (m)	-4403774.546 (m)	0.040 (m)
Z:	4404042.035 (m)	0.038 (m)	4404042.019 (m)	0.038 (m)

LAT:	43 56 55.32473	0.012 (m)	43 56 55.36003	0.012 (m)
E LON:	286 46 27.43896	0.010 (m)	286 46 27.42125	0.010 (m)
W LON:	73 13 32.56104	0.010 (m)	73 13 32.57875	0.010 (m)
EL HGT:	75.430 (m)	0.054 (m)	74.277 (m)	0.054 (m)
ORTHO HGT:	104.309 (m)	0.056 (m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 18)	SPC (4400 VT)
Northing (Y) [meters]	4867705.426	161196.833
Easting (X) [meters]	642375.391	441745.344
Convergence [degrees]	1.23158740	-0.50366801
Point Scale	0.99984932	1.00000601
Combined Factor	0.99983749	0.99999418

US NATIONAL GRID DESIGNATOR: 18TXP4237567705 (NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE (m)
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	38429.0
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	42820.2
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	49966.7
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	54822.3
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	57882.2
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	62167.8
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	78834.6
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	83354.1
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	86561.4

NEAREST NGS PUBLISHED CONTROL POINT Information on nearest mark is not available due to database connectivity issues or has restrictions on when or how it can be published.

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.

POINT: GPS10A (1ST OBSERVATION)
FILE: 18841992.T02

NGS OPUS-RS SOLUTION REPORT
=====

All computed coordinate accuracies are listed as 1-sigma RMS values.
For additional information: <http://www.ngs.noaa.gov/OPUS/about.jsp#accuracy>

USER: dsimmons@photoscience.com
RINEX FILE: 18841990.13o

DATE: July 22, 2013
TIME: 19:56:40 UTC

SOFTWARE: rsgps 1.37 RS93.prl 1.89 START: 2013/07/18 14:14:36
EPHEMERIS: igr17494.eph [rapid] STOP: 2013/07/18 14:41:36
NAV FILE: brdc1990.13n OBS USED: 3501 / 3798 : 92%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 8.24/ 11.44
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.349

REF FRAME: NAD_83 (2011) (EPOCH:2010.0000) IGS08 (EPOCH:2013.54412)

X:	1336059.659 (m)	0.010 (m)	1336058.823 (m)	0.010 (m)
Y:	-4399030.229 (m)	0.014 (m)	-4399028.824 (m)	0.014 (m)
Z:	4406188.349 (m)	0.019 (m)	4406188.334 (m)	0.019 (m)

LAT:	43 58 31.28183	0.009 (m)	43 58 31.31719	0.009 (m)
E LON:	286 53 39.91362	0.008 (m)	286 53 39.89605	0.008 (m)
W LON:	73 6 20.08638	0.008 (m)	73 6 20.10395	0.008 (m)
EL HGT:	96.304 (m)	0.022 (m)	95.151 (m)	0.022 (m)
ORTHO HGT:	124.771 (m)	0.025 (m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 18)	SPC (4400 VT)
Northing (Y) [meters]	4870880.218	164080.627
Easting (X) [meters]	651947.363	451410.371
Convergence [degrees]	1.31563964	-0.42049169
Point Scale	0.99988397	0.99999331
Combined Factor	0.99986887	0.99997821

US NATIONAL GRID DESIGNATOR: 18TXP5194770880 (NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE (m)
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	40501.6
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	49457.5
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	52614.7
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	79597.3
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	83159.3
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	92264.2
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	96610.8
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	116175.0
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	121657.4

NEAREST NGS PUBLISHED CONTROL POINT Information on nearest mark is not available due to database connectivity issues or has restrictions on when or how it can be published.

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.

POINT: GPS10A (2ND OBSERVATION)
FILE: 11552006.T02

NGS OPUS-RS SOLUTION REPORT
=====

All computed coordinate accuracies are listed as 1-sigma RMS values.
For additional information: <http://www.ngs.noaa.gov/OPUS/about.jsp#accuracy>

USER: dsimmons@photoscience.com
RINEX FILE: 1155200s.13o

DATE: July 22, 2013
TIME: 19:31:59 UTC

SOFTWARE: rsgps 1.37 RS64.prl 1.89 START: 2013/07/19 18:41:28
EPHEMERIS: igr17495.eph [rapid] STOP: 2013/07/19 19:10:48
NAV FILE: brdc2000.13n OBS USED: 2205 / 2745 : 80%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 16.56/ 33.02
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.410

REF FRAME: NAD_83 (2011) (EPOCH:2010.0000) IGS08 (EPOCH:2013.54737)

X:	1336059.692 (m)	0.016 (m)	1336058.856 (m)	0.016 (m)
Y:	-4399030.273 (m)	0.036 (m)	-4399028.868 (m)	0.036 (m)
Z:	4406188.419 (m)	0.042 (m)	4406188.404 (m)	0.042 (m)

LAT:	43 58 31.28230	0.008 (m)	43 58 31.31766	0.008 (m)
E LON:	286 53 39.91446	0.009 (m)	286 53 39.89689	0.009 (m)
W LON:	73 6 20.08554	0.009 (m)	73 6 20.10311	0.009 (m)
EL HGT:	96.390 (m)	0.057 (m)	95.237 (m)	0.057 (m)
ORTHO HGT:	124.857 (m)	0.058 (m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 18)	SPC (4400 VT)
Northing (Y) [meters]	4870880.233	164080.642
Easting (X) [meters]	651947.382	451410.390
Convergence [degrees]	1.31563981	-0.42049153
Point Scale	0.99988397	0.99999331
Combined Factor	0.99986886	0.99997820

US NATIONAL GRID DESIGNATOR: 18TXP5194770880 (NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE (m)
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	40501.6
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	43487.1
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	49457.5
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	52614.7
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	79597.3
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	83159.3
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	92264.2
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	96610.8
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	116175.0

NEAREST NGS PUBLISHED CONTROL POINT Information on nearest mark is not available due to database connectivity issues or has restrictions on when or how it can be published.

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.

POINT: GPS10B (1ST OBSERVATION)
FILE: 11551992.T02

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: dsimmons@photoscience.com
RINEX FILE: 11551990.13o

DATE: July 22, 2013
TIME: 19:24:03 UTC

SOFTWARE: rsgps 1.37 RS90.prl 1.89 START: 2013/07/18 14:17:25
EPHEMERIS: igr17494.eph [rapid] STOP: 2013/07/18 14:39:17
NAV FILE: brdc1990.13n OBS USED: 2432 / 2800 : 87%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 7.54/ 24.13
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.343

REF FRAME: NAD_83 (2011) (EPOCH:2010.0000) IGS08 (EPOCH:2013.54412)

X:	1336030.258 (m)	0.007 (m)	1336029.422 (m)	0.007 (m)
Y:	-4399027.795 (m)	0.015 (m)	-4399026.390 (m)	0.015 (m)
Z:	4406199.305 (m)	0.013 (m)	4406199.290 (m)	0.013 (m)

LAT:	43 58 31.78189	0.009 (m)	43 58 31.81725	0.009 (m)
E LON:	286 53 38.68320	0.006 (m)	286 53 38.66563	0.006 (m)
W LON:	73 6 21.31680	0.006 (m)	73 6 21.33437	0.006 (m)
EL HGT:	96.087 (m)	0.018 (m)	94.934 (m)	0.018 (m)
ORTHO HGT:	124.556 (m)	0.022 (m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 18)	SPC (4400 VT)
Northing (Y) [meters]	4870895.016	164096.262
Easting (X) [meters]	651919.595	451383.061
Convergence [degrees]	1.31540549	-0.42073008
Point Scale	0.99988387	0.99999334
Combined Factor	0.99986881	0.99997827

US NATIONAL GRID DESIGNATOR: 18TXP5191970895 (NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE (m)
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	40530.4
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	49447.2
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	52627.1
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	83135.6
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	92292.2
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	96587.3
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	116175.0
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	121671.1

NEAREST NGS PUBLISHED CONTROL POINT Information on nearest mark is not available due to database connectivity issues or has restrictions on when or how it can be published.

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.

POINT: GPS10B (2ND OBSERVATION)
FILE: 18842006.T02

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: dsimmons@photoscience.com
RINEX FILE: 1884200s.13o

DATE: July 22, 2013
TIME: 20:07:56 UTC

SOFTWARE: rsgps 1.37 RS94.prl 1.89 START: 2013/07/19 18:37:23
EPHEMERIS: igr17495.eph [rapid] STOP: 2013/07/19 19:14:40
NAV FILE: brdc2000.13n OBS USED: 1624 / 3464 : 47%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 12.53/ 18.92
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.418

REF FRAME: NAD_83 (2011) (EPOCH:2010.0000) IGS08 (EPOCH:2013.54737)

X:	1336030.292 (m)	0.016 (m)	1336029.456 (m)	0.016 (m)
Y:	-4399027.863 (m)	0.046 (m)	-4399026.458 (m)	0.046 (m)
Z:	4406199.366 (m)	0.045 (m)	4406199.351 (m)	0.045 (m)

LAT:	43 58 31.78162	0.007 (m)	43 58 31.81698	0.007 (m)
E LON:	286 53 38.68377	0.008 (m)	286 53 38.66620	0.008 (m)
W LON:	73 6 21.31623	0.008 (m)	73 6 21.33380	0.008 (m)
EL HGT:	96.183 (m)	0.066 (m)	95.030 (m)	0.066 (m)
ORTHO HGT:	124.652 (m)	0.067 (m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 18)	SPC (4400 VT)
Northing (Y) [meters]	4870895.009	164096.254
Easting (X) [meters]	651919.608	451383.074
Convergence [degrees]	1.31540560	-0.42072997
Point Scale	0.99988387	0.99999334
Combined Factor	0.99986879	0.99997826

US NATIONAL GRID DESIGNATOR: 18TXP5191970895 (NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE (m)
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	40530.4
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	49447.3
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	52627.1
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	79623.9
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	83135.6
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	92292.2
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	96587.3
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	116175.0

NEAREST NGS PUBLISHED CONTROL POINT Information on nearest mark is not available due to database connectivity issues or has restrictions on when or how it can be published.

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.

POINT: GPS11A
FILE: 11551442.T02

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-RS SOLUTION REPORT
=====

All computed coordinate accuracies are listed as 1-sigma RMS values.
For additional information: <http://www.ngs.noaa.gov/OPUS/about.jsp#accuracy>

USER: clea@photoscience.com
RINEX FILE: 1155144n.13o

DATE: May 24, 2013
TIME: 18:18:09 UTC

SOFTWARE: rsgps 1.37 RS64.prl 1.87 START: 2013/05/24 13:15:38
EPHEMERIS: igu17415.eph [ultra-rapid] STOP: 2013/05/24 13:48:44
NAV FILE: brdc1440.13n OBS USED: 3438 / 3519 : 98%
ANT NAME: TRM_R8_GNSS NONE QUALITY IND. 27.33/ 38.42
ARP HEIGHT: 2.00 NORMALIZED RMS: 0.309

REF FRAME: NAD_83 (2011) (EPOCH:2010.0000) IGS08 (EPOCH:2013.39333)

X:	1312321.401 (m)	0.005 (m)	1312320.567 (m)	0.005 (m)
Y:	-4397398.399 (m)	0.011 (m)	-4397396.996 (m)	0.011 (m)
Z:	4414771.040 (m)	0.008 (m)	4414771.024 (m)	0.008 (m)

LAT:	44 5 0.50197	0.004 (m)	44 5 0.53727	0.004 (m)
E LON:	286 37 0.30367	0.005 (m)	286 37 0.28578	0.005 (m)
W LON:	73 22 59.69633	0.005 (m)	73 22 59.71422	0.005 (m)
EL HGT:	17.692 (m)	0.013 (m)	16.543 (m)	0.013 (m)
ORTHO HGT:	46.674 (m)	0.018 (m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 18)	SPC (4400 VT)
Northing (Y) [meters]	4882414.749	176294.401
Easting (X) [meters]	629440.286	429259.790
Convergence [degrees]	1.12493844	-0.61450666
Point Scale	0.99980607	1.00002581
Combined Factor	0.99980330	1.00002304

US NATIONAL GRID DESIGNATOR: 18TXP2944082414 (NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE (m)
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	18841.9
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	45347.0
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	60730.4
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	64553.7
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	79223.1
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	84106.4
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	87292.6
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	91133.9
DJ8957	VT0X BRADFORD CORS ARP	N440028.165	W0720651.609	102042.5

NEAREST NGS PUBLISHED CONTROL POINT

PG2005	TT 6 JB USGS 1942	N440450.744	W0732232.998	665.4
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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.

POINT: GPS11B
FILE: 18841440.T02

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-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: clea@photoscience.com
RINEX FILE: 1884144m.13o

DATE: May 24, 2013
TIME: 18:19:11 UTC

SOFTWARE: rsgps 1.37 RS92.prl 1.87 START: 2013/05/24 12:36:33
EPHEMERIS: igu17415.eph [ultra-rapid] STOP: 2013/05/24 13:51:48
NAV FILE: brdc1440.13n OBS USED: 7119 / 7452 : 96%
ANT NAME: TRM_R8_GNSS NONE QUALITY IND. 32.81/ 69.04
ARP HEIGHT: 2.00 NORMALIZED RMS: 0.295

REF FRAME: NAD_83 (2011) (EPOCH:2010.0000) IGS08 (EPOCH:2013.39329)

X:	1312360.807 (m)	0.004 (m)	1312359.973 (m)	0.004 (m)
Y:	-4397442.816 (m)	0.010 (m)	-4397441.413 (m)	0.010 (m)
Z:	4414715.028 (m)	0.009 (m)	4414715.012 (m)	0.009 (m)

LAT:	44 4 57.98502	0.004 (m)	44 4 58.02033	0.004 (m)
E LON:	286 37 1.42997	0.004 (m)	286 37 1.41208	0.004 (m)
W LON:	73 22 58.57003	0.004 (m)	73 22 58.58792	0.004 (m)
EL HGT:	17.393 (m)	0.013 (m)	16.244 (m)	0.013 (m)
ORTHO HGT:	46.375 (m)	0.018 (m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 18)	SPC (4400 VT)
Northing (Y) [meters]	4882337.586	176216.449
Easting (X) [meters]	629466.859	429284.014
Convergence [degrees]	1.12514201	-0.61428124
Point Scale	0.99980615	1.00002577
Combined Factor	0.99980342	1.00002304

US NATIONAL GRID DESIGNATOR: 18TXP2946682337 (NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE (m)
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	18916.5
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	45412.3
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	60785.0
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	64510.5
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	79213.5
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	84173.8
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	87211.1
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	91060.5
DJ8957	VT0X BRADFORD CORS ARP	N440028.165	W0720651.609	102011.7

NEAREST NGS PUBLISHED CONTROL POINT

PG2005	TT 6 JB USGS 1942	N440450.744	W0732232.998	610.5
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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.

POINT: GPS12B
FILE: 18841433.T02

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-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: clea@photoscience.com DATE: May 24, 2013
RINEX FILE: 1884143u.13o TIME: 16:40:00 UTC

SOFTWARE: rsgps 1.37 RS94.prl 1.87 START: 2013/05/23 20:46:06
EPHEMERIS: igu17414.eph [ultra-rapid] STOP: 2013/05/23 21:23:04
NAV FILE: brdc1430.13n OBS USED: 4302 / 5058 : 85%
ANT NAME: TRM_R8_GNSS NONE QUALITY IND. 13.52/ 8.49
ARP HEIGHT: 2.00 NORMALIZED RMS: 0.449

REF FRAME: NAD_83 (2011) (EPOCH:2010.0000) IGS08 (EPOCH:2013.39145)

X:	1312796.044 (m)	0.011 (m)	1312795.209 (m)	0.011 (m)
Y:	-4393058.185 (m)	0.027 (m)	-4393056.782 (m)	0.027 (m)
Z:	4418920.240 (m)	0.025 (m)	4418920.225 (m)	0.025 (m)

LAT:	44 8 7.74360	0.007 (m)	44 8 7.77897	0.007 (m)
E LON:	286 38 16.60047	0.007 (m)	286 38 16.58255	0.007 (m)
W LON:	73 21 43.39953	0.007 (m)	73 21 43.41745	0.007 (m)
EL HGT:	17.168 (m)	0.037 (m)	16.021 (m)	0.037 (m)
ORTHO HGT:	46.164 (m)	0.039 (m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 18)	SPC (4400 VT)
Northing (Y) [meters]	4888225.285	182055.461
Easting (X) [meters]	631022.118	431017.730
Convergence [degrees]	1.14075658	-0.60032226
Point Scale	0.99981113	1.00002279
Combined Factor	0.99980844	1.00002010

US NATIONAL GRID DESIGNATOR: 18TXP3102288225 (NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE (m)
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	16483.1
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	39331.1
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	42570.6
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	60223.1
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	63891.6
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	78083.3
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	83298.6
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	89628.3
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	97096.7

NEAREST NGS PUBLISHED CONTROL POINT

PG2021	COLE USLS 1930	N440828.783	W0732231.859	1256.9
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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.

POINT: GPS13A
FILE: 11551443.T02

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-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: clea@photoscience.com DATE: May 24, 2013
RINEX FILE: 1155144p.13o TIME: 18:16:27 UTC

SOFTWARE: rsgps 1.37 RS54.prl 1.87 START: 2013/05/24 15:04:12
EPHEMERIS: igu17415.eph [ultra-rapid] STOP: 2013/05/24 15:36:11
NAV FILE: brdc1440.13n OBS USED: 1728 / 1935 : 89%
ANT NAME: TRM_R8_GNSS NONE QUALITY IND. 21.43/ 29.55
ARP HEIGHT: 2.00 NORMALIZED RMS: 0.346

REF FRAME: NAD_83 (2011) (EPOCH:2010.0000) IGS08 (EPOCH:2013.39353)

X:	1311430.820 (m)	0.007 (m)	1311429.985 (m)	0.007 (m)
Y:	-4388699.700 (m)	0.019 (m)	-4388698.298 (m)	0.019 (m)
Z:	4423612.977 (m)	0.025 (m)	4423612.962 (m)	0.025 (m)

LAT:	44 11 39.89509	0.010 (m)	44 11 39.93048	0.010 (m)
E LON:	286 38 13.89263	0.003 (m)	286 38 13.87468	0.003 (m)
W LON:	73 21 46.10737	0.003 (m)	73 21 46.12532	0.003 (m)
EL HGT:	10.713 (m)	0.031 (m)	9.568 (m)	0.031 (m)
ORTHO HGT:	39.713 (m)	0.033 (m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 18)	SPC (4400 VT)
Northing (Y) [meters]	4894769.692	188604.023
Easting (X) [meters]	630831.600	431026.245
Convergence [degrees]	1.14144035	-0.60148267
Point Scale	0.99981051	1.00002277
Combined Factor	0.99980883	1.00002109

US NATIONAL GRID DESIGNATOR: 18TXP3083194769 (NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE (m)
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	14306.8
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	33249.7
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	38125.7
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	54523.5
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	58433.9
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	62805.8
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	67119.9
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	71845.6
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	86491.2

NEAREST NGS PUBLISHED CONTROL POINT

PG1992	TT 1 JB	N441215.716	W0732044.917	1751.3
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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.

POINT: GPS13B
FILE: 18841441.T02

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-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: clea@photoscience.com
RINEX FILE: 1884144o.13o

DATE: May 24, 2013
TIME: 18:17:33 UTC

SOFTWARE: rsgps 1.37 RS51.prl 1.87 START: 2013/05/24 14:59:39
EPHEMERIS: igu17415.eph [ultra-rapid] STOP: 2013/05/24 15:36:47
NAV FILE: brdc1440.13n OBS USED: 2520 / 3222 : 78%
ANT NAME: TRM_R8_GNSS NONE QUALITY IND. 26.19/ 29.66
ARP HEIGHT: 2.00 NORMALIZED RMS: 0.304

REF FRAME: NAD_83 (2011) (EPOCH:2010.0000) IGS08 (EPOCH:2013.39353)

X:	1311423.128 (m)	0.006 (m)	1311422.293 (m)	0.006 (m)
Y:	-4388714.261 (m)	0.018 (m)	-4388712.859 (m)	0.018 (m)
Z:	4423601.015 (m)	0.019 (m)	4423601.000 (m)	0.019 (m)

LAT:	44 11 39.35187	0.006 (m)	44 11 39.38726	0.006 (m)
E LON:	286 38 13.37302	0.003 (m)	286 38 13.35506	0.003 (m)
W LON:	73 21 46.62698	0.003 (m)	73 21 46.64494	0.003 (m)
EL HGT:	10.798 (m)	0.026 (m)	9.653 (m)	0.026 (m)
ORTHO HGT:	39.798 (m)	0.029 (m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 18)	SPC (4400 VT)
Northing (Y) [meters]	4894752.702	188587.378
Easting (X) [meters]	630820.400	431014.530
Convergence [degrees]	1.14133660	-0.60158167
Point Scale	0.99981048	1.00002279
Combined Factor	0.99980879	1.00002110

US NATIONAL GRID DESIGNATOR: 18TXP3082094752 (NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE (m)
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	14297.4
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	33269.6
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	38145.3
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	54538.6
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	58426.2
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	62819.3
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	67123.3
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	71865.1
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	86472.6

NEAREST NGS PUBLISHED CONTROL POINT

PG1992	TT 1 JB	N441215.716	W0732044.917	1770.8
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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.

POINT: GPS14B
FILE: 18841431.T02

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-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: clea@photoscience.com
RINEX FILE: 1884143q.13o

DATE: May 24, 2013
TIME: 14:16:09 UTC

SOFTWARE: rsgps 1.37 RS92.prl 1.87 START: 2013/05/23 16:12:54
EPHEMERIS: igu17414.eph [ultra-rapid] STOP: 2013/05/23 16:46:15
NAV FILE: brdc1430.13n OBS USED: 3051 / 3384 : 90%
ANT NAME: TRM_R8_GNSS NONE QUALITY IND. 17.38/ 27.03
ARP HEIGHT: 2.00 NORMALIZED RMS: 0.363

REF FRAME: NAD_83 (2011) (EPOCH:2010.0000) IGS08 (EPOCH:2013.39092)

X:	1319819.875 (m)	0.009 (m)	1319819.040 (m)	0.009 (m)
Y:	-4388564.437 (m)	0.026 (m)	-4388563.034 (m)	0.026 (m)
Z:	4421283.416 (m)	0.013 (m)	4421283.401 (m)	0.013 (m)

LAT:	44 9 54.30187	0.011 (m)	44 9 54.33727	0.011 (m)
E LON:	286 44 17.41327	0.008 (m)	286 44 17.39546	0.008 (m)
W LON:	73 15 42.58673	0.008 (m)	73 15 42.60454	0.008 (m)
EL HGT:	21.895 (m)	0.027 (m)	20.748 (m)	0.027 (m)
ORTHO HGT:	50.825 (m)	0.030 (m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 18)	SPC (4400 VT)
Northing (Y) [meters]	4891677.505	185265.160
Easting (X) [meters]	638969.940	439068.343
Convergence [degrees]	1.21122529	-0.53080438
Point Scale	0.99983752	1.00000993
Combined Factor	0.99983409	1.00000650

US NATIONAL GRID DESIGNATOR: 18TXP3896991677 (NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE (m)
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	34179.1
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	55358.2
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	58424.1
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	66019.1
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	72967.8
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	81006.7
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	91930.2
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	101813.0
DI0602	NYML MALONE CORS ARP	N445215.384	W0741717.343	113182.1

NEAREST NGS PUBLISHED CONTROL POINT

PG1592	27	N440956.	W0731520.	503.7
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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.

POINT: GPS15B (1ST OBSERVATION)
FILE: 18841985.T02

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: dsimmons@photoscience.com
RINEX FILE: 1884198r.13o

DATE: July 22, 2013
TIME: 19:53:07 UTC

SOFTWARE: rsgps 1.37 RS64.prl 1.89
EPHEMERIS: igr17493.eph [rapid]
NAV FILE: brdc1980.13n
ANT NAME: TRMR8_GNSS NONE
ARP HEIGHT: 2.000
START: 2013/07/17 17:40:04
STOP: 2013/07/17 18:12:36
OBS USED: 3834 / 4248 : 90%
QUALITY IND. 15.78/ 22.81
NORMALIZED RMS: 0.341

REF FRAME: NAD_83 (2011) (EPOCH:2010.0000) IGS08 (EPOCH:2013.54177)

X:	1328291.719 (m)	0.011 (m)	1328290.881 (m)	0.011 (m)
Y:	-4378884.829 (m)	0.023 (m)	-4378883.427 (m)	0.023 (m)
Z:	4428467.488 (m)	0.019 (m)	4428467.475 (m)	0.019 (m)

LAT:	44 15 15.12790	0.007 (m)	44 15 15.16343	0.007 (m)
E LON:	286 52 28.77186	0.009 (m)	286 52 28.75406	0.009 (m)
W LON:	73 7 31.22814	0.009 (m)	73 7 31.24594	0.009 (m)
EL HGT:	145.132 (m)	0.029 (m)	143.988 (m)	0.029 (m)
ORTHO HGT:	173.772 (m)	0.032 (m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 18)	SPC (4400 VT)
Northing (Y) [meters]	4901815.993	195075.251
Easting (X) [meters]	649656.649	450060.164
Convergence [degrees]	1.30845955	-0.43639892
Point Scale	0.99987545	0.99999495
Combined Factor	0.99985270	0.99997219

US NATIONAL GRID DESIGNATOR: 18TXQ4965601815 (NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE (m)
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	20512.0
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	24583.6
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	33537.1
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	43369.4
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	54131.3
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	61752.8
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	66796.5
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	72847.5
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	76281.7

NEAREST NGS PUBLISHED CONTROL POINT Information on nearest mark is not available due to database connectivity issues or has restrictions on when or how it can be published.

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.

POINT: GPS15B (2ND OBSERVATION)
FILE: 18842000.T02

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: dsimmons@photoscience.com
RINEX FILE: 1884200k.13o

DATE: July 22, 2013
TIME: 19:58:54 UTC

SOFTWARE: rsgps 1.37 RS92.prl 1.89	START: 2013/07/19 10:47:22
EPHEMERIS: igr17495.eph [rapid]	STOP: 2013/07/19 11:08:45
NAV FILE: brdc2000.13n	OBS USED: 1935 / 1935 : 100%
ANT NAME: TRMR8_GNSS NONE	QUALITY IND. 30.22/ 28.99
ARP HEIGHT: 2.000	NORMALIZED RMS: 0.281

REF FRAME: NAD_83 (2011) (EPOCH:2010.0000) IGS08 (EPOCH:2013.54646)

X:	1328291.705 (m)	0.010 (m)	1328290.867 (m)	0.010 (m)
Y:	-4378884.802 (m)	0.032 (m)	-4378883.400 (m)	0.032 (m)
Z:	4428467.453 (m)	0.025 (m)	4428467.440 (m)	0.025 (m)

LAT:	44 15 15.12776	0.006 (m)	44 15 15.16329	0.006 (m)
E LON:	286 52 28.77161	0.008 (m)	286 52 28.75381	0.008 (m)
W LON:	73 7 31.22839	0.008 (m)	73 7 31.24619	0.008 (m)
EL HGT:	145.087 (m)	0.040 (m)	143.942 (m)	0.040 (m)
ORTHO HGT:	173.727 (m)	0.042 (m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 18)	SPC (4400 VT)
Northing (Y) [meters]	4901815.988	195075.247
Easting (X) [meters]	649656.643	450060.158
Convergence [degrees]	1.30845950	-0.43639897
Point Scale	0.99987545	0.99999495
Combined Factor	0.99985270	0.99997220

US NATIONAL GRID DESIGNATOR: 18TXQ4965601815 (NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE (m)
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	33537.1
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	54131.3
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	76281.7
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	106224.1
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	114202.1
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	143372.1
DL7764	P776 GUNSTOCKMRNH2008 CORS ARP	N433235.720	W0712242.789	161044.2
DL9078	NHCO NHDOT CONCORD CORS ARP	N431246.195	W0713111.475	173535.1
DI0456	NYFV FULTONVILLE CORS ARP	N425620.997	W0742112.013	176569.3

NEAREST NGS PUBLISHED CONTROL POINT Information on nearest mark is not available due to database connectivity issues or has restrictions on when or how it can be published.

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.

POINT: GPS16B
FILE: 18841430.T02

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-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: clea@photoscience.com DATE: May 24, 2013
RINEX FILE: 1884143n.13o TIME: 14:09:26 UTC

SOFTWARE: rsgps 1.37 RS90.prl 1.87 START: 2013/05/23 13:09:06
EPHEMERIS: igu17414.eph [ultra-rapid] STOP: 2013/05/23 13:47:22
NAV FILE: brdc1430.13n OBS USED: 1764 / 3132 : 56%
ANT NAME: TRM_R8_GNSS NONE QUALITY IND. 6.00/ 13.73
ARP HEIGHT: 2.00 NORMALIZED RMS: 0.348

REF FRAME: NAD_83 (2011) (EPOCH:2010.0000) IGS08 (EPOCH:2013.39058)

X:	1322017.837 (m)	0.005 (m)	1322017.001 (m)	0.005 (m)
Y:	-4375591.032 (m)	0.011 (m)	-4375589.631 (m)	0.011 (m)
Z:	4433498.519 (m)	0.011 (m)	4433498.506 (m)	0.011 (m)

LAT:	44 19 4.24369	0.006 (m)	44 19 4.27921	0.006 (m)
E LON:	286 48 40.99683	0.006 (m)	286 48 40.97900	0.006 (m)
W LON:	73 11 19.00317	0.006 (m)	73 11 19.02100	0.006 (m)
EL HGT:	99.904 (m)	0.014 (m)	98.763 (m)	0.014 (m)
ORTHO HGT:	128.783 (m)	0.019 (m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 18)	SPC (4400 VT)
Northing (Y) [meters]	4908771.738	202187.348
Easting (X) [meters]	644449.500	445066.685
Convergence [degrees]	1.26572288	-0.48110260
Point Scale	0.99985661	1.00000138
Combined Factor	0.99984095	0.99998572

US NATIONAL GRID DESIGNATOR: 18TXQ4444908771 (NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE (m)
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	16837.9
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	30562.6
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	45512.4
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	48783.9
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	55233.2
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	62953.8
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	68870.5
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	80735.6
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	92575.4

NEAREST NGS PUBLISHED CONTROL POINT

PG1935	EAST CHARLOTTE ATT RELAY MAST	N441845.703	W0731108.087	622.1
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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.

POINT: GPS17A (1ST OBSERVATION)
FILE: 11551987.T02

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: dsimmons@photoscience.com
RINEX FILE: 1155198t.13o

DATE: July 22, 2013
TIME: 19:15:41 UTC

SOFTWARE: rsgps 1.37 RS94.prl 1.89	START: 2013/07/17 19:21:02
EPHEMERIS: igr17493.eph [rapid]	STOP: 2013/07/17 19:41:18
NAV FILE: brdc1980.13n	OBS USED: 2322 / 2484 : 93%
ANT NAME: TRMR8_GNSS NONE	QUALITY IND. 16.31/ 1.23
ARP HEIGHT: 2.000	NORMALIZED RMS: 0.382

REF FRAME: NAD_83 (2011) (EPOCH:2010.0000) IGS08 (EPOCH:2013.54195)

X:	1316723.876 (m)	0.009 (m)	1316723.038 (m)	0.009 (m)
Y:	-4377871.539 (m)	0.036 (m)	-4377870.138 (m)	0.036 (m)
Z:	4432717.318 (m)	0.036 (m)	4432717.305 (m)	0.036 (m)

LAT:	44 18 31.29881	0.005 (m)	44 18 31.33433	0.005 (m)
E LON:	286 44 22.58907	0.004 (m)	286 44 22.57107	0.004 (m)
W LON:	73 15 37.41093	0.004 (m)	73 15 37.42893	0.004 (m)
EL HGT:	23.203 (m)	0.051 (m)	22.061 (m)	0.051 (m)
ORTHO HGT:	52.228 (m)	0.052 (m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 18)	SPC (4400 VT)
Northing (Y) [meters]	4907631.283	201221.088
Easting (X) [meters]	638746.916	439331.079
Convergence [degrees]	1.21535098	-0.53116805
Point Scale	0.99983675	1.00000953
Combined Factor	0.99983311	1.00000589

US NATIONAL GRID DESIGNATOR: 18TXQ3874607631 (NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE (m)
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	18521.0
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	24149.7
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	44114.2
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	54368.8
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	57370.2
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	65272.9
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	74632.4
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	97580.7
DI0602	NYML MALONE CORS ARP	N445215.384	W0741717.343	102781.0

NEAREST NGS PUBLISHED CONTROL POINT Information on nearest mark is not available due to database connectivity issues or has restrictions on when or how it can be published.

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.

POINT: GPS17A (2ND OBSERVATION)
FILE: 11552011.T02

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: dsimmons@photoscience.com
RINEX FILE: 1155201n.13o

DATE: July 22, 2013
TIME: 19:41:50 UTC

SOFTWARE: rsgps 1.37 RS64.prl 1.89 START: 2013/07/20 13:11:51
EPHEMERIS: igr17496.eph [rapid] STOP: 2013/07/20 13:44:26
NAV FILE: brdc2010.13n OBS USED: 2007 / 2646 : 76%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 4.73/ 20.17
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.425

REF FRAME: NAD_83 (2011) (EPOCH:2010.0000) IGS08 (EPOCH:2013.54948)

X:	1316723.871 (m)	0.019 (m)	1316723.033 (m)	0.019 (m)
Y:	-4377871.553 (m)	0.049 (m)	-4377870.152 (m)	0.049 (m)
Z:	4432717.345 (m)	0.048 (m)	4432717.332 (m)	0.048 (m)

LAT:	44 18 31.29917	0.010 (m)	44 18 31.33469	0.010 (m)
E LON:	286 44 22.58867	0.010 (m)	286 44 22.57067	0.010 (m)
W LON:	73 15 37.41133	0.010 (m)	73 15 37.42933	0.010 (m)
EL HGT:	23.230 (m)	0.070 (m)	22.088 (m)	0.070 (m)
ORTHO HGT:	52.255 (m)	0.071 (m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 18)	SPC (4400 VT)
Northing (Y) [meters]	4907631.294	201221.099
Easting (X) [meters]	638746.907	439331.070
Convergence [degrees]	1.21535091	-0.53116813
Point Scale	0.99983675	1.00000953
Combined Factor	0.99983311	1.00000589

US NATIONAL GRID DESIGNATOR: 18TXQ3874607631(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE (m)
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	18521.0
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	24149.7
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	44114.2
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	54368.8
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	57370.2
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	65272.9
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	74632.4
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	97580.7
DI0602	NYML MALONE CORS ARP	N445215.384	W0741717.343	102781.0

NEAREST NGS PUBLISHED CONTROL POINT Information on nearest mark is not available due to database connectivity issues or has restrictions on when or how it can be published.

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.

POINT: GPS17B (1ST OBSERVATION)
FILE: 18841987.T02

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: dsimmons@photoscience.com
RINEX FILE: 1884198t.13o

DATE: July 22, 2013
TIME: 19:55:58 UTC

SOFTWARE: rsgps 1.37 RS74.prl 1.89
EPHEMERIS: igr17493.eph [rapid]
NAV FILE: brdc1980.13n
ANT NAME: TRMR8_GNSS NONE
ARP HEIGHT: 2.000
START: 2013/07/17 19:18:20
STOP: 2013/07/17 19:43:21
OBS USED: 2192 / 2584 : 85%
QUALITY IND. 9.81/ 3.67
NORMALIZED RMS: 0.373

REF FRAME: NAD_83 (2011) (EPOCH:2010.0000) IGS08 (EPOCH:2013.54195)

X:	1316710.402 (m)	0.009 (m)	1316709.564 (m)	0.009 (m)
Y:	-4377855.804 (m)	0.027 (m)	-4377854.403 (m)	0.027 (m)
Z:	4432735.937 (m)	0.027 (m)	4432735.924 (m)	0.027 (m)

LAT:	44 18 32.15929	0.004 (m)	44 18 32.19482	0.004 (m)
E LON:	286 44 22.21138	0.003 (m)	286 44 22.19338	0.003 (m)
W LON:	73 15 37.78862	0.003 (m)	73 15 37.80662	0.003 (m)
EL HGT:	22.649 (m)	0.039 (m)	21.507 (m)	0.039 (m)
ORTHO HGT:	51.674 (m)	0.041 (m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 18)	SPC (4400 VT)
Northing (Y) [meters]	4907657.655	201247.724
Easting (X) [meters]	638737.985	439322.954
Convergence [degrees]	1.21528285	-0.53124361
Point Scale	0.99983672	1.00000955
Combined Factor	0.99983317	1.00000600

US NATIONAL GRID DESIGNATOR: 18TXQ3873707657 (NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE (m)
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	18497.7
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	24144.2
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	44086.3
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	54379.6
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	65264.6
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	74632.3
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	97597.5
DJ8955	VTD9 DERBY CORS ARP	N445703.499	W0720936.723	112754.1

NEAREST NGS PUBLISHED CONTROL POINT Information on nearest mark is not available due to database connectivity issues or has restrictions on when or how it can be published.

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.

POINT: GPS17B (2ND OBSERVATION)
FILE: 18842011.T02

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: dsimmons@photoscience.com
RINEX FILE: 1884201n.13o

DATE: July 22, 2013
TIME: 20:10:09 UTC

SOFTWARE: rsgps 1.37 RS90.prl 1.89 START: 2013/07/20 13:13:54
EPHEMERIS: igr17496.eph [rapid] STOP: 2013/07/20 13:46:07
NAV FILE: brdc2010.13n OBS USED: 2016 / 2817 : 72%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 3.82/ 19.21
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.403

REF FRAME: NAD_83 (2011) (EPOCH:2010.0000) IGS08 (EPOCH:2013.54949)

X:	1316710.441 (m)	0.007 (m)	1316709.603 (m)	0.007 (m)
Y:	-4377855.833 (m)	0.028 (m)	-4377854.432 (m)	0.028 (m)
Z:	4432735.961 (m)	0.030 (m)	4432735.948 (m)	0.030 (m)

LAT:	44 18 32.15897	0.008 (m)	44 18 32.19449	0.008 (m)
E LON:	286 44 22.21269	0.007 (m)	286 44 22.19468	0.007 (m)
W LON:	73 15 37.78731	0.007 (m)	73 15 37.80532	0.007 (m)
EL HGT:	22.694 (m)	0.040 (m)	21.552 (m)	0.040 (m)
ORTHO HGT:	51.719 (m)	0.042 (m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 18)	SPC (4400 VT)
Northing (Y) [meters]	4907657.646	201247.714
Easting (X) [meters]	638738.014	439322.983
Convergence [degrees]	1.21528311	-0.53124336
Point Scale	0.99983672	1.00000955
Combined Factor	0.99983316	1.00000599

US NATIONAL GRID DESIGNATOR: 18TXQ3873807657 (NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE (m)
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	18497.7
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	24144.2
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	44086.4
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	54379.5
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	57346.5
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	65264.6
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	74632.3
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	97597.5
DI0602	NYML MALONE CORS ARP	N445215.384	W0741717.343	102758.2

NEAREST NGS PUBLISHED CONTROL POINT Information on nearest mark is not available due to database connectivity issues or has restrictions on when or how it can be published.

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.

POINT: GPS18A (1ST OBSERVATION)
FILE: 11551986.T02

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: dsimmons@photoscience.com
RINEX FILE: 1155198s.13o

DATE: July 22, 2013
TIME: 19:18:16 UTC

SOFTWARE: rsgps 1.37 RS74.prl 1.89
EPHEMERIS: igr17493.eph [rapid]
NAV FILE: brdc1980.13n
ANT NAME: TRMR8_GNSS NONE
ARP HEIGHT: 2.000
START: 2013/07/17 18:32:14
STOP: 2013/07/17 18:56:10
OBS USED: 2367 / 2448 : 97%
QUALITY IND. 9.78/ 28.50
NORMALIZED RMS: 0.349

REF FRAME: NAD_83 (2011) (EPOCH:2010.0000) IGS08 (EPOCH:2013.54187)

X:	1320672.706 (m)	0.009 (m)	1320671.868 (m)	0.009 (m)
Y:	-4379975.101 (m)	0.027 (m)	-4379973.700 (m)	0.027 (m)
Z:	4429590.576 (m)	0.026 (m)	4429590.563 (m)	0.026 (m)

LAT:	44 16 7.45979	0.004 (m)	44 16 7.49529	0.004 (m)
E LON:	286 46 45.77028	0.003 (m)	286 46 45.75234	0.003 (m)
W LON:	73 13 14.22972	0.003 (m)	73 13 14.24766	0.003 (m)
EL HGT:	96.802 (m)	0.038 (m)	95.660 (m)	0.038 (m)
ORTHO HGT:	125.729 (m)	0.040 (m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 18)	SPC (4400 VT)
Northing (Y) [meters]	4903261.324	196752.841
Easting (X) [meters]	642015.377	442465.400
Convergence [degrees]	1.24225852	-0.50302385
Point Scale	0.99984804	1.00000498
Combined Factor	0.99983286	0.99998980

US NATIONAL GRID DESIGNATOR: 18TXQ4201503261(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE (m)
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	22352.0
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	26384.1
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	49401.7
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	61037.8
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	68578.5
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	73134.4
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	93150.8
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	96378.8
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	100499.7

NEAREST NGS PUBLISHED CONTROL POINT Information on nearest mark is not available due to database connectivity issues or has restrictions on when or how it can be published.

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.

POINT: GPS18A (2ND OBSERVATION)
FILE: 11552010.T02

NGS OPUS-RS SOLUTION REPORT
=====

All computed coordinate accuracies are listed as 1-sigma RMS values.
For additional information: <http://www.ngs.noaa.gov/OPUS/about.jsp#accuracy>

USER: dsimmons@photoscience.com
RINEX FILE: 1155201m.13o

DATE: July 22, 2013
TIME: 19:37:37 UTC

SOFTWARE: rsgps 1.37 RS74.prl 1.89 START: 2013/07/20 12:06:15
EPHEMERIS: igr17496.eph [rapid] STOP: 2013/07/20 12:40:08
NAV FILE: brdc2010.13n OBS USED: 2133 / 2709 : 79%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 16.85/ 14.10
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.381

REF FRAME: NAD_83 (2011) (EPOCH:2010.0000) IGS08 (EPOCH:2013.54936)

X:	1320672.701 (m)	0.006 (m)	1320671.863 (m)	0.006 (m)
Y:	-4379975.099 (m)	0.024 (m)	-4379973.698 (m)	0.024 (m)
Z:	4429590.584 (m)	0.013 (m)	4429590.571 (m)	0.013 (m)

LAT:	44 16 7.46005	0.016 (m)	44 16 7.49555	0.016 (m)
E LON:	286 46 45.77009	0.008 (m)	286 46 45.75215	0.008 (m)
W LON:	73 13 14.22991	0.008 (m)	73 13 14.24785	0.008 (m)
EL HGT:	96.806 (m)	0.022 (m)	95.663 (m)	0.022 (m)
ORTHO HGT:	125.733 (m)	0.025 (m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 18)	SPC (4400 VT)
Northing (Y) [meters]	4903261.332	196752.849
Easting (X) [meters]	642015.372	442465.396
Convergence [degrees]	1.24225848	-0.50302389
Point Scale	0.99984804	1.00000498
Combined Factor	0.99983286	0.99998980

US NATIONAL GRID DESIGNATOR: 18TXQ4201503261(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE (m)
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	22352.0
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	26384.0
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	49401.7
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	61037.8
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	68578.5
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	73134.4
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	76022.0
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	93150.8
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	96378.8

NEAREST NGS PUBLISHED CONTROL POINT Information on nearest mark is not available due to database connectivity issues or has restrictions on when or how it can be published.

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.

POINT: GPS18B (1ST OBSERVATION)
FILE: 18841986.T02

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: dsimmons@photoscience.com
RINEX FILE: 1884198s.13o

DATE: July 22, 2013
TIME: 19:48:19 UTC

SOFTWARE: rsgps 1.37 RS93.prl 1.89 START: 2013/07/17 18:35:58
EPHEMERIS: igr17493.eph [rapid] STOP: 2013/07/17 18:58:03
NAV FILE: brdc1980.13n OBS USED: 2673 / 2700 : 99%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 13.62/ 3.93
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.358

REF FRAME: NAD_83 (2011) (EPOCH:2010.0000) IGS08 (EPOCH:2013.54187)

X:	1320640.771 (m)	0.010 (m)	1320639.933 (m)	0.010 (m)
Y:	-4379979.038 (m)	0.025 (m)	-4379977.637 (m)	0.025 (m)
Z:	4429602.900 (m)	0.026 (m)	4429602.887 (m)	0.026 (m)

LAT:	44 16 7.86894	0.005 (m)	44 16 7.90444	0.005 (m)
E LON:	286 46 44.34047	0.004 (m)	286 46 44.32253	0.004 (m)
W LON:	73 13 15.65953	0.004 (m)	73 13 15.67747	0.004 (m)
EL HGT:	101.502 (m)	0.037 (m)	100.360 (m)	0.037 (m)
ORTHO HGT:	130.430 (m)	0.039 (m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 18)	SPC (4400 VT)
Northing (Y) [meters]	4903273.261	196765.747
Easting (X) [meters]	641983.404	442433.801
Convergence [degrees]	1.24198367	-0.50330213
Point Scale	0.99984793	1.00000503
Combined Factor	0.99983202	0.99998911

US NATIONAL GRID DESIGNATOR: 18TXQ4198303273 (NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE (m)
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	22342.0
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	26356.4
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	49378.2
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	61031.0
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	68546.1
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	73159.3
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	93184.9
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	96408.2
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	100479.6

NEAREST NGS PUBLISHED CONTROL POINT Information on nearest mark is not available due to database connectivity issues or has restrictions on when or how it can be published.

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.

POINT: GPS18B (2ND OBSERVATION)
FILE: 18842010.T02

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

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: dsimmons@photoscience.com DATE: July 22, 2013
RINEX FILE: 1884201m.13o TIME: 20:08:52 UTC

SOFTWARE: rsgps 1.37 RS74.prl 1.89 START: 2013/07/20 12:09:09
EPHEMERIS: igr17496.eph [rapid] STOP: 2013/07/20 12:41:53
NAV FILE: brdc2010.13n OBS USED: 3141 / 3159 : 99%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 17.01/ 0.25
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.367

REF FRAME: NAD_83 (2011) (EPOCH:2010.0000) IGS08 (EPOCH:2013.54936)

X:	1320640.772 (m)	0.008 (m)	1320639.934 (m)	0.008 (m)
Y:	-4379979.030 (m)	0.020 (m)	-4379977.629 (m)	0.020 (m)
Z:	4429602.909 (m)	0.022 (m)	4429602.896 (m)	0.022 (m)

LAT:	44 16 7.86931	0.009 (m)	44 16 7.90481	0.009 (m)
E LON:	286 46 44.34061	0.005 (m)	286 46 44.32268	0.005 (m)
W LON:	73 13 15.65939	0.005 (m)	73 13 15.67732	0.005 (m)
EL HGT:	101.503 (m)	0.029 (m)	100.361 (m)	0.029 (m)
ORTHO HGT:	130.431 (m)	0.032 (m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 18)	SPC (4400 VT)
Northing (Y) [meters]	4903273.273	196765.759
Easting (X) [meters]	641983.407	442433.804
Convergence [degrees]	1.24198370	-0.50330211
Point Scale	0.99984793	1.00000503
Combined Factor	0.99983202	0.99998911

US NATIONAL GRID DESIGNATOR: 18TXQ4198303273 (NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE (m)
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	22342.0
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	26356.4
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	49378.2
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	61031.0
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	68546.1
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	73159.3
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	76042.4
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	93184.9
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	96408.2

NEAREST NGS PUBLISHED CONTROL POINT Information on nearest mark is not available due to database connectivity issues or has restrictions on when or how it can be published.

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.

POINT: GPS19B (1ST OBSERVATION)
FILE: 18841993.T02

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: dsimmons@photoscience.com
RINEX FILE: 1884199p.13o

DATE: July 22, 2013
TIME: 19:59:23 UTC

SOFTWARE: rsgps 1.37 RS90.prl 1.89 START: 2013/07/18 15:06:59
EPHEMERIS: igr17494.eph [rapid] STOP: 2013/07/18 15:33:44
NAV FILE: brdc1990.13n OBS USED: 2256 / 2512 : 90%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 12.32/ 5.36
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.465

REF FRAME: NAD_83 (2011) (EPOCH:2010.0000) IGS08 (EPOCH:2013.54422)

X:	1341725.605 (m)	0.014 (m)	1341724.768 (m)	0.014 (m)
Y:	-4397460.104 (m)	0.034 (m)	-4397458.698 (m)	0.034 (m)
Z:	4406338.965 (m)	0.029 (m)	4406338.950 (m)	0.029 (m)

LAT:	43 58 31.46474	0.010 (m)	43 58 31.50014	0.010 (m)
E LON:	286 58 3.60895	0.012 (m)	286 58 3.59144	0.012 (m)
W LON:	73 1 56.39105	0.012 (m)	73 1 56.40856	0.012 (m)
EL HGT:	307.369 (m)	0.044 (m)	306.215 (m)	0.044 (m)
ORTHO HGT:	335.392 (m)	0.046 (m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 18)	SPC (4400 VT)
Northing (Y) [meters]	4871023.404	164045.748
Easting (X) [meters]	657822.433	457287.639
Convergence [degrees]	1.36653129	-0.36962925
Point Scale	0.99990635	0.99998672
Combined Factor	0.99985816	0.99993853

US NATIONAL GRID DESIGNATOR: 18TXP5782271023 (NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE (m)
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	34656.3
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	41142.1
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	56445.5
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	73729.2
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	79647.1
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	88302.0
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	92725.4
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	102361.7

NEAREST NGS PUBLISHED CONTROL POINT Information on nearest mark is not available due to database connectivity issues or has restrictions on when or how it can be published.

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.

POINT: GPS19B (2ND OBSERVATION)
FILE: 18842005.T02

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

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: dsimmons@photoscience.com DATE: July 22, 2013
RINEX FILE: 1884200r.13o TIME: 20:07:09 UTC

SOFTWARE: rsgps 1.37 RS92.prl 1.89 START: 2013/07/19 17:32:27
EPHEMERIS: igr17495.eph [rapid] STOP: 2013/07/19 17:52:59
NAV FILE: brdc2000.13n OBS USED: 1080 / 1792 : 60%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 15.45/ 0.51
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.524

REF FRAME: NAD_83 (2011) (EPOCH:2010.0000) IGS08 (EPOCH:2013.54723)

X:	1341725.586 (m)	0.017 (m)	1341724.749 (m)	0.017 (m)
Y:	-4397460.017 (m)	0.032 (m)	-4397458.611 (m)	0.032 (m)
Z:	4406338.911 (m)	0.051 (m)	4406338.896 (m)	0.051 (m)

LAT:	43 58 31.46548	0.017 (m)	43 58 31.50088	0.017 (m)
E LON:	286 58 3.60927	0.012 (m)	286 58 3.59176	0.012 (m)
W LON:	73 1 56.39073	0.012 (m)	73 1 56.40824	0.012 (m)
EL HGT:	307.268 (m)	0.059 (m)	306.114 (m)	0.059 (m)
ORTHO HGT:	335.291 (m)	0.060 (m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 18)	SPC (4400 VT)
Northing (Y) [meters]	4871023.426	164045.771
Easting (X) [meters]	657822.439	457287.647
Convergence [degrees]	1.36653136	-0.36962919
Point Scale	0.99990635	0.99998672
Combined Factor	0.99985818	0.99993854

US NATIONAL GRID DESIGNATOR: 18TXP5782271023 (NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE (m)
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	34656.3
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	41142.2
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	56445.5
DJ8957	VT0X BRADFORD CORS ARP	N440028.165	W0720651.609	73729.2
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	79647.1
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	88302.1
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	92725.3
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	102361.8

NEAREST NGS PUBLISHED CONTROL POINT Information on nearest mark is not available due to database connectivity issues or has restrictions on when or how it can be published.

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.

POINT: GPS20A (1ST OBSERVATION)
FILE: 11551984.T02

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: dsimmons@photoscience.com
RINEX FILE: 1155198q.13o

DATE: July 22, 2013
TIME: 19:09:30 UTC

SOFTWARE: rsgps 1.37 RS94.prl 1.89 START: 2013/07/17 16:50:46
EPHEMERIS: igr17493.eph [rapid] STOP: 2013/07/17 17:11:28
NAV FILE: brdc1980.13n OBS USED: 2457 / 2592 : 95%
ANT NAME: TRMR8_GNSS QUALITY IND. 9.02/ 34.15
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.353

REF FRAME: NAD_83 (2011) (EPOCH:2010.0000) IGS08 (EPOCH:2013.54167)

X:	1331079.947 (m)	0.009 (m)	1331079.110 (m)	0.009 (m)
Y:	-4383290.463 (m)	0.020 (m)	-4383289.060 (m)	0.020 (m)
Z:	4423261.289 (m)	0.025 (m)	4423261.276 (m)	0.025 (m)

LAT:	44 11 20.69846	0.009 (m)	44 11 20.73397	0.009 (m)
E LON:	286 53 31.32796	0.006 (m)	286 53 31.31025	0.006 (m)
W LON:	73 6 28.67204	0.006 (m)	73 6 28.68975	0.006 (m)
EL HGT:	115.661 (m)	0.031 (m)	114.515 (m)	0.031 (m)
ORTHO HGT:	144.168 (m)	0.034 (m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 18)	SPC (4400 VT)
Northing (Y) [meters]	4894614.774	187829.243
Easting (X) [meters]	651210.513	451394.322
Convergence [degrees]	1.31905175	-0.42377681
Point Scale	0.99988121	0.99999333
Combined Factor	0.99986308	0.99997519

US NATIONAL GRID DESIGNATOR: 18TXP5121094614 (NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE (m)
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	26496.0
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	31945.1
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	42770.1
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	49037.1
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	61184.1
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	65482.5
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	69002.0
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	78554.1
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	82073.2

NEAREST NGS PUBLISHED CONTROL POINT Information on nearest mark is not available due to database connectivity issues or has restrictions on when or how it can be published.

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.

POINT: GPS20A (2ND OBSERVATION)
FILE: 11552001.T02

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: dsimmons@photoscience.com
RINEX FILE: 11552001.13o

DATE: July 22, 2013
TIME: 19:25:49 UTC

SOFTWARE: rsgps 1.37 RS74.prl 1.89 START: 2013/07/19 11:27:56
EPHEMERIS: igr17495.eph [rapid] STOP: 2013/07/19 11:48:17
NAV FILE: brdc2000.13n OBS USED: 1272 / 1456 : 87%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 19.81/ 7.11
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.337

REF FRAME: NAD_83 (2011) (EPOCH:2010.0000) IGS08 (EPOCH:2013.54653)

X:	1331079.948 (m)	0.015 (m)	1331079.110 (m)	0.015 (m)
Y:	-4383290.529 (m)	0.028 (m)	-4383289.126 (m)	0.028 (m)
Z:	4423261.369 (m)	0.041 (m)	4423261.356 (m)	0.041 (m)

LAT:	44 11 20.69889	0.010 (m)	44 11 20.73440	0.010 (m)
E LON:	286 53 31.32714	0.007 (m)	286 53 31.30939	0.007 (m)
W LON:	73 6 28.67286	0.007 (m)	73 6 28.69061	0.007 (m)
EL HGT:	115.762 (m)	0.050 (m)	114.616 (m)	0.050 (m)
ORTHO HGT:	144.269 (m)	0.052 (m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 18)	SPC (4400 VT)
Northing (Y) [meters]	4894614.787	187829.257
Easting (X) [meters]	651210.494	451394.303
Convergence [degrees]	1.31905159	-0.42377697
Point Scale	0.99988121	0.99999333
Combined Factor	0.99986306	0.99997518

US NATIONAL GRID DESIGNATOR: 18TXP5121094614 (NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE (m)
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	26496.0
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	31945.1
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	42770.1
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	49037.2
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	61184.1
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	68924.5
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	78554.1
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	82073.2

NEAREST NGS PUBLISHED CONTROL POINT Information on nearest mark is not available due to database connectivity issues or has restrictions on when or how it can be published.

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.

POINT: GPS20B (1ST OBSERVATION)
FILE: 18841984.T02

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: dsimmons@photoscience.com
RINEX FILE: 1884198q.13o

DATE: July 22, 2013
TIME: 19:48:17 UTC

SOFTWARE: rsgps 1.37 RS92.prl 1.89 START: 2013/07/17 16:47:19
EPHEMERIS: igr17493.eph [rapid] STOP: 2013/07/17 17:13:59
NAV FILE: brdc1980.13n OBS USED: 3339 / 3429 : 97%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 8.49/ 35.10
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.377

REF FRAME: NAD_83 (2011) (EPOCH:2010.0000) IGS08 (EPOCH:2013.54167)

X:	1331103.034 (m)	0.008 (m)	1331102.197 (m)	0.008 (m)
Y:	-4383319.333 (m)	0.023 (m)	-4383317.930 (m)	0.023 (m)
Z:	4423225.029 (m)	0.028 (m)	4423225.016 (m)	0.028 (m)

LAT:	44 11 19.08080	0.010 (m)	44 11 19.11631	0.010 (m)
E LON:	286 53 31.94492	0.007 (m)	286 53 31.92721	0.007 (m)
W LON:	73 6 28.05508	0.007 (m)	73 6 28.07279	0.007 (m)
EL HGT:	115.005 (m)	0.036 (m)	113.859 (m)	0.036 (m)
ORTHO HGT:	143.511 (m)	0.038 (m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 18)	SPC (4400 VT)
Northing (Y) [meters]	4894565.179	187779.214
Easting (X) [meters]	651225.359	451407.654
Convergence [degrees]	1.31916063	-0.42365393
Point Scale	0.99988126	0.99999331
Combined Factor	0.99986323	0.99997528

US NATIONAL GRID DESIGNATOR: 18TXP5122594565 (NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE (m)
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	26538.3
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	31996.9
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	42766.3
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	48997.7
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	61234.8
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	65431.0
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	69016.2
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	78576.0
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	82048.0

NEAREST NGS PUBLISHED CONTROL POINT Information on nearest mark is not available due to database connectivity issues or has restrictions on when or how it can be published.

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.

POINT: GPS20B (2ND OBSERVATION)
FILE: 18842001.T02

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: dsimmons@photoscience.com
RINEX FILE: 18842001.13o

DATE: July 22, 2013
TIME: 20:00:47 UTC

SOFTWARE: rsgps 1.37 RS13.prl 1.89 START: 2013/07/19 11:24:37
EPHEMERIS: igr17495.eph [rapid] STOP: 2013/07/19 11:50:46
NAV FILE: brdc2000.13n OBS USED: 1416 / 1696 : 83%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 19.92/ 8.23
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.329

REF FRAME: NAD_83 (2011) (EPOCH:2010.0000) IGS08 (EPOCH:2013.54653)

X:	1331103.056 (m)	0.011 (m)	1331102.218 (m)	0.011 (m)
Y:	-4383319.429 (m)	0.015 (m)	-4383318.026 (m)	0.015 (m)
Z:	4423225.151 (m)	0.021 (m)	4423225.138 (m)	0.021 (m)

LAT:	44 11 19.08142	0.007 (m)	44 11 19.11693	0.007 (m)
E LON:	286 53 31.94461	0.007 (m)	286 53 31.92686	0.007 (m)
W LON:	73 6 28.05539	0.007 (m)	73 6 28.07314	0.007 (m)
EL HGT:	115.161 (m)	0.026 (m)	114.014 (m)	0.026 (m)
ORTHO HGT:	143.667 (m)	0.029 (m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 18)	SPC (4400 VT)
Northing (Y) [meters]	4894565.198	187779.233
Easting (X) [meters]	651225.351	451407.647
Convergence [degrees]	1.31916057	-0.42365399
Point Scale	0.99988126	0.99999331
Combined Factor	0.99986321	0.99997525

US NATIONAL GRID DESIGNATOR: 18TXP5122594565 (NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE (m)
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	26538.3
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	31996.9
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	42766.3
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	48997.7
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	61234.8
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	68974.0
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	78576.0
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	82048.0

NEAREST NGS PUBLISHED CONTROL POINT Information on nearest mark is not available due to database connectivity issues or has restrictions on when or how it can be published.

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.

Section 5 – Field Data Log Sheets

1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	BE 01
Project No.	7505-074
Project Name	T.O. #28 – Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Middlebury

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4873859.190	167186.919	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	647713.058	447267.789	109.983	81.300

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
RTK Base	PID DK4109
Date	09/16/2012
Start Time (UTC)	12:41
End Time (UTC)	12:52

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
RTK Base	PID DG9783
Date	09/16/2012
Start Time (UTC)	12:53
End Time (UTC)	13:06

PHOTOS:


1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	BE 02
Project No.	7505-074
Project Name	T.O. #28 – Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Middlebury

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4874112.229	167478.689	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	646432.788	445995.608	121.374	92.644

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
RTK Base	PID DG9783
Date	09/14/2012
Start Time (UTC)	12:15
End Time (UTC)	12:27

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
RTK Base	PID DK4109
Date	09/14/2012
Start Time (UTC)	12:29
End Time (UTC)	12:39

PHOTOS:



1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	BE 03
Project No.	7505-074
Project Name	T.O. #28 – Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Middlebury

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4875753.062	169103.078	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	646957.529	446569.930	118.599	89.899

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
RTK Base	PID DG9783
Date	09/16/2012
Start Time (UTC)	14:40
End Time (UTC)	14:50

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
RTK Base	PID DK4109
Date	09/16/2012
Start Time (UTC)	14:51
End Time (UTC)	15:03

PHOTOS:


1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	BE 04
Project No.	7505-074
Project Name	T.O. #28 – Addison, VT LiDAR
State	Vermont
County	Addison
Quad	East Middlebury

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4870879.184	164079.827	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	651939.665	451402.644	124.548	96.081

Operator	Kevin Chapman
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461066
Antenna Height	2.0 Meters
RTK Base	PID DL2744
Date	09/15/2012
Start Time (UTC)	15:15
End Time (UTC)	15:26

Operator	Kevin Chapman
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461066
Antenna Height	2.0 Meters
RTK Base	PID DK4109
Date	09/15/2012
Start Time (UTC)	15:39
End Time (UTC)	15:50

PHOTOS:



1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	BE 05
Project No.	7505-074
Project Name	T.O. #28 - Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Brandon

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4857093.268	150290.108	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	652224.328	451269.965	159.232	130.650

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11552573.T02
Date	09/13/2012
Start Time (UTC)	14:27
End Time (UTC)	14:57

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11552576.T02
Date	09/13/2012
Start Time (UTC)	19:33
End Time (UTC)	20:05

PHOTOS:



1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	BE 06
Project No.	7505-074
Project Name	T.O. #28 – Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Cornwall

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4869297.790	162750.113	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	643649.698	443067.495	114.350	85.511

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
RTK Base	PID DK4109
Date	09/14/2012
Start Time (UTC)	12:55
End Time (UTC)	13:08

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
RTK Base	PID DG9783
Date	09/14/2012
Start Time (UTC)	13:09
End Time (UTC)	13:19

PHOTOS:



1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	BE 07
Project No.	7505-074
Project Name	T.O. #28 - Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Bread Loaf

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4868573.520	161492.718	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	661258.676	460648.338	439.545	411.735

Operator	Kevin Chapman
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461066
Antenna Height	2.0 Meters
Static Session	10662607.T02
Date	09/16/2012
Start Time (UTC)	19:28
End Time (UTC)	19:59

Operator	Kevin Chapman
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461066
Antenna Height	2.0 Meters
Static Session	10662613.T02
Date	09/17/2012
Start Time (UTC)	14:58
End Time (UTC)	15:29

PHOTOS:


1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	BE 08
Project No.	7505-074
Project Name	T.O. #28 – Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Bristol

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4888615.331	181786.179	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	652715.120	452716.002	174.851	146.451

Operator	Kevin Chapman
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461066
Antenna Height	2.0 Meters
RTK Base	PID DK4109
Date	09/19/2012
Start Time (UTC)	18:54
End Time (UTC)	19:08

Operator	Kevin Chapman
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461066
Antenna Height	2.0 Meters
RTK Base	PID DG9783
Date	09/19/2012
Start Time (UTC)	19:09
End Time (UTC)	19:19

PHOTOS:



1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	BE 09
Project No.	7505-074
Project Name	T.O. #28 – Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Vergennes East

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4891689.523	185241.876	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	640130.880	440229.309	51.173	22.267

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
RTK Base	PID DN8745
Date	09/19/2012
Start Time (UTC)	18:22
End Time (UTC)	18:32

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
RTK Base	PID DG9783
Date	09/19/2012
Start Time (UTC)	18:33
End Time (UTC)	18:47

PHOTOS:


1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	BE 10
Project No.	7505-074
Project Name	T.O. #28 – Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Vergennes West

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4891453.940	185046.828	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	638799.943	438891.598	53.300	24.369

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
RTK Base	PID DG9783
Date	09/19/2012
Start Time (UTC)	16:25
End Time (UTC)	16:47

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
RTK Base	PID DN8745
Date	09/19/2012
Start Time (UTC)	16:48
End Time (UTC)	16:58

PHOTOS:


1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	BE 11
Project No.	7505-074
Project Name	T.O. #28 – Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Vergennes East

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4896194.169	189753.298	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	639864.352	440099.871	53.711	24.774

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
RTK Base	PID DL2744
Date	09/20/2012
Start Time (UTC)	12:57
End Time (UTC)	13:13

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
RTK Base	PID DN8745
Date	09/20/2012
Start Time (UTC)	13:19
End Time (UTC)	13:29

PHOTOS:



1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	BE 12
Project No.	7505-074
Project Name	T.O. #28 – Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Vergennes West

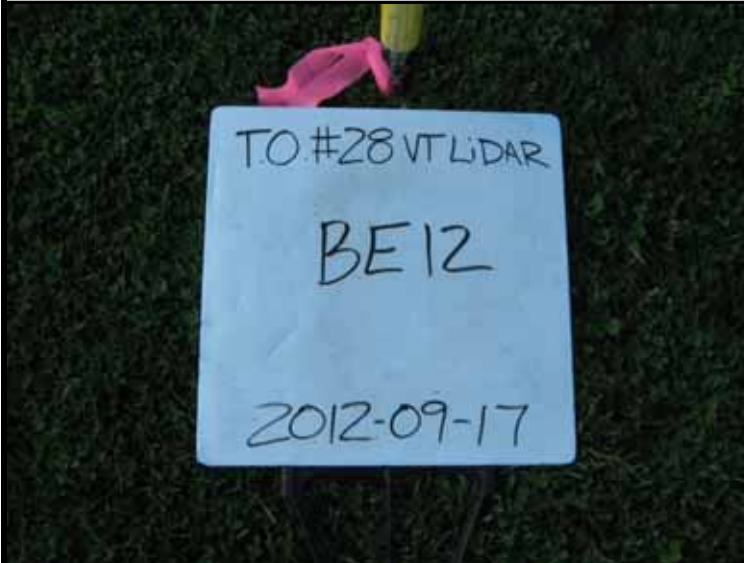
	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4894773.226	188612.953	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	630654.209	430849.005	40.773	11.773

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
RTK Base	PID DL2744
Date	09/17/2012
Start Time (UTC)	20:03
End Time (UTC)	20:26

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
RTK Base	PID DL2744
Date	09/17/2012
Start Time (UTC)	20:27
End Time (UTC)	20:37

PHOTOS:



1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	BE 13
Project No.	7505-074
Project Name	T.O. #28 - Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Port Henry

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4882216.362	176123.435	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	628538.658	428352.354	57.936	28.961

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11552616.T02
Date	09/17/2012
Start Time (UTC)	16:37
End Time (UTC)	17:14

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11552623.T02
Date	09/18/2012
Start Time (UTC)	12:21
End Time (UTC)	12:52

PHOTOS:


1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	BE 14
Project No.	7505-074
Project Name	T.O. #28 - Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Hinesburg

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4901808.345	195064.982	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	649742.836	450146.088	182.965	154.329

Operator	Kevin Chapman
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461066
Antenna Height	2.0 Meters
Static Session	10662573.T02
Date	09/13/2012
Start Time (UTC)	14:17
End Time (UTC)	14:48

Operator	Kevin Chapman
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461066
Antenna Height	2.0 Meters
Static Session	10662575.T02
Date	09/13/2012
Start Time (UTC)	20:46
End Time (UTC)	21:17

PHOTOS:



1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	BE 15
Project No.	7505-074
Project Name	T.O. #28 - Addison, VT LiDAR
State	Vermont
County	Chittenden
Quad	Mount Philo

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4909033.121	202449.547	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	644420.006	445045.170	110.696	81.816

Operator	Kevin Chapman
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461066
Antenna Height	2.0 Meters
Static Session	10662562.T02
Date	09/12/2012
Start Time (UTC)	17:44
End Time (UTC)	18:15

Operator	Kevin Chapman
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461066
Antenna Height	2.0 Meters
Static Session	10662565.T02
Date	09/12/2012
Start Time (UTC)	21:55
End Time (UTC)	22:26

PHOTOS:



1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	BE 16
Project No.	7505-074
Project Name	T.O. #28 – Addison, VT LiDAR
State	Vermont
County	Chittenden
Quad	Mount Philo

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4911335.028	204873.474	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	640395.248	441091.857	110.963	81.946

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
RTK Base	PID DL2744
Date	09/21/2012
Start Time (UTC)	15:19
End Time (UTC)	15:29

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
RTK Base	PID DG9783
Date	09/21/2012
Start Time (UTC)	15:31
End Time (UTC)	15:41

PHOTOS:



1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	BE 17
Project No.	7505-074
Project Name	T.O. #28 - Addison, VT LiDAR
State	Vermont
County	Chittenden
Quad	Charlotte

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4907343.866	201002.116	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	636504.223	437080.267	43.183	14.136

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11552563.T02
Date	09/12/2012
Start Time (UTC)	17:05
End Time (UTC)	17:45

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11552568.T02
Date	09/12/2012
Start Time (UTC)	21:05
End Time (UTC)	21:46

PHOTOS:



1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	BE 18
Project No.	7505-074
Project Name	T.O. #28 - Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Sudbury

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4857236.774	150664.403	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	644589.070	443641.564	138.077	109.183

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11552581.T02
Date	09/14/2012
Start Time (UTC)	17:04
End Time (UTC)	17:34

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11552592.T02
Date	09/15/2012
Start Time (UTC)	11:42
End Time (UTC)	12:12

PHOTOS:



1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	BE 19
Project No.	7505-074
Project Name	T.O. #28 - Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Mount Carmel

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4857228.815	150162.162	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	660938.578	459985.088	479.824	451.891

Operator	Kevin Chapman
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461066
Antenna Height	2.0 Meters
Static Session	10662583.T02
Date	09/14/2012
Start Time (UTC)	15:46
End Time (UTC)	16:17

Operator	Kevin Chapman
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461066
Antenna Height	2.0 Meters
Static Session	10662660.T02
Date	09/22/2012
Start Time (UTC)	12:51
End Time (UTC)	13:22

PHOTOS:



1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	BE 20
Project No.	7505-074
Project Name	T.O. #28 - Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Lincoln

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4881612.500	174502.865	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	662038.354	461823.033	398.597	370.864

Operator	Kevin Chapman
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461066
Antenna Height	2.0 Meters
Static Session	10662601.T02
Date	09/16/2012
Start Time (UTC)	13:55
End Time (UTC)	14:26

Operator	Kevin Chapman
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461066
Antenna Height	2.0 Meters
Static Session	10662616.T02
Date	09/17/2012
Start Time (UTC)	18:27
End Time (UTC)	18:55

PHOTOS:



1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	FO 01R
Project No.	7505-074
Project Name	T.O. #28 - Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Middlebury

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4883046.579	176586.627	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	640620.039	440455.722	66.177	37.329

Point	GPS1A
Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11552612.T02
Date	09/17/2012
Start Time (UTC)	13:02
End Time (UTC)	13:44

Point	GPS1A
Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11552628.T02
Date	09/18/2012
Start Time (UTC)	18:20
End Time (UTC)	19:01

Point	GPS1B
Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5108461884
Antenna Height	2.0 Meters
Static Session	18841983.T02
Date	07/17/2013
Start Time (UTC)	15:39
End Time (UTC)	15:46

Point	GPS1B
Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5108461884
Antenna Height	2.0 Meters
Static Session	18842002.T02
Date	07/19/2013
Start Time (UTC)	12:45
End Time (UTC)	13:13

PHOTOS: FO 01R


1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	FO 02R
Project No.	7505-074
Project Name	T.O. #28 – Addison, VT LiDAR
State	Vermont
County	Addison
Quad	South Mountain

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	48831111.936	176277.785	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	652944.358	452778.001	117.279	88.899

Point	GPS2A
Operator	Kevin Chapman
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461066
Antenna Height	2.0 Meters
RTK Base	PID DK4109
Date	09/19/2012
Start Time (UTC)	11:47
End Time (UTC)	11:57

Point	GPS2A
Operator	Kevin Chapman
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461066
Antenna Height	2.0 Meters
RTK Base	PID DG9783
Date	09/19/2012
Start Time (UTC)	12:03
End Time (UTC)	12:13

Point	GPS2B
Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5108461884
Antenna Height	2.0 Meters
Static Session	18841982.T02
Date	07/17/2013
Start Time (UTC)	14:29
End Time (UTC)	14:57

Point	GPS2B
Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5108461884
Antenna Height	2.0 Meters
Static Session	18842003.T02
Date	07/19/2013
Start Time (UTC)	14:39
End Time (UTC)	15:00

PHOTOS: FO 02R


1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	FO 03R
Project No.	7505-074
Project Name	T.O. #28 - Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Lincoln

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4879407.271	172252.347	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	663560.225	463277.369	452.508	424.893

Point	GPS3A
Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11552660.T02
Date	09/22/2012
Start Time (UTC)	11:29
End Time (UTC)	12:09

	GPS3A
Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11552670.T02
Date	09/23/2012
Start Time (UTC)	12:23
End Time (UTC)	13:03

Point	GPS3B
Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5108461884
Antenna Height	2.0 Meters
Static Session	18841981.T02
Date	07/17/2013
Start Time (UTC)	13:30
End Time (UTC)	13:55

PHOTOS: FO 03R



1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	FO 04R
Project No.	7505-074
Project Name	T.O. #28 - Addison, VT LiDAR
State	Vermont
County	Addison
Quad	South Mountain

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4876001.592	168989.869	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	658883.626	458499.325	458.246	430.337

Point	GPS4A
Operator	Kevin Chapman
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461066
Antenna Height	2.0 Meters
Static Session	10662604.T02
Date	09/16/2012
Start Time (UTC)	16:28
End Time (UTC)	17:14

Point	GPS4A
Operator	Kevin Chapman
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461066
Antenna Height	2.0 Meters
Static Session	10662610.T02
Date	09/17/2012
Start Time (UTC)	12:23
End Time (UTC)	13:09

Point	GPS4B
Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11551980.T02
Date	07/17/2013
Start Time (UTC)	12:09
End Time (UTC)	12:39

Point	GPS4B
Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5108461884
Antenna Height	2.0 Meters
Static Session	18842004.T02
Date	07/19/2013
Start Time (UTC)	16:06
End Time (UTC)	16:40

PHOTOS: FO 04R


1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	FO 05
Project No.	7505-074
Project Name	T.O. #28 - Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Bread Loaf

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4867260.846	160104.675	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	663764.858	463113.762	560.012	532.354

Operator	Kevin Chapman
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461066
Antenna Height	2.0 Meters
Static Session	10662606.T02
Date	09/16/2012
Start Time (UTC)	18:31
End Time (UTC)	19:17

Operator	Kevin Chapman
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461066
Antenna Height	2.0 Meters
Static Session	10662612.T02
Date	09/17/2012
Start Time (UTC)	14:04
End Time (UTC)	14:49

PHOTOS: FO 05



1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	FO 06R
Project No.	7505-074
Project Name	T.O. #28 - Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Mount Carmel

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4857289.871	150223177	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	660939.151	459987.507	481.412	453.479

Point	GPS6A
Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11551990.T02
Date	07/18/2013
Start Time (UTC)	11:35
End Time (UTC)	11:54

Point	GPS6A
Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11552008.T02
Date	07/19/2013
Start Time (UTC)	21:29
End Time (UTC)	22:00

Point	GPS6B
Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5108461884
Antenna Height	2.0 Meters
Static Session	18841990.T02
Date	07/18/2013
Start Time (UTC)	11:32
End Time (UTC)	11:58

Point	GPS6B
Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5108461884
Antenna Height	2.0 Meters
Static Session	18842008.T02
Date	07/19/2013
Start Time (UTC)	21:25
End Time (UTC)	22:02

PHOTOS: FO 06R



1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	FO 07R
Project No.	7505-074
Project Name	T.O. #28 – Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Brandon

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4856978.801	150180.611	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	652061.262	451103.496	150.561	121.969

Point	GPS7A
Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
RTK Base	PID DG9783
Date	09/13/2012
Start Time (UTC)	16:24
End Time (UTC)	16:41

Point	GPS7A
Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
RTK Base	PID DK4109
Date	09/13/2012
Start Time (UTC)	16:42
End Time (UTC)	16:53

Point	GPS7B
Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5108461184
Antenna Height	2.0 Meters
Static Session	18841411.T02
Date	05/21/2013
Start Time (UTC)	18:49
End Time (UTC)	19:24

PHOTOS: FO 07R



1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

GNSS CONTROL SURVEY

FIELD DATA LOG SHEET

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Point ID	FO 08R
Project No.	7505-074
Project Name	T.O. #28 - Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Sudbury

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4856324.623	149738.852	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	645041.711	444066.488	148.038	119.150

Point	GPS8A
Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11551410.T02
Date	05/21/2013
Start Time (UTC)	17:15
End Time (UTC)	18:00

Point	GPS8B
Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5108461884
Antenna Height	2.0 Meters
Static Session	18841410.T02
Date	05/21/2013
Start Time (UTC)	17:10
End Time (UTC)	18:05

PHOTOS: FO 08R



1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	FO 09R
Project No.	7505-074
Project Name	T.O. #28 – Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Cornwall

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4867752.511	161245.012	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	642338.790	441710.180	103.269	74.389

Point	GPS9A
Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
RTK Base	PID DK4109
Date	09/14/2012
Start Time (UTC)	13:44
End Time (UTC)	13:54

Point	GPS9A
Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
RTK Base	PID DG9783
Date	09/14/2012
Start Time (UTC)	13:57
End Time (UTC)	14:17

Point	GPS9B
Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5108461884
Antenna Height	2.0 Meters
Static Session	18841991.T02
Date	07/18/2013
Start Time (UTC)	12:51
End Time (UTC)	13:22

Point	GPS9B
Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5108461884
Antenna Height	2.0 Meters
Static Session	18842007.T02
Date	07/19/2013
Start Time (UTC)	20:25
End Time (UTC)	20:48

PHOTOS: FO 09R



1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	FO 10R
Project No.	7505-074
Project Name	T.O. #28 – Addison, VT LiDAR
State	Vermont
County	Addison
Quad	East Middlebury

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4870845.153	164044.919	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	651968.985	451430.923	124.917	96.96.452

Point	GPS10A
Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5108461884
Antenna Height	2.0 Meters
Static Session	18841992.T02
Date	07/18/2013
Start Time (UTC)	14:15
End Time (UTC)	14:42

Point	GPS10A
Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11552006.T02
Date	07/19/2013
Start Time (UTC)	18:41
End Time (UTC)	19:11

Point	GPS10B
Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11551992.T02
Date	07/18/2013
Start Time (UTC)	14:17
End Time (UTC)	14:39

Point	GPS10B
Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5108461884
Antenna Height	2.0 Meters
Static Session	18842006.T02
Date	07/19/2013
Start Time (UTC)	18:37
End Time (UTC)	19:41

PHOTOS: FO 10R



1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	FO 11R
Project No.	7505-074
Project Name	T.O. #28 - Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Port Henry

☐	Aerial Target
☐	LiDAR Ground Control
☒	LiDAR QC Point
☐	New Control
☐	Photo ID
☐	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4882444.907	176324.047	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	629456.917	429277.333	47.347	18.365

Point	GPS11A
Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11551442.T02
Date	05/24/2013
Start Time (UTC)	13:15
End Time (UTC)	13:48

Point	GPS11B
Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5108461884
Antenna Height	2.0 Meters
Static Session	18841440.T02
Date	05/24/2013
Start Time (UTC)	12:36
End Time (UTC)	13:51

PHOTOS: FO 11R


1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	FO 12R
Project No.	7505-074
Project Name	T.O. #28 – Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Vergennes West

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4888167.530	181995.725	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	631087.802	431081.642	47.136	18.140

Point	GPS12A
Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
RTK Base	PID DL2744
Date	09/17/2012
Start Time (UTC)	17:30
End Time (UTC)	17:40

Point	GPS12A
Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
RTK Base	PID DK4109
Date	09/17/2012
Start Time (UTC)	17:44
End Time (UTC)	17:55

Point	GPS12B
Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5108461184
Antenna Height	2.0 Meters
Static Session	18841433.T02
Date	05/23/2013
Start Time (UTC)	08:46
End Time (UTC)	09:23

PHOTOS: FO 12R


1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	FO 13R
Project No.	7505-074
Project Name	T.O. #28 - Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Vergennes West

☐	Aerial Target
☐	LiDAR Ground Control
☒	LiDAR QC Point
☐	New Control
☐	Photo ID
☐	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4894788.862	188622.819	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	630843.736	431038.961	39.191	10.191

Point	GPS13A
Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11551443.T02
Date	05/24/2013
Start Time (UTC)	15:04
End Time (UTC)	15:36

Point	GPS13B
Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5108461184
Antenna Height	2.0 Meters
Static Session	18841441.T02
Date	05/24/2013
Start Time (UTC)	14:59
End Time (UTC)	15:37

PHOTOS: FO 13R



1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	FO 14R
Project No.	7505-074
Project Name	T.O. #28 – Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Vergennes West

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4891713.812	185302.281	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	638942.806	439042.321	48.119	19.188

Point	GPS14A
Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
RTK Base	PID DL2744
Date	09/20/2012
Start Time (UTC)	10:22
End Time (UTC)	10:33

Point	GPS14A
Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
RTK Base	PID DG9783
Date	09/20/2012
Start Time (UTC)	10:34
End Time (UTC)	10:44

Point	GPS14B
Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	18841431.T02
Date	05/23/2013
Start Time (UTC)	16:13
End Time (UTC)	16:46

PHOTOS: FO 14R


1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	FO 15R
Project No.	7505-074
Project Name	T.O. #28 – Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Mount Philo

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4901773.462	195033.758	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	649623.068	450025.299	167.757	139.116

Point	GPS15A
Operator	Kevin Chapman
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461066
Antenna Height	2.0 Meters
RTK Base	PID DL2744
Date	09/21/2012
Start Time (UTC)	14:20
End Time (UTC)	14:31

Point	GPS15A
Operator	Kevin Chapman
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461066
Antenna Height	2.0 Meters
RTK Base	PID DG9783
Date	09/21/2012
Start Time (UTC)	14:32
End Time (UTC)	14:43

Point	GPS15B
Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5108461884
Antenna Height	2.0 Meters
Static Session	18841985.T02
Date	07/17/2013
Start Time (UTC)	17:40
End Time (UTC)	18:13

Point	GPS15B
Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5108461884
Antenna Height	2.0 Meters
Static Session	18842000.T02
Date	07/19/2013
Start Time (UTC)	10:47
End Time (UTC)	11:09

PHOTOS: FO 15R


1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	FO 16R
Project No.	7505-074
Project Name	T.O. #28 – Addison, VT LiDAR
State	Vermont
County	Chittenden
Quad	Mount Philo

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4908808.329	202223.724	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	644456.174	445074.473	127.721	98.843

Point	GPS16A
Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
RTK Base	PID DL2744
Date	09/21/2012
Start Time (UTC)	12:53
End Time (UTC)	13:07

Point	GPS16A
Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
RTK Base	PID DG9783
Date	09/21/2012
Start Time (UTC)	13:08
End Time (UTC)	13:19

Point	GPS16B
Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5108461884
Antenna Height	2.0 Meters
Static Session	18841430.T02
Date	05/23/2013
Start Time (UTC)	13:09
End Time (UTC)	13:47

PHOTOS: FO 16R


1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	FO 17R
Project No.	7505-074
Project Name	T.O. #28 – Addison, VT LiDAR
State	Vermont
County	Chittenden
Quad	Charlotte

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4907621.142	201210.375	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	638765.764	439349.613	52.638	23.613

Point	GPS17A
Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11551987.T02
Date	07/17/2013
Start Time (UTC)	19:21
End Time (UTC)	19:41

Point	GPS17A
Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11552011.T02
Date	07/20/2013
Start Time (UTC)	13:12
End Time (UTC)	13:44

Point	GPS17B
Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5108461884
Antenna Height	2.0 Meters
Static Session	18841987.T02
Date	07/17/2013
Start Time (UTC)	19:18
End Time (UTC)	19:44

Point	GPS17B
Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5108461884
Antenna Height	2.0 Meters
Static Session	18842011.T02
Date	07/20/2013
Start Time (UTC)	13:14
End Time (UTC)	13:46

PHOTOS: FO 17R


1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	FO 18R
Project No.	7505-074
Project Name	T.O. #28 – Addison, VT LiDAR
State	Vermont
County	Chittenden
Quad	Mount Philo

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4903254.895	196745.807	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	642035.265	442485.086	120.517	91.590

Point	GPS18A
Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11551986.T02
Date	07/17/2013
Start Time (UTC)	18:32
End Time (UTC)	18:56

Point	GPS18A
Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11552010.T02
Date	07/20/2013
Start Time (UTC)	12:06
End Time (UTC)	12:40

Point	GPS18B
Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5108461884
Antenna Height	2.0 Meters
Static Session	18841986.T02
Date	07/17/2013
Start Time (UTC)	18:36
End Time (UTC)	18:58

Point	GPS18B
Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5108461884
Antenna Height	2.0 Meters
Static Session	18842010.T02
Date	07/20/2013
Start Time (UTC)	12:09
End Time (UTC)	12:42

PHOTOS: FO 18R


1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	FO 19R
Project No.	7505-074
Project Name	T.O. #28 - Addison, VT LiDAR
State	Vermont
County	Addison
Quad	East Middlebury

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4870976.102	163999.484	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	657788.771	457252.557	332.131	304.106

Point	GPS19A
Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11552661.T02
Date	09/22/2012
Start Time (UTC)	12:51
End Time (UTC)	13:31

Point	GPS19A
Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11552662.T02
Date	09/22/2012
Start Time (UTC)	23:14
End Time (UTC)	23:59

Point	GPS19B
Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5108461884
Antenna Height	2.0 Meters
Static Session	18841993.T02
Date	07/18/2013
Start Time (UTC)	15:07
End Time (UTC)	15:34

Point	GPS19B
Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5108461884
Antenna Height	2.0 Meters
Static Session	18842005.T02
Date	07/19/2013
Start Time (UTC)	17:32
End Time (UTC)	17:53

PHOTOS: FO 19R


1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	FO 20R
Project No.	7505-074
Project Name	T.O. #28 – Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Bristol

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4894607.562	187822.841	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	651183.969	451367.568	144.635	116.126

Point	GPS20A
Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11551984.T02
Date	07/17/2013
Start Time (UTC)	16:51
End Time (UTC)	17:11

Point	GPS20A
Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11552001.T02
Date	07/17/2013
Start Time (UTC)	11:28
End Time (UTC)	11:48

Point	GPS20B
Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5108461884
Antenna Height	2.0 Meters
Static Session	18841984.T02
Date	07/19/2013
Start Time (UTC)	16:47
End Time (UTC)	17:13

Point	GPS20B
Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5108461884
Antenna Height	2.0 Meters
Static Session	18842001.T02
Date	07/19/2013
Start Time (UTC)	11:25
End Time (UTC)	11:51

PHOTOS: FO 20R


1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	SM 01
Project No.	7505-074
Project Name	T.O. #28 – Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Vergennes West

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4896165.722	189731.050	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	639660.889	439895.603	51.377	22.436

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
RTK Base	PID DL2744
Date	09/20/2012
Start Time (UTC)	12:24
End Time (UTC)	12:35

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
RTK Base	PID DG9783
Date	09/20/2012
Start Time (UTC)	12:36
End Time (UTC)	12:47

PHOTOS:


1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	SM 02
Project No.	7505-074
Project Name	T.O. #28 – Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Vergennes West

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4897296.091	191040.635	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	633761.056	434031.817	30.483	1.487

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
RTK Base	PID DL2744
Date	09/18/2012
Start Time (UTC)	13:31
End Time (UTC)	13:41

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
RTK Base	PID DG9783
Date	09/18/2012
Start Time (UTC)	13:42
End Time (UTC)	13:52

PHOTOS:



1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	SM 03
Project No.	7505-074
Project Name	T.O. #28 – Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Vergennes West

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4891701.268	185289.017	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	638966.606	439065.733	49.181	20.251

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
RTK Base	PID DG9783
Date	09/20/2012
Start Time (UTC)	10:49
End Time (UTC)	10:59

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
RTK Base	PID DN8745
Date	09/20/2012
Start Time (UTC)	11:03
End Time (UTC)	11:13

PHOTOS:


1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	SM 04
Project No.	7505-074
Project Name	T.O. #28 - Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Snake Mountain

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4882620.101	176408.464	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	632445.364	432270.356	30.883	1.899

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11552613.T02
Date	09/17/2012
Start Time (UTC)	14:19
End Time (UTC)	14:52

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11552629.T02
Date	09/18/2012
Start Time (UTC)	19:16
End Time (UTC)	19:50

PHOTOS:



1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

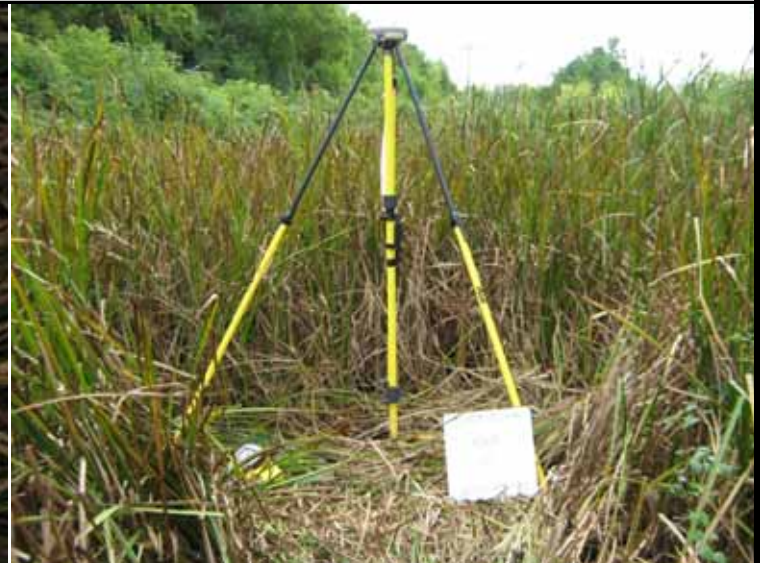
Point ID	SM 05
Project No.	7505-074
Project Name	T.O. #28 – Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Middlebury

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4876099.042	169472.546	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	646179.329	445802.475	95.971	67.246

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
RTK Base	PID DK4109
Date	09/15/2012
Start Time (UTC)	15:54
End Time (UTC)	16:07

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
RTK Base	PID DL2744
Date	09/15/2012
Start Time (UTC)	16:08
End Time (UTC)	16:18

PHOTOS:


1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	SM 06
Project No.	7505-074
Project Name	T.O. #28 – Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Cornwall

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4870197.549	163521.203	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	647887.338	447331.041	104.738	76.045

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
RTK Base	PID DK4109
Date	09/15/2012
Start Time (UTC)	14:48
End Time (UTC)	14:59

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
RTK Base	PID DL2744
Date	09/15/2012
Start Time (UTC)	15:03
End Time (UTC)	15:20

PHOTOS:


1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	SM 07
Project No.	7505-074
Project Name	T.O. #28 – Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Sudbury

☐	Aerial Target
☐	LiDAR Ground Control
☒	LiDAR QC Point
☐	New Control
☐	Photo ID
☐	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4857321.101	150694.320	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	646387.833	445442.309	105.128	76.286

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
RTK Base	PID DK4109
Date	09/13/2012
Start Time (UTC)	17:35
End Time (UTC)	17:45

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
RTK Base	PID DG9783
Date	09/13/2012
Start Time (UTC)	17:46
End Time (UTC)	17:57

PHOTOS:


1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	SM 08
Project No.	7505-074
Project Name	T.O. #28 - Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Brandon

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4857026.251	150198.960	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	653023.316	452066.647	135.814	107.278

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11552571.T02
Date	09/13/2012
Start Time (UTC)	13:08
End Time (UTC)	13:39

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11552574.T02
Date	09/13/2012
Start Time (UTC)	18:17
End Time (UTC)	18:51

PHOTOS:



1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	SM 09
Project No.	7505-074
Project Name	T.O. #28 - Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Brandon

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4859456.332	152424.474	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	659759.157	458873.478	506.432	478.449

Operator	Kevin Chapman
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461066
Antenna Height	2.0 Meters
Static Session	10662581.T02
Date	09/14/2012
Start Time (UTC)	13:41
End Time (UTC)	14:27

Operator	Kevin Chapman
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461066
Antenna Height	2.0 Meters
Static Session	10662586.T02
Date	09/14/2012
Start Time (UTC)	18:47
End Time (UTC)	19:33

PHOTOS:



1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	SM 10
Project No.	7505-074
Project Name	T.O. #28 - Addison, VT LiDAR
State	Vermont
County	Addison
Quad	East Middlebury

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4869147.024	162113.195	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	659700.395	459108.038	396.018	368.115

Operator	Kevin Chapman
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461066
Antenna Height	2.0 Meters
Static Session	10662608.T02
Date	09/16/2012
Start Time (UTC)	20:15
End Time (UTC)	20:46

Operator	Kevin Chapman
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461066
Antenna Height	2.0 Meters
Static Session	10662614.T02
Date	09/17/2012
Start Time (UTC)	15:37
End Time (UTC)	16:08

PHOTOS:



1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	SM 11
Project No.	7505-074
Project Name	T.O. #28 - Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Lincoln

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4881441.602	174346.156	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	661573.113	461352.791	386.127	358.369

Operator	Kevin Chapman
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461066
Antenna Height	2.0 Meters
Static Session	10662602.T02
Date	09/16/2012
Start Time (UTC)	14:46
End Time (UTC)	15:17

Operator	Kevin Chapman
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461066
Antenna Height	2.0 Meters
Static Session	10662617.T02
Date	09/17/2012
Start Time (UTC)	19:20
End Time (UTC)	19:51

PHOTOS:


1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	SM 12
Project No.	7505-074
Project Name	T.O. #28 – Addison, VT LiDAR
State	Vermont
County	Addison
Quad	South Mountain

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4883962.176	177131.198	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	652829.851	452689.350	100.563	72.175

Operator	Kevin Chapman
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461066
Antenna Height	2.0 Meters
RTK Base	PID DK4109
Date	09/19/2012
Start Time (UTC)	13:22
End Time (UTC)	13:33

Operator	Kevin Chapman
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461066
Antenna Height	2.0 Meters
RTK Base	PID DG9783
Date	09/19/2012
Start Time (UTC)	13:37
End Time (UTC)	13:47

PHOTOS:



1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	SM 13
Project No.	7505-074
Project Name	T.O. #28 – Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Bristol

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4893831.284	187025.885	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	651872.813	452032.559	142.762	114.293

Operator	Kevin Chapman
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461066
Antenna Height	2.0 Meters
RTK Base	PID DL2744
Date	09/20/2012
Start Time (UTC)	12:46
End Time (UTC)	12:56

Operator	Kevin Chapman
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461066
Antenna Height	2.0 Meters
RTK Base	PID DG9783
Date	09/20/2012
Start Time (UTC)	12:57
End Time (UTC)	13:11

PHOTOS:



1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	SM 14
Project No.	7505-074
Project Name	T.O. #28 – Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Hinesburg

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4902224.529	195415.072	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	651908.401	452323.570	131.997	103.457

Operator	Kevin Chapman
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461066
Antenna Height	2.0 Meters
RTK Base	PID DL2744
Date	09/21/2012
Start Time (UTC)	15:52
End Time (UTC)	16:06

Operator	Kevin Chapman
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461066
Antenna Height	2.0 Meters
RTK Base	PID DG9783
Date	09/21/2012
Start Time (UTC)	16:07
End Time (UTC)	16:17

PHOTOS:



1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	SM 15
Project No.	7505-074
Project Name	T.O. #28 – Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Mount Philo

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4903038.071	196349.739	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	647922.173	448363.497	122.016	93.295

Operator	Kevin Chapman
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461066
Antenna Height	2.0 Meters
RTK Base	PID DL2744
Date	09/20/2012
Start Time (UTC)	17:19
End Time (UTC)	17:29

Operator	Kevin Chapman
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461066
Antenna Height	2.0 Meters
RTK Base	PID DG9783
Date	09/20/2012
Start Time (UTC)	17:30
End Time (UTC)	17:40

PHOTOS:


1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	SM 16
Project No.	7505-074
Project Name	T.O. #28 – Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Vergennes West

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4899124.274	192699.174	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	639317.840	439642.695	32.675	3.714

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
RTK Base	PID DL2744
Date	09/20/2012
Start Time (UTC)	14:45
End Time (UTC)	14:55

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
RTK Base	PID DG9783
Date	09/20/2012
Start Time (UTC)	14:57
End Time (UTC)	15:10

PHOTOS:



1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	SM 17
Project No.	7505-074
Project Name	T.O. #28 - Addison, VT LiDAR
State	Vermont
County	Chittenden
Quad	Charlotte

☐	Aerial Target
☐	LiDAR Ground Control
☒	LiDAR QC Point
☐	New Control
☐	Photo ID
☐	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4910287.536	203933.068	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	636894.114	437559.799	29.264	0.188

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11552561.T02
Date	09/12/2012
Start Time (UTC)	15:36
End Time (UTC)	16:06

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11552566.T02
Date	09/12/2012
Start Time (UTC)	19:36
End Time (UTC)	20:06

PHOTOS:



1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	SM 18
Project No.	7505-074
Project Name	T.O. #28 - Addison, VT LiDAR
State	Vermont
County	Chittenden
Quad	Mount Philo

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4911653.733	205084.395	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	643925.773	444631.011	70.429	41.513

Operator	Kevin Chapman
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461066
Antenna Height	2.0 Meters
Static Session	10662574.T02
Date	09/13/2012
Start Time (UTC)	18:08
End Time (UTC)	18:54

Operator	Kevin Chapman
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461066
Antenna Height	2.0 Meters
Static Session	10662577.T02
Date	09/13/2012
Start Time (UTC)	22:17
End Time (UTC)	23:03

PHOTOS:



1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	SM 19
Project No.	7505-074
Project Name	T.O. #28 – Addison, VT LiDAR
State	Vermont
County	Chittenden
Quad	Mount Philo

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4909103.852	202498.217	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	645142.849	445769.937	124.828	95.974

Operator	Kevin Chapman
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461066
Antenna Height	2.0 Meters
RTK Base	PID DG9783
Date	09/13/2012
Start Time (UTC)	19:50
End Time (UTC)	20:00

Operator	Kevin Chapman
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461066
Antenna Height	2.0 Meters
RTK Base	PID DK4109
Date	09/13/2012
Start Time (UTC)	20:03
End Time (UTC)	20:13

PHOTOS:



1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	SM 20
Project No.	7505-074
Project Name	T.O. #28 – Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Vergennes East

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4900947.669	194501.506	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	639992.014	440372.184	31.168	2.207

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
RTK Base	PID DL2744
Date	09/20/2012
Start Time (UTC)	16:17
End Time (UTC)	16:27

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
RTK Base	PID DG9783
Date	09/20/2012
Start Time (UTC)	16:28
End Time (UTC)	16:38

PHOTOS:



1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	TW 01
Project No.	7505-074
Project Name	T.O. #28 - Addison, VT LiDAR
State	Vermont
County	Rutland
Quad	Sudbury

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4855285.737	148696.287	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	645174.185	444167.518	129.068	100.177

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11553472.T02
Date	12/12/2012
Start Time (UTC)	16:29
End Time (UTC)	17:00

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11553476.T02
Date	12/12/2012
Start Time (UTC)	20:20
End Time (UTC)	20:50

PHOTOS:


1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	TW 02
Project No.	7505-074
Project Name	T.O. #28 - Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Brandon

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4857042.072	150237.523	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	652270.891	451314.965	161.457	132.878

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11553471.T02
Date	12/12/2012
Start Time (UTC)	15:21
End Time (UTC)	15:52

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11553475.T02
Date	12/12/2012
Start Time (UTC)	19:28
End Time (UTC)	20:01

PHOTOS:



1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	TW 03
Project No.	7505-074
Project Name	T.O. #28 - Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Mount Carmel

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4857257.641	150192.019	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	660904.113	459951.508	480.087	452.151

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11553470.T02
Date	12/12/2012
Start Time (UTC)	14:19
End Time (UTC)	14:52

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11553474.T02
Date	12/12/2012
Start Time (UTC)	18:37
End Time (UTC)	19:08

PHOTOS:


1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	TW 04
Project No.	7505-074
Project Name	T.O. #28 - Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Bread Loaf

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4867716.624	160603.617	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	662333.349	461696.633	449.282	421.534

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11553480.T02
Date	12/13/2012
Start Time (UTC)	14:05
End Time (UTC)	14:37

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11553485.T02
Date	12/13/2012
Start Time (UTC)	19:05
End Time (UTC)	19:42

PHOTOS:



1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	TW 05
Project No.	7505-074
Project Name	T.O. #28 - Addison, VT LiDAR
State	Vermont
County	Addison
Quad	East Middlebury

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4865513.346	158702.579	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	652378.455	451678.768	127.736	99.263

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11553473.T02
Date	12/12/2012
Start Time (UTC)	17:41
End Time (UTC)	18:12

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11553477.T02
Date	12/12/2012
Start Time (UTC)	21:12
End Time (UTC)	21:43

PHOTOS:


1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	TW 06
Project No.	7505-074
Project Name	T.O. #28 - Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Cornwall

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4868276.945	161756.031	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	642776.486	442163.627	77.548	48.681

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11553482.T02
Date	12/13/2012
Start Time (UTC)	16:01
End Time (UTC)	16:34

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11553486.T02
Date	12/13/2012
Start Time (UTC)	20:18
End Time (UTC)	20:49

PHOTOS:


1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	TW 07
Project No.	7505-074
Project Name	T.O. #28 - Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Middlebury

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4876575.344	170003.261	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	644380.198	444018.361	126.301	97.528

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11553500.T02
Date	12/15/2012
Start Time (UTC)	12:57
End Time (UTC)	13:28

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11553505.T02
Date	12/15/2012
Start Time (UTC)	17:07
End Time (UTC)	17:37

PHOTOS:



1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	TW 08
Project No.	7505-074
Project Name	T.O. #28 - Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Middlebury

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4877084.562	170443.448	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	646650.804	446303.687	119.177	90.474

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11553483.T02
Date	12/13/2012
Start Time (UTC)	17:05
End Time (UTC)	17:36

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11553487.T02
Date	12/13/2012
Start Time (UTC)	21:09
End Time (UTC)	21:39

PHOTOS:



1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	TW 09
Project No.	7505-074
Project Name	T.O. #28 - Addison, VT LiDAR
State	Vermont
County	Addison
Quad	South Mountain

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4878237.858	171461.987	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	651080.478	450766.858	139.849	111.351

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11553484.T02
Date	12/13/2012
Start Time (UTC)	18:09
End Time (UTC)	18:40

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11553488.T02
Date	12/13/2012
Start Time (UTC)	21:57
End Time (UTC)	22:28

PHOTOS:


1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	TW 10
Project No.	7505-074
Project Name	T.O. #28 - Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Lincoln

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4881453.641	174349.355	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	661864.229	461644.156	393.195	365.453

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11553490.T02
Date	12/14/2012
Start Time (UTC)	13:00
End Time (UTC)	13:30

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11553494.T02
Date	12/14/2012
Start Time (UTC)	17:00
End Time (UTC)	17:31

PHOTOS:



1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	TW 11
Project No.	7505-074
Project Name	T.O. #28 - Addison, VT LiDAR
State	Vermont
County	Addison
Quad	South Mountain

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4887310.606	180480.210	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	652771.367	452732.586	117.548	89.152

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11553491.T02
Date	12/14/2012
Start Time (UTC)	14:09
End Time (UTC)	14:41

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11553495.T02
Date	12/14/2012
Start Time (UTC)	18:11
End Time (UTC)	18:41

PHOTOS:



1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	TW 12
Project No.	7505-074
Project Name	T.O. #28 - Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Middlebury

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4880286.229	173815.899	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	640988.909	440740.692	51.271	22.430

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11553501.T02
Date	12/15/2012
Start Time (UTC)	13:42
End Time (UTC)	14:12

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11553506.T02
Date	12/15/2012
Start Time (UTC)	17:47
End Time (UTC)	18:17

PHOTOS:



1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	TW 13
Project No.	7505-074
Project Name	T.O. #28 - Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Port Henry

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4882346.978	176226.326	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	629450.844	429268.288	46.311	17.329

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11553502.T02
Date	12/15/2012
Start Time (UTC)	14:31
End Time (UTC)	15:01

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11553507.T02
Date	12/15/2012
Start Time (UTC)	18:33
End Time (UTC)	19:05

PHOTOS:



1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	TW 14
Project No.	7505-074
Project Name	T.O. #28 - Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Vergennes West

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4888682.399	182508.255	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	631160.522	431169.991	50.836	21.839

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11553503.T02
Date	12/15/2012
Start Time (UTC)	15:19
End Time (UTC)	15:49

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11553508.T02
Date	12/15/2012
Start Time (UTC)	19:19
End Time (UTC)	19:49

PHOTOS:



1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	TW 15
Project No.	7505-074
Project Name	T.O. #28 - Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Vergennes East

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4891829.858	185364.747	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	640703.885	440806.411	49.156	20.264

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11553504.T02
Date	12/15/2012
Start Time (UTC)	16:12
End Time (UTC)	16:42

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11553509.T02
Date	12/15/2012
Start Time (UTC)	20:17
End Time (UTC)	20:47

PHOTOS:


1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	TW 16
Project No.	7505-074
Project Name	T.O. #28 - Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Bristol

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4894343.185	187554.778	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	651308.200	451483.714	144.692	116.191

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11553492.T02
Date	12/14/2012
Start Time (UTC)	15:02
End Time (UTC)	15:32

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11553496.T02
Date	12/14/2012
Start Time (UTC)	19:03
End Time (UTC)	19:33

PHOTOS:



1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	TW 17
Project No.	7505-074
Project Name	T.O. #28 - Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Hinesburg

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4902139.041	195342.878	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	651472.849	451885.569	135.704	107.143

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11553493.T02
Date	12/14/2012
Start Time (UTC)	15:23
End Time (UTC)	15:53

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11553497.T02
Date	12/14/2012
Start Time (UTC)	21:55
End Time (UTC)	22:26

PHOTOS:


1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	TW 18
Project No.	7505-074
Project Name	T.O. #28 - Addison, VT LiDAR
State	Vermont
County	Chittenden
Quad	Mount Philo

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4904264.865	197769.781	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	641565.444	442046.176	89.941	60.996

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11553510.T02
Date	12/16/2012
Start Time (UTC)	13:41
End Time (UTC)	14:11

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11553513.T02
Date	12/16/2012
Start Time (UTC)	16:41
End Time (UTC)	18:11

PHOTOS:



1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	TW 19
Project No.	7505-074
Project Name	T.O. #28 - Addison, VT LiDAR
State	Vermont
County	Chittenden
Quad	Mount Philo

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4908947.643	202360.545	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	644536.508	445159.029	114.213	85.336

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11553511.T02
Date	12/16/2012
Start Time (UTC)	14:28
End Time (UTC)	14:59

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11553514.T02
Date	12/16/2012
Start Time (UTC)	18:29
End Time (UTC)	19:00

PHOTOS:



1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	TW 20
Project No.	7505-074
Project Name	T.O. #28 - Addison, VT LiDAR
State	Vermont
County	Chittenden
Quad	Mount Philo

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4911354.102	204892.936	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	640382.361	441079.556	110.848	81.831

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11553512.T02
Date	12/16/2012
Start Time (UTC)	15:16
End Time (UTC)	15:46

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11553515.T02
Date	12/16/2012
Start Time (UTC)	19:20
End Time (UTC)	19:50

PHOTOS:



1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	UA 01
Project No.	7505-074
Project Name	T.O. #28 – Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Middlebury

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4873782.364	167104.519	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	647897.791	447450.132	112.804	84.128

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
RTK Base	PID DG9783
Date	09/16/2012
Start Time (UTC)	13:16
End Time (UTC)	13:26

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
RTK Base	PID DK4109
Date	09/16/2012
Start Time (UTC)	13:27
End Time (UTC)	13:38

PHOTOS:


1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	UA 02
Project No.	7505-074
Project Name	T.O. #28 – Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Middlebury

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4874075.204	167444.139	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	646351.534	445913.258	119.916	91.184

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
RTK Base	PID DK4109
Date	09/14/2012
Start Time (UTC)	11:49
End Time (UTC)	12:01

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
RTK Base	PID DG9783
Date	09/14/2012
Start Time (UTC)	12:03
End Time (UTC)	12:13

PHOTOS:



1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	UA 03
Project No.	7505-074
Project Name	T.O. #28 – Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Middlebury

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4876405.064	169763.872	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	646660.642	446292.913	117.232	88.525

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
RTK Base	PID DG9783
Date	09/16/2012
Start Time (UTC)	13:57
End Time (UTC)	14:11

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
RTK Base	PID DK4109
Date	09/16/2012
Start Time (UTC)	14:12
End Time (UTC)	14:22

PHOTOS:


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Norcross, GA 30093
Phone: 770-564-9843

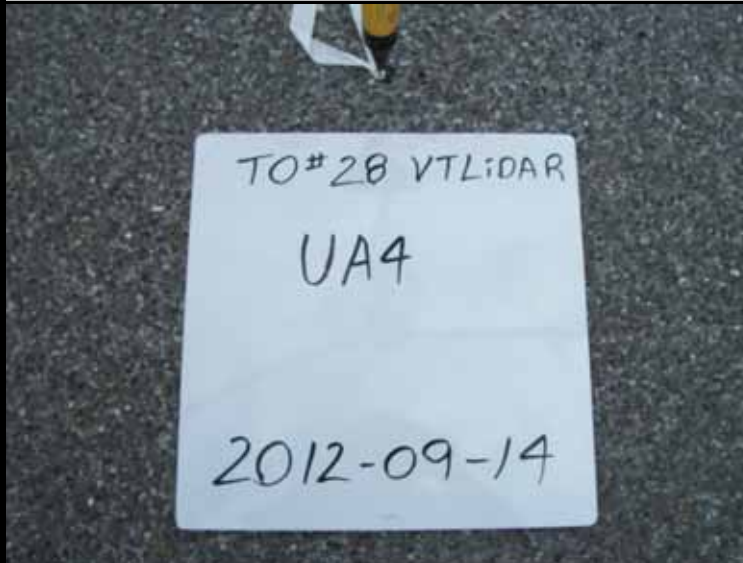
Point ID	UA 04
Project No.	7505-074
Project Name	T.O. #28 – Addison, VT LiDAR
State	Vermont
County	Addison
Quad	East Middlebury

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4870695.349	163898.196	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	651869.034	451326.468	124.250	95.777

Operator	Kevin Chapman
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461066
Antenna Height	2.0 Meters
RTK Base	PID DK4109
Date	09/15/2012
Start Time (UTC)	13:03
End Time (UTC)	13:13

Operator	Kevin Chapman
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461066
Antenna Height	2.0 Meters
RTK Base	PID DL2744
Date	09/15/2012
Start Time (UTC)	13:14
End Time (UTC)	13:24

PHOTOS:


1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	UA 05
Project No.	7505-074
Project Name	T.O. #28 - Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Brandon

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4857107.145	150303.110	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	652253.130	451299.177	161.590	133.010

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11552572.T02
Date	09/13/2012
Start Time (UTC)	13:51
End Time (UTC)	14:23

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11552575.T02
Date	09/13/2012
Start Time (UTC)	18:59
End Time (UTC)	19:29

PHOTOS:



1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	UA 06
Project No.	7505-074
Project Name	T.O. #28 - Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Sudbury

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4858327.143	151753.913	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	644606.248	443691.705	119.800	90.912

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11552580.T02
Date	09/14/2012
Start Time (UTC)	16:00
End Time (UTC)	16:31

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11552591.T02
Date	09/15/2012
Start Time (UTC)	11:06
End Time (UTC)	11:37

PHOTOS:



1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	UA 07
Project No.	7505-074
Project Name	T.O. #28 – Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Bristol

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4888070.352	181144.970	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	655888.638	455871.804	186.864	158.692

Operator	Kevin Chapman
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461066
Antenna Height	2.0 Meters
RTK Base	PID DG9783
Date	09/19/2012
Start Time (UTC)	16:49
End Time (UTC)	16:59

Operator	Kevin Chapman
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461066
Antenna Height	2.0 Meters
RTK Base	PID DK4109
Date	09/19/2012
Start Time (UTC)	17:03
End Time (UTC)	17:13

PHOTOS:



1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	UA 08
Project No.	7505-074
Project Name	T.O. #28 – Addison, VT LiDAR
State	Vermont
County	Addison
Quad	South Mountain

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4886539.814	179716.845	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	652535.945	452473.833	110.565	82.156

Operator	Kevin Chapman
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461066
Antenna Height	2.0 Meters
RTK Base	PID DK4109
Date	09/19/2012
Start Time (UTC)	14:07
End Time (UTC)	14:18

Operator	Kevin Chapman
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461066
Antenna Height	2.0 Meters
RTK Base	PID DG9783
Date	09/19/2012
Start Time (UTC)	14:20
End Time (UTC)	14:30

PHOTOS:



1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	UA 09
Project No.	7505-074
Project Name	T.O. #28 – Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Bristol

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4888260.699	181415.804	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	653237.396	453227.315	140.780	112.415

Operator	Kevin Chapman
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461066
Antenna Height	2.0 Meters
RTK Base	PID DK4109
Date	09/19/2012
Start Time (UTC)	18:23
End Time (UTC)	18:34

Operator	Kevin Chapman
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461066
Antenna Height	2.0 Meters
RTK Base	PID DG9783
Date	09/19/2012
Start Time (UTC)	18:35
End Time (UTC)	18:45

PHOTOS:


1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	UA 10
Project No.	7505-074
Project Name	T.O. #28 – Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Bristol

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4888474.917	181612.018	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	653827.369	453823.584	173.132	144.808

Operator	Kevin Chapman
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461066
Antenna Height	2.0 Meters
RTK Base	PID DK4109
Date	09/19/2012
Start Time (UTC)	17:43
End Time (UTC)	17:54

Operator	Kevin Chapman
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461066
Antenna Height	2.0 Meters
RTK Base	PID DG9783
Date	09/19/2012
Start Time (UTC)	17:55
End Time (UTC)	18:08

PHOTOS:



1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	UA 11
Project No.	7505-074
Project Name	T.O. #28 – Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Bristol

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4889200.067	182350.584	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	653377.263	453395.677	173.327	144.970

Operator	Kevin Chapman
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461066
Antenna Height	2.0 Meters
RTK Base	PID DK4109
Date	09/19/2012
Start Time (UTC)	19:34
End Time (UTC)	19:44

Operator	Kevin Chapman
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461066
Antenna Height	2.0 Meters
RTK Base	PID DG9783
Date	09/19/2012
Start Time (UTC)	19:45
End Time (UTC)	19:55

PHOTOS:


1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	UA 12
Project No.	7505-074
Project Name	T.O. #28 – Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Bristol

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4889511.021	182748.380	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	650516.118	450544.992	133.350	104.827

Operator	Kevin Chapman
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461066
Antenna Height	2.0 Meters
RTK Base	PID DK4109
Date	09/19/2012
Start Time (UTC)	20:07
End Time (UTC)	20:17

Operator	Kevin Chapman
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461066
Antenna Height	2.0 Meters
RTK Base	PID DG9783
Date	09/19/2012
Start Time (UTC)	20:18
End Time (UTC)	20:28

PHOTOS:


1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	UA 13
Project No.	7505-074
Project Name	T.O. #28 – Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Vergennes East

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4890886.187	184433.437	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	640306.551	440380.504	59.745	30.850

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
RTK Base	PID DG9783
Date	09/19/2012
Start Time (UTC)	17:15
End Time (UTC)	17:25

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
RTK Base	PID DN8745
Date	09/19/2012
Start Time (UTC)	17:26
End Time (UTC)	17:37

PHOTOS:



1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	UA 14
Project No.	7505-074
Project Name	T.O. #28 – Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Vergennes East

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4891679.928	185231.614	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	640152.894	440251.025	51.669	22.764

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
RTK Base	PID DG9783
Date	09/19/2012
Start Time (UTC)	17:51
End Time (UTC)	18:05

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
RTK Base	PID DN8745
Date	09/19/2012
Start Time (UTC)	18:06
End Time (UTC)	18:20

PHOTOS:



1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

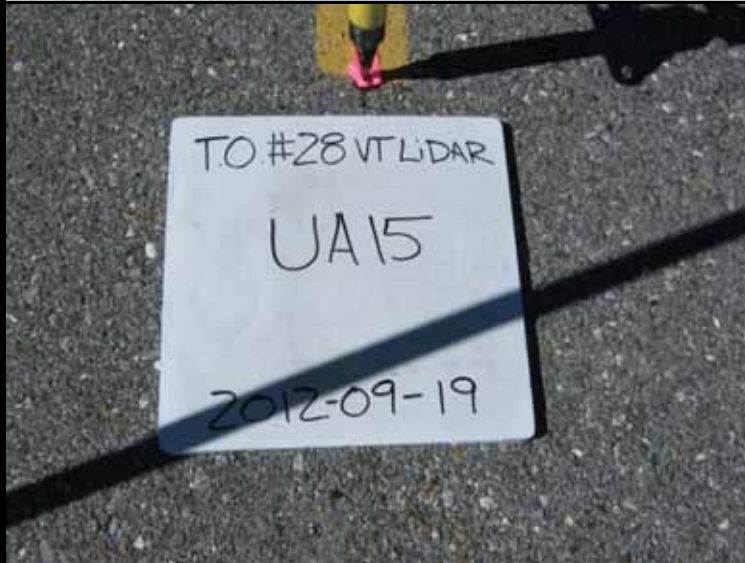
Point ID	UA 15
Project No.	7505-074
Project Name	T.O. #28 – Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Vergennes West

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4891448.719	185042.255	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	638778.675	438870.178	53.393	24.461

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
RTK Base	PID DN8745
Date	09/19/2012
Start Time (UTC)	15:55
End Time (UTC)	16:09

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
RTK Base	PID DG9783
Date	09/19/2012
Start Time (UTC)	16:11
End Time (UTC)	16:21

PHOTOS:


1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

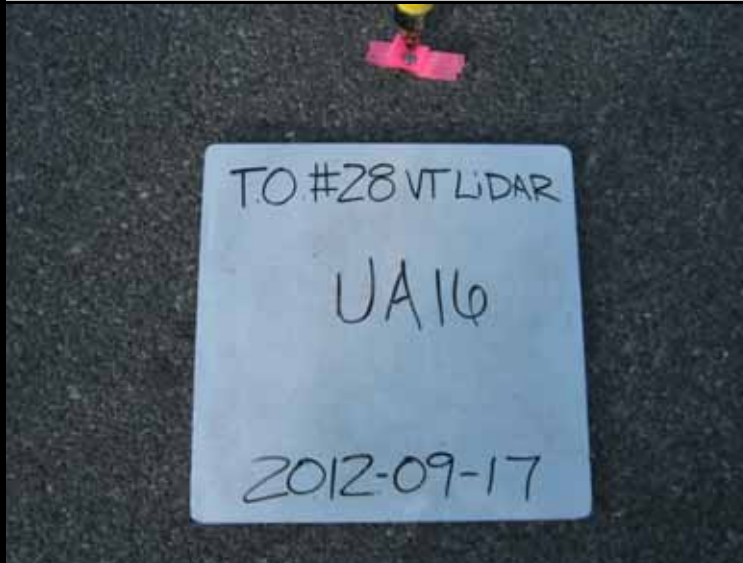
Point ID	UA 16
Project No.	7505-074
Project Name	T.O. #28 – Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Vergennes West

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4894773.871	188612.806	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	630680.224	430875.034	40.442	11.442

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
RTK Base	PID DL2744
Date	09/17/2012
Start Time (UTC)	19:12
End Time (UTC)	19:22

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
RTK Base	PID DG9783
Date	09/17/2012
Start Time (UTC)	19:48
End Time (UTC)	19:58

PHOTOS:


1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	UA 17
Project No.	7505-074
Project Name	T.O. #28 – Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Vergennes East

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4896125.882	189677.799	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	640102.040	440335.411	59.012	30.080

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
RTK Base	PID DL2744
Date	09/20/2012
Start Time (UTC)	13:44
End Time (UTC)	13:54

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
RTK Base	PID DG9783
Date	09/20/2012
Start Time (UTC)	13:55
End Time (UTC)	14:08

PHOTOS:



1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	UA 18
Project No.	7505-074
Project Name	T.O. #28 - Addison, VT LiDAR
State	Vermont
County	Addison
Quad	Hinesburg

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4901802.837	195058.205	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	649784.573	450187.643	181.559	152.924

Operator	Kevin Chapman
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461066
Antenna Height	2.0 Meters
Static Session	10662572.T02
Date	09/13/2012
Start Time (UTC)	13:38
End Time (UTC)	14:09

Operator	Kevin Chapman
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461066
Antenna Height	2.0 Meters
Static Session	10662576.T02
Date	09/13/2012
Start Time (UTC)	21:23
End Time (UTC)	21:54

PHOTOS:


1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	UA 19
Project No.	7505-074
Project Name	T.O. #28 - Addison, VT LiDAR
State	Vermont
County	Chittenden
Quad	Charlotte

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4907705.797	201298.958	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	638636.106	439222.573	50.225	21.197

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11552564.T02
Date	09/12/2012
Start Time (UTC)	17:57
End Time (UTC)	18:17

Operator	Rick Ingram
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461155
Antenna Height	2.0 Meters
Static Session	11552569.T02
Date	09/12/2012
Start Time (UTC)	21:57
End Time (UTC)	22:27

PHOTOS:


1410 Indian Trail Road
Norcross, GA 30093
Phone: 770-564-9843

Point ID	UA 20
Project No.	7505-074
Project Name	T.O. #28 - Addison, VT LiDAR
State	Vermont
County	Chittenden
Quad	Mount Philo

	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

NAD83 (2011)	UTM (Zone 18)	SPC (FIPS 4400)	NAVD88	GEOID12A
Northing (meters)	4908923.795	202339.058	Elevation (meters)	Ellipsoid (meters)
Easting (meters)	644459.317	445081.136	118.460	89.582

Operator	Kevin Chapman
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461066
Antenna Height	2.0 Meters
Static Session	10662561.T02
Date	09/12/2012
Start Time (UTC)	16:34
End Time (UTC)	17:05

Operator	Kevin Chapman
Receiver Model	Trimble R8 Model 3
Receiver S/N	5106461066
Antenna Height	2.0 Meters
Static Session	10662564.T02
Date	09/12/2012
Start Time (UTC)	21:19
End Time (UTC)	21:50

PHOTOS:



Section 6 – NGS Data Sheets

```

1      National Geodetic Survey,      Retrieval Date = JANUARY  4, 2013
DI0452 *****
DI0452  CORS      -      This is a GPS Continuously Operating Reference Station.
DI0452  DESIGNATION -      ELIZABETHTOWN CORS ARP
DI0452  CORS_ID   -      NYET
DI0452  PID       -      DI0452
DI0452  STATE/COUNTY-      NY/ESSEX
DI0452  COUNTRY   -      US
DI0452  USGS QUAD  -
DI0452
DI0452                                     *CURRENT SURVEY CONTROL
DI0452
DI0452* NAD 83(2011) POSITION- 44 12 34.85080(N) 073 32 25.85231(W)      ADJUSTED
DI0452* NAD 83(2011) ELLIP HT- 174.246 (meters) (08/??/11)      ADJUSTED
DI0452* NAD 83(2011) EPOCH   - 2010.00
DI0452* NAVD 88 ORTHO HEIGHT - ** (meters) ** (feet)
DI0452
DI0452 NAD 83(2011) X - 1,297,510.807 (meters)      COMP
DI0452 NAD 83(2011) Y - -4,391,724.353 (meters)      COMP
DI0452 NAD 83(2011) Z - 4,424,943.020 (meters)      COMP
DI0452 GEOID HEIGHT - -28.80 (meters)      GEOID12A
DI0452 HORZ ORDER - SPECIAL (CORS)
DI0452 ELLP ORDER - SPECIAL (CORS)
DI0452
DI0452 FGDC Geospatial Positioning Accuracy Standards (95% confidence, cm)
DI0452 Type Horiz Ellip Dist(km)
DI0452 -----
DI0452 NETWORK 1.13 3.53
DI0452 -----
DI0452 NOTE: Click here for information on individual local accuracy
DI0452 values and other accuracy information.
DI0452
DI0452
DI0452.The coordinates were established by GPS observations
DI0452.and adjusted by the National Geodetic Survey in August 2011.
DI0452
DI0452.NAD 83(2011) refers to NAD 83 coordinates where the reference
DI0452.frame has been affixed to the stable North American Tectonic Plate.
DI0452
DI0452.The coordinates are valid at the epoch date displayed above
DI0452.which is a decimal equivalence of Year/Month/Day.
DI0452
DI0452.The PID for the CORS L1 Phase Center is DI0453.
DI0452
DI0452.The XYZ, and position/ellipsoidal ht. are equivalent.
DI0452
DI0452.The ellipsoidal height was determined by GPS observations
DI0452.and is referenced to NAD 83.
DI0452
DI0452. The following values were computed from the NAD 83(2011) position.
DI0452
DI0452; North East Units Scale Factor Converg.
DI0452;SPC NY E - 597,507.218 226,677.572 MT 0.99997229 +0 40 08.6
DI0452;SPC NY E - 1,960,321.60 743,691.33 sFT 0.99997229 +0 40 08.6
DI0452
DI0452! - Elev Factor x Scale Factor = Combined Factor
DI0452!SPC NY E - 0.99997268 x 0.99997229 = 0.99994497
DI0452

```

DI0452 SUPERSEDED SURVEY CONTROL
 DI0452
 DI0452 NAD 83(CORS) - 44 12 34.85111(N) 073 32 25.85283(W) AD(2002.00) c
 DI0452 ELLIP H (06/??/06) 174.253 (m) GP(2002.00) c c
 DI0452
 DI0452 Superseded values are not recommended for survey control.
 DI0452
 DI0452 NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
 DI0452 See file dsdata.txt to determine how the superseded data were derived.
 DI0452
 DI0452 U.S. NATIONAL GRID SPATIAL ADDRESS: 18TXP1660096197(NAD 83)
 DI0452
 DI0452 MARKER: STATION IS THE ANTENNA REFERENCE POINT OF THE GPS ANTENNA
 DI0452
 DI0452 STATION DESCRIPTION
 DI0452
 DI0452 DESCRIBED BY NATIONAL GEODETIC SURVEY 2011
 DI0452 STATION IS A GPS CORS. LATEST INFORMATION INCLUDING POSITIONS AND
 DI0452 VELOCITIES ARE AVAILABLE IN THE COORDINATE AND LOG FILES ACCESSIBLE
 DI0452 BY ANONYMOUS FTP OR THE WORLDWIDE WEB.
 DI0452' <ftp://cors.ngs.noaa.gov/cors/README.txt>
 DI0452' ftp://cors.ngs.noaa.gov/cors/coord/coord_08
 DI0452' ftp://cors.ngs.noaa.gov/cors/station_log
 DI0452' <http://geodesy.noaa.gov/CORS>

1 National Geodetic Survey, Retrieval Date = JANUARY 4, 2013

AF9563 *****

AF9563 HT_MOD - This is a Height Modernization Survey Station.

AF9563 CORS - This is a GPS Continuously Operating Reference Station.

AF9563 DESIGNATION - VERMONT CAPITAL CORS ARP

AF9563 CORS_ID - VCAP

AF9563 PID - AF9563

AF9563 STATE/COUNTY- VT/WASHINGTON

AF9563 COUNTRY - US

AF9563 USGS QUAD - MONTPELIER (1968)

AF9563

AF9563 *CURRENT SURVEY CONTROL

AF9563

AF9563*	NAD 83(2011)	POSITION-	44 15 43.10641(N)	072 34 56.55478(W)	ADJUSTED
AF9563*	NAD 83(2011)	ELLIP HT-	160.539 (meters)	(08/??/11)	ADJUSTED
AF9563*	NAD 83(2011)	EPOCH	- 2010.00		
AF9563*	NAVD 88	ORTHO HEIGHT	- 188.21 (meters)	617.5 (feet)	GPS OBS
AF9563	NAD 83(2011)	X	- 1,369,550.955 (meters)		COMP
AF9563	NAD 83(2011)	Y	- 4,365,536.270 (meters)		COMP
AF9563	NAD 83(2011)	Z	- 4,429,096.755 (meters)		COMP
AF9563	GEOID HEIGHT	-	-27.66 (meters)		GEOID12A
AF9563	HORZ ORDER	-	SPECIAL (CORS)		
AF9563	ELLIP ORDER	-	SPECIAL (CORS)		
AF9563	FGDC Geospatial Positioning Accuracy Standards (95% confidence, cm)				
AF9563	Type		Horiz	Ellip	Dist(km)
AF9563	-----				
AF9563	NETWORK		0.63	1.99	
AF9563	-----				
AF9563	NOTE: Click here for information on individual local accuracy				
AF9563	values and other accuracy information.				
AF9563					
AF9563					
AF9563	The coordinates were established by GPS observations				
AF9563	and adjusted by the National Geodetic Survey in August 2011.				
AF9563					
AF9563	NAD 83(2011) refers to NAD 83 coordinates where the reference				
AF9563	frame has been affixed to the stable North American Tectonic Plate.				
AF9563					
AF9563	The coordinates are valid at the epoch date displayed above				
AF9563	which is a decimal equivalence of Year/Month/Day.				
AF9563					
AF9563	The orthometric height was determined by GPS observations and a				
AF9563	high-resolution geoid model using precise GPS observation and				
AF9563	processing techniques.				
AF9563					
AF9563	The PID for the CORS L1 Phase Center is DI6098.				
AF9563					
AF9563	The XYZ, and position/ellipsoidal ht. are equivalent.				
AF9563					
AF9563	The ellipsoidal height was determined by GPS observations				
AF9563	and is referenced to NAD 83.				
AF9563					
AF9563	The following values were computed from the NAD 83(2011) position.				
AF9563					
AF9563;		North	East	Units	Scale Factor Converg.
AF9563;SPC VT	-	195,751.917	493,422.284	MT	0.99996482 -0 03 27.0
AF9563;SPC VT	-	642,229.41	1,618,836.28	SFT	0.99996482 -0 03 27.0
AF9563					

AF9563! - Elev Factor x Scale Factor = Combined Factor
AF9563!SPC VT - 0.99997483 x 0.99996482 = 0.99993965

AF9563

AF9563 SUPERSEDED SURVEY CONTROL

AF9563

AF9563	NAD 83(CORS)-	44 15 43.10680(N)	072 34 56.55565(W)	AD(2002.00)	c
AF9563	ELLIP H (09/??/08)	160.519 (m)		GP(2002.00)	c c
AF9563	NAD 83(CORS)-	44 15 43.10706(N)	072 34 56.55559(W)	AD(2002.00)	c
AF9563	ELLIP H (03/??/02)	160.561 (m)		GP(2002.00)	c c
AF9563	NAD 83(CORS)-	44 15 43.10745(N)	072 34 56.55541(W)	AD(1997.00)	c
AF9563	ELLIP H (06/??/96)	160.544 (m)		GP(1997.00)	c c
AF9563	NAD 83(CORS)-	44 15 43.10745(N)	072 34 56.55541(W)	AD(1996.00)	c
AF9563	ELLIP H (06/??/96)	160.544 (m)		GP(1996.00)	c c
AF9563	NAVD 88 (06/22/01)	188.2 (m)	UNKNOWN model used	GPS OBS	
AF9563	NAVD 88 (09/07/99)	188.2 (m)	UNKNOWN model used	GPS OBS	

AF9563

AF9563.Superseded values are not recommended for survey control.

AF9563

AF9563.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.

AF9563.See file dsdata.txt to determine how the superseded data were derived.

AF9563

AF9563_U.S. NATIONAL GRID SPATIAL ADDRESS: 18TXQ9297703812(NAD 83)

AF9563

AF9563_MARKER: STATION IS THE ANTENNA REFERENCE POINT OF THE GPS ANTENNA

AF9563

AF9563 STATION DESCRIPTION

AF9563

AF9563'DESCRIBED BY NATIONAL GEODETIC SURVEY 2011

AF9563'STATION IS A GPS CORS. LATEST INFORMATION INCLUDING POSITIONS AND

AF9563'VELOCITIES ARE AVAILABLE IN THE COORDINATE AND LOG FILES ACCESSIBLE

AF9563'BY ANONYMOUS FTP OR THE WORLDWIDE WEB.

AF9563' <ftp://cors.ngs.noaa.gov/cors/README.txt>

AF9563' ftp://cors.ngs.noaa.gov/cors/coord/coord_08

AF9563' ftp://cors.ngs.noaa.gov/cors/station_log

AF9563' <http://geodesy.noaa.gov/CORS>

1 National Geodetic Survey, Retrieval Date = JANUARY 4, 2013

DJ8951 *****

DJ8951 CORS - This is a GPS Continuously Operating Reference Station.

DJ8951 DESIGNATION - RANDOLPH CORS ARP

DJ8951 CORS_ID - VTC1

DJ8951 PID - DJ8951

DJ8951 STATE/COUNTY- VT/ORANGE

DJ8951 COUNTRY - US

DJ8951 USGS QUAD - RANDOLPH CENTER (1983)

DJ8951

DJ8951 *CURRENT SURVEY CONTROL

DJ8951

DJ8951* NAD 83(2011) POSITION- 43 56 21.21809(N) 072 36 12.56537(W) ADJUSTED

DJ8951* NAD 83(2011) ELLIP HT- 405.144 (meters) (08/??/11) ADJUSTED

DJ8951* NAD 83(2011) EPOCH - 2010.00

DJ8951* NAVD 88 ORTHO HEIGHT - *(meters) *(feet)

DJ8951

DJ8951 NAD 83(2011) X - 1,375,456.646 (meters) COMP

DJ8951 NAD 83(2011) Y - -4,390,024.669 (meters) COMP

DJ8951 NAD 83(2011) Z - 4,403,512.867 (meters) COMP

DJ8951 GEOID HEIGHT - -27.43 (meters) GEOID12A

DJ8951 HORZ ORDER - SPECIAL (CORS)

DJ8951 ELLP ORDER - SPECIAL (CORS)

DJ8951

DJ8951 FGDC Geospatial Positioning Accuracy Standards (95% confidence, cm)

DJ8951 Type Horiz Ellip Dist(km)

DJ8951 -----

DJ8951 NETWORK 5.37 17.24

DJ8951 -----

DJ8951 NOTE: Click [here](#) for information on individual local accuracy

DJ8951 values and other accuracy information.

DJ8951

DJ8951

DJ8951.The coordinates were established by GPS observations

DJ8951.and adjusted by the National Geodetic Survey in August 2011.

DJ8951

DJ8951.NAD 83(2011) refers to NAD 83 coordinates where the reference

DJ8951.frame has been affixed to the stable North American Tectonic Plate.

DJ8951

DJ8951.The coordinates are valid at the epoch date displayed above

DJ8951.which is a decimal equivalence of Year/Month/Day.

DJ8951

DJ8951.The PID for the CORS L1 Phase Center is DJ8952.

DJ8951

DJ8951.The XYZ, and position/ellipsoidal ht. are equivalent.

DJ8951

DJ8951.The ellipsoidal height was determined by GPS observations

DJ8951.and is referenced to NAD 83.

DJ8951

DJ8951. The following values were computed from the NAD 83(2011) position.

DJ8951

	North	East	Units	Scale Factor	Converg.
DJ8951; SPC VT	- 159,893.355	491,691.259	MT	0.99996513	-0 04 18.5
DJ8951; SPC VT	- 524,583.45	1,613,157.07	sFT	0.99996513	-0 04 18.5

DJ8951

	Elev Factor	x	Scale Factor	=	Combined Factor
DJ8951! SPC VT	- 0.99993647	x	0.99996513	=	0.99990161

DJ8951

DJ8951 SUPERSEDED SURVEY CONTROL
DJ8951
DJ8951 NAD 83(CORS) - 43 56 21.21821(N) 072 36 12.56610(W) AD(2002.00) c
DJ8951 ELLIP H (01/??/08) 405.158 (m) GP(2002.00) c c
DJ8951
DJ8951.Superseded values are not recommended for survey control.
DJ8951
DJ8951.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
DJ8951.See file dsdata.txt to determine how the superseded data were derived.
DJ8951
DJ8951_U.S. NATIONAL GRID SPATIAL ADDRESS: 18TXP9233667914(NAD 83)
DJ8951
DJ8951_MARKER: STATION IS THE ANTENNA REFERENCE POINT OF THE GPS ANTENNA
DJ8951
DJ8951 STATION DESCRIPTION
DJ8951
DJ8951'DESCRIBED BY NATIONAL GEODETIC SURVEY 2011
DJ8951'STATION IS A GPS CORS. LATEST INFORMATION INCLUDING POSITIONS AND
DJ8951'VELOCITIES ARE AVAILABLE IN THE COORDINATE AND LOG FILES ACCESSIBLE
DJ8951'BY ANONYMOUS FTP OR THE WORLDWIDE WEB.
DJ8951' ftp://cors.ngs.noaa.gov/cors/README.txt
DJ8951' ftp://cors.ngs.noaa.gov/cors/coord/coord_08
DJ8951' ftp://cors.ngs.noaa.gov/cors/station_log
DJ8951' http://geodesy.noaa.gov/CORS

1 National Geodetic Survey, Retrieval Date = JANUARY 4, 2013

DL2744 *****

DL2744 CORS - This is a GPS Continuously Operating Reference Station.

DL2744 DESIGNATION - MIDDLEBURY CORS ARP

DL2744 CORS_ID - VTMI

DL2744 PID - DL2744

DL2744 STATE/COUNTY- VT/ADDISON

DL2744 COUNTRY - US

DL2744 USGS QUAD - CORNWALL (1983)

DL2744

DL2744 *CURRENT SURVEY CONTROL

DL2744

DL2744* NAD 83(2011) POSITION- 43 59 55.02507(N) 073 09 09.38024(W) ADJUSTED

DL2744* NAD 83(2011) ELLIP HT- 96.027 (meters) (08/??/11) ADJUSTED

DL2744* NAD 83(2011) EPOCH - 2010.00

DL2744* NAVD 88 ORTHO HEIGHT - *(meters) *(feet)

DL2744

DL2744 NAD 83(2011) X - 1,331,928.348 (meters) COMP

DL2744 NAD 83(2011) Y - -4,398,407.105 (meters) COMP

DL2744 NAD 83(2011) Z - 4,408,047.862 (meters) COMP

DL2744 GEOID HEIGHT - -28.67 (meters) GEOID12A

DL2744 HORZ ORDER - SPECIAL (CORS)

DL2744 ELLP ORDER - SPECIAL (CORS)

DL2744

DL2744. Formal positional accuracy estimates are not available for this CORS

DL2744. because its coordinates were determined in part using modeled

DL2744. velocities. Approximate one-sigma accuracies for latitude, longitude,

DL2744. and ellipsoid height can be obtained from the short-term time series.

DL2744. Additional information regarding modeled velocities is available on

DL2744. the CORS Coordinates and Multi-Year CORS Solution FAQ web pages.

DL2744

DL2744. The coordinates were established by GPS observations

DL2744. and adjusted by the National Geodetic Survey in August 2011.

DL2744

DL2744. NAD 83(2011) refers to NAD 83 coordinates where the reference

DL2744. frame has been affixed to the stable North American Tectonic Plate.

DL2744

DL2744. The coordinates are valid at the epoch date displayed above

DL2744. which is a decimal equivalence of Year/Month/Day.

DL2744

DL2744. The PID for the CORS L1 Phase Center is DL2745.

DL2744

DL2744. The XYZ, and position/ellipsoidal ht. are equivalent.

DL2744

DL2744. The ellipsoidal height was determined by GPS observations

DL2744. and is referenced to NAD 83.

DL2744

DL2744. The following values were computed from the NAD 83(2011) position.

DL2744

	North	East	Units	Scale	Factor	Converg.
DL2744; SPC VT	- 166,693.997	447,657.600	MT	0.99999797	-0 27 12.0	
DL2744; SPC VT	- 546,895.22	1,468,689.98	sFT	0.99999797	-0 27 12.0	

DL2744

DL2744! - Elev Factor x Scale Factor = Combined Factor

DL2744! SPC VT - 0.99998494 x 0.99999797 = 0.99998291

DL2744

DL2744 SUPERSEDED SURVEY CONTROL

DL2744

DL2744 NAD 83(CORS)- 43 59 55.02543(N) 073 09 09.38148(W) AD(2002.00) c

DL2744 ELLIP H (05/??/09) 96.034 (m) GP(2002.00) c c


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DL2744
DL2744.Superseded values are not recommended for survey control.
DL2744
DL2744.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
DL2744.See file dsdata.txt to determine how the superseded data were derived.
DL2744
DL2744_U.S. NATIONAL GRID SPATIAL ADDRESS: 18TXP4811773378(NAD 83)
DL2744
DL2744_MARKER: STATION IS THE ANTENNA REFERENCE POINT OF THE GPS ANTENNA
DL2744
DL2744                                STATION DESCRIPTION
DL2744
DL2744'DESCRIBED BY NATIONAL GEODETIC SURVEY 2011
DL2744'STATION IS A GPS CORS. LATEST INFORMATION INCLUDING POSITIONS AND
DL2744'VELOCITIES ARE AVAILABLE IN THE COORDINATE AND LOG FILES ACCESSIBLE
DL2744'BY ANONYMOUS FTP OR THE WORLDWIDE WEB.
DL2744'    ftp://cors.ngs.noaa.gov/cors/README.txt
DL2744'    ftp://cors.ngs.noaa.gov/cors/coord/coord_08
DL2744'    ftp://cors.ngs.noaa.gov/cors/station_log
DL2744'    http://geodesy.noaa.gov/CORS
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1 National Geodetic Survey, Retrieval Date = JANUARY 4, 2013

DN8745 *****

DN8745 CORS - This is a GPS Continuously Operating Reference Station.

DN8745 DESIGNATION - RICHMOND CORS ARP

DN8745 CORS_ID - VTRI

DN8745 PID - DN8745

DN8745 STATE/COUNTY- VT/CHITTENDEN

DN8745 COUNTRY - US

DN8745 USGS QUAD - RICHMOND (1980)

DN8745

DN8745 *CURRENT SURVEY CONTROL

DN8745

DN8745*	NAD 83(2011)	POSITION-	44 24 47.72636(N)	072 59 41.37328(W)	ADJUSTED
DN8745*	NAD 83(2011)	ELLIP HT-	112.262 (meters)	(06/??/12)	ADJUSTED
DN8745*	NAD 83(2011)	EPOCH	- 2010.00		
DN8745*	NAVD 88	ORTHO HEIGHT	-	** (meters)	** (feet)
DN8745					
DN8745	NAD 83(2011)	X	- 1,334,643.848 (meters)		COMP
DN8745	NAD 83(2011)	Y	- -4,364,013.783 (meters)		COMP
DN8745	NAD 83(2011)	Z	- 4,441,086.659 (meters)		COMP
DN8745	GEOID HEIGHT	-	-28.30 (meters)		GEOID12A
DN8745	HORZ ORDER	-	SPECIAL (CORS)		
DN8745	ELLIP ORDER	-	SPECIAL (CORS)		
DN8745					

DN8745. Formal positional accuracy estimates are not available for this CORS
 DN8745. because its coordinates were determined in part using modeled
 DN8745. velocities. Approximate one-sigma accuracies for latitude, longitude,
 DN8745. and ellipsoid height can be obtained from the short-term time series.
 DN8745. Additional information regarding modeled velocities is available on
 DN8745. the CORS Coordinates and Multi-Year CORS Solution FAQ web pages.

DN8745

DN8745. The coordinates were established by GPS observations
 DN8745. and adjusted by the National Geodetic Survey in June 2012.

DN8745

DN8745. NAD 83(2011) refers to NAD 83 coordinates where the reference
 DN8745. frame has been affixed to the stable North American Tectonic Plate.

DN8745

DN8745. The coordinates are valid at the epoch date displayed above
 DN8745. which is a decimal equivalence of Year/Month/Day.

DN8745

DN8745. The PID for the CORS L1 Phase Center is DN8746.

DN8745

DN8745. The XYZ, and position/ellipsoidal ht. are equivalent.

DN8745

DN8745. The ellipsoidal height was determined by GPS observations
 DN8745. and is referenced to NAD 83.

DN8745

DN8745. The following values were computed from the NAD 83(2011) position.

DN8745

DN8745;		North	East	Units	Scale	Factor	Converg.
DN8745; SPC VT	-	212,677.541	460,589.806	MT	0.99998338	-0 20 46.7	
DN8745; SPC VT	-	697,759.57	1,511,118.39	sFT	0.99998338	-0 20 46.7	
DN8745!	-	Elev Factor	x	Scale Factor	=	Combined Factor	
DN8745! SPC VT	-	0.99998240	x	0.99998338	=	0.99996578	

DN8745

DN8745 SUPERSEDED SURVEY CONTROL

DN8745

DN8745 NAD 83(CORS)- 44 24 47.72674(N) 072 59 41.37430(W) AD(2002.00) c

DN8745 ELLIP H (06/??/12) 112.270 (m) GP(2002.00) c c

DN8745

DN8745.Superseded values are not recommended for survey control.

DN8745

DN8745.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.

DN8745.See file dsdata.txt to determine how the superseded data were derived.

DN8745

DN8745_U.S. NATIONAL GRID SPATIAL ADDRESS: 18TXQ5964319729(NAD 83)

DN8745

DN8745_MARKER: STATION IS THE ANTENNA REFERENCE POINT OF THE GPS ANTENNA

DN8745

DN8745

STATION DESCRIPTION

DN8745

DN8745'DESCRIBED BY NATIONAL GEODETIC SURVEY 2012

DN8745'STATION IS A GPS CORS. LATEST INFORMATION INCLUDING POSITIONS AND

DN8745'VELOCITIES ARE AVAILABLE IN THE COORDINATE AND LOG FILES ACCESSIBLE

DN8745'BY ANONYMOUS FTP OR THE WORLDWIDE WEB.

DN8745' <ftp://cors.ngs.noaa.gov/cors/README.txt>

DN8745' ftp://cors.ngs.noaa.gov/cors/coord/coord_08

DN8745' ftp://cors.ngs.noaa.gov/cors/station_log

DN8745' <http://geodesy.noaa.gov/CORS>

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1      National Geodetic Survey,   Retrieval Date = JANUARY  4, 2013
DK4109 *****
DK4109  CORS - This is a GPS Continuously Operating Reference Station.
DK4109  DESIGNATION - RUTLAND CORS ARP
DK4109  CORS_ID - VTRU
DK4109  PID - DK4109
DK4109  STATE/COUNTY- VT/RUTLAND
DK4109  COUNTRY - US
DK4109  USGS QUAD - RUTLAND (1988)
DK4109
DK4109                                *CURRENT SURVEY CONTROL
DK4109
DK4109* NAD 83(2011) POSITION- 43 36 25.63963(N) 072 58 45.90373(W) ADJUSTED
DK4109* NAD 83(2011) ELLIP HT- 161.449 (meters) (08/??/11) ADJUSTED
DK4109* NAD 83(2011) EPOCH - 2010.00
DK4109* NAVD 88 ORTHO HEIGHT - ** (meters) ** (feet)
DK4109
DK4109  NAD 83(2011) X - 1,354,044.578 (meters) COMP
DK4109  NAD 83(2011) Y - -4,423,196.655 (meters) COMP
DK4109  NAD 83(2011) Z - 4,376,698.603 (meters) COMP
DK4109  GEOID HEIGHT - -28.14 (meters) GEOID12A
DK4109  HORZ ORDER - SPECIAL (CORS)
DK4109  ELLP ORDER - SPECIAL (CORS)
DK4109
DK4109  FGDC Geospatial Positioning Accuracy Standards (95% confidence, cm)
DK4109  Type Horiz Ellip Dist(km)
DK4109  -----
DK4109  NETWORK 2.88 9.25
DK4109  -----
DK4109  NOTE: Click here for information on individual local accuracy
DK4109  values and other accuracy information.
DK4109
DK4109
DK4109.The coordinates were established by GPS observations
DK4109.and adjusted by the National Geodetic Survey in August 2011.
DK4109
DK4109.NAD 83(2011) refers to NAD 83 coordinates where the reference
DK4109.frame has been affixed to the stable North American Tectonic Plate.
DK4109
DK4109.The coordinates are valid at the epoch date displayed above
DK4109.which is a decimal equivalence of Year/Month/Day.
DK4109
DK4109.The PID for the CORS L1 Phase Center is DK4110.
DK4109
DK4109.The XYZ, and position/ellipsoidal ht. are equivalent.
DK4109
DK4109.The ellipsoidal height was determined by GPS observations
DK4109.and is referenced to NAD 83.
DK4109
DK4109. The following values were computed from the NAD 83(2011) position.
DK4109
DK4109; North East Units Scale Factor Converg.
DK4109;SPC VT - 123,101.674 461,296.266 MT 0.99998270 -0 19 50.4
DK4109;SPC VT - 403,876.08 1,513,436.17 sFT 0.99998270 -0 19 50.4
DK4109
DK4109! - Elev Factor x Scale Factor = Combined Factor
DK4109!SPC VT - 0.99997468 x 0.99998270 = 0.99995738
DK4109

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DK4109 SUPERSEDED SURVEY CONTROL
DK4109
DK4109 NAD 83(CORS)- 43 36 25.63990(N) 072 58 45.90502(W) AD(2002.00) c
DK4109 ELLIP H (06/??/08) 161.451 (m) GP(2002.00) c c
DK4109
DK4109.Superseded values are not recommended for survey control.
DK4109
DK4109.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
DK4109.See file dsdata.txt to determine how the superseded data were derived.
DK4109
DK4109_U.S. NATIONAL GRID SPATIAL ADDRESS: 18TXP6306530221(NAD 83)
DK4109
DK4109_MARKER: STATION IS THE ANTENNA REFERENCE POINT OF THE GPS ANTENNA
DK4109
DK4109 STATION DESCRIPTION
DK4109
DK4109'DESCRIBED BY NATIONAL GEODETIC SURVEY 2011
DK4109'STATION IS A GPS CORS. LATEST INFORMATION INCLUDING POSITIONS AND
DK4109'VELOCITIES ARE AVAILABLE IN THE COORDINATE AND LOG FILES ACCESSIBLE
DK4109'BY ANONYMOUS FTP OR THE WORLDWIDE WEB.
DK4109' ftp://cors.ngs.noaa.gov/cors/README.txt
DK4109' ftp://cors.ngs.noaa.gov/cors/coord/coord_08
DK4109' ftp://cors.ngs.noaa.gov/cors/station_log
DK4109' http://geodesy.noaa.gov/CORS


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1      National Geodetic Survey,   Retrieval Date = JANUARY  4, 2013
DG9783 *****
DG9783  CORS - This is a GPS Continuously Operating Reference Station.
DG9783  DESIGNATION - UVM COOLIDGE CORS ARP
DG9783  CORS_ID - VTUV
DG9783  PID - DG9783
DG9783  STATE/COUNTY- VT/CHITTENDEN
DG9783  COUNTRY - US
DG9783  USGS QUAD - BURLINGTON (1987)
DG9783
DG9783                                     *CURRENT SURVEY CONTROL
DG9783
DG9783* NAD 83(2011) POSITION- 44 28 09.21279(N) 073 11 52.37575(W) ADJUSTED
DG9783* NAD 83(2011) ELLIP HT- 112.410 (meters) (08/??/11) ADJUSTED
DG9783* NAD 83(2011) EPOCH - 2010.00
DG9783* NAVD 88 ORTHO HEIGHT - ** (meters) ** (feet)
DG9783
DG9783  NAD 83(2011) X - 1,317,910.674 (meters) COMP
DG9783  NAD 83(2011) Y - -4,364,547.689 (meters) COMP
DG9783  NAD 83(2011) Z - 4,445,527.201 (meters) COMP
DG9783  GEOID HEIGHT - -29.01 (meters) GEOID12A
DG9783  HORZ ORDER - SPECIAL (CORS)
DG9783  ELLP ORDER - SPECIAL (CORS)
DG9783
DG9783  FGDC Geospatial Positioning Accuracy Standards (95% confidence, cm)
DG9783  Type Horiz Ellip Dist(km)
DG9783  -----
DG9783  NETWORK 0.58 1.75
DG9783  -----
DG9783  NOTE: Click here for information on individual local accuracy
DG9783  values and other accuracy information.
DG9783
DG9783
DG9783.The coordinates were established by GPS observations
DG9783.and adjusted by the National Geodetic Survey in August 2011.
DG9783
DG9783.NAD 83(2011) refers to NAD 83 coordinates where the reference
DG9783.frame has been affixed to the stable North American Tectonic Plate.
DG9783
DG9783.The coordinates are valid at the epoch date displayed above
DG9783.which is a decimal equivalence of Year/Month/Day.
DG9783
DG9783.The PID for the CORS L1 Phase Center is DG9784.
DG9783
DG9783.The XYZ, and position/ellipsoidal ht. are equivalent.
DG9783
DG9783.The ellipsoidal height was determined by GPS observations
DG9783.and is referenced to NAD 83.
DG9783
DG9783. The following values were computed from the NAD 83(2011) position.
DG9783
DG9783; North East Units Scale Factor Converg.
DG9783;SPC VT - 219,014.396 444,470.507 MT 1.00000219 -0 29 20.0
DG9783;SPC VT - 718,549.73 1,458,233.66 sFT 1.00000219 -0 29 20.0
DG9783
DG9783! - Elev Factor x Scale Factor = Combined Factor
DG9783!SPC VT - 0.99998237 x 1.00000219 = 0.99998456
DG9783

```

DG9783 SUPERSEDED SURVEY CONTROL
DG9783
DG9783 NAD 83(CORS) - 44 28 09.21307(N) 073 11 52.37630(W) AD(2002.00) c
DG9783 ELLIP H (04/??/05) 112.417 (m) GP(2002.00) c c
DG9783
DG9783.Superseded values are not recommended for survey control.
DG9783
DG9783.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
DG9783.See file dsdata.txt to determine how the superseded data were derived.
DG9783
DG9783_U.S. NATIONAL GRID SPATIAL ADDRESS: 18TXQ4334025570(NAD 83)
DG9783
DG9783_MARKER: STATION IS THE ANTENNA REFERENCE POINT OF THE GPS ANTENNA
DG9783
DG9783 STATION DESCRIPTION
DG9783
DG9783'DESCRIBED BY NATIONAL GEODETIC SURVEY 2011
DG9783'STATION IS A GPS CORS. LATEST INFORMATION INCLUDING POSITIONS AND
DG9783'VELOCITIES ARE AVAILABLE IN THE COORDINATE AND LOG FILES ACCESSIBLE
DG9783'BY ANONYMOUS FTP OR THE WORLDWIDE WEB.
DG9783' ftp://cors.ngs.noaa.gov/cors/README.txt
DG9783' ftp://cors.ngs.noaa.gov/cors/coord/coord_08
DG9783' ftp://cors.ngs.noaa.gov/cors/station_log
DG9783' http://geodesy.noaa.gov/CORS