August 06, 2014

Survey Report of Calibration & QA Points

TO# 36 - Rutland, VT LiDAR
USGS Contract: G10PC00026
USGS Task Order: G13PD00813
Photo Science Project No. 18814



1400 Independence Road
Rolla, Missouri 65401

Presented by



A Quantum Spatial Company

1410 Indian Trail Road
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Section 1 - Project Procedure Summary

Photo Science, a Quantum Spatial company, was contracted by U.S. Geological Survey (USGS) under task order number G13PD00813 to field survey calibration and quality control points in support of the Rutland, VT LiDAR project. At total of 98 bare earth calibration points were collected. 25 quality control points were obtained in each of the following land cover classes: Bare Earth, Urban Areas, Tall Weeds, and Forested; totaling 198 points.

The initial field work was accomplished from November 6th, 2013 - November 20th, 2013. A second site visit was made from May 15th, 2014 - May 22nd, 2014.

A static GPS survey was conducted for each ground control point using Trimble R7, Trimble R8-3, and/or Trimble R8-4 GNSS receivers. Each point was occupied twice at varying times to obtain solutions while observing differing satellite constellations. The minimum observation duration for each static session was 20 minutes.

The control points were connected to the National Spatial Reference System (NSRS) utilizing the National Geodetic Survey Online Positional User System (OPUS). Field data, log sheets, which include photographs of the survey control monuments*, equipment used, and coordinates derived for each point are included in the report.

Upon completion of the field survey, the observations were submitted to the NGS OPUS service to determine the control points coordinate values. The deviations between the multiple observations were analyzed to determine the accuracy of the OPUS solutions received. Deviations that exceeded project requirements were rejected and re-observed during the second phase of the field effort.

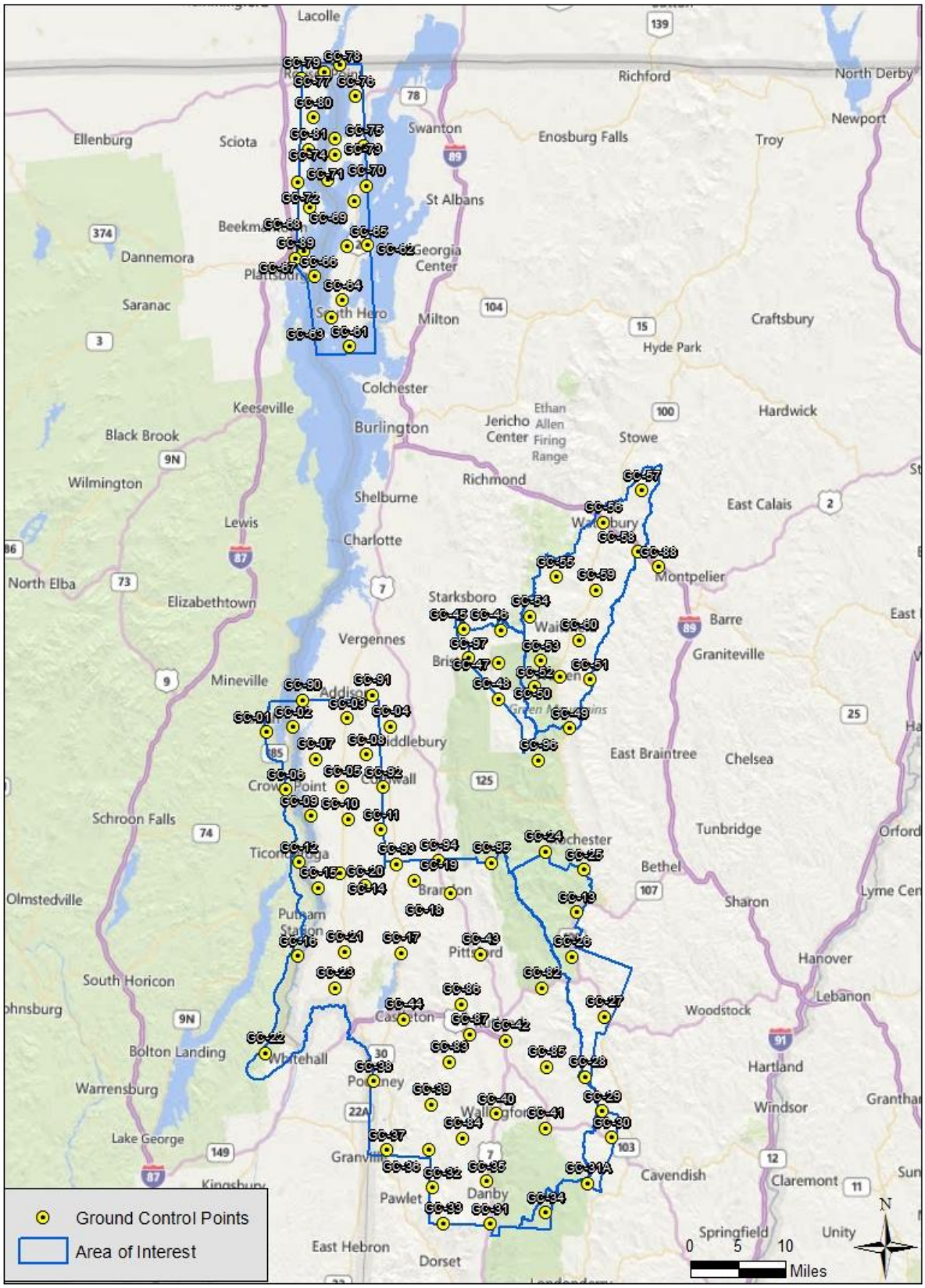
Excepted from this methodology were quality control points where vegetation obscured reliable GPS observations. For these points, two inter-visible GPS control points were established, using the methodology described above, and were occupied with a Leica 1102 2" Total Station which was used to locate the obscured quality control points.

The final coordinate values were derived from the mean of the NGS OPUS solutions obtained for the two observations conducted on each ground control point. The North American Datum of 1983 (NAD83 (2011)), State Plane Coordinate System – Vermont (FIPS Zone 4400) projection was used for reporting the horizontal coordinates in metric units. The vertical elevations are North American Vertical Datum of 1988 (NAVD 88) utilizing the GEOID12A model and are reported in meters.

The 3-Dimensional RMSE at the 95% confidence level is 0.022 meters

* *Photographs for 9 of the points were unable to be located when this report was compiled and were replaced with an aerial location image.*

Section 2a – calibration points & AOI Map



Section 2b – Final Calibration Point Coordinates

Horizontal Datum - NAD83(2011)
State Plane Zone - Vermont (4400)
Vertical Datum - NAVD 88
Geoid - GEOID12A
Units – Meters

POINT_ID	Northing	Easting	Elevation
GC-01	170286.358	422070.358	139.545
GC-02	171109.590	426382.761	37.333
GC-03	172477.259	435719.871	70.887
GC-04	171148.408	442931.064	129.030
GC-05	161414.563	434823.080	104.988
GC-06	160816.532	425281.231	130.057
GC-07	165854.717	430244.636	57.222
GC-08	166545.863	438896.435	54.632
GC-09	156551.739	429572.194	47.815
GC-10	156083.692	435936.922	121.125
GC-11	154360.490	441390.747	116.045
GC-12	148960.156	427467.172	37.533
GC-13	140818.974	474693.175	255.648
GC-14	147245.893	434393.988	88.015
GC-15	144815.805	430725.102	54.373
GC-16	133679.359	427216.296	110.234
GC-17	134238.518	444796.947	128.760
GC-18	143963.253	453305.884	142.000
GC-19	146011.689	447163.939	109.605
GC-20	145092.058	438809.401	137.679
GC-21	134382.096	435296.929	112.892
GC-22	117890.320	421854.994	128.900
GC-23	128502.693	433692.099	107.415
GC-24	150786.227	469315.148	325.648
GC-25	147825.630	475879.942	279.254
GC-26	133599.409	473951.469	391.955
GC-27	123816.920	479385.847	351.633
GC-28	113930.430	476153.188	633.938
GC-29	108325.955	478938.660	535.578
GC-30	104075.758	480575.792	409.178
GC-31	89918.465	459897.527	205.787
GC-31A	96636.170	476507.123	593.213
GC-32	95896.553	450265.483	360.848
GC-33	90072.566	452031.295	518.574
GC-34	91791.306	469282.872	528.113

GC-35	96947.090	459319.562	199.929
GC-36	102000.730	449524.683	326.016
GC-37	102041.225	442334.784	145.670
GC-38	113268.88	440184.10	128.66
GC-39	109498.174	449986.007	262.178
GC-40	107952.622	461088.584	174.327
GC-41	105568.897	469403.412	380.436
GC-42	119921.644	462693.074	191.666
GC-43	133990.312	458347.280	145.723
GC-44	123330.856	445328.410	141.823
GC-45	187040.016	455460.603	210.207
GC-46	186953.859	461813.492	460.722
GC-47	181515.847	461383.430	403.327
GC-48	175716.441	461471.467	346.064
GC-49	170817.835	473393.037	423.057
GC-50	179223.818	471752.887	298.289
GC-51	178810.923	476911.871	727.064
GC-52	177651.456	467507.921	409.647
GC-53	181932.240	468498.673	480.767
GC-54	189203.561	466744.226	497.854
GC-55	195584.715	471288.179	557.256
GC-56	204467.543	479180.427	125.812
GC-57	209689.329	485762.355	394.131
GC-58	199707.257	485102.080	173.292
GC-59	193406.356	477991.522	199.365
GC-60	185259.240	475102.712	327.509
GC-61	233214.794	436073.267	38.991
GC-62	249746.007	439158.485	48.126
GC-63	237892.128	433072.490	39.260
GC-64	240698.670	434767.767	36.970
GC-65	249582.722	435752.248	37.836
GC-66	244624.145	430053.301	40.004
GC-67	248793.403	428395.900	32.886
GC-68	255824.929	429296.523	35.069
GC-69	256950.391	436930.654	42.695
GC-70	259443.649	438858.543	35.292
GC-71	259996.956	427332.358	39.133
GC-72	260316.476	432343.846	35.452
GC-73	264514.244	433665.448	58.064
GC-74	267150.128	433624.143	37.618
GC-75	265956.879	438510.979	31.852
GC-76	274105.954	436988.354	35.843
GC-77	279299.959	434399.358	35.229
GC-78	278045.615	431735.434	33.518
GC-79	277067.207	427935.248	66.339
GC-80	270568.777	430015.091	31.029

GC-81	265357.878	429153.696	48.680
GC-82	128444.903	468825.700	475.483
GC-83	116363.605	453115.545	346.198
GC-84	103986.928	455327.389	370.873
GC-85	115567.638	469639.962	416.082
GC-86	125814.428	455103.940	173.308
GC-87	120871.731	456424.386	153.898
GC-88	197266.363	488490.553	153.039
GC-89	247631.064	426890.234	32.840
GC-90	175453.557	428135.617	47.429
GC-91	176284.608	439934.923	55.144
GC-92	161219.145	441745.955	103.367
GC-93	148700.668	444128.852	130.904
GC-94	149279.690	451241.980	144.467
GC-95	148866.752	460076.776	431.128
GC-96	165684.239	468066.326	501.608
GC-97	182306.849	456351.778	187.155

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Section 2c – Calibration Points Data Log Sheets

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Point ID	GC-01
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	New York
County	Essex
Quad	Port Henry

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
170286.358	422070.358	139.545

Operator	Kevin Chapman
Receiver Model	Trimble R7
Receiver S/N	5106K20886
Antenna Height	2.000 Meters
Static Session	08863170
Date	November 13, 2013
Start Time (UTC)	13:16
End Time (UTC)	13:37

Operator	Kevin Chapman
Receiver Model	Trimble R7
Receiver S/N	5106K20886
Antenna Height	2.000 Meters
Static Session	08863175
Date	November 13, 2013
Start Time (UTC)	17:42
End Time (UTC)	18:03

PHOTOS:









Point ID	GC-02
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Addison
Quad	Port Henry

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
171109.590	426382.761	37.333

Operator	Kevin Chapman
Receiver Model	Trimble R7
Receiver S/N	5106K20886
Antenna Height	2.000 Meters
Static Session	08863176
Date	November 13, 2013
Start Time (UTC)	18:19
End Time (UTC)	18:40

Operator	Kevin Chapman
Receiver Model	Trimble R7
Receiver S/N	5106K20886
Antenna Height	2.000 Meters
Static Session	08863182
Date	November 14, 2013
Start Time (UTC)	13:47
End Time (UTC)	14:08

PHOTOS:









Point ID	GC-03
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Addison
Quad	Snake Mountain

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
172477.259	435719.871	70.887

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	8863178
Date	November 13, 2013
Start Time (UTC)	19:45
End Time (UTC)	20:06

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	8863181
Date	November 14, 2013
Start Time (UTC)	13:04
End Time (UTC)	13:25

PHOTOS:









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Point ID	GC-04
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Addison
Quad	Middlebury

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
171148.408	442931.064	129.030

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863187
Date	November 14, 2013
Start Time (UTC)	16:54
End Time (UTC)	17:15

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863191
Date	November 15, 2013
Start Time (UTC)	12:16
End Time (UTC)	12:37

PHOTOS:









Point ID	GC-05
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Addison
Quad	Bridport

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
161414.563	434823.080	104.988

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863193
Date	November 15, 2013
Start Time (UTC)	13:39
End Time (UTC)	14:00

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863196
Date	November 15, 2013
Start Time (UTC)	18:11
End Time (UTC)	18:32

PHOTOS:









Point ID	GC-06
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	New York
County	Essex
Quad	Crown Point

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
160816.532	425281.231	130.057

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863141
Date	November 10, 2013
Start Time (UTC)	13:20
End Time (UTC)	13:41

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863146
Date	November 10, 2013
Start Time (UTC)	17:50
End Time (UTC)	18:11

PHOTOS:









Point ID	GC-07
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Addison
Quad	Bridport

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
165854.717	430244.636	57.222

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	8863184
Date	November 14, 2013
Start Time (UTC)	14:53
End Time (UTC)	15:14

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	8863199
Date	November 15, 2013
Start Time (UTC)	19:49
End Time (UTC)	20:10

PHOTOS:









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Point ID	GC-08
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Addison
Quad	Bridport

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
166545.863	438896.435	54.632

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863195
Date	November 15, 2013
Start Time (UTC)	14:52
End Time (UTC)	15:13

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863198
Date	November 15, 2013
Start Time (UTC)	19:14
End Time (UTC)	19:35

PHOTOS:









Point ID	GC-09
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Addison
Quad	Crown Point

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
156551.739	429572.194	47.815

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863154
Date	November 11, 2013
Start Time (UTC)	16:43
End Time (UTC)	17:04

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	0886315A
Date	November 11, 2013
Start Time (UTC)	21:10
End Time (UTC)	21:31

PHOTOS:









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Point ID	GC-10
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Addison
Quad	Bridport

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
156083.692	435936.922	121.125

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863153
Date	November 11, 2013
Start Time (UTC)	16:04
End Time (UTC)	16:25

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863159
Date	November 11, 2013
Start Time (UTC)	20:26
End Time (UTC)	20:47

PHOTOS:









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Point ID	GC-11
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Addison
Quad	Cornwall

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
154360.490	441390.747	116.045

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863152
Date	November 11, 2013
Start Time (UTC)	15:11
End Time (UTC)	15:32

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863158
Date	November 11, 2013
Start Time (UTC)	19:34
End Time (UTC)	19:55

PHOTOS:









Point ID	GC-12
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	New York
County	Essex
Quad	Ticonderoga

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
148960.156	427467.172	37.533

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863140
Date	November 10, 2013
Start Time (UTC)	12:37
End Time (UTC)	12:58

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	8863145
Date	November 10, 2013
Start Time (UTC)	17:11
End Time (UTC)	17:32

PHOTOS:









Point ID	GC-13
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	Rochester

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
140818.974	474693.175	255.648

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673232
Date	November 18, 2013
Start Time (UTC)	17:16
End Time (UTC)	17:37

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673238
Date	November 18, 2013
Start Time (UTC)	20:58
End Time (UTC)	21:19

PHOTOS:









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Point ID	GC-14
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Addison
Quad	Orwell

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
147245.893	434393.988	88.015

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863150
Date	November 11, 2013
Start Time (UTC)	13:19
End Time (UTC)	13:40

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863156
Date	November 11, 2013
Start Time (UTC)	18:01
End Time (UTC)	18:22

PHOTOS:









Point ID	GC-15
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Addison
Quad	Orwell

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

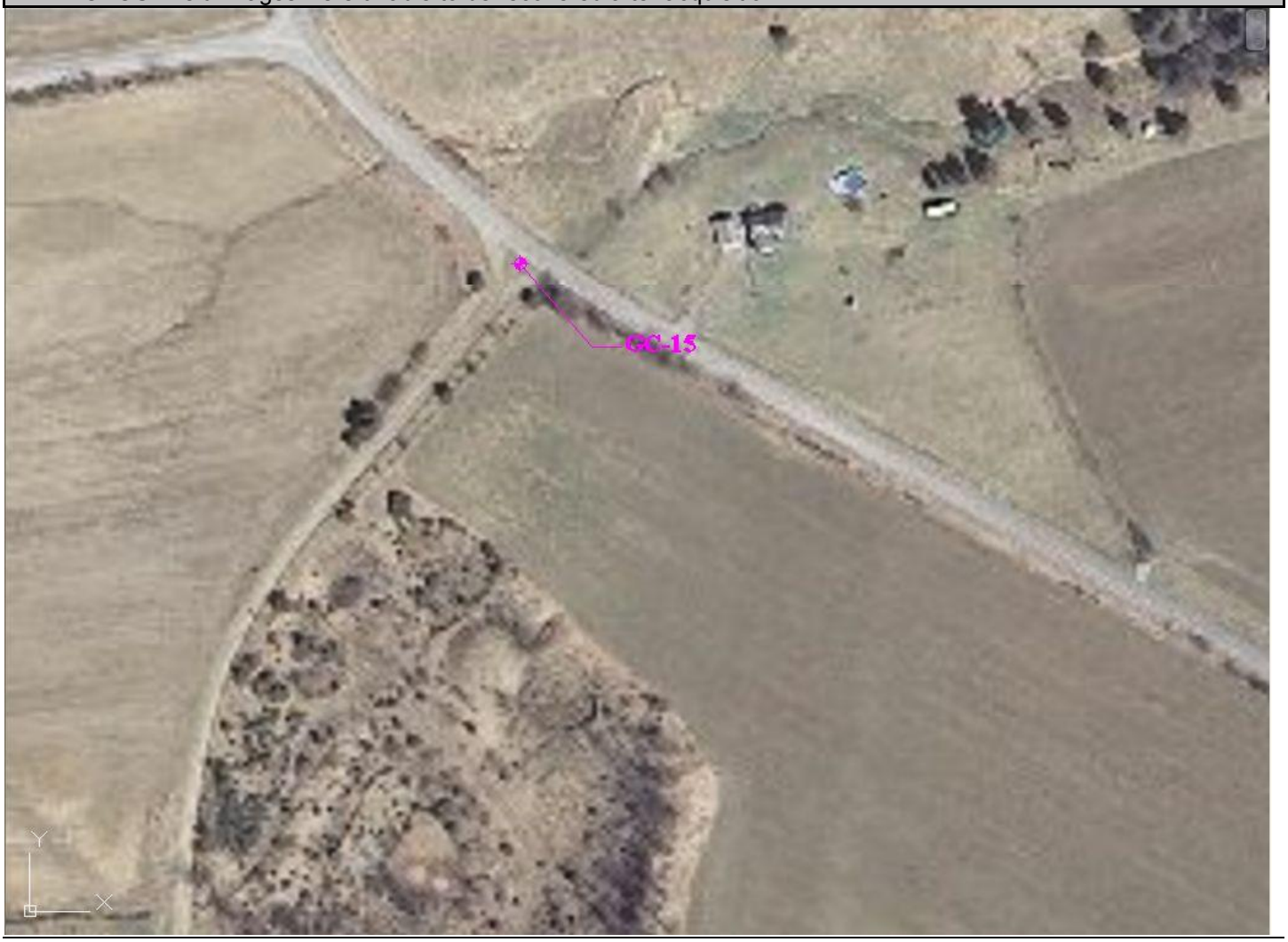
Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
144815.805	430725.102	54.373

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	8863200
Date	November 16, 2013
Start Time (UTC)	13:18
End Time (UTC)	13:39

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	8863207
Date	November 16, 2013
Start Time (UTC)	18:15
End Time (UTC)	18:36

PHOTOS: Field images were unable to be recovered after acquisition.



Point ID	GC-16
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	New York
County	Washington
Quad	Putnam

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
133679.359	427216.296	110.234

Instrument Model	Leica 1102
Occupy Point	BE-14
Instrument Height	5.38
Backsight Point	GC-16
Backsight Height	6.83
Angle Right	26.5922
Slope Distance	166.137
Zenith Angle	82.4353

PHOTOS:









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Point ID	GC-17
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	Bomoseen

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
134238.518	444796.947	128.760

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863230
Date	November 19, 2013
Start Time (UTC)	12:52
End Time (UTC)	13:13

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863242
Date	November 20, 2013
Start Time (UTC)	18:19
End Time (UTC)	18:40

PHOTOS:









Point ID	GC-18
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	Brandon

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
143963.253	453305.884	142.000

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863204
Date	November 16, 2013
Start Time (UTC)	15:59
End Time (UTC)	16:20

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	0886320B
Date	November 16, 2013
Start Time (UTC)	20:30
End Time (UTC)	20:51

PHOTOS: Field images were unable to be recovered after acquisition.



Point ID	GC-19
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	Sudbury

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
146011.689	447163.939	109.605

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863213
Date	November 17, 2013
Start Time (UTC)	15:58
End Time (UTC)	16:19

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863218
Date	November 17, 2013
Start Time (UTC)	20:26
End Time (UTC)	20:47

PHOTOS:









Point ID	GC-20
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Addison
Quad	Orwell

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
145092.058	438809.401	137.679

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863201
Date	November 16, 2013
Start Time (UTC)	14:02
End Time (UTC)	14:23

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863208
Date	November 16, 2013
Start Time (UTC)	18:51
End Time (UTC)	19:12

PHOTOS: Field images were unable to be recovered after acquisition.



Point ID	GC-21
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	Benson

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
134382.096	435296.929	112.892

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863224
Date	November 18, 2013
Start Time (UTC)	16:17
End Time (UTC)	16:38

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863240
Date	November 20, 2013
Start Time (UTC)	11:39
End Time (UTC)	12:00

PHOTOS:









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Point ID	GC-22
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	New York
County	Washington
Quad	Whitehall

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
117890.320	421854.994	128.900

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863222
Date	November 18, 2013
Start Time (UTC)	14:31
End Time (UTC)	14:52

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863234
Date	November 19, 2013
Start Time (UTC)	18:53
End Time (UTC)	19:14

PHOTOS:









Point ID	GC-23
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	Benson

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
128502.693	433692.099	107.415

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863225
Date	November 18, 2013
Start Time (UTC)	16:55
End Time (UTC)	17:17

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863241
Date	November 20, 2013
Start Time (UTC)	12:12
End Time (UTC)	12:33

PHOTOS:









Point ID	GC-24
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	Mount Carmel

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
150786.227	469315.148	325.648

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673230
Date	November 18, 2013
Start Time (UTC)	15:45
End Time (UTC)	16:06

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673236
Date	November 18, 2013
Start Time (UTC)	19:40
End Time (UTC)	20:01

PHOTOS:









Point ID	GC-25
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	Rochester

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
147825.630	475879.942	279.254

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673231
Date	November 18, 2013
Start Time (UTC)	16:22
End Time (UTC)	16:43

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673237
Date	November 18, 2013
Start Time (UTC)	20:14
End Time (UTC)	20:35

PHOTOS:









Point ID	GC-26
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	Pico Peak

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
133599.409	473951.469	391.955

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673234
Date	November 18, 2013
Start Time (UTC)	18:14
End Time (UTC)	18:35

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	1067323A
Date	November 18, 2013
Start Time (UTC)	21:54
End Time (UTC)	22:15

PHOTOS:









Point ID	GC-27
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	Killington Peak

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
123816.920	479385.847	351.633

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10671441
Date	May 19, 2014
Start Time (UTC)	14:51
End Time (UTC)	15:37

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	08241390
Date	May 24, 2014
Start Time (UTC)	22:35
End Time (UTC)	23:21

PHOTOS:









Point ID	GC-28
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	Killington Peak

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
113930.430	476153.188	633.938

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673226
Date	November 17, 2013
Start Time (UTC)	17:53
End Time (UTC)	18:14

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	1067322D
Date	November 17, 2013
Start Time (UTC)	22:02
End Time (UTC)	22:23

PHOTOS:









Point ID	GC-29
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	Mount Holly

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
108325.955	478938.660	535.578

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673206
Date	November 16, 2013
Start Time (UTC)	18:31
End Time (UTC)	18:52

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	1067320E
Date	November 16, 2013
Start Time (UTC)	22:17
End Time (UTC)	22:38

PHOTOS:









Point ID	GC-30
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	Ludlow

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
104075.758	480575.792	409.178

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673205
Date	November 16, 2013
Start Time (UTC)	17:59
End Time (UTC)	18:20

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	1067320D
Date	November 16, 2013
Start Time (UTC)	21:43
End Time (UTC)	22:04

PHOTOS:









Point ID	GC-31
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	Weston

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
89918.465	459897.527	205.787

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673180
Date	November 14, 2013
Start Time (UTC)	14:03
End Time (UTC)	14:24

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673188
Date	November 14, 2013
Start Time (UTC)	19:28
End Time (UTC)	19:49

PHOTOS:









Point ID	GC-31A
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	Danby

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
96636.170	476507.123	593.213

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673202
Date	November 16, 2013
Start Time (UTC)	15:28
End Time (UTC)	15:49

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673209
Date	November 16, 2013
Start Time (UTC)	20:08
End Time (UTC)	20:29

PHOTOS:









Point ID	GC-32
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	Dorset

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
95896.553	450265.483	360.848

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673186
Date	November 14, 2013
Start Time (UTC)	17:52
End Time (UTC)	18:13

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673197
Date	November 15, 2013
Start Time (UTC)	18:35
End Time (UTC)	18:56

PHOTOS:









Point ID	GC-33
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	Dorset

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

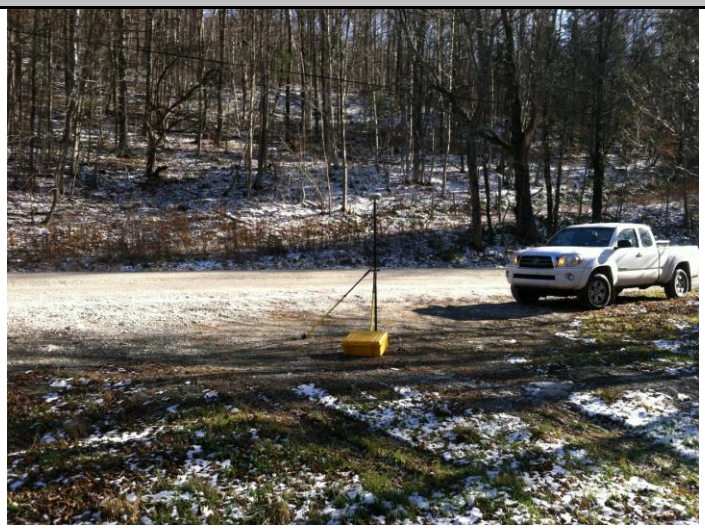
Northing	Easting	Elevation
90072.566	452031.295	518.574

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673187
Date	November 14, 2013
Start Time (UTC)	18:39
End Time (UTC)	19:00

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	1067318D
Date	November 14, 2013
Start Time (UTC)	22:58
End Time (UTC)	23:19

PHOTOS:









Point ID	GC-34
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	Danby

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
91791.306	469282.872	528.113

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673183
Date	November 14, 2013
Start Time (UTC)	15:46
End Time (UTC)	16:07

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	1067318A
Date	November 14, 2013
Start Time (UTC)	20:42
End Time (UTC)	21:03

PHOTOS:









Point ID	GC-35
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	Dorset

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
96947.090	459319.562	199.929

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673185
Date	November 14, 2013
Start Time (UTC)	17:01
End Time (UTC)	17:22

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	1067318C
Date	November 14, 2013
Start Time (UTC)	21:48
End Time (UTC)	22:09

PHOTOS:









Point ID	GC-36
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	Middletown Springs

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
102000.730	449524.683	326.016

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673198
Date	November 15, 2013
Start Time (UTC)	19:11
End Time (UTC)	19:32

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	1067319E
Date	November 15, 2013
Start Time (UTC)	22:21
End Time (UTC)	22:42

PHOTOS:









Point ID	GC-37
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	Wells

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
102041.225	442334.784	145.670

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673195
Date	November 15, 2013
Start Time (UTC)	17:29
End Time (UTC)	17:50

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	1067319C
Date	November 15, 2013
Start Time (UTC)	21:24
End Time (UTC)	21:45

PHOTOS:









Point ID	GC-38
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	Poultney

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
113268.88	440184.10	128.66

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673194
Date	November 15, 2013
Start Time (UTC)	16:41
End Time (UTC)	17:02

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	1067319B
Date	November 15, 2013
Start Time (UTC)	20:47
End Time (UTC)	21:08

PHOTOS:









Point ID	GC-39
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	Middletown Springs

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

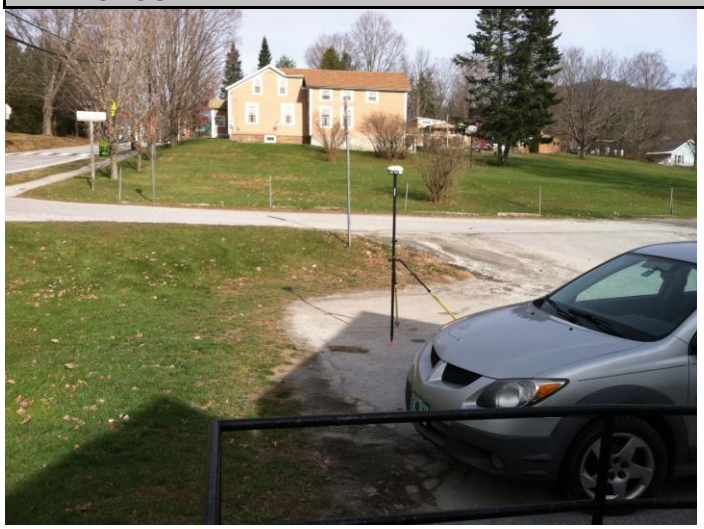
Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
109498.174	449986.007	262.178

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673193
Date	November 15, 2013
Start Time (UTC)	15:54
End Time (UTC)	16:15

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	1067319A
Date	November 15, 2013
Start Time (UTC)	20:09
End Time (UTC)	20:30

PHOTOS:









Point ID	GC-40
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	Wallingford

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

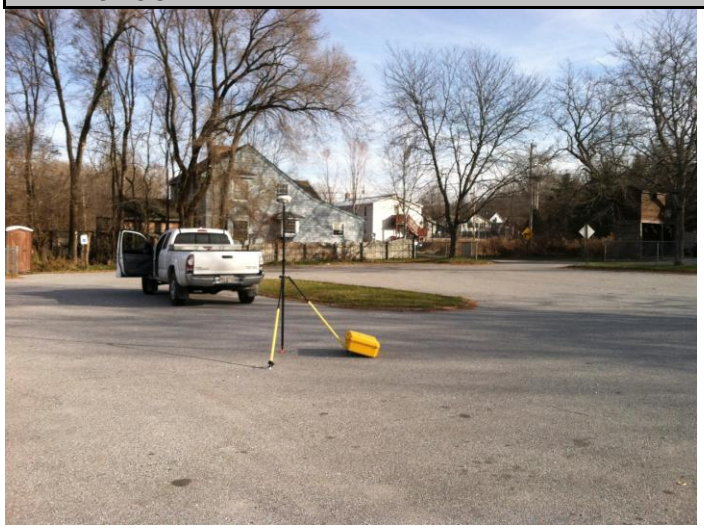
Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
107952.622	461088.584	174.327

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673190
Date	November 15, 2013
Start Time (UTC)	14:11
End Time (UTC)	14:32

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	1067319G
Date	November 15, 2013
Start Time (UTC)	23:49
End Time (UTC)	0:10

PHOTOS:









Point ID	GC-41
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	Wallingford

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
105568.897	469403.412	380.436

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673200
Date	November 16, 2013
Start Time (UTC)	14:15
End Time (UTC)	14:36

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673207
Date	November 16, 2013
Start Time (UTC)	19:10
End Time (UTC)	19:31

PHOTOS: Field images were unable to be recovered after acquisition.



Point ID	GC-42
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	Rutland

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
119921.644	462693.074	191.666

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673222
Date	November 17, 2013
Start Time (UTC)	15:51
End Time (UTC)	16:12

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673229
Date	November 17, 2013
Start Time (UTC)	20:00
End Time (UTC)	20:21

PHOTOS:









Point ID	GC-43
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	Proctor

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
133990.312	458347.280	145.723

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863211
Date	November 17, 2013
Start Time (UTC)	13:34
End Time (UTC)	13:55

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863216
Date	November 17, 2013
Start Time (UTC)	18:05
End Time (UTC)	18:26

PHOTOS:









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Point ID	GC-44
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	Poultney

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
123330.856	445328.410	141.823

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08241361
Date	May 16, 2014
Start Time (UTC)	13:15
End Time (UTC)	14:02

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08241371
Date	May 17, 2014
Start Time (UTC)	18:43
End Time (UTC)	19:29

PHOTOS:









Point ID	GC-45
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Addison
Quad	Bristol

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
187040.016	455460.603	210.207

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673174
Date	November 13, 2013
Start Time (UTC)	16:50
End Time (UTC)	17:11

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	1067317A
Date	November 13, 2013
Start Time (UTC)	20:14
End Time (UTC)	20:35

PHOTOS:









Point ID	GC-46
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Addison
Quad	Mount Ellen

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
186953.859	461813.492	460.722

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673173
Date	November 13, 2013
Start Time (UTC)	16:15
End Time (UTC)	16:36

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673179
Date	November 13, 2013
Start Time (UTC)	18:42
End Time (UTC)	19:03

PHOTOS:









Point ID	GC-47
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Addison
Quad	Mount Ellen

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
181515.847	461383.430	403.327

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673171
Date	November 13, 2013
Start Time (UTC)	15:10
End Time (UTC)	15:31

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673177
Date	November 13, 2013
Start Time (UTC)	18:30
End Time (UTC)	18:51

PHOTOS:









Point ID	GC-48
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Addison
Quad	Lincoln

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
175716.441	461471.467	346.064

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673170
Date	November 13, 2013
Start Time (UTC)	14:34
End Time (UTC)	14:55

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673176
Date	November 13, 2013
Start Time (UTC)	17:19
End Time (UTC)	18:20

PHOTOS:









Point ID	GC-49
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Addison
Quad	Warren

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
170817.835	473393.037	423.057

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673151
Date	November 11, 2013
Start Time (UTC)	18:00
End Time (UTC)	18:21

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673155
Date	November 11, 2013
Start Time (UTC)	21:22
End Time (UTC)	21:43

PHOTOS:









Point ID	GC-50
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Washington
Quad	Waren

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
179223.818	471752.887	298.289

Operator	David Simmons
Receiver Model	TRIMBLE R7
Receiver S/N	5201K23076
Antenna Height	2 meters
Static Session	30763123
Date	November 10, 2013
Start Time (UTC)	17:28
End Time (UTC)	17:50

Operator	David Simmons
Receiver Model	TRIMBLE R7
Receiver S/N	5201K23076
Antenna Height	2 meters
Static Session	30763123
Date	November 13, 2013
Start Time (UTC)	15:40
End Time (UTC)	16:01

PHOTOS:









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Point ID	GC-51
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Washington
Quad	Warren

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
178810.923	476911.871	727.064

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08241391
Date	May 19, 2014
Start Time (UTC)	21:01
End Time (UTC)	21:47

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	10671400
Date	May 20, 2014
Start Time (UTC)	13:18
End Time (UTC)	14:05

PHOTOS:









Point ID	GC-52
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Washington
Quad	Lincoln

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
177651.456	467507.921	409.647

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673152
Date	November 11, 2013
Start Time (UTC)	19:41
End Time (UTC)	20:02

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673156
Date	November 11, 2013
Start Time (UTC)	21:58
End Time (UTC)	22:19

PHOTOS:









Point ID	GC-53
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Washington
Quad	Mount Ellen

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
181932.240	468498.673	480.767

Operator	David Simmons
Receiver Model	TRIMBLE R7
Receiver S/N	5201K23076
Antenna Height	2 meters
Static Session	30763123
Date	November 10, 2013
Start Time (UTC)	20:14
End Time (UTC)	20:36

Operator	David Simmons
Receiver Model	TRIMBLE R7
Receiver S/N	5201K23076
Antenna Height	2 meters
Static Session	30763123
Date	November 13, 2013
Start Time (UTC)	16:29
End Time (UTC)	16:50

PHOTOS:









Point ID	GC-54
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Washington
Quad	Mount Ellen

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
189203.561	466744.226	497.854

Operator	David Simmons
Receiver Model	TRIMBLE R7
Receiver S/N	5201K23076
Antenna Height	2 meters
Static Session	30763140
Date	November 10, 2013
Start Time (UTC)	14:23
End Time (UTC)	14:45

Operator	David Simmons
Receiver Model	TRIMBLE R7
Receiver S/N	5201K23076
Antenna Height	2 meters
Static Session	30763145
Date	November 10, 2013
Start Time (UTC)	18:39
End Time (UTC)	19:00

PHOTOS:









Point ID	GC-55
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Washington
Quad	Waterbury

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
195584.715	471288.179	557.256

Operator	David Simmons
Receiver Model	TRIMBLE R7
Receiver S/N	5201K23076
Antenna Height	2 meters
Static Session	30763130
Date	November 9, 2013
Start Time (UTC)	13:25
End Time (UTC)	13:47

Operator	David Simmons
Receiver Model	TRIMBLE R7
Receiver S/N	5201K23076
Antenna Height	2 meters
Static Session	3076313B
Date	November 9, 2013
Start Time (UTC)	21:54
End Time (UTC)	22:15

PHOTOS:









Point ID	GC-56
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Washington
Quad	Waterbury

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
204467.543	479180.427	125.812

Operator	David Simmons
Receiver Model	TRIMBLE R7
Receiver S/N	5201K23076
Antenna Height	2 meters
Static Session	3076312B
Date	November 8, 2013
Start Time (UTC)	21:22
End Time (UTC)	21:43

Operator	David Simmons
Receiver Model	TRIMBLE R7
Receiver S/N	5201K23076
Antenna Height	2 meters
Static Session	30763178
Date	November 13, 2013
Start Time (UTC)	18:56
End Time (UTC)	19:18

PHOTOS:









Point ID	GC-57
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Washington
Quad	Stowe

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
209689.329	485762.355	394.131

Operator	David Simmons
Receiver Model	TRIMBLE R7
Receiver S/N	5201K23076
Antenna Height	2 meters
Static Session	30763121
Date	November 8, 2013
Start Time (UTC)	14:57
End Time (UTC)	15:18

Operator	David Simmons
Receiver Model	TRIMBLE R7
Receiver S/N	5201K23076
Antenna Height	2 meters
Static Session	30763129
Date	November 8, 2013
Start Time (UTC)	20:10
End Time (UTC)	20:30

PHOTOS:









Point ID	GC-58
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Washington
Quad	Middlesex

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
199707.257	485102.080	173.292

Operator	David Simmons
Receiver Model	TRIMBLE R7
Receiver S/N	5201K23076
Antenna Height	2 meters
Static Session	30763126
Date	November 8, 2013
Start Time (UTC)	18:22
End Time (UTC)	18:45

Operator	David Simmons
Receiver Model	TRIMBLE R7
Receiver S/N	5201K23076
Antenna Height	2 meters
Static Session	3076312C
Date	November 8, 2013
Start Time (UTC)	21:56
End Time (UTC)	22:17

PHOTOS:









Point ID	GC-59
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Washington
Quad	Waitsfield

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
193406.356	477991.522	199.365

Operator	David Simmons
Receiver Model	TRIMBLE R7
Receiver S/N	5201K23076
Antenna Height	2 meters
Static Session	30763137
Date	November 9, 2013
Start Time (UTC)	14:56
End Time (UTC)	15:19

Operator	David Simmons
Receiver Model	TRIMBLE R7
Receiver S/N	5201K23076
Antenna Height	2 meters
Static Session	30763132
Date	November 9, 2013
Start Time (UTC)	19:33
End Time (UTC)	19:55

PHOTOS:









Point ID	GC-60
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Washington
Quad	Waitsfield

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
185259.240	475102.712	327.509

Operator	David Simmons
Receiver Model	TRIMBLE R7
Receiver S/N	5201K23076
Antenna Height	2 meters
Static Session	3076313A
Date	November 9, 2013
Start Time (UTC)	21:08
End Time (UTC)	21:30

Operator	David Simmons
Receiver Model	TRIMBLE R7
Receiver S/N	5201K23076
Antenna Height	2 meters
Static Session	30763172
Date	November 13, 2013
Start Time (UTC)	15:01
End Time (UTC)	15:22

PHOTOS:









Point ID	GC-61
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Chittenden
Quad	Colchester Point

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
233214.794	436073.267	38.991

Operator	David Simmons
Receiver Model	TRIMBLE R7
Receiver S/N	5201K23076
Antenna Height	2 meters
Static Session	10673102
Date	November 6, 2013
Start Time (UTC)	18:14
End Time (UTC)	18:35

Operator	David Simmons
Receiver Model	TRIMBLE R7
Receiver S/N	5201K23076
Antenna Height	2 meters
Static Session	1067310A
Date	November 6, 2013
Start Time (UTC)	22:20
End Time (UTC)	22:41

PHOTOS:









Point ID	GC-62
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Grand Isle
Quad	South Hero

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
249746.007	439158.485	48.126

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673116
Date	November 7, 2013
Start Time (UTC)	16:58
End Time (UTC)	17:19

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	1067311D
Date	November 7, 2013
Start Time (UTC)	20:46
End Time (UTC)	21:07

PHOTOS:









Point ID	GC-63
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Grand Isle
Quad	South Hero

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
237892.128	433072.490	39.260

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673103
Date	November 6, 2013
Start Time (UTC)	18:51
End Time (UTC)	19:12

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673110
Date	November 7, 2013
Start Time (UTC)	13:59
End Time (UTC)	14:20

PHOTOS:









Point ID	GC-64
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Grand Isle
Quad	South Hero

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
240698.670	434767.767	36.970

Instrument Model	Leica 1102
Occupy Point	GC-64
Instrument Height	5.250
Backsight Point	BE-22
Backsight Height	5.200
Angle Right	209.3352
Slope Distance	367.715
Zenith Angle	90.3633

PHOTOS:









Point ID	GC-65
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Grand Isle
Quad	South Hero

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
249582.722	435752.248	37.836

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673115
Date	November 7, 2013
Start Time (UTC)	16:21
End Time (UTC)	16:42

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	1067311C
Date	November 7, 2013
Start Time (UTC)	20:16
End Time (UTC)	20:37

PHOTOS:









Point ID	GC-66
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	New York
County	Clinton
Quad	Plattsburgh

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
244624.145	430053.301	40.004

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673130
Date	November 9, 2013
Start Time (UTC)	14:06
End Time (UTC)	14:27

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673133
Date	November 9, 2013
Start Time (UTC)	19:13
End Time (UTC)	19:34

PHOTOS:









Point ID	GC-67
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	New York
County	Clinton
Quad	Plattsburgh

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
248793.403	428395.900	32.886

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673132
Date	November 9, 2013
Start Time (UTC)	15:42
End Time (UTC)	16:03

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673135
Date	November 9, 2013
Start Time (UTC)	20:10
End Time (UTC)	20:31

PHOTOS:









Point ID	GC-68
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	New York
County	Clinton
Quad	Beekmantown

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
255824.929	429296.523	35.069

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863130
Date	November 9, 2013
Start Time (UTC)	13:55
End Time (UTC)	14:20

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863132
Date	November 9, 2013
Start Time (UTC)	19:13
End Time (UTC)	19:38

PHOTOS:









Point ID	GC-69
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Grand Isle
Quad	North Hero

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
256950.391	436930.654	42.695

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673117
Date	November 7, 2013
Start Time (UTC)	17:34
End Time (UTC)	17:55

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	1067311E
Date	November 7, 2013
Start Time (UTC)	21:18
End Time (UTC)	21:39

PHOTOS:









Point ID	GC-70
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Grand Isle
Quad	North Hero

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

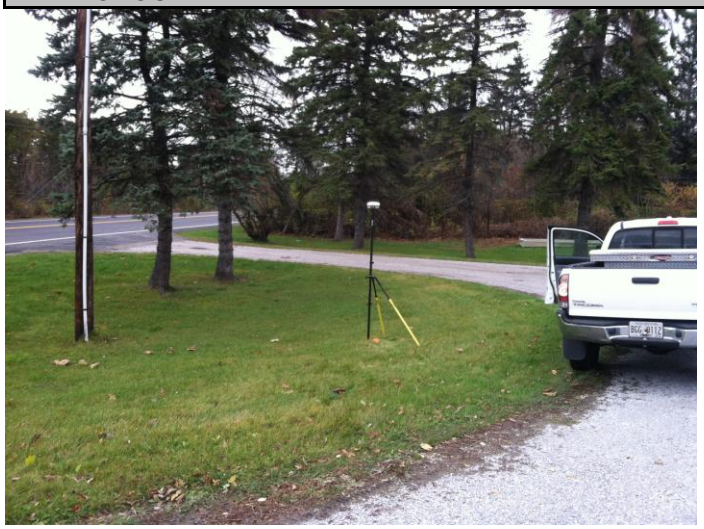
Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
259443.649	438858.543	35.292

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673119
Date	November 7, 2013
Start Time (UTC)	18:27
End Time (UTC)	18:48

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673120
Date	November 8, 2013
Start Time (UTC)	13:56
End Time (UTC)	14:17

PHOTOS:









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Point ID	GC-71
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	New York
County	Clinton
Quad	Beekmantown

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
259996.956	427332.358	39.133

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863126
Date	November 8, 2013
Start Time (UTC)	16:33
End Time (UTC)	16:54

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	0886312D
Date	November 8, 2013
Start Time (UTC)	20:55
End Time (UTC)	21:20

PHOTOS:









Point ID	GC-72
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Grand Isle
Quad	North Hero

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
260316.476	432343.846	35.452

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673128
Date	November 8, 2013
Start Time (UTC)	17:41
End Time (UTC)	18:02

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	1067312D
Date	November 8, 2013
Start Time (UTC)	20:24
End Time (UTC)	20:45

PHOTOS:









Point ID	GC-73
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Grand Isle
Quad	Rouses Point

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

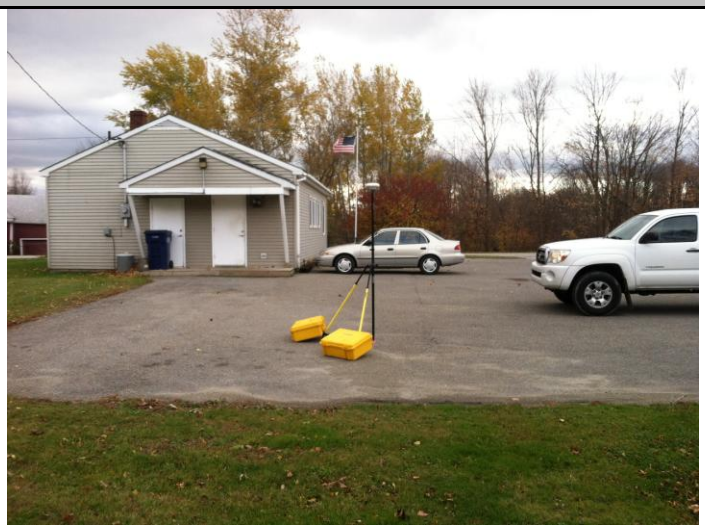
Northing	Easting	Elevation
264514.244	433665.448	58.064

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673126
Date	November 8, 2013
Start Time (UTC)	16:30
End Time (UTC)	16:51

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	1067312B
Date	November 8, 2013
Start Time (UTC)	19:29
End Time (UTC)	19:50

PHOTOS:









Point ID	GC-74
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Grand Isle
Quad	Rouses Point

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
267150.128	433624.143	37.618

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673125
Date	November 8, 2013
Start Time (UTC)	15:58
End Time (UTC)	16:21

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	1067312A
Date	November 8, 2013
Start Time (UTC)	19:01
End Time (UTC)	19:22

PHOTOS:









Point ID	GC-75
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Grand Isle
Quad	Rouses Point

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
265956.879	438510.979	31.852

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	1067311B
Date	November 7, 2013
Start Time (UTC)	19:29
End Time (UTC)	19:50

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673124
Date	November 8, 2013
Start Time (UTC)	15:19
End Time (UTC)	15:40

PHOTOS:









Point ID	GC-76
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Grand Isle
Quad	Rouses Point Port of Entry

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
274105.954	436988.354	35.843

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863122
Date	November 8, 2013
Start Time (UTC)	13:49
End Time (UTC)	14:10

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863129
Date	November 8, 2013
Start Time (UTC)	18:34
End Time (UTC)	18:55

PHOTOS:






Point ID	GC-77
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Grand Isle
Quad	Rouses Point Port of Entry

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
279299.959	434399.358	35.229

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863110
Date	November 7, 2013
Start Time (UTC)	13:20
End Time (UTC)	13:41

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863115
Date	November 7, 2013
Start Time (UTC)	18:00
End Time (UTC)	18:21

PHOTOS:









Point ID	GC-78
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	New York
County	Clinton
Quad	Rouses Point Port of Entry

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
278045.615	431735.434	33.518

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863112
Date	November 7, 2013
Start Time (UTC)	14:53
End Time (UTC)	15:14

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863117
Date	November 7, 2013
Start Time (UTC)	19:22
End Time (UTC)	19:43

PHOTOS:









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Point ID	GC-79
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	New York
County	Clinton
Quad	Champlain Port of Entry

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
277067.207	427935.248	66.339

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863114
Date	November 7, 2013
Start Time (UTC)	16:24
End Time (UTC)	16:45

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863119
Date	November 7, 2013
Start Time (UTC)	21:16
End Time (UTC)	21:37

PHOTOS:









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Point ID	GC-80
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	New York
County	Clinton
Quad	Champlain

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
270568.777	430015.091	31.029

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863123
Date	November 8, 2013
Start Time (UTC)	14:40
End Time (UTC)	15:01

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	0886312A
Date	November 8, 2013
Start Time (UTC)	19:18
End Time (UTC)	19:39

PHOTOS:









Point ID	GC-81
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	New York
County	Clinton
Quad	Champlain

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
265357.878	429153.696	48.680

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863125
Date	November 8, 2013
Start Time (UTC)	15:47
End Time (UTC)	16:08

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	0886312C
Date	November 8, 2013
Start Time (UTC)	20:20
End Time (UTC)	20:41

PHOTOS:









Point ID	GC-82
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	Chittenden

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
128444.903	468825.700	475.483

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673244
Date	November 19, 2013
Start Time (UTC)	16:33
End Time (UTC)	16:54

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673249
Date	November 19, 2013
Start Time (UTC)	20:34
End Time (UTC)	20:55

PHOTOS:









Point ID	GC-83
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	West Rutland

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
116363.605	453115.545	346.198

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673220
Date	November 17, 2013
Start Time (UTC)	14:38
End Time (UTC)	14:59

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673227
Date	November 17, 2013
Start Time (UTC)	18:52
End Time (UTC)	19:13

PHOTOS:









Point ID	GC-84
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	Middletown Springs

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
103986.928	455327.389	370.873

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673191
Date	November 15, 2013
Start Time (UTC)	14:48
End Time (UTC)	15:09

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	1067319F
Date	November 15, 2013
Start Time (UTC)	23:05
End Time (UTC)	23:26

PHOTOS:









Point ID	GC-85
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	Rutland

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
115567.638	469639.962	416.082

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673225
Date	November 17, 2013
Start Time (UTC)	17:19
End Time (UTC)	17:40

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	1067322C
Date	November 17, 2013
Start Time (UTC)	21:29
End Time (UTC)	21:50

PHOTOS:









Point ID	GC-86
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	Proctor

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
125814.428	455103.940	173.308

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673240
Date	November 19, 2013
Start Time (UTC)	13:56
End Time (UTC)	14:17

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673245
Date	November 19, 2013
Start Time (UTC)	18:14
End Time (UTC)	18:35

PHOTOS:









Point ID	GC-87
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	West Rutland

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
120871.731	456424.386	153.898

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673221
Date	November 17, 2013
Start Time (UTC)	15:11
End Time (UTC)	15:32

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673228
Date	November 17, 2013
Start Time (UTC)	19:23
End Time (UTC)	19:44

PHOTOS:









Point ID	GC-88
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Washington
Quad	Middlesex

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

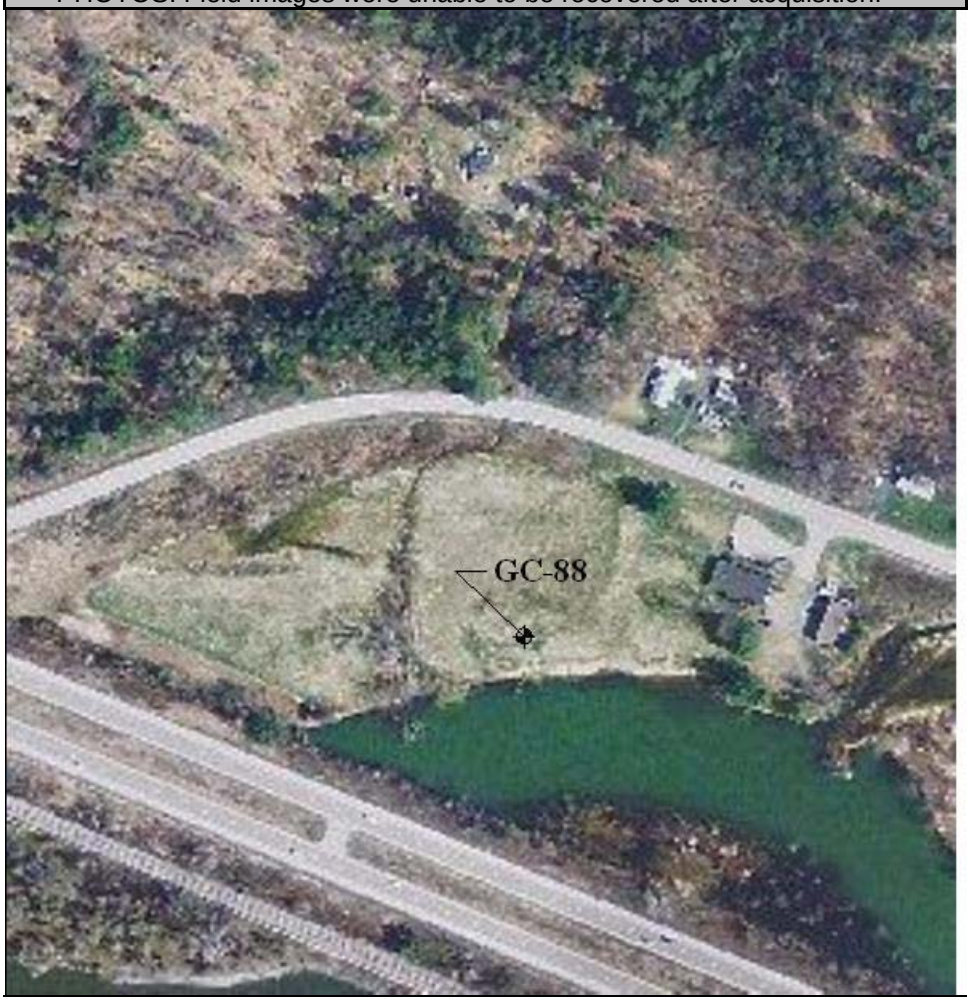
Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
197266.363	488490.553	153.039

Operator	David Simmons
Receiver Model	TRIMBLE R7
Receiver S/N	5201K23076
Antenna Height	2 meters
Static Session	30763170
Date	November 13, 2013
Start Time (UTC)	13:33
End Time (UTC)	13:54

Operator	David Simmons
Receiver Model	TRIMBLE R7
Receiver S/N	5201K23076
Antenna Height	2 meters
Static Session	30763179
Date	November 13, 2013
Start Time (UTC)	19:42
End Time (UTC)	20:02

PHOTOS: Field images were unable to be recovered after acquisition.



Point ID	GC-89
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	New York
County	Clinton
Quad	Plattsburgh

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
247631.064	426890.234	32.840

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673131
Date	November 9, 2013
Start Time (UTC)	14:39
End Time (UTC)	15:00

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673134
Date	November 9, 2013
Start Time (UTC)	19:41
End Time (UTC)	20:02

PHOTOS:









Point ID	GC-90
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Addison
Quad	Port Henry

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
175453.557	428135.617	47.429

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863185
Date	November 14, 2013
Start Time (UTC)	15:33
End Time (UTC)	15:54

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	0886319A
Date	November 15, 2013
Start Time (UTC)	20:29
End Time (UTC)	20:50

PHOTOS:









Point ID	GC-91
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Addison
Quad	Snake Mountain

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
176284.608	439934.923	55.144

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863186
Date	November 14, 2013
Start Time (UTC)	16:17
End Time (UTC)	16:38

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863190
Date	November 15, 2013
Start Time (UTC)	11:40
End Time (UTC)	12:01

PHOTOS:









Quantum Spatial, Inc. – 1410 Indian Trail Rd., Norcross, GA 30093 – Ph. 770-564-9843 - www.quantumspatial.com

Point ID	GC-92
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Addison
Quad	Cornwall

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
161219.145	441745.955	103.367

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863188
Date	November 14, 2013
Start Time (UTC)	18:03
End Time (UTC)	18:24

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863192
Date	November 15, 2013
Start Time (UTC)	12:57
End Time (UTC)	13:18

PHOTOS:









Point ID	GC-93
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	Sudbury

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
148700.668	444128.852	130.904

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863202
Date	November 16, 2013
Start Time (UTC)	14:44
End Time (UTC)	15:05

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863209
Date	November 16, 2013
Start Time (UTC)	19:24
End Time (UTC)	19:45

PHOTOS: Field images were unable to be recovered after acquisition.



Point ID	GC-94
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	Brandon

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
149279.690	451241.980	144.467

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863205
Date	November 16, 2013
Start Time (UTC)	16:34
End Time (UTC)	16:55

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	0886320C
Date	November 16, 2013
Start Time (UTC)	21:08
End Time (UTC)	21:29

PHOTOS: Field images were unable to be recovered after acquisition.



Quantum Spatial, Inc. – 1410 Indian Trail Rd., Norcross, GA 30093 – Ph. 770-564-9843 - www.quantumspatial.com

Point ID	GC-95
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Addison
Quad	Mount Carmel

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
148866.752	460076.776	431.128

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863206
Date	November 16, 2013
Start Time (UTC)	17:17
End Time (UTC)	17:38

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	0886320D
Date	November 16, 2013
Start Time (UTC)	21:48
End Time (UTC)	22:09

PHOTOS: Field images were unable to be recovered after acquisition.



Point ID	GC-96
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Addison
Quad	Lincoln

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
165684.239	468066.326	501.608

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08241411
Date	May 21, 2014
Start Time (UTC)	15:15
End Time (UTC)	16:16

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	10671442
Date	May 24, 2014
Start Time (UTC)	12:24
End Time (UTC)	13:10

PHOTOS:









Point ID	GC-97
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Addison
Quad	Bristol

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
182306.849	456351.778	187.155

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673175
Date	November 13, 2013
Start Time (UTC)	17:21
End Time (UTC)	17:42

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	1067317B
Date	November 13, 2013
Start Time (UTC)	20:42
End Time (UTC)	21:03

PHOTOS:









Section 2D – Calibration Points
OPUS Solution Report

GC-01 SESSION 1 FILE: 08863170.13o OP1389282938444

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: dgedenk@photoscience.com DATE: January 09, 2014
RINEX FILE: 0886317n.13o TIME: 17:49:58 UTC

SOFTWARE: rsgps 1.37 RS80.prl 1.89 START: 2013/11/13 13:16:51
EPHEMERIS: igs17663.eph [precise] STOP: 2013/11/13 13:37:55
NAV FILE: brdc3170.13n OBS USED: 2097 / 2367 : 89%
ANT NAME: TRM55971.00 NONE QUALITY IND. 30.16/ 5.55
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.333

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.86729)

X:	1306722.658(m)	0.005(m)	1306721.816(m)	0.005(m)
Y:	-4403551.429(m)	0.012(m)	-4403550.026(m)	0.012(m)
Z:	4410460.181(m)	0.014(m)	4410460.166(m)	0.014(m)
LAT:	44 1 43.24152	0.007(m)	44 1 43.27685	0.007(m)
E LON:	286 31 40.37633	0.002(m)	286 31 40.35801	0.002(m)
W LON:	73 28 19.62367	0.002(m)	73 28 19.64199	0.002(m)
EL HGT:	110.704(m)	0.018(m)	109.554(m)	0.018(m)
ORTHO HGT:	139.544(m)	0.021(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (3101 NY E)
Northing (Y) [meters]	4876192.830	577463.207
Easting (X) [meters]	622438.103	232394.724
Convergence [degrees]	1.06203771	0.71443709
Point Scale	0.99978438	0.99998347
Combined Factor	0.99976703	0.99996611

US NATIONAL GRID DESIGNATOR: 18TXP2243876192(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	20844.4
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	25838.2
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	53629.8
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	57278.3
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	61360.8
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	70257.1
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	75761.9
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	84349.0
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	92099.9

GC-01 SESSION 2 FILE: 08863175.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886317r.13o TIME: 23:09:08 UTC

SOFTWARE: rsgps 1.37 RS82.prl 1.89 START: 2013/11/13 17:42:35
EPHEMERIS: igs17663.eph [precise] STOP: 2013/11/13 18:03:51
NAV FILE: brdc3170.13n OBS USED: 2268 / 2268 : 100%
ANT NAME: TRM55971.00 NONE QUALITY IND. 22.76/ 33.22
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.330

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.86780)

X:	1306722.662(m)	0.007(m)	1306721.820(m)	0.007(m)
Y:	-4403551.435(m)	0.018(m)	-4403550.032(m)	0.018(m)
Z:	4410460.177(m)	0.013(m)	4410460.162(m)	0.013(m)
LAT:	44 1 43.24127	0.008(m)	44 1 43.27660	0.008(m)
E LON:	286 31 40.37643	0.005(m)	286 31 40.35810	0.005(m)
W LON:	73 28 19.62357	0.005(m)	73 28 19.64190	0.005(m)
EL HGT:	110.706(m)	0.021(m)	109.557(m)	0.021(m)
ORTHO HGT:	139.546(m)	0.024(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (3101 NY E)
Northing (Y) [meters]	4876192.822	577463.200
Easting (X) [meters]	622438.105	232394.726
Convergence [degrees]	1.06203773	0.71443711
Point Scale	0.99978438	0.99998347
Combined Factor	0.99976702	0.99996611

US NATIONAL GRID DESIGNATOR: 18TXP2243876192(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	20844.5
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	25838.1
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	53629.8
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	57278.3
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	61360.7
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	70396.0
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	75761.9
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	84348.9
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	92099.9

GC-02 SESSION 1 FILE: 08863182.13o OP1389282938444

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: dgedenk@photoscience.com DATE: January 09, 2014
RINEX FILE: 0886318n.13o TIME: 17:53:18 UTC

SOFTWARE: rsgps 1.37 RS82.prl 1.89 START: 2013/11/14 13:47:21
EPHEMERIS: igs17664.eph [precise] STOP: 2013/11/14 14:08:42
NAV FILE: brdc3180.13n OBS USED: 1368 / 1368 : 100%
ANT NAME: TRM55971.00 NONE QUALITY IND. 24.94/ 18.71
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.314

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.87009)

X:	1310653.096(m)	0.009(m)	1310652.254(m)	0.009(m)
Y:	-4401673.591(m)	0.022(m)	-4401672.188(m)	0.022(m)
Z:	4411016.404(m)	0.022(m)	4411016.389(m)	0.022(m)
LAT:	44 2 11.51321	0.004(m)	44 2 11.54856	0.004(m)
E LON:	286 34 53.59819	0.006(m)	286 34 53.57993	0.006(m)
W LON:	73 25 6.40181	0.006(m)	73 25 6.42007	0.006(m)
EL HGT:	8.366(m)	0.032(m)	7.217(m)	0.032(m)
ORTHO HGT:	37.328(m)	0.034(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4877146.226	171109.590
Easting (X) [meters]	626722.511	426382.759
Convergence [degrees]	1.09951143	-0.63845514
Point Scale	0.99979751	1.00003091
Combined Factor	0.99979620	1.00002960

US NATIONAL GRID DESIGNATOR: 18TXP2672277146(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	21579.1
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	51205.5
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	59361.4
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	66268.4
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	71426.6
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	74569.5
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	83566.5
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	99058.4

GC-02 SESSION 1 FILE: 08863176.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886317s.13o TIME: 23:23:22 UTC

SOFTWARE: rsgps 1.37 RS82.prl 1.89 START: 2013/11/13 18:19:33
EPHEMERIS: igs17663.eph [precise] STOP: 2013/11/13 18:40:39
NAV FILE: brdc3170.13n OBS USED: 2250 / 2367 : 95%
ANT NAME: TRM55971.00 NONE QUALITY IND. 20.07/ 19.69
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.311

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2013.86787)	
X:	1310653.099(m)	0.004(m)	1310652.257(m)	0.004(m)
Y:	-4401673.598(m)	0.009(m)	-4401672.195(m)	0.009(m)
Z:	4411016.409(m)	0.011(m)	4411016.394(m)	0.011(m)
LAT:	44 2 11.51316	0.006(m)	44 2 11.54851	0.006(m)
E LON:	286 34 53.59823	0.002(m)	286 34 53.57997	0.002(m)
W LON:	73 25 6.40177	0.002(m)	73 25 6.42003	0.002(m)
EL HGT:	8.375(m)	0.013(m)	7.225(m)	0.013(m)
ORTHO HGT:	37.337(m)	0.018(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4877146.225	171109.589
Easting (X) [meters]	626722.512	426382.760
Convergence [degrees]	1.09951144	-0.63845513
Point Scale	0.99979751	1.00003091
Combined Factor	0.99979620	1.00002960

US NATIONAL GRID DESIGNATOR: 18TXP2672277146(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	21579.1
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	51205.5
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	59361.4
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	66268.4
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	71426.6
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	74569.5
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	83566.5
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	89914.8
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	99058.4

GC-03 SESSION 1 FILE: 08863178.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886317t.13o TIME: 23:12:42 UTC

SOFTWARE: rsgps 1.37 RS52.prl 1.89 START: 2013/11/13 19:46:13
EPHEMERIS: igs17663.eph [precise] STOP: 2013/11/13 20:07:19
NAV FILE: brdc3170.13n OBS USED: 1485 / 1917 : 77%
ANT NAME: TRM55971.00 NONE QUALITY IND. 17.92/ 28.04
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.274

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2013.86803)	
X:	1319300.140(m)	0.006(m)	1319299.298(m)	0.006(m)
Y:	-4398051.461(m)	0.017(m)	-4398050.058(m)	0.017(m)
Z:	4412092.841(m)	0.018(m)	4412092.826(m)	0.018(m)
LAT:	44 2 58.97921	0.003(m)	44 2 59.01459	0.003(m)
E LON:	286 41 52.31830	0.003(m)	286 41 52.30018	0.003(m)
W LON:	73 18 7.68170	0.003(m)	73 18 7.69982	0.003(m)
EL HGT:	41.950(m)	0.026(m)	40.800(m)	0.026(m)
ORTHO HGT:	70.883(m)	0.029(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4878796.135	172477.258
Easting (X) [meters]	636011.885	435719.871
Convergence [degrees]	1.18067669	-0.55772845
Point Scale	0.99982752	1.00001508
Combined Factor	0.99982094	1.00000850

US NATIONAL GRID DESIGNATOR: 18TXP3601178796(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	13265.0
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	26075.6
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	47271.9
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	55607.6
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	62221.5
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	68197.9
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	81590.5
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	86172.0
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	90473.3

GC-03 SESSION 2 FILE: 08863181.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886318n.13o TIME: 22:57:06 UTC

SOFTWARE: rsgps 1.37 RS92.prl 1.89 START: 2013/11/14 13:04:21
EPHEMERIS: igs17664.eph [precise] STOP: 2013/11/14 13:25:39
NAV FILE: brdc3180.13n OBS USED: 2349 / 2583 : 91%
ANT NAME: TRM55971.00 NONE QUALITY IND. 24.12/ 10.05
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.319

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2013.87001)	
X:	1319300.143(m)	0.007(m)	1319299.301(m)	0.007(m)
Y:	-4398051.465(m)	0.015(m)	-4398050.062(m)	0.015(m)
Z:	4412092.845(m)	0.015(m)	4412092.831(m)	0.015(m)
LAT:	44 2 58.97920	0.008(m)	44 2 59.01460	0.008(m)
E LON:	286 41 52.31838	0.005(m)	286 41 52.30025	0.005(m)
W LON:	73 18 7.68162	0.005(m)	73 18 7.69975	0.005(m)
EL HGT:	41.957(m)	0.020(m)	40.807(m)	0.020(m)
ORTHO HGT:	70.890(m)	0.024(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4878796.134	172477.258
Easting (X) [meters]	636011.887	435719.872
Convergence [degrees]	1.18067670	-0.55772844
Point Scale	0.99982752	1.00001508
Combined Factor	0.99982094	1.00000850

US NATIONAL GRID DESIGNATOR: 18TXP3601178796(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	13265.0
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	26075.6
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	47271.9
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	55607.6
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	62221.5
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	68197.9
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	81590.5
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	86172.0
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	90473.3

GC-04 SESSION 1 FILE: 08863187.13o OP1389282938444

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: dgedenk@photoscience.com DATE: January 09, 2014
RINEX FILE: 0886318q.13o TIME: 17:32:55 UTC

SOFTWARE: rsgps 1.37 RS81.prl 1.89 START: 2013/11/14 16:54:05
EPHEMERIS: igs17664.eph [precise] STOP: 2013/11/14 17:15:33
NAV FILE: brdc3180.13n OBS USED: 2064 / 2384 : 87%
ANT NAME: TRM55971.00 NONE QUALITY IND. 25.60/ 36.12
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.338

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.87044)

X:	1326481.964(m)	0.006(m)	1326481.122(m)	0.006(m)
Y:	-4396851.286(m)	0.014(m)	-4396849.882(m)	0.014(m)
Z:	4411225.826(m)	0.017(m)	4411225.812(m)	0.017(m)
LAT:	44 2 18.07370	0.006(m)	44 2 18.10913	0.006(m)
E LON:	286 47 16.75906	0.005(m)	286 47 16.74106	0.005(m)
W LON:	73 12 43.24094	0.005(m)	73 12 43.25894	0.005(m)
EL HGT:	100.228(m)	0.022(m)	99.077(m)	0.022(m)
ORTHO HGT:	129.025(m)	0.025(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4877686.824	171148.408
Easting (X) [meters]	643258.840	442931.065
Convergence [degrees]	1.24311266	-0.49496071
Point Scale	0.99985242	1.00000433
Combined Factor	0.99983671	0.99998861

US NATIONAL GRID DESIGNATOR: 18TXP4325877686(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	6494.9
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	32461.9
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	45128.6
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	50046.1
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	56168.8
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	73939.7
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	78458.5
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	102875.6

GC-04 SESSION 2 FILE: 08863191.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886319m.13o TIME: 23:36:39 UTC

SOFTWARE: rsgps 1.37 RS54.prl 1.89 START: 2013/11/15 12:16:46
EPHEMERIS: igs17665.eph [precise] STOP: 2013/11/15 12:37:52
NAV FILE: brdc3190.13n OBS USED: 1989 / 2340 : 85%
ANT NAME: TRM55971.00 NONE QUALITY IND. 21.91/ 20.90
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.325

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000) (EPOCH:2013.87265)		IGS08	
X:	1326481.963(m)	0.005(m)	1326481.121(m)	0.005(m)
Y:	-4396851.293(m)	0.008(m)	-4396849.889(m)	0.008(m)
Z:	4411225.833(m)	0.007(m)	4411225.819(m)	0.007(m)
LAT:	44 2 18.07372	0.006(m)	44 2 18.10915	0.006(m)
E LON:	286 47 16.75892	0.004(m)	286 47 16.74093	0.004(m)
W LON:	73 12 43.24108	0.004(m)	73 12 43.25907	0.004(m)
EL HGT:	100.237(m)	0.009(m)	99.086(m)	0.009(m)
ORTHO HGT:	129.034(m)	0.016(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4877686.824	171148.408
Easting (X) [meters]	643258.837	442931.063
Convergence [degrees]	1.24311263	-0.49496073
Point Scale	0.99985242	1.00000433
Combined Factor	0.99983670	0.99998861

US NATIONAL GRID DESIGNATOR: 18TXP4325877686(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	6494.9
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	32461.9
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	45128.6
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	50046.1
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	56168.8
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	73939.7
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	78458.5
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	89240.3
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	102867.5

GC-05 SESSION 1 FILE: 08863193.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886319n.13o TIME: 23:32:27 UTC

SOFTWARE: rsgps 1.37 RS50.prl 1.89 START: 2013/11/15 13:39:23
EPHEMERIS: igs17665.eph [precise] STOP: 2013/11/15 14:00:42
NAV FILE: brdc3190.13n OBS USED: 1413 / 1413 : 100%
ANT NAME: TRM55971.00 NONE QUALITY IND. 17.28/ 18.17
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.299

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.87281)

X:	1320760.928(m)	0.008(m)	1320760.087(m)	0.008(m)
Y:	-4405667.749(m)	0.023(m)	-4405666.345(m)	0.023(m)
Z:	4404152.735(m)	0.023(m)	4404152.720(m)	0.023(m)
LAT:	43 57 0.28997	0.006(m)	43 57 0.32529	0.006(m)
E LON:	286 41 16.92758	0.004(m)	286 41 16.90954	0.004(m)
W LON:	73 18 43.07242	0.004(m)	73 18 43.09046	0.004(m)
EL HGT:	75.959(m)	0.032(m)	74.807(m)	0.032(m)
ORTHO HGT:	104.974(m)	0.035(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4867713.436	161414.561
Easting (X) [meters]	635450.911	434823.079
Convergence [degrees]	1.17172711	-0.56354864
Point Scale	0.99982566	1.00001651
Combined Factor	0.99981375	1.00000460

US NATIONAL GRID DESIGNATOR: 18TXP3545067713(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	13878.1
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	34164.6
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	46570.3
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	56892.3
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	67920.6
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	71407.4
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	77638.5
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	81974.0
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	96304.9

GC-05 SESSION 2 FILE: 08863196.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886319s.13o TIME: 23:06:20 UTC

SOFTWARE: rsgps 1.37 RS90.prl 1.89 START: 2013/11/15 18:11:45
EPHEMERIS: igs17665.eph [precise] STOP: 2013/11/15 18:32:45
NAV FILE: brdc3190.13n OBS USED: 2259 / 2358 : 96%
ANT NAME: TRM55971.00 NONE QUALITY IND. 15.88/ 25.58
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.316

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000) (EPOCH:2013.87333)		IGS08	
X:	1320760.934(m)	0.005(m)	1320760.093(m)	0.005(m)
Y:	-4405667.765(m)	0.010(m)	-4405666.361(m)	0.010(m)
Z:	4404152.756(m)	0.012(m)	4404152.741(m)	0.012(m)
LAT:	43 57 0.29008	0.004(m)	43 57 0.32540	0.004(m)
E LON:	286 41 16.92763	0.004(m)	286 41 16.90959	0.004(m)
W LON:	73 18 43.07237	0.004(m)	73 18 43.09041	0.004(m)
EL HGT:	75.986(m)	0.015(m)	74.834(m)	0.015(m)
ORTHO HGT:	105.001(m)	0.020(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4867713.439	161414.564
Easting (X) [meters]	635450.912	434823.081
Convergence [degrees]	1.17172712	-0.56354863
Point Scale	0.99982566	1.00001651
Combined Factor	0.99981375	1.00000459

US NATIONAL GRID DESIGNATOR: 18TXP3545067713(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	13878.1
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	34164.6
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	46570.3
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	56892.3
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	67920.6
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	71407.4
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	77638.5
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	81974.0
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	96304.9

GC-06 SESSION 1 FILE: 08863141.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886314n.13o TIME: 23:38:26 UTC

SOFTWARE: rsgps 1.37 RS51.prl 1.89 START: 2013/11/10 13:20:40
EPHEMERIS: igs17660.eph [precise] STOP: 2013/11/10 13:41:30
NAV FILE: brdc3140.13n OBS USED: 1540 / 1638 : 94%
ANT NAME: TRM55971.00 NONE QUALITY IND. 13.48/ 8.28
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.333

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2013.85908)	
X:	1311768.721(m)	0.009(m)	1311767.880(m)	0.009(m)
Y:	-4408878.265(m)	0.011(m)	-4408876.861(m)	0.011(m)
Z:	4403667.109(m)	0.010(m)	4403667.093(m)	0.010(m)
LAT:	43 56 37.65236	0.003(m)	43 56 37.68764	0.003(m)
E LON:	286 34 9.34712	0.007(m)	286 34 9.32892	0.007(m)
W LON:	73 25 50.65288	0.007(m)	73 25 50.67108	0.007(m)
EL HGT:	101.071(m)	0.016(m)	99.918(m)	0.016(m)
ORTHO HGT:	130.076(m)	0.019(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (3101 NY E)
Northing (Y) [meters]	4866826.942	568074.449
Easting (X) [meters]	625933.594	235834.052
Convergence [degrees]	1.08913648	0.74206277
Point Scale	0.99979506	0.99999059
Combined Factor	0.99977921	0.99997474

US NATIONAL GRID DESIGNATOR: 18TXP2593366826(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	23135.4
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	30825.5
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	52149.4
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	61279.6
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	81907.2
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	105721.1
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	123177.3

GC-06 SESSION 2 FILE: 08863146.13o OP1389282938444

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: dgedenk@photoscience.com DATE: January 09, 2014
RINEX FILE: 0886314r.13o TIME: 18:19:03 UTC

SOFTWARE: rsgps 1.37 RS82.prl 1.89 START: 2013/11/10 17:50:55
EPHEMERIS: igs17660.eph [precise] STOP: 2013/11/10 18:11:50
NAV FILE: brdc3140.13n OBS USED: 1053 / 1134 : 93%
ANT NAME: TRM55971.00 NONE QUALITY IND. 31.65/ 17.04
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.277

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.85959)

X:	1311768.697(m)	0.014(m)	1311767.856(m)	0.014(m)
Y:	-4408878.237(m)	0.031(m)	-4408876.833(m)	0.031(m)
Z:	4403667.089(m)	0.023(m)	4403667.073(m)	0.023(m)
LAT:	43 56 37.65265	0.015(m)	43 56 37.68793	0.015(m)
E LON:	286 34 9.34644	0.007(m)	286 34 9.32825	0.007(m)
W LON:	73 25 50.65356	0.007(m)	73 25 50.67175	0.007(m)
EL HGT:	101.033(m)	0.038(m)	99.880(m)	0.038(m)
ORTHO HGT:	130.038(m)	0.039(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (3101 NY E)
Northing (Y) [meters]	4866826.951	568074.458
Easting (X) [meters]	625933.579	235834.037
Convergence [degrees]	1.08913636	0.74206264
Point Scale	0.99979506	0.99999059
Combined Factor	0.99977922	0.99997475

US NATIONAL GRID DESIGNATOR: 18TXP2593366826(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	23135.4
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	30825.5
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	52149.5
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	61279.6
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	65483.1
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	74752.8
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	81907.2
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	100073.2
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	105721.1

GC-07 SESSION 1 FILE: 08863184.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886318o.13o TIME: 23:27:11 UTC

SOFTWARE: rsgps 1.37 RS53.prl 1.89 START: 2013/11/14 14:53:24
EPHEMERIS: igs17664.eph [precise] STOP: 2013/11/14 15:14:43
NAV FILE: brdc3180.13n OBS USED: 1589 / 1722 : 92%
ANT NAME: TRM55971.00 NONE QUALITY IND. 19.09/ 5.59
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.299

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.87021)

X:	1315447.345(m)	0.036(m)	1315446.503(m)	0.036(m)
Y:	-4404038.158(m)	0.035(m)	-4404036.755(m)	0.035(m)
Z:	4407281.425(m)	0.060(m)	4407281.410(m)	0.060(m)
LAT:	43 59 22.62875	0.062(m)	43 59 22.66407	0.062(m)
E LON:	286 37 49.51678	0.027(m)	286 37 49.49859	0.027(m)
W LON:	73 22 10.48322	0.027(m)	73 22 10.50141	0.027(m)
EL HGT:	28.226(m)	0.039(m)	27.075(m)	0.039(m)
ORTHO HGT:	57.245(m)	0.041(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4872011.996	165854.720
Easting (X) [meters]	630741.021	430244.638
Convergence [degrees]	1.13253320	-0.60397102
Point Scale	0.99981023	1.00002411
Combined Factor	0.99980580	1.00001968

US NATIONAL GRID DESIGNATOR: 18TXP3074172011(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	17433.3
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	28022.9
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	52840.3
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	66599.4
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	69896.4
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	93884.0
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	98747.9

GC-07 SESSION 2 FILE: 08863199.13o OP1389282938444

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: dgedenk@photoscience.com DATE: January 09, 2014
RINEX FILE: 0886319t.13o TIME: 18:20:26 UTC

SOFTWARE: rsgps 1.37 RS80.prl 1.89 START: 2013/11/15 19:49:15
EPHEMERIS: igs17665.eph [precise] STOP: 2013/11/15 20:10:33
NAV FILE: brdc3190.13n OBS USED: 2034 / 2295 : 89%
ANT NAME: TRM55971.00 NONE QUALITY IND. 18.71/ 25.58
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.302

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000) (EPOCH:2013.87352)		IGS08	
X:	1315447.333(m)	0.004(m)	1315446.491(m)	0.004(m)
Y:	-4404038.131(m)	0.021(m)	-4404036.728(m)	0.021(m)
Z:	4407281.389(m)	0.015(m)	4407281.374(m)	0.015(m)
LAT:	43 59 22.62857	0.006(m)	43 59 22.66389	0.006(m)
E LON:	286 37 49.51661	0.005(m)	286 37 49.49842	0.005(m)
W LON:	73 22 10.48339	0.005(m)	73 22 10.50158	0.005(m)
EL HGT:	28.180(m)	0.025(m)	27.029(m)	0.025(m)
ORTHO HGT:	57.199(m)	0.028(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4872011.990	165854.714
Easting (X) [meters]	630741.017	430244.634
Convergence [degrees]	1.13253316	-0.60397105
Point Scale	0.99981023	1.00002411
Combined Factor	0.99980581	1.00001969

US NATIONAL GRID DESIGNATOR: 18TXP3074172011(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	17433.3
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	28022.9
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	52840.4
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	61738.9
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	66599.4
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	69896.4
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	80998.8
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	93884.0
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	98747.9

GC-08 SESSION 1 FILE: 08863195.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886319o.13o TIME: 23:34:11 UTC

SOFTWARE: rsgps 1.37 RS82.prl 1.89 START: 2013/11/15 14:52:31
EPHEMERIS: igs17665.eph [precise] STOP: 2013/11/15 15:14:01
NAV FILE: brdc3190.13n OBS USED: 2016 / 2295 : 88%
ANT NAME: TRM55971.00 NONE QUALITY IND. 23.48/ 13.34
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.280

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.87295)

X:	1323572.461(m)	0.004(m)	1323571.619(m)	0.004(m)
Y:	-4401037.897(m)	0.011(m)	-4401036.493(m)	0.011(m)
Z:	4407838.422(m)	0.011(m)	4407838.407(m)	0.011(m)
LAT:	43 59 47.79196	0.007(m)	43 59 47.82732	0.007(m)
E LON:	286 44 17.46953	0.004(m)	286 44 17.45149	0.004(m)
W LON:	73 15 42.53047	0.004(m)	73 15 42.54851	0.004(m)
EL HGT:	25.714(m)	0.014(m)	24.562(m)	0.014(m)
ORTHO HGT:	54.623(m)	0.019(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4872964.832	166545.863
Easting (X) [meters]	639366.237	438896.434
Convergence [degrees]	1.20756515	-0.52918436
Point Scale	0.99983889	1.00001019
Combined Factor	0.99983486	1.00000616

US NATIONAL GRID DESIGNATOR: 18TXP3936672964(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	8762.8
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	32534.9
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	48879.9
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	52764.0
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	61857.1
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	73712.9
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	77546.4
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	83659.5
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	91409.7

GC-08 SESSION 2 FILE: 08863198.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886319t.13o TIME: 23:27:19 UTC

SOFTWARE: rsgps 1.37 RS52.prl 1.89 START: 2013/11/15 19:14:21
EPHEMERIS: igs17665.eph [precise] STOP: 2013/11/15 19:35:55
NAV FILE: brdc3190.13n OBS USED: 1818 / 1881 : 97%
ANT NAME: TRM55971.00 NONE QUALITY IND. 21.39/ 28.12
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.267

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2013.87345)	
X:	1323572.467(m)	0.009(m)	1323571.625(m)	0.009(m)
Y:	-4401037.909(m)	0.018(m)	-4401036.505(m)	0.018(m)
Z:	4407838.434(m)	0.016(m)	4407838.419(m)	0.016(m)
LAT:	43 59 47.79194	0.006(m)	43 59 47.82731	0.006(m)
E LON:	286 44 17.46964	0.005(m)	286 44 17.45159	0.005(m)
W LON:	73 15 42.53036	0.005(m)	73 15 42.54841	0.005(m)
EL HGT:	25.732(m)	0.025(m)	24.580(m)	0.025(m)
ORTHO HGT:	54.641(m)	0.028(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4872964.831	166545.862
Easting (X) [meters]	639366.239	438896.436
Convergence [degrees]	1.20756517	-0.52918434
Point Scale	0.99983889	1.00001019
Combined Factor	0.99983486	1.00000616

US NATIONAL GRID DESIGNATOR: 18TXP3936672964(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	8762.7
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	32534.9
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	48879.9
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	52764.0
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	61857.1
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	73712.9
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	77546.4
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	83659.5
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	91402.9

GC-09 SESSION 1 FILE: 08863154.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886315q.13o TIME: 23:00:00 UTC

SOFTWARE: rsgps 1.37 RS80.prl 1.89 START: 2013/11/11 16:43:21
EPHEMERIS: igs17661.eph [precise] STOP: 2013/11/11 17:04:45
NAV FILE: brdc3150.13n OBS USED: 2142 / 2709 :
79%
ANT NAME: TRM55971.00 NONE QUALITY IND. 15.85/ 30.30
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.304

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08
(EPOCH:2013.86220)

X:	1316744.040(m)	0.005(m)	1316743.199(m)	0.005(m)
Y:	-4410386.445(m)	0.014(m)	-4410385.041(m)	0.014(m)
Z:	4400572.324(m)	0.012(m)	4400572.308(m)	0.012(m)
LAT:	43 54 21.00609	0.004(m)	43 54 21.04135	0.004(m)
E LON:	286 37 23.77569	0.005(m)	286 37 23.75758	0.005(m)
W LON:	73 22 36.22431	0.005(m)	73 22 36.24242	0.005(m)
EL HGT:	18.725(m)	0.018(m)	17.572(m)	0.018(m)
ORTHO HGT:	47.815(m)	0.022(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4862694.915	156551.731
Easting (X) [meters]	630350.663	429572.192
Convergence [degrees]	1.12585621	-0.60801470
Point Scale	0.99980898	1.00002527
Combined Factor	0.99980604	1.00002233

US NATIONAL GRID DESIGNATOR: 18TXP3035062694(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	20735.3
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	36223.2
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	46101.9
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	62212.7
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	71499.6
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	74925.0
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	86323.4
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	99967.4
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	104940.1

GC-09 SESSION 2 FILE: 0886315A.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886315v.13o TIME: 23:44:41 UTC

SOFTWARE: rsgps 1.37 RS50.prl 1.89 START: 2013/11/11 21:10:51
EPHEMERIS: igs17661.eph [precise] STOP: 2013/11/11 21:31:35
NAV FILE: brdc3150.13n OBS USED: 2000 / 2344 : 85%
ANT NAME: TRM55971.00 NONE QUALITY IND. 20.81/ 28.17
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.293

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000) (EPOCH:2013.86271)		IGS08	
X:	1316744.040(m)	0.004(m)	1316743.199(m)	0.004(m)
Y:	-4410386.434(m)	0.008(m)	-4410385.030(m)	0.008(m)
Z:	4400572.335(m)	0.010(m)	4400572.319(m)	0.010(m)
LAT:	43 54 21.00658	0.005(m)	43 54 21.04184	0.005(m)
E LON:	286 37 23.77583	0.004(m)	286 37 23.75772	0.004(m)
W LON:	73 22 36.22417	0.004(m)	73 22 36.24228	0.004(m)
EL HGT:	18.725(m)	0.012(m)	17.572(m)	0.012(m)
ORTHO HGT:	47.815(m)	0.017(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4862694.931	156551.746
Easting (X) [meters]	630350.666	429572.195
Convergence [degrees]	1.12585624	-0.60801467
Point Scale	0.99980898	1.00002527
Combined Factor	0.99980604	1.00002233

US NATIONAL GRID DESIGNATOR: 18TXP3035062694(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	20735.3
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	36223.2
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	46101.9
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	62212.7
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	71499.6
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	74925.0
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	86323.4
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	103069.6

GC-10 SESSION 1 FILE: 08863153.13o OP1389282938444

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: dgedenk@photoscience.com DATE: January 09, 2014
RINEX FILE: 0886315q.13o TIME: 18:13:01 UTC

SOFTWARE: rsgps 1.37 RS50.prl 1.89 START: 2013/11/11 16:03:45
EPHEMERIS: igs17661.eph [precise] STOP: 2013/11/11 16:25:30
NAV FILE: brdc3150.13n OBS USED: 1575 / 1881 : 84%
ANT NAME: TRM55971.00 NONE QUALITY IND. 8.13/ 30.99
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.277

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2013.86213)	
X:	1322941.064(m)	0.007(m)	1322940.223(m)	0.007(m)
Y:	-4408878.896(m)	0.021(m)	-4408877.491(m)	0.021(m)
Z:	4400332.469(m)	0.018(m)	4400332.453(m)	0.018(m)
LAT:	43 54 7.93197	0.006(m)	43 54 7.96727	0.006(m)
E LON:	286 42 9.18513	0.005(m)	286 42 9.16713	0.005(m)
W LON:	73 17 50.81487	0.005(m)	73 17 50.83287	0.005(m)
EL HGT:	92.104(m)	0.027(m)	90.949(m)	0.027(m)
ORTHO HGT:	121.138(m)	0.030(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4862419.722	156083.695
Easting (X) [meters]	636725.364	435936.925
Convergence [degrees]	1.18078176	-0.55299313
Point Scale	0.99982993	1.00001474
Combined Factor	0.99981549	1.00000030

US NATIONAL GRID DESIGNATOR: 18TXP3672562419(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	15810.0
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	39327.5
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	55888.1
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	66029.5
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	69845.9
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	72787.7
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	76822.9
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	79947.7
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	87404.4

GC-10 SESSION 2 FILE: 08863159.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886315u.13o TIME: 22:53:45 UTC

SOFTWARE: rsgps 1.37 RS54.prl 1.89 START: 2013/11/11 20:26:45
EPHEMERIS: igs17661.eph [precise] STOP: 2013/11/11 20:47:37
NAV FILE: brdc3150.13n OBS USED: 2268 / 2619 : 87%
ANT NAME: TRM55971.00 NONE QUALITY IND. 25.91/ 22.04
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.300

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000) (EPOCH:2013.86263)		IGS08	
X:	1322941.056(m)	0.005(m)	1322940.215(m)	0.005(m)
Y:	-4408878.883(m)	0.017(m)	-4408877.478(m)	0.017(m)
Z:	4400332.446(m)	0.014(m)	4400332.430(m)	0.014(m)
LAT:	43 54 7.93177	0.005(m)	43 54 7.96706	0.005(m)
E LON:	286 42 9.18496	0.003(m)	286 42 9.16696	0.003(m)
W LON:	73 17 50.81504	0.003(m)	73 17 50.83304	0.003(m)
EL HGT:	92.077(m)	0.022(m)	90.922(m)	0.022(m)
ORTHO HGT:	121.111(m)	0.026(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4862419.716	156083.689
Easting (X) [meters]	636725.360	435936.921
Convergence [degrees]	1.18078173	-0.55299316
Point Scale	0.99982993	1.00001474
Combined Factor	0.99981549	1.00000030

US NATIONAL GRID DESIGNATOR: 18TXP3672562419(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	15810.0
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	39327.5
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	55888.1
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	66029.5
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	69845.9
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	72787.7
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	76822.9
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	79947.7
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	87404.4

GC-11 SESSION 1 FILE: 08863152.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886315p.13o TIME: 23:41:07 UTC

SOFTWARE: rsgps 1.37 RS80.prl 1.89 START: 2013/11/11 15:11:15
EPHEMERIS: igs17661.eph [precise] STOP: 2013/11/11 15:32:30
NAV FILE: brdc3150.13n OBS USED: 1926 / 2214 : 87%
ANT NAME: TRM55971.00 NONE QUALITY IND. 19.08/ 21.99
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.316

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000) (EPOCH:2013.86203)		IGS08	
X:	1328511.834(m)	0.006(m)	1328510.993(m)	0.006(m)
Y:	-4408411.033(m)	0.019(m)	-4408409.628(m)	0.019(m)
Z:	4399123.604(m)	0.025(m)	4399123.588(m)	0.025(m)
LAT:	43 53 13.73523	0.007(m)	43 53 13.77052	0.007(m)
E LON:	286 46 14.24413	0.007(m)	286 46 14.22622	0.007(m)
W LON:	73 13 45.75587	0.007(m)	73 13 45.77378	0.007(m)
EL HGT:	87.119(m)	0.031(m)	85.963(m)	0.031(m)
ORTHO HGT:	116.049(m)	0.033(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4860862.564	154360.496
Easting (X) [meters]	642227.867	441390.736
Convergence [degrees]	1.22767241	-0.50564753
Point Scale	0.99984881	1.00000652
Combined Factor	0.99983515	0.99999286

US NATIONAL GRID DESIGNATOR: 18TXP4222760862(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	13834.5
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	37059.6
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	43659.5
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	50607.7
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	64727.7
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	72877.9
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	82257.7
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	89983.6
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	97632.6

GC-11 SESSION 2 FILE: 08863158.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886315t.13o TIME: 23:11:34 UTC

SOFTWARE: rsgps 1.37 RS50.prl 1.89 START: 2013/11/11 19:34:52
EPHEMERIS: igs17661.eph [precise] STOP: 2013/11/11 19:56:10
NAV FILE: brdc3150.13n OBS USED: 1449 / 1800 : 81%
ANT NAME: TRM55971.00 NONE QUALITY IND. 30.40/ 23.84
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.279

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.86253)

X:	1328511.853(m)	0.008(m)	1328511.012(m)	0.008(m)
Y:	-4408411.030(m)	0.026(m)	-4408409.625(m)	0.026(m)
Z:	4399123.591(m)	0.018(m)	4399123.575(m)	0.018(m)
LAT:	43 53 13.73486	0.009(m)	43 53 13.77016	0.009(m)
E LON:	286 46 14.24499	0.003(m)	286 46 14.22707	0.003(m)
W LON:	73 13 45.75501	0.003(m)	73 13 45.77293	0.003(m)
EL HGT:	87.111(m)	0.031(m)	85.956(m)	0.031(m)
ORTHO HGT:	116.041(m)	0.033(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4860862.553	154360.484
Easting (X) [meters]	642227.886	441390.755
Convergence [degrees]	1.22767257	-0.50564737
Point Scale	0.99984881	1.00000652
Combined Factor	0.99983515	0.99999286

US NATIONAL GRID DESIGNATOR: 18TXP4222760862(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	13834.5
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	37059.6
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	43659.5
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	50607.7
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	64727.7
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	72877.9
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	82257.7
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	89983.6
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	97632.6

GC-12 SESSION 1 FILE: 08863140.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886314m.13o TIME: 23:04:39 UTC

SOFTWARE: rsgps 1.37 RS54.prl 1.89 START: 2013/11/10 12:37:25
EPHEMERIS: igs17660.eph [precise] STOP: 2013/11/10 12:58:40
NAV FILE: brdc3140.13n OBS USED: 1309 / 1428 : 92%
ANT NAME: TRM55971.00 NONE QUALITY IND. 25.85/ 24.80
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.294

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.85900)

X:	1316311.546(m)	0.023(m)	1316310.705(m)	0.023(m)
Y:	-4416014.016(m)	0.025(m)	-4416012.611(m)	0.025(m)
Z:	4395076.557(m)	0.014(m)	4395076.540(m)	0.014(m)
LAT:	43 50 14.32337	0.013(m)	43 50 14.35858	0.013(m)
E LON:	286 35 53.16191	0.016(m)	286 35 53.14380	0.016(m)
W LON:	73 24 6.83809	0.016(m)	73 24 6.85620	0.016(m)
EL HGT:	8.378(m)	0.031(m)	7.222(m)	0.031(m)
ORTHO HGT:	37.536(m)	0.033(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (3101 NY E)
Northing (Y) [meters]	4855044.855	556274.897
Easting (X) [meters]	628476.576	238306.165
Convergence [degrees]	1.10701621	0.76060772
Point Scale	0.99980302	0.99999588
Combined Factor	0.99980171	0.99999457

US NATIONAL GRID DESIGNATOR: 18TXP2847655044(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	26872.7
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	42580.8
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	63328.5
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	70736.4
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	74997.7
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	92128.9
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	96909.9

GC-12 SESSION 2 FILE: 08863145.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886314r.13o TIME: 23:34:27 UTC

SOFTWARE: rsgps 1.37 RS90.prl 1.89 START: 2013/11/10 17:11:45
EPHEMERIS: igs17660.eph [precise] STOP: 2013/11/10 17:32:55
NAV FILE: brdc3140.13n OBS USED: 1134 / 1404 : 81%
ANT NAME: TRM55971.00 NONE QUALITY IND. 21.18/ 12.44
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.292

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.85952)

X:	1316311.548(m)	0.012(m)	1316310.707(m)	0.012(m)
Y:	-4416014.016(m)	0.023(m)	-4416012.611(m)	0.023(m)
Z:	4395076.545(m)	0.038(m)	4395076.528(m)	0.038(m)
LAT:	43 50 14.32308	0.011(m)	43 50 14.35829	0.011(m)
E LON:	286 35 53.16199	0.008(m)	286 35 53.14388	0.008(m)
W LON:	73 24 6.83801	0.008(m)	73 24 6.85612	0.008(m)
EL HGT:	8.371(m)	0.044(m)	7.214(m)	0.044(m)
ORTHO HGT:	37.529(m)	0.046(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (3101 NY E)
Northing (Y) [meters]	4855044.846	556274.888
Easting (X) [meters]	628476.578	238306.167
Convergence [degrees]	1.10701623	0.76060774
Point Scale	0.99980302	0.99999588
Combined Factor	0.99980171	0.99999457

US NATIONAL GRID DESIGNATOR: 18TXP2847655044(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	26872.7
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	42580.8
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	63328.5
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	70736.4
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	74997.7
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	80869.1
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	92128.9
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	96909.9
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	105124.9

GC-13 SESSION 1 FILE: 10673232.13o OP1389040562596

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 1067323r.13o TIME: 20:42:24 UTC

SOFTWARE: rsgps 1.37 RS50.prl 1.89 START: 2013/11/19 17:17:12
EPHEMERIS: igs17672.eph [precise] STOP: 2013/11/19 17:37:57
NAV FILE: brdc3230.13n OBS USED: 1476 / 1539 : 96%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 13.97/ 24.17
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.327

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.88418)

X:	1363170.555(m)	0.020(m)	1363169.714(m)	0.020(m)
Y:	-4407588.319(m)	0.032(m)	-4407586.911(m)	0.032(m)
Z:	4389603.367(m)	0.018(m)	4389603.352(m)	0.018(m)
LAT:	43 46 1.78935	0.013(m)	43 46 1.82472	0.013(m)
E LON:	287 11 8.49556	0.011(m)	287 11 8.47824	0.011(m)
W LON:	72 48 51.50444	0.011(m)	72 48 51.52176	0.011(m)
EL HGT:	228.197(m)	0.038(m)	227.036(m)	0.038(m)
ORTHO HGT:	255.660(m)	0.040(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4848334.427	140818.974
Easting (X) [meters]	675921.750	474693.171
Convergence [degrees]	1.51229487	-0.21741640
Point Scale	0.99998067	0.99997216
Combined Factor	0.99994489	0.99993638

US NATIONAL GRID DESIGNATOR: 18TXP7592148334(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	22213.4
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	25552.0
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	37424.2
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	48606.1
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	62281.7
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	76234.9
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	80449.1
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	83835.7
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	89854.9

GC-13 SESSION 2 FILE: 10673238.13o OP1389280025650

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: dgedenk@photoscience.com DATE: January 09, 2014
RINEX FILE: 1067323u.13o TIME: 16:19:56 UTC

SOFTWARE: rsgps 1.37 RS53.prl 1.89 START: 2013/11/19 20:58:22
EPHEMERIS: igs17672.eph [precise] STOP: 2013/11/19 21:19:20
NAV FILE: brdc3230.13n OBS USED: 1008 / 1520 : 66%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 7.15/ 16.01
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.316

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.88461)

X:	1363170.558(m)	0.008(m)	1363169.717(m)	0.008(m)
Y:	-4407588.300(m)	0.021(m)	-4407586.892(m)	0.021(m)
Z:	4389603.350(m)	0.025(m)	4389603.335(m)	0.025(m)
LAT:	43 46 1.78934	0.006(m)	43 46 1.82471	0.006(m)
E LON:	287 11 8.49594	0.006(m)	287 11 8.47862	0.006(m)
W LON:	72 48 51.50406	0.006(m)	72 48 51.52138	0.006(m)
EL HGT:	228.173(m)	0.033(m)	227.011(m)	0.033(m)
ORTHO HGT:	255.636(m)	0.035(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4848334.426	140818.973
Easting (X) [meters]	675921.758	474693.179
Convergence [degrees]	1.51229494	-0.21741633
Point Scale	0.99998067	0.99997216
Combined Factor	0.99994489	0.99993638

US NATIONAL GRID DESIGNATOR: 18TXP7592148334(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	22213.4
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	37424.2
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	48606.1
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	62281.7
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	76234.9
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	83835.7
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	89854.9
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	94346.8

GC-14 SESSION 1 FILE: 08863150.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886315n.13o TIME: 23:29:43 UTC

SOFTWARE: rsgps 1.37 RS92.prl 1.89 START: 2013/11/11 13:19:51
EPHEMERIS: igs17661.eph [precise] STOP: 2013/11/11 13:40:40
NAV FILE: brdc3150.13n OBS USED: 1806 / 1981 : 91%
ANT NAME: TRM55971.00 NONE QUALITY IND. 10.28/ 22.45
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.312

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.86182)

X:	1323300.942(m)	0.128(m)	1323300.101(m)	0.128(m)
Y:	-4415149.942(m)	0.112(m)	-4415148.536(m)	0.112(m)
Z:	4393926.818(m)	0.129(m)	4393926.801(m)	0.129(m)
LAT:	43 49 21.11366	0.026(m)	43 49 21.14889	0.026(m)
E LON:	286 41 3.95540	0.093(m)	286 41 3.93742	0.093(m)
W LON:	73 18 56.04460	0.093(m)	73 18 56.06258	0.093(m)
EL HGT:	58.888(m)	0.190(m)	57.730(m)	0.190(m)
ORTHO HGT:	88.015(m)	0.191(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES (UTM (Zone 18))	STATE PLANE COORDINATES (SPC (4400 VT))
Northing (Y) [meters]	4853540.980	147245.890
Easting (X) [meters]	635450.567	434393.983
Convergence [degrees]	1.16652293	-0.56474129
Point Scale	0.99982566	1.00001720
Combined Factor	0.99981643	1.00000797

US NATIONAL GRID DESIGNATOR: 18TXP3545053540(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	23540.6
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	36148.7
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	58534.3
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	63877.6
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	76403.6
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	81215.8
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	90550.5

GC-14 SESSION 2 FILE: 08863156.13o OP1389282938444

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: dgedenk@photoscience.com DATE: January 09, 2014
RINEX FILE: 0886315s.13o TIME: 17:30:13 UTC

SOFTWARE: rsgps 1.37 RS82.prl 1.89 START: 2013/11/11 18:01:45
EPHEMERIS: igs17661.eph [precise] STOP: 2013/11/11 18:22:34
NAV FILE: brdc3150.13n OBS USED: 2259 / 2259 :
100%
ANT NAME: TRM55971.00 NONE QUALITY IND. 26.41/ 36.49
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.261

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08
(EPOCH:2013.86235)

X:	1323300.948(m)	0.005(m)	1323300.107(m)	0.005(m)
Y:	-4415149.936(m)	0.013(m)	-4415148.530(m)	0.013(m)
Z:	4393926.821(m)	0.012(m)	4393926.804(m)	0.012(m)
LAT:	43 49 21.11382	0.008(m)	43 49 21.14905	0.008(m)
E LON:	286 41 3.95574	0.003(m)	286 41 3.93775	0.003(m)
W LON:	73 18 56.04426	0.003(m)	73 18 56.06225	0.003(m)
EL HGT:	58.887(m)	0.016(m)	57.730(m)	0.016(m)
ORTHO HGT:	88.014(m)	0.021(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4853540.985	147245.895
Easting (X) [meters]	635450.574	434393.991
Convergence [degrees]	1.16652300	-0.56474123
Point Scale	0.99982566	1.00001720
Combined Factor	0.99981643	1.00000797

US NATIONAL GRID DESIGNATOR: 18TXP3545053540(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	23540.6
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	36148.7
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	46646.5
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	58534.3
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	63877.6
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	76403.6
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	81215.8
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	90550.4
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	95997.4

GC-15 SESSION 1 FILE: 08863200.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886320n.13o TIME: 23:45:29 UTC

SOFTWARE: rsgps 1.37 RS93.prl 1.89 START: 2013/11/16 13:18:51
EPHEMERIS: igs17666.eph [precise] STOP: 2013/11/16 13:39:43
NAV FILE: brdc3200.13n OBS USED: 1218 / 1407 : 87%
ANT NAME: TRM55971.00 NONE QUALITY IND. 8.59/ 6.53
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.250

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.87551)

X:	1320292.633(m)	0.003(m)	1320291.792(m)	0.003(m)
Y:	-4417807.670(m)	0.005(m)	-4417806.264(m)	0.005(m)
Z:	4392123.168(m)	0.007(m)	4392123.151(m)	0.007(m)
LAT:	43 48 1.17884	0.003(m)	43 48 1.21405	0.003(m)
E LON:	286 38 20.91218	0.003(m)	286 38 20.89415	0.003(m)
W LON:	73 21 39.08782	0.003(m)	73 21 39.10585	0.003(m)
EL HGT:	25.163(m)	0.009(m)	24.005(m)	0.009(m)
ORTHO HGT:	54.361(m)	0.015(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4851001.694	144815.807
Easting (X) [meters]	631857.483	430725.103
Convergence [degrees]	1.13469085	-0.59586395
Point Scale	0.99981385	1.00002329
Combined Factor	0.99980991	1.00001934

US NATIONAL GRID DESIGNATOR: 18TXP3185751001(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	27665.3
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	47712.6
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	60542.2
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	73826.5
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	80229.9
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	89579.6
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	98108.1

GC-15 SESSION 2 FILE: 08863207.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886320s.13o TIME: 23:00:28 UTC

SOFTWARE: rsgps 1.37 RS51.prl 1.89 START: 2013/11/16 18:16:04
EPHEMERIS: igs17666.eph [precise] STOP: 2013/11/16 18:37:00
NAV FILE: brdc3200.13n OBS USED: 1836 / 2115 : 87%
ANT NAME: TRM55971.00 NONE QUALITY IND. 10.82/ 15.72
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.273

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.87608)

X:	1320292.636(m)	0.006(m)	1320291.795(m)	0.006(m)
Y:	-4417807.690(m)	0.010(m)	-4417806.284(m)	0.010(m)
Z:	4392123.182(m)	0.018(m)	4392123.165(m)	0.018(m)
LAT:	43 48 1.17872	0.007(m)	43 48 1.21393	0.007(m)
E LON:	286 38 20.91205	0.004(m)	286 38 20.89402	0.004(m)
W LON:	73 21 39.08795	0.004(m)	73 21 39.10598	0.004(m)
EL HGT:	25.187(m)	0.020(m)	24.029(m)	0.020(m)
ORTHO HGT:	54.385(m)	0.023(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4851001.690	144815.803
Easting (X) [meters]	631857.480	430725.100
Convergence [degrees]	1.13469082	-0.59586398
Point Scale	0.99981385	1.00002329
Combined Factor	0.99980990	1.00001934

US NATIONAL GRID DESIGNATOR: 18TXP3185751001(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	27665.3
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	37498.7
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	47712.6
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	60542.2
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	73826.5
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	80229.9
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	89579.6
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	98108.0
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	102758.4

GC-17 SESSION 1 FILE: 08863230.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886323m.13o TIME: 22:55:16 UTC

SOFTWARE: rsgps 1.37 RS93.prl 1.89 START: 2013/11/19 12:52:15
EPHEMERIS: igs17672.eph [precise] STOP: 2013/11/19 13:13:49
NAV FILE: brdc3230.13n OBS USED: 2331 / 2457 : 95%
ANT NAME: TRM55971.00 NONE QUALITY IND. 18.10/ 16.05
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.292

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2013.88368)	
X:	1335957.514(m)	0.007(m)	1335956.674(m)	0.007(m)
Y:	-4420699.042(m)	0.015(m)	-4420697.634(m)	0.015(m)
Z:	4384629.759(m)	0.010(m)	4384629.742(m)	0.010(m)
LAT:	43 42 22.73569	0.006(m)	43 42 22.77091	0.006(m)
E LON:	286 48 54.29290	0.005(m)	286 48 54.27518	0.005(m)
W LON:	73 11 5.70710	0.005(m)	73 11 5.72482	0.005(m)
EL HGT:	99.846(m)	0.018(m)	98.684(m)	0.018(m)
ORTHO HGT:	128.755(m)	0.022(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4840855.589	134238.518
Easting (X) [meters]	646239.570	444796.945
Convergence [degrees]	1.25437401	-0.47326472
Point Scale	0.99986305	1.00000175
Combined Factor	0.99984740	0.99998609

US NATIONAL GRID DESIGNATOR: 18TXP4623940855(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	19906.9
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	32581.8
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	42459.9
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	56207.6
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	74173.1
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	84777.1
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	87456.1
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	91533.1
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	97688.6

GC-17 SESSION 2 FILE: 08863242.13o OP1389282938444

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: dgedenk@photoscience.com DATE: January 09, 2014
RINEX FILE: 0886324s.13o TIME: 17:54:34 UTC

SOFTWARE: rsgps 1.37 RS50.prl 1.89 START: 2013/11/20 18:19:15
EPHEMERIS: igs17673.eph [precise] STOP: 2013/11/20 18:40:45
NAV FILE: brdc3240.13n OBS USED: 1530 / 1629 : 94%
ANT NAME: TRM55971.00 NONE QUALITY IND. 19.77/ 19.49
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.264

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.88704)

X:	1335957.519(m)	0.004(m)	1335956.678(m)	0.004(m)
Y:	-4420699.048(m)	0.011(m)	-4420697.640(m)	0.011(m)
Z:	4384629.767(m)	0.013(m)	4384629.750(m)	0.013(m)
LAT:	43 42 22.73572	0.006(m)	43 42 22.77094	0.006(m)
E LON:	286 48 54.29303	0.003(m)	286 48 54.27527	0.003(m)
W LON:	73 11 5.70697	0.003(m)	73 11 5.72473	0.003(m)
EL HGT:	99.856(m)	0.017(m)	98.695(m)	0.017(m)
ORTHO HGT:	128.765(m)	0.021(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4840855.590	134238.519
Easting (X) [meters]	646239.573	444796.948
Convergence [degrees]	1.25437404	-0.47326470
Point Scale	0.99986305	1.00000175
Combined Factor	0.99984739	0.99998609

US NATIONAL GRID DESIGNATOR: 18TXP4623940855(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	19906.9
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	32581.8
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	42459.9
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	56207.6
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	62792.0
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	74173.1
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	84777.1
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	88437.9
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	91533.1

GC-18 SESSION 1 FILE: 08863204.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886320p.13o TIME: 23:32:44 UTC

SOFTWARE: rsgps 1.37 RS92.prl 1.89 START: 2013/11/16 15:59:51
EPHEMERIS: igs17666.eph [precise] STOP: 2013/11/16 16:20:37
NAV FILE: brdc3200.13n OBS USED: 1512 / 2061 : 73%
ANT NAME: TRM55971.00 NONE QUALITY IND. 30.52/ 26.15
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.324

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.87582)

X:	1342067.842(m)	0.009(m)	1342067.001(m)	0.009(m)
Y:	-4411782.652(m)	0.018(m)	-4411781.245(m)	0.018(m)
Z:	4391710.816(m)	0.020(m)	4391710.800(m)	0.020(m)
LAT:	43 47 39.92458	0.007(m)	43 47 39.95988	0.007(m)
E LON:	286 55 11.29178	0.005(m)	286 55 11.27411	0.005(m)
W LON:	73 4 48.70822	0.005(m)	73 4 48.72589	0.005(m)
EL HGT:	113.492(m)	0.027(m)	112.332(m)	0.027(m)
ORTHO HGT:	142.013(m)	0.030(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4850831.457	143963.253
Easting (X) [meters]	654450.241	453305.885
Convergence [degrees]	1.32890570	-0.40154567
Point Scale	0.99989341	0.99999109
Combined Factor	0.99987562	0.99997329

US NATIONAL GRID DESIGNATOR: 18TXP5445050831(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	22340.3
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	41563.3
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	49858.6
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	59093.5
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	65511.5
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	68971.4
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	74971.5
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	81138.8
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	96403.3

GC-18 SESSION 2 FILE: 0886320B.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886320u.13o TIME: 23:46:21 UTC

SOFTWARE: rsgps 1.37 RS54.prl 1.89 START: 2013/11/16 20:30:35
EPHEMERIS: igs17666.eph [precise] STOP: 2013/11/16 20:51:38
NAV FILE: brdc3200.13n OBS USED: 2349 / 2844 : 83%
ANT NAME: TRM55971.00 NONE QUALITY IND. 5.29/ 5.97
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.359

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000) (EPOCH:2013.87633)		IGS08	
X:	1342067.835(m)	0.008(m)	1342066.994(m)	0.008(m)
Y:	-4411782.633(m)	0.020(m)	-4411781.226(m)	0.020(m)
Z:	4391710.799(m)	0.020(m)	4391710.783(m)	0.020(m)
LAT:	43 47 39.92464	0.007(m)	43 47 39.95993	0.007(m)
E LON:	286 55 11.29173	0.005(m)	286 55 11.27405	0.005(m)
W LON:	73 4 48.70827	0.005(m)	73 4 48.72595	0.005(m)
EL HGT:	113.465(m)	0.028(m)	112.306(m)	0.028(m)
ORTHO HGT:	141.986(m)	0.031(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4850831.459	143963.254
Easting (X) [meters]	654450.240	453305.883
Convergence [degrees]	1.32890569	-0.40154568
Point Scale	0.99989341	0.99999109
Combined Factor	0.99987562	0.99997330

US NATIONAL GRID DESIGNATOR: 18TXP5445050831(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	22340.3
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	41563.3
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	49858.6
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	59093.5
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	65511.5
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	68971.5
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	74971.5
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	81138.8
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	96403.3

GC-19 SESSION 1 FILE: 08863213.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886321p.13o TIME: 23:45:23 UTC

SOFTWARE: rsgps 1.37 RS90.prl 1.89 START: 2013/11/17 15:58:51
EPHEMERIS: igs17670.eph [precise] STOP: 2013/11/17 16:20:06
NAV FILE: brdc3210.13n OBS USED: 1548 / 2097 : 74%
ANT NAME: TRM55971.00 NONE QUALITY IND. 11.62/ 27.98
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.324

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.87856)

X:	1335766.601(m)	0.007(m)	1335765.760(m)	0.007(m)
Y:	-4412221.708(m)	0.020(m)	-4412220.302(m)	0.020(m)
Z:	4393133.455(m)	0.014(m)	4393133.439(m)	0.014(m)
LAT:	43 48 44.80699	0.007(m)	43 48 44.84227	0.007(m)
E LON:	286 50 35.84193	0.005(m)	286 50 35.82415	0.005(m)
W LON:	73 9 24.15807	0.005(m)	73 9 24.17585	0.005(m)
EL HGT:	80.811(m)	0.024(m)	79.653(m)	0.024(m)
ORTHO HGT:	109.610(m)	0.027(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4852693.244	146011.684
Easting (X) [meters]	648249.934	447163.942
Convergence [degrees]	1.27634087	-0.45465117
Point Scale	0.99987033	0.99999861
Combined Factor	0.99985766	0.99998594

US NATIONAL GRID DESIGNATOR: 18TXP4824952693(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	20688.5
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	26919.1
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	46644.8
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	53015.7
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	67624.4
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	73053.1
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	80577.6
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	86499.4
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	90282.9

GC-19 SESSION 2 FILE: 08863218.13o OP1389282938444

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: dgedenk@photoscience.com DATE: January 09, 2014
RINEX FILE: 0886321u.13o TIME: 18:11:02 UTC

SOFTWARE: rsgps 1.37 RS80.prl 1.89 START: 2013/11/17 20:26:27
EPHEMERIS: igs17670.eph [precise] STOP: 2013/11/17 20:48:19
NAV FILE: brdc3210.13n OBS USED: 1840 / 2232 : 82%
ANT NAME: TRM55971.00 NONE QUALITY IND. 7.61/ 23.24
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.359

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.87907)

X:	1335766.591(m)	0.007(m)	1335765.750(m)	0.007(m)
Y:	-4412221.698(m)	0.016(m)	-4412220.292(m)	0.016(m)
Z:	4393133.454(m)	0.021(m)	4393133.438(m)	0.021(m)
LAT:	43 48 44.80725	0.007(m)	43 48 44.84253	0.007(m)
E LON:	286 50 35.84163	0.006(m)	286 50 35.82385	0.006(m)
W LON:	73 9 24.15837	0.006(m)	73 9 24.17615	0.006(m)
EL HGT:	80.801(m)	0.025(m)	79.643(m)	0.025(m)
ORTHO HGT:	109.600(m)	0.028(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4852693.252	146011.692
Easting (X) [meters]	648249.927	447163.935
Convergence [degrees]	1.27634081	-0.45465123
Point Scale	0.99987033	0.99999861
Combined Factor	0.99985766	0.99998594

US NATIONAL GRID DESIGNATOR: 18TXP4824952693(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	20688.5
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	26919.1
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	46644.8
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	53015.7
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	67624.4
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	73053.1
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	80577.6
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	90282.9

GC-20 SESSION 1 FILE: 08863201.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886320o.13o TIME: 22:48:46 UTC

SOFTWARE: rsgps 1.37 RS82.prl 1.89 START: 2013/11/16 14:02:39
EPHEMERIS: igs17666.eph [precise] STOP: 2013/11/16 14:23:49
NAV FILE: brdc3200.13n OBS USED: 1332 / 1494 : 89%
ANT NAME: TRM55971.00 NONE QUALITY IND. 14.03/ 21.25
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.277

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2013.87560)	
X:	1327980.031(m)	0.009(m)	1327979.190(m)	0.009(m)
Y:	-4415308.962(m)	0.026(m)	-4415307.556(m)	0.026(m)
Z:	4392437.442(m)	0.032(m)	4392437.425(m)	0.032(m)
LAT:	43 48 12.69410	0.009(m)	43 48 12.72933	0.009(m)
E LON:	286 44 22.42518	0.006(m)	286 44 22.40726	0.006(m)
W LON:	73 15 37.57482	0.006(m)	73 15 37.59274	0.006(m)
EL HGT:	108.619(m)	0.041(m)	107.460(m)	0.041(m)
ORTHO HGT:	137.670(m)	0.043(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4851521.866	145092.055
Easting (X) [meters]	639928.225	438809.405
Convergence [degrees]	1.20429838	-0.52638164
Point Scale	0.99984083	1.00001032
Combined Factor	0.99982380	0.99999329

US NATIONAL GRID DESIGNATOR: 18TXP3992851521(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	23344.1
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	31452.9
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	50410.5
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	54759.3
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	63301.2
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	71009.5
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	74139.2
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	81913.5
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	85835.9

GC-20 SESSION 2 FILE: 08863208.13o OP1389282938444

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: dgedenk@photoscience.com DATE: January 09, 2014
RINEX FILE: 0886320s.13o TIME: 18:23:14 UTC

SOFTWARE: rsgps 1.37 RS80.prl 1.89 START: 2013/11/16 18:51:46
EPHEMERIS: igs17666.eph [precise] STOP: 2013/11/16 19:12:38
NAV FILE: brdc3200.13n OBS USED: 1413 / 1530 : 92%
ANT NAME: TRM55971.00 NONE QUALITY IND. 10.39/ 4.32
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.308

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.87615)

X:	1327980.026(m)	0.007(m)	1327979.185(m)	0.007(m)
Y:	-4415308.973(m)	0.012(m)	-4415307.567(m)	0.012(m)
Z:	4392437.459(m)	0.014(m)	4392437.442(m)	0.014(m)
LAT:	43 48 12.69429	0.005(m)	43 48 12.72952	0.005(m)
E LON:	286 44 22.42482	0.005(m)	286 44 22.40691	0.005(m)
W LON:	73 15 37.57518	0.005(m)	73 15 37.59309	0.005(m)
EL HGT:	108.637(m)	0.018(m)	107.479(m)	0.018(m)
ORTHO HGT:	137.688(m)	0.022(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4851521.872	145092.061
Easting (X) [meters]	639928.217	438809.398
Convergence [degrees]	1.20429831	-0.52638171
Point Scale	0.99984083	1.00001032
Combined Factor	0.99982380	0.99999328

US NATIONAL GRID DESIGNATOR: 18TXP3992851521(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	23344.1
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	31452.9
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	50410.5
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	54918.0
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	63301.2
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	71009.5
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	74139.2
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	81913.5
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	85948.6

GC-21 SESSION 1 FILE: 08863240.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886324l.13o TIME: 23:34:47 UTC

SOFTWARE: rsgps 1.37 RS93.prl 1.89 START: 2013/11/20 11:39:45
EPHEMERIS: igs17673.eph [precise] STOP: 2013/11/20 12:00:37
NAV FILE: brdc3240.13n OBS USED: 2160 / 2169 : 100%
ANT NAME: TRM55971.00 NONE QUALITY IND. 29.68/ 28.77
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.281

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2013.88628)	
X:	1326844.943(m)	0.004(m)	1326844.103(m)	0.004(m)
Y:	-4423388.355(m)	0.010(m)	-4423386.948(m)	0.010(m)
Z:	4384660.761(m)	0.010(m)	4384660.743(m)	0.010(m)
LAT:	43 42 24.62641	0.004(m)	43 42 24.66157	0.004(m)
E LON:	286 41 49.93963	0.004(m)	286 41 49.92175	0.004(m)
W LON:	73 18 10.06037	0.004(m)	73 18 10.07825	0.004(m)
EL HGT:	83.663(m)	0.014(m)	82.502(m)	0.014(m)
ORTHO HGT:	112.899(m)	0.019(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4840712.720	134382.100
Easting (X) [meters]	636741.079	435296.923
Convergence [degrees]	1.17289704	-0.55472509
Point Scale	0.99982999	1.00001576
Combined Factor	0.99981687	1.00000264

US NATIONAL GRID DESIGNATOR: 18TXP3674140712(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	28341.7
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	34595.7
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	46802.8
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	52052.8
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	59040.3
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	78985.6
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	90938.9
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	101232.6
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	116454.1

GC-21 SESSION 2 FILE: 10671373.14o OP1400517418576

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: dgedenk@quantumspatial.com DATE: May 19, 2014
RINEX FILE: 1067137u.14o TIME: 17:38:23 UTC

SOFTWARE: rsgps 1.37 RS93.prl 1.99.2 START: 2014/05/17 20:22:26
EPHEMERIS: igr17926.eph [rapid] STOP: 2014/05/17 21:08:21
NAV FILE: brdc1370.14n OBS USED: 6417 / 6687 : 96%
ANT NAME: TRMR8-4 NONE QUALITY IND. 22.70/ 64.48
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.297

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000) (EPOCH:2014.37497)		IGS08	
X:	1326844.951(m)	0.003(m)	1326844.103(m)	0.003(m)
Y:	-4423388.346(m)	0.008(m)	-4423386.940(m)	0.008(m)
Z:	4384660.745(m)	0.010(m)	4384660.729(m)	0.010(m)
LAT:	43 42 24.62618	0.004(m)	43 42 24.66141	0.004(m)
E LON:	286 41 49.94009	0.003(m)	286 41 49.92185	0.003(m)
W LON:	73 18 10.05991	0.003(m)	73 18 10.07815	0.003(m)
EL HGT:	83.648(m)	0.012(m)	82.487(m)	0.012(m)
ORTHO HGT:	112.884(m)	0.017(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4840712.713	134382.093
Easting (X) [meters]	636741.090	435296.933
Convergence [degrees]	1.17289713	-0.55472500
Point Scale	0.99982999	1.00001576
Combined Factor	0.99981688	1.00000264

US NATIONAL GRID DESIGNATOR: 18TXP3674140712(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	52052.8
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	59040.3
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	61900.2
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	78985.6
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	81786.3
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	90938.9
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	82399.0
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	84529.4
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	85128.0

GC-22 SESSION 1 FILE: 08863222.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886322o.13o TIME: 23:11:00 UTC

SOFTWARE: rsgps 1.37 RS91.prl 1.89 START: 2013/11/18 14:31:19
EPHEMERIS: igs17671.eph [precise] STOP: 2013/11/18 14:52:46
NAV FILE: brdc3220.13n OBS USED: 1696 / 1856 : 91%
ANT NAME: TRM55971.00 NONE QUALITY IND. 10.41/ 10.89
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.372

REF FRAME:	NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2013.88113)	
X:	1317418.775(m)	0.010(m)	1317417.936(m)	0.010(m)
Y:	-4438190.836(m)	0.019(m)	-4438189.428(m)	0.019(m)
Z:	4372632.183(m)	0.025(m)	4372632.163(m)	0.025(m)
LAT:	43 33 25.66614	0.009(m)	43 33 25.70113	0.009(m)
E LON:	286 31 58.19258	0.013(m)	286 31 58.17459	0.013(m)
W LON:	73 28 1.80742	0.013(m)	73 28 1.82541	0.013(m)
EL HGT:	99.347(m)	0.029(m)	98.182(m)	0.029(m)
ORTHO HGT:	128.902(m)	0.031(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (3101 NY E)
Northing (Y) [meters]	4823827.402	525080.103
Easting (X) [meters]	623804.580	233445.052
Convergence [degrees]	1.05637330	0.71174171
Point Scale	0.99978854	0.99998562
Combined Factor	0.99977296	0.99997004

US NATIONAL GRID DESIGNATOR: 18TXP2380423827(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	32312.1
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	39784.6
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	44597.9
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	55204.6
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	61469.3
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	78032.1
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	81498.4
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	85795.7

GC-22 SESSION 2 FILE: 08863234.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886323s.13o TIME: 23:10:35 UTC

SOFTWARE: rsgps 1.37 RS90.prl 1.89 START: 2013/11/19 18:53:21
EPHEMERIS: igs17672.eph [precise] STOP: 2013/11/19 19:14:43
NAV FILE: brdc3230.13n OBS USED: 1260 / 1440 : 88%
ANT NAME: TRM55971.00 NONE QUALITY IND. 4.97/ 5.79
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.304

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000) (EPOCH:2013.88437)		IGS08	
X:	1317418.768(m)	0.017(m)	1317417.928(m)	0.017(m)
Y:	-4438190.820(m)	0.033(m)	-4438189.412(m)	0.033(m)
Z:	4372632.193(m)	0.020(m)	4372632.173(m)	0.020(m)
LAT:	43 33 25.66676	0.011(m)	43 33 25.70176	0.011(m)
E LON:	286 31 58.19248	0.009(m)	286 31 58.17446	0.009(m)
W LON:	73 28 1.80752	0.009(m)	73 28 1.82554	0.009(m)
EL HGT:	99.342(m)	0.040(m)	98.176(m)	0.040(m)
ORTHO HGT:	128.897(m)	0.041(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (3101 NY E)
Northing (Y) [meters]	4823827.421	525080.122
Easting (X) [meters]	623804.578	233445.049
Convergence [degrees]	1.05637329	0.71174169
Point Scale	0.99978854	0.99998562
Combined Factor	0.99977297	0.99997004

US NATIONAL GRID DESIGNATOR: 18TXP2380423827(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	32312.1
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	39784.6
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	70014.5
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	81498.4
DI0456	NYFV FULTONVILLE CORS ARP	N425620.997	W0742112.013	99461.6
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	119860.9
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	124850.7
DI0466	NYHS HUDSON CORS ARP	N421508.359	W0734527.160	146877.1
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	148669.6

GC-23 SESSION 1 FILE: 08863225.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886322q.13o TIME: 23:11:16 UTC

SOFTWARE: rsgps 1.37 RS83.prl 1.89 START: 2013/11/18 16:55:51
EPHEMERIS: igs17671.eph [precise] STOP: 2013/11/18 17:17:30
NAV FILE: brdc3220.13n OBS USED: 1687 / 1729 : 98%
ANT NAME: TRM55971.00 NONE QUALITY IND. 21.37/ 24.69
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.322

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.88141)

X:	1326530.825(m)	0.006(m)	1326529.985(m)	0.006(m)
Y:	-4427728.456(m)	0.012(m)	-4427727.048(m)	0.012(m)
Z:	4380393.751(m)	0.016(m)	4380393.733(m)	0.016(m)
LAT:	43 39 13.62823	0.008(m)	43 39 13.66337	0.008(m)
E LON:	286 40 40.86692	0.005(m)	286 40 40.84904	0.005(m)
W LON:	73 19 19.13308	0.005(m)	73 19 19.15096	0.005(m)
EL HGT:	78.078(m)	0.019(m)	76.915(m)	0.019(m)
ORTHO HGT:	107.430(m)	0.023(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4834788.752	128502.698
Easting (X) [meters]	635314.424	433692.101
Convergence [degrees]	1.15850985	-0.56743358
Point Scale	0.99982522	1.00001835
Combined Factor	0.99981298	1.00000611

US NATIONAL GRID DESIGNATOR: 18TXP3531434788(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	40664.8
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	46008.5
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	76528.6
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	86259.8
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	89947.7
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	94344.9
DI0456	NYFV FULTONVILLE CORS ARP	N425620.997	W0742112.013	115357.1

GC-23 SESSION 2 FILE: 08863241.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886324m.13o TIME: 23:48:09 UTC

SOFTWARE: rsgps 1.37 RS91.prl 1.89 START: 2013/11/20 12:12:15
EPHEMERIS: igs17673.eph [precise] STOP: 2013/11/20 12:33:52
NAV FILE: brdc3240.13n OBS USED: 2169 / 2322 : 93%
ANT NAME: TRM55971.00 NONE QUALITY IND. 34.73/ 36.08
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.288

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.88635)

X:	1326530.815(m)	0.003(m)	1326529.975(m)	0.003(m)
Y:	-4427728.444(m)	0.009(m)	-4427727.036(m)	0.009(m)
Z:	4380393.722(m)	0.011(m)	4380393.704(m)	0.011(m)
LAT:	43 39 13.62787	0.006(m)	43 39 13.66301	0.006(m)
E LON:	286 40 40.86664	0.003(m)	286 40 40.84877	0.003(m)
W LON:	73 19 19.13336	0.003(m)	73 19 19.15123	0.003(m)
EL HGT:	78.048(m)	0.013(m)	76.885(m)	0.013(m)
ORTHO HGT:	107.400(m)	0.018(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4834788.741	128502.687
Easting (X) [meters]	635314.418	433692.095
Convergence [degrees]	1.15850980	-0.56743363
Point Scale	0.99982522	1.00001835
Combined Factor	0.99981298	1.00000611

US NATIONAL GRID DESIGNATOR: 18TXP3531434788(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	28128.3
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	40664.8
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	46008.6
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	76528.6
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	79876.4
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	86259.8
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	94344.9
DI0456	NYFV FULTONVILLE CORS ARP	N425620.997	W0742112.013	115357.1
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	122001.9

GC-24 SESSION 1 FILE: 10673230.13o OP1389040562596

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 1067323p.13o TIME: 20:47:28 UTC

SOFTWARE: rsgps 1.37 RS50.prl 1.89 START: 2013/11/19 15:46:05
EPHEMERIS: igs17672.eph [precise] STOP: 2013/11/19 16:06:35
NAV FILE: brdc3230.13n OBS USED: 1312 / 1792 : 73%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 11.12/ 16.83
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.347

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.88401)

X:	1355975.796(m)	0.006(m)	1355974.955(m)	0.006(m)
Y:	-4402656.187(m)	0.012(m)	-4402654.780(m)	0.012(m)
Z:	4396828.387(m)	0.014(m)	4396828.373(m)	0.014(m)
LAT:	43 51 24.00854	0.005(m)	43 51 24.04396	0.005(m)
E LON:	287 7 5.98594	0.006(m)	287 7 5.96850	0.006(m)
W LON:	72 52 54.01406	0.006(m)	72 52 54.03150	0.006(m)
EL HGT:	298.092(m)	0.018(m)	296.934(m)	0.018(m)
ORTHO HGT:	325.626(m)	0.022(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4858134.611	150786.225
Easting (X) [meters]	670245.109	469315.144
Convergence [degrees]	1.46805017	-0.26444507
Point Scale	0.99995649	0.99997586
Combined Factor	0.99990975	0.99992912

US NATIONAL GRID DESIGNATOR: 18TXP7024558134(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	24160.7
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	28824.4
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	57042.8
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	65788.2
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	91159.9
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	102335.7
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	107037.9
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	111262.8

GC-24 SESSION 2 FILE: 10673236.13o OP1389040562596

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 1067323t.13o TIME: 20:56:05 UTC

SOFTWARE: rsgps 1.37 RS52.prl 1.89 START: 2013/11/19 19:40:45
EPHEMERIS: igs17672.eph [precise] STOP: 2013/11/19 20:01:30
NAV FILE: brdc3230.13n OBS USED: 1127 / 1337 : 84%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 3.91/ 5.42
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.370

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.88446)

X:	1355975.812(m)	0.010(m)	1355974.971(m)	0.010(m)
Y:	-4402656.211(m)	0.021(m)	-4402654.804(m)	0.021(m)
Z:	4396828.420(m)	0.014(m)	4396828.406(m)	0.014(m)
LAT:	43 51 24.00869	0.006(m)	43 51 24.04411	0.006(m)
E LON:	287 7 5.98631	0.009(m)	287 7 5.96887	0.009(m)
W LON:	72 52 54.01369	0.009(m)	72 52 54.03113	0.009(m)
EL HGT:	298.135(m)	0.025(m)	296.977(m)	0.025(m)
ORTHO HGT:	325.669(m)	0.028(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4858134.616	150786.229
Easting (X) [meters]	670245.117	469315.152
Convergence [degrees]	1.46805024	-0.26444500
Point Scale	0.99995649	0.99997586
Combined Factor	0.99990974	0.99992911

US NATIONAL GRID DESIGNATOR: 18TXP7024558134(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	24160.7
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	28824.4
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	57042.8
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	63864.8
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	65788.2
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	72613.9
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	91159.9

GC-25 SESSION 1 FILE: 10673231.13o OP1389040562596

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 1067323q.13o TIME: 20:47:44 UTC

SOFTWARE: rsgps 1.37 RS54.prl 1.89 START: 2013/11/19 16:22:39
EPHEMERIS: igs17672.eph [precise] STOP: 2013/11/19 16:44:41
NAV FILE: brdc3230.13n OBS USED: 1215 / 2007 : 61%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 10.63/ 13.10
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.343

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.88408)

X:	1362850.105(m)	0.007(m)	1362849.264(m)	0.007(m)
Y:	-4402625.473(m)	0.022(m)	-4402624.065(m)	0.022(m)
Z:	4394680.405(m)	0.022(m)	4394680.391(m)	0.022(m)
LAT:	43 49 48.95823	0.008(m)	43 49 48.99367	0.008(m)
E LON:	287 12 0.42170	0.005(m)	287 12 0.40438	0.005(m)
W LON:	72 47 59.57830	0.005(m)	72 47 59.59562	0.005(m)
EL HGT:	251.787(m)	0.030(m)	250.627(m)	0.030(m)
ORTHO HGT:	279.247(m)	0.033(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4855373.807	147825.630
Easting (X) [meters]	676896.364	475879.931
Convergence [degrees]	1.52402857	-0.20767718
Point Scale	0.99998490	0.99997144
Combined Factor	0.99994542	0.99993196

US NATIONAL GRID DESIGNATOR: 18TXP7689655373(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	19892.7
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	28706.4
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	33950.5
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	55650.1
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	66305.6
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	72827.8
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	77813.0
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	82976.8
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	86188.4

GC-25 SESSION 2 FILE: 10671393.14o OP1400859013243

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: dgedenk@quantumspatial.com DATE: May 23, 2014
RINEX FILE: 1067139s.14o TIME: 15:48:11 UTC

SOFTWARE: rsgps 1.37 RS91.prl 1.99.2 START: 2014/05/19 18:24:17
EPHEMERIS: igr17931.eph [rapid] STOP: 2014/05/19 19:10:22
NAV FILE: brdc1390.14n OBS USED: 2691 / 4257 : 63%
ANT NAME: TRMR8-4 NONE QUALITY IND. 15.72/ 44.03
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.384

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2014.38023)	
X:	1362850.129(m)	0.004(m)	1362849.280(m)	0.004(m)
Y:	-4402625.476(m)	0.017(m)	-4402624.069(m)	0.017(m)
Z:	4394680.414(m)	0.015(m)	4394680.401(m)	0.015(m)
LAT:	43 49 48.95822	0.004(m)	43 49 48.99371	0.004(m)
E LON:	287 12 0.42269	0.005(m)	287 12 0.40501	0.005(m)
W LON:	72 47 59.57731	0.005(m)	72 47 59.59499	0.005(m)
EL HGT:	251.800(m)	0.023(m)	250.640(m)	0.023(m)
ORTHO HGT:	279.260(m)	0.026(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4855373.807	147825.630
Easting (X) [meters]	676896.386	475879.953
Convergence [degrees]	1.52402876	-0.20767699
Point Scale	0.99998490	0.99997144
Combined Factor	0.99994542	0.99993196

US NATIONAL GRID DESIGNATOR: 18TXP7689655373(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	51039.2
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	55650.1
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	58489.0
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	66305.6
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	107976.6
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	82976.8
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	86188.4
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	88425.9
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	110178.2

GC-26 SESSION 1 FILE: 10673234.13o OP1389280025650

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: dgedenk@photoscience.com DATE: January 09, 2014
RINEX FILE: 1067323s.13o TIME: 16:10:53 UTC

SOFTWARE: rsgps 1.37 RS53.prl 1.89 START: 2013/11/19 18:15:11
EPHEMERIS: igs17672.eph [precise] STOP: 2013/11/19 18:35:45
NAV FILE: brdc3230.13n OBS USED: 1755 / 1845 :
95%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 11.53/ 14.75
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.353

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08
(EPOCH:2013.88430)

X:	1363992.560(m)	0.012(m)	1363991.719(m)	0.012(m)
Y:	-4412663.893(m)	0.019(m)	-4412662.484(m)	0.019(m)
Z:	4384478.767(m)	0.019(m)	4384478.751(m)	0.019(m)
LAT:	43 42 7.76972	0.004(m)	43 42 7.80504	0.004(m)
E LON:	287 10 36.59241	0.007(m)	287 10 36.57511	0.007(m)
W LON:	72 49 23.40759	0.007(m)	72 49 23.42489	0.007(m)
EL HGT:	364.603(m)	0.028(m)	363.439(m)	0.028(m)
ORTHO HGT:	391.975(m)	0.031(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4841095.720	133599.407
Easting (X) [meters]	675398.177	473951.474
Convergence [degrees]	1.50437597	-0.22328167
Point Scale	0.99997842	0.99997263
Combined Factor	0.99992125	0.99991546

US NATIONAL GRID DESIGNATOR: 18TXP7539841095(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	16444.8
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	31721.6
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	41532.4
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	54465.2
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	96060.2
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	100303.0
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	106697.7
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	117515.0
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	120851.1

GC-26 SESSION 2 FILE: 1067323A.13o OP1389040562596

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 1067323v.13o TIME: 20:49:59 UTC

SOFTWARE: rsgps 1.37 RS91.prl 1.89 START: 2013/11/19 21:54:22
EPHEMERIS: igs17672.eph [precise] STOP: 2013/11/19 22:15:01
NAV FILE: brdc3230.13n OBS USED: 1170 / 1170 :
100%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 3.46/ 10.29
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.349

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08
(EPOCH:2013.88471)

X:	1363992.542(m)	0.007(m)	1363991.701(m)	0.007(m)
Y:	-4412663.866(m)	0.009(m)	-4412662.457(m)	0.009(m)
Z:	4384478.740(m)	0.011(m)	4384478.724(m)	0.011(m)
LAT:	43 42 7.76979	0.003(m)	43 42 7.80511	0.003(m)
E LON:	287 10 36.59199	0.006(m)	287 10 36.57469	0.006(m)
W LON:	72 49 23.40801	0.006(m)	72 49 23.42531	0.006(m)
EL HGT:	364.562(m)	0.014(m)	363.398(m)	0.014(m)
ORTHO HGT:	391.934(m)	0.019(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4841095.721	133599.409
Easting (X) [meters]	675398.167	473951.464
Convergence [degrees]	1.50437589	-0.22328175
Point Scale	0.99997842	0.99997263
Combined Factor	0.99992126	0.99991547

US NATIONAL GRID DESIGNATOR: 18TXP7539841095(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	16444.8
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	31721.6
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	41532.4
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	54465.2
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	96060.2
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	120851.1

GC-27 SESSION 1 FILE: 08241390.14o OP1400859013243

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: dgedenk@quantumspatial.com DATE: May 23, 2014
RINEX FILE: 0824139o.14o TIME: 16:02:05 UTC

SOFTWARE: rsgps 1.37 RS51.prl 1.99.2 START: 2014/05/19 14:51:33
EPHEMERIS: igr17931.eph [rapid] STOP: 2014/05/19 15:38:11
NAV FILE: brdc1390.14n OBS USED: 3348 / 3573 : 94%
ANT NAME: TRMR8-4 NONE QUALITY IND. 4.39/ 36.38
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.303

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2014.37982)	
X:	1371202.487(m)	0.002(m)	1371201.639(m)	0.002(m)
Y:	-4417456.954(m)	0.015(m)	-4417455.544(m)	0.015(m)
Z:	4377386.850(m)	0.011(m)	4377386.835(m)	0.011(m)
LAT:	43 36 51.40784	0.007(m)	43 36 51.44321	0.007(m)
E LON:	287 14 40.64973	0.004(m)	287 14 40.63225	0.004(m)
W LON:	72 45 19.35027	0.004(m)	72 45 19.36775	0.004(m)
EL HGT:	324.429(m)	0.018(m)	323.262(m)	0.018(m)
ORTHO HGT:	351.625(m)	0.022(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4831481.192	123816.921
Easting (X) [meters]	681124.888	479385.841
Convergence [degrees]	1.54876198	-0.17615835
Point Scale	1.00000354	0.99996951
Combined Factor	0.99995267	0.99991864

US NATIONAL GRID DESIGNATOR: 18TXP8112431481(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	67620.6
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	74023.4
DL7764	P776 GUNSTOCKMRNH2008 CORS ARP	N433235.720	W0712242.789	111492.0
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	88955.6
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	124142.1
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	104151.7
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	104899.8
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	104907.6
DP1320	MABN BERNARDSTON CORS ARP	N424011.991	W0723228.643	106343.8

GC-27 SESSION 2 FILE: 10671441.14o OP1402663612299

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: dgedenk@quantumspatial.com DATE: June 13, 2014
RINEX FILE: 1067144k.14o TIME: 12:52:03 UTC

SOFTWARE: rsgps 1.37 RS91.prl 1.99.2 START: 2014/05/24 10:36:10
EPHEMERIS: igs17936.eph [precise] STOP: 2014/05/24 11:21:23
NAV FILE: brdc1440.14n OBS USED: 4041 / 4041 : 100%
ANT NAME: TRMR8-4 NONE QUALITY IND. 21.52/ 55.29
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.303

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2014.39303)	
X:	1371202.502(m)	0.006(m)	1371201.654(m)	0.006(m)
Y:	-4417456.963(m)	0.015(m)	-4417455.553(m)	0.015(m)
Z:	4377386.859(m)	0.011(m)	4377386.844(m)	0.011(m)
LAT:	43 36 51.40776	0.004(m)	43 36 51.44313	0.004(m)
E LON:	287 14 40.65025	0.004(m)	287 14 40.63277	0.004(m)
W LON:	72 45 19.34975	0.004(m)	72 45 19.36723	0.004(m)
EL HGT:	324.445(m)	0.019(m)	323.277(m)	0.019(m)
ORTHO HGT:	351.641(m)	0.023(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4831481.190	123816.919
Easting (X) [meters]	681124.899	479385.853
Convergence [degrees]	1.54876208	-0.17615825
Point Scale	1.00000354	0.99996951
Combined Factor	0.99995267	0.99991864

US NATIONAL GRID DESIGNATOR: 18TXP8112431481(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	67620.6
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	74023.4
DJ8953	VTD2 DUMMERSTON CORS ARP	N425506.107	W0723206.441	79358.2
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	88955.6
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	124142.1
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	104151.7
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	104899.8
DP1320	MABN BERNARDSTON CORS ARP	N424011.991	W0723228.643	106343.8
DL9078	NHCO NHDOT CONCORD CORS ARP	N431246.195	W0713111.475	109557.8

GC-28 SESSION 2 FILE: 1067322D.13o OP1388771144306

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067322w.13o TIME: 17:51:27 UTC

SOFTWARE: rsgps 1.37 RS82.prl 1.89 START: 2013/11/18 22:02:48
EPHEMERIS: igs17671.eph [precise] STOP: 2013/11/18 22:23:27
NAV FILE: brdc3220.13n OBS USED: 1773 / 1845 : 96%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 19.75/ 21.18
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.352

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.88199)

X:	1370226.542(m)	0.007(m)	1370225.702(m)	0.007(m)
Y:	-4425116.159(m)	0.018(m)	-4425114.748(m)	0.018(m)
Z:	4370409.817(m)	0.019(m)	4370409.800(m)	0.019(m)
LAT:	43 31 30.70965	0.007(m)	43 31 30.74487	0.007(m)
E LON:	287 12 18.04642	0.005(m)	287 12 18.02928	0.005(m)
W LON:	72 47 41.95358	0.005(m)	72 47 41.97072	0.005(m)
EL HGT:	606.692(m)	0.025(m)	605.523(m)	0.025(m)
ORTHO HGT:	633.912(m)	0.028(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4821501.667	113930.416
Easting (X) [meters]	678190.972	476153.193
Convergence [degrees]	1.51893237	-0.20315076
Point Scale	0.99999058	0.99997128
Combined Factor	0.99989545	0.99987615

US NATIONAL GRID DESIGNATOR: 18TXP7819021501(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	25341.2
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	48524.0
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	59972.9
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	66571.3
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	76680.8
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	83632.4
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	96751.5
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	99974.2
DL9078	NHCO NHDOT CONCORD CORS ARP	N431246.195	W0713111.475	109026.5

GC-28 SESSION 1 FILE: 10673226.13o OP1389038671163

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 1067322r.13o TIME: 20:09:10 UTC

SOFTWARE: rsgps 1.37 RS81.prl 1.89 START: 2013/11/18 17:53:54
EPHEMERIS: igs17671.eph [precise] STOP: 2013/11/18 18:14:28
NAV FILE: brdc3220.13n OBS USED: 2007 / 2268 : 88%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 9.93/ 3.47
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.409

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.88151)

X:	1370226.537(m)	0.017(m)	1370225.697(m)	0.017(m)
Y:	-4425116.180(m)	0.026(m)	-4425114.769(m)	0.026(m)
Z:	4370409.872(m)	0.025(m)	4370409.855(m)	0.025(m)
LAT:	43 31 30.71053	0.017(m)	43 31 30.74574	0.017(m)
E LON:	287 12 18.04593	0.012(m)	287 12 18.02879	0.012(m)
W LON:	72 47 41.95407	0.012(m)	72 47 41.97121	0.012(m)
EL HGT:	606.743(m)	0.034(m)	605.574(m)	0.034(m)
ORTHO HGT:	633.963(m)	0.036(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4821501.694	113930.443
Easting (X) [meters]	678190.961	476153.182
Convergence [degrees]	1.51893228	-0.20315085
Point Scale	0.99999058	0.99997128
Combined Factor	0.99989544	0.99987615

US NATIONAL GRID DESIGNATOR: 18TXP7819021501(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	25341.2
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	48524.0
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	59972.8
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	66571.3
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	76680.8
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	83632.3
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	96751.5
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	99974.2
DL9078	NHCO NHDOT CONCORD CORS ARP	N431246.195	W0713111.475	109026.6

GC-29 SESSION 1 FILE: 10673206.13o OP1388770259386

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067320s.13o TIME: 17:38:36 UTC

SOFTWARE: rsgps 1.37 RS91.prl 1.89 START: 2013/11/16 18:32:17
EPHEMERIS: igs17666.eph [precise] STOP: 2013/11/16 18:53:16
NAV FILE: brdc3200.13n OBS USED: 1224 / 1496 : 82%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 10.97/ 14.33
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.393

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.87611)

X:	1374024.617(m)	0.009(m)	1374023.777(m)	0.009(m)
Y:	-4427896.861(m)	0.016(m)	-4427895.449(m)	0.016(m)
Z:	4366283.072(m)	0.035(m)	4366283.055(m)	0.035(m)
LAT:	43 28 29.40749	0.015(m)	43 28 29.44271	0.015(m)
E LON:	287 14 22.86868	0.005(m)	287 14 22.85160	0.005(m)
W LON:	72 45 37.13132	0.005(m)	72 45 37.14840	0.005(m)
EL HGT:	508.348(m)	0.036(m)	507.177(m)	0.036(m)
ORTHO HGT:	535.573(m)	0.039(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4815983.250	108325.948
Easting (X) [meters]	681143.601	478938.654
Convergence [degrees]	1.54140205	-0.17910622
Point Scale	1.00000364	0.99996974
Combined Factor	0.99992393	0.99989003

US NATIONAL GRID DESIGNATOR: 18TXP8114315983(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	23016.9
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	31414.0
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	53126.4
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	74888.7
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	78836.7
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	88625.1
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	102974.8
DL7764	P776 GUNSTOCKMRNH2008 CORS ARP	N433235.720	W0712242.789	111999.8

GC-29 SESSION 2 FILE: 1067320E.13o OP1388770259386

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067320w.13o TIME: 17:36:03 UTC

SOFTWARE: rsgps 1.37 RS50.prl 1.89 START: 2013/11/16 22:18:05
EPHEMERIS: igs17666.eph [precise] STOP: 2013/11/16 22:38:34
NAV FILE: brdc3200.13n OBS USED: 1251 / 1710 : 73%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 12.15/ 16.44
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.358

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.87654)

X:	1374024.627(m)	0.006(m)	1374023.787(m)	0.006(m)
Y:	-4427896.856(m)	0.027(m)	-4427895.444(m)	0.027(m)
Z:	4366283.088(m)	0.025(m)	4366283.071(m)	0.025(m)
LAT:	43 28 29.40791	0.005(m)	43 28 29.44312	0.005(m)
E LON:	287 14 22.86917	0.008(m)	287 14 22.85209	0.008(m)
W LON:	72 45 37.13083	0.008(m)	72 45 37.14791	0.008(m)
EL HGT:	508.358(m)	0.036(m)	507.187(m)	0.036(m)
ORTHO HGT:	535.583(m)	0.038(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4815983.263	108325.961
Easting (X) [meters]	681143.612	478938.665
Convergence [degrees]	1.54140215	-0.17910612
Point Scale	1.00000364	0.99996974
Combined Factor	0.99992393	0.99989003

US NATIONAL GRID DESIGNATOR: 18TXP8114315983(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	23016.9
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	31414.0
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	53126.4
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	74888.7
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	78836.6
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	88625.1
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	96386.0
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	102974.8
DL7764	P776 GUNSTOCKMRNH2008 CORS ARP	N433235.720	W0712242.789	111999.8

GC-30 SESSION 1 FILE: 10673205.13o OP1388771078026

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067320r.13o TIME: 17:51:42 UTC

SOFTWARE: rsgps 1.37 RS54.prl 1.89 START: 2013/11/16 17:59:13
EPHEMERIS: igs17666.eph [precise] STOP: 2013/11/16 18:20:59
NAV FILE: brdc3200.13n OBS USED: 2439 / 2502 : 97%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 5.92/ 28.55
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.347

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2013.87605)	
X:	1376439.189(m)	0.007(m)	1376438.350(m)	0.007(m)
Y:	-4430108.732(m)	0.020(m)	-4430107.319(m)	0.020(m)
Z:	4363114.170(m)	0.019(m)	4363114.152(m)	0.019(m)
LAT:	43 26 11.84532	0.005(m)	43 26 11.88050	0.005(m)
E LON:	287 15 36.25773	0.005(m)	287 15 36.24075	0.005(m)
W LON:	72 44 23.74227	0.005(m)	72 44 23.75925	0.005(m)
EL HGT:	381.948(m)	0.028(m)	380.775(m)	0.028(m)
ORTHO HGT:	409.187(m)	0.030(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4811783.952	104075.760
Easting (X) [meters]	682907.634	480575.793
Convergence [degrees]	1.55434586	-0.16496372
Point Scale	1.00001154	0.99996892
Combined Factor	0.99995165	0.99990903

US NATIONAL GRID DESIGNATOR: 18TXP8290711783(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	22818.2
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	27089.3
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	56918.8
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	67352.0
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	70747.8
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	81051.1
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	92578.4
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	95948.5
DL9078	NHCO NHDOT CONCORD CORS ARP	N431246.195	W0713111.475	102038.1

GC-30 SESSION 2 FILE: 1067320D.13o OP1388770851093

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067320v.13o TIME: 17:43:59 UTC

SOFTWARE: rsgps 1.37 RS53.prl 1.89 START: 2013/11/16 21:43:52
EPHEMERIS: igs17666.eph [precise] STOP: 2013/11/16 22:04:48
NAV FILE: brdc3200.13n OBS USED: 1305 / 1539 : 85%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 11.67/ 7.95
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.319

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000) (EPOCH:2013.87647)		IGS08	
X:	1376439.181(m)	0.006(m)	1376438.342(m)	0.006(m)
Y:	-4430108.722(m)	0.017(m)	-4430107.309(m)	0.017(m)
Z:	4363114.155(m)	0.019(m)	4363114.137(m)	0.019(m)
LAT:	43 26 11.84523	0.005(m)	43 26 11.88041	0.005(m)
E LON:	287 15 36.25752	0.005(m)	287 15 36.24054	0.005(m)
W LON:	72 44 23.74248	0.005(m)	72 44 23.75946	0.005(m)
EL HGT:	381.929(m)	0.025(m)	380.756(m)	0.025(m)
ORTHO HGT:	409.168(m)	0.028(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4811783.950	104075.757
Easting (X) [meters]	682907.629	480575.789
Convergence [degrees]	1.55434582	-0.16496376
Point Scale	1.00001154	0.99996892
Combined Factor	0.99995165	0.99990903

US NATIONAL GRID DESIGNATOR: 18TXP8290711783(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	22818.2
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	27089.3
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	56918.8
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	67352.0
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	70747.8
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	81051.1
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	92578.4
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	95948.5
DL9078	NHCO NHDOT CONCORD CORS ARP	N431246.195	W0713111.475	102038.1

GC-31 SESSION 1 FILE: 10673180.13o OP1388769126500

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067318o.13o TIME: 17:17:45 UTC

SOFTWARE: rsgps 1.37 RS83.prl 1.89 START: 2013/11/14 14:03:29
EPHEMERIS: igs17664.eph [precise] STOP: 2013/11/14 14:24:26
NAV FILE: brdc3180.13n OBS USED: 1344 / 1344 : 100%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 14.64/ 22.67
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.320

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.87012)

X:	1359575.879(m)	0.011(m)	1359575.040(m)	0.011(m)
Y:	-4445391.665(m)	0.031(m)	-4445390.252(m)	0.031(m)
Z:	4352616.208(m)	0.027(m)	4352616.188(m)	0.027(m)
LAT:	43 18 30.14756	0.005(m)	43 18 30.18257	0.005(m)
E LON:	287 0 20.50556	0.004(m)	287 0 20.48830	0.004(m)
W LON:	72 59 39.49444	0.004(m)	72 59 39.51170	0.004(m)
EL HGT:	177.783(m)	0.043(m)	176.608(m)	0.043(m)
ORTHO HGT:	205.780(m)	0.045(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4797013.470	89918.458
Easting (X) [meters]	662663.060	459897.527
Convergence [degrees]	1.37605725	-0.33905984
Point Scale	0.99992549	0.99998406
Combined Factor	0.99989761	0.99995618

US NATIONAL GRID DESIGNATOR: 18TXN6266397013(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	4619.7
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	33214.1
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	42040.7
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	50186.5
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	71319.7
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	76864.7
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	105251.3
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	109377.4

GC-31 SESSION 2 FILE: 10673188.13o OP1388769156453

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067318t.13o TIME: 17:17:02 UTC

SOFTWARE: rsgps 1.37 RS80.prl 1.89 START: 2013/11/14 19:28:17
EPHEMERIS: igs17664.eph [precise] STOP: 2013/11/14 19:49:41
NAV FILE: brdc3180.13n OBS USED: 1539 / 1620 : 95%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 11.52/ 24.05
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.311

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.87074)

X:	1359575.878(m)	0.009(m)	1359575.039(m)	0.009(m)
Y:	-4445391.666(m)	0.018(m)	-4445390.253(m)	0.018(m)
Z:	4352616.226(m)	0.015(m)	4352616.206(m)	0.015(m)
LAT:	43 18 30.14797	0.004(m)	43 18 30.18298	0.004(m)
E LON:	287 0 20.50551	0.005(m)	287 0 20.48825	0.005(m)
W LON:	72 59 39.49449	0.005(m)	72 59 39.51175	0.005(m)
EL HGT:	177.796(m)	0.024(m)	176.620(m)	0.024(m)
ORTHO HGT:	205.793(m)	0.027(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4797013.483	89918.470
Easting (X) [meters]	662663.059	459897.526
Convergence [degrees]	1.37605724	-0.33905985
Point Scale	0.99992549	0.99998406
Combined Factor	0.99989761	0.99995618

US NATIONAL GRID DESIGNATOR: 18TXN6266397013(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	4619.7
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	33214.1
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	42040.7
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	50186.5
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	71319.7
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	76864.6
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	105251.3
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	109377.4
DE8093	HAMP NORTHAMPTON CORS ARP	N421903.872	W0723822.403	113809.1

GC-31A SESSION 2 FILE: 10673209.13o OP1388770259386

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067320u.13o TIME: 17:36:35 UTC

SOFTWARE: rsgps 1.37 RS83.prl 1.89 START: 2013/11/16 20:08:43
EPHEMERIS: igs17666.eph [precise] STOP: 2013/11/16 20:29:21
NAV FILE: brdc3200.13n OBS USED: 1422 / 1620 : 88%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 12.87/ 16.28
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.386

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.87629)

X:	1374132.441(m)	0.009(m)	1374131.602(m)	0.009(m)
Y:	-4436326.457(m)	0.023(m)	-4436325.044(m)	0.023(m)
Z:	4357825.560(m)	0.022(m)	4357825.541(m)	0.022(m)
LAT:	43 22 10.35467	0.005(m)	43 22 10.38977	0.005(m)
E LON:	287 12 36.48693	0.008(m)	287 12 36.46991	0.008(m)
W LON:	72 47 23.51307	0.008(m)	72 47 23.53009	0.008(m)
EL HGT:	566.000(m)	0.032(m)	564.826(m)	0.032(m)
ORTHO HGT:	593.192(m)	0.034(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4804225.454	96636.162
Easting (X) [meters]	679063.736	476507.122
Convergence [degrees]	1.51810462	-0.19905137
Point Scale	0.99999443	0.99997107
Combined Factor	0.99990568	0.99988232

US NATIONAL GRID DESIGNATOR: 18TXP7906304225(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	16795.0
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	27159.6
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	30530.4
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	61755.8
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	65061.0
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	75771.7
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	89240.8
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	100557.6
DL9078	NHCO NHDOT CONCORD CORS ARP	N431246.195	W0713111.475	104531.8

GC-31A SESSION 1 FILE: 10671350.14o OP1400517418576

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: dgedenk@quantumspatial.com DATE: May 19, 2014
RINEX FILE: 1067135o.14o TIME: 17:21:06 UTC

SOFTWARE: rsgps 1.37 RS53.prl 1.99.2 START: 2014/05/15 14:21:14
EPHEMERIS: igr17924.eph [rapid] STOP: 2014/05/15 15:06:34
NAV FILE: brdc1350.14n OBS USED: 2835 / 3987 : 71%
ANT NAME: TRMR8-4 NONE QUALITY IND. 23.04/ 32.47
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.415

REF FRAME:	NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2014.36881)	
X:	1374132.449(m)	0.013(m)	1374131.602(m)	0.013(m)
Y:	-4436326.474(m)	0.031(m)	-4436325.062(m)	0.031(m)
Z:	4357825.600(m)	0.024(m)	4357825.583(m)	0.024(m)
LAT:	43 22 10.35520	0.010(m)	43 22 10.39038	0.010(m)
E LON:	287 12 36.48705	0.007(m)	287 12 36.46967	0.007(m)
W LON:	72 47 23.51295	0.007(m)	72 47 23.53033	0.007(m)
EL HGT:	566.041(m)	0.040(m)	564.867(m)	0.040(m)
ORTHO HGT:	593.233(m)	0.042(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4804225.470	96636.178
Easting (X) [meters]	679063.738	476507.125
Convergence [degrees]	1.51810465	-0.19905135
Point Scale	0.99999443	0.99997107
Combined Factor	0.99990567	0.99988232

US NATIONAL GRID DESIGNATOR: 18TXP7906304225(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ8953	VTD2 DUMMERSTON CORS ARP	N425506.107	W0723206.441	54243.7
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	61755.8
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	63572.6
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	65061.0
DP1320	MABN BERNARDSTON CORS ARP	N424011.991	W0723228.643	80317.7
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	89240.8
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	89422.3
DL9078	NHCO NHDOT CONCORD CORS ARP	N431246.195	W0713111.475	104531.8
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	111197.9

GC-32 SESSION 1 FILE: 10673186.13o OP1388768537624

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067318r.13o TIME: 17:09:33 UTC

SOFTWARE: rsgps 1.37 RS82.prl 1.89 START: 2013/11/14 17:52:57
EPHEMERIS: igs17664.eph [precise] STOP: 2013/11/14 18:13:22
NAV FILE: brdc3180.13n OBS USED: 2565 / 2565 :
100%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 15.44/ 36.66
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.309

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08
(EPOCH:2013.87055)

X:	1349173.560(m)	0.006(m)	1349172.721(m)	0.006(m)
Y:	-4444435.629(m)	0.007(m)	-4444434.217(m)	0.007(m)
Z:	4357023.989(m)	0.011(m)	4357023.969(m)	0.011(m)
LAT:	43 21 41.78543	0.005(m)	43 21 41.82044	0.005(m)
E LON:	286 53 11.16843	0.006(m)	286 53 11.15099	0.006(m)
W LON:	73 6 48.83157	0.006(m)	73 6 48.84901	0.006(m)
EL HGT:	332.173(m)	0.012(m)	331.000(m)	0.012(m)
ORTHO HGT:	360.837(m)	0.017(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES (UTM (Zone 18))	STATE PLANE COORDINATES (SPC (4400 VT))
Northing (Y) [meters]	4802699.985	95896.551
Easting (X) [meters]	652857.136	450265.480
Convergence [degrees]	1.29547773	-0.42128217
Point Scale	0.99988742	0.99999470
Combined Factor	0.99983534	0.99994261

US NATIONAL GRID DESIGNATOR: 18TXP5285702699(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	9681.1
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	29358.3
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	35957.1
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	52353.6
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	65272.7
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	70848.1
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	76240.2
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	100302.1
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	105040.5

GC-32 SESSION 2 FILE: 10673197.13o OP1388769362716

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067319s.13o TIME: 17:22:06 UTC

SOFTWARE: rsgps 1.37 RS83.prl 1.89 START: 2013/11/15 18:34:16
EPHEMERIS: igs17665.eph [precise] STOP: 2013/11/15 18:56:28
NAV FILE: brdc3190.13n OBS USED: 1800 / 2124 : 85%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 16.06/ 2.78
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.307

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.87337)

X:	1349173.568(m)	0.004(m)	1349172.729(m)	0.004(m)
Y:	-4444435.638(m)	0.009(m)	-4444434.226(m)	0.009(m)
Z:	4357024.007(m)	0.014(m)	4357023.987(m)	0.014(m)
LAT:	43 21 41.78561	0.006(m)	43 21 41.82062	0.006(m)
E LON:	286 53 11.16865	0.004(m)	286 53 11.15121	0.004(m)
W LON:	73 6 48.83135	0.004(m)	73 6 48.84879	0.004(m)
EL HGT:	332.194(m)	0.016(m)	331.020(m)	0.016(m)
ORTHO HGT:	360.858(m)	0.020(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES (UTM (Zone 18))	STATE PLANE COORDINATES (SPC (4400 VT))
Northing (Y) [meters]	4802699.991	95896.556
Easting (X) [meters]	652857.141	450265.485
Convergence [degrees]	1.29547777	-0.42128213
Point Scale	0.99988742	0.99999470
Combined Factor	0.99983534	0.99994261

US NATIONAL GRID DESIGNATOR: 18TXP5285702699(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	9681.1
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	29358.3
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	35957.1
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	52353.6
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	65272.7
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	70848.1
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	76240.2
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	100302.1
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	105040.5

GC-33 SESSION 2 FILE: 1067318D.13o OP1388768537624

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067318w.13o TIME: 17:07:21 UTC

SOFTWARE: rsgps 1.37 RS83.prl 1.89 START: 2013/11/14 22:59:07
EPHEMERIS: igs17664.eph [precise] STOP: 2013/11/14 23:19:32
NAV FILE: brdc3180.13n OBS USED: 954 / 1125 : 85%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 24.53/ 7.85
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.411

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.87114)

X:	1352096.049(m)	0.007(m)	1352095.211(m)	0.007(m)
Y:	-4447836.103(m)	0.015(m)	-4447834.690(m)	0.015(m)
Z:	4352905.344(m)	0.013(m)	4352905.324(m)	0.013(m)
LAT:	43 18 33.48396	0.004(m)	43 18 33.51895	0.004(m)
E LON:	286 54 31.42040	0.005(m)	286 54 31.40306	0.005(m)
W LON:	73 5 28.57960	0.005(m)	73 5 28.59694	0.005(m)
EL HGT:	490.072(m)	0.020(m)	488.897(m)	0.020(m)
ORTHO HGT:	518.572(m)	0.024(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4796932.054	90072.540
Easting (X) [meters]	654796.360	452031.300
Convergence [degrees]	1.30952534	-0.40558282
Point Scale	0.99989476	0.99999258
Combined Factor	0.99981792	0.99991573

US NATIONAL GRID DESIGNATOR: 18TXN5479696932(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	9008.7
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	34307.7
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	48235.5
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	76750.6
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	80305.7
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	106383.8
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	109367.2
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	113503.6
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	122909.3

GC-33 SESSION 1 FILE: 10673187.13o OP1388768537624

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067318s.13o TIME: 17:07:40 UTC

SOFTWARE: rsgps 1.37 RS91.prl 1.89 START: 2013/11/14 18:39:54
EPHEMERIS: igs17664.eph [precise] STOP: 2013/11/14 19:03:52
NAV FILE: brdc3180.13n OBS USED: 1179 / 1611 : 73%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 13.50/ 17.56
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.382

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000) (EPOCH:2013.87065)		IGS08	
X:	1352096.031(m)	0.009(m)	1352095.193(m)	0.009(m)
Y:	-4447836.075(m)	0.015(m)	-4447834.662(m)	0.015(m)
Z:	4352905.384(m)	0.017(m)	4352905.364(m)	0.017(m)
LAT:	43 18 33.48562	0.008(m)	43 18 33.52061	0.008(m)
E LON:	286 54 31.42000	0.005(m)	286 54 31.40266	0.005(m)
W LON:	73 5 28.58000	0.005(m)	73 5 28.59734	0.005(m)
EL HGT:	490.076(m)	0.022(m)	488.901(m)	0.022(m)
ORTHO HGT:	518.576(m)	0.026(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4796932.105	90072.591
Easting (X) [meters]	654796.350	452031.291
Convergence [degrees]	1.30952528	-0.40558290
Point Scale	0.99989476	0.99999258
Combined Factor	0.99981792	0.99991573

US NATIONAL GRID DESIGNATOR: 18TXN5479696932(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	9008.7
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	34307.7
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	48235.6
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	76750.6
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	80305.6
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	106383.7
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	109367.2
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	113503.6
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	122909.3

GC-34 SESSION 2 FILE: 1067318A.13o OP1388768537624

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067318u.13o TIME: 17:07:26 UTC

SOFTWARE: rsgps 1.37 RS50.prl 1.89 START: 2013/11/14 20:42:54
EPHEMERIS: igs17664.eph [precise] STOP: 2013/11/14 21:03:24
NAV FILE: brdc3180.13n OBS USED: 2196 / 2718 : 81%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 7.05/ 5.19
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.370

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.87088)

X:	1368221.292(m)	0.005(m)	1368220.453(m)	0.005(m)
Y:	-4441604.515(m)	0.014(m)	-4441603.102(m)	0.014(m)
Z:	4354236.159(m)	0.011(m)	4354236.140(m)	0.011(m)
LAT:	43 19 32.42447	0.005(m)	43 19 32.45954	0.005(m)
E LON:	287 7 16.58061	0.003(m)	287 7 16.56349	0.003(m)
W LON:	72 52 43.41939	0.003(m)	72 52 43.43651	0.003(m)
EL HGT:	500.726(m)	0.017(m)	499.551(m)	0.017(m)
ORTHO HGT:	528.092(m)	0.021(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4799166.355	91791.306
Easting (X) [meters]	671987.803	469282.869
Convergence [degrees]	1.45585492	-0.25986385
Point Scale	0.99996387	0.99997589
Combined Factor	0.99988536	0.99989738

US NATIONAL GRID DESIGNATOR: 18TXN7198799166(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	9830.7
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	32317.0
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	71701.0
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	77967.3
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	97702.6
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	106734.5
DL9078	NHCO NHDOT CONCORD CORS ARP	N431246.195	W0713111.475	111032.0
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	121205.5
DI0456	NYFV FULTONVILLE CORS ARP	N425620.997	W0742112.013	127436.9

GC-34 SESSION 1 FILE: 10673183.13o OP1388768537624

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067318p.13o TIME: 17:07:18 UTC

SOFTWARE: rsgps 1.37 RS80.prl 1.89 START: 2013/11/14 15:45:09
EPHEMERIS: igs17664.eph [precise] STOP: 2013/11/14 16:07:44
NAV FILE: brdc3180.13n OBS USED: 1611 / 1854 : 87%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 10.64/ 27.69
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.312

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2013.87031)	
X:	1368221.306(m)	0.007(m)	1368220.467(m)	0.007(m)
Y:	-4441604.543(m)	0.011(m)	-4441603.130(m)	0.011(m)
Z:	4354236.186(m)	0.011(m)	4354236.167(m)	0.011(m)
LAT:	43 19 32.42442	0.003(m)	43 19 32.45949	0.003(m)
E LON:	287 7 16.58084	0.006(m)	287 7 16.56371	0.006(m)
W LON:	72 52 43.41916	0.006(m)	72 52 43.43629	0.006(m)
EL HGT:	500.767(m)	0.016(m)	499.592(m)	0.016(m)
ORTHO HGT:	528.133(m)	0.020(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4799166.354	91791.305
Easting (X) [meters]	671987.808	469282.875
Convergence [degrees]	1.45585496	-0.25986380
Point Scale	0.99996387	0.99997589
Combined Factor	0.99988535	0.99989737

US NATIONAL GRID DESIGNATOR: 18TXN7198799166(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	9830.7
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	32317.0
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	71701.0
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	77967.3
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	97702.6
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	106734.5
DL9078	NHCO NHDOT CONCORD CORS ARP	N431246.195	W0713111.475	111032.0
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	121205.5
DI0456	NYFV FULTONVILLE CORS ARP	N425620.997	W0742112.013	127436.9

GC-35 SESSION 2 FILE: 1067318C.13o OP1388768537624

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067318v.13o TIME: 17:09:33 UTC

SOFTWARE: rsgps 1.37 RS92.prl 1.89 START: 2013/11/14 21:48:18
EPHEMERIS: igs17664.eph [precise] STOP: 2013/11/14 22:09:31
NAV FILE: brdc3180.13n OBS USED: 1104 / 1160 : 95%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 14.63/ 23.96
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.243

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2013.87100)	
X:	1357571.917(m)	0.007(m)	1357571.078(m)	0.007(m)
Y:	-4440957.862(m)	0.011(m)	-4440956.450(m)	0.011(m)
Z:	4357721.643(m)	0.026(m)	4357721.624(m)	0.026(m)
LAT:	43 22 17.78686	0.013(m)	43 22 17.82192	0.013(m)
E LON:	286 59 52.98478	0.005(m)	286 59 52.96748	0.005(m)
W LON:	73 0 7.01522	0.005(m)	73 0 7.03252	0.005(m)
EL HGT:	171.864(m)	0.026(m)	170.691(m)	0.026(m)
ORTHO HGT:	199.939(m)	0.029(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4804021.211	96947.083
Easting (X) [meters]	661874.911	459319.561
Convergence [degrees]	1.37241364	-0.34470660
Point Scale	0.99992234	0.99998463
Combined Factor	0.99989539	0.99995768

US NATIONAL GRID DESIGNATOR: 18TXP6187404021(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	26230.3
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	43695.9
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	56675.3
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	73723.9
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	102713.1
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	112720.8
DI0456	NYFV FULTONVILLE CORS ARP	N425620.997	W0742112.013	119955.0
DL7764	P776 GUNSTOCKMRNH2008 CORS ARP	N433235.720	W0712242.789	132766.4

GC-35 SESSION 1 FILE: 10673185.13o OP1388769141672

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067318r.13o TIME: 17:17:44 UTC

SOFTWARE: rsgps 1.37 RS91.prl 1.89 START: 2013/11/14 17:01:25
EPHEMERIS: igs17664.eph [precise] STOP: 2013/11/14 17:22:37
NAV FILE: brdc3180.13n OBS USED: 2646 / 2817 : 94%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 8.57/ 33.28
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.302

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000) (EPOCH:2013.87046)		IGS08	
X:	1357571.912(m)	0.006(m)	1357571.073(m)	0.006(m)
Y:	-4440957.840(m)	0.009(m)	-4440956.428(m)	0.009(m)
Z:	4357721.638(m)	0.007(m)	4357721.619(m)	0.007(m)
LAT:	43 22 17.78725	0.005(m)	43 22 17.82230	0.005(m)
E LON:	286 59 52.98485	0.006(m)	286 59 52.96755	0.006(m)
W LON:	73 0 7.01515	0.006(m)	73 0 7.03245	0.006(m)
EL HGT:	171.845(m)	0.011(m)	170.672(m)	0.011(m)
ORTHO HGT:	199.919(m)	0.016(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4804021.222	96947.095
Easting (X) [meters]	661874.913	459319.563
Convergence [degrees]	1.37241366	-0.34470659
Point Scale	0.99992234	0.99998463
Combined Factor	0.99989539	0.99995768

US NATIONAL GRID DESIGNATOR: 18TXP6187404021(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	26230.3
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	43695.9
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	56675.3
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	70717.0
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	73723.9
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	102713.1
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	112720.8
DI0456	NYFV FULTONVILLE CORS ARP	N425620.997	W0742112.013	119955.0
DL7764	P776 GUNSTOCKMRNH2008 CORS ARP	N433235.720	W0712242.789	132766.4

GC-36 SESSION 1 FILE: 10673198.13o OP1388769362716

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067319t.13o TIME: 17:21:10 UTC

SOFTWARE: rsgps 1.37 RS53.prl 1.89 START: 2013/11/15 19:11:40
EPHEMERIS: igs17665.eph [precise] STOP: 2013/11/15 19:33:27
NAV FILE: brdc3190.13n OBS USED: 1440 / 1503 : 96%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 13.95/ 17.79
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.293

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2013.87344)	
X:	1347197.362(m)	0.011(m)	1347196.523(m)	0.011(m)
Y:	-4440630.601(m)	0.023(m)	-4440629.190(m)	0.023(m)
Z:	4361432.105(m)	0.022(m)	4361432.085(m)	0.022(m)
LAT:	43 24 59.39754	0.005(m)	43 24 59.43256	0.005(m)
E LON:	286 52 36.24397	0.005(m)	286 52 36.22649	0.005(m)
W LON:	73 7 23.75603	0.005(m)	73 7 23.77351	0.005(m)
EL HGT:	297.304(m)	0.032(m)	296.133(m)	0.032(m)
ORTHO HGT:	326.029(m)	0.035(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4808778.551	102000.728
Easting (X) [meters]	651933.809	449524.684
Convergence [degrees]	1.29011943	-0.42837738
Point Scale	0.99988396	0.99999561
Combined Factor	0.99983735	0.99994899

US NATIONAL GRID DESIGNATOR: 18TXP5193308778(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	12740.5
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	24163.9
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	37390.4
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	54461.2
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	59652.9
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	64722.5
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	67923.6
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	71626.4
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	94309.1

GC-36 SESSION 2 FILE: 1067319E.13o OP1388769362716

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067319w.13o TIME: 17:25:03 UTC

SOFTWARE: rsgps 1.37 RS54.prl 1.89 START: 2013/11/15 22:21:36
EPHEMERIS: igs17665.eph [precise] STOP: 2013/11/15 22:44:21
NAV FILE: brdc3190.13n OBS USED: 1584 / 1836 : 86%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 10.67/ 16.06
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.308

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.87381)

X:	1347197.352(m)	0.008(m)	1347196.513(m)	0.008(m)
Y:	-4440630.582(m)	0.018(m)	-4440629.171(m)	0.018(m)
Z:	4361432.087(m)	0.016(m)	4361432.067(m)	0.016(m)
LAT:	43 24 59.39759	0.005(m)	43 24 59.43261	0.005(m)
E LON:	286 52 36.24379	0.005(m)	286 52 36.22631	0.005(m)
W LON:	73 7 23.75621	0.005(m)	73 7 23.77369	0.005(m)
EL HGT:	297.277(m)	0.024(m)	296.105(m)	0.024(m)
ORTHO HGT:	326.002(m)	0.027(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4808778.552	102000.730
Easting (X) [meters]	651933.805	449524.680
Convergence [degrees]	1.29011940	-0.42837742
Point Scale	0.99988396	0.99999561
Combined Factor	0.99983735	0.99994899

US NATIONAL GRID DESIGNATOR: 18TXP5193308778(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	12740.5
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	24163.9
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	37390.4
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	54461.2
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	59652.9
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	64722.5
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	71626.4
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	94309.1
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	101712.1

GC-37 SESSION 1 FILE: 10673195.13o OP1388769362716

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067319r.13o TIME: 17:25:16 UTC

SOFTWARE: rsgps 1.37 RS80.prl 1.89 START: 2013/11/15 17:30:08
EPHEMERIS: igs17665.eph [precise] STOP: 2013/11/15 17:52:56
NAV FILE: brdc3190.13n OBS USED: 2826 / 2835 : 100%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 16.91/ 30.32
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.332

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.87325)

X:	1340280.557(m)	0.008(m)	1340279.718(m)	0.008(m)
Y:	-4442598.199(m)	0.026(m)	-4442596.788(m)	0.026(m)
Z:	4361295.404(m)	0.018(m)	4361295.384(m)	0.018(m)
LAT:	43 24 58.84395	0.006(m)	43 24 58.87896	0.006(m)
E LON:	286 47 16.64201	0.003(m)	286 47 16.62442	0.003(m)
W LON:	73 12 43.35799	0.003(m)	73 12 43.37558	0.003(m)
EL HGT:	116.464(m)	0.032(m)	115.293(m)	0.032(m)
ORTHO HGT:	145.665(m)	0.034(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4808603.441	102041.229
Easting (X) [meters]	644746.859	442334.784
Convergence [degrees]	1.22906561	-0.48939747
Point Scale	0.99985773	1.00000517
Combined Factor	0.99983947	0.99998691

US NATIONAL GRID DESIGNATOR: 18TXP4474608603(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	19054.9
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	28339.5
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	59316.4
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	64872.2
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	76050.3
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	92024.0
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	95192.1
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	106734.8
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	110204.6

GC-37 SESSION 2 FILE: 1067319C.13o OP1388770096936

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067319v.13o TIME: 17:33:07 UTC

SOFTWARE: rsgps 1.37 RS93.prl 1.89 START: 2013/11/15 21:24:52
EPHEMERIS: igs17665.eph [precise] STOP: 2013/11/15 21:45:23
NAV FILE: brdc3190.13n OBS USED: 2025 / 2169 : 93%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 6.21/ 29.13
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.323

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2013.87370)	
X:	1340280.560(m)	0.003(m)	1340279.721(m)	0.003(m)
Y:	-4442598.212(m)	0.014(m)	-4442596.801(m)	0.014(m)
Z:	4361295.404(m)	0.013(m)	4361295.384(m)	0.013(m)
LAT:	43 24 58.84365	0.005(m)	43 24 58.87866	0.005(m)
E LON:	286 47 16.64197	0.004(m)	286 47 16.62438	0.004(m)
W LON:	73 12 43.35803	0.004(m)	73 12 43.37562	0.004(m)
EL HGT:	116.474(m)	0.019(m)	115.303(m)	0.019(m)
ORTHO HGT:	145.675(m)	0.022(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4808603.431	102041.220
Easting (X) [meters]	644746.858	442334.783
Convergence [degrees]	1.22906560	-0.48939748
Point Scale	0.99985773	1.00000517
Combined Factor	0.99983947	0.99998691

US NATIONAL GRID DESIGNATOR: 18TXP4474608603(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	19054.9
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	28339.5
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	59316.4
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	64872.2
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	76050.3
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	92024.0
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	95192.1
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	106734.8
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	110204.6

GC-38 SESSION 2 FILE: 1067319B.13o OP1388769362716

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067319u.13o TIME: 17:21:49 UTC

SOFTWARE: rsgps 1.37 RS54.prl 1.89 START: 2013/11/15 20:47:39
EPHEMERIS: igs17665.eph [precise] STOP: 2013/11/15 21:08:35
NAV FILE: brdc3190.13n OBS USED: 2268 / 2646 : 86%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 16.32/ 20.95
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.331

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.87363)

X:	1335898.850(m)	0.006(m)	1335898.011(m)	0.006(m)
Y:	-4435852.570(m)	0.013(m)	-4435851.161(m)	0.013(m)
Z:	4369418.557(m)	0.014(m)	4369418.538(m)	0.014(m)
LAT:	43 31 2.02648	0.006(m)	43 31 2.06153	0.006(m)
E LON:	286 45 36.61326	0.004(m)	286 45 36.59558	0.004(m)
W LON:	73 14 23.38674	0.004(m)	73 14 23.40442	0.004(m)
EL HGT:	99.396(m)	0.018(m)	98.229(m)	0.018(m)
ORTHO HGT:	128.657(m)	0.022(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4819759.764	113268.878
Easting (X) [meters]	642260.514	440184.100
Convergence [degrees]	1.21220787	-0.50944153
Point Scale	0.99984894	1.00000828
Combined Factor	0.99983336	0.99999269

US NATIONAL GRID DESIGNATOR: 18TXP4226019759(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	23290.3
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	27159.3
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	53945.8
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	67078.4
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	70591.3
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	80646.8
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	98175.0
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	101482.5
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	105759.0

GC-38 SESSION 1 FILE: 10673194.13o OP1388769362716

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067319q.13o TIME: 17:22:42 UTC

SOFTWARE: rsgps 1.37 RS52.prl 1.89 START: 2013/11/15 16:41:55
EPHEMERIS: igs17665.eph [precise] STOP: 2013/11/15 17:02:32
NAV FILE: brdc3190.13n OBS USED: 2637 / 3015 : 87%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 16.95/ 27.33
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.340

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.87316)

X:	1335898.846(m)	0.006(m)	1335898.007(m)	0.006(m)
Y:	-4435852.567(m)	0.015(m)	-4435851.158(m)	0.015(m)
Z:	4369418.557(m)	0.016(m)	4369418.538(m)	0.016(m)
LAT:	43 31 2.02657	0.005(m)	43 31 2.06162	0.005(m)
E LON:	286 45 36.61313	0.004(m)	286 45 36.59545	0.004(m)
W LON:	73 14 23.38687	0.004(m)	73 14 23.40455	0.004(m)
EL HGT:	99.393(m)	0.022(m)	98.226(m)	0.022(m)
ORTHO HGT:	128.654(m)	0.025(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4819759.767	113268.881
Easting (X) [meters]	642260.511	440184.097
Convergence [degrees]	1.21220784	-0.50944155
Point Scale	0.99984894	1.00000828
Combined Factor	0.99983336	0.99999269

US NATIONAL GRID DESIGNATOR: 18TXP4226019759(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	23290.3
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	27159.3
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	53945.8
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	67078.5
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	70591.3
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	80646.8
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	98175.0
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	101482.5
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	105759.0

GC-39 SESSION 1 FILE: 10673193.13o OP1388769362716

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067319p.13o TIME: 17:22:26 UTC

SOFTWARE: rsgps 1.37 RS81.prl 1.89 START: 2013/11/15 15:54:43
EPHEMERIS: igs17665.eph [precise] STOP: 2013/11/15 16:15:24
NAV FILE: brdc3190.13n OBS USED: 1312 / 1504 : 87%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 12.58/ 26.74
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.325

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.87307)

X:	1346074.067(m)	0.006(m)	1346073.228(m)	0.006(m)
Y:	-4435532.134(m)	0.020(m)	-4435530.724(m)	0.020(m)
Z:	4366833.733(m)	0.019(m)	4366833.714(m)	0.019(m)
LAT:	43 29 2.44139	0.005(m)	43 29 2.47646	0.005(m)
E LON:	286 52 54.27660	0.004(m)	286 52 54.25909	0.004(m)
W LON:	73 7 5.72340	0.004(m)	73 7 5.74091	0.004(m)
EL HGT:	233.473(m)	0.028(m)	232.304(m)	0.028(m)
ORTHO HGT:	262.179(m)	0.030(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4816285.626	109498.170
Easting (X) [meters]	652169.919	449986.009
Convergence [degrees]	1.29517355	-0.42546332
Point Scale	0.99988483	0.99999504
Combined Factor	0.99984822	0.99995843

US NATIONAL GRID DESIGNATOR: 18TXP5216916285(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	17692.1
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	65418.9
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	72822.0
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	87488.3
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	96577.8
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	99630.2
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	109656.9
DI0456	NYFV FULTONVILLE CORS ARP	N425620.997	W0742112.013	117203.5

GC-39 SESSION 2 FILE: 1067319A.13o OP1388770082545

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067319u.13o TIME: 17:33:18 UTC

SOFTWARE: rsgps 1.37 RS82.prl 1.89 START: 2013/11/15 20:09:29
EPHEMERIS: igs17665.eph [precise] STOP: 2013/11/15 20:30:30
NAV FILE: brdc3190.13n OBS USED: 2115 / 2268 : 93%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 9.80/ 27.00
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.332

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000) (EPOCH:2013.87355)		IGS08	
X:	1346074.061(m)	0.006(m)	1346073.222(m)	0.006(m)
Y:	-4435532.129(m)	0.015(m)	-4435530.719(m)	0.015(m)
Z:	4366833.737(m)	0.014(m)	4366833.718(m)	0.014(m)
LAT:	43 29 2.44163	0.005(m)	43 29 2.47670	0.005(m)
E LON:	286 52 54.27641	0.003(m)	286 52 54.25890	0.003(m)
W LON:	73 7 5.72359	0.003(m)	73 7 5.74110	0.003(m)
EL HGT:	233.471(m)	0.021(m)	232.302(m)	0.021(m)
ORTHO HGT:	262.177(m)	0.024(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4816285.633	109498.177
Easting (X) [meters]	652169.914	449986.004
Convergence [degrees]	1.29517352	-0.42546335
Point Scale	0.99988483	0.99999504
Combined Factor	0.99984822	0.99995843

US NATIONAL GRID DESIGNATOR: 18TXP5216916285(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	17692.1
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	56585.9
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	65418.8
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	72822.0
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	87488.3
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	96577.8
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	99630.2
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	109656.9
DI0456	NYFV FULTONVILLE CORS ARP	N425620.997	W0742112.013	117203.5

GC-40 SESSION 1 FILE: 10673190.13o OP1388769362716

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067319o.13o TIME: 17:25:38 UTC

SOFTWARE: rsgps 1.37 RS91.prl 1.89 START: 2013/11/15 14:12:13
EPHEMERIS: igs17665.eph [precise] STOP: 2013/11/15 14:32:21
NAV FILE: brdc3190.13n OBS USED: 1281 / 1680 : 76%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 6.73/ 7.42
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.359

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.87287)

X:	1356981.164(m)	0.009(m)	1356980.325(m)	0.009(m)
Y:	-4433200.686(m)	0.028(m)	-4433199.275(m)	0.028(m)
Z:	4365705.341(m)	0.031(m)	4365705.323(m)	0.031(m)
LAT:	43 28 14.73651	0.005(m)	43 28 14.77164	0.005(m)
E LON:	287 1 8.74104	0.003(m)	287 1 8.72372	0.003(m)
W LON:	72 58 51.25896	0.003(m)	72 58 51.27628	0.003(m)
EL HGT:	146.234(m)	0.042(m)	145.064(m)	0.042(m)
ORTHO HGT:	174.316(m)	0.044(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4815074.209	107952.623
Easting (X) [meters]	663312.967	461088.580
Convergence [degrees]	1.38941161	-0.33085941
Point Scale	0.99992808	0.99998290
Combined Factor	0.99990515	0.99995997

US NATIONAL GRID DESIGNATOR: 18TXP6331215074(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	13472.8
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	45895.1
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	50388.1
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	60258.8
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	104728.8
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	112299.9
DL9078	NHCO NHDOT CONCORD CORS ARP	N431246.195	W0713111.475	121887.9

GC-40 SESSION 2 FILE: 1067319G.13o OP1388770110701

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067319x.13o TIME: 17:32:10 UTC

SOFTWARE: rsgps 1.37 RS91.prl 1.89 START: 2013/11/15 23:49:38
EPHEMERIS: igs17665.eph [precise] STOP: 2013/11/16 00:10:26
NAV FILE: brdc3190.13n OBS USED: 1845 / 1845 : 100%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 14.52/ 38.34
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.275

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2013.87397)	
X:	1356981.178(m)	0.005(m)	1356980.339(m)	0.005(m)
Y:	-4433200.700(m)	0.016(m)	-4433199.289(m)	0.016(m)
Z:	4365705.354(m)	0.013(m)	4365705.336(m)	0.013(m)
LAT:	43 28 14.73643	0.004(m)	43 28 14.77156	0.004(m)
E LON:	287 1 8.74145	0.002(m)	287 1 8.72413	0.002(m)
W LON:	72 58 51.25855	0.002(m)	72 58 51.27587	0.002(m)
EL HGT:	146.256(m)	0.020(m)	145.086(m)	0.020(m)
ORTHO HGT:	174.338(m)	0.024(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4815074.207	107952.620
Easting (X) [meters]	663312.977	461088.589
Convergence [degrees]	1.38941169	-0.33085933
Point Scale	0.99992808	0.99998290
Combined Factor	0.99990515	0.99995997

US NATIONAL GRID DESIGNATOR: 18TXP6331215074(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	13472.8
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	45895.1
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	50388.1
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	60258.8
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	67736.2
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	80832.6
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	91836.1
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	112299.9
DL9078	NHCO NHDOT CONCORD CORS ARP	N431246.195	W0713111.475	121887.9

GC-41 SESSION 1 FILE: 10673200.13o OP1388770881905

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067320o.13o TIME: 17:45:25 UTC

SOFTWARE: rsgps 1.37 RS54.prl 1.89 START: 2013/11/16 14:15:32
EPHEMERIS: igs17666.eph [precise] STOP: 2013/11/16 14:36:26
NAV FILE: brdc3200.13n OBS USED: 1256 / 1688 : 74%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 8.31/ 14.89
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.281

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2013.87562)	
X:	1365458.518(m)	0.008(m)	1365457.679(m)	0.008(m)
Y:	-4432438.861(m)	0.015(m)	-4432437.449(m)	0.015(m)
Z:	4364148.309(m)	0.013(m)	4364148.291(m)	0.013(m)
LAT:	43 26 58.88568	0.006(m)	43 26 58.92083	0.006(m)
E LON:	287 7 19.15941	0.005(m)	287 7 19.14224	0.005(m)
W LON:	72 52 40.84059	0.005(m)	72 52 40.85776	0.005(m)
EL HGT:	352.914(m)	0.020(m)	351.743(m)	0.020(m)
ORTHO HGT:	380.425(m)	0.024(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4812941.192	105568.894
Easting (X) [meters]	671695.314	469403.411
Convergence [degrees]	1.45968400	-0.25996693
Point Scale	0.99996263	0.99997580
Combined Factor	0.99990729	0.99992046

US NATIONAL GRID DESIGNATOR: 18TXP7169512941(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	14595.3
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	19318.6
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	37457.2
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	57147.7
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	64881.5
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	86690.9
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	93332.8
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	99852.7

GC-41 SESSION 2 FILE: 10673207.13o OP1388771120635

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067320t.13o TIME: 17:49:47 UTC

SOFTWARE: rsgps 1.37 RS91.prl 1.89 START: 2013/11/16 19:11:29
EPHEMERIS: igs17666.eph [precise] STOP: 2013/11/16 19:31:30
NAV FILE: brdc3200.13n OBS USED: 1800 / 1836 : 98%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 18.37/ 8.00
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.309

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2013.87618)	
X:	1365458.522(m)	0.011(m)	1365457.683(m)	0.011(m)
Y:	-4432438.872(m)	0.025(m)	-4432437.460(m)	0.025(m)
Z:	4364148.329(m)	0.019(m)	4364148.311(m)	0.019(m)
LAT:	43 26 58.88589	0.008(m)	43 26 58.92104	0.008(m)
E LON:	287 7 19.15944	0.006(m)	287 7 19.14226	0.006(m)
W LON:	72 52 40.84056	0.006(m)	72 52 40.85774	0.006(m)
EL HGT:	352.936(m)	0.032(m)	351.765(m)	0.032(m)
ORTHO HGT:	380.447(m)	0.034(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4812941.198	105568.900
Easting (X) [meters]	671695.315	469403.412
Convergence [degrees]	1.45968401	-0.25996693
Point Scale	0.99996263	0.99997580
Combined Factor	0.99990729	0.99992046

US NATIONAL GRID DESIGNATOR: 18TXP7169512941(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	14595.3
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	19318.5
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	37457.2
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	57147.7
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	64881.5
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	68235.1
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	86690.9
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	93332.8
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	99852.7

GC-42 SESSION 1 FILE: 10673222.13o OP1388771144306

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067322p.13o TIME: 17:52:27 UTC

SOFTWARE: rsgps 1.37 RS83.prl 1.89 START: 2013/11/18 15:52:08
EPHEMERIS: igs17671.eph [precise] STOP: 2013/11/18 16:12:57
NAV FILE: brdc3220.13n OBS USED: 1638 / 2070 : 79%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 24.29/ 0.42
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.332

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.88128)

X:	1356038.450(m)	0.017(m)	1356037.610(m)	0.017(m)
Y:	-4424875.227(m)	0.047(m)	-4424873.817(m)	0.047(m)
Z:	4374402.606(m)	0.047(m)	4374402.589(m)	0.047(m)
LAT:	43 34 42.85645	0.003(m)	43 34 42.89166	0.003(m)
E LON:	287 2 17.17000	0.009(m)	287 2 17.15262	0.009(m)
W LON:	72 57 42.83000	0.009(m)	72 57 42.84738	0.009(m)
EL HGT:	163.623(m)	0.068(m)	162.456(m)	0.068(m)
ORTHO HGT:	191.666(m)	0.069(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4827085.419	119921.642
Easting (X) [meters]	664557.009	462693.076
Convergence [degrees]	1.40527775	-0.31841189
Point Scale	0.99993309	0.99998140
Combined Factor	0.99990743	0.99995574

US NATIONAL GRID DESIGNATOR: 18TXP6455727085(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	3473.4
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	25544.0
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	49131.1
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	79712.6
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	83235.2
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	89256.9
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	92782.6
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	100756.4
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	108503.1

GC-42 SESSION 2 FILE: 10673229.13o OP1389295486307

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: dgedenk@photoscience.com DATE: January 09, 2014
RINEX FILE: 1067322u.13o TIME: 19:58:57 UTC

SOFTWARE: rsgps 1.37 RS92.prl 1.89 START: 2013/11/18 20:01:03
EPHEMERIS: igs17671.eph [precise] STOP: 2013/11/18 20:20:32
NAV FILE: brdc3220.13n OBS USED: 1755 / 2106 : 83%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 13.89/ 18.56
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.322

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.88176)

X:	1356038.445(m)	0.008(m)	1356037.605(m)	0.008(m)
Y:	-4424875.227(m)	0.015(m)	-4424873.817(m)	0.015(m)
Z:	4374402.608(m)	0.013(m)	4374402.591(m)	0.013(m)
LAT:	43 34 42.85653	0.006(m)	43 34 42.89174	0.006(m)
E LON:	287 2 17.16979	0.005(m)	287 2 17.15240	0.005(m)
W LON:	72 57 42.83021	0.005(m)	72 57 42.84760	0.005(m)
EL HGT:	163.623(m)	0.020(m)	162.457(m)	0.020(m)
ORTHO HGT:	191.666(m)	0.024(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4827085.421	119921.645
Easting (X) [meters]	664557.004	462693.071
Convergence [degrees]	1.40527771	-0.31841193
Point Scale	0.99993309	0.99998140
Combined Factor	0.99990743	0.99995574

US NATIONAL GRID DESIGNATOR: 18TXP6455727085(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	25544.0
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	49131.1
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	79712.6
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	83235.2
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	89256.9
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	92782.6
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	100756.4
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	108503.1
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	113839.2

GC-43 Sessin 1 FILE 08863211.13o OP1404223860404

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: dgedenk@quantumspatial.com DATE: July 01, 2014
RINEX FILE: 0886321n.13o TIME: 14:15:52 UTC

SOFTWARE: rsgps 1.37 RS93.prl 1.99.2 START: 2013/11/17 13:34:21
EPHEMERIS: igs17670.eph [precise] STOP: 2013/11/17 13:56:13
NAV FILE: brdc3210.13n OBS USED: 1575 / 1575 : 100%
ANT NAME: TRM55971.00 NONE QUALITY IND. 19.08/ 19.74
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.312

REF FRAME:	NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2013.87828)	
X:	1348958.229(m)	0.009(m)	1348957.388(m)	0.009(m)
Y:	-4416870.949(m)	0.022(m)	-4416869.541(m)	0.022(m)
Z:	4384533.455(m)	0.017(m)	4384533.439(m)	0.017(m)
LAT:	43 42 17.87493	0.008(m)	43 42 17.91020	0.008(m)
E LON:	286 58 59.57490	0.003(m)	286 58 59.55734	0.003(m)
W LON:	73 1 0.42510	0.003(m)	73 1 0.44266	0.003(m)
EL HGT:	117.423(m)	0.028(m)	116.261(m)	0.028(m)
ORTHO HGT:	145.716(m)	0.031(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4841016.000	133990.309
Easting (X) [meters]	659789.805	458347.281
Convergence [degrees]	1.37058184	-0.35707498
Point Scale	0.99991406	0.99998562
Combined Factor	0.99989565	0.99996721

US NATIONAL GRID DESIGNATOR: 18TXP5978941016(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	64102.5
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	64158.8
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	103383.7
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	71029.6
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	86150.5
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	92575.5
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	108061.8
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	95812.5
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	101940.4

GC-43 SESSION 2 FILE: 08863216.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886321s.13o TIME: 23:11:54 UTC

SOFTWARE: rsgps 1.37 RS92.prl 1.89 START: 2013/11/17 18:05:56
EPHEMERIS: igs17670.eph [precise] STOP: 2013/11/17 18:27:17
NAV FILE: brdc3210.13n OBS USED: 1648 / 1912 : 86%
ANT NAME: TRM55971.00 NONE QUALITY IND. 12.74/ 0.30
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.357

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2013.87880)	
X:	1348958.229(m)	0.006(m)	1348957.388(m)	0.006(m)
Y:	-4416870.963(m)	0.017(m)	-4416869.555(m)	0.017(m)
Z:	4384533.475(m)	0.041(m)	4384533.459(m)	0.041(m)
LAT:	43 42 17.87510	0.021(m)	43 42 17.91037	0.021(m)
E LON:	286 58 59.57472	0.008(m)	286 58 59.55716	0.008(m)
W LON:	73 1 0.42528	0.008(m)	73 1 0.44284	0.008(m)
EL HGT:	117.447(m)	0.038(m)	116.285(m)	0.038(m)
ORTHO HGT:	145.740(m)	0.040(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4841016.005	133990.314
Easting (X) [meters]	659789.801	458347.277
Convergence [degrees]	1.37058181	-0.35707502
Point Scale	0.99991406	0.99998562
Combined Factor	0.99989565	0.99996720

US NATIONAL GRID DESIGNATOR: 18TXP5978941016(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	11281.4
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	34407.2
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	39482.8
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	70086.5
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	78721.3
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	86150.5
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	101940.4
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	108061.8

GC-44 SESSION 2 FILE: 08241371.14o OP1400517418576

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: dgedenk@quantumspatial.com DATE: May 19, 2014
RINEX FILE: 0824137s.14o TIME: 17:28:26 UTC

SOFTWARE: rsgps 1.37 RS90.prl 1.99.2 START: 2014/05/17 18:44:03
EPHEMERIS: igr17926.eph [rapid] STOP: 2014/05/17 19:29:37
NAV FILE: brdc1370.14n OBS USED: 4662 / 4743 : 98%
ANT NAME: TRMR8-4 NONE QUALITY IND. 16.17/ 36.47
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.330

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2014.37479)	
X:	1338732.537(m)	0.006(m)	1338731.689(m)	0.006(m)
Y:	-4427733.298(m)	0.018(m)	-4427731.890(m)	0.018(m)
Z:	4376750.545(m)	0.014(m)	4376750.528(m)	0.014(m)
LAT:	43 36 29.46320	0.005(m)	43 36 29.49840	0.005(m)
E LON:	286 49 22.00523	0.003(m)	286 49 21.98720	0.003(m)
W LON:	73 10 37.99477	0.003(m)	73 10 38.01280	0.003(m)
EL HGT:	112.872(m)	0.023(m)	111.707(m)	0.023(m)
ORTHO HGT:	141.829(m)	0.026(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4829970.366	123330.847
Easting (X) [meters]	647099.234	445328.413
Convergence [degrees]	1.25743748	-0.46710625
Point Scale	0.99986616	1.00000104
Combined Factor	0.99984846	0.99998334

US NATIONAL GRID DESIGNATOR: 18TXP4709929970(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	59049.3
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	67272.3
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	72927.3
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	79200.4
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	80643.2
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	86938.9
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	90816.0
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	96364.1
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	95688.0

GC-44 SESSION 1 FILE: 08241361.14o OP1400517418576

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: dgedenk@quantumspatial.com DATE: May 19, 2014
RINEX FILE: 0824136n.14o TIME: 17:27:18 UTC

SOFTWARE: rsgps 1.37 RS53.prl 1.99.2 START: 2014/05/16 13:16:08
EPHEMERIS: igr17925.eph [rapid] STOP: 2014/05/16 14:02:23
NAV FILE: brdc1360.14n OBS USED: 4473 / 4635 : 97%
ANT NAME: TRMR8-4 NONE QUALITY IND. 21.98/ 31.77
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.384

REF FRAME:	NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2014.37142)	
X:	1338732.524(m)	0.010(m)	1338731.676(m)	0.010(m)
Y:	-4427733.280(m)	0.029(m)	-4427731.872(m)	0.029(m)
Z:	4376750.550(m)	0.027(m)	4376750.533(m)	0.027(m)
LAT:	43 36 29.46378	0.005(m)	43 36 29.49899	0.005(m)
E LON:	286 49 22.00490	0.006(m)	286 49 21.98688	0.006(m)
W LON:	73 10 37.99510	0.006(m)	73 10 38.01312	0.006(m)
EL HGT:	112.860(m)	0.041(m)	111.695(m)	0.041(m)
ORTHO HGT:	141.817(m)	0.042(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4829970.384	123330.866
Easting (X) [meters]	647099.227	445328.406
Convergence [degrees]	1.25743742	-0.46710632
Point Scale	0.99986616	1.00000104
Combined Factor	0.99984846	0.99998334

US NATIONAL GRID DESIGNATOR: 18TXP4709929970(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	59049.3
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	67272.3
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	72927.3
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	79200.4
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	80643.2
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	86938.9
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	90816.0
DJ8953	VTD2 DUMMERSTON CORS ARP	N425506.107	W0723206.441	92688.7
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	95688.0

GC-45 SESSION 2 FILE: 1067317A.13o OP1388768276280

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067317u.13o TIME: 17:03:39 UTC

SOFTWARE: rsgps 1.37 RS91.prl 1.89 START: 2013/11/13 20:15:03
EPHEMERIS: igs17663.eph [precise] STOP: 2013/11/13 20:36:00
NAV FILE: brdc3170.13n OBS USED: 2124 / 2340 : 91%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 19.62/ 30.76
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.334

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.86809)

X:	1335143.697(m)	0.006(m)	1335142.854(m)	0.006(m)
Y:	-4382658.106(m)	0.022(m)	-4382656.703(m)	0.022(m)
Z:	4422762.210(m)	0.018(m)	4422762.198(m)	0.018(m)
LAT:	44 10 56.06258	0.004(m)	44 10 56.09815	0.004(m)
E LON:	286 56 34.66093	0.002(m)	286 56 34.64303	0.002(m)
W LON:	73 3 25.33907	0.002(m)	73 3 25.35697	0.002(m)
EL HGT:	181.953(m)	0.029(m)	180.806(m)	0.029(m)
ORTHO HGT:	210.209(m)	0.032(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4893949.644	187040.017
Easting (X) [meters]	655298.497	455460.602
Convergence [degrees]	1.35440278	-0.38823044
Point Scale	0.99989662	0.99998867
Combined Factor	0.99986809	0.99996014

US NATIONAL GRID DESIGNATOR: 18TXP5529893949(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	21791.8
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	26146.6
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	33811.4
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	38771.0
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	45276.2
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	63774.3
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	69685.4
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	77938.7
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	82696.1

GC-45 SESSION 1 FILE: 10673174.13o OP1388768290031

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067317q.13o TIME: 17:04:45 UTC

SOFTWARE: rsgps 1.37 RS52.prl 1.89 START: 2013/11/13 16:51:16
EPHEMERIS: igs17663.eph [precise] STOP: 2013/11/13 17:11:57
NAV FILE: brdc3170.13n OBS USED: 2502 / 2853 : 88%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 24.04/ 37.15
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.330

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000) (EPOCH:2013.86770)		IGS08	
X:	1335143.697(m)	0.006(m)	1335142.854(m)	0.006(m)
Y:	-4382658.104(m)	0.022(m)	-4382656.701(m)	0.022(m)
Z:	4422762.206(m)	0.022(m)	4422762.194(m)	0.022(m)
LAT:	44 10 56.06253	0.005(m)	44 10 56.09810	0.005(m)
E LON:	286 56 34.66095	0.003(m)	286 56 34.64305	0.003(m)
W LON:	73 3 25.33905	0.003(m)	73 3 25.35695	0.003(m)
EL HGT:	181.949(m)	0.031(m)	180.802(m)	0.031(m)
ORTHO HGT:	210.205(m)	0.034(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4893949.642	187040.016
Easting (X) [meters]	655298.498	455460.603
Convergence [degrees]	1.35440278	-0.38823044
Point Scale	0.99989662	0.99998867
Combined Factor	0.99986809	0.99996014

US NATIONAL GRID DESIGNATOR: 18TXP5529893949(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	21791.8
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	26146.6
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	33811.4
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	38771.0
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	45276.2
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	63774.3
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	69685.4
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	77938.7
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	82696.1

GC-46 SESSION 1 FILE: 10673173.13o OP1388767887555

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067317q.13o TIME: 16:56:20 UTC

SOFTWARE: rsgps 1.37 RS52.prl 1.89 START: 2013/11/13 16:15:57
EPHEMERIS: igs17663.eph [precise] STOP: 2013/11/13 16:36:23
NAV FILE: brdc3170.13n OBS USED: 1629 / 2358 : 69%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 16.12/ 7.36
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.281

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.86763)

X:	1341282.298(m)	0.004(m)	1341281.455(m)	0.004(m)
Y:	-4381005.203(m)	0.010(m)	-4381003.800(m)	0.010(m)
Z:	4422903.991(m)	0.010(m)	4422903.979(m)	0.010(m)
LAT:	44 10 54.56636	0.004(m)	44 10 54.60194	0.004(m)
E LON:	287 1 20.70468	0.005(m)	287 1 20.68688	0.005(m)
W LON:	72 58 39.29532	0.005(m)	72 58 39.31312	0.005(m)
EL HGT:	432.909(m)	0.013(m)	431.761(m)	0.013(m)
ORTHO HGT:	460.724(m)	0.018(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4894056.709	186953.859
Easting (X) [meters]	661650.578	461813.487
Convergence [degrees]	1.40980344	-0.33284890
Point Scale	0.99992138	0.99998221
Combined Factor	0.99985351	0.99991434

US NATIONAL GRID DESIGNATOR: 18TXP6165094056(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	24719.0
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	32813.9
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	36454.0
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	40314.4
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	45111.0
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	60806.8
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	63858.7
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	67175.3
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	70202.5

GC-46 SESSION 2 FILE: 10673179.13o OP1388767887555

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067317t.13o TIME: 16:56:31 UTC

SOFTWARE: rsgps 1.37 RS54.prl 1.89 START: 2013/11/13 19:42:34
EPHEMERIS: igs17663.eph [precise] STOP: 2013/11/13 20:03:24
NAV FILE: brdc3170.13n OBS USED: 1476 / 1881 : 78%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 12.57/ 22.64
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.287

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2013.86802)	
X:	1341282.305(m)	0.005(m)	1341281.462(m)	0.005(m)
Y:	-4381005.197(m)	0.013(m)	-4381003.794(m)	0.013(m)
Z:	4422903.988(m)	0.016(m)	4422903.976(m)	0.016(m)
LAT:	44 10 54.56637	0.005(m)	44 10 54.60195	0.005(m)
E LON:	287 1 20.70506	0.003(m)	287 1 20.68727	0.003(m)
W LON:	72 58 39.29494	0.003(m)	72 58 39.31273	0.003(m)
EL HGT:	432.904(m)	0.020(m)	431.756(m)	0.020(m)
ORTHO HGT:	460.719(m)	0.024(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4894056.710	186953.859
Easting (X) [meters]	661650.587	461813.496
Convergence [degrees]	1.40980351	-0.33284883
Point Scale	0.99992138	0.99998221
Combined Factor	0.99985351	0.99991434

US NATIONAL GRID DESIGNATOR: 18TXP6165094056(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	24719.0
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	32813.9
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	36454.0
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	40314.4
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	45111.0
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	60806.8
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	63858.7
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	67175.3
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	71783.1

GC-47 SESSION 1 FILE: 10673171.13o OP1388767887555

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067317p.13o TIME: 16:55:26 UTC

SOFTWARE: rsgps 1.37 RS91.prl 1.89 START: 2013/11/13 15:10:59
EPHEMERIS: igs17663.eph [precise] STOP: 2013/11/13 15:31:46
NAV FILE: brdc3170.13n OBS USED: 1890 / 1890 :
100%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 26.82/ 22.34
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.311

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08
(EPOCH:2013.86751)

X:	1341998.782(m)	0.003(m)	1341997.940(m)	0.003(m)
Y:	-4384706.706(m)	0.007(m)	-4384705.303(m)	0.007(m)
Z:	4418960.566(m)	0.010(m)	4418960.554(m)	0.010(m)
LAT:	44 7 58.29991	0.006(m)	44 7 58.33546	0.006(m)
E LON:	287 1 2.77908	0.003(m)	287 1 2.76133	0.003(m)
W LON:	72 58 57.22092	0.003(m)	72 58 57.23867	0.003(m)
EL HGT:	375.515(m)	0.011(m)	374.367(m)	0.011(m)
ORTHO HGT:	403.325(m)	0.017(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4888608.470	181515.844
Easting (X) [meters]	661386.034	461383.429
Convergence [degrees]	1.40509428	-0.33602346
Point Scale	0.99992033	0.99998262
Combined Factor	0.99986146	0.99992374

US NATIONAL GRID DESIGNATOR: 18TXP6138688608(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	20204.0
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	31174.6
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	35062.4
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	41138.9
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	45433.7
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	58417.9
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	64521.0
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	70931.2
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	75564.3

GC-47 SESSION 2 FILE: 10673177.13o OP1388768300470

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067317s.13o TIME: 17:04:10 UTC

SOFTWARE: rsgps 1.37 RS83.prl 1.89 START: 2013/11/13 18:31:10
EPHEMERIS: igs17663.eph [precise] STOP: 2013/11/13 18:51:21
NAV FILE: brdc3170.13n OBS USED: 2160 / 2403 : 90%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 17.20/ 21.56
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.327

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.86789)

X:	1341998.783(m)	0.005(m)	1341997.941(m)	0.005(m)
Y:	-4384706.704(m)	0.011(m)	-4384705.301(m)	0.011(m)
Z:	4418960.572(m)	0.016(m)	4418960.560(m)	0.016(m)
LAT:	44 7 58.30009	0.005(m)	44 7 58.33563	0.005(m)
E LON:	287 1 2.77915	0.002(m)	287 1 2.76140	0.002(m)
W LON:	72 58 57.22085	0.002(m)	72 58 57.23860	0.002(m)
EL HGT:	375.518(m)	0.020(m)	374.370(m)	0.020(m)
ORTHO HGT:	403.328(m)	0.023(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4888608.476	181515.849
Easting (X) [meters]	661386.035	461383.430
Convergence [degrees]	1.40509429	-0.33602345
Point Scale	0.99992033	0.99998262
Combined Factor	0.99986146	0.99992374

US NATIONAL GRID DESIGNATOR: 18TXP6138688608(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	20204.0
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	31174.6
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	35062.4
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	41138.9
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	45433.7
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	58417.9
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	64521.0
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	70931.2
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	75564.3

GC-48 SESSION2 FILE: 10673176.13o OP1388767887555

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067317r.13o TIME: 16:57:13 UTC

SOFTWARE: rsgps 1.37 RS90.prl 1.89 START: 2013/11/13 17:58:09
EPHEMERIS: igs17663.eph [precise] STOP: 2013/11/13 18:20:22
NAV FILE: brdc3170.13n OBS USED: 2763 / 2772 : 100%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 32.04/ 36.28
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.354

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.86783)

X:	1343284.704(m)	0.007(m)	1343283.862(m)	0.007(m)
Y:	-4388491.199(m)	0.012(m)	-4388489.795(m)	0.012(m)
Z:	4414756.657(m)	0.013(m)	4414756.644(m)	0.013(m)
LAT:	44 4 50.42162	0.006(m)	44 4 50.45713	0.006(m)
E LON:	287 1 8.26387	0.004(m)	287 1 8.24615	0.004(m)
W LON:	72 58 51.73613	0.004(m)	72 58 51.75385	0.004(m)
EL HGT:	318.287(m)	0.017(m)	317.137(m)	0.017(m)
ORTHO HGT:	346.055(m)	0.021(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4882814.782	175716.450
Easting (X) [meters]	661650.137	461471.465
Convergence [degrees]	1.40483563	-0.33464792
Point Scale	0.99992139	0.99998254
Combined Factor	0.99987149	0.99993263

US NATIONAL GRID DESIGNATOR: 18TXP6165082814(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	16501.5
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	34114.6
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	37715.8
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	46518.4
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	52618.0
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	68343.9
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	76593.3
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	81199.2
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	91169.2

GC-48 SESSION 1 FILE: 10673170.13o OP1388767887555

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067317o.13o TIME: 16:57:39 UTC

SOFTWARE: rsgps 1.37 RS51.prl 1.89 START: 2013/11/13 14:32:03
EPHEMERIS: igs17663.eph [precise] STOP: 2013/11/13 14:55:29
NAV FILE: brdc3170.13n OBS USED: 1240 / 1856 : 67%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 18.37/ 0.02
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.344

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.86743)

X:	1343284.715(m)	0.010(m)	1343283.873(m)	0.010(m)
Y:	-4388491.221(m)	0.027(m)	-4388489.817(m)	0.027(m)
Z:	4414756.656(m)	0.026(m)	4414756.643(m)	0.026(m)
LAT:	44 4 50.42105	0.006(m)	44 4 50.45656	0.006(m)
E LON:	287 1 8.26405	0.006(m)	287 1 8.24633	0.006(m)
W LON:	72 58 51.73595	0.006(m)	72 58 51.75367	0.006(m)
EL HGT:	318.304(m)	0.038(m)	317.154(m)	0.038(m)
ORTHO HGT:	346.072(m)	0.040(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4882814.765	175716.432
Easting (X) [meters]	661650.141	461471.469
Convergence [degrees]	1.40483566	-0.33464789
Point Scale	0.99992139	0.99998254
Combined Factor	0.99987149	0.99993263

US NATIONAL GRID DESIGNATOR: 18TXP6165082814(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	16501.5
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	34114.6
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	37715.8
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	52618.0
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	68343.9
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	76593.3
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	81199.2
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	91169.2

GC-49 Session 1 FILE: 10673151.13o OP1388766417693

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067315s.13o TIME: 16:33:55 UTC

SOFTWARE: rsgps 1.37 RS93.prl 1.89 START: 2013/11/11 18:00:31
EPHEMERIS: igs17661.eph [precise] STOP: 2013/11/11 18:22:30
NAV FILE: brdc3150.13n OBS USED: 1404 / 1746 : 80%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 29.29/ 12.00
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.353

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2013.86235)	
X:	1355709.178(m)	0.027(m)	1355708.336(m)	0.027(m)
Y:	-4388250.031(m)	0.031(m)	-4388248.626(m)	0.031(m)
Z:	4411332.267(m)	0.018(m)	4411332.254(m)	0.018(m)
LAT:	44 2 13.61396	0.014(m)	44 2 13.64949	0.014(m)
E LON:	287 10 4.97693	0.017(m)	287 10 4.95943	0.017(m)
W LON:	72 49 55.02307	0.017(m)	72 49 55.04057	0.017(m)
EL HGT:	395.708(m)	0.039(m)	394.555(m)	0.039(m)
ORTHO HGT:	423.066(m)	0.041(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4878280.317	170817.841
Easting (X) [meters]	673714.478	473393.034
Convergence [degrees]	1.50743911	-0.23074842
Point Scale	0.99997116	0.99997299
Combined Factor	0.99990912	0.99991095

US NATIONAL GRID DESIGNATOR: 18TXP7371478280(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	21313.3
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	26066.9
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	31985.7
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	49229.3
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	56212.3
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	59869.6
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	64256.2
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	75886.5
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	87029.0

GC-49 Session 2 FILE: 10673155.13o OP1388766930636

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067315v.13o TIME: 16:42:32 UTC

SOFTWARE: rsgps 1.37 RS83.prl 1.89 START: 2013/11/11 21:23:11
EPHEMERIS: igs17661.eph [precise] STOP: 2013/11/11 21:43:48
NAV FILE: brdc3150.13n OBS USED: 1341 / 1611 : 83%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 13.55/ 23.28
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.340

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2013.86273)	
X:	1355709.181(m)	0.005(m)	1355708.339(m)	0.005(m)
Y:	-4388250.025(m)	0.015(m)	-4388248.620(m)	0.015(m)
Z:	4411332.245(m)	0.014(m)	4411332.232(m)	0.014(m)
LAT:	44 2 13.61356	0.005(m)	44 2 13.64909	0.005(m)
E LON:	287 10 4.97714	0.005(m)	287 10 4.95964	0.005(m)
W LON:	72 49 55.02286	0.005(m)	72 49 55.04036	0.005(m)
EL HGT:	395.689(m)	0.020(m)	394.537(m)	0.020(m)
ORTHO HGT:	423.047(m)	0.024(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4878280.305	170817.829
Easting (X) [meters]	673714.483	473393.038
Convergence [degrees]	1.50743914	-0.23074838
Point Scale	0.99997116	0.99997299
Combined Factor	0.99990912	0.99991095

US NATIONAL GRID DESIGNATOR: 18TXP7371478280(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	21313.2
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	26066.9
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	31985.7
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	49229.3
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	56212.3
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	59869.7
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	64256.2
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	75886.5
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	87029.0

GC-50 SESSION 1 FILE: 30763144.13o OP1389041010150

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 3076314r.13o TIME: 22:15:17 UTC

SOFTWARE: rsgps 1.37 RS83.prl 1.89 START: 2013/11/10 17:28:23
EPHEMERIS: igs17660.eph [precise] STOP: 2013/11/10 17:50:19
NAV FILE: brdc3140.13n OBS USED: 2214 / 2214 : 100%
ANT NAME: TRM55971.00 NONE QUALITY IND. 17.31/ 29.27
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.295

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.85955)

X:	1352358.402(m)	0.004(m)	1352357.560(m)	0.004(m)
Y:	-4383075.657(m)	0.014(m)	-4383074.253(m)	0.014(m)
Z:	4417280.025(m)	0.013(m)	4417280.013(m)	0.013(m)
LAT:	44 6 45.74517	0.005(m)	44 6 45.78074	0.005(m)
E LON:	287 8 49.69535	0.002(m)	287 8 49.67778	0.002(m)
W LON:	72 51 10.30465	0.002(m)	72 51 10.32222	0.002(m)
EL HGT:	270.809(m)	0.019(m)	269.659(m)	0.019(m)
ORTHO HGT:	298.300(m)	0.023(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4886632.583	179223.817
Easting (X) [meters]	671819.949	471752.884
Convergence [degrees]	1.49492693	-0.24561927
Point Scale	0.99996310	0.99997410
Combined Factor	0.99992064	0.99993164

US NATIONAL GRID DESIGNATOR: 18TXP7181986632(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	27255.3
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	48247.6
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	56051.6
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	60312.7
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	73268.9
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	79230.5
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	85523.0
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	97188.3
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	108652.3

GC-50 SESSION 2 FILE: 30763173.13o OP1389292356540

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: dgedenk@photoscience.com DATE: January 09, 2014
RINEX FILE: 3076317p.13o TIME: 19:19:51 UTC

SOFTWARE: rsgps 1.37 RS51.prl 1.89 START: 2013/11/13 15:40:39
EPHEMERIS: igs17663.eph [precise] STOP: 2013/11/13 16:01:28
NAV FILE: brdc3170.13n OBS USED: 1764 / 1881 : 94%
ANT NAME: TRM55971.00 NONE QUALITY IND. 26.42/ 28.42
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.300

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2013.86756)	
X:	1352358.403(m)	0.006(m)	1352357.561(m)	0.006(m)
Y:	-4383075.639(m)	0.020(m)	-4383074.235(m)	0.020(m)
Z:	4417280.011(m)	0.017(m)	4417279.999(m)	0.017(m)
LAT:	44 6 45.74523	0.003(m)	44 6 45.78080	0.003(m)
E LON:	287 8 49.69563	0.002(m)	287 8 49.67807	0.002(m)
W LON:	72 51 10.30437	0.002(m)	72 51 10.32193	0.002(m)
EL HGT:	270.787(m)	0.026(m)	269.637(m)	0.026(m)
ORTHO HGT:	298.278(m)	0.029(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4886632.585	179223.819
Easting (X) [meters]	671819.955	471752.890
Convergence [degrees]	1.49492698	-0.24561922
Point Scale	0.99996310	0.99997410
Combined Factor	0.99992064	0.99993164

US NATIONAL GRID DESIGNATOR: 18TXP7181986632(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	27255.3
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	35269.2
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	48247.6
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	56051.6
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	60312.6
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	73268.9
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	79230.6
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	85523.0
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	97188.3

GC-51 SESSION 1 FILE: 08241391.14o OP1400859013243

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: dgedenk@quantumspatial.com DATE: May 23, 2014
RINEX FILE: 0824139v.14o TIME: 15:58:45 UTC

SOFTWARE: rsgps 1.37 RS50.prl 1.99.2 START: 2014/05/19 21:02:09
EPHEMERIS: igr17931.eph [rapid] STOP: 2014/05/19 21:47:22
NAV FILE: brdc1390.14n OBS USED: 4509 / 4887 : 92%
ANT NAME: TRMR8-4 NONE QUALITY IND. 22.17/ 33.02
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.317

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2014.38053)	
X:	1357460.946(m)	0.005(m)	1357460.095(m)	0.005(m)
Y:	-4382106.669(m)	0.013(m)	-4382105.265(m)	0.013(m)
Z:	4417296.478(m)	0.009(m)	4417296.468(m)	0.009(m)
LAT:	44 6 33.01861	0.007(m)	44 6 33.05429	0.007(m)
E LON:	287 12 41.76293	0.005(m)	287 12 41.74506	0.005(m)
W LON:	72 47 18.23707	0.005(m)	72 47 18.25494	0.005(m)
EL HGT:	699.667(m)	0.014(m)	698.517(m)	0.014(m)
ORTHO HGT:	727.081(m)	0.019(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4886376.572	178810.923
Easting (X) [meters]	676989.112	476911.877
Convergence [degrees]	1.53973384	-0.20073472
Point Scale	0.99998528	0.99997084
Combined Factor	0.99987558	0.99986115

US NATIONAL GRID DESIGNATOR: 18TXP7698986376(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	51667.4
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	55178.6
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	55734.6
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	57864.0
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	61196.3
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	68851.3
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	81227.5
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	85992.1
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	105355.5

GC-51 SESSION 2 FILE: 10671400.14o OP1400859013243

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: dgedenk@quantumspatial.com DATE: May 23, 2014
RINEX FILE: 1067140n.14o TIME: 15:37:30 UTC

SOFTWARE: rsgps 1.37 RS52.prl 1.99.2 START: 2014/05/20 13:19:15
EPHEMERIS: igr17932.eph [rapid] STOP: 2014/05/20 14:05:26
NAV FILE: brdc1400.14n OBS USED: 4194 / 4491 : 93%
ANT NAME: TRMR8-4 NONE QUALITY IND. 23.61/ 30.25
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.335

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2014.38239)	
X:	1357460.926(m)	0.013(m)	1357460.075(m)	0.013(m)
Y:	-4382106.650(m)	0.036(m)	-4382105.246(m)	0.036(m)
Z:	4417296.454(m)	0.033(m)	4417296.444(m)	0.033(m)
LAT:	44 6 33.01859	0.005(m)	44 6 33.05428	0.005(m)
E LON:	287 12 41.76232	0.006(m)	287 12 41.74445	0.006(m)
W LON:	72 47 18.23768	0.006(m)	72 47 18.25555	0.006(m)
EL HGT:	699.633(m)	0.050(m)	698.483(m)	0.050(m)
ORTHO HGT:	727.047(m)	0.051(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4886376.571	178810.922
Easting (X) [meters]	676989.099	476911.864
Convergence [degrees]	1.53973373	-0.20073484
Point Scale	0.99998528	0.99997084
Combined Factor	0.99987559	0.99986115

US NATIONAL GRID DESIGNATOR: 18TXP7698986376(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	51667.3
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	55178.6
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	55734.6
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	57864.0
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	61196.3
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	68851.3
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	81227.5
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	85992.1
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	105355.5

GC-52 Session 1 FILE: 10673152.13o OP1388766417693

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067315t.13o TIME: 16:32:56 UTC

SOFTWARE: rsgps 1.37 RS50.prl 1.89 START: 2013/11/11 19:41:48
EPHEMERIS: igs17661.eph [precise] STOP: 2013/11/11 20:02:30
NAV FILE: brdc3150.13n OBS USED: 1305 / 1692 : 77%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 32.88/ 11.54
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.365

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2013.86254)	
X:	1348657.932(m)	0.009(m)	1348657.090(m)	0.009(m)
Y:	-4385458.602(m)	0.027(m)	-4385457.198(m)	0.027(m)
Z:	4416214.350(m)	0.028(m)	4416214.338(m)	0.028(m)
LAT:	44 5 54.16738	0.004(m)	44 5 54.20293	0.004(m)
E LON:	287 5 39.14749	0.002(m)	287 5 39.12986	0.002(m)
W LON:	72 54 20.85251	0.002(m)	72 54 20.87014	0.002(m)
EL HGT:	382.162(m)	0.040(m)	381.012(m)	0.040(m)
ORTHO HGT:	409.660(m)	0.042(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4884932.056	177651.446
Easting (X) [meters]	667624.784	467507.919
Convergence [degrees]	1.45768162	-0.28239032
Point Scale	0.99994558	0.99997726
Combined Factor	0.99988566	0.99991734

US NATIONAL GRID DESIGNATOR: 18TXP6762484932(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	22676.7
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	30005.8
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	47348.7
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	52263.5
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	62718.0
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	77778.3
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	83470.9
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	96474.1
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	105152.7

GC-52 Session 2 FILE: 10673156.13o OP1388766417693

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067315v.13o TIME: 16:39:43 UTC

SOFTWARE: rsgps 1.37 RS50.prl 1.89 START: 2013/11/11 21:58:48
EPHEMERIS: igs17661.eph [precise] STOP: 2013/11/11 22:20:18
NAV FILE: brdc3150.13n OBS USED: 1160 / 1504 : 77%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 10.64/ 10.11
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.367

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.86280)

X:	1348657.926(m)	0.005(m)	1348657.084(m)	0.005(m)
Y:	-4385458.570(m)	0.021(m)	-4385457.166(m)	0.021(m)
Z:	4416214.347(m)	0.020(m)	4416214.335(m)	0.020(m)
LAT:	44 5 54.16804	0.004(m)	44 5 54.20359	0.004(m)
E LON:	287 5 39.14765	0.003(m)	287 5 39.13003	0.003(m)
W LON:	72 54 20.85235	0.003(m)	72 54 20.86997	0.003(m)
EL HGT:	382.136(m)	0.029(m)	380.986(m)	0.029(m)
ORTHO HGT:	409.634(m)	0.031(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4884932.076	177651.466
Easting (X) [meters]	667624.787	467507.923
Convergence [degrees]	1.45768165	-0.28239029
Point Scale	0.99994558	0.99997726
Combined Factor	0.99988567	0.99991734

US NATIONAL GRID DESIGNATOR: 18TXP6762484932(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	22676.7
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	30005.8
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	47348.7
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	52263.5
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	62718.0
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	77778.3
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	83470.9
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	97112.8

GC-53 SESSION 1 FILE: 30763148.13o OP1389281637250

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: dgedenk@photoscience.com DATE: January 09, 2014
RINEX FILE: 3076314u.13o TIME: 17:00:16 UTC

SOFTWARE: rsgps 1.37 RS92.prl 1.89 START: 2013/11/10 20:15:15
EPHEMERIS: igs17660.eph [precise] STOP: 2013/11/10 20:36:35
NAV FILE: brdc3140.13n OBS USED: 2133 / 2448 : 87%
ANT NAME: TRM55971.00 NONE QUALITY IND. 12.61/ 22.95
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.323

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.85987)

X:	1348722.791(m)	0.007(m)	1348721.949(m)	0.007(m)
Y:	-4382370.482(m)	0.020(m)	-4382369.078(m)	0.020(m)
Z:	4419340.785(m)	0.018(m)	4419340.773(m)	0.018(m)
LAT:	44 8 13.01835	0.004(m)	44 8 13.05393	0.004(m)
E LON:	287 6 22.77040	0.003(m)	287 6 22.75278	0.003(m)
W LON:	72 53 37.22960	0.003(m)	72 53 37.24722	0.003(m)
EL HGT:	453.284(m)	0.027(m)	452.135(m)	0.027(m)
ORTHO HGT:	480.784(m)	0.030(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4889240.844	181932.242
Easting (X) [meters]	668485.022	468498.673
Convergence [degrees]	1.46713770	-0.27414790
Point Scale	0.99994914	0.99997649
Combined Factor	0.99987807	0.99990542

US NATIONAL GRID DESIGNATOR: 18TXP6848589240(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	25821.6
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	31997.0
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	44190.1
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	52359.8
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	58972.6
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	64062.4
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	75129.3
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	87827.5
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	96471.1

GC-53 SESSION 2 FILE: 30763175.13o OP1389281637250

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: dgedenk@photoscience.com DATE: January 09, 2014
RINEX FILE: 3076317q.13o TIME: 17:15:07 UTC

SOFTWARE: rsgps 1.37 RS50.prl 1.89 START: 2013/11/13 16:30:00
EPHEMERIS: igs17663.eph [precise] STOP: 2013/11/13 16:50:25
NAV FILE: brdc3170.13n OBS USED: 2133 / 2565 : 83%
ANT NAME: TRM55971.00 NONE QUALITY IND. 21.52/ 12.40
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.304

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.86766)

X:	1348722.783(m)	0.004(m)	1348721.940(m)	0.004(m)
Y:	-4382370.461(m)	0.010(m)	-4382369.057(m)	0.010(m)
Z:	4419340.760(m)	0.010(m)	4419340.748(m)	0.010(m)
LAT:	44 8 13.01827	0.003(m)	44 8 13.05386	0.003(m)
E LON:	287 6 22.77034	0.002(m)	287 6 22.75267	0.002(m)
W LON:	72 53 37.22966	0.002(m)	72 53 37.24733	0.002(m)
EL HGT:	453.250(m)	0.014(m)	452.101(m)	0.014(m)
ORTHO HGT:	480.750(m)	0.019(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4889240.842	181932.239
Easting (X) [meters]	668485.021	468498.671
Convergence [degrees]	1.46713769	-0.27414791
Point Scale	0.99994914	0.99997649
Combined Factor	0.99987808	0.99990543

US NATIONAL GRID DESIGNATOR: 18TXP6848589240(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	25821.6
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	31750.1
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	44190.1
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	52359.8
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	58972.6
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	64062.4
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	75129.3
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	87827.5
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	96471.1

GC-54 SESSION 1 FILE: 30763140.13o OP1389041010150

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 3076314o.13o TIME: 22:14:54 UTC

SOFTWARE: rsgps 1.37 RS52.prl 1.89 START: 2013/11/10 14:23:21
EPHEMERIS: igs17660.eph [precise] STOP: 2013/11/10 14:45:28
NAV FILE: brdc3140.13n OBS USED: 1225 / 1225 : 100%
ANT NAME: TRM55971.00 NONE QUALITY IND. 10.39/ 15.65
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.370

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2013.85920)	
X:	1345527.365(m)	0.014(m)	1345526.522(m)	0.014(m)
Y:	-4378071.093(m)	0.038(m)	-4378069.690(m)	0.038(m)
Z:	4424562.433(m)	0.040(m)	4424562.422(m)	0.040(m)
LAT:	44 12 8.32225	0.004(m)	44 12 8.35787	0.004(m)
E LON:	287 5 2.18533	0.004(m)	287 5 2.16760	0.004(m)
W LON:	72 54 57.81467	0.004(m)	72 54 57.83240	0.004(m)
EL HGT:	470.276(m)	0.056(m)	469.130(m)	0.056(m)
ORTHO HGT:	497.869(m)	0.058(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4896455.225	189203.559
Easting (X) [meters]	666510.367	466744.222
Convergence [degrees]	1.45324352	-0.29007694
Point Scale	0.99994099	0.99997788
Combined Factor	0.99986726	0.99990415

US NATIONAL GRID DESIGNATOR: 18TXP6651096455(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	27473.9
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	37216.7
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	49921.4
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	55517.2
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	93514.6
DJ8955	VTD9 DERBY CORS ARP	N445703.499	W0720936.723	102597.0
DL3079	VTIP ISLAND POND CORS ARP	N444912.180	W0715325.838	106595.7

GC-54 SESSION 2 FILE: 30763145.13o OP1389041010150

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 3076314s.13o TIME: 22:30:02 UTC

SOFTWARE: rsgps 1.37 RS54.prl 1.89 START: 2013/11/10 18:39:21
EPHEMERIS: igs17660.eph [precise] STOP: 2013/11/10 19:01:07
NAV FILE: brdc3140.13n OBS USED: 1926 / 2052 : 94%
ANT NAME: TRM55971.00 NONE QUALITY IND. 19.76/ 7.93
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.280

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2013.85968)	
X:	1345527.364(m)	0.005(m)	1345526.521(m)	0.005(m)
Y:	-4378071.067(m)	0.009(m)	-4378069.664(m)	0.009(m)
Z:	4424562.415(m)	0.011(m)	4424562.404(m)	0.011(m)
LAT:	44 12 8.32240	0.005(m)	44 12 8.35802	0.005(m)
E LON:	287 5 2.18563	0.004(m)	287 5 2.16790	0.004(m)
W LON:	72 54 57.81437	0.004(m)	72 54 57.83210	0.004(m)
EL HGT:	470.246(m)	0.014(m)	469.099(m)	0.014(m)
ORTHO HGT:	497.839(m)	0.019(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4896455.230	189203.563
Easting (X) [meters]	666510.374	466744.229
Convergence [degrees]	1.45324357	-0.29007688
Point Scale	0.99994099	0.99997788
Combined Factor	0.99986726	0.99990415

US NATIONAL GRID DESIGNATOR: 18TXP6651096455(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	27473.9
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	37216.7
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	49921.4
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	55517.2
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	66331.0
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	74306.0
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	93514.6
DJ8955	VTD9 DERBY CORS ARP	N445703.499	W0720936.723	102597.0
DL3079	VTIP ISLAND POND CORS ARP	N444912.180	W0715325.838	106595.7

GC-55 SESSION 2 FILE: 3076313B.13o OP1389041010150

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 3076313v.13o TIME: 21:32:43 UTC

SOFTWARE: rsgps 1.37 RS91.prl 1.89 START: 2013/11/09 21:54:25
EPHEMERIS: igs17656.eph [precise] STOP: 2013/11/09 22:15:40
NAV FILE: brdc3130.13n OBS USED: 560 / 581 : 96%
ANT NAME: TRM55971.00 NONE QUALITY IND. 27.08/ 12.32
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.254

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.85732)

X:	1348540.025(m)	0.008(m)	1348539.182(m)	0.008(m)
Y:	-4372514.642(m)	0.017(m)	-4372513.239(m)	0.017(m)
Z:	4429191.948(m)	0.026(m)	4429191.937(m)	0.026(m)
LAT:	44 15 35.75862	0.023(m)	44 15 35.79430	0.023(m)
E LON:	287 8 25.57935	0.003(m)	287 8 25.56168	0.003(m)
W LON:	72 51 34.42065	0.003(m)	72 51 34.43832	0.003(m)
EL HGT:	529.668(m)	0.022(m)	528.523(m)	0.022(m)
ORTHO HGT:	557.256(m)	0.025(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4902971.553	195584.705
Easting (X) [meters]	670857.879	471288.182
Convergence [degrees]	1.49420369	-0.25094479
Point Scale	0.99995903	0.99997442
Combined Factor	0.99987599	0.99989138

US NATIONAL GRID DESIGNATOR: 18TXQ7085702971(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	35615.6
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	48073.2
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	54690.5
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	63548.1
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	66512.5
DJ8955	VTD9 DERBY CORS ARP	N445703.499	W0720936.723	94763.7
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	97418.9

GC-55 SESSION 1 FILE: 30763130.13o OP1389041010150

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 3076313n.13o TIME: 21:59:22 UTC

SOFTWARE: rsgps 1.37 RS52.prl 1.89 START: 2013/11/09 13:25:25
EPHEMERIS: igs17656.eph [precise] STOP: 2013/11/09 13:48:05
NAV FILE: brdc3130.13n OBS USED: 1768 / 2040 : 87%
ANT NAME: TRM55971.00 NONE QUALITY IND. 19.51/ 5.57
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.324

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.85635)

X:	1348540.016(m)	0.009(m)	1348539.173(m)	0.009(m)
Y:	-4372514.631(m)	0.011(m)	-4372513.228(m)	0.011(m)
Z:	4429191.961(m)	0.013(m)	4429191.950(m)	0.013(m)
LAT:	44 15 35.75922	0.006(m)	44 15 35.79490	0.006(m)
E LON:	287 8 25.57911	0.008(m)	287 8 25.56144	0.008(m)
W LON:	72 51 34.42089	0.008(m)	72 51 34.43856	0.008(m)
EL HGT:	529.668(m)	0.017(m)	528.522(m)	0.017(m)
ORTHO HGT:	557.256(m)	0.021(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4902971.572	195584.724
Easting (X) [meters]	670857.873	471288.176
Convergence [degrees]	1.49420365	-0.25094484
Point Scale	0.99995903	0.99997442
Combined Factor	0.99987599	0.99989138

US NATIONAL GRID DESIGNATOR: 18TXQ7085702971(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	35615.6
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	41116.0
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	48073.2
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	54690.5
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	68260.2
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	73174.6
DJ8955	VTD9 DERBY CORS ARP	N445703.499	W0720936.723	94763.7
DL3079	VTIP ISLAND POND CORS ARP	N444912.180	W0715325.838	99027.0

GC-56 SESSION 2 FILE: 3076312B.13o OP1389041010150

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 3076312v.13o TIME: 22:06:56 UTC

SOFTWARE: rsgps 1.37 RS83.prl 1.89 START: 2013/11/08 21:23:00
EPHEMERIS: igs17655.eph [precise] STOP: 2013/11/08 21:44:00
NAV FILE: brdc3120.13n OBS USED: 1134 / 1512 : 75%
ANT NAME: TRM55971.00 NONE QUALITY IND. 28.59/ 14.92
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.318

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.85452)

X:	1354117.116(m)	0.009(m)	1354116.273(m)	0.009(m)
Y:	-4363949.807(m)	0.019(m)	-4363948.405(m)	0.019(m)
Z:	4435269.771(m)	0.022(m)	4435269.762(m)	0.022(m)
LAT:	44 20 24.51780	0.006(m)	44 20 24.55357	0.006(m)
E LON:	287 14 20.10791	0.006(m)	287 14 20.09032	0.006(m)
W LON:	72 45 39.89209	0.006(m)	72 45 39.90968	0.006(m)
EL HGT:	98.162(m)	0.030(m)	97.019(m)	0.030(m)
ORTHO HGT:	125.835(m)	0.033(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4912090.823	204467.545
Easting (X) [meters]	678475.763	479180.421
Convergence [degrees]	1.56522917	-0.18247458
Point Scale	0.99999175	0.99996961
Combined Factor	0.99997636	0.99995422

US NATIONAL GRID DESIGNATOR: 18TXQ7847512090(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	16698.1
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	36614.2
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	46300.9
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	49200.4
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	58029.9
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	63550.5
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	66841.6
DJ8955	VTD9 DERBY CORS ARP	N445703.499	W0720936.723	82945.8
DL3079	VTIP ISLAND POND CORS ARP	N444912.180	W0715325.838	87320.1

GC-56 SESSION 1 FILE: 30763178.13o OP1389041010150

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 3076317s.13o TIME: 22:30:59 UTC

SOFTWARE: rsgps 1.37 RS51.prl 1.89 START: 2013/11/13 18:56:16
EPHEMERIS: igs17663.eph [precise] STOP: 2013/11/13 19:18:47
NAV FILE: brdc3170.13n OBS USED: 1611 / 1773 : 91%
ANT NAME: TRM55971.00 NONE QUALITY IND. 15.87/ 18.50
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.324

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2013.86794)	
X:	1354117.119(m)	0.005(m)	1354116.275(m)	0.005(m)
Y:	-4363949.775(m)	0.011(m)	-4363948.373(m)	0.011(m)
Z:	4435269.736(m)	0.011(m)	4435269.727(m)	0.011(m)
LAT:	44 20 24.51767	0.003(m)	44 20 24.55344	0.003(m)
E LON:	287 14 20.10847	0.004(m)	287 14 20.09084	0.004(m)
W LON:	72 45 39.89153	0.004(m)	72 45 39.90916	0.004(m)
EL HGT:	98.116(m)	0.016(m)	96.973(m)	0.016(m)
ORTHO HGT:	125.789(m)	0.020(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4912090.819	204467.540
Easting (X) [meters]	678475.775	479180.433
Convergence [degrees]	1.56522928	-0.18247447
Point Scale	0.99999175	0.99996961
Combined Factor	0.99997637	0.99995423

US NATIONAL GRID DESIGNATOR: 18TXQ7847512090(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	16698.1
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	20323.6
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	36614.2
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	46300.9
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	58029.9
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	63550.5
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	66841.6
DJ8955	VTD9 DERBY CORS ARP	N445703.499	W0720936.723	82945.8
DL3079	VTIP ISLAND POND CORS ARP	N444912.180	W0715325.838	87320.1

GC-57 SESSION 1 FILE: 30763121.13o OP1389041010150

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 3076312o.13o TIME: 21:13:45 UTC

SOFTWARE: rsgps 1.37 RS83.prl 1.89 START: 2013/11/08 14:58:10
EPHEMERIS: igs17655.eph [precise] STOP: 2013/11/08 15:19:15
NAV FILE: brdc3120.13n OBS USED: 1242 / 1440 : 86%
ANT NAME: TRM55971.00 NONE QUALITY IND. 14.55/ 12.69
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.303

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.85378)

X:	1359357.714(m)	0.013(m)	1359356.870(m)	0.013(m)
Y:	-4358683.618(m)	0.028(m)	-4358682.216(m)	0.028(m)
Z:	4439203.463(m)	0.026(m)	4439203.454(m)	0.026(m)
LAT:	44 23 14.26804	0.006(m)	44 23 14.30385	0.006(m)
E LON:	287 19 16.73099	0.007(m)	287 19 16.71345	0.007(m)
W LON:	72 40 43.26901	0.007(m)	72 40 43.28655	0.007(m)
EL HGT:	366.591(m)	0.040(m)	365.449(m)	0.040(m)
ORTHO HGT:	394.109(m)	0.042(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4917511.206	209689.328
Easting (X) [meters]	684895.549	485762.354
Convergence [degrees]	1.62422916	-0.12499183
Point Scale	1.00002044	0.99996678
Combined Factor	0.99996296	0.99990930

US NATIONAL GRID DESIGNATOR: 18TXQ8489517511(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	15906.2
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	42334.8
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	50152.3
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	56791.7
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	61753.4
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	69719.2
DJ8955	VTD9 DERBY CORS ARP	N445703.499	W0720936.723	74930.2
DL3079	VTIP ISLAND POND CORS ARP	N444912.180	W0715325.838	78919.9
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	89983.4

GC-57 SESSION 2 FILE: 30763129.13o OP1389041010150

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 3076312u.13o TIME: 22:36:43 UTC

SOFTWARE: rsgps 1.37 RS52.prl 1.89 START: 2013/11/08 20:10:20
EPHEMERIS: igs17655.eph [precise] STOP: 2013/11/08 20:31:10
NAV FILE: brdc3120.13n OBS USED: 518 / 763 :
68%
ANT NAME: TRM55971.00 NONE QUALITY IND. 24.73/ 7.14
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.275

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08
(EPOCH:2013.85438)

X:	1359357.724(m)	0.175(m)	1359356.880(m)	0.175(m)
Y:	-4358683.646(m)	0.169(m)	-4358682.244(m)	0.169(m)
Z:	4439203.495(m)	0.029(m)	4439203.486(m)	0.029(m)
LAT:	44 23 14.26811	0.129(m)	44 23 14.30392	0.129(m)
E LON:	287 19 16.73105	0.117(m)	287 19 16.71351	0.117(m)
W LON:	72 40 43.26895	0.117(m)	72 40 43.28649	0.117(m)
EL HGT:	366.635(m)	0.172(m)	365.492(m)	0.172(m)
ORTHO HGT:	394.153(m)	0.173(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4917511.208	209689.330
Easting (X) [meters]	684895.550	485762.355
Convergence [degrees]	1.62422917	-0.12499182
Point Scale	1.00002044	0.99996678
Combined Factor	0.99996295	0.99990930

US NATIONAL GRID DESIGNATOR: 18TXQ8489517511(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	15906.2
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	42334.8
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	50152.3
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	56791.7
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	69719.2
DJ8955	VTD9 DERBY CORS ARP	N445703.499	W0720936.723	74930.2
DL3079	VTIP ISLAND POND CORS ARP	N444912.180	W0715325.838	78919.9

GC-58 SESSION 1 FILE: 30763126.13o OP1389041010150

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 3076312s.13o TIME: 21:51:13 UTC

SOFTWARE: rsgps 1.37 RS91.prl 1.89 START: 2013/11/08 18:22:25
EPHEMERIS: igs17655.eph [precise] STOP: 2013/11/08 18:46:05
NAV FILE: brdc3120.13n OBS USED: 768 / 1080 : 71%
ANT NAME: TRM55971.00 NONE QUALITY IND. 20.76/ 12.63
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.319

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.85417)

X:	1360778.749(m)	0.031(m)	1360777.906(m)	0.031(m)
Y:	-4365384.804(m)	0.032(m)	-4365383.401(m)	0.032(m)
Z:	4431908.548(m)	0.024(m)	4431908.538(m)	0.024(m)
LAT:	44 17 50.81438	0.016(m)	44 17 50.85013	0.016(m)
E LON:	287 18 47.92634	0.022(m)	287 18 47.90887	0.022(m)
W LON:	72 41 12.07366	0.022(m)	72 41 12.09113	0.022(m)
EL HGT:	145.650(m)	0.043(m)	144.505(m)	0.043(m)
ORTHO HGT:	173.295(m)	0.045(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4907513.121	199707.265
Easting (X) [meters]	684540.017	485102.076
Convergence [degrees]	1.61603378	-0.13037943
Point Scale	1.00001883	0.99996701
Combined Factor	0.99999599	0.99994417

US NATIONAL GRID DESIGNATOR: 18TXQ8454007513(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	34689.1
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	40359.4
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	44987.1
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	49921.4
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	53876.7
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	64975.9
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	68884.9
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	74424.2

GC-58 SESSION 2 FILE: 3076312C.13o OP1389281637250

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: dgedenk@photoscience.com DATE: January 09, 2014
RINEX FILE: 3076312v.13o TIME: 17:24:32 UTC

SOFTWARE: rsgps 1.37 RS92.prl 1.89 START: 2013/11/08 21:57:00
EPHEMERIS: igs17655.eph [precise] STOP: 2013/11/08 22:18:00
NAV FILE: brdc3120.13n OBS USED: 672 / 672 : 100%
ANT NAME: TRM55971.00 NONE QUALITY IND. 9.03/ 17.29
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.293

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.85458)

X:	1360778.757(m)	0.009(m)	1360777.914(m)	0.009(m)
Y:	-4365384.808(m)	0.013(m)	-4365383.405(m)	0.013(m)
Z:	4431908.531(m)	0.030(m)	4431908.521(m)	0.030(m)
LAT:	44 17 50.81384	0.023(m)	44 17 50.84959	0.023(m)
E LON:	287 18 47.92663	0.006(m)	287 18 47.90916	0.006(m)
W LON:	72 41 12.07337	0.006(m)	72 41 12.09084	0.006(m)
EL HGT:	145.643(m)	0.024(m)	144.498(m)	0.024(m)
ORTHO HGT:	173.288(m)	0.027(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES (UTM (Zone 18))	STATE PLANE COORDINATES (SPC (4400 VT))
Northing (Y) [meters]	4907513.105	199707.248
Easting (X) [meters]	684540.024	485102.083
Convergence [degrees]	1.61603384	-0.13037938
Point Scale	1.00001883	0.99996701
Combined Factor	0.99999599	0.99994417

US NATIONAL GRID DESIGNATOR: 18TXQ8454007513(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	9213.0
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	34689.1
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	44987.1
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	49921.4
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	53876.7
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	64975.9
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	68884.9
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	74424.2

GC-59 SESSION 1 FILE: 30763132.13o OP1389281637250

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: dgedenk@photoscience.com DATE: January 09, 2014
RINEX FILE: 3076313o.13o TIME: 17:05:27 UTC

SOFTWARE: rsgps 1.37 RS54.prl 1.89 START: 2013/11/09 14:56:25
EPHEMERIS: igs17656.eph [precise] STOP: 2013/11/09 15:19:40
NAV FILE: brdc3130.13n OBS USED: 1169 / 1288 : 91%
ANT NAME: TRM55971.00 NONE QUALITY IND. 9.22/ 10.45
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.309

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.85652)

X:	1355320.708(m)	0.085(m)	1355319.865(m)	0.085(m)
Y:	-4371721.830(m)	0.087(m)	-4371720.427(m)	0.087(m)
Z:	4427400.306(m)	0.066(m)	4427400.296(m)	0.066(m)
LAT:	44 14 26.02243	0.114(m)	44 14 26.05813	0.114(m)
E LON:	287 13 28.11263	0.056(m)	287 13 28.09506	0.056(m)
W LON:	72 46 31.88737	0.056(m)	72 46 31.90494	0.056(m)
EL HGT:	171.760(m)	0.054(m)	170.614(m)	0.054(m)
ORTHO HGT:	199.362(m)	0.055(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4900998.322	193406.357
Easting (X) [meters]	677624.441	477991.515
Convergence [degrees]	1.55235989	-0.19222646
Point Scale	0.99998803	0.99997024
Combined Factor	0.99996110	0.99994331

US NATIONAL GRID DESIGNATOR: 18TXQ7762400998(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	15608.9
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	36208.6
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	44189.1
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	58902.3
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	67726.8
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	72263.0
DJ8955	VTD9 DERBY CORS ARP	N445703.499	W0720936.723	92840.5

GC-59 SESSION 2 FILE: 30763137.13o OP1389281637250

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: dgedenk@photoscience.com DATE: January 09, 2014
RINEX FILE: 3076313t.13o TIME: 16:49:45 UTC

SOFTWARE: rsgps 1.37 RS92.prl 1.89 START: 2013/11/09 19:33:20
EPHEMERIS: igs17656.eph [precise] STOP: 2013/11/09 19:56:05
NAV FILE: brdc3130.13n OBS USED: 640 / 736 : 87%
ANT NAME: TRM55971.00 NONE QUALITY IND. 10.65/ 10.02
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.354

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.85705)

X:	1355320.721(m)	0.018(m)	1355319.878(m)	0.018(m)
Y:	-4371721.831(m)	0.022(m)	-4371720.428(m)	0.022(m)
Z:	4427400.308(m)	0.023(m)	4427400.298(m)	0.023(m)
LAT:	44 14 26.02237	0.010(m)	44 14 26.05807	0.010(m)
E LON:	287 13 28.11317	0.014(m)	287 13 28.09561	0.014(m)
W LON:	72 46 31.88683	0.014(m)	72 46 31.90439	0.014(m)
EL HGT:	171.765(m)	0.032(m)	170.619(m)	0.032(m)
ORTHO HGT:	199.367(m)	0.035(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4900998.321	193406.355
Easting (X) [meters]	677624.453	477991.527
Convergence [degrees]	1.55236000	-0.19222636
Point Scale	0.99998803	0.99997024
Combined Factor	0.99996110	0.99994331

US NATIONAL GRID DESIGNATOR: 18TXQ7762400998(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	15608.9
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	36208.5
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	40420.6
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	44189.1
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	58902.2
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	62322.5
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	67726.8
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	72263.0

GC-60 SESSION 1 FILE: 30763172.13o OP1389041010150

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 3076317p.13o TIME: 22:41:57 UTC

SOFTWARE: rsgps 1.37 RS54.prl 1.89 START: 2013/11/13 15:01:51
EPHEMERIS: igs17663.eph [precise] STOP: 2013/11/13 15:22:29
NAV FILE: brdc3170.13n OBS USED: 1589 / 1708 : 93%
ANT NAME: TRM55971.00 NONE QUALITY IND. 18.89/ 15.46
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.339

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.86749)

X:	1354298.574(m)	0.041(m)	1354297.731(m)	0.041(m)
Y:	-4378088.888(m)	0.034(m)	-4378087.484(m)	0.034(m)
Z:	4421641.591(m)	0.108(m)	4421641.580(m)	0.108(m)
LAT:	44 10 1.72778	0.087(m)	44 10 1.76342	0.087(m)
E LON:	287 11 19.31189	0.036(m)	287 11 19.29431	0.036(m)
W LON:	72 48 40.68811	0.036(m)	72 48 40.70569	0.036(m)
EL HGT:	299.986(m)	0.076(m)	298.838(m)	0.076(m)
ORTHO HGT:	327.520(m)	0.077(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4892766.994	185259.238
Easting (X) [meters]	674984.819	475102.719
Convergence [degrees]	1.52536942	-0.21690217
Point Scale	0.99997659	0.99997191
Combined Factor	0.99992955	0.99992488

US NATIONAL GRID DESIGNATOR: 18TXP7498492766(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	21113.6
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	30311.3
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	51971.3
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	58560.6
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	67752.9
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	74526.2
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	91999.9

GC-60 SESSION 2 FILE: 3076313A.13o OP1389281637250

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: dgedenk@photoscience.com DATE: January 09, 2014
RINEX FILE: 3076313v.13o TIME: 17:11:04 UTC

SOFTWARE: rsgps 1.37 RS54.prl 1.89 START: 2013/11/09 21:08:40
EPHEMERIS: igs17656.eph [precise] STOP: 2013/11/09 21:31:00
NAV FILE: brdc3130.13n OBS USED: 1179 / 1611 : 73%
ANT NAME: TRM55971.00 NONE QUALITY IND. 19.84/ 7.85
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.325

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000) (EPOCH:2013.85723)		IGS08	
X:	1354298.564(m)	0.006(m)	1354297.721(m)	0.006(m)
Y:	-4378088.880(m)	0.013(m)	-4378087.476(m)	0.013(m)
Z:	4421641.585(m)	0.016(m)	4421641.574(m)	0.016(m)
LAT:	44 10 1.72788	0.011(m)	44 10 1.76352	0.011(m)
E LON:	287 11 19.31156	0.003(m)	287 11 19.29399	0.003(m)
W LON:	72 48 40.68844	0.003(m)	72 48 40.70601	0.003(m)
EL HGT:	299.975(m)	0.018(m)	298.826(m)	0.018(m)
ORTHO HGT:	327.509(m)	0.022(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4892766.996	185259.241
Easting (X) [meters]	674984.812	475102.712
Convergence [degrees]	1.52536936	-0.21690224
Point Scale	0.99997659	0.99997191
Combined Factor	0.99992956	0.99992488

US NATIONAL GRID DESIGNATOR: 18TXP7498492766(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	21113.6
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	30311.4
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	33136.8
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	45584.7
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	51971.3
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	58560.6
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	63676.1
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	67752.9
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	74526.2

GC-61 Session 1 FILE: 10673102.13o OP1388759155120

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067310s.13o TIME: 14:31:45 UTC

SOFTWARE: rsgps 1.37 RS51.prl 1.89 START: 2013/11/06 18:14:31
EPHEMERIS: igs17653.eph [precise] STOP: 2013/11/06 18:36:11
NAV FILE: brdc3100.13n OBS USED: 2709 / 2709 : 100%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 18.72/ 37.49
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.358

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.84868)

X:	1306869.686(m)	0.009(m)	1306868.842(m)	0.009(m)
Y:	-4357450.850(m)	0.018(m)	-4357449.453(m)	0.018(m)
Z:	4455522.548(m)	0.017(m)	4455522.539(m)	0.017(m)
LAT:	44 35 46.73173	0.005(m)	44 35 46.76748	0.005(m)
E LON:	286 41 41.40308	0.005(m)	286 41 41.38462	0.005(m)
W LON:	73 18 18.59692	0.005(m)	73 18 18.61538	0.005(m)
EL HGT:	9.878(m)	0.026(m)	8.746(m)	0.026(m)
ORTHO HGT:	38.981(m)	0.029(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4939504.676	233214.780
Easting (X) [meters]	634513.810	436073.275
Convergence [degrees]	1.19013318	-0.56533182
Point Scale	0.99982251	1.00001452
Combined Factor	0.99982096	1.00001297

US NATIONAL GRID DESIGNATOR: 18TXQ3451339504(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	15078.7
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	29498.9
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	46876.1
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	67521.8
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	75270.1
DI0602	NYML MALONE CORS ARP	N445215.384	W0741717.343	83630.9
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	92033.9
DJ8955	VTD9 DERBY CORS ARP	N445703.499	W0720936.723	98830.6
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	104124.4

GC-61 Session 2 FILE: 10673163.13o OP1388767719558

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067316s.13o TIME: 16:52:47 UTC

SOFTWARE: rsgps 1.37 RS93.prl 1.89 START: 2013/11/12 18:37:52
EPHEMERIS: igs17662.eph [precise] STOP: 2013/11/12 18:58:23
NAV FILE: brdc3160.13n OBS USED: 2007 / 2403 : 84%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 16.01/ 3.07
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.330

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.86516)

X:	1306869.668(m)	0.008(m)	1306868.824(m)	0.008(m)
Y:	-4357450.849(m)	0.022(m)	-4357449.452(m)	0.022(m)
Z:	4455522.581(m)	0.036(m)	4455522.572(m)	0.036(m)
LAT:	44 35 46.73263	0.012(m)	44 35 46.76838	0.012(m)
E LON:	286 41 41.40231	0.004(m)	286 41 41.38385	0.004(m)
W LON:	73 18 18.59769	0.004(m)	73 18 18.61615	0.004(m)
EL HGT:	9.897(m)	0.041(m)	8.765(m)	0.041(m)
ORTHO HGT:	39.000(m)	0.043(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4939504.703	233214.808
Easting (X) [meters]	634513.792	436073.258
Convergence [degrees]	1.19013303	-0.56533197
Point Scale	0.99982251	1.00001452
Combined Factor	0.99982096	1.00001297

US NATIONAL GRID DESIGNATOR: 18TXQ3451339504(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	15078.7
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	29498.9
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	46876.1
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	67521.9
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	75270.1
DI0602	NYML MALONE CORS ARP	N445215.384	W0741717.343	83630.9
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	92033.9
DJ8955	VTD9 DERBY CORS ARP	N445703.499	W0720936.723	98830.6
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	104124.4

GC-62 SESSION 1 FILE: 10673116.13o OP1388762072542

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067311q.13o TIME: 15:42:56 UTC

SOFTWARE: rsgps 1.37 RS82.prl 1.89 START: 2013/11/07 16:58:34
EPHEMERIS: igs17654.eph [precise] STOP: 2013/11/07 17:19:24
NAV FILE: brdc3110.13n OBS USED: 2457 / 2826 : 87%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 8.03/ 3.68
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.343

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.85127)

X:	1306325.328(m)	0.004(m)	1306324.483(m)	0.004(m)
Y:	-4345465.361(m)	0.012(m)	-4345463.966(m)	0.012(m)
Z:	4467305.848(m)	0.012(m)	4467305.840(m)	0.012(m)
LAT:	44 44 43.20836	0.004(m)	44 44 43.24419	0.004(m)
E LON:	286 43 54.21548	0.003(m)	286 43 54.19695	0.003(m)
W LON:	73 16 5.78452	0.003(m)	73 16 5.80305	0.003(m)
EL HGT:	19.092(m)	0.017(m)	17.965(m)	0.017(m)
ORTHO HGT:	48.131(m)	0.021(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4956119.684	249746.010
Easting (X) [meters]	637090.007	439158.485
Convergence [degrees]	1.21925003	-0.54084794
Point Scale	0.99983111	1.00000979
Combined Factor	0.99982812	1.00000680

US NATIONAL GRID DESIGNATOR: 18TXQ3709056119(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	16315.8
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	31187.6
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	63341.9
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	76294.2
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	80958.2
DJ8955	VTD9 DERBY CORS ARP	N445703.499	W0720936.723	90531.1
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	104087.5
DL3079	VTIP ISLAND POND CORS ARP	N444912.180	W0715325.838	109358.6
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	123179.1

GC-62 SESSION 2 FILE: 1067311D.13o OP1388764551057

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067311u.13o TIME: 16:00:24 UTC

SOFTWARE: rsgps 1.37 RS52.prl 1.89 START: 2013/11/07 20:46:59
EPHEMERIS: igs17654.eph [precise] STOP: 2013/11/07 21:07:22
NAV FILE: brdc3110.13n OBS USED: 2214 / 2583 : 86%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 24.63/ 31.11
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.323

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.85171)

X:	1306325.326(m)	0.006(m)	1306324.481(m)	0.006(m)
Y:	-4345465.358(m)	0.021(m)	-4345463.963(m)	0.021(m)
Z:	4467305.835(m)	0.019(m)	4467305.827(m)	0.019(m)
LAT:	44 44 43.20814	0.005(m)	44 44 43.24397	0.005(m)
E LON:	286 43 54.21543	0.004(m)	286 43 54.19690	0.004(m)
W LON:	73 16 5.78457	0.004(m)	73 16 5.80310	0.004(m)
EL HGT:	19.081(m)	0.028(m)	17.953(m)	0.028(m)
ORTHO HGT:	48.120(m)	0.031(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4956119.677	249746.003
Easting (X) [meters]	637090.006	439158.484
Convergence [degrees]	1.21925002	-0.54084795
Point Scale	0.99983111	1.00000979
Combined Factor	0.99982812	1.00000680

US NATIONAL GRID DESIGNATOR: 18TXQ3709056119(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	16315.8
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	31187.6
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	63341.9
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	76294.2
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	80958.2
DJ8955	VTD9 DERBY CORS ARP	N445703.499	W0720936.723	90531.1
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	104087.5
DL3079	VTIP ISLAND POND CORS ARP	N444912.180	W0715325.838	109358.6
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	123179.1

GC-63 Session 1 FILE: 10673103.13o OP1388759155120

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067310s.13o TIME: 14:44:39 UTC

SOFTWARE: rsgps 1.37 RS92.prl 1.89 START: 2013/11/06 18:51:37
EPHEMERIS: igs17653.eph [precise] STOP: 2013/11/06 19:12:54
NAV FILE: brdc3100.13n OBS USED: 2051 / 2065 : 99%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 4.63/ 19.72
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.382

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.84875)

X:	1303013.547(m)	0.020(m)	1303012.703(m)	0.020(m)
Y:	-4355199.219(m)	0.047(m)	-4355197.823(m)	0.047(m)
Z:	4458830.374(m)	0.081(m)	4458830.365(m)	0.081(m)
LAT:	44 38 17.26715	0.024(m)	44 38 17.30289	0.024(m)
E LON:	286 39 23.16124	0.008(m)	286 39 23.14270	0.008(m)
W LON:	73 20 36.83876	0.008(m)	73 20 36.85730	0.008(m)
EL HGT:	10.200(m)	0.092(m)	9.069(m)	0.092(m)
ORTHO HGT:	39.273(m)	0.093(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4944086.954	237892.128
Easting (X) [meters]	631371.722	433072.488
Convergence [degrees]	1.16402047	-0.59273417
Point Scale	0.99981223	1.00001935
Combined Factor	0.99981063	1.00001775

US NATIONAL GRID DESIGNATOR: 18TXQ3137144086(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	9953.8
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	22052.0
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	28078.2
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	50127.0
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	69270.7
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	72676.3
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	97574.8

GC-63 Session 2 FILE: 10673110.13o OP1388762072542

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067311n.13o TIME: 15:24:45 UTC

SOFTWARE: rsgps 1.37 RS80.prl 1.89 START: 2013/11/07 13:59:55
EPHEMERIS: igs17654.eph [precise] STOP: 2013/11/07 14:20:27
NAV FILE: brdc3110.13n OBS USED: 1845 / 2232 : 83%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 17.86/ 16.91
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.353

REF FRAME:	NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2013.85093)	
X:	1303013.544(m)	0.008(m)	1303012.700(m)	0.008(m)
Y:	-4355199.203(m)	0.022(m)	-4355197.807(m)	0.022(m)
Z:	4458830.354(m)	0.020(m)	4458830.345(m)	0.020(m)
LAT:	44 38 17.26705	0.005(m)	44 38 17.30279	0.005(m)
E LON:	286 39 23.16131	0.005(m)	286 39 23.14278	0.005(m)
W LON:	73 20 36.83869	0.005(m)	73 20 36.85722	0.005(m)
EL HGT:	10.174(m)	0.030(m)	9.044(m)	0.030(m)
ORTHO HGT:	39.247(m)	0.033(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4944086.951	237892.125
Easting (X) [meters]	631371.723	433072.490
Convergence [degrees]	1.16402049	-0.59273415
Point Scale	0.99981223	1.00001935
Combined Factor	0.99981064	1.00001775

US NATIONAL GRID DESIGNATOR: 18TXQ3137144086(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	9953.8
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	22052.0
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	28078.2
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	37323.1
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	50127.0
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	69270.7
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	72676.3
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	78982.7
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	97574.8

GC-65 Session 1 FILE: 10673115.13o OP1388764612462

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067311q.13o TIME: 16:01:00 UTC

SOFTWARE: rsgps 1.37 RS80.prl 1.89 START: 2013/11/07 16:21:35
EPHEMERIS: igs17654.eph [precise] STOP: 2013/11/07 16:43:20
NAV FILE: brdc3110.13n OBS USED: 1548 / 1845 : 84%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 25.86/ 26.43
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.321

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.85120)

X:	1303102.273(m)	0.009(m)	1303101.428(m)	0.009(m)
Y:	-4346569.609(m)	0.019(m)	-4346568.214(m)	0.019(m)
Z:	4467159.148(m)	0.017(m)	4467159.140(m)	0.017(m)
LAT:	44 44 36.84813	0.006(m)	44 44 36.88395	0.006(m)
E LON:	286 41 19.46107	0.004(m)	286 41 19.44249	0.004(m)
W LON:	73 18 40.53893	0.004(m)	73 18 40.55751	0.004(m)
EL HGT:	8.786(m)	0.026(m)	7.659(m)	0.026(m)
ORTHO HGT:	37.832(m)	0.029(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4955851.902	249582.721
Easting (X) [meters]	633691.030	435752.250
Convergence [degrees]	1.18893808	-0.57109434
Point Scale	0.99981979	1.00001503
Combined Factor	0.99981841	1.00001365

US NATIONAL GRID DESIGNATOR: 18TXQ3369155851(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	13291.7
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	19509.9
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	31787.4
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	62067.8
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	78145.0
DJ8955	VTD9 DERBY CORS ARP	N445703.499	W0720936.723	93872.5
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	105708.8
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	109104.7
DL3079	VTIP ISLAND POND CORS ARP	N444912.180	W0715325.838	112767.4

GC-65 Session: 2 FILE: 1067311C.13o OP1388762072542

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067311u.13o TIME: 15:32:40 UTC

SOFTWARE: rsgps 1.37 RS81.prl 1.89 START: 2013/11/07 20:16:13
EPHEMERIS: igs17654.eph [precise] STOP: 2013/11/07 20:39:15
NAV FILE: brdc3110.13n OBS USED: 1872 / 1953 : 96%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 16.51/ 26.44
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.316

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2013.85165)	
X:	1303102.270(m)	0.005(m)	1303101.425(m)	0.005(m)
Y:	-4346569.615(m)	0.019(m)	-4346568.220(m)	0.019(m)
Z:	4467159.155(m)	0.016(m)	4467159.147(m)	0.016(m)
LAT:	44 44 36.84818	0.006(m)	44 44 36.88400	0.006(m)
E LON:	286 41 19.46086	0.006(m)	286 41 19.44228	0.006(m)
W LON:	73 18 40.53914	0.006(m)	73 18 40.55772	0.006(m)
EL HGT:	8.794(m)	0.024(m)	7.667(m)	0.024(m)
ORTHO HGT:	37.840(m)	0.027(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4955851.904	249582.722
Easting (X) [meters]	633691.025	435752.246
Convergence [degrees]	1.18893804	-0.57109438
Point Scale	0.99981979	1.00001503
Combined Factor	0.99981841	1.00001365

US NATIONAL GRID DESIGNATOR: 18TXQ3369155851(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	13291.7
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	19509.9
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	31787.4
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	62067.8
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	78145.0
DJ8955	VTD9 DERBY CORS ARP	N445703.499	W0720936.723	93872.5
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	105708.8
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	109104.7
DL3079	VTIP ISLAND POND CORS ARP	N444912.180	W0715325.838	112767.4

GC-66 Session 1 FILE: 10673130.13o OP1388765928452

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067313o.13o TIME: 16:28:45 UTC

SOFTWARE: rsgps 1.37 RS50.prl 1.89 START: 2013/11/09 14:06:29
EPHEMERIS: igs17656.eph [precise] STOP: 2013/11/09 14:27:29
NAV FILE: brdc3130.13n OBS USED: 1890 / 2241 : 84%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 21.53/ 16.56
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.294

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.85642)

X:	1298704.381(m)	0.007(m)	1298703.536(m)	0.007(m)
Y:	-4351571.876(m)	0.021(m)	-4351570.481(m)	0.021(m)
Z:	4463595.543(m)	0.021(m)	4463595.534(m)	0.021(m)
LAT:	44 41 54.30398	0.003(m)	44 41 54.33974	0.003(m)
E LON:	286 37 2.87372	0.003(m)	286 37 2.85507	0.003(m)
W LON:	73 22 57.12628	0.003(m)	73 22 57.14493	0.003(m)
EL HGT:	10.961(m)	0.031(m)	9.833(m)	0.031(m)
ORTHO HGT:	39.990(m)	0.032(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (3101 NY E)
Northing (Y) [meters]	4950721.773	651970.573
Easting (X) [meters]	628148.159	238560.764
Convergence [degrees]	1.13783879	0.78604785
Point Scale	0.99980194	0.99999642
Combined Factor	0.99980022	0.99999470

US NATIONAL GRID DESIGNATOR: 18TXQ2814850721(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	5995.0
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	26746.2
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	55746.4
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	70603.7
DI0602	NYML MALONE CORS ARP	N445215.384	W0741717.343	74192.4
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	79893.1
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	83424.8
DJ8955	VTD9 DERBY CORS ARP	N445703.499	W0720936.723	100662.8
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	104782.9

GC-66 Session 2 FILE: 10673133.13o OP1388765531819

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067313t.13o TIME: 16:16:05 UTC

SOFTWARE: rsgps 1.37 RS92.prl 1.89 START: 2013/11/09 19:13:47
EPHEMERIS: igs17656.eph [precise] STOP: 2013/11/09 19:34:21
NAV FILE: brdc3130.13n OBS USED: 1233 / 1476 : 84%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 9.90/ 5.08
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.293

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08
(EPOCH:2013.85701)

X:	1298704.387(m)	0.005(m)	1298703.542(m)	0.005(m)
Y:	-4351571.897(m)	0.010(m)	-4351570.502(m)	0.010(m)
Z:	4463595.559(m)	0.011(m)	4463595.550(m)	0.011(m)
LAT:	44 41 54.30385	0.003(m)	44 41 54.33961	0.003(m)
E LON:	286 37 2.87371	0.003(m)	286 37 2.85505	0.003(m)
W LON:	73 22 57.12629	0.003(m)	73 22 57.14495	0.003(m)
EL HGT:	10.988(m)	0.015(m)	9.860(m)	0.015(m)
ORTHO HGT:	40.017(m)	0.018(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (3101 NY E)
Northing (Y) [meters]	4950721.769	651970.569
Easting (X) [meters]	628148.158	238560.764
Convergence [degrees]	1.13783878	0.78604784
Point Scale	0.99980194	0.99999642
Combined Factor	0.99980022	0.99999470

US NATIONAL GRID DESIGNATOR: 18TXQ2814850721(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	5995.0
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	26746.2
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	55746.4
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	70603.7
DI0602	NYML MALONE CORS ARP	N445215.384	W0741717.343	74192.4
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	79893.1
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	83424.8
DJ8955	VTD9 DERBY CORS ARP	N445703.499	W0720936.723	100662.8
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	104782.9

GC-67 Session 1 FILE: 10673132.13o OP1388765531819

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067313p.13o TIME: 16:17:01 UTC

SOFTWARE: rsgps 1.37 RS93.prl 1.89 START: 2013/11/09 15:42:51
EPHEMERIS: igs17656.eph [precise] STOP: 2013/11/09 16:03:39
NAV FILE: brdc3130.13n OBS USED: 1791 / 1989 : 90%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 13.53/ 29.39
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.324

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.85661)

X:	1296236.306(m)	0.006(m)	1296235.461(m)	0.006(m)
Y:	-4349255.110(m)	0.022(m)	-4349253.715(m)	0.022(m)
Z:	4466540.019(m)	0.019(m)	4466540.011(m)	0.019(m)
LAT:	44 44 8.76890	0.004(m)	44 44 8.80470	0.004(m)
E LON:	286 35 45.49800	0.002(m)	286 35 45.47931	0.002(m)
W LON:	73 24 14.50200	0.002(m)	73 24 14.52069	0.002(m)
EL HGT:	3.878(m)	0.029(m)	2.751(m)	0.029(m)
ORTHO HGT:	32.893(m)	0.031(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (3101 NY E)
Northing (Y) [meters]	4954837.252	656097.738
Easting (X) [meters]	626363.952	236801.524
Convergence [degrees]	1.12345411	0.77143481
Point Scale	0.99979636	0.99999262
Combined Factor	0.99979575	0.99999201

US NATIONAL GRID DESIGNATOR: 18TXQ2636354837(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	7286.5
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	26717.7
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	33840.5
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	59460.7
DI0602	NYML MALONE CORS ARP	N445215.384	W0741717.343	71543.6
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	83917.3
DJ8955	VTD9 DERBY CORS ARP	N445703.499	W0720936.723	101205.4
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	109135.0
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	115753.1

GC-67 Session 2 FILE: 10673135.13o OP1388765531819

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067313u.13o TIME: 16:17:03 UTC

SOFTWARE: rsgps 1.37 RS51.prl 1.89 START: 2013/11/09 20:10:17
EPHEMERIS: igs17656.eph [precise] STOP: 2013/11/09 20:31:33
NAV FILE: brdc3130.13n OBS USED: 1917 / 1989 : 96%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 17.12/ 29.14
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.287

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.85712)

X:	1296236.304(m)	0.008(m)	1296235.459(m)	0.008(m)
Y:	-4349255.103(m)	0.023(m)	-4349253.708(m)	0.023(m)
Z:	4466540.006(m)	0.016(m)	4466539.998(m)	0.016(m)
LAT:	44 44 8.76877	0.007(m)	44 44 8.80457	0.007(m)
E LON:	286 35 45.49801	0.003(m)	286 35 45.47931	0.003(m)
W LON:	73 24 14.50199	0.003(m)	73 24 14.52069	0.003(m)
EL HGT:	3.863(m)	0.028(m)	2.737(m)	0.028(m)
ORTHO HGT:	32.878(m)	0.030(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (3101 NY E)
Northing (Y) [meters]	4954837.247	656097.734
Easting (X) [meters]	626363.952	236801.524
Convergence [degrees]	1.12345411	0.77143481
Point Scale	0.99979636	0.99999262
Combined Factor	0.99979575	0.99999201

US NATIONAL GRID DESIGNATOR: 18TXQ2636354837(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	7286.5
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	26717.7
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	33840.5
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	59460.7
DI0602	NYML MALONE CORS ARP	N445215.384	W0741717.343	71543.6
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	83917.3
DJ8955	VTD9 DERBY CORS ARP	N445703.499	W0720936.723	101205.4
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	109135.0
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	115753.1

GC-68 SESSION 1 FILE: 08863130.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886313n.13o TIME: 23:28:48 UTC

SOFTWARE: rsgps 1.37 RS82.prl 1.89 START: 2013/11/09 13:54:25
EPHEMERIS: igs17656.eph [precise] STOP: 2013/11/09 14:20:35
NAV FILE: brdc3130.13n OBS USED: 1413 / 1548 : 91%
ANT NAME: TRM55971.00 NONE QUALITY IND. 17.65/ 14.76
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.293

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000) (EPOCH:2013.85641)		IGS08	
X:	1295608.658(m)	0.010(m)	1295607.813(m)	0.010(m)
Y:	-4344269.740(m)	0.017(m)	-4344268.346(m)	0.017(m)
Z:	4471540.315(m)	0.019(m)	4471540.307(m)	0.019(m)
LAT:	44 47 56.85946	0.009(m)	44 47 56.89528	0.009(m)
E LON:	286 36 22.91782	0.007(m)	286 36 22.89911	0.007(m)
W LON:	73 23 37.08218	0.007(m)	73 23 37.10089	0.007(m)
EL HGT:	5.995(m)	0.025(m)	4.870(m)	0.025(m)
ORTHO HGT:	35.064(m)	0.027(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (3101 NY E)
Northing (Y) [meters]	4961891.507	663149.038
Easting (X) [meters]	627047.952	237529.019
Convergence [degrees]	1.13203399	0.77962071
Point Scale	0.99979849	0.99999418
Combined Factor	0.99979755	0.99999324

US NATIONAL GRID DESIGNATOR: 18TXQ2704761891(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	13999.6
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	24634.3
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	39815.3
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	66534.7
DI0602	NYML MALONE CORS ARP	N445215.384	W0741717.343	71181.3
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	77391.9
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	87685.5
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	91001.4
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	114441.9

GC-68 SESSION 2 FILE: 08863132.13o OP1389282938444

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: dgedenk@photoscience.com DATE: January 09, 2014
RINEX FILE: 0886313t.13o TIME: 18:26:15 UTC

SOFTWARE: rsgps 1.37 RS82.prl 1.89 START: 2013/11/09 19:13:15
EPHEMERIS: igs17656.eph [precise] STOP: 2013/11/09 19:38:45
NAV FILE: brdc3130.13n OBS USED: 553 / 742 : 75%
ANT NAME: TRM55971.00 NONE QUALITY IND. 11.61/ 7.81
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.313

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.85701)

X:	1295608.637(m)	0.032(m)	1295607.792(m)	0.032(m)
Y:	-4344269.745(m)	0.018(m)	-4344268.351(m)	0.018(m)
Z:	4471540.331(m)	0.023(m)	4471540.323(m)	0.023(m)
LAT:	44 47 56.85985	0.015(m)	44 47 56.89567	0.015(m)
E LON:	286 36 22.91684	0.031(m)	286 36 22.89813	0.031(m)
W LON:	73 23 37.08316	0.031(m)	73 23 37.10187	0.031(m)
EL HGT:	6.005(m)	0.027(m)	4.880(m)	0.027(m)
ORTHO HGT:	35.074(m)	0.029(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (3101 NY E)
Northing (Y) [meters]	4961891.519	663149.050
Easting (X) [meters]	627047.931	237528.997
Convergence [degrees]	1.13203380	0.77962052
Point Scale	0.99979849	0.99999418
Combined Factor	0.99979755	0.99999324

US NATIONAL GRID DESIGNATOR: 18TXQ2704761891(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	13999.6
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	24634.3
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	39815.3
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	66534.7
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	77391.9
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	87685.5
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	114441.9

GC-69 Session 1 FILE: 10673160.13o OP1388767206365

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067316q.13o TIME: 16:48:02 UTC

SOFTWARE: rsgps 1.37 RS83.prl 1.89 START: 2013/11/12 16:56:48
EPHEMERIS: igs17662.eph [precise] STOP: 2013/11/12 17:18:01
NAV FILE: brdc3160.13n OBS USED: 2709 / 3087 : 88%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 19.45/ 36.10
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.325

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.86497)

X:	1302669.016(m)	0.004(m)	1302668.171(m)	0.004(m)
Y:	-4341277.103(m)	0.013(m)	-4341275.709(m)	0.013(m)
Z:	4472400.469(m)	0.013(m)	4472400.462(m)	0.013(m)
LAT:	44 48 35.88789	0.004(m)	44 48 35.92375	0.004(m)
E LON:	286 42 9.74058	0.003(m)	286 42 9.72198	0.003(m)
W LON:	73 17 50.25942	0.003(m)	73 17 50.27802	0.003(m)
EL HGT:	13.594(m)	0.018(m)	12.469(m)	0.018(m)
ORTHO HGT:	42.708(m)	0.022(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4963250.876	256950.386
Easting (X) [meters]	634642.274	436930.654
Convergence [degrees]	1.20017452	-0.56191769
Point Scale	0.99982292	1.00001318
Combined Factor	0.99982079	1.00001105

US NATIONAL GRID DESIGNATOR: 18TXQ3464263250(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	16986.3
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	38678.2
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	50198.6
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	69453.2
DI0602	NYML MALONE CORS ARP	N445215.384	W0741717.343	78635.4
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	83288.1
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	90891.2
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	110852.2
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	129702.3

GC-69 Session 2 FILE: 1067311E.13o OP1388762072542

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067311v.13o TIME: 15:36:26 UTC

SOFTWARE: rsgps 1.37 RS81.prl 1.89 START: 2013/11/07 21:19:10
EPHEMERIS: igs17654.eph [precise] STOP: 2013/11/07 21:39:19
NAV FILE: brdc3110.13n OBS USED: 1791 / 2520 : 71%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 11.77/ 4.21
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.335

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.85177)

X:	1302669.009(m)	0.009(m)	1302668.164(m)	0.009(m)
Y:	-4341277.080(m)	0.017(m)	-4341275.686(m)	0.017(m)
Z:	4472400.457(m)	0.018(m)	4472400.450(m)	0.018(m)
LAT:	44 48 35.88816	0.004(m)	44 48 35.92403	0.004(m)
E LON:	286 42 9.74058	0.009(m)	286 42 9.72198	0.009(m)
W LON:	73 17 50.25942	0.009(m)	73 17 50.27802	0.009(m)
EL HGT:	13.568(m)	0.024(m)	12.444(m)	0.024(m)
ORTHO HGT:	42.682(m)	0.027(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4963250.884	256950.395
Easting (X) [meters]	634642.274	436930.654
Convergence [degrees]	1.20017452	-0.56191769
Point Scale	0.99982292	1.00001318
Combined Factor	0.99982079	1.00001105

US NATIONAL GRID DESIGNATOR: 18TXQ3464263250(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	16986.3
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	38678.2
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	69453.2
DI0602	NYML MALONE CORS ARP	N445215.384	W0741717.343	78635.4
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	83288.1
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	110852.2
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	129702.3
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	136048.2
DI0612	NYPD POTSDAM CORS ARP	N443909.059	W0750230.504	139289.9

GC-70 Session 1 FILE: 10673120.13o OP1388764754319

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067312n.13o TIME: 16:05:10 UTC

SOFTWARE: rsgps 1.37 RS50.prl 1.89 START: 2013/11/08 13:56:41 EPHEMERIS: igs17655.eph [precise] STOP: 2013/11/08 14:17:21
NAV FILE: brdc3120.13n OBS USED: 1845 / 2160 : 85%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 19.40/ 21.11
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.305

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2013.85367)	
X:	1303981.532(m)	0.007(m)	1303980.687(m)	0.007(m)
Y:	-4339028.816(m)	0.017(m)	-4339027.422(m)	0.017(m)
Z:	4474176.835(m)	0.020(m)	4474176.828(m)	0.020(m)
LAT:	44 49 57.25599	0.004(m)	44 49 57.29187	0.004(m)
E LON:	286 43 36.39012	0.003(m)	286 43 36.37155	0.003(m)
W LON:	73 16 23.60988	0.003(m)	73 16 23.62845	0.003(m)
EL HGT:	6.155(m)	0.027(m)	5.031(m)	0.027(m)
ORTHO HGT:	35.300(m)	0.030(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4965801.785	259443.656
Easting (X) [meters]	636492.217	438858.534
Convergence [degrees]	1.21762838	-0.54516939
Point Scale	0.99982909	1.00001024
Combined Factor	0.99982813	1.00000927

US NATIONAL GRID DESIGNATOR: 18TXQ3649265801(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	15303.6
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	22126.8
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	40817.1
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	72406.2
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	80459.0
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	83870.2
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	86848.7
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	110175.4
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	130060.9

GC-70 Session 2 FILE: 10673164.13o OP1388767206365

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067316u.13o TIME: 16:48:51 UTC

SOFTWARE: rsgps 1.37 RS93.prl 1.89 START: 2013/11/12 20:39:31
EPHEMERIS: igs17662.eph [precise] STOP: 2013/11/12 21:00:43
NAV FILE: brdc3160.13n OBS USED: 1908 / 2673 : 71%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 18.74/ 0.39
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.325

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.86539)

X:	1303981.548(m)	0.010(m)	1303980.702(m)	0.010(m)
Y:	-4339028.809(m)	0.040(m)	-4339027.415(m)	0.040(m)
Z:	4474176.814(m)	0.039(m)	4474176.807(m)	0.039(m)
LAT:	44 49 57.25555	0.005(m)	44 49 57.29145	0.005(m)
E LON:	286 43 36.39091	0.003(m)	286 43 36.37229	0.003(m)
W LON:	73 16 23.60909	0.003(m)	73 16 23.62771	0.003(m)
EL HGT:	6.139(m)	0.056(m)	5.015(m)	0.056(m)
ORTHO HGT:	35.284(m)	0.058(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4965801.772	259443.642
Easting (X) [meters]	636492.234	438858.551
Convergence [degrees]	1.21762853	-0.54516923
Point Scale	0.99982909	1.00001024
Combined Factor	0.99982813	1.00000928

US NATIONAL GRID DESIGNATOR: 18TXQ3649265801(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	15303.6
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	22126.8
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	40817.1
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	51569.2
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	72406.2
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	80459.0
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	83870.2
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	86848.8
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	93165.7

GC-71 SESSION 1 FILE: 08863126.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886312q.13o TIME: 23:27:12 UTC

SOFTWARE: rsgps 1.37 RS50.prl 1.89 START: 2013/11/08 16:33:30
EPHEMERIS: igs17655.eph [precise] STOP: 2013/11/08 16:54:15
NAV FILE: brdc3120.13n OBS USED: 1512 / 2097 : 72%
ANT NAME: TRM55971.00 NONE QUALITY IND. 4.52/ 32.44
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.258

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.85396)

X:	1292847.365(m)	0.003(m)	1292846.520(m)	0.003(m)
Y:	-4342043.488(m)	0.011(m)	-4342042.094(m)	0.011(m)
Z:	4474486.805(m)	0.009(m)	4474486.797(m)	0.009(m)
LAT:	44 50 11.29094	0.004(m)	44 50 11.32678	0.004(m)
E LON:	286 34 51.41094	0.003(m)	286 34 51.39218	0.003(m)
W LON:	73 25 8.58906	0.003(m)	73 25 8.60782	0.003(m)
EL HGT:	10.035(m)	0.014(m)	8.911(m)	0.014(m)
ORTHO HGT:	39.136(m)	0.018(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES (UTM (Zone 18))	STATE PLANE COORDINATES (SPC (3101 NY E))
Northing (Y) [meters]	4966000.208	667271.337
Easting (X) [meters]	624956.889	235462.868
Convergence [degrees]	1.11484721	0.76220657
Point Scale	0.99979200	0.99998979
Combined Factor	0.99979043	0.99998822

US NATIONAL GRID DESIGNATOR: 18TXQ2495666000(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	17527.8
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	26785.5
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	44421.5
DI0602	NYML MALONE CORS ARP	N445215.384	W0741717.343	68807.2
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	79031.9
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	91116.8
DJ8955	VTD9 DERBY CORS ARP	N445703.499	W0720936.723	100251.2
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	119011.7
DI0612	NYPD POTSDAM CORS ARP	N443909.059	W0750230.504	130128.7

GC-71 SESSION 2 FILE: 0886312D.13o OP1389282938444

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: dgedenk@photoscience.com DATE: January 09, 2014
RINEX FILE: 0886312u.13o TIME: 17:48:27 UTC

SOFTWARE: rsgps 1.37 RS82.prl 1.89 START: 2013/11/08 20:55:45
EPHEMERIS: igs17655.eph [precise] STOP: 2013/11/08 21:20:30
NAV FILE: brdc3120.13n OBS USED: 2610 / 3321 : 79%
ANT NAME: TRM55971.00 NONE QUALITY IND. 21.52/ 1.14
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.305

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.85447)

X:	1292847.363(m)	0.004(m)	1292846.518(m)	0.004(m)
Y:	-4342043.486(m)	0.010(m)	-4342042.092(m)	0.010(m)
Z:	4474486.800(m)	0.014(m)	4474486.792(m)	0.014(m)
LAT:	44 50 11.29088	0.006(m)	44 50 11.32672	0.006(m)
E LON:	286 34 51.41088	0.004(m)	286 34 51.39211	0.004(m)
W LON:	73 25 8.58912	0.004(m)	73 25 8.60789	0.004(m)
EL HGT:	10.029(m)	0.016(m)	8.905(m)	0.016(m)
ORTHO HGT:	39.130(m)	0.019(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (3101 NY E)
Northing (Y) [meters]	4966000.206	667271.335
Easting (X) [meters]	624956.887	235462.866
Convergence [degrees]	1.11484720	0.76220656
Point Scale	0.99979200	0.99998979
Combined Factor	0.99979043	0.99998822

US NATIONAL GRID DESIGNATOR: 18TXQ2495666000(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	17527.8
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	26785.5
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	44421.5
DI0602	NYML MALONE CORS ARP	N445215.384	W0741717.343	68807.2
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	79031.9
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	91116.8
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	95489.8
DJ8955	VTD9 DERBY CORS ARP	N445703.499	W0720936.723	100251.2
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	119011.7

GC-72 Session 1 FILE: 10673128.13o OP1388764754319

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067312r.13o TIME: 16:07:20 UTC

SOFTWARE: rsgps 1.37 RS80.prl 1.89 START: 2013/11/08 17:41:50
EPHEMERIS: igs17655.eph [precise] STOP: 2013/11/08 18:02:55
NAV FILE: brdc3120.13n OBS USED: 2268 / 2421 : 94%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 4.49/ 32.52
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.277

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.85409)

X:	1297569.732(m)	0.006(m)	1297568.887(m)	0.006(m)
Y:	-4340356.433(m)	0.018(m)	-4340355.039(m)	0.018(m)
Z:	4474749.531(m)	0.015(m)	4474749.524(m)	0.015(m)
LAT:	44 50 23.41377	0.003(m)	44 50 23.44965	0.003(m)
E LON:	286 38 39.40658	0.003(m)	286 38 39.38790	0.003(m)
W LON:	73 21 20.59342	0.003(m)	73 21 20.61210	0.003(m)
EL HGT:	6.298(m)	0.024(m)	5.175(m)	0.024(m)
ORTHO HGT:	35.446(m)	0.027(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4966473.644	260316.475
Easting (X) [meters]	629955.050	432343.846
Convergence [degrees]	1.15958828	-0.60341468
Point Scale	0.99980767	1.00002055
Combined Factor	0.99980668	1.00001956

US NATIONAL GRID DESIGNATOR: 18TXQ2995566473(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	19318.1
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	43045.5
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	71549.7
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	82719.6
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	86693.7
DL3079	VTIP ISLAND POND CORS ARP	N444912.180	W0715325.838	115889.7
DI0612	NYPD POTSDAM CORS ARP	N443909.059	W0750230.504	135137.2
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	138604.4
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	168042.9

GC-72 Session 2 FILE: 1067312D.13o OP1388765327433

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067312u.13o TIME: 16:13:33 UTC

SOFTWARE: rsgps 1.37 RS93.prl 1.89 START: 2013/11/08 20:25:04
EPHEMERIS: igs17655.eph [precise] STOP: 2013/11/08 20:45:32
NAV FILE: brdc3120.13n OBS USED: 2214 / 2214 : 100%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 22.90/ 25.06
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.300

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.85441)

X:	1297569.732(m)	0.009(m)	1297568.887(m)	0.009(m)
Y:	-4340356.441(m)	0.027(m)	-4340355.047(m)	0.027(m)
Z:	4474749.540(m)	0.026(m)	4474749.533(m)	0.026(m)
LAT:	44 50 23.41381	0.005(m)	44 50 23.44968	0.005(m)
E LON:	286 38 39.40648	0.004(m)	286 38 39.38779	0.004(m)
W LON:	73 21 20.59352	0.004(m)	73 21 20.61221	0.004(m)
EL HGT:	6.310(m)	0.039(m)	5.186(m)	0.039(m)
ORTHO HGT:	35.458(m)	0.041(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4966473.645	260316.476
Easting (X) [meters]	629955.047	432343.844
Convergence [degrees]	1.15958826	-0.60341470
Point Scale	0.99980767	1.00002055
Combined Factor	0.99980668	1.00001956

US NATIONAL GRID DESIGNATOR: 18TXQ2995566473(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	19318.1
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	43045.5
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	71549.7
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	82719.6
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	86693.7
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	94865.7
DL3079	VTIP ISLAND POND CORS ARP	N444912.180	W0715325.838	115889.7
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	135347.3
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	138604.4

GC-73 Session 1 FILE: 10673126.13o OP1388764754319

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067312q.13o TIME: 16:05:04 UTC

SOFTWARE: rsgps 1.37 RS51.prl 1.89 START: 2013/11/08 16:31:04
EPHEMERIS: igs17655.eph [precise] STOP: 2013/11/08 16:53:03
NAV FILE: brdc3120.13n OBS USED: 1530 / 2223 : 69%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 4.18/ 18.41
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.289

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.85396)

X:	1297947.200(m)	0.005(m)	1297946.354(m)	0.005(m)
Y:	-4337159.711(m)	0.013(m)	-4337158.317(m)	0.013(m)
Z:	4477750.579(m)	0.009(m)	4477750.572(m)	0.009(m)
LAT:	44 52 39.83647	0.005(m)	44 52 39.87237	0.005(m)
E LON:	286 39 37.60120	0.003(m)	286 39 37.58248	0.003(m)
W LON:	73 20 22.39880	0.003(m)	73 20 22.41752	0.003(m)
EL HGT:	28.843(m)	0.015(m)	27.720(m)	0.015(m)
ORTHO HGT:	58.048(m)	0.019(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4970709.214	264514.250
Easting (X) [meters]	631146.586	433665.448
Convergence [degrees]	1.17176995	-0.59240850
Point Scale	0.99981150	1.00001837
Combined Factor	0.99980698	1.00001385

US NATIONAL GRID DESIGNATOR: 18TXQ3114670709(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	21702.9
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	46765.2
DI0602	NYML MALONE CORS ARP	N445215.384	W0741717.343	74961.5
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	86652.9
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	91101.7
DL3079	VTIP ISLAND POND CORS ARP	N444912.180	W0715325.838	114732.4
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	119639.7
DI0612	NYPD POTSDAM CORS ARP	N443909.059	W0750230.504	137064.8
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	142849.9

GC-73 Session 2 FILE: 1067312B.13o OP1388764754319

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067312t.13o TIME: 16:03:16 UTC

SOFTWARE: rsgps 1.37 RS92.prl 1.89 START: 2013/11/08 19:29:57
EPHEMERIS: igs17655.eph [precise] STOP: 2013/11/08 19:50:38
NAV FILE: brdc3120.13n OBS USED: 1512 / 1602 : 94%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 21.08/ 11.09
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.295

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2013.85430)	
X:	1297947.208(m)	0.004(m)	1297946.362(m)	0.004(m)
Y:	-4337159.740(m)	0.016(m)	-4337158.346(m)	0.016(m)
Z:	4477750.592(m)	0.010(m)	4477750.585(m)	0.010(m)
LAT:	44 52 39.83608	0.006(m)	44 52 39.87198	0.006(m)
E LON:	286 39 37.60117	0.001(m)	286 39 37.58245	0.001(m)
W LON:	73 20 22.39883	0.001(m)	73 20 22.41755	0.001(m)
EL HGT:	28.874(m)	0.019(m)	27.750(m)	0.019(m)
ORTHO HGT:	58.079(m)	0.022(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4970709.202	264514.238
Easting (X) [meters]	631146.586	433665.447
Convergence [degrees]	1.17176994	-0.59240851
Point Scale	0.99981150	1.00001837
Combined Factor	0.99980697	1.00001384

US NATIONAL GRID DESIGNATOR: 18TXQ3114670709(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	21702.9
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	46765.2
DI0602	NYML MALONE CORS ARP	N445215.384	W0741717.343	74961.5
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	86652.9
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	91101.7
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	98815.1
DL3079	VTIP ISLAND POND CORS ARP	N444912.180	W0715325.838	114732.4
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	119639.7
DI0612	NYPD POTSDAM CORS ARP	N443909.059	W0750230.504	137064.8

GC-74 Session 1 FILE: 10673125.13o OP1388765345354

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067312p.13o TIME: 16:13:07 UTC

SOFTWARE: rsgps 1.37 RS50.prl 1.89 START: 2013/11/08 15:58:32
EPHEMERIS: igs17655.eph [precise] STOP: 2013/11/08 16:21:54
NAV FILE: brdc3120.13n OBS USED: 1917 / 2070 : 93%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 29.32/ 20.11
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.251

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.85390)

X:	1297344.147(m)	0.004(m)	1297343.301(m)	0.004(m)
Y:	-4335383.726(m)	0.015(m)	-4335382.333(m)	0.015(m)
Z:	4479603.137(m)	0.010(m)	4479603.130(m)	0.010(m)
LAT:	44 54 5.20472	0.005(m)	44 54 5.24063	0.005(m)
E LON:	286 39 34.47606	0.002(m)	286 39 34.45732	0.002(m)
W LON:	73 20 25.52394	0.002(m)	73 20 25.54268	0.002(m)
EL HGT:	8.374(m)	0.018(m)	7.252(m)	0.018(m)
ORTHO HGT:	37.616(m)	0.022(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4973342.026	267150.129
Easting (X) [meters]	631024.158	433624.140
Convergence [degrees]	1.17164372	-0.59326751
Point Scale	0.99981110	1.00001844
Combined Factor	0.99980979	1.00001713

US NATIONAL GRID DESIGNATOR: 18TXQ3102473342(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	22821.1
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	26123.1
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	49342.6
DI0602	NYML MALONE CORS ARP	N445215.384	W0741717.343	74950.4
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	78498.5
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	88556.8
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	93133.7
DL3079	VTIP ISLAND POND CORS ARP	N444912.180	W0715325.838	114954.6
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	118357.0

GC-74 Session 2 FILE: 1067312A.13o OP1388764754319

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067312t.13o TIME: 16:05:21 UTC

SOFTWARE: rsgps 1.37 RS90.prl 1.89 START: 2013/11/08 19:01:43
EPHEMERIS: igs17655.eph [precise] STOP: 2013/11/08 19:22:23
NAV FILE: brdc3120.13n OBS USED: 2187 / 2232 : 98%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 17.99/ 20.61
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.279

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2013.85425)	
X:	1297344.154(m)	0.004(m)	1297343.308(m)	0.004(m)
Y:	-4335383.728(m)	0.012(m)	-4335382.335(m)	0.012(m)
Z:	4479603.138(m)	0.015(m)	4479603.131(m)	0.015(m)
LAT:	44 54 5.20466	0.006(m)	44 54 5.24056	0.006(m)
E LON:	286 39 34.47634	0.003(m)	286 39 34.45760	0.003(m)
W LON:	73 20 25.52366	0.003(m)	73 20 25.54240	0.003(m)
EL HGT:	8.377(m)	0.019(m)	7.255(m)	0.019(m)
ORTHO HGT:	37.619(m)	0.022(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4973342.024	267150.127
Easting (X) [meters]	631024.164	433624.146
Convergence [degrees]	1.17164377	-0.59326746
Point Scale	0.99981110	1.00001844
Combined Factor	0.99980979	1.00001713

US NATIONAL GRID DESIGNATOR: 18TXQ3102473342(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	22821.1
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	26123.1
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	49342.6
DI0602	NYML MALONE CORS ARP	N445215.384	W0741717.343	74950.4
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	78498.6
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	88721.7
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	93133.7
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	101430.6
DL3079	VTIP ISLAND POND CORS ARP	N444912.180	W0715325.838	114954.5

GC-75 SESSION 1 FILE: 08863160.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886316q.13o TIME: 23:46:17 UTC

SOFTWARE: rsgps 1.37 RS82.prl 1.89 START: 2013/11/12 16:49:51
EPHEMERIS: igs17662.eph [precise] STOP: 2013/11/12 17:10:54
NAV FILE: brdc3160.13n OBS USED: 2043 / 2637 : 77%
ANT NAME: TRM55971.00 NONE QUALITY IND. 19.25/ 33.44
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.294

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) (EPOCH:2013.86495) IGS08

X:	1302267.038(m)	0.004(m)	1302266.192(m)	0.004(m)
Y:	-4334746.745(m)	0.017(m)	-4334745.351(m)	0.017(m)
Z:	4478788.395(m)	0.014(m)	4478788.389(m)	0.014(m)
LAT:	44 53 28.13108	0.004(m)	44 53 28.16703	0.004(m)
E LON:	286 43 17.72679	0.004(m)	286 43 17.70815	0.004(m)
W LON:	73 16 42.27321	0.004(m)	73 16 42.29185	0.004(m)
EL HGT:	2.655(m)	0.021(m)	1.532(m)	0.021(m)
ORTHO HGT:	31.889(m)	0.025(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4972300.046	265956.884
Easting (X) [meters]	635944.469	438510.983
Convergence [degrees]	1.21521897	-0.54938888
Point Scale	0.99982725	1.00001076
Combined Factor	0.99982683	1.00001034

US NATIONAL GRID DESIGNATOR: 18TXQ3594472300(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	17968.6
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	27200.9
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	47319.4
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	57673.5
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	78539.1
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	83898.0
DJ8955	VTD9 DERBY CORS ARP	N445703.499	W0720936.723	88539.1
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	99682.8
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	113496.9

GC-75 SESSION 2 FILE: 10673124.13o OP1388764754319

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067312p.13o TIME: 16:05:11 UTC

SOFTWARE: rsgps 1.37 RS53.prl 1.89 START: 2013/11/08 15:20:09
EPHEMERIS: igs17655.eph [precise] STOP: 2013/11/08 15:40:35
NAV FILE: brdc3120.13n OBS USED: 2061 / 2187 : 94%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 13.87/ 0.59
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.312

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000) (EPOCH:2013.85383)		IGS08	
X:	1302267.023(m)	0.006(m)	1302266.177(m)	0.006(m)
Y:	-4334746.713(m)	0.027(m)	-4334745.319(m)	0.027(m)
Z:	4478788.352(m)	0.030(m)	4478788.346(m)	0.030(m)
LAT:	44 53 28.13090	0.006(m)	44 53 28.16685	0.006(m)
E LON:	286 43 17.72656	0.004(m)	286 43 17.70791	0.004(m)
W LON:	73 16 42.27344	0.004(m)	73 16 42.29209	0.004(m)
EL HGT:	2.600(m)	0.040(m)	1.477(m)	0.040(m)
ORTHO HGT:	31.834(m)	0.042(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4972300.040	265956.878
Easting (X) [meters]	635944.463	438510.977
Convergence [degrees]	1.21521892	-0.54938893
Point Scale	0.99982725	1.00001076
Combined Factor	0.99982684	1.00001035

US NATIONAL GRID DESIGNATOR: 18TXQ3594472300(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	17968.6
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	27200.9
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	47319.4
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	78539.1
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	83898.0
DJ8955	VTD9 DERBY CORS ARP	N445703.499	W0720936.723	88539.1
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	113496.9
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	118654.0
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	134977.8

GC-76 SESSION 1 FILE: 08863122.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886312n.13o TIME: 23:16:38 UTC

SOFTWARE: rsgps 1.37 RS81.prl 1.89 START: 2013/11/08 13:49:30
EPHEMERIS: igs17655.eph [precise] STOP: 2013/11/08 14:10:15
NAV FILE: brdc3120.13n OBS USED: 2079 / 2331 : 89%
ANT NAME: TRM55971.00 NONE QUALITY IND. 21.22/ 4.67
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.305

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.85365)

X:	1299081.962(m)	0.005(m)	1299081.116(m)	0.005(m)
Y:	-4329708.322(m)	0.011(m)	-4329706.929(m)	0.011(m)
Z:	4484549.795(m)	0.009(m)	4484549.789(m)	0.009(m)
LAT:	44 57 51.62005	0.006(m)	44 57 51.65602	0.006(m)
E LON:	286 42 4.68580	0.002(m)	286 42 4.66709	0.002(m)
W LON:	73 17 55.31420	0.002(m)	73 17 55.33291	0.002(m)
EL HGT:	6.468(m)	0.014(m)	5.348(m)	0.014(m)
ORTHO HGT:	35.838(m)	0.019(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES (UTM (Zone 18))	STATE PLANE COORDINATES (SPC (4400 VT))
Northing (Y) [meters]	4980396.806	274105.950
Easting (X) [meters]	634171.797	436988.353
Convergence [degrees]	1.20243162	-0.56443191
Point Scale	0.99982136	1.00001309
Combined Factor	0.99982035	1.00001208

US NATIONAL GRID DESIGNATOR: 18TXQ3417180396(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	24275.0
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	33826.4
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	55597.3
DI0602	NYML MALONE CORS ARP	N445215.384	W0741717.343	78813.8
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	86031.5
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	89582.3
DL3079	VTIP ISLAND POND CORS ARP	N444912.180	W0715325.838	112389.5
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	118949.5
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	126641.8

GC-76 SESSION 2 FILE: 08863129.13o OP1389282938444

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: dgedenk@photoscience.com DATE: January 09, 2014
RINEX FILE: 0886312s.13o TIME: 17:45:01 UTC

SOFTWARE: rsgps 1.37 RS80.prl 1.89 START: 2013/11/08 18:34:30
EPHEMERIS: igs17655.eph [precise] STOP: 2013/11/08 18:55:15
NAV FILE: brdc3120.13n OBS USED: 2250 / 2493 : 90%
ANT NAME: TRM55971.00 NONE QUALITY IND. 24.50/ 28.12
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.276

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000) (EPOCH:2013.85419)		IGS08	
X:	1299081.965(m)	0.006(m)	1299081.119(m)	0.006(m)
Y:	-4329708.323(m)	0.012(m)	-4329706.930(m)	0.012(m)
Z:	4484549.806(m)	0.013(m)	4484549.800(m)	0.013(m)
LAT:	44 57 51.62026	0.004(m)	44 57 51.65623	0.004(m)
E LON:	286 42 4.68592	0.005(m)	286 42 4.66721	0.005(m)
W LON:	73 17 55.31408	0.005(m)	73 17 55.33279	0.005(m)
EL HGT:	6.477(m)	0.018(m)	5.357(m)	0.018(m)
ORTHO HGT:	35.847(m)	0.022(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4980396.813	274105.957
Easting (X) [meters]	634171.799	436988.355
Convergence [degrees]	1.20243164	-0.56443189
Point Scale	0.99982136	1.00001309
Combined Factor	0.99982034	1.00001207

US NATIONAL GRID DESIGNATOR: 18TXQ3417180396(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	24275.0
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	33826.4
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	55597.3
DI0602	NYML MALONE CORS ARP	N445215.384	W0741717.343	78813.8
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	86031.5
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	89582.3
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	107939.6
DL3079	VTIP ISLAND POND CORS ARP	N444912.180	W0715325.838	112389.5
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	118949.5

GC-77 SESSION 1 FILE: 08863110.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886311n.13o TIME: 23:47:01 UTC

SOFTWARE: rsgps 1.37 RS92.prl 1.89 START: 2013/11/07 13:20:15
EPHEMERIS: igs17654.eph [precise] STOP: 2013/11/07 13:41:15
NAV FILE: brdc3110.13n OBS USED: 2646 / 2736 : 97%
ANT NAME: TRM55971.00 NONE QUALITY IND. 17.47/ 11.72
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.323

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2013.85086)	
X:	1295503.063(m)	0.004(m)	1295502.217(m)	0.004(m)
Y:	-4326966.643(m)	0.011(m)	-4326965.251(m)	0.011(m)
Z:	4488204.151(m)	0.010(m)	4488204.146(m)	0.010(m)
LAT:	45 0 39.02006	0.006(m)	45 0 39.05606	0.006(m)
E LON:	286 40 4.12491	0.003(m)	286 40 4.10614	0.003(m)
W LON:	73 19 55.87509	0.003(m)	73 19 55.89386	0.003(m)
EL HGT:	5.767(m)	0.014(m)	4.649(m)	0.014(m)
ORTHO HGT:	35.248(m)	0.019(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4985507.471	279299.958
Easting (X) [meters]	631424.371	434399.360
Convergence [degrees]	1.17971280	-0.58857765
Point Scale	0.99981239	1.00001718
Combined Factor	0.99981149	1.00001628

US NATIONAL GRID DESIGNATOR: 18TXQ3142485507(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	29855.5
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	37928.4
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	61120.8
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	71586.0
DI0602	NYML MALONE CORS ARP	N445215.384	W0741717.343	77037.7
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	90551.4
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	94707.4
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	98362.2
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	102295.6

GC-77 SESSION 2 FILE: 08863115.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886311s.13o TIME: 23:40:26 UTC

SOFTWARE: rsgps 1.37 RS82.prl 1.89 START: 2013/11/07 18:00:45
EPHEMERIS: igs17654.eph [precise] STOP: 2013/11/07 18:21:30
NAV FILE: brdc3110.13n OBS USED: 2502 / 2637 : 95%
ANT NAME: TRM55971.00 NONE QUALITY IND. 23.99/ 6.10
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.310

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.85139)

X:	1295503.051(m)	0.006(m)	1295502.205(m)	0.006(m)
Y:	-4326966.617(m)	0.019(m)	-4326965.225(m)	0.019(m)
Z:	4488204.126(m)	0.014(m)	4488204.121(m)	0.014(m)
LAT:	45 0 39.02014	0.006(m)	45 0 39.05613	0.006(m)
E LON:	286 40 4.12473	0.003(m)	286 40 4.10595	0.003(m)
W LON:	73 19 55.87527	0.003(m)	73 19 55.89405	0.003(m)
EL HGT:	5.729(m)	0.023(m)	4.612(m)	0.023(m)
ORTHO HGT:	35.210(m)	0.026(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4985507.473	279299.960
Easting (X) [meters]	631424.367	434399.356
Convergence [degrees]	1.17971277	-0.58857768
Point Scale	0.99981239	1.00001718
Combined Factor	0.99981149	1.00001628

US NATIONAL GRID DESIGNATOR: 18TXQ3142485507(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	29855.5
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	37928.4
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	61120.8
DI0602	NYML MALONE CORS ARP	N445215.384	W0741717.343	77037.7
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	90551.4
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	94707.4
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	98362.2
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	102295.6
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	113382.4

GC-78 SESSION 1 FILE: 08863117.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886311t.13o TIME: 22:44:14 UTC

SOFTWARE: rsgps 1.37 RS93.prl 1.89 START: 2013/11/07 19:22:30
EPHEMERIS: igs17654.eph [precise] STOP: 2013/11/07 19:43:30
NAV FILE: brdc3110.13n OBS USED: 1548 / 1737 : 89%
ANT NAME: TRM55971.00 NONE QUALITY IND. 16.77/ 7.11
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.343

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.85155)

X:	1293223.086(m)	0.008(m)	1293222.240(m)	0.008(m)
Y:	-4328593.693(m)	0.017(m)	-4328592.301(m)	0.017(m)
Z:	4487296.420(m)	0.015(m)	4487296.414(m)	0.015(m)
LAT:	44 59 57.48588	0.005(m)	44 59 57.52184	0.005(m)
E LON:	286 38 3.09332	0.006(m)	286 38 3.07451	0.006(m)
W LON:	73 21 56.90668	0.006(m)	73 21 56.92549	0.006(m)
EL HGT:	4.088(m)	0.023(m)	2.969(m)	0.023(m)
ORTHO HGT:	33.529(m)	0.025(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (3101 NY E)
Northing (Y) [meters]	4984171.819	685422.469
Easting (X) [meters]	628800.966	239419.649
Convergence [degrees]	1.15569285	0.80203841
Point Scale	0.99980399	0.99999829
Combined Factor	0.99980335	0.99999765

US NATIONAL GRID DESIGNATOR: 18TXQ2880084171(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	30778.4
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	36083.6
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	60389.0
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	88835.9
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	102848.9
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	112482.6
DL3079	VTIP ISLAND POND CORS ARP	N444912.180	W0715325.838	118196.0
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	125493.5
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	132498.3

GC-78 SESSION 2 FILE: 08863161.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886316r.13o TIME: 23:23:11 UTC

SOFTWARE: rsgps 1.37 RS54.prl 1.89 START: 2013/11/12 17:34:51
EPHEMERIS: igs17662.eph [precise] STOP: 2013/11/12 17:56:56
NAV FILE: brdc3160.13n OBS USED: 2178 / 2268 : 96%
ANT NAME: TRM55971.00 NONE QUALITY IND. 26.77/ 2.30
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.339

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2013.86504)	
X:	1293223.089(m)	0.011(m)	1293222.243(m)	0.011(m)
Y:	-4328593.684(m)	0.023(m)	-4328592.292(m)	0.023(m)
Z:	4487296.397(m)	0.017(m)	4487296.391(m)	0.017(m)
LAT:	44 59 57.48553	0.006(m)	44 59 57.52149	0.006(m)
E LON:	286 38 3.09357	0.005(m)	286 38 3.07476	0.005(m)
W LON:	73 21 56.90643	0.005(m)	73 21 56.92524	0.005(m)
EL HGT:	4.066(m)	0.029(m)	2.948(m)	0.029(m)
ORTHO HGT:	33.507(m)	0.031(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (3101 NY E)
Northing (Y) [meters]	4984171.808	685422.458
Easting (X) [meters]	628800.971	239419.655
Convergence [degrees]	1.15569290	0.80203846
Point Scale	0.99980399	0.99999829
Combined Factor	0.99980335	0.99999765

US NATIONAL GRID DESIGNATOR: 18TXQ2880084171(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	30778.4
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	36083.6
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	60389.0
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	71453.5
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	88835.9
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	102848.9
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	112482.6
DL3079	VTIP ISLAND POND CORS ARP	N444912.180	W0715325.838	118196.0
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	125493.5

GC-79 SESSION 1 FILE: 08863114.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886311q.13o TIME: 23:43:47 UTC

SOFTWARE: rsgps 1.37 RS91.prl 1.89 START: 2013/11/07 16:25:15
EPHEMERIS: igs17654.eph [precise] STOP: 2013/11/07 16:46:00
NAV FILE: brdc3110.13n OBS USED: 1512 / 2025 : 75%
ANT NAME: TRM55971.00 NONE QUALITY IND. 26.60/ 12.54
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.314

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000) (EPOCH:2013.85121)		IGS08	
X:	1289804.880(m)	0.006(m)	1289804.034(m)	0.006(m)
Y:	-4330390.242(m)	0.019(m)	-4330388.850(m)	0.019(m)
Z:	4486598.289(m)	0.020(m)	4486598.283(m)	0.020(m)
LAT:	44 59 24.44208	0.006(m)	44 59 24.47802	0.006(m)
E LON:	286 35 10.10518	0.004(m)	286 35 10.08631	0.004(m)
W LON:	73 24 49.89482	0.004(m)	73 24 49.91369	0.004(m)
EL HGT:	36.941(m)	0.028(m)	35.823(m)	0.028(m)
ORTHO HGT:	66.334(m)	0.030(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (3101 NY E)
Northing (Y) [meters]	4983076.888	684350.600
Easting (X) [meters]	625033.627	235644.885
Convergence [degrees]	1.12152196	0.76793126
Point Scale	0.99979223	0.99999017
Combined Factor	0.99978644	0.99998438

US NATIONAL GRID DESIGNATOR: 18TXQ2503383076(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	33007.9
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	60361.4
DI0602	NYML MALONE CORS ARP	N445215.384	W0741717.343	70278.4
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	87307.7
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	98749.7
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	104408.4
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	112119.8
DL3079	VTIP ISLAND POND CORS ARP	N444912.180	W0715325.838	121785.1
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	128213.9

GC-79 SESSION 2 FILE: 08863119.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886311v.13o TIME: 23:39:58 UTC

SOFTWARE: rsgps 1.37 RS81.prl 1.89 START: 2013/11/07 21:16:30
EPHEMERIS: igs17654.eph [precise] STOP: 2013/11/07 21:37:45
NAV FILE: brdc3110.13n OBS USED: 2322 / 2709 : 86%
ANT NAME: TRM55971.00 NONE QUALITY IND. 11.82/ 15.41
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.337

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.85176)

X:	1289804.884(m)	0.008(m)	1289804.038(m)	0.008(m)
Y:	-4330390.247(m)	0.015(m)	-4330388.855(m)	0.015(m)
Z:	4486598.296(m)	0.017(m)	4486598.290(m)	0.017(m)
LAT:	44 59 24.44210	0.005(m)	44 59 24.47805	0.005(m)
E LON:	286 35 10.10529	0.007(m)	286 35 10.08642	0.007(m)
W LON:	73 24 49.89471	0.007(m)	73 24 49.91358	0.007(m)
EL HGT:	36.950(m)	0.022(m)	35.832(m)	0.022(m)
ORTHO HGT:	66.343(m)	0.025(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (3101 NY E)
Northing (Y) [meters]	4983076.889	684350.601
Easting (X) [meters]	625033.630	235644.887
Convergence [degrees]	1.12152198	0.76793128
Point Scale	0.99979223	0.99999017
Combined Factor	0.99978644	0.99998438

US NATIONAL GRID DESIGNATOR: 18TXQ2503383076(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	33007.8
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	60361.4
DI0602	NYML MALONE CORS ARP	N445215.384	W0741717.343	70278.4
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	87307.7
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	98749.7
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	104408.4
DL3079	VTIP ISLAND POND CORS ARP	N444912.180	W0715325.838	121785.1
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	128213.9
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	133400.4

GC-80 SESSION 1 FILE: 08863123.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886312o.13o TIME: 23:22:42 UTC

SOFTWARE: rsgps 1.37 RS50.prl 1.89 START: 2013/11/08 14:40:30
EPHEMERIS: igs17655.eph [precise] STOP: 2013/11/08 15:01:15
NAV FILE: brdc3120.13n OBS USED: 2088 / 2268 : 92%
ANT NAME: TRM55971.00 NONE QUALITY IND. 16.74/ 23.40
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.308

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000) (EPOCH:2013.85375)		IGS08	
X:	1293166.987(m)	0.009(m)	1293166.141(m)	0.009(m)
Y:	-4334136.220(m)	0.015(m)	-4334134.827(m)	0.015(m)
Z:	4481991.952(m)	0.012(m)	4481991.946(m)	0.012(m)
LAT:	44 55 54.69711	0.005(m)	44 55 54.73304	0.005(m)
E LON:	286 36 48.28633	0.007(m)	286 36 48.26753	0.007(m)
W LON:	73 23 11.71367	0.007(m)	73 23 11.73247	0.007(m)
EL HGT:	1.769(m)	0.019(m)	0.649(m)	0.019(m)
ORTHO HGT:	31.051(m)	0.022(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (3101 NY E)
Northing (Y) [meters]	4976647.150	677905.661
Easting (X) [meters]	627312.310	237884.305
Convergence [degrees]	1.13965010	0.78641504
Point Scale	0.99979931	0.99999494
Combined Factor	0.99979903	0.99999466

US NATIONAL GRID DESIGNATOR: 18TXQ2731276647(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	27629.3
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	53542.4
DI0602	NYML MALONE CORS ARP	N445215.384	W0741717.343	71529.0
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	81177.8
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	93558.4
DJ8955	VTD9 DERBY CORS ARP	N445703.499	W0720936.723	96819.2
DL3079	VTIP ISLAND POND CORS ARP	N444912.180	W0715325.838	118866.6
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	123163.0
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	126704.7

GC-80 SESSION 2 FILE: 0886312A.13o OP1389282938444

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: dgedenk@photoscience.com DATE: January 09, 2014
RINEX FILE: 0886312t.13o TIME: 17:44:59 UTC

SOFTWARE: rsgps 1.37 RS81.prl 1.89 START: 2013/11/08 19:18:30
EPHEMERIS: igs17655.eph [precise] STOP: 2013/11/08 19:39:45
NAV FILE: brdc3120.13n OBS USED: 1548 / 1593 : 97%
ANT NAME: TRM55971.00 NONE QUALITY IND. 11.71/ 19.40
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.266

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000) (EPOCH:2013.85428)		IGS08	
X:	1293166.973(m)	0.004(m)	1293166.127(m)	0.004(m)
Y:	-4334136.187(m)	0.015(m)	-4334134.794(m)	0.015(m)
Z:	4481991.925(m)	0.014(m)	4481991.919(m)	0.014(m)
LAT:	44 55 54.69730	0.004(m)	44 55 54.73324	0.004(m)
E LON:	286 36 48.28615	0.003(m)	286 36 48.26734	0.003(m)
W LON:	73 23 11.71385	0.003(m)	73 23 11.73266	0.003(m)
EL HGT:	1.725(m)	0.020(m)	0.604(m)	0.020(m)
ORTHO HGT:	31.007(m)	0.023(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (3101 NY E)
Northing (Y) [meters]	4976647.156	677905.667
Easting (X) [meters]	627312.306	237884.301
Convergence [degrees]	1.13965006	0.78641501
Point Scale	0.99979931	0.99999494
Combined Factor	0.99979904	0.99999467

US NATIONAL GRID DESIGNATOR: 18TXQ2731276647(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	27629.4
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	53542.4
DI0602	NYML MALONE CORS ARP	N445215.384	W0741717.343	71529.0
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	81177.9
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	93558.4
DJ8955	VTD9 DERBY CORS ARP	N445703.499	W0720936.723	96819.2
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	105360.9
DL3079	VTIP ISLAND POND CORS ARP	N444912.180	W0715325.838	118866.6
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	123163.0

GC-81 SESSION 1 FILE: 08863125.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886312p.13o TIME: 23:23:55 UTC

SOFTWARE: rsgps 1.37 RS93.prl 1.89 START: 2013/11/08 15:48:00
EPHEMERIS: igs17655.eph [precise] STOP: 2013/11/08 16:08:30
NAV FILE: brdc3120.13n OBS USED: 1890 / 1971 : 96%
ANT NAME: TRM55971.00 NONE QUALITY IND. 18.00/ 26.53
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.293

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2013.85388)	
X:	1293453.355(m)	0.005(m)	1293452.509(m)	0.005(m)
Y:	-4337909.453(m)	0.019(m)	-4337908.060(m)	0.019(m)
Z:	4478307.507(m)	0.017(m)	4478307.500(m)	0.017(m)
LAT:	44 53 5.60065	0.005(m)	44 53 5.63653	0.005(m)
E LON:	286 36 11.63229	0.003(m)	286 36 11.61348	0.003(m)
W LON:	73 23 48.36771	0.003(m)	73 23 48.38652	0.003(m)
EL HGT:	19.468(m)	0.025(m)	18.346(m)	0.025(m)
ORTHO HGT:	48.665(m)	0.028(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (3101 NY E)
Northing (Y) [meters]	4971413.383	672675.284
Easting (X) [meters]	626611.988	237151.600
Convergence [degrees]	1.13152553	0.77858220
Point Scale	0.99979712	0.99999337
Combined Factor	0.99979407	0.99999032

US NATIONAL GRID DESIGNATOR: 18TXQ2661171413(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	23136.5
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	48808.9
DI0602	NYML MALONE CORS ARP	N445215.384	W0741717.343	70449.5
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	75896.5
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	91792.4
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	94740.6
DJ8955	VTD9 DERBY CORS ARP	N445703.499	W0720936.723	97915.1
DL3079	VTIP ISLAND POND CORS ARP	N444912.180	W0715325.838	119286.2
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	122616.4

GC-81 SESSION 2 FILE: 0886312C.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886312u.13o TIME: 23:23:32 UTC

SOFTWARE: rsgps 1.37 RS83.prl 1.89 START: 2013/11/08 20:21:15
EPHEMERIS: igs17655.eph [precise] STOP: 2013/11/08 20:41:30
NAV FILE: brdc3120.13n OBS USED: 2196 / 2223 : 99%
ANT NAME: TRM55971.00 NONE QUALITY IND. 14.90/ 19.43
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.285

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000) (EPOCH:2013.85440)		IGS08	
X:	1293453.361(m)	0.007(m)	1293452.515(m)	0.007(m)
Y:	-4337909.474(m)	0.024(m)	-4337908.081(m)	0.024(m)
Z:	4478307.528(m)	0.020(m)	4478307.521(m)	0.020(m)
LAT:	44 53 5.60063	0.006(m)	44 53 5.63651	0.006(m)
E LON:	286 36 11.63227	0.003(m)	286 36 11.61347	0.003(m)
W LON:	73 23 48.36773	0.003(m)	73 23 48.38653	0.003(m)
EL HGT:	19.498(m)	0.031(m)	18.376(m)	0.031(m)
ORTHO HGT:	48.695(m)	0.033(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (3101 NY E)
Northing (Y) [meters]	4971413.383	672675.284
Easting (X) [meters]	626611.988	237151.599
Convergence [degrees]	1.13152552	0.77858220
Point Scale	0.99979712	0.99999337
Combined Factor	0.99979406	0.99999031

US NATIONAL GRID DESIGNATOR: 18TXQ2661171413(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	23136.5
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	48808.9
DI0602	NYML MALONE CORS ARP	N445215.384	W0741717.343	70449.5
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	75896.5
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	91792.4
DJ8955	VTD9 DERBY CORS ARP	N445703.499	W0720936.723	97915.1
DL3079	VTIP ISLAND POND CORS ARP	N444912.180	W0715325.838	119286.2
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	122616.4
DI0612	NYPD POTSDAM CORS ARP	N443909.059	W0750230.504	132758.9

GC-82 SESSION 1 FILE: 10673244.13o OP1389040562596

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 1067324q.13o TIME: 21:11:50 UTC

SOFTWARE: rsgps 1.37 RS91.prl 1.89 START: 2013/11/20 16:33:22
EPHEMERIS: igs17673.eph [precise] STOP: 2013/11/20 16:54:50
NAV FILE: brdc3240.13n OBS USED: 2025 / 2385 : 85%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 23.48/ 9.19
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.331

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.88684)

X:	1360186.965(m)	0.006(m)	1360186.124(m)	0.006(m)
Y:	-4417642.496(m)	0.016(m)	-4417641.087(m)	0.016(m)
Z:	4380792.330(m)	0.015(m)	4380792.314(m)	0.015(m)
LAT:	43 39 20.04305	0.003(m)	43 39 20.07833	0.003(m)
E LON:	287 6 48.73653	0.007(m)	287 6 48.71916	0.007(m)
W LON:	72 53 11.26347	0.007(m)	72 53 11.28084	0.007(m)
EL HGT:	447.960(m)	0.021(m)	446.795(m)	0.021(m)
ORTHO HGT:	475.487(m)	0.025(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4835789.125	128444.905
Easting (X) [meters]	670430.095	468825.698
Convergence [degrees]	1.45937091	-0.26678524
Point Scale	0.99995728	0.99997623
Combined Factor	0.99988704	0.99990599

US NATIONAL GRID DESIGNATOR: 18TXP7043035789(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	9237.8
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	35078.7
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	38886.1
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	43719.7
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	53129.1
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	80928.0
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	89579.6
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	93792.0
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	99447.1

GC-82 SESSION 2 FILE: 10673249.13o OP1389040562596

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 1067324u.13o TIME: 20:45:36 UTC

SOFTWARE: rsgps 1.37 RS53.prl 1.89 START: 2013/11/20 20:34:21
EPHEMERIS: igs17673.eph [precise] STOP: 2013/11/20 20:55:42
NAV FILE: brdc3240.13n OBS USED: 1899 / 2277 : 83%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 7.70/ 25.72
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.329

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000) (EPOCH:2013.88730)		IGS08	
X:	1360186.968(m)	0.004(m)	1360186.127(m)	0.004(m)
Y:	-4417642.491(m)	0.012(m)	-4417641.082(m)	0.012(m)
Z:	4380792.321(m)	0.011(m)	4380792.305(m)	0.011(m)
LAT:	43 39 20.04293	0.004(m)	43 39 20.07821	0.004(m)
E LON:	287 6 48.73672	0.003(m)	287 6 48.71935	0.003(m)
W LON:	72 53 11.26328	0.003(m)	72 53 11.28065	0.003(m)
EL HGT:	447.951(m)	0.015(m)	446.786(m)	0.015(m)
ORTHO HGT:	475.478(m)	0.020(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4835789.121	128444.901
Easting (X) [meters]	670430.100	468825.702
Convergence [degrees]	1.45937095	-0.26678520
Point Scale	0.99995728	0.99997623
Combined Factor	0.99988704	0.99990599

US NATIONAL GRID DESIGNATOR: 18TXP7043035789(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	9237.7
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	35078.7
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	38886.1
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	43719.7
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	53129.1
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	80928.0
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	89579.6
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	93792.0
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	99447.1

GC-83 SESSION 1 FILE: 10673220.13o OP1388771144306

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067322o.13o TIME: 17:52:02 UTC

SOFTWARE: rsgps 1.37 RS81.prl 1.89 START: 2013/11/18 14:38:14
EPHEMERIS: igs17671.eph [precise] STOP: 2013/11/18 14:59:22
NAV FILE: brdc3220.13n OBS USED: 2106 / 2277 : 92%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 7.88/ 10.01
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.372

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2013.88114)	
X:	1347660.152(m)	0.009(m)	1347659.312(m)	0.009(m)
Y:	-4430157.147(m)	0.014(m)	-4430155.737(m)	0.014(m)
Z:	4371886.944(m)	0.015(m)	4371886.926(m)	0.015(m)
LAT:	43 32 45.62438	0.009(m)	43 32 45.65953	0.009(m)
E LON:	286 55 11.40999	0.010(m)	286 55 11.39247	0.010(m)
W LON:	73 4 48.59001	0.010(m)	73 4 48.60753	0.010(m)
EL HGT:	317.664(m)	0.018(m)	316.496(m)	0.018(m)
ORTHO HGT:	346.188(m)	0.022(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4823241.276	116363.612
Easting (X) [meters]	655091.482	453115.547
Convergence [degrees]	1.32290862	-0.39970351
Point Scale	0.99989587	0.99999131
Combined Factor	0.99984606	0.99994150

US NATIONAL GRID DESIGNATOR: 18TXP5509123241(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	10600.1
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	22842.6
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	50627.7
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	56974.3
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	74354.6
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	79671.3
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	89039.5
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	93161.2
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	96607.3

GC-83 SESSION 2 FILE: 10673227.13o OP1388771144306

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067322s.13o TIME: 17:50:30 UTC

SOFTWARE: rsgps 1.37 RS50.prl 1.89 START: 2013/11/18 18:53:05
EPHEMERIS: igs17671.eph [precise] STOP: 2013/11/18 19:14:25
NAV FILE: brdc3220.13n OBS USED: 990 / 1323 :
75%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 12.74/ 7.07
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.315

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08
(EPOCH:2013.88163)

X:	1347660.154(m)	0.013(m)	1347659.314(m)	0.013(m)
Y:	-4430157.172(m)	0.030(m)	-4430155.762(m)	0.030(m)
Z:	4371886.948(m)	0.019(m)	4371886.930(m)	0.019(m)
LAT:	43 32 45.62393	0.010(m)	43 32 45.65907	0.010(m)
E LON:	286 55 11.40975	0.004(m)	286 55 11.39223	0.004(m)
W LON:	73 4 48.59025	0.004(m)	73 4 48.60777	0.004(m)
EL HGT:	317.684(m)	0.036(m)	316.517(m)	0.036(m)
ORTHO HGT:	346.208(m)	0.038(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES (UTM (Zone 18))	STATE PLANE COORDINATES (SPC (4400 VT))
Northing (Y) [meters]	4823241.262	116363.598
Easting (X) [meters]	655091.477	453115.541
Convergence [degrees]	1.32290857	-0.39970356
Point Scale	0.99989587	0.99999131
Combined Factor	0.99984606	0.99994150

US NATIONAL GRID DESIGNATOR: 18TXP5509123241(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	22842.6
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	50627.8
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	74354.6
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	79671.3
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	89039.5
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	93161.2
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	96607.3
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	100112.6
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	116265.0

GC-84 SESSION 1 FILE: 10673191.13o OP1388769362716

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067319o.13o TIME: 17:24:36 UTC

SOFTWARE: rsgps 1.37 RS51.prl 1.89 START: 2013/11/15 14:48:50
EPHEMERIS: igs17665.eph [precise] STOP: 2013/11/15 15:09:29
NAV FILE: brdc3190.13n OBS USED: 1295 / 1610 : 80%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 12.16/ 4.54
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.350

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.87294)

X:	1352340.066(m)	0.034(m)	1352339.227(m)	0.034(m)
Y:	-4437644.750(m)	0.009(m)	-4437643.339(m)	0.009(m)
Z:	4362935.465(m)	0.093(m)	4362935.446(m)	0.093(m)
LAT:	43 26 5.08041	0.076(m)	43 26 5.11547	0.076(m)
E LON:	286 56 53.59210	0.032(m)	286 56 53.57471	0.032(m)
W LON:	73 3 6.40790	0.032(m)	73 3 6.42529	0.032(m)
EL HGT:	342.539(m)	0.056(m)	341.368(m)	0.056(m)
ORTHO HGT:	370.896(m)	0.057(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4810937.690	103986.924
Easting (X) [meters]	657673.773	455327.393
Convergence [degrees]	1.33973094	-0.37937042
Point Scale	0.99990582	0.99998882
Combined Factor	0.99985211	0.99993511

US NATIONAL GRID DESIGNATOR: 18TXP5767310937(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	10477.1
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	20026.9
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	43493.9
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	49568.7
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	62525.2
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	94656.6
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	98797.1

GC-84 SESSION 2 FILE: 1067319F.13o OP1388769362716

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067319x.13o TIME: 17:24:36 UTC

SOFTWARE: rsgps 1.37 RS82.prl 1.89 START: 2013/11/15 23:05:24
EPHEMERIS: igs17665.eph [precise] STOP: 2013/11/15 23:26:26
NAV FILE: brdc3190.13n OBS USED: 1674 / 1728 : 97%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 6.77/ 10.03
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.333

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2013.87389)	
X:	1352340.046(m)	0.009(m)	1352339.207(m)	0.009(m)
Y:	-4437644.715(m)	0.026(m)	-4437643.304(m)	0.026(m)
Z:	4362935.438(m)	0.027(m)	4362935.419(m)	0.027(m)
LAT:	43 26 5.08065	0.005(m)	43 26 5.11572	0.005(m)
E LON:	286 56 53.59171	0.004(m)	286 56 53.57431	0.004(m)
W LON:	73 3 6.40829	0.004(m)	73 3 6.42569	0.004(m)
EL HGT:	342.492(m)	0.038(m)	341.321(m)	0.038(m)
ORTHO HGT:	370.849(m)	0.040(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4810937.697	103986.931
Easting (X) [meters]	657673.764	455327.384
Convergence [degrees]	1.33973087	-0.37937050
Point Scale	0.99990582	0.99998882
Combined Factor	0.99985212	0.99993512

US NATIONAL GRID DESIGNATOR: 18TXP5767310937(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	10477.2
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	20026.9
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	43493.9
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	49568.7
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	62525.2
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	66697.6
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	94656.6
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	98797.1
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	106259.4

GC-85 SESSION 1 FILE: 1067322C.13o OP1388771144306

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067322v.13o TIME: 17:51:18 UTC

SOFTWARE: rsgps 1.37 RS80.prl 1.89 START: 2013/11/18 21:29:43
EPHEMERIS: igs17671.eph [precise] STOP: 2013/11/18 21:51:54
NAV FILE: brdc3220.13n OBS USED: 1881 / 1971 :
95%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 12.42/ 12.15
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.340

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08
(EPOCH:2013.88193)

X:	1363622.338(m)	0.005(m)	1363621.498(m)	0.005(m)
Y:	-4425829.112(m)	0.014(m)	-4425827.701(m)	0.014(m)
Z:	4371427.613(m)	0.020(m)	4371427.596(m)	0.020(m)
LAT:	43 32 22.90971	0.009(m)	43 32 22.94492	0.009(m)
E LON:	287 7 27.67327	0.003(m)	287 7 27.65602	0.003(m)
W LON:	72 52 32.32673	0.003(m)	72 52 32.34398	0.003(m)
EL HGT:	388.558(m)	0.023(m)	387.389(m)	0.023(m)
ORTHO HGT:	416.060(m)	0.026(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4822942.398	115567.638
Easting (X) [meters]	671631.454	469639.959
Convergence [degrees]	1.46373205	-0.25876856
Point Scale	0.99996235	0.99997562
Combined Factor	0.99990142	0.99991469

US NATIONAL GRID DESIGNATOR: 18TXP7163122942(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	23199.7
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	49512.3
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	55655.3
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	77623.9
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	83642.7
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	97536.0
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	106469.3
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	115150.2
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	128608.4

GC-85 SESSION 2 FILE: 10671370.14o OP1400517418576

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: dgedenk@quantumspatial.com DATE: May 19, 2014
RINEX FILE: 1067137m.14o TIME: 17:48:29 UTC

SOFTWARE: rsgps 1.37 RS53.prl 1.99.2 START: 2014/05/17 12:05:50
EPHEMERIS: igr17926.eph [rapid] STOP: 2014/05/17 12:51:23
NAV FILE: brdc1370.14n OBS USED: 2912 / 3368 : 86%
ANT NAME: TRMR8-4 NONE QUALITY IND. 7.70/ 27.62
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.324

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2014.37403)	
X:	1363622.352(m)	0.007(m)	1363621.504(m)	0.007(m)
Y:	-4425829.141(m)	0.016(m)	-4425827.731(m)	0.016(m)
Z:	4371427.643(m)	0.019(m)	4371427.627(m)	0.019(m)
LAT:	43 32 22.90970	0.005(m)	43 32 22.94497	0.005(m)
E LON:	287 7 27.67348	0.004(m)	287 7 27.65588	0.004(m)
W LON:	72 52 32.32652	0.004(m)	72 52 32.34412	0.004(m)
EL HGT:	388.602(m)	0.024(m)	387.433(m)	0.024(m)
ORTHO HGT:	416.104(m)	0.028(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4822942.397	115567.638
Easting (X) [meters]	671631.459	469639.963
Convergence [degrees]	1.46373209	-0.25876851
Point Scale	0.99996235	0.99997562
Combined Factor	0.99990142	0.99991469

US NATIONAL GRID DESIGNATOR: 18TXP7163122942(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	61474.7
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	115150.2
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	77623.9
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	80390.2
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	91639.3
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	92186.0
DP1320	MABN BERNARDSTON CORS ARP	N424011.991	W0723228.643	100382.4
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	106469.3

GC-86 SESSION 1 FILE: 10671443.14o OP1402663612299

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: dgedenk@quantumspatial.com DATE: June 13, 2014
RINEX FILE: 1067144o.14o TIME: 12:51:28 UTC

SOFTWARE: rsgps 1.37 RS52.prl 1.99.2 START: 2014/05/24 14:30:24
EPHEMERIS: igs17936.eph [precise] STOP: 2014/05/24 15:16:26
NAV FILE: brdc1440.14n OBS USED: 2880 / 3348 : 86%
ANT NAME: TRMR8-4 NONE QUALITY IND. 10.32/ 29.55
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.348

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2014.39348)	
X:	1347563.608(m)	0.008(m)	1347562.760(m)	0.008(m)
Y:	-4423234.347(m)	0.025(m)	-4423232.939(m)	0.025(m)
Z:	4378623.099(m)	0.025(m)	4378623.083(m)	0.025(m)
LAT:	43 37 52.28671	0.008(m)	43 37 52.32197	0.008(m)
E LON:	286 56 37.16429	0.002(m)	286 56 37.14641	0.002(m)
W LON:	73 3 22.83571	0.002(m)	73 3 22.85359	0.002(m)
EL HGT:	144.821(m)	0.035(m)	143.656(m)	0.035(m)
ORTHO HGT:	173.301(m)	0.037(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4832746.781	125814.442
Easting (X) [meters]	656794.474	455103.915
Convergence [degrees]	1.34142213	-0.38389084
Point Scale	0.99990240	0.99998907
Combined Factor	0.99987969	0.99996636

US NATIONAL GRID DESIGNATOR: 18TXP5679432746(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	55926.1
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	60862.2
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	75124.6
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	79750.3
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	83991.3
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	86570.1
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	93806.1
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	87642.5
DJ8953	VTD2 DUMMERSTON CORS ARP	N425506.107	W0723206.441	89788.4

GC-86 SESSOIN 2 FILE: 10673240.13o OP1389040562596

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 1067324n.13o TIME: 21:07:40 UTC

SOFTWARE: rsgps 1.37 RS52.prl 1.89 START: 2013/11/20 13:56:16
EPHEMERIS: igs17673.eph [precise] STOP: 2013/11/20 14:17:21
NAV FILE: brdc3240.13n OBS USED: 882 / 1379 : 64%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 16.95/ 22.50
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.288

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.88654)

X:	1347563.641(m)	0.008(m)	1347562.801(m)	0.008(m)
Y:	-4423234.368(m)	0.010(m)	-4423232.959(m)	0.010(m)
Z:	4378623.088(m)	0.013(m)	4378623.071(m)	0.013(m)
LAT:	43 37 52.28579	0.002(m)	43 37 52.32099	0.002(m)
E LON:	286 56 37.16542	0.006(m)	286 56 37.14790	0.006(m)
W LON:	73 3 22.83458	0.006(m)	73 3 22.85210	0.006(m)
EL HGT:	144.835(m)	0.017(m)	143.670(m)	0.017(m)
ORTHO HGT:	173.315(m)	0.022(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4832746.754	125814.413
Easting (X) [meters]	656794.500	455103.940
Convergence [degrees]	1.34142234	-0.38389062
Point Scale	0.99990240	0.99998907
Combined Factor	0.99987969	0.99996636

US NATIONAL GRID DESIGNATOR: 18TXP5679432746(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	6760.7
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	31636.0
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	41553.3
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	60862.1
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	83991.3
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	99876.6
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	110967.0

GC-87 SESSION 1 FILE: 10673221.13o OP1388771144306

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067322p.13o TIME: 17:52:13 UTC

SOFTWARE: rsgps 1.37 RS90.prl 1.89 START: 2013/11/18 15:11:36
EPHEMERIS: igs17671.eph [precise] STOP: 2013/11/18 15:32:36
NAV FILE: brdc3220.13n OBS USED: 1416 / 1696 : 83%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 4.57/ 24.40
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.375

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000) (EPOCH:2013.88121)		IGS08	
X:	1349846.092(m)	0.016(m)	1349845.252(m)	0.016(m)
Y:	-4426081.739(m)	0.028(m)	-4426080.329(m)	0.028(m)
Z:	4375037.185(m)	0.026(m)	4375037.167(m)	0.026(m)
LAT:	43 35 12.41728	0.006(m)	43 35 12.45246	0.006(m)
E LON:	286 57 37.50073	0.008(m)	286 57 37.48325	0.008(m)
W LON:	73 2 22.49927	0.008(m)	73 2 22.51675	0.008(m)
EL HGT:	125.477(m)	0.040(m)	124.310(m)	0.040(m)
ORTHO HGT:	153.895(m)	0.042(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4827846.455	120871.728
Easting (X) [meters]	658262.979	456424.386
Convergence [degrees]	1.35189396	-0.37202275
Point Scale	0.99990809	0.99998763
Combined Factor	0.99988842	0.99996795

US NATIONAL GRID DESIGNATOR: 18TXP5826227846(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	5358.3
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	26557.0
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	46654.4
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	56757.1
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	79320.7
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	83525.3
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	87938.7
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	91902.5

GC-87 SESSION 2 FILE: 10673228.13o OP1388771144306

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067322t.13o TIME: 17:50:51 UTC

SOFTWARE: rsgps 1.37 RS53.prl 1.89 START: 2013/11/18 19:23:42
EPHEMERIS: igs17671.eph [precise] STOP: 2013/11/18 19:44:26
NAV FILE: brdc3220.13n OBS USED: 1107 / 1242 : 89%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 4.78/ 10.55
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.314

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2013.88169)	
X:	1349846.093(m)	0.011(m)	1349845.253(m)	0.011(m)
Y:	-4426081.739(m)	0.026(m)	-4426080.329(m)	0.026(m)
Z:	4375037.192(m)	0.023(m)	4375037.174(m)	0.023(m)
LAT:	43 35 12.41744	0.005(m)	43 35 12.45262	0.005(m)
E LON:	286 57 37.50078	0.006(m)	286 57 37.48330	0.006(m)
W LON:	73 2 22.49922	0.006(m)	73 2 22.51670	0.006(m)
EL HGT:	125.482(m)	0.035(m)	124.315(m)	0.035(m)
ORTHO HGT:	153.900(m)	0.037(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4827846.459	120871.733
Easting (X) [meters]	658262.979	456424.387
Convergence [degrees]	1.35189397	-0.37202274
Point Scale	0.99990809	0.99998763
Combined Factor	0.99988842	0.99996795

US NATIONAL GRID DESIGNATOR: 18TXP5826227846(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	26557.0
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	46654.4
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	79320.7
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	83525.3
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	87938.7
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	91902.5
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	98869.4
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	102180.7
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	115339.2

GC-88 SESSION 1 FILE: 30763170.13o OP1389041010150

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 3076317n.13o TIME: 22:39:10 UTC

SOFTWARE: rsgps 1.37 RS92.prl 1.89 START: 2013/11/13 13:33:51
EPHEMERIS: igs17663.eph [precise] STOP: 2013/11/13 13:54:29
NAV FILE: brdc3170.13n OBS USED: 1467 / 1683 : 87%
ANT NAME: TRM55971.00 NONE QUALITY IND. 22.87/ 20.65
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.304

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2013.86732)	
X:	1364520.286(m)	0.009(m)	1364519.443(m)	0.009(m)
Y:	-4365982.314(m)	0.022(m)	-4365980.911(m)	0.022(m)
Z:	4430151.864(m)	0.023(m)	4430151.854(m)	0.023(m)
LAT:	44 16 31.95286	0.007(m)	44 16 31.98860	0.007(m)
E LON:	287 21 20.97968	0.004(m)	287 21 20.96227	0.004(m)
W LON:	72 38 39.02032	0.004(m)	72 38 39.03773	0.004(m)
EL HGT:	125.390(m)	0.032(m)	124.244(m)	0.032(m)
ORTHO HGT:	153.026(m)	0.034(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4905176.461	197266.365
Easting (X) [meters]	688001.500	488490.549
Convergence [degrees]	1.64510635	-0.10064820
Point Scale	1.00003470	0.99996591
Combined Factor	1.00001504	0.99994625

US NATIONAL GRID DESIGNATOR: 18TXQ8800105176(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	5159.4
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	31875.5
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	37513.7
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	49101.1
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	68767.3
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	71972.6
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	78600.1
DJ8955	VTD9 DERBY CORS ARP	N445703.499	W0720936.723	84318.1
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	106651.0

GC-88 SESSION 2 FILE: 30763179.13o OP1389041010150

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 3076317t.13o TIME: 21:33:08 UTC

SOFTWARE: rsgps 1.37 RS52.prl 1.89 START: 2013/11/13 19:42:21
EPHEMERIS: igs17663.eph [precise] STOP: 2013/11/13 20:03:06
NAV FILE: brdc3170.13n OBS USED: 1512 / 1908 : 79%
ANT NAME: TRM55971.00 NONE QUALITY IND. 18.36/ 28.44
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.263

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000) (EPOCH:2013.86802)		IGS08	
X:	1364520.300(m)	0.006(m)	1364519.457(m)	0.006(m)
Y:	-4365982.332(m)	0.020(m)	-4365980.929(m)	0.020(m)
Z:	4430151.878(m)	0.021(m)	4430151.868(m)	0.021(m)
LAT:	44 16 31.95270	0.005(m)	44 16 31.98844	0.005(m)
E LON:	287 21 20.98004	0.002(m)	287 21 20.96263	0.002(m)
W LON:	72 38 39.01996	0.002(m)	72 38 39.03737	0.002(m)
EL HGT:	125.415(m)	0.029(m)	124.269(m)	0.029(m)
ORTHO HGT:	153.051(m)	0.031(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4905176.457	197266.360
Easting (X) [meters]	688001.508	488490.557
Convergence [degrees]	1.64510641	-0.10064813
Point Scale	1.00003470	0.99996591
Combined Factor	1.00001503	0.99994625

US NATIONAL GRID DESIGNATOR: 18TXQ8800105176(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	5159.4
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	31875.5
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	37513.7
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	49101.1
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	68767.3
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	71972.6
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	78600.1
DJ8955	VTD9 DERBY CORS ARP	N445703.499	W0720936.723	84318.1
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	106651.0

GC-89 Session 1 FILE: 10673131.13o OP1388765531819

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067313o.13o TIME: 16:16:31 UTC

SOFTWARE: rsgps 1.37 RS83.prl 1.89 START: 2013/11/09 14:39:59
EPHEMERIS: igs17656.eph [precise] STOP: 2013/11/09 15:00:37
NAV FILE: brdc3130.13n OBS USED: 1305 / 1701 : 77%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 13.24/ 19.77
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.290

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.85649)

X:	1295042.801(m)	0.012(m)	1295041.956(m)	0.012(m)
Y:	-4350476.441(m)	0.022(m)	-4350475.046(m)	0.022(m)
Z:	4465702.306(m)	0.021(m)	4465702.297(m)	0.021(m)
LAT:	44 43 30.57043	0.004(m)	44 43 30.60619	0.004(m)
E LON:	286 34 37.67106	0.007(m)	286 34 37.65234	0.007(m)
W LON:	73 25 22.32894	0.007(m)	73 25 22.34766	0.007(m)
EL HGT:	3.836(m)	0.032(m)	2.708(m)	0.032(m)
ORTHO HGT:	32.837(m)	0.034(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (3101 NY E)
Northing (Y) [meters]	4953629.508	654898.806
Easting (X) [meters]	624895.031	235324.920
Convergence [degrees]	1.10998057	0.75802978
Point Scale	0.99979182	0.99998950
Combined Factor	0.99979122	0.99998890

US NATIONAL GRID DESIGNATOR: 18TXQ2489553629(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	5519.7
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	28507.8
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	33585.3
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	58041.4
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	70059.5
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	83557.9
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	87280.2
DJ8955	VTD9 DERBY CORS ARP	N445703.499	W0720936.723	102943.2
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	109077.8

GC-89 Session 2 FILE: 10673134.13o OP1388765944608

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067313t.13o TIME: 16:28:16 UTC

SOFTWARE: rsgps 1.37 RS51.prl 1.89 START: 2013/11/09 19:41:32
EPHEMERIS: igs17656.eph [precise] STOP: 2013/11/09 20:02:22
NAV FILE: brdc3130.13n OBS USED: 1719 / 1818 : 95%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 20.61/ 3.32
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.288

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.85706)

X:	1295042.803(m)	0.004(m)	1295041.958(m)	0.004(m)
Y:	-4350476.442(m)	0.015(m)	-4350475.047(m)	0.015(m)
Z:	4465702.312(m)	0.010(m)	4465702.303(m)	0.010(m)
LAT:	44 43 30.57053	0.007(m)	44 43 30.60630	0.007(m)
E LON:	286 34 37.67113	0.004(m)	286 34 37.65242	0.004(m)
W LON:	73 25 22.32887	0.004(m)	73 25 22.34758	0.004(m)
EL HGT:	3.841(m)	0.017(m)	2.713(m)	0.017(m)
ORTHO HGT:	32.842(m)	0.020(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (3101 NY E)
Northing (Y) [meters]	4953629.512	654898.809
Easting (X) [meters]	624895.032	235324.922
Convergence [degrees]	1.10998059	0.75802980
Point Scale	0.99979182	0.99998950
Combined Factor	0.99979122	0.99998890

US NATIONAL GRID DESIGNATOR: 18TXQ2489553629(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	5519.7
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	28507.8
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	33585.3
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	58041.4
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	70059.5
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	83557.9
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	87280.2
DJ8955	VTD9 DERBY CORS ARP	N445703.499	W0720936.723	102943.2
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	109077.8

GC-90 SESSION 1 FILE: 08863185.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886318p.13o TIME: 23:02:23 UTC

SOFTWARE: rsgps 1.37 RS92.prl 1.89 START: 2013/11/14 15:33:45
EPHEMERIS: igs17664.eph [precise] STOP: 2013/11/14 15:54:36
NAV FILE: brdc3180.13n OBS USED: 1854 / 1872 : 99%
ANT NAME: TRM55971.00 NONE QUALITY IND. 28.64/ 21.25
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.310

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.87029)

X:	1311422.705(m)	0.005(m)	1311421.863(m)	0.005(m)
Y:	-4398286.241(m)	0.021(m)	-4398284.839(m)	0.021(m)
Z:	4414158.857(m)	0.015(m)	4414158.842(m)	0.015(m)
LAT:	44 4 32.86784	0.004(m)	44 4 32.90319	0.004(m)
E LON:	286 36 10.19125	0.007(m)	286 36 10.17299	0.007(m)
W LON:	73 23 49.80875	0.007(m)	73 23 49.82701	0.007(m)
EL HGT:	18.465(m)	0.025(m)	17.317(m)	0.025(m)
ORTHO HGT:	47.438(m)	0.028(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4881540.363	175453.554
Easting (X) [meters]	628342.400	428135.620
Convergence [degrees]	1.11509590	-0.62410584
Point Scale	0.99980259	1.00002778
Combined Factor	0.99979970	1.00002488

US NATIONAL GRID DESIGNATOR: 18TXP2834281540(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	18785.6
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	46522.7
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	60071.8
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	65436.5
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	77854.6
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	85243.8
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	90140.0
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	95325.2
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	103095.0

GC-90 SESSION 2 FILE: 0886319A.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886319u.13o TIME: 23:31:21 UTC

SOFTWARE: rsgps 1.37 RS83.prl 1.89 START: 2013/11/15 20:29:41
EPHEMERIS: igs17665.eph [precise] STOP: 2013/11/15 20:50:36
NAV FILE: brdc3190.13n OBS USED: 2421 / 2835 : 85%
ANT NAME: TRM55971.00 NONE QUALITY IND. 14.90/ 19.65
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.359

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000) (EPOCH:2013.87359)		IGS08	
X:	1311422.693(m)	0.003(m)	1311421.851(m)	0.003(m)
Y:	-4398286.226(m)	0.012(m)	-4398284.824(m)	0.012(m)
Z:	4414158.848(m)	0.016(m)	4414158.833(m)	0.016(m)
LAT:	44 4 32.86803	0.006(m)	44 4 32.90338	0.006(m)
E LON:	286 36 10.19092	0.003(m)	286 36 10.17266	0.003(m)
W LON:	73 23 49.80908	0.003(m)	73 23 49.82734	0.003(m)
EL HGT:	18.446(m)	0.019(m)	17.298(m)	0.019(m)
ORTHO HGT:	47.419(m)	0.023(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4881540.369	175453.560
Easting (X) [meters]	628342.393	428135.613
Convergence [degrees]	1.11509584	-0.62410590
Point Scale	0.99980259	1.00002778
Combined Factor	0.99979970	1.00002489

US NATIONAL GRID DESIGNATOR: 18TXP2834281540(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	18785.6
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	46522.6
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	60071.8
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	65436.5
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	77854.6
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	85243.7
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	90140.0
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	95325.2
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	103095.0

GC-91 SESSION 1 FILE: 08863186.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886318q.13o TIME: 23:16:24 UTC

SOFTWARE: rsgps 1.37 RS91.prl 1.89 START: 2013/11/14 16:17:22
EPHEMERIS: igs17664.eph [precise] STOP: 2013/11/14 16:39:11
NAV FILE: brdc3180.13n OBS USED: 1566 / 2565 : 61%
ANT NAME: TRM55971.00 NONE QUALITY IND. 15.59/ 33.41
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.286

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2013.87037)	
X:	1322529.212(m)	0.018(m)	1322528.370(m)	0.018(m)
Y:	-4394275.822(m)	0.075(m)	-4394274.419(m)	0.075(m)
Z:	4414846.021(m)	0.062(m)	4414846.007(m)	0.062(m)
LAT:	44 5 3.61401	0.011(m)	44 5 3.64944	0.011(m)
E LON:	286 45 0.09907	0.007(m)	286 45 0.08101	0.007(m)
W LON:	73 14 59.90093	0.007(m)	73 14 59.91899	0.007(m)
EL HGT:	26.292(m)	0.098(m)	25.143(m)	0.098(m)
ORTHO HGT:	55.149(m)	0.099(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4882728.937	176284.602
Easting (X) [meters]	640108.732	439934.922
Convergence [degrees]	1.21772037	-0.52178373
Point Scale	0.99984144	1.00000864
Combined Factor	0.99983732	1.00000452

US NATIONAL GRID DESIGNATOR: 18TXP4010882728(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	12313.7
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	27099.4
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	41846.5
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	54293.9
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	57313.7
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	68234.3
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	81628.1
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	84852.6
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	93318.5

GC-91 SESSION 2 FILE: 08863190.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886319l.13o TIME: 23:37:20 UTC

SOFTWARE: rsgps 1.37 RS80.prl 1.89 START: 2013/11/15 11:40:21
EPHEMERIS: igs17665.eph [precise] STOP: 2013/11/15 12:01:47
NAV FILE: brdc3190.13n OBS USED: 1926 / 1971 : 98%
ANT NAME: TRM55971.00 NONE QUALITY IND. 43.24/ 29.36
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.291

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000) (EPOCH:2013.87259)		IGS08	
X:	1322529.209(m)	0.007(m)	1322528.367(m)	0.007(m)
Y:	-4394275.808(m)	0.019(m)	-4394274.405(m)	0.019(m)
Z:	4414846.021(m)	0.014(m)	4414846.007(m)	0.014(m)
LAT:	44 5 3.61433	0.005(m)	44 5 3.64976	0.005(m)
E LON:	286 45 0.09913	0.003(m)	286 45 0.08106	0.003(m)
W LON:	73 14 59.90087	0.003(m)	73 14 59.91894	0.003(m)
EL HGT:	26.282(m)	0.024(m)	25.133(m)	0.024(m)
ORTHO HGT:	55.139(m)	0.027(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4882728.947	176284.612
Easting (X) [meters]	640108.733	439934.924
Convergence [degrees]	1.21772038	-0.52178372
Point Scale	0.99984144	1.00000864
Combined Factor	0.99983732	1.00000452

US NATIONAL GRID DESIGNATOR: 18TXP4010882728(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	12313.7
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	27099.4
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	41846.5
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	54293.9
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	68234.3
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	81628.1
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	84852.6
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	93318.5
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	103817.6

GC-92 SESSION 1 FILE: 08863188.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886318s.13o TIME: 23:41:13 UTC

SOFTWARE: rsgps 1.37 RS52.prl 1.89 START: 2013/11/14 18:03:21
EPHEMERIS: igs17664.eph [precise] STOP: 2013/11/14 18:24:42
NAV FILE: brdc3180.13n OBS USED: 1989 / 2196 : 91%
ANT NAME: TRM55971.00 NONE QUALITY IND. 17.46/ 26.49
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.339

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2013.87057)	
X:	1327418.040(m)	0.007(m)	1327417.199(m)	0.007(m)
Y:	-4403760.351(m)	0.019(m)	-4403758.946(m)	0.019(m)
Z:	4404057.449(m)	0.020(m)	4404057.434(m)	0.020(m)
LAT:	43 56 56.04787	0.004(m)	43 56 56.08322	0.004(m)
E LON:	286 46 27.45735	0.005(m)	286 46 27.43942	0.005(m)
W LON:	73 13 32.54265	0.005(m)	73 13 32.56058	0.005(m)
EL HGT:	74.486(m)	0.028(m)	73.333(m)	0.028(m)
ORTHO HGT:	103.365(m)	0.030(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4867727.746	161219.148
Easting (X) [meters]	642375.321	441745.951
Convergence [degrees]	1.23159543	-0.50366630
Point Scale	0.99984932	1.00000601
Combined Factor	0.99983764	0.99999433

US NATIONAL GRID DESIGNATOR: 18TXP4237567727(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	8057.5
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	38412.4
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	42839.8
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	49966.7
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	54801.1
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	57859.9
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	62154.9
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	69096.9
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	78823.7

GC-92 SESSION 2 FILE: 08863192.13o OP1389282938444

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: dgedenk@photoscience.com DATE: January 09, 2014
RINEX FILE: 0886319m.13o TIME: 18:03:01 UTC

SOFTWARE: rsgps 1.37 RS80.prl 1.89 START: 2013/11/15 12:57:54
EPHEMERIS: igs17665.eph [precise] STOP: 2013/11/15 13:18:44
NAV FILE: brdc3190.13n OBS USED: 1036 / 1505 : 69%
ANT NAME: TRM55971.00 NONE QUALITY IND. 1.09/ 5.55
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.364

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.87273)

X:	1327418.051(m)	0.007(m)	1327417.210(m)	0.007(m)
Y:	-4403760.354(m)	0.025(m)	-4403758.949(m)	0.025(m)
Z:	4404057.446(m)	0.019(m)	4404057.431(m)	0.019(m)
LAT:	43 56 56.04766	0.007(m)	43 56 56.08302	0.007(m)
E LON:	286 46 27.45778	0.002(m)	286 46 27.43986	0.002(m)
W LON:	73 13 32.54222	0.002(m)	73 13 32.56014	0.002(m)
EL HGT:	74.489(m)	0.031(m)	73.335(m)	0.031(m)
ORTHO HGT:	103.368(m)	0.034(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES (UTM (Zone 18))	STATE PLANE COORDINATES (SPC (4400 VT))
Northing (Y) [meters]	4867727.740	161219.142
Easting (X) [meters]	642375.331	441745.960
Convergence [degrees]	1.23159551	-0.50366621
Point Scale	0.99984932	1.00000601
Combined Factor	0.99983764	0.99999433

US NATIONAL GRID DESIGNATOR: 18TXP4237567727(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	8057.5
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	38412.4
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	42839.8
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	49966.7
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	54801.1
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	57859.9
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	62154.9

GC-93 SESSION 1 FILE: 08863202.13o OP1389282938444

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: dgedenk@photoscience.com DATE: January 09, 2014
RINEX FILE: 0886320o.13o TIME: 17:31:49 UTC

SOFTWARE: rsgps 1.37 RS80.prl 1.89 START: 2013/11/16 14:44:21
EPHEMERIS: igs17666.eph [precise] STOP: 2013/11/16 15:06:03
NAV FILE: brdc3200.13n OBS USED: 1750 / 1750 : 100%
ANT NAME: TRM55971.00 NONE QUALITY IND. 19.44/ 9.53
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.345

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.87568)

X:	1332310.937(m)	0.007(m)	1332310.096(m)	0.007(m)
Y:	-4411355.329(m)	0.023(m)	-4411353.923(m)	0.023(m)
Z:	4395070.218(m)	0.017(m)	4395070.202(m)	0.017(m)
LAT:	43 50 11.12573	0.005(m)	43 50 11.16102	0.005(m)
E LON:	286 48 19.03583	0.006(m)	286 48 19.01799	0.006(m)
W LON:	73 11 40.96417	0.006(m)	73 11 40.98201	0.006(m)
EL HGT:	102.008(m)	0.028(m)	100.851(m)	0.028(m)
ORTHO HGT:	130.900(m)	0.031(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4855288.944	148700.665
Easting (X) [meters]	645135.412	444128.854
Convergence [degrees]	1.25056323	-0.48117141
Point Scale	0.99985909	1.00000267
Combined Factor	0.99984310	0.99998667

US NATIONAL GRID DESIGNATOR: 18TXP4513555288(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	18336.4
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	30823.4
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	48865.4
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	56399.9
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	68147.0
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	84613.2
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	99217.9

GC-93 SESSION 2 FILE: 08863209.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886320t.13o TIME: 23:40:32 UTC

SOFTWARE: rsgps 1.37 RS90.prl 1.89 START: 2013/11/16 19:25:09
EPHEMERIS: igs17666.eph [precise] STOP: 2013/11/16 19:45:53
NAV FILE: brdc3200.13n OBS USED: 1476 / 1728 : 85%
ANT NAME: TRM55971.00 NONE QUALITY IND. 3.11/ 20.85
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.323

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000) (EPOCH:2013.87621)		IGS08	
X:	1332310.933(m)	0.010(m)	1332310.092(m)	0.010(m)
Y:	-4411355.332(m)	0.021(m)	-4411353.926(m)	0.021(m)
Z:	4395070.227(m)	0.018(m)	4395070.211(m)	0.018(m)
LAT:	43 50 11.12590	0.006(m)	43 50 11.16119	0.006(m)
E LON:	286 48 19.03562	0.006(m)	286 48 19.01778	0.006(m)
W LON:	73 11 40.96438	0.006(m)	73 11 40.98222	0.006(m)
EL HGT:	102.016(m)	0.029(m)	100.858(m)	0.029(m)
ORTHO HGT:	130.908(m)	0.031(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4855288.949	148700.670
Easting (X) [meters]	645135.407	444128.849
Convergence [degrees]	1.25056319	-0.48117145
Point Scale	0.99985909	1.00000267
Combined Factor	0.99984310	0.99998667

US NATIONAL GRID DESIGNATOR: 18TXP4513555288(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	18336.4
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	30823.4
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	48865.4
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	56399.9
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	68702.0
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	84613.2
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	88831.7
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	96072.9
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	99217.9

GC-94 SESSION 1 FILE: 08863205.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886320q.13o TIME: 23:02:15 UTC

SOFTWARE: rsgps 1.37 RS81.prl 1.89 START: 2013/11/16 16:34:33
EPHEMERIS: igs17666.eph [precise] STOP: 2013/11/16 16:55:56
NAV FILE: brdc3200.13n OBS USED: 2196 / 2619 : 84%
ANT NAME: TRM55971.00 NONE QUALITY IND. 16.90/ 24.52
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.315

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.87589)

X:	1338989.678(m)	0.004(m)	1338988.837(m)	0.004(m)
Y:	-4408883.531(m)	0.015(m)	-4408882.125(m)	0.015(m)
Z:	4395537.802(m)	0.015(m)	4395537.786(m)	0.015(m)
LAT:	43 50 31.69822	0.004(m)	43 50 31.73352	0.004(m)
E LON:	286 53 37.23249	0.005(m)	286 53 37.21476	0.005(m)
W LON:	73 6 22.76751	0.005(m)	73 6 22.78524	0.005(m)
EL HGT:	115.871(m)	0.021(m)	114.713(m)	0.021(m)
ORTHO HGT:	144.462(m)	0.024(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4856082.570	149279.685
Easting (X) [meters]	652226.899	451241.983
Convergence [degrees]	1.31195066	-0.41999321
Point Scale	0.99988502	0.99999351
Combined Factor	0.99986685	0.99997534

US NATIONAL GRID DESIGNATOR: 18TXP5222656082(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	17779.8
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	28043.4
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	41822.2
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	53661.9
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	62762.9
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	72446.7
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	80382.0
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	93252.4
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	97228.0

GC-94 SESSION 2 FILE: 0886320C.13o OP1389282938444

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: dgedenk@photoscience.com DATE: January 09, 2014
RINEX FILE: 0886320v.13o TIME: 17:29:31 UTC

SOFTWARE: rsgps 1.37 RS92.prl 1.89 START: 2013/11/16 21:08:21
EPHEMERIS: igs17666.eph [precise] STOP: 2013/11/16 21:29:46
NAV FILE: brdc3200.13n OBS USED: 1926 / 2304 : 84%
ANT NAME: TRM55971.00 NONE QUALITY IND. 13.11/ 38.15
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.290

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000) (EPOCH:2013.87641)		IGS08	
X:	1338989.672(m)	0.007(m)	1338988.831(m)	0.007(m)
Y:	-4408883.534(m)	0.017(m)	-4408882.128(m)	0.017(m)
Z:	4395537.815(m)	0.021(m)	4395537.799(m)	0.021(m)
LAT:	43 50 31.69849	0.007(m)	43 50 31.73380	0.007(m)
E LON:	286 53 37.23219	0.005(m)	286 53 37.21446	0.005(m)
W LON:	73 6 22.76781	0.005(m)	73 6 22.78554	0.005(m)
EL HGT:	115.881(m)	0.026(m)	114.723(m)	0.026(m)
ORTHO HGT:	144.472(m)	0.029(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4856082.579	149279.694
Easting (X) [meters]	652226.892	451241.976
Convergence [degrees]	1.31195060	-0.41999327
Point Scale	0.99988502	0.99999351
Combined Factor	0.99986685	0.99997534

US NATIONAL GRID DESIGNATOR: 18TXP5222656082(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	17779.8
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	28043.4
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	41822.2
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	53661.9
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	62762.9
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	72446.7
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	80382.0
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	93252.4
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	97228.0

GC-95 SESSION 1 FILE: 08863206.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886320r.13o TIME: 23:44:16 UTC

SOFTWARE: rsgps 1.37 RS51.prl 1.89 START: 2013/11/16 17:17:58
EPHEMERIS: igs17666.eph [precise] STOP: 2013/11/16 17:38:35
NAV FILE: brdc3200.13n OBS USED: 2043 / 2133 : 96%
ANT NAME: TRM55971.00 NONE QUALITY IND. 11.52/ 9.07
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.357

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.87597)

X:	1347575.524(m)	0.011(m)	1347574.683(m)	0.011(m)
Y:	-4406739.992(m)	0.030(m)	-4406738.585(m)	0.030(m)
Z:	4395481.435(m)	0.022(m)	4395481.420(m)	0.022(m)
LAT:	43 50 20.22720	0.009(m)	43 50 20.26256	0.009(m)
E LON:	287 0 12.83729	0.004(m)	287 0 12.81970	0.004(m)
W LON:	72 59 47.16271	0.004(m)	72 59 47.18030	0.004(m)
EL HGT:	403.172(m)	0.037(m)	402.014(m)	0.037(m)
ORTHO HGT:	431.110(m)	0.039(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4855936.852	148866.752
Easting (X) [meters]	661069.366	460076.772
Convergence [degrees]	1.38803469	-0.34385150
Point Scale	0.99991910	0.99998388
Combined Factor	0.99985589	0.99992066

US NATIONAL GRID DESIGNATOR: 18TXP6106955936(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	21729.9
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	25796.6
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	33485.3
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	54333.2
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	57538.3
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	63816.9
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	71866.4
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	76837.5
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	89882.4

GC-95 SESSION 2 FILE: 0886320D.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886320v.13o TIME: 23:31:27 UTC

SOFTWARE: rsgps 1.37 RS80.prl 1.89 START: 2013/11/16 21:48:21
EPHEMERIS: igs17666.eph [precise] STOP: 2013/11/16 22:09:35
NAV FILE: brdc3200.13n OBS USED: 896 / 1064 : 84%
ANT NAME: TRM55971.00 NONE QUALITY IND. 21.58/ 23.58
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.301

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.87648)

X:	1347575.539(m)	0.005(m)	1347574.698(m)	0.005(m)
Y:	-4406740.015(m)	0.009(m)	-4406738.608(m)	0.009(m)
Z:	4395481.460(m)	0.033(m)	4395481.445(m)	0.033(m)
LAT:	43 50 20.22719	0.023(m)	43 50 20.26255	0.023(m)
E LON:	287 0 12.83763	0.004(m)	287 0 12.82005	0.004(m)
W LON:	72 59 47.16237	0.004(m)	72 59 47.17995	0.004(m)
EL HGT:	403.208(m)	0.025(m)	402.050(m)	0.025(m)
ORTHO HGT:	431.146(m)	0.028(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4855936.852	148866.752
Easting (X) [meters]	661069.374	460076.780
Convergence [degrees]	1.38803476	-0.34385143
Point Scale	0.99991910	0.99998388
Combined Factor	0.99985588	0.99992066

US NATIONAL GRID DESIGNATOR: 18TXP6106955936(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	21729.9
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	54333.2
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	57538.3
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	63816.9
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	71866.4
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	76837.5
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	89882.4

GC-96 SESSION 1 FILE: 10671442.14o OP1402663612299

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: dgedenk@quantumspatial.com DATE: June 13, 2014
RINEX FILE: 1067144m.14o TIME: 12:52:22 UTC

SOFTWARE: rsgps 1.37 RS93.prl 1.99.2 START: 2014/05/24 12:25:11
EPHEMERIS: igs17936.eph [precise] STOP: 2014/05/24 13:10:21
NAV FILE: brdc1440.14n OBS USED: 2340 / 4293 : 55%
ANT NAME: TRMR8-4 NONE QUALITY IND. 19.41/ 20.30
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.386

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2014.39324)

X:	1351712.659(m)	0.009(m)	1351711.809(m)	0.009(m)
Y:	-4393291.408(m)	0.023(m)	-4393290.003(m)	0.023(m)
Z:	4407677.601(m)	0.024(m)	4407677.589(m)	0.024(m)
LAT:	43 59 26.52065	0.005(m)	43 59 26.55621	0.005(m)
E LON:	287 6 6.85149	0.006(m)	287 6 6.83358	0.006(m)
W LON:	72 53 53.14851	0.006(m)	72 53 53.16642	0.006(m)
EL HGT:	474.208(m)	0.034(m)	473.054(m)	0.034(m)
ORTHO HGT:	501.623(m)	0.036(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4872987.645	165684.234
Easting (X) [meters]	668545.932	468066.315
Convergence [degrees]	1.46020180	-0.27649712
Point Scale	0.99994940	0.99997682
Combined Factor	0.99987505	0.99990247

US NATIONAL GRID DESIGNATOR: 18TXP6854572987(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	56906.9
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	62895.5
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	71541.7
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	71624.9
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	83137.9
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	85800.7
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	88571.2
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	95233.4
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	100642.2

GC-96 SESSION 2 FILE: 08241411.14o OP1400859013243

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: dgedenk@quantumspatial.com DATE: May 23, 2014
RINEX FILE: 0824141p.14o TIME: 15:53:29 UTC

SOFTWARE: rsgps 1.37 RS52.prl 1.99.2 START: 2014/05/21 15:15:25
EPHEMERIS: igr17933.eph [rapid] STOP: 2014/05/21 16:16:54
NAV FILE: brdc1410.14n OBS USED: 1593 / 4509 : 35%
ANT NAME: TRMR8-4 NONE QUALITY IND. 31.28/ 21.83
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.389

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2014.38536)	
X:	1351712.671(m)	0.022(m)	1351711.821(m)	0.022(m)
Y:	-4393291.375(m)	0.073(m)	-4393289.970(m)	0.073(m)
Z:	4407677.587(m)	0.052(m)	4407677.575(m)	0.052(m)
LAT:	43 59 26.52095	0.018(m)	43 59 26.55651	0.018(m)
E LON:	287 6 6.85244	0.006(m)	287 6 6.83453	0.006(m)
W LON:	72 53 53.14756	0.006(m)	72 53 53.16547	0.006(m)
EL HGT:	474.178(m)	0.090(m)	473.024(m)	0.090(m)
ORTHO HGT:	501.593(m)	0.091(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4872987.654	165684.244
Easting (X) [meters]	668545.952	468066.336
Convergence [degrees]	1.46020199	-0.27649694
Point Scale	0.99994940	0.99997682
Combined Factor	0.99987506	0.99990247

US NATIONAL GRID DESIGNATOR: 18TXP6854572987(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	56906.9
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	62895.4
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	71541.7
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	71624.9
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	83137.9
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	85800.8
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	88571.2
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	95233.4
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	100642.2

GC-97 SESSION 1 FILE: 10673175.13o OP1388767887555

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067317r.13o TIME: 16:57:09 UTC

SOFTWARE: rsgps 1.37 RS53.prl 1.89 START: 2013/11/13 17:21:26
EPHEMERIS: igs17663.eph [precise] STOP: 2013/11/13 17:42:32
NAV FILE: brdc3170.13n OBS USED: 2322 / 2583 :
90%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 12.32/ 26.53
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.344

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08
(EPOCH:2013.86775)

X:	1336981.805(m)	0.005(m)	1336980.963(m)	0.005(m)
Y:	-4385523.646(m)	0.014(m)	-4385522.243(m)	0.014(m)
Z:	4419354.949(m)	0.012(m)	4419354.936(m)	0.012(m)
LAT:	44 8 22.90903	0.004(m)	44 8 22.94455	0.004(m)
E LON:	286 57 16.19697	0.004(m)	286 57 16.17915	0.004(m)
W LON:	73 2 43.80303	0.004(m)	73 2 43.82085	0.004(m)
EL HGT:	159.006(m)	0.019(m)	157.857(m)	0.019(m)
ORTHO HGT:	187.158(m)	0.023(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4889246.176	182306.850
Easting (X) [meters]	656333.052	456351.781
Convergence [degrees]	1.36140789	-0.37989831
Point Scale	0.99990059	0.99998771
Combined Factor	0.99987566	0.99996278

US NATIONAL GRID DESIGNATOR: 18TXP5633389246(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	17870.9
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	30666.1
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	38583.5
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	41851.5
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	59413.4
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	67962.2
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	74441.3
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	84527.5
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	87841.8

GC-97 SESSION 2 FILE: 1067317B.13o OP1388767887555

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067317u.13o TIME: 16:57:01 UTC

SOFTWARE: rsgps 1.37 RS80.prl 1.89 START: 2013/11/13 20:42:15
EPHEMERIS: igs17663.eph [precise] STOP: 2013/11/13 21:03:25
NAV FILE: brdc3170.13n OBS USED: 2196 / 2637 : 83%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 23.90/ 24.54
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.318

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2013.86814)	
X:	1336981.798(m)	0.007(m)	1336980.956(m)	0.007(m)
Y:	-4385523.645(m)	0.017(m)	-4385522.242(m)	0.017(m)
Z:	4419354.942(m)	0.018(m)	4419354.929(m)	0.018(m)
LAT:	44 8 22.90894	0.005(m)	44 8 22.94446	0.005(m)
E LON:	286 57 16.19669	0.004(m)	286 57 16.17886	0.004(m)
W LON:	73 2 43.80331	0.004(m)	73 2 43.82114	0.004(m)
EL HGT:	158.999(m)	0.026(m)	157.850(m)	0.026(m)
ORTHO HGT:	187.151(m)	0.029(m)	[NAVD88 (Computed using GEOID12A)]	

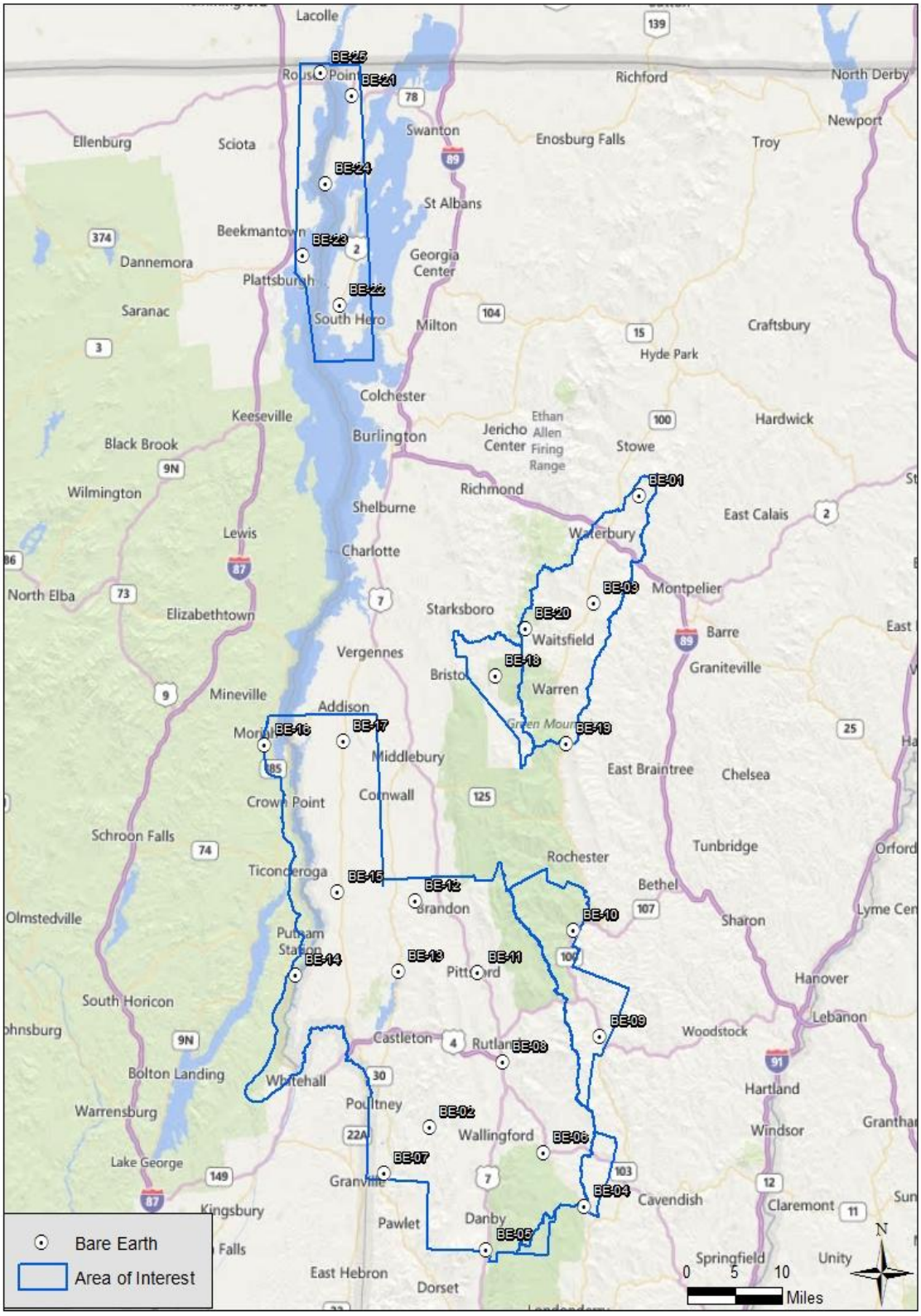
	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4889246.173	182306.847
Easting (X) [meters]	656333.046	456351.775
Convergence [degrees]	1.36140783	-0.37989837
Point Scale	0.99990059	0.99998771
Combined Factor	0.99987566	0.99996278

US NATIONAL GRID DESIGNATOR: 18TXP5633389246(NAD 83)

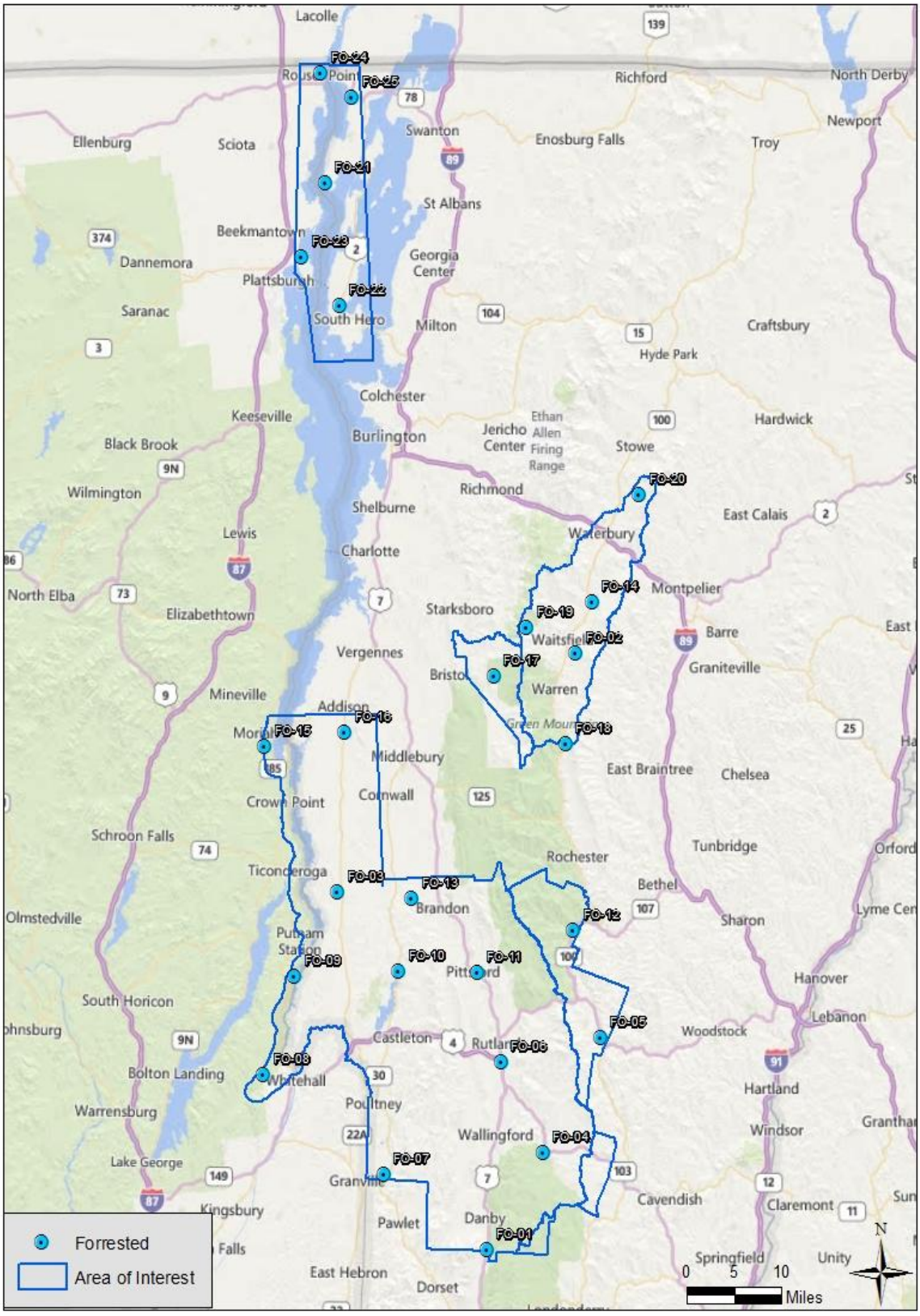
BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	17870.9
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	30666.1
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	38583.5
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	41851.5
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	59413.4
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	67962.2
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	74441.3
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	84527.5
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	87841.8

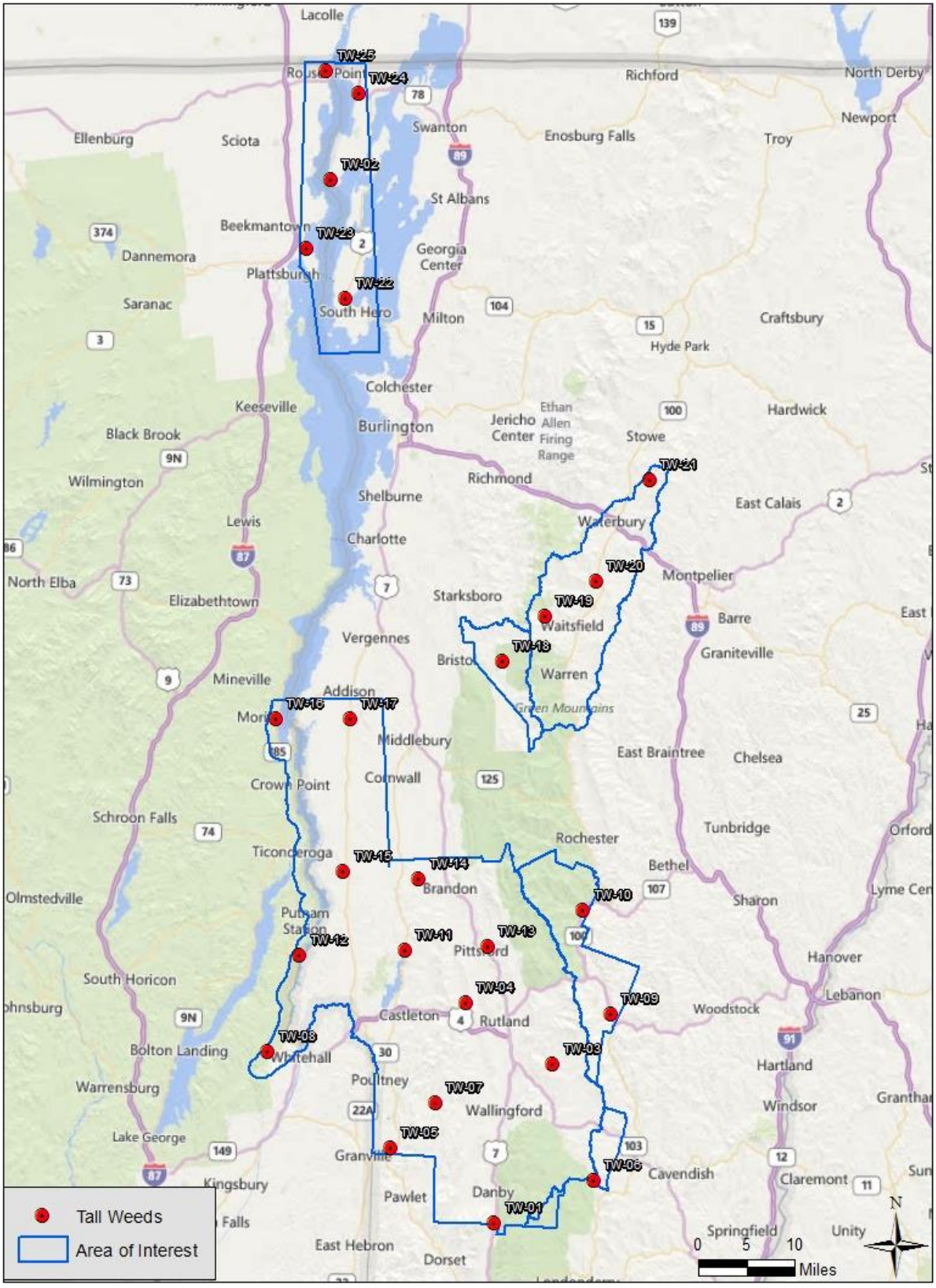
Section 3a – QA points & AOI Maps
Bare Earth points



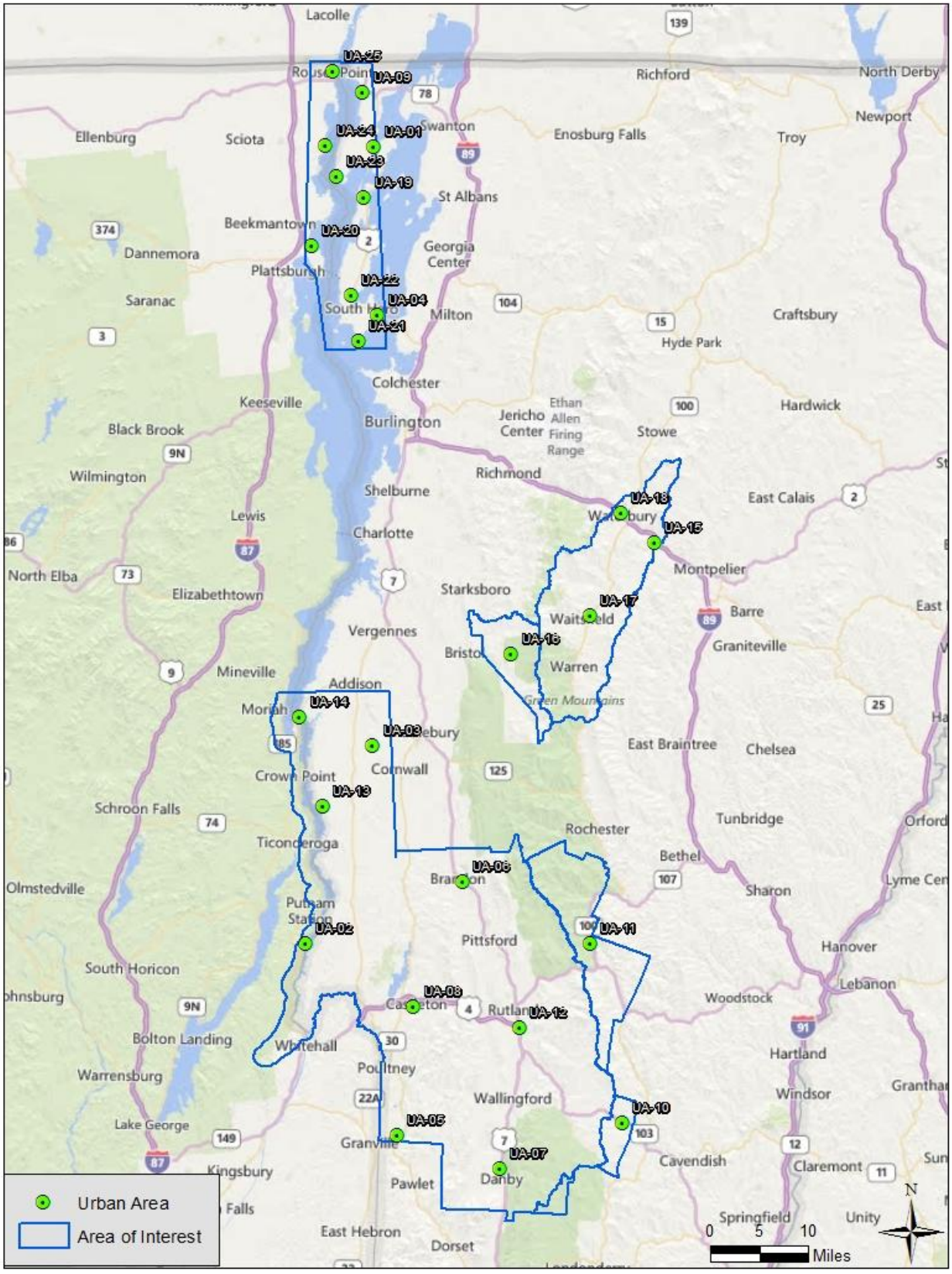
Forested Points



Tall Weed Points



Urban Area Points



Section 3B – Final QA point coordinates

Horizontal Datum – NAD83 (2011)
State Plane Zone - Vermont (4400)
Vertical Datum - NAVD 88
Geoid - GEOID12A
Units - Meter

POINT_ID	Northing	Easting	Elevation
BE-01	210446.205	485961.514	392.482
BE-02	109515.830	450074.837	263.713
BE-03	193288.400	478136.760	194.764
BE-04	96673.793	476544.924	594.277
BE-05	89758.630	459860.167	206.506
BE-06	105383.689	469543.122	378.155
BE-07	102102.492	442322.634	145.883
BE-08	119822.877	462652.917	194.686
BE-09	124010.214	479266.599	351.197
BE-10	140880.310	474732.305	255.534
BE-11	134085.522	458315.336	146.699
BE-12	145635.892	447616.165	106.557
BE-13	134348.433	444807.739	128.879
BE-14	133630.111	427206.399	104.269
BE-15	147089.839	434533.529	93.153
BE-16	170454.937	422061.652	131.860
BE-17	171195.094	435388.104	65.245
BE-18	181513.305	461324.084	404.363
BE-19	170768.953	473405.317	423.667
BE-20	189197.719	466556.723	505.483
BE-21	274224.832	436941.987	34.750
BE-22	240850.293	434752.744	38.032
BE-23	248735.022	428419.318	32.547
BE-24	260297.164	432390.247	36.564
BE-25	278043.135	431655.863	33.674
FO-01	89753.907	459903.445	204.025
FO-02	185217.954	475151.844	332.360
FO-03	147038.515	434502.689	94.216
FO-04	105409.995	469553.280	379.661
FO-05	123716.646	479347.768	354.369
FO-06	119854.823	462429.768	195.371
FO-07	101940.366	442316.853	145.301
FO-08	117804.889	421865.127	124.225
FO-09	133583.280	427168.575	101.256
FO-10	134371.126	444925.585	136.807
FO-11	134067.442	458269.414	147.097
FO-12	140936.432	474703.530	255.726
FO-13	145988.204	447143.898	112.853

FO-14	193484.596	477920.131	205.234
FO-15	170218.195	422035.615	144.109
FO-16	172653.395	435725.452	79.580
FO-17	181503.335	461185.268	412.956
FO-18	170815.637	473422.903	425.743
FO-19	189240.903	466794.901	502.131
FO-20	210627.221	486000.500	392.396
FO-21	260341.221	432372.891	36.560
FO-22	240744.390	434790.284	36.820
FO-23	248665.857	428394.014	35.212
FO-24	278034.942	431616.362	34.454
FO-25	274074.416	436962.182	34.671
TW-01	89762.602	459830.049	208.531
TW-02	260293.969	432313.057	34.441
TW-03	115685.148	469664.656	414.504
TW-04	125795.008	455096.371	173.119
TW-05	102017.490	442361.756	146.038
TW-06	96656.223	476516.176	594.020
TW-07	109487.670	449951.456	261.178
TW-08	117864.263	421857.457	127.888
TW-09	123973.787	479368.018	350.803
TW-10	140857.062	474748.722	254.207
TW-11	134374.538	444853.741	127.958
TW-12	133618.807	427157.528	103.048
TW-13	134928.188	458780.848	149.524
TW-14	145982.237	447194.852	106.860
TW-15	147128.913	434518.199	91.134
TW-16	172045.005	423230.136	47.156
TW-17	172115.074	435636.395	60.056
TW-18	181530.099	461232.537	408.464
TW-19	188913.694	468400.210	330.537
TW-20	194579.944	476981.695	223.906
TW-21	211121.058	485936.042	381.682
TW-22	240867.847	434743.433	37.767
TW-23	248885.891	428277.530	36.836
TW-24	274235.819	437033.471	36.018
TW-25	278055.457	431644.738	33.424
UA-01	265412.275	438585.074	32.222
UA-02	133718.217	427181.755	109.399
UA-03	166446.288	438410.705	63.112
UA-04	237487.049	439218.572	32.710
UA-05	102066.084	442314.532	145.815
UA-06	144023.974	453159.679	126.561
UA-07	96622.226	459348.400	206.326
UA-08	123230.765	445155.344	140.768
UA-09	274328.859	436755.610	37.473
UA-10	104129.414	479590.524	408.646

UA-11	133796.168	474222.028	422.267
UA-12	119888.164	462629.643	191.570
UA-13	156438.122	430099.544	49.681
UA-14	171057.759	426344.968	37.726
UA-15	200028.313	484818.699	155.466
UA-16	181502.599	461229.580	407.912
UA-17	187842.043	474199.050	211.629
UA-18	204744.524	479394.158	129.933
UA-19	256948.751	436975.018	42.425
UA-20	248881.102	428237.250	37.771
UA-21	233266.355	436071.750	40.514
UA-22	240810.628	434772.901	38.146
UA-23	260314.506	432365.461	36.502
UA-24	265587.544	430625.694	32.844
UA-25	277721.929	431809.719	33.592

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Section 3c – QA Points Data Log Sheets

Point ID	BE-01
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Washington
Quad	Stowe

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
210446.205	485961.514	392.482

Operator	David Simmons
Receiver Model	TRIMBLE R7
Receiver S/N	5201K23076
Antenna Height	2 meters
Static Session	30763122
Date	November 8, 2013
Start Time (UTC)	15:37
End Time (UTC)	15:59

Operator	David Simmons
Receiver Model	TRIMBLE R7
Receiver S/N	5201K23076
Antenna Height	2 meters
Static Session	30763128
Date	November 8, 2013
Start Time (UTC)	19:43
End Time (UTC)	20:05

PHOTOS:









Point ID	BE-02
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	Middletown Springs

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
109515.830	450074.837	263.713

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673192
Date	November 15, 2013
Start Time (UTC)	15:29
End Time (UTC)	15:50

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673199
Date	November 15, 2013
Start Time (UTC)	19:43
End Time (UTC)	20:06

PHOTOS:









Point ID	BE-03
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Washington
Quad	Waitsfield

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
193288.400	478136.760	194.764

Operator	David Simmons
Receiver Model	TRIMBLE R7
Receiver S/N	5201K23076
Antenna Height	2 meters
Static Session	30763133
Date	November 9, 2013
Start Time (UTC)	15:34
End Time (UTC)	15:56

Operator	David Simmons
Receiver Model	TRIMBLE R7
Receiver S/N	5201K23076
Antenna Height	2 meters
Static Session	30763171
Date	November 13, 2013
Start Time (UTC)	14:20
End Time (UTC)	14:42

PHOTOS:









Point ID	BE-04
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	Weston

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
96673.793	476544.924	594.277

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673203
Date	November 16, 2013
Start Time (UTC)	15:52
End Time (UTC)	16:13

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	1067320A
Date	November 16, 2013
Start Time (UTC)	20:31
End Time (UTC)	20:52

PHOTOS:









Point ID	BE-05
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	Danby

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
89758.630	459860.167	206.506

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673181
Date	November 14, 2013
Start Time (UTC)	14:31
End Time (UTC)	14:52

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673189
Date	November 14, 2013
Start Time (UTC)	19:53
End Time (UTC)	20:14

PHOTOS:









Point ID	BE-06
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	Wallingford

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
105383.689	469543.122	378.155

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673201
Date	November 16, 2013
Start Time (UTC)	14:42
End Time (UTC)	15:03

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673208
Date	November 16, 2013
Start Time (UTC)	19:34
End Time (UTC)	19:55

PHOTOS:









Point ID	BE-07
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	Wells

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
102102.492	442322.634	145.883

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673196
Date	November 15, 2013
Start Time (UTC)	17:54
End Time (UTC)	18:15

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	1067319D
Date	November 15, 2013
Start Time (UTC)	21:47
End Time (UTC)	21:08

PHOTOS:









Point ID	BE-08
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	Rutland

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
119822.877	462652.917	194.686

Operator	Kevin Chapman
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	08241421 or 10671422
Date	May 22, 2014
Start Time (UTC)	20:41
End Time (UTC)	21:29

Operator	Kevin Chapman
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10671440
Date	May 24, 2014
Start Time (UTC)	20:42
End Time (UTC)	21:28

PHOTOS:









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Point ID	BE-09
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	Killington Peak

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
124010.214	479266.599	351.197

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10671371
Date	May 17, 2014
Start Time (UTC)	14:09
End Time (UTC)	14:58

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10671391
Date	May 19, 2014
Start Time (UTC)	14:54
End Time (UTC)	15:40

PHOTOS:









Point ID	BE-10
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	Rochester

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
140880.310	474732.305	255.534

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673233
Date	November 18, 2013
Start Time (UTC)	17:42
End Time (UTC)	18:03

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673239
Date	January 0, 1900
Start Time (UTC)	21:22
End Time (UTC)	21:43

PHOTOS:









Point ID	BE-11
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	Proctor

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
134085.522	458315.336	146.699

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863210
Date	November 17, 2013
Start Time (UTC)	12:54
End Time (UTC)	13:17

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863215
Date	January 0, 1900
Start Time (UTC)	17:39
End Time (UTC)	18:00

PHOTOS:









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Point ID	BE-12
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	Sudbury

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
145635.892	447616.165	106.557

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863214
Date	November 17, 2013
Start Time (UTC)	16:31
End Time (UTC)	16:52

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863219
Date	January 0, 1900
Start Time (UTC)	20:55
End Time (UTC)	21:16

PHOTOS:









Point ID	BE-13
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	Bomoseen

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
134348.433	444807.739	128.879

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863231
Date	November 19, 2013
Start Time (UTC)	13:24
End Time (UTC)	13:46

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863243
Date	November 20, 2013
Start Time (UTC)	18:46
End Time (UTC)	19:07

PHOTOS:









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Point ID	BE-14
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	New York
County	Washington
Quad	Putnam

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
133630.111	427206.399	104.269

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863232
Date	November 19, 2013
Start Time (UTC)	14:46
End Time (UTC)	15:07

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863236
Date	November 19, 2013
Start Time (UTC)	20:07
End Time (UTC)	20:28

PHOTOS:









Quantum Spatial, Inc. – 1410 Indian Trail Rd., Norcross, GA 30093 – Ph. 770-564-9843 - www.quantumspatial.com

Point ID	BE-15
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Addison
Quad	Orwell

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
147089.839	434533.529	93.153

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863151
Date	November 11, 2013
Start Time (UTC)	14:16
End Time (UTC)	14:37

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863157
Date	November 11, 2013
Start Time (UTC)	18:39
End Time (UTC)	19:01

PHOTOS:









Quantum Spatial, Inc. – 1410 Indian Trail Rd., Norcross, GA 30093 – Ph. 770-564-9843 - www.quantumspatial.com

Point ID	BE-16
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	New York
County	Essex
Quad	Port Henry

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
170454.937	422061.652	131.860

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863144
Date	November 10, 2013
Start Time (UTC)	16:06
End Time (UTC)	16:27

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863149
Date	November 10, 2013
Start Time (UTC)	20:30
End Time (UTC)	20:51

PHOTOS:









Quantum Spatial, Inc. – 1410 Indian Trail Rd., Norcross, GA 30093 – Ph. 770-564-9843 - www.quantumspatial.com

Point ID	BE-17
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Addison
Quad	Snake Mountain

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
171195.094	435388.104	65.245

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863173
Date	November 13, 2013
Start Time (UTC)	15:59
End Time (UTC)	16:20

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863179
Date	November 13, 2013
Start Time (UTC)	20:19
End Time (UTC)	20:40

PHOTOS:






Point ID	BE-18
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Addison
Quad	Mount Ellen

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
181513.305	461324.084	404.363

Instrument Model	Leica 1102
Occupy Point	UA-16
Instrument Height	5.37
Backsight Point	GC-47
Backsight Height	6.83
Angle Right	358.2730
Slope Distance	312.227
Zenith Angle	91.5207

PHOTOS:






Point ID	BE-19
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Addison
Quad	Warren

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
170768.953	473405.317	423.667

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673150
Date	November 11, 2013
Start Time (UTC)	17:36
End Time (UTC)	17:57

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673154
Date	November 11, 2013
Start Time (UTC)	20:58
End Time (UTC)	21:19

PHOTOS:









Point ID	BE-20
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Washington
Quad	Mount Ellen

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
189197.719	466556.723	505.483

Operator	David Simmons
Receiver Model	TRIMBLE R7
Receiver S/N	5201K23076
Antenna Height	2 meters
Static Session	30763147
Date	November 10, 2013
Start Time (UTC)	21:11
End Time (UTC)	21:32

Operator	David Simmons
Receiver Model	TRIMBLE R7
Receiver S/N	5201K23076
Antenna Height	2 meters
Static Session	30763176
Date	November 13, 2013
Start Time (UTC)	17:01
End Time (UTC)	17:25

PHOTOS:









Quantum Spatial, Inc. – 1410 Indian Trail Rd., Norcross, GA 30093 – Ph. 770-564-9843 - www.quantumspatial.com

Point ID	BE-21
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Grand Isle
Quad	Rouses Point Port of Entry

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
274224.832	436941.987	34.750

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863121
Date	November 8, 2013
Start Time (UTC)	13:14
End Time (UTC)	13:35

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863128
Date	November 8, 2013
Start Time (UTC)	18:07
End Time (UTC)	18:28

PHOTOS:









Point ID	BE-22
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Grand Isle
Quad	South Hero

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
240850.293	434752.744	38.032

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673105
Date	November 6, 2013
Start Time (UTC)	19:59
End Time (UTC)	20:20

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673113
Date	November 7, 2013
Start Time (UTC)	15:16
End Time (UTC)	15:37

PHOTOS:









Point ID	BE-23
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	New York
County	Clinton
Quad	Plattsburgh

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
248735.022	428419.318	32.547

Instrument Model	Leica 1102
Occupy Point	GC-67
Instrument Height	5.440
Backsight Point	UA-20
Backsight Height	5.00
Angle Right	219.1237
Slope Distance	206.372
Zenith Angle	90.2231

PHOTOS:









Point ID	BE-24
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Grand Isle
Quad	North Hero

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
260297.164	432390.247	36.564

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673129
Date	November 8, 2013
Start Time (UTC)	18:06
End Time (UTC)	18:27

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	1067312E
Date	November 8, 2013
Start Time (UTC)	20:47
End Time (UTC)	21:08

PHOTOS:









Quantum Spatial, Inc. – 1410 Indian Trail Rd., Norcross, GA 30093 – Ph. 770-564-9843 - www.quantumspatial.com

Point ID	BE-25
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	New York
County	Clinton
Quad	Rouses Point Port of Entry

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
278043.135	431655.863	33.674

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863113
Date	November 7, 2013
Start Time (UTC)	15:26
End Time (UTC)	15:47

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863118
Date	November 7, 2013
Start Time (UTC)	19:56
End Time (UTC)	20:17

PHOTOS:









Point ID	FO-01
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	Danby

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
89753.907	459903.445	204.025

Instrument Model	Leica 1102
Occupy Point	BE-05
Instrument Height	5.35
Backsight Point	GC-31
Backsight Height	6.83
Angle Right	83.0420
Slope Distance	142.993
Zenith Angle	92.4013

PHOTOS:






Quantum Spatial, Inc. – 1410 Indian Trail Rd., Norcross, GA 30093 – Ph. 770-564-9843 - www.quantumspatial.com

Point ID	FO-02
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Washington
Quad	Waitsfield

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
185217.954	475151.844	332.360

Instrument Model	Leica 1102
Occupy Point	GC-60
Instrument Height	5.52
Backsight Point	GC-60-BS
Backsight Height	5.11
Angle Right	319.0536
Slope Distance	211.136
Zenith Angle	85.4717

PHOTOS:






Quantum Spatial, Inc. – 1410 Indian Trail Rd., Norcross, GA 30093 – Ph. 770-564-9843 - www.quantumspatial.com

Point ID	FO-03
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Addison
Quad	Orwell

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
147038.515	434502.689	94.216

Instrument Model	Leica 1102
Occupy Point	BE-15
Instrument Height	5.52
Backsight Point	TW-15
Backsight Height	6.83
Angle Right	232.2522
Slope Distance	196.503
Zenith Angle	88.3602

PHOTOS:



Quantum Spatial, Inc. – 1410 Indian Trail Rd., Norcross, GA 30093 – Ph. 770-564-9843 - www.quantumspatial.com

Point ID	FO-04
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	Wallingford

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
105409.995	469553.280	379.661

Instrument Model	Leica 1102
Occupy Point	BE-06
Instrument Height	5.40
Backsight Point	GC-41
Backsight Height	6.83
Angle Right	58.0834
Slope Distance	92.744
Zenith Angle	86.0335

PHOTOS:



Quantum Spatial, Inc. – 1410 Indian Trail Rd., Norcross, GA 30093 – Ph. 770-564-9843 - www.quantumspatial.com

Point ID	FO-05
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	Killington Peak

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
123716.646	479347.768	354.369

Instrument Model	Leica 1102
Occupy Point	GC-27
Instrument Height	5.10
Backsight Point	BE-09
Backsight Height	6.83
Angle Right	232.2756
Slope Distance	352.036
Zenith Angle	88.3614

PHOTOS:






Point ID	FO-06
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	Rutland

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
119854.823	462429.768	195.371

Instrument Model	Leica 1102
Occupy Point	BE-08-OC
Instrument Height	5.57
Backsight Point	BE-08
Backsight Height	5.11
Angle Right	141.4714
Slope Distance	311.111
Zenith Angle	87.5130

PHOTOS:






Quantum Spatial, Inc. – 1410 Indian Trail Rd., Norcross, GA 30093 – Ph. 770-564-9843 - www.quantumspatial.com

Point ID	FO-07
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	Wells

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
101940.366	442316.853	145.301

Instrument Model	Leica 1102
Occupy Point	GC-37
Instrument Height	5.56
Backsight Point	GC-37-BS
Backsight Height	5.11
Angle Right	203.5421
Slope Distance	336.099
Zenith Angle	90.1700

PHOTOS:









Point ID	FO-08
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	New York
County	Washington
Quad	Whitehall

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
117804.889	421865.127	124.225

Instrument Model	Leica 1102
Occupy Point	GC-22
Instrument Height	5.48
Backsight Point	GC-22-BS
Backsight Height	5.11
Angle Right	343.3943
Slope Distance	282.679
Zenith Angle	93.1108

PHOTOS:






Point ID	FO-09
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	New York
County	Washington
Quad	Putnam

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
133583.280	427168.575	101.256

Instrument Model	Leica 1102
Occupy Point	BE-14
Instrument Height	5.38
Backsight Point	GC-16
Backsight Height	6.83
Angle Right	234.3311
Slope Distance	197.676
Zenith Angle	92.2644

PHOTOS:






Quantum Spatial, Inc. – 1410 Indian Trail Rd., Norcross, GA 30093 – Ph. 770-564-9843 - www.quantumspatial.com

Point ID	FO-10
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	Bomoseen

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
134371.126	444925.585	136.807

Instrument Model	Leica 1102
Occupy Point	BE-13
Instrument Height	5.25
Backsight Point	GC-17
Backsight Height	5.11
Angle Right	253.2933
Slope Distance	394.592
Zenith Angle	86.1427

PHOTOS:






Quantum Spatial, Inc. – 1410 Indian Trail Rd., Norcross, GA 30093 – Ph. 770-564-9843 - www.quantumspatial.com

Point ID	FO-11
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	Proctor

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
134067.442	458269.414	147.097

Instrument Model	Leica 1102
Occupy Point	BE-11
Instrument Height	5.08
Backsight Point	GC-43
Backsight Height	5.11
Angle Right	87.0327
Slope Distance	161.949
Zenith Angle	89.0001

PHOTOS:






Point ID	FO-12
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	Rochester

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
140936.432	474703.530	255.726

Instrument Model	Leica 1102
Occupy Point	BE-10
Instrument Height	5.56
Backsight Point	GC-13
Backsight Height	5.11
Angle Right	120.1905
Slope Distance	206.933
Zenith Angle	89.5703

PHOTOS:






Quantum Spatial, Inc. – 1410 Indian Trail Rd., Norcross, GA 30093 – Ph. 770-564-9843 - www.quantumspatial.com

Point ID	FO-13
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	Sudbury

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
145988.204	447143.898	112.853

Instrument Model	Leica 1102
Occupy Point	GC-19
Instrument Height	5.55
Backsight Point	BE-12
Backsight Height	6.83
Angle Right	90.4500
Slope Distance	101.995
Zenith Angle	83.1649

PHOTOS:









Quantum Spatial, Inc. – 1410 Indian Trail Rd., Norcross, GA 30093 – Ph. 770-564-9843 - www.quantumspatial.com

Point ID	FO-14
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Washington
Quad	Waitsfield

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
193484.596	477920.131	205.234

Instrument Model	Leica 1102
Occupy Point	BE-03
Instrument Height	5.36
Backsight Point	BE-03-BS
Backsight Height	5.11
Angle Right	4.5233
Slope Distance	959.545
Zenith Angle	87.5748

PHOTOS:






Quantum Spatial, Inc. – 1410 Indian Trail Rd., Norcross, GA 30093 – Ph. 770-564-9843 - www.quantumspatial.com

Point ID	FO-15
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	New York
County	Essex
Quad	Port Henry

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
170218.195	422035.615	144.109

Instrument Model	Leica 1102
Occupy Point	GC-01
Instrument Height	5.50
Backsight Point	BE-16
Backsight Height	6.83
Angle Right	209.5753
Slope Distance	251.531
Zenith Angle	86.1702

PHOTOS:






Quantum Spatial, Inc. – 1410 Indian Trail Rd., Norcross, GA 30093 – Ph. 770-564-9843 - www.quantumspatial.com

Point ID	FO-16
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Addison
Quad	Snake Mountain

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
172653.395	435725.452	79.580

Instrument Model	Leica 1102
Occupy Point	GC-03
Instrument Height	5.26
Backsight Point	TW-17
Backsight Height	6.83
Angle Right	168.5010
Slope Distance	578.941
Zenith Angle	87.0115

PHOTOS:






Quantum Spatial, Inc. – 1410 Indian Trail Rd., Norcross, GA 30093 – Ph. 770-564-9843 - www.quantumspatial.com

Point ID	FO-17
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Addison
Quad	Mount Ellen

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
181503.335	461185.268	412.956

Instrument Model	Leica 1102
Occupy Point	UA-16
Instrument Height	5.37
Backsight Point	GC-47
Backsight Height	6.83
Angle Right	185.5225
Slope Distance	146.523
Zenith Angle	82.5624

PHOTOS:






Quantum Spatial, Inc. – 1410 Indian Trail Rd., Norcross, GA 30093 – Ph. 770-564-9843 - www.quantumspatial.com

Point ID	FO-18
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Addison
Quad	Warren

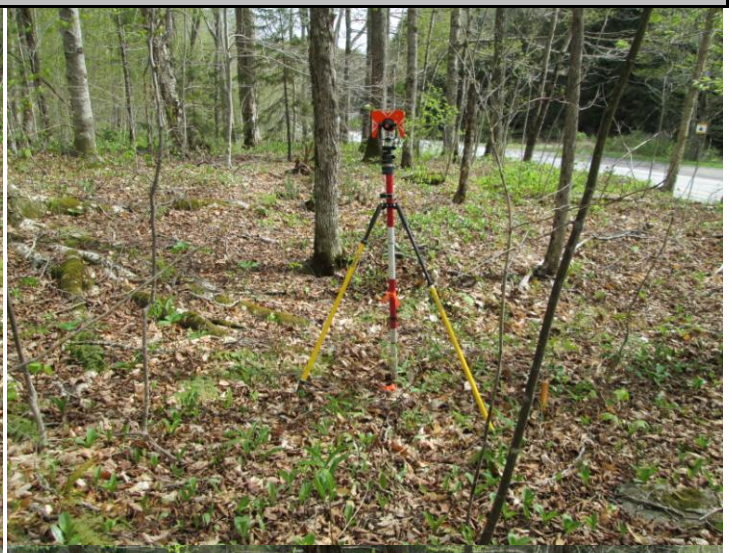
	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
170815.637	473422.903	425.743

Instrument Model	Leica 1102
Occupy Point	BE-19
Instrument Height	5.29
Backsight Point	GC-49
Backsight Height	5.11
Angle Right	34.4436
Slope Distance	163.818
Zenith Angle	87.4052

PHOTOS:



Quantum Spatial, Inc. – 1410 Indian Trail Rd., Norcross, GA 30093 – Ph. 770-564-9843 - www.quantumspatial.com

Point ID	FO-19
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Washington
Quad	Mount Ellen

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
189240.903	466794.901	502.131

Instrument Model	Leica 1102
Occupy Point	FO-19-OC
Instrument Height	5.52
Backsight Point	FO-19-BS
Backsight Height	5.11
Angle Right	308.5535
Slope Distance	258.868
Zenith Angle	87.2929

PHOTOS:



Quantum Spatial, Inc. – 1410 Indian Trail Rd., Norcross, GA 30093 – Ph. 770-564-9843 - www.quantumspatial.com

Point ID	FO-20
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Washington
Quad	Stowe

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
210627.221	486000.500	392.396

Instrument Model	Leica 1102
Occupy Point	BE-01
Instrument Height	5.37
Backsight Point	BE-01-BS
Backsight Height	7.11
Angle Right	17.5249
Slope Distance	607.555
Zenith Angle	89.5725

PHOTOS:






Point ID	FO-21
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Grand Isle
Quad	North Hero

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
260341.221	432372.891	36.560

Instrument Model	Leica 1102
Occupy Point	UA-21
Instrument Height	5.180
Backsight Point	GC-72
Backsight Height	5.20
Angle Right	333.2329
Slope Distance	184.779
Zenith Angle	92.0528

PHOTOS:






Point ID	FO-22
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Grand Isle
Quad	South Hero

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
240744.390	434790.284	36.820

Instrument Model	Leica 1102
Occupy Point	GC-64
Instrument Height	5.250
Backsight Point	BE-22
Backsight Height	5.600
Angle Right	192.1402
Slope Distance	224.707
Zenith Angle	91.0112

PHOTOS:









Point ID	FO-23
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	New York
County	Clinton
Quad	Plattsburgh

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
248665.857	428394.014	35.212

Instrument Model	Leica 1102
Occupy Point	GC-67
Instrument Height	5.440
Backsight Point	UA-20
Backsight Height	5.00
Angle Right	241.5452
Slope Distance	418.557
Zenith Angle	88.5917

PHOTOS:






Point ID	FO-24
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	New York
County	Clinton
Quad	Rouses Point Port of Entry

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
278034.942	431616.362	34.454

Instrument Model	Leica 1102
Occupy Point	BE-25
Instrument Height	5.21
Backsight Point	GC-78
Backsight Height	5.20
Angle Right	170.0405
Slope Distance	132.376
Zenith Angle	88.5348

PHOTOS:






Point ID	FO-25
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Grand Isle
Quad	Rouses Point Port of Entry

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
274074.416	436962.182	34.671

Instrument Model	Leica 1102
Occupy Point	GC-76
Instrument Height	5.25
Backsight Point	BE-21
Backsight Height	5.20
Angle Right	240.5945
Slope Distance	134.515
Zenith Angle	91.3936

PHOTOS:






Point ID	TW-01
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	Danby

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
89762.602	459830.049	208.531

Instrument Model	Leica 1102
Occupy Point	BE-05
Instrument Height	5.35
Backsight Point	GC-31
Backsight Height	6.83
Angle Right	264.2122
Slope Distance	100.004
Zenith Angle	85.2030

PHOTOS:






Point ID	TW-02
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Grand Isle
Quad	North Hero

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
260293.969	432313.057	34.441

Instrument Model	Leica 1102
Occupy Point	UA-23
Instrument Height	5.180
Backsight Point	GC-72
Backsight Height	5.200
Angle Right	333.2329
Slope Distance	184.779
Zenith Angle	92.0528

PHOTOS:









Point ID	TW-03
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	Rutland

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
115685.148	469664.656	414.504

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673224
Date	November 17, 2013
Start Time (UTC)	16:53
End Time (UTC)	17:14

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	1067322B
Date	November 17, 2013
Start Time (UTC)	21:06
End Time (UTC)	21:27

PHOTOS:









Point ID	TW-04
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	Proctor

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

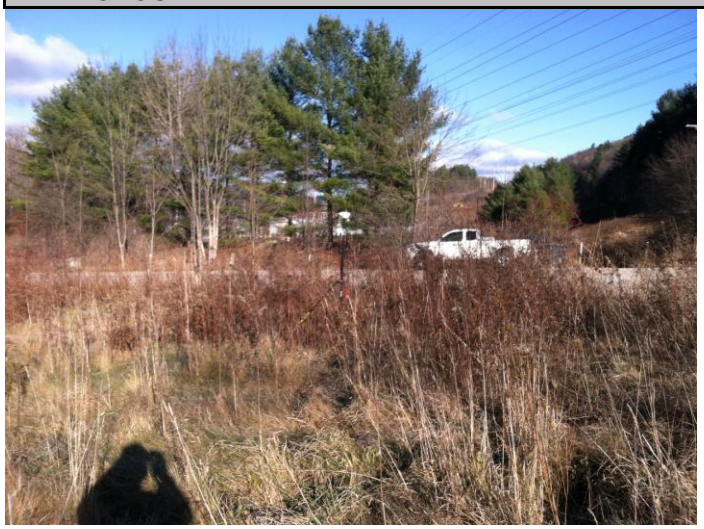
Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
125795.008	455096.371	173.119

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673241
Date	November 19, 2013
Start Time (UTC)	14:19
End Time (UTC)	14:38

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673246
Date	November 19, 2013
Start Time (UTC)	18:37
End Time (UTC)	18:58

PHOTOS:









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Point ID	TW-05
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	Wells

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
102017.490	442361.756	146.038

Instrument Model	Leica 1102
Occupy Point	GC-37
Instrument Height	5.56
Backsight Point	GC-37-BS
Backsight Height	5.11
Angle Right	145.1017
Slope Distance	117.878
Zenith Angle	89.3753

PHOTOS:









Point ID	TW-06
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	Weston

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
96656.223	476516.176	594.020

Instrument Model	Leica 1102
Occupy Point	BE-04
Instrument Height	5.53
Backsight Point	GC-31A
Backsight Height	6.83
Angle Right	13.2600
Slope Distance	110.552
Zenith Angle	89.4552

PHOTOS:









Quantum Spatial, Inc. – 1410 Indian Trail Rd., Norcross, GA 30093 – Ph. 770-564-9843 - www.quantumspatial.com

Point ID	TW-07
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	Middletown Springs

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
109487.670	449951.456	261.178

Instrument Model	Leica 1102
Occupy Point	BE-02
Instrument Height	5.45
Backsight Point	BE-02-BS
Backsight Height	5.11
Angle Right	3.3028
Slope Distance	415.311
Zenith Angle	91.1140

PHOTOS:









Quantum Spatial, Inc. – 1410 Indian Trail Rd., Norcross, GA 30093 – Ph. 770-564-9843 - www.quantumspatial.com

Point ID	TW-08
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	New York
County	Washington
Quad	Whitehall

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
117864.263	421857.457	127.888

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863223
Date	November 18, 2013
Start Time (UTC)	15:04
End Time (UTC)	15:25

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863235
Date	November 19, 2013
Start Time (UTC)	19:21
End Time (UTC)	19:42

PHOTOS:






Quantum Spatial, Inc. – 1410 Indian Trail Rd., Norcross, GA 30093 – Ph. 770-564-9843 - www.quantumspatial.com

Point ID	TW-09
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	Killington Peak

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
123973.787	479368.018	350.803

Instrument Model	Leica 1102
Occupy Point	GC-27
Instrument Height	5.10
Backsight Point	BE-09
Backsight Height	6.83
Angle Right	25.1114
Slope Distance	518.026
Zenith Angle	89.3352

PHOTOS:






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Point ID	TW-10
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	Rochester

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
140857.062	474748.722	254.207

Instrument Model	Leica 1102
Occupy Point	BE-10
Instrument Height	5.56
Backsight Point	GC-13
Backsight Height	5.11
Angle Right	292.1409
Slope Distance	93.502
Zenith Angle	92.5643

PHOTOS:









Point ID	TW-11
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	Bomoseen

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
134374.538	444853.741	127.958

Instrument Model	Leica 1102
Occupy Point	BE-13
Instrument Height	5.25
Backsight Point	GC-17
Backsight Height	5.11
Angle Right	234.4907
Slope Distance	173.565
Zenith Angle	91.0234

PHOTOS:









Point ID	TW-12
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	New York
County	Washington
Quad	Putnam

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
133618.807	427157.528	103.048

Instrument Model	Leica 1102
Occupy Point	BE-14
Instrument Height	5.38
Backsight Point	GC-16
Backsight Height	6.83
Angle Right	272.3612
Slope Distance	164.588
Zenith Angle	90.5322

PHOTOS:









Quantum Spatial, Inc. – 1410 Indian Trail Rd., Norcross, GA 30093 – Ph. 770-564-9843 - www.quantumspatial.com

Point ID	TW-13
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	Proctor

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
134928.188	458780.848	149.524

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863212
Date	November 17, 2013
Start Time (UTC)	14:28
End Time (UTC)	14:49

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863217
Date	November 17, 2013
Start Time (UTC)	18:33
End Time (UTC)	18:54

PHOTOS:






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Point ID	TW-14
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	Sudbury

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
145982.237	447194.852	106.860

Instrument Model	Leica 1102
Occupy Point	GC-19
Instrument Height	5.55
Backsight Point	BE-12
Backsight Height	6.83
Angle Right	3.5311
Slope Distance	140.296
Zenith Angle	93.0924

PHOTOS:









Quantum Spatial, Inc. – 1410 Indian Trail Rd., Norcross, GA 30093 – Ph. 770-564-9843 - www.quantumspatial.com

Point ID	TW-15
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Addison
Quad	Orwell

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
147128.913	434518.199	91.134

Operator	Kevin Chapman
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10671383
Date (YYYY-MM-DD)	May 18, 2014
Start Time (UTC)	14:34
End Time (UTC)	15:20

Operator	Kevin Chapman
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10671421
Date (YYYY-MM-DD)	May 22, 2014
Start Time (UTC)	12:42
End Time (UTC)	13:29

PHOTOS:









Quantum Spatial, Inc. – 1410 Indian Trail Rd., Norcross, GA 30093 – Ph. 770-564-9843 - www.quantumspatial.com

Point ID	TW-16
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	New York
County	Essex
Quad	Port Henry

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
172045.005	423230.136	47.156

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863142
Date	November 10, 2013
Start Time (UTC)	14:16
End Time (UTC)	14:37

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863147
Date	November 10, 2013
Start Time (UTC)	18:45
End Time (UTC)	19:06

PHOTOS:









Quantum Spatial, Inc. – 1410 Indian Trail Rd., Norcross, GA 30093 – Ph. 770-564-9843 - www.quantumspatial.com

Point ID	TW-17
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Addison
Quad	Snake Mountain

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
172115.074	435636.395	60.056

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	8863174
Date	November 13, 2013
Start Time (UTC)	16:46
End Time (UTC)	17:08

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	8863180
Date	November 14, 2013
Start Time (UTC)	12:37
End Time (UTC)	12:58

PHOTOS:






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Point ID	TW-18
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Addison
Quad	Mount Ellen

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
181530.099	461232.537	408.464

Instrument Model	Leica 1102
Occupy Point	UA-16
Instrument Height	5.37
Backsight Point	GC-47
Backsight Height	6.83
Angle Right	281.0330
Slope Distance	90.810
Zenith Angle	87.5605

PHOTOS:






Point ID	TW-19
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Washington
Quad	Mount Ellen

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
188913.694	468400.210	330.537

Operator	David Simmons
Receiver Model	Trimble R7
Receiver S/N	5201K23076
Antenna Height	2.000 Meters
Static Session	30763142
Date (YYYY-MM-DD)	November 10, 2013
Start Time (UTC)	13:16
End Time (UTC)	13:37

Operator	David Simmons
Receiver Model	Trimble R7
Receiver S/N	5201K23076
Antenna Height	2.000 Meters
Static Session	30763146
Date (YYYY-MM-DD)	November 10, 2013
Start Time (UTC)	17:42
End Time (UTC)	18:03

PHOTOS:









Point ID	TW-20
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Washington
Quad	Waitsfield

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
194579.944	476981.695	223.906

Operator	David Simmons
Receiver Model	TRIMBLE R7
Receiver S/N	5201K23076
Antenna Height	2 meters
Static Session	30763131
Date	November 9, 2013
Start Time (UTC)	14:17
End Time (UTC)	14:39

Operator	David Simmons
Receiver Model	TRIMBLE R7
Receiver S/N	5201K23076
Antenna Height	2 meters
Static Session	30763136
Date	November 9, 2013
Start Time (UTC)	19:01
End Time (UTC)	19:25

PHOTOS:









Point ID	TW-21
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Washington
Quad	Stowe

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
211121.058	485936.042	381.682

Operator	David Simmons
Receiver Model	TRIMBLE R7
Receiver S/N	5201K23076
Antenna Height	2 meters
Static Session	30763120
Date	November 8, 2013
Start Time (UTC)	14:08
End Time (UTC)	14:28

Operator	David Simmons
Receiver Model	TRIMBLE R7
Receiver S/N	5201K23076
Antenna Height	2 meters
Static Session	30763127
Date	November 8, 2013
Start Time (UTC)	19:12
End Time (UTC)	19:36

PHOTOS:









Point ID	TW-22
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Grand Isle
Quad	South Hero

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
240867.847	434743.433	37.767

Instrument Model	Leica 1102
Occupy Point	GC-64
Instrument Height	5.250
Backsight Point	BE-22
Backsight Height	5.200
Angle Right	359.4126
Slope Distance	211.159
Zenith Angle	90.2104

PHOTOS:









Point ID	TW-23
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	New York
County	Clinton
Quad	Plattsburgh

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
248885.891	428277.530	36.836

Instrument Model	Leica 1102
Occupy Point	GC-67
Instrument Height	5.440
Backsight Point	UA-20
Backsight Height	5.00
Angle Right	9.0409
Slope Distance	492.991
Zenith Angle	88.3117

PHOTOS:






Point ID	TW-24
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Grand Isle
Quad	Rouses Point Port of Entry

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
274235.819	437033.471	36.018

Instrument Model	Leica 1102
Occupy Point	GC-76
Instrument Height	5.25
Backsight Point	BE-21
Backsight Height	5.20
Angle Right	40.2756
Slope Distance	451.041
Zenith Angle	89.5601

PHOTOS:









Point ID	TW-25
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	New York
County	Clinton
Quad	Rouses Point Port of Entry

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
278055.457	431644.738	33.424

Instrument Model	Leica 1102
Occupy Point	BE-25
Instrument Height	5.21
Backsight Point	GC-78
Backsight Height	5.20
Angle Right	229.4229
Slope Distance	54.471
Zenith Angle	90.5224

PHOTOS:









Point ID	UA-01
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Grand Isle
Quad	Rouses Point

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
265412.275	438585.074	32.222

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	1067311A
Date	November 7, 2013
Start Time (UTC)	19:01
End Time (UTC)	19:22

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673123
Date	November 8, 2013
Start Time (UTC)	14:53
End Time (UTC)	15:14

PHOTOS:









Point ID	UA-02
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	New York
County	Washington
Quad	Putnam

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
133718.217	427181.755	109.399

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863233
Date	November 19, 2013
Start Time (UTC)	15:18
End Time (UTC)	15:39

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863237
Date	November 19, 2013
Start Time (UTC)	20:35
End Time (UTC)	20:56

PHOTOS:









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Point ID	UA-03
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Addison
Quad	Bridport

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
166446.288	438410.705	63.112

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863194
Date	November 15, 2013
Start Time (UTC)	14:19
End Time (UTC)	14:40

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863197
Date	November 15, 2013
Start Time (UTC)	18:46
End Time (UTC)	19:07

PHOTOS:









Point ID	UA-04
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Grand Isle
Quad	South Hero

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
237487.049	439218.572	32.710

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673100
Date	November 6, 2013
Start Time (UTC)	17:13
End Time (UTC)	17:34

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673108
Date	November 6, 2013
Start Time (UTC)	21:22
End Time (UTC)	21:43

PHOTOS:









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Point ID	UA-05
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	Wells

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
102066.084	442314.532	145.815

Instrument Model	Leica 1102
Occupy Point	GC-37
Instrument Height	5.56
Backsight Point	GC-37-BS
Backsight Height	5.11
Angle Right	334.3922
Slope Distance	105.201
Zenith Angle	89.5908

PHOTOS:






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Point ID	UA-06
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	Brandon

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
144023.974	453159.679	126.561

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863203
Date	November 16, 2013
Start Time (UTC)	15:27
End Time (UTC)	15:48

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	0886320A
Date	November 16, 2013
Start Time (UTC)	20:03
End Time (UTC)	20:24

PHOTOS: Field images were unable to be recovered after acquisition.



Point ID	UA-07
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	Dorset

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
96622.226	459348.400	206.326

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673184
Date	November 14, 2013
Start Time (UTC)	16:35
End Time (UTC)	16:56

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	1067318B
Date	November 14, 2013
Start Time (UTC)	21:23
End Time (UTC)	21:44

PHOTOS:









Quantum Spatial, Inc. – 1410 Indian Trail Rd., Norcross, GA 30093 – Ph. 770-564-9843 - www.quantumspatial.com

Point ID	UA-08
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	Poultney

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
123230.765	445155.344	140.768

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10671361
Date	May 16, 2014
Start Time (UTC)	13:21
End Time (UTC)	14:07

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10671372
Date	May 17, 2014
Start Time (UTC)	18:38
End Time (UTC)	19:24

PHOTOS:









Quantum Spatial, Inc. – 1410 Indian Trail Rd., Norcross, GA 30093 – Ph. 770-564-9843 - www.quantumspatial.com

Point ID	UA-09
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Grand Isle
Quad	Rouses Point Port of Entry

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
274328.859	436755.610	37.473

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863120
Date	November 8, 2013
Start Time (UTC)	12:38
End Time (UTC)	12:59

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863127
Date	November 8, 2013
Start Time (UTC)	17:39
End Time (UTC)	18:00

PHOTOS:









Point ID	UA-10
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	Mount Holly

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
104129.414	479590.524	408.646

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673204
Date	November 16, 2013
Start Time (UTC)	17:31
End Time (UTC)	17:52

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	1067320C
Date	November 16, 2013
Start Time (UTC)	21:18
End Time (UTC)	21:39

PHOTOS:









Point ID	UA-11
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	Pico Peak

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
133796.168	474222.028	422.267

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673235
Date	November 18, 2013
Start Time (UTC)	18:42
End Time (UTC)	19:03

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	1067323B
Date	November 18, 2013
Start Time (UTC)	22:20
End Time (UTC)	22:41

PHOTOS:









Point ID	UA-12
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Rutland
Quad	Rutland

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
119888.164	462629.643	191.570

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673223
Date	November 17, 2013
Start Time (UTC)	16:15
End Time (UTC)	16:36

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	1067322A
Date	November 17, 2013
Start Time (UTC)	20:23
End Time (UTC)	20:44

PHOTOS:









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Point ID	UA-13
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Addison
Quad	Bridport

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
156438.122	430099.544	49.681

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863155
Date	November 11, 2013
Start Time (UTC)	17:17
End Time (UTC)	17:38

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	0886315B
Date	November 11, 2013
Start Time (UTC)	21:39
End Time (UTC)	22:00

PHOTOS:









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Point ID	UA-14
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Addison
Quad	Port Henry

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
171057.759	426344.968	37.726

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863177
Date	November 13, 2013
Start Time (UTC)	18:49
End Time (UTC)	19:10

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863183
Date	November 14, 2013
Start Time (UTC)	14:17
End Time (UTC)	14:38

PHOTOS:









Point ID	UA-15
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Washington
Quad	Middlesex

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
200028.313	484818.699	155.466

Operator	David Simmons
Receiver Model	TRIMBLE R7
Receiver S/N	5201K23076
Antenna Height	2 meters
Static Session	3076312D
Date	November 8, 2013
Start Time (UTC)	22:24
End Time (UTC)	22:45

Operator	David Simmons
Receiver Model	TRIMBLE R7
Receiver S/N	5201K23076
Antenna Height	2 meters
Static Session	30763177
Date	November 13, 2013
Start Time (UTC)	18:08
End Time (UTC)	18:28

PHOTOS:









Point ID	UA-16
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Addison
Quad	Mount Ellen

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
181502.599	461229.580	407.912

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673172
Date	November 13, 2013
Start Time (UTC)	15:34
End Time (UTC)	15:55

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673178
Date	November 13, 2013
Start Time (UTC)	18:55
End Time (UTC)	19:16

PHOTOS:









Point ID	UA-17
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Washington
Quad	Waitsfield

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
187842.043	474199.050	211.629

Operator	David Simmons
Receiver Model	TRIMBLE R7
Receiver S/N	5201K23076
Antenna Height	2 meters
Static Session	30763135
Date	November 9, 2013
Start Time (UTC)	17:08
End Time (UTC)	17:35

Operator	David Simmons
Receiver Model	TRIMBLE R7
Receiver S/N	5201K23076
Antenna Height	2 meters
Static Session	30763139
Date	November 9, 2013
Start Time (UTC)	20:36
End Time (UTC)	20:59

PHOTOS:









Point ID	UA-18
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Washington
Quad	Waterbury

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
204744.524	479394.158	129.933

Operator	David Simmons
Receiver Model	TRIMBLE R7
Receiver S/N	5201K23076
Antenna Height	2 meters
Static Session	30763123
Date	November 8, 2013
Start Time (UTC)	16:31
End Time (UTC)	16:55

Operator	David Simmons
Receiver Model	TRIMBLE R7
Receiver S/N	5201K23076
Antenna Height	2 meters
Static Session	3076312A
Date	November 8, 2013
Start Time (UTC)	20:51
End Time (UTC)	21:15

PHOTOS:









Point ID	UA-19
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Grand Isle
Quad	North Hero

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
256948.751	436975.018	42.425

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673118
Date	November 7, 2013
Start Time (UTC)	17:57
End Time (UTC)	18:18

Operator	David Simmons
Receiver Model	TRIMBLE R7
Receiver S/N	5201K23076
Antenna Height	2 meters
Static Session	3076312A
Date	November 8, 2013
Start Time (UTC)	20:51
End Time (UTC)	21:15

PHOTOS:









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Point ID	UA-20
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	New York
County	Clinton
Quad	Plattsburgh

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
248881.102	428237.250	37.771

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	8863131
Date	November 9, 2013
Start Time (UTC)	14:58
End Time (UTC)	15:23

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	8863133
Date	November 9, 2013
Start Time (UTC)	19:58
End Time (UTC)	20:23

PHOTOS:









Point ID	UA-21
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Grand Isle
Quad	Colchester Point

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
233266.355	436071.750	40.514

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673101
Date	November 6, 2013
Start Time (UTC)	17:49
End Time (UTC)	18:10

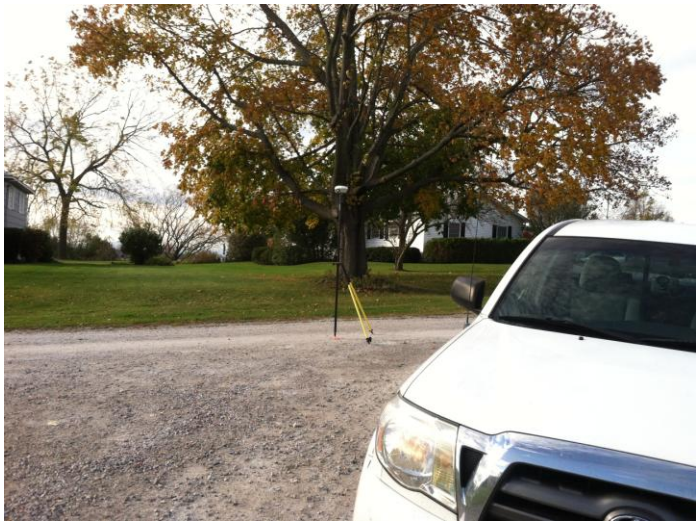
Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673109
Date	November 6, 2013
Start Time (UTC)	21:54
End Time (UTC)	22:15

PHOTOS:









Point ID	UA-22
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Grand Isle
Quad	South Hero

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
240810.628	434772.901	38.146

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673104
Date	November 6, 2013
Start Time (UTC)	19:34
End Time (UTC)	19:55

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673112
Date	November 7, 2013
Start Time (UTC)	14:52
End Time (UTC)	15:13

PHOTOS:









Point ID	UA-23
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	Vermont
County	Grand Isle
Quad	North Hero

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
260314.506	432365.461	36.502

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	10673127
Date	November 8, 2013
Start Time (UTC)	17:09
End Time (UTC)	17:38

Operator	Donald Gedenk
Receiver Model	R8 - Model 3
Receiver S/N	5106461067
Antenna Height	2 meters
Static Session	1067312C
Date	November 8, 2013
Start Time (UTC)	20:01
End Time (UTC)	20:22

PHOTOS:









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Point ID	UA-24
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	New York
County	Clinton
Quad	Champlain

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
265587.544	430625.694	32.844

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863124
Date	November 8, 2013
Start Time (UTC)	15:16
End Time (UTC)	15:37

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	0886312B
Date	November 8, 2013
Start Time (UTC)	19:50
End Time (UTC)	20:11

PHOTOS:









Quantum Spatial, Inc. – 1410 Indian Trail Rd., Norcross, GA 30093 – Ph. 770-564-9843 - www.quantumspatial.com

Point ID	UA-25
Project No.	18814 (7505-082)
Project Name	TO #36 – Rutland, VT LiDAR
State	New York
County	Clinton
Quad	Rouses Point Port of Entry

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

Coordinate System
SPC – Vermont (4400)
NAD83(2011)
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
277721.929	431809.719	33.592

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863111
Date	November 7, 2013
Start Time (UTC)	14:08
End Time (UTC)	14:39

Operator	Kevin Chapman
Receiver Model	TRIMBLE R7
Receiver S/N	5106K20886
Antenna Height	2 meters
Static Session	08863116
Date	November 7, 2013
Start Time (UTC)	18:49
End Time (UTC)	19:10

PHOTOS:









Section 3d – QA Points
OPUS Solution Reports

BE-01 SESSION 1 FILE: 30763122.13o OP1389041010150

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 3076312p.13o TIME: 21:38:28 UTC

SOFTWARE: rsgps 1.37 RS52.prl 1.89 START: 2013/11/08 15:37:20
EPHEMERIS: igs17655.eph [precise] STOP: 2013/11/08 15:59:50
NAV FILE: brdc3120.13n OBS USED: 1404 / 1485 : 95%
ANT NAME: TRM55971.00 NONE QUALITY IND. 23.69/ 15.75
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.313

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2013.85386)	
X:	1359388.181(m)	0.007(m)	1359387.337(m)	0.007(m)
Y:	-4358117.899(m)	0.013(m)	-4358116.497(m)	0.013(m)
Z:	4439743.548(m)	0.013(m)	4439743.539(m)	0.013(m)
LAT:	44 23 38.80409	0.004(m)	44 23 38.83991	0.004(m)
E LON:	287 19 25.65518	0.004(m)	287 19 25.63764	0.004(m)
W LON:	72 40 34.34482	0.004(m)	72 40 34.36236	0.004(m)
EL HGT:	364.969(m)	0.018(m)	363.827(m)	0.018(m)
ORTHO HGT:	392.476(m)	0.022(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4918273.864	210446.218
Easting (X) [meters]	685071.511	485961.504
Convergence [degrees]	1.62616214	-0.12327277
Point Scale	1.00002124	0.99996671
Combined Factor	0.99996402	0.99990949

US NATIONAL GRID DESIGNATOR: 18TXQ8507118273(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	16482.4
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	42369.5
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	50881.2
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	56279.7
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	62127.7
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	69540.1
DJ8955	VTD9 DERBY CORS ARP	N445703.499	W0720936.723	74188.2
DL3079	VTIP ISLAND POND CORS ARP	N444912.180	W0715325.838	78300.9
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	90766.0

BE-01 SESSION 2 FILE: 30763128.13o OP1389281637250

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: dgedenk@photoscience.com DATE: January 09, 2014
RINEX FILE: 3076312t.13o TIME: 16:43:08 UTC

SOFTWARE: rsgps 1.37 RS92.prl 1.89 START: 2013/11/08 19:44:10
EPHEMERIS: igs17655.eph [precise] STOP: 2013/11/08 20:06:00
NAV FILE: brdc3120.13n OBS USED: 765 / 792 : 97%
ANT NAME: TRM55971.00 NONE QUALITY IND. 17.63/ 13.63
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.309

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2013.85433)	
X:	1359388.207(m)	0.017(m)	1359387.363(m)	0.017(m)
Y:	-4358117.920(m)	0.025(m)	-4358116.518(m)	0.025(m)
Z:	4439743.537(m)	0.028(m)	4439743.528(m)	0.028(m)
LAT:	44 23 38.80321	0.013(m)	44 23 38.83903	0.013(m)
E LON:	287 19 25.65602	0.012(m)	287 19 25.63848	0.012(m)
W LON:	72 40 34.34398	0.012(m)	72 40 34.36152	0.012(m)
EL HGT:	364.981(m)	0.037(m)	363.839(m)	0.037(m)
ORTHO HGT:	392.488(m)	0.039(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4918273.837	210446.191
Easting (X) [meters]	685071.530	485961.523
Convergence [degrees]	1.62616229	-0.12327260
Point Scale	1.00002124	0.99996671
Combined Factor	0.99996401	0.99990949

US NATIONAL GRID DESIGNATOR: 18TXQ8507118273(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	16482.3
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	42369.5
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	50881.2
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	56279.8
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	62127.7
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	69540.1
DJ8955	VTD9 DERBY CORS ARP	N445703.499	W0720936.723	74188.3
DL3079	VTIP ISLAND POND CORS ARP	N444912.180	W0715325.838	78300.9
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	90765.9

BE-02 SESSION 1 FILE: 10673192.13o OP1388769362716

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067319p.13o TIME: 17:21:28 UTC

SOFTWARE: rsgps 1.37 RS82.prl 1.89 START: 2013/11/15 15:29:41
EPHEMERIS: igs17665.eph [precise] STOP: 2013/11/15 15:50:28
NAV FILE: brdc3190.13n OBS USED: 1386 / 1476 : 94%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 16.55/ 20.64
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.337

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.87302)

X:	1346155.605(m)	0.006(m)	1346154.766(m)	0.006(m)
Y:	-4435495.384(m)	0.020(m)	-4435493.974(m)	0.020(m)
Z:	4366848.089(m)	0.018(m)	4366848.070(m)	0.018(m)
LAT:	43 29 3.03502	0.006(m)	43 29 3.07009	0.006(m)
E LON:	286 52 58.22349	0.004(m)	286 52 58.20599	0.004(m)
W LON:	73 7 1.77651	0.004(m)	73 7 1.79401	0.004(m)
EL HGT:	235.017(m)	0.027(m)	233.848(m)	0.027(m)
ORTHO HGT:	263.718(m)	0.030(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4816305.944	109515.831
Easting (X) [meters]	652258.165	450074.835
Convergence [degrees]	1.29593238	-0.42471010
Point Scale	0.99988516	0.99999493
Combined Factor	0.99984831	0.99995808

US NATIONAL GRID DESIGNATOR: 18TXP5225816305(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	17621.8
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	56511.7
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	65348.6
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	72901.8
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	87505.7
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	96522.1
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	99547.8
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	109643.8
DI0456	NYFV FULTONVILLE CORS ARP	N425620.997	W0742112.013	117289.2

BE-02 SESSION 2 FILE: 10673199.13o OP1388769362716

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067319t.13o TIME: 17:26:52 UTC

SOFTWARE: rsgps 1.37 RS50.prl 1.89 START: 2013/11/15 19:43:33
EPHEMERIS: igs17665.eph [precise] STOP: 2013/11/15 20:06:29
NAV FILE: brdc3190.13n OBS USED: 1710 / 2205 : 78%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 6.41/ 10.97
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.396

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.87351)

X:	1346155.607(m)	0.006(m)	1346154.768(m)	0.006(m)
Y:	-4435495.377(m)	0.019(m)	-4435493.967(m)	0.019(m)
Z:	4366848.080(m)	0.014(m)	4366848.061(m)	0.014(m)
LAT:	43 29 3.03494	0.006(m)	43 29 3.07001	0.006(m)
E LON:	286 52 58.22367	0.003(m)	286 52 58.20616	0.003(m)
W LON:	73 7 1.77633	0.003(m)	73 7 1.79384	0.003(m)
EL HGT:	235.006(m)	0.024(m)	233.838(m)	0.024(m)
ORTHO HGT:	263.707(m)	0.027(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4816305.942	109515.829
Easting (X) [meters]	652258.169	450074.839
Convergence [degrees]	1.29593241	-0.42471006
Point Scale	0.99988516	0.99999493
Combined Factor	0.99984831	0.99995808

US NATIONAL GRID DESIGNATOR: 18TXP5225816305(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	17621.8
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	56511.7
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	65348.6
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	72901.8
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	87505.7
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	96522.1
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	99547.8
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	109643.8
DI0456	NYFV FULTONVILLE CORS ARP	N425620.997	W0742112.013	117289.2

BE-03 SESSION 1 FILE: 30763133.13o OP1389041010150

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 3076313p.13o TIME: 22:09:31 UTC

SOFTWARE: rsgps 1.37 RS91.prl 1.89 START: 2013/11/09 15:34:50
EPHEMERIS: igs17656.eph [precise] STOP: 2013/11/09 15:56:55
NAV FILE: brdc3130.13n OBS USED: 1422 / 1422 : 100%
ANT NAME: TRM55971.00 NONE QUALITY IND. 21.55/ 8.72
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.337

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.85659)

X:	1355483.109(m)	0.006(m)	1355482.266(m)	0.006(m)
Y:	-4371753.829(m)	0.008(m)	-4371752.426(m)	0.008(m)
Z:	4427312.927(m)	0.010(m)	4427312.917(m)	0.010(m)
LAT:	44 14 22.21651	0.005(m)	44 14 22.25221	0.005(m)
E LON:	287 13 34.67597	0.005(m)	287 13 34.65841	0.005(m)
W LON:	72 46 25.32403	0.005(m)	72 46 25.34159	0.005(m)
EL HGT:	167.149(m)	0.012(m)	166.003(m)	0.012(m)
ORTHO HGT:	194.750(m)	0.017(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4900884.841	193288.401
Easting (X) [meters]	677773.206	478136.755
Convergence [degrees]	1.55360343	-0.19095087
Point Scale	0.99998868	0.99997016
Combined Factor	0.99996247	0.99994395

US NATIONAL GRID DESIGNATOR: 18TXQ7777300884(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	15483.7
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	36044.5
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	40452.0
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	44161.5
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	58720.0
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	62216.5
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	67888.7
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	72182.0
DJ8955	VTD9 DERBY CORS ARP	N445703.499	W0720936.723	92864.6

BE-03 SESSION 2 FILE: 30763171.13o OP1389041010150

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 3076317o.13o TIME: 21:51:06 UTC

SOFTWARE: rsgps 1.37 RS52.prl 1.89 START: 2013/11/13 14:20:51
EPHEMERIS: igs17663.eph [precise] STOP: 2013/11/13 14:42:28
NAV FILE: brdc3170.13n OBS USED: 1521 / 1539 : 99%
ANT NAME: TRM55971.00 NONE QUALITY IND. 4.44/ 1.13
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.350

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2013.86741)	
X:	1355483.126(m)	0.009(m)	1355482.283(m)	0.009(m)
Y:	-4371753.846(m)	0.028(m)	-4371752.443(m)	0.028(m)
Z:	4427312.943(m)	0.024(m)	4427312.933(m)	0.024(m)
LAT:	44 14 22.21640	0.006(m)	44 14 22.25210	0.006(m)
E LON:	287 13 34.67647	0.004(m)	287 13 34.65891	0.004(m)
W LON:	72 46 25.32353	0.004(m)	72 46 25.34109	0.004(m)
EL HGT:	167.176(m)	0.037(m)	166.030(m)	0.037(m)
ORTHO HGT:	194.777(m)	0.039(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4900884.838	193288.398
Easting (X) [meters]	677773.218	478136.766
Convergence [degrees]	1.55360352	-0.19095077
Point Scale	0.99998868	0.99997016
Combined Factor	0.99996247	0.99994395

US NATIONAL GRID DESIGNATOR: 18TXQ7777300884(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	15483.7
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	26151.5
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	36044.5
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	40452.0
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	44161.5
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	58720.0
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	62216.5
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	67888.7
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	72182.0

BE-04 SESSION 1 FILE: 10673203.13o OP1388770259386

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067320p.13o TIME: 17:39:16 UTC

SOFTWARE: rsgps 1.37 RS92.prl 1.89 START: 2013/11/16 15:52:29
EPHEMERIS: igs17666.eph [precise] STOP: 2013/11/16 16:13:22
NAV FILE: brdc3200.13n OBS USED: 1008 / 1048 : 96%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 3.29/ 8.95
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.376

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.87580)

X:	1374160.993(m)	0.009(m)	1374160.154(m)	0.009(m)
Y:	-4436291.306(m)	0.028(m)	-4436289.893(m)	0.028(m)
Z:	4357853.764(m)	0.024(m)	4357853.745(m)	0.024(m)
LAT:	43 22 11.57807	0.006(m)	43 22 11.61317	0.006(m)
E LON:	287 12 38.16015	0.005(m)	287 12 38.14312	0.005(m)
W LON:	72 47 21.83985	0.005(m)	72 47 21.85688	0.005(m)
EL HGT:	567.101(m)	0.037(m)	565.926(m)	0.037(m)
ORTHO HGT:	594.292(m)	0.039(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4804264.194	96673.785
Easting (X) [meters]	679100.393	476544.922
Convergence [degrees]	1.51843357	-0.19873344
Point Scale	0.99999459	0.99997105
Combined Factor	0.99990567	0.99988213

US NATIONAL GRID DESIGNATOR: 18TXP7910004264(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	16837.3
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	27138.1
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	30516.7
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	61799.5
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	65015.7
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	75751.3
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	89289.9
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	100514.1

BE-04 SESSION 2 FILE: 1067320A.13o OP1388770259386

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067320u.13o TIME: 17:37:08 UTC

SOFTWARE: rsgps 1.37 RS93.prl 1.89 START: 2013/11/16 20:31:30
EPHEMERIS: igs17666.eph [precise] STOP: 2013/11/16 20:52:29
NAV FILE: brdc3200.13n OBS USED: 2007 / 2583 : 78%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 9.37/ 13.48
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.357

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.87634)

X:	1374160.983(m)	0.004(m)	1374160.144(m)	0.004(m)
Y:	-4436291.272(m)	0.010(m)	-4436289.859(m)	0.010(m)
Z:	4357853.755(m)	0.013(m)	4357853.736(m)	0.013(m)
LAT:	43 22 11.57864	0.005(m)	43 22 11.61375	0.005(m)
E LON:	287 12 38.16017	0.004(m)	287 12 38.14314	0.004(m)
W LON:	72 47 21.83983	0.004(m)	72 47 21.85686	0.004(m)
EL HGT:	567.069(m)	0.016(m)	565.894(m)	0.016(m)
ORTHO HGT:	594.260(m)	0.021(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4804264.212	96673.803
Easting (X) [meters]	679100.393	476544.923
Convergence [degrees]	1.51843358	-0.19873344
Point Scale	0.99999459	0.99997105
Combined Factor	0.99990567	0.99988213

US NATIONAL GRID DESIGNATOR: 18TXP7910004264(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	16837.3
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	27138.1
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	30516.7
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	61799.5
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	65015.6
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	75751.3
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	89290.0
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	100514.1
DL9078	NHCO NHDOT CONCORD CORS ARP	N431246.195	W0713111.475	104500.7

BE-05 SESSION 1 FILE: 10673181.13o OP1388768537624

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067318o.13o TIME: 17:10:34 UTC

SOFTWARE: rsgps 1.37 RS81.prl 1.89 START: 2013/11/14 14:31:59
EPHEMERIS: igs17664.eph [precise] STOP: 2013/11/14 14:52:39
NAV FILE: brdc3180.13n OBS USED: 882 / 1176 :
75%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 6.42/ 10.96
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.336

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08
(EPOCH:2013.87017)

X:	1359573.318(m)	0.068(m)	1359572.479(m)	0.068(m)
Y:	-4445507.798(m)	0.073(m)	-4445506.385(m)	0.073(m)
Z:	4352500.240(m)	0.065(m)	4352500.220(m)	0.065(m)
LAT:	43 18 24.96155	0.066(m)	43 18 24.99657	0.066(m)
E LON:	287 0 18.88988	0.048(m)	287 0 18.87261	0.048(m)
W LON:	72 59 41.11012	0.048(m)	72 59 41.12739	0.048(m)
EL HGT:	178.507(m)	0.088(m)	177.331(m)	0.088(m)
ORTHO HGT:	206.507(m)	0.089(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4796852.610	89758.635
Easting (X) [meters]	662630.504	459860.169
Convergence [degrees]	1.37571252	-0.33935864
Point Scale	0.99992536	0.99998410
Combined Factor	0.99989737	0.99995611

US NATIONAL GRID DESIGNATOR: 18TXN6263096852(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	4779.3
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	33375.4
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	50023.5
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	71225.4
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	77025.6
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	105394.5
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	109509.7

BE-05 SESSION 2 FILE: 10673189.13o OP1388768537624

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067318t.13o TIME: 17:10:58 UTC

SOFTWARE: rsgps 1.37 RS90.prl 1.89 START: 2013/11/14 19:53:24
EPHEMERIS: igs17664.eph [precise] STOP: 2013/11/14 20:14:22
NAV FILE: brdc3180.13n OBS USED: 1288 / 1435 : 90%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 18.27/ 14.25
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.338

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.87078)

X:	1359573.314(m)	0.010(m)	1359572.475(m)	0.010(m)
Y:	-4445507.805(m)	0.028(m)	-4445506.392(m)	0.028(m)
Z:	4352500.234(m)	0.025(m)	4352500.214(m)	0.025(m)
LAT:	43 18 24.96129	0.009(m)	43 18 24.99630	0.009(m)
E LON:	287 0 18.88962	0.004(m)	287 0 18.87235	0.004(m)
W LON:	72 59 41.11038	0.004(m)	72 59 41.12765	0.004(m)
EL HGT:	178.507(m)	0.038(m)	177.331(m)	0.038(m)
ORTHO HGT:	206.507(m)	0.040(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES (UTM (Zone 18))	STATE PLANE COORDINATES (SPC (4400 VT))
Northing (Y) [meters]	4796852.601	89758.627
Easting (X) [meters]	662630.498	459860.163
Convergence [degrees]	1.37571247	-0.33935869
Point Scale	0.99992536	0.99998410
Combined Factor	0.99989737	0.99995611

US NATIONAL GRID DESIGNATOR: 18TXN6263096852(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	4779.3
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	33375.4
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	42066.5
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	50023.5
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	77025.6
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	105394.5
DE8093	HAMP NORTHAMPTON CORS ARP	N421903.872	W0723822.403	113663.8

BE-06 SESSION 1 FILE: 10673201.13o OP1388770259386

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067320o.13o TIME: 17:37:24 UTC

SOFTWARE: rsgps 1.37 RS81.prl 1.89 START: 2013/11/16 14:43:01
EPHEMERIS: igs17666.eph [precise] STOP: 2013/11/16 15:03:19
NAV FILE: brdc3200.13n OBS USED: 1448 / 1856 : 78%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 21.27/ 5.05
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.345

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.87567)

X:	1365629.734(m)	0.011(m)	1365628.895(m)	0.011(m)
Y:	-4432517.228(m)	0.019(m)	-4432515.816(m)	0.019(m)
Z:	4364012.750(m)	0.014(m)	4364012.732(m)	0.014(m)
LAT:	43 26 52.90491	0.007(m)	43 26 52.94005	0.007(m)
E LON:	287 7 25.41016	0.008(m)	287 7 25.39299	0.008(m)
W LON:	72 52 34.58984	0.008(m)	72 52 34.60701	0.008(m)
EL HGT:	350.658(m)	0.024(m)	349.486(m)	0.024(m)
ORTHO HGT:	378.159(m)	0.027(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES (UTM (Zone 18))	STATE PLANE COORDINATES (SPC (4400 VT))
Northing (Y) [meters]	4812760.264	105383.688
Easting (X) [meters]	671840.513	469543.117
Convergence [degrees]	1.46083428	-0.25876489
Point Scale	0.99996324	0.99997569
Combined Factor	0.99990826	0.99992071

US NATIONAL GRID DESIGNATOR: 18TXP7184012760(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	14548.5
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	19545.3
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	37243.6
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	57216.7
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	65102.8
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	86722.6
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	93476.0
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	100083.7

BE-06 SESSION 2 FILE: 10673208.13o OP1388770259386

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067320t.13o TIME: 17:36:05 UTC

SOFTWARE: rsgps 1.37 RS90.prl 1.89 START: 2013/11/16 19:35:02
EPHEMERIS: igs17666.eph [precise] STOP: 2013/11/16 19:55:24
NAV FILE: brdc3200.13n OBS USED: 1359 / 1908 : 71%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 12.97/ 6.67
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.326

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2013.87623)	
X:	1365629.739(m)	0.008(m)	1365628.900(m)	0.008(m)
Y:	-4432517.215(m)	0.019(m)	-4432515.803(m)	0.019(m)
Z:	4364012.746(m)	0.016(m)	4364012.728(m)	0.016(m)
LAT:	43 26 52.90506	0.005(m)	43 26 52.94020	0.005(m)
E LON:	287 7 25.41055	0.004(m)	287 7 25.39338	0.004(m)
W LON:	72 52 34.58945	0.004(m)	72 52 34.60662	0.004(m)
EL HGT:	350.647(m)	0.025(m)	349.476(m)	0.025(m)
ORTHO HGT:	378.148(m)	0.028(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4812760.269	105383.693
Easting (X) [meters]	671840.522	469543.126
Convergence [degrees]	1.46083435	-0.25876482
Point Scale	0.99996324	0.99997569
Combined Factor	0.99990826	0.99992071

US NATIONAL GRID DESIGNATOR: 18TXP7184012760(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	14548.5
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	19545.3
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	37243.6
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	57216.7
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	65102.8
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	68119.3
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	86722.6
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	93475.9
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	100083.7

BE-07 SESSION 1 FILE: 10673196.13o OP1388769362716

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067319r.13o TIME: 17:23:38 UTC

SOFTWARE: rsgps 1.37 RS92.prl 1.89 START: 2013/11/15 17:55:14
EPHEMERIS: igs17665.eph [precise] STOP: 2013/11/15 18:16:52
NAV FILE: brdc3190.13n OBS USED: 2709 / 2709 : 100%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 22.71/ 27.10
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.339

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2013.87330)	
X:	1340256.325(m)	0.010(m)	1340255.486(m)	0.010(m)
Y:	-4442561.769(m)	0.023(m)	-4442560.358(m)	0.023(m)
Z:	4361339.972(m)	0.023(m)	4361339.952(m)	0.023(m)
LAT:	43 25 0.82551	0.004(m)	43 25 0.86052	0.004(m)
E LON:	286 47 16.07850	0.005(m)	286 47 16.06091	0.005(m)
W LON:	73 12 43.92150	0.005(m)	73 12 43.93909	0.005(m)
EL HGT:	116.678(m)	0.033(m)	115.507(m)	0.033(m)
ORTHO HGT:	145.880(m)	0.036(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4808664.299	102102.489
Easting (X) [meters]	644732.875	442322.630
Convergence [degrees]	1.22897044	-0.48951003
Point Scale	0.99985768	1.00000519
Combined Factor	0.99983939	0.99998689

US NATIONAL GRID DESIGNATOR: 18TXP4473208664(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	19090.3
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	28302.2
DK6550	HDF5 HUDSON FALLS 5 CORS ARP	N431614.941	W0733220.822	31082.0
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	59377.8
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	64812.2
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	76011.6
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	91961.8
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	95154.2
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	106686.9

BE-07 SESSION 2 FILE: 1067319D.13o OP1388769362716

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067319v.13o TIME: 17:21:07 UTC

SOFTWARE: rsgps 1.37 RS93.prl 1.89 START: 2013/11/15 21:47:29
EPHEMERIS: igs17665.eph [precise] STOP: 2013/11/15 22:10:43
NAV FILE: brdc3190.13n OBS USED: 1170 / 1530 : 76%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 9.39/ 7.46
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.309

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2013.87374)	
X:	1340256.331(m)	0.006(m)	1340255.492(m)	0.006(m)
Y:	-4442561.767(m)	0.008(m)	-4442560.356(m)	0.008(m)
Z:	4361339.981(m)	0.009(m)	4361339.961(m)	0.009(m)
LAT:	43 25 0.82572	0.005(m)	43 25 0.86073	0.005(m)
E LON:	286 47 16.07878	0.006(m)	286 47 16.06119	0.006(m)
W LON:	73 12 43.92122	0.006(m)	73 12 43.93881	0.006(m)
EL HGT:	116.684(m)	0.011(m)	115.513(m)	0.011(m)
ORTHO HGT:	145.886(m)	0.017(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4808664.306	102102.496
Easting (X) [meters]	644732.882	442322.637
Convergence [degrees]	1.22897050	-0.48950998
Point Scale	0.99985768	1.00000519
Combined Factor	0.99983939	0.99998689

US NATIONAL GRID DESIGNATOR: 18TXP4473208664(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	19090.3
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	28302.2
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	59377.8
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	64812.2
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	76011.6
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	91961.8
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	95154.2
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	106686.8
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	110177.9

BE-08 SESSION 1 FILE: 10671440.14o OP1406151265878

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: dgedenk@quantumspatial.com DATE: July 23, 2014
RINEX FILE: 1067144i.14o TIME: 21:38:50 UTC

SOFTWARE: rsgps 1.37 RS91.prl 1.99.2 START: 2014/05/24 08:42:37
EPHEMERIS: igs17936.eph [precise] STOP: 2014/05/24 09:28:40
NAV FILE: brdc1440.14n OBS USED: 3645 / 3735 : 98%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 21.09/ 27.45
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.324

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2014.39282)	
X:	1356021.211(m)	0.005(m)	1356020.363(m)	0.005(m)
Y:	-4424954.170(m)	0.009(m)	-4424952.761(m)	0.009(m)
Z:	4374332.969(m)	0.009(m)	4374332.953(m)	0.009(m)
LAT:	43 34 39.64886	0.004(m)	43 34 39.68412	0.004(m)
E LON:	287 2 15.40451	0.003(m)	287 2 15.38677	0.003(m)
W LON:	72 57 44.59549	0.003(m)	72 57 44.61323	0.003(m)
EL HGT:	166.639(m)	0.013(m)	165.472(m)	0.013(m)
ORTHO HGT:	194.686(m)	0.018(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4826985.490	119822.873
Easting (X) [meters]	664519.839	462652.915
Convergence [degrees]	1.40491650	-0.31874476
Point Scale	0.99993294	0.99998144
Combined Factor	0.99990681	0.99995531

US NATIONAL GRID DESIGNATOR: 18TXP6451926985(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	51227.8
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	57805.0
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	79607.0
DJ8953	VTD2 DUMMERSTON CORS ARP	N425506.107	W0723206.441	81052.5
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	81930.5
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	84196.6
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	89163.1
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	108486.0
DP1320	MABN BERNARDSTON CORS ARP	N424011.991	W0723228.643	106503.2

BE-08 SESSION 2 FILE: 08241421.14o OP1400859013243

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: dgedenk@quantumspatial.com DATE: May 23, 2014
RINEX FILE: 0824142u.14o TIME: 15:46:52 UTC

SOFTWARE: rsgps 1.37 RS92.prl 1.99.2 START: 2014/05/22 20:32:57
EPHEMERIS: igu17934.eph [ultra-rapid] STOP: 2014/05/22 21:28:40
NAV FILE: brdc1420.14n OBS USED: 6579 / 7533 : 87%
ANT NAME: TRMR8-4 NONE QUALITY IND. 17.83/ 45.50
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.328

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2014.38870)	
X:	1355883.162(m)	0.007(m)	1355882.314(m)	0.007(m)
Y:	-4424954.004(m)	0.011(m)	-4424952.595(m)	0.011(m)
Z:	4374371.248(m)	0.011(m)	4374371.232(m)	0.011(m)
LAT:	43 34 41.45430	0.005(m)	43 34 41.48957	0.005(m)
E LON:	287 2 9.52404	0.004(m)	287 2 9.50631	0.004(m)
W LON:	72 57 50.47596	0.004(m)	72 57 50.49369	0.004(m)
EL HGT:	163.611(m)	0.016(m)	162.444(m)	0.016(m)
ORTHO HGT:	191.668(m)	0.020(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4827037.956	119879.326
Easting (X) [meters]	664386.583	462521.291
Convergence [degrees]	1.40380265	-0.31987374
Point Scale	0.99993240	0.99998156
Combined Factor	0.99990675	0.99995590

US NATIONAL GRID DESIGNATOR: 18TXP6438627037(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	51364.8
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	57730.9
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	79629.0
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	108345.0
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	81927.8
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	84077.6
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	89097.4
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	113950.1
DP1320	MABN BERNARDSTON CORS ARP	N424011.991	W0723228.643	106598.7

BE-09 SESSION 1 FILE: 10671371.14o OP1400517418576

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: dgedenk@quantumspatial.com DATE: May 19, 2014
RINEX FILE: 1067137o.14o TIME: 17:24:35 UTC

SOFTWARE: rsgps 1.37 RS90.prl 1.99.2 START: 2014/05/17 14:10:00
EPHEMERIS: igr17926.eph [rapid] STOP: 2014/05/17 14:58:20
NAV FILE: brdc1370.14n OBS USED: 4005 / 4428 : 90%
ANT NAME: TRMR8-4 NONE QUALITY IND. 28.93/ 49.49
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.300

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2014.37427)	
X:	1371048.488(m)	0.004(m)	1371047.640(m)	0.004(m)
Y:	-4417365.083(m)	0.011(m)	-4417363.673(m)	0.011(m)
Z:	4377526.260(m)	0.009(m)	4377526.245(m)	0.009(m)
LAT:	43 36 57.65938	0.006(m)	43 36 57.69474	0.006(m)
E LON:	287 14 35.30536	0.002(m)	287 14 35.28788	0.002(m)
W LON:	72 45 24.69464	0.002(m)	72 45 24.71212	0.002(m)
EL HGT:	324.020(m)	0.013(m)	322.853(m)	0.013(m)
ORTHO HGT:	351.214(m)	0.018(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4831670.822	124010.222
Easting (X) [meters]	680999.881	479266.604
Convergence [degrees]	1.54778632	-0.17718803
Point Scale	1.00000298	0.99996957
Combined Factor	0.99995217	0.99991876

US NATIONAL GRID DESIGNATOR: 18TXP8099931670(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	67586.8
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	74019.3
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	123993.1
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	89083.0
DL7764	P776 GUNSTOCKMRNH2008 CORS ARP	N433235.720	W0712242.789	111623.8
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	104003.2
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	104914.4
DP1320	MABN BERNARDSTON CORS ARP	N424011.991	W0723228.643	106553.9
DL9078	NHCO NHDOT CONCORD CORS ARP	N431246.195	W0713111.475	109745.0

BE-09 SESSION 2 FILE: 10671391.14o OP1400859013243

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: dgedenk@quantumspatial.com DATE: May 23, 2014
RINEX FILE: 1067139o.14o TIME: 15:56:17 UTC

SOFTWARE: rsgps 1.37 RS53.prl 1.99.2 START: 2014/05/19 14:54:45
EPHEMERIS: igr17931.eph [rapid] STOP: 2014/05/19 15:40:25
NAV FILE: brdc1390.14n OBS USED: 3276 / 3663 : 89%
ANT NAME: TRMR8-4 NONE QUALITY IND. 6.69/ 38.41
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.295

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2014.37983)	
X:	1371048.476(m)	0.003(m)	1371047.628(m)	0.003(m)
Y:	-4417365.073(m)	0.017(m)	-4417363.663(m)	0.017(m)
Z:	4377526.226(m)	0.011(m)	4377526.211(m)	0.011(m)
LAT:	43 36 57.65887	0.008(m)	43 36 57.69424	0.008(m)
E LON:	287 14 35.30498	0.004(m)	287 14 35.28750	0.004(m)
W LON:	72 45 24.69502	0.004(m)	72 45 24.71250	0.004(m)
EL HGT:	323.987(m)	0.019(m)	322.820(m)	0.019(m)
ORTHO HGT:	351.181(m)	0.023(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4831670.806	124010.206
Easting (X) [meters]	680999.873	479266.595
Convergence [degrees]	1.54778625	-0.17718811
Point Scale	1.00000298	0.99996957
Combined Factor	0.99995218	0.99991877

US NATIONAL GRID DESIGNATOR: 18TXP8099931670(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	67586.8
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	74019.3
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	123993.1
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	89083.0
DL7764	P776 GUNSTOCKMRNH2008 CORS ARP	N433235.720	W0712242.789	111623.8
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	104003.3
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	104914.4
DP1320	MABN BERNARDSTON CORS ARP	N424011.991	W0723228.643	106553.9
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	130734.4

BE-10 SESSION 1 FILE: 10673233.13o OP1389280025650

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: dgedenk@photoscience.com DATE: January 09, 2014
RINEX FILE: 1067323r.13o TIME: 16:06:05 UTC

SOFTWARE: rsgps 1.37 RS53.prl 1.89 START: 2013/11/19 17:42:41
EPHEMERIS: igs17672.eph [precise] STOP: 2013/11/19 18:03:22
NAV FILE: brdc3230.13n OBS USED: 1480 / 1816 : 81%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 16.02/ 20.77
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.357

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.88423)

X:	1363195.128(m)	0.015(m)	1363194.287(m)	0.015(m)
Y:	-4407536.099(m)	0.030(m)	-4407534.691(m)	0.030(m)
Z:	4389647.675(m)	0.030(m)	4389647.660(m)	0.030(m)
LAT:	43 46 3.78143	0.008(m)	43 46 3.81680	0.008(m)
E LON:	287 11 10.23496	0.009(m)	287 11 10.21764	0.009(m)
W LON:	72 48 49.76504	0.009(m)	72 48 49.78236	0.009(m)
EL HGT:	228.062(m)	0.044(m)	226.901(m)	0.044(m)
ORTHO HGT:	255.525(m)	0.046(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4848396.913	140880.306
Easting (X) [meters]	675959.017	474732.307
Convergence [degrees]	1.51264459	-0.21708436
Point Scale	0.99998083	0.99997214
Combined Factor	0.99994507	0.99993638

US NATIONAL GRID DESIGNATOR: 18TXP7595948396(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	22285.9
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	25480.2
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	37410.1
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	48676.5
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	62220.0
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	76224.7
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	83792.7
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	89783.1

BE-10 SESSION 2 FILE: 10673239.13o OP1389280025650

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: dgedenk@photoscience.com DATE: January 09, 2014
RINEX FILE: 1067323v.13o TIME: 16:04:33 UTC

SOFTWARE: rsgps 1.37 RS52.prl 1.89 START: 2013/11/19 21:22:52
EPHEMERIS: igs17672.eph [precise] STOP: 2013/11/19 21:43:32
NAV FILE: brdc3230.13n OBS USED: 1280 / 1424 : 90%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 20.06/ 16.82
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.301

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.88465)

X:	1363195.126(m)	0.006(m)	1363194.285(m)	0.006(m)
Y:	-4407536.107(m)	0.008(m)	-4407534.699(m)	0.008(m)
Z:	4389647.695(m)	0.014(m)	4389647.680(m)	0.014(m)
LAT:	43 46 3.78174	0.007(m)	43 46 3.81711	0.007(m)
E LON:	287 11 10.23477	0.005(m)	287 11 10.21745	0.005(m)
W LON:	72 48 49.76523	0.005(m)	72 48 49.78255	0.005(m)
EL HGT:	228.081(m)	0.015(m)	226.920(m)	0.015(m)
ORTHO HGT:	255.544(m)	0.020(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4848396.922	140880.316
Easting (X) [meters]	675959.012	474732.303
Convergence [degrees]	1.51264456	-0.21708440
Point Scale	0.99998083	0.99997214
Combined Factor	0.99994507	0.99993638

US NATIONAL GRID DESIGNATOR: 18TXP7595948396(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	22286.0
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	37410.1
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	48676.5
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	60480.4
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	76224.7
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	83792.6
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	89783.0
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	94275.1

BE-11 SESSION 1 FILE: 08863210.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886321m.13o TIME: 23:30:39 UTC

SOFTWARE: rsgps 1.37 RS93.prl 1.89 START: 2013/11/17 12:54:51
EPHEMERIS: igs17670.eph [precise] STOP: 2013/11/17 13:17:57
NAV FILE: brdc3210.13n OBS USED: 2592 / 2763 : 94%
ANT NAME: TRM55971.00 NONE QUALITY IND. 18.16/ 21.21
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.318

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2013.87821)	
X:	1348908.141(m)	0.006(m)	1348907.300(m)	0.006(m)
Y:	-4416818.341(m)	0.016(m)	-4416816.933(m)	0.016(m)
Z:	4384602.811(m)	0.014(m)	4384602.795(m)	0.014(m)
LAT:	43 42 20.95334	0.008(m)	43 42 20.98861	0.008(m)
E LON:	286 58 58.12167	0.005(m)	286 58 58.10411	0.005(m)
W LON:	73 1 1.87833	0.005(m)	73 1 1.89589	0.005(m)
EL HGT:	118.397(m)	0.020(m)	117.235(m)	0.020(m)
ORTHO HGT:	146.691(m)	0.024(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4841110.195	134085.518
Easting (X) [meters]	659755.008	458315.337
Convergence [degrees]	1.37032414	-0.35735949
Point Scale	0.99991392	0.99998565
Combined Factor	0.99989536	0.99996708

US NATIONAL GRID DESIGNATOR: 18TXP5975541110(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	11381.6
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	34306.8
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	39579.2
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	78627.1
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	86051.4
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	92664.0
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	101899.3
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	107977.3
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	113815.0

BE-11 SESSION 2 FILE: 08863215.13o OP1406151214025

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: dgedenk@quantumspatial.com DATE: July 23, 2014
RINEX FILE: 0886321r.13o TIME: 21:40:38 UTC

SOFTWARE: rsgps 1.37 RS90.prl 1.99.2 START: 2013/11/17 17:39:39
EPHEMERIS: igs17670.eph [precise] STOP: 2013/11/17 18:00:45
NAV FILE: brdc3210.13n OBS USED: 2008 / 2008 : 100%
ANT NAME: TRM55971.00 NONE QUALITY IND. 15.71/ 32.15
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.329

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.87875)

X:	1348908.138(m)	0.008(m)	1348907.297(m)	0.008(m)
Y:	-4416818.339(m)	0.018(m)	-4416816.931(m)	0.018(m)
Z:	4384602.821(m)	0.017(m)	4384602.805(m)	0.017(m)
LAT:	43 42 20.95364	0.011(m)	43 42 20.98891	0.011(m)
E LON:	286 58 58.12157	0.004(m)	286 58 58.10401	0.004(m)
W LON:	73 1 1.87843	0.004(m)	73 1 1.89599	0.004(m)
EL HGT:	118.402(m)	0.023(m)	117.240(m)	0.023(m)
ORTHO HGT:	146.696(m)	0.026(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4841110.204	134085.527
Easting (X) [meters]	659755.006	458315.335
Convergence [degrees]	1.37032412	-0.35735951
Point Scale	0.99991392	0.99998565
Combined Factor	0.99989536	0.99996708

US NATIONAL GRID DESIGNATOR: 18TXP5975541110(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	64250.5
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	64152.3
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	69990.9
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	70962.6
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	86051.4
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	92664.1
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	95861.3
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	101899.3

BE-12 SESSION 1 FILE: 08241380.14o OP1400517418576

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: dgedenk@quantumspatial.com DATE: May 19, 2014
RINEX FILE: 0824138m.14o TIME: 17:21:05 UTC

SOFTWARE: rsgps 1.37 RS90.prl 1.99.2 START: 2014/05/18 12:27:00
EPHEMERIS: igu17930.eph [ultra-rapid] STOP: 2014/05/18 13:12:26
NAV FILE: brdc1380.14n OBS USED: 3996 / 4365 : 92%
ANT NAME: TRMR8-4 NONE QUALITY IND. 12.49/ 40.29
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.326

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2014.37681)	
X:	1336276.292(m)	0.009(m)	1336275.443(m)	0.009(m)
Y:	-4412334.319(m)	0.014(m)	-4412332.913(m)	0.014(m)
Z:	4392862.751(m)	0.016(m)	4392862.736(m)	0.016(m)
LAT:	43 48 32.74703	0.004(m)	43 48 32.78238	0.004(m)
E LON:	286 50 56.20766	0.005(m)	286 50 56.18954	0.005(m)
W LON:	73 9 3.79234	0.005(m)	73 9 3.81046	0.005(m)
EL HGT:	77.776(m)	0.023(m)	76.617(m)	0.023(m)
ORTHO HGT:	106.561(m)	0.026(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4852331.325	145635.888
Easting (X) [meters]	648713.242	447616.164
Convergence [degrees]	1.28018145	-0.45070699
Point Scale	0.99987202	0.99999802
Combined Factor	0.99985983	0.99998582

US NATIONAL GRID DESIGNATOR: 18TXP4871352331(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	52543.8
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	54375.3
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	67505.2
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	67898.2
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	73446.6
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	79994.7
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	86156.5
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	90727.6
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	92434.0

BE-12 SESSION 2 FILE: 08863219.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886321u.13o TIME: 23:34:13 UTC

SOFTWARE: rsgps 1.37 RS53.prl 1.89 START: 2013/11/17 20:55:21
EPHEMERIS: igs17670.eph [precise] STOP: 2013/11/17 21:17:03
NAV FILE: brdc3210.13n OBS USED: 2196 / 2628 : 84%
ANT NAME: TRM55971.00 NONE QUALITY IND. 8.10/ 21.83
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.366

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.87912)

X:	1336276.290(m)	0.008(m)	1336275.449(m)	0.008(m)
Y:	-4412334.308(m)	0.020(m)	-4412332.902(m)	0.020(m)
Z:	4392862.750(m)	0.026(m)	4392862.734(m)	0.026(m)
LAT:	43 48 32.74725	0.008(m)	43 48 32.78253	0.008(m)
E LON:	286 50 56.20772	0.005(m)	286 50 56.18994	0.005(m)
W LON:	73 9 3.79228	0.005(m)	73 9 3.81006	0.005(m)
EL HGT:	77.768(m)	0.032(m)	76.610(m)	0.032(m)
ORTHO HGT:	106.553(m)	0.035(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4852331.332	145635.895
Easting (X) [meters]	648713.243	447616.165
Convergence [degrees]	1.28018146	-0.45070698
Point Scale	0.99987202	0.99999802
Combined Factor	0.99985983	0.99998583

US NATIONAL GRID DESIGNATOR: 18TXP4871352331(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	21058.5
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	26362.5
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	46327.6
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	52543.8
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	67505.2
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	73446.6
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	79994.7
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	86156.5
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	90727.6

BE-13 SESSION 1 FILE: 08863231.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886323n.13o TIME: 23:39:46 UTC

SOFTWARE: rsgps 1.37 RS54.prl 1.89 START: 2013/11/19 13:24:51
EPHEMERIS: igs17672.eph [precise] STOP: 2013/11/19 13:46:34
NAV FILE: brdc3230.13n OBS USED: 1557 / 1557 :
100%
ANT NAME: TRM55971.00 NONE QUALITY IND. 26.36/ 22.09
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.302

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08
(EPOCH:2013.88374)

X:	1335945.014(m)	0.009(m)	1335944.174(m)	0.009(m)
Y:	-4420623.502(m)	0.028(m)	-4420622.094(m)	0.028(m)
Z:	4384709.356(m)	0.023(m)	4384709.339(m)	0.023(m)
LAT:	43 42 26.29985	0.007(m)	43 42 26.33507	0.007(m)
E LON:	286 48 54.73450	0.006(m)	286 48 54.71677	0.006(m)
W LON:	73 11 5.26550	0.006(m)	73 11 5.28323	0.006(m)
EL HGT:	99.959(m)	0.036(m)	98.797(m)	0.036(m)
ORTHO HGT:	128.867(m)	0.038(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4840965.765	134348.433
Easting (X) [meters]	646247.045	444807.740
Convergence [degrees]	1.25448148	-0.47318851
Point Scale	0.99986308	1.00000174
Combined Factor	0.99984741	0.99998607

US NATIONAL GRID DESIGNATOR: 18TXP4624740965(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	19959.6
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	32471.3
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	42558.9
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	53395.0
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	56307.2
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	74235.2
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	84667.3
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	87551.7
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	91643.2

BE-13 SESSION 2 FILE: 08863243.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886324s.13o TIME: 23:17:44 UTC

SOFTWARE: rsgps 1.37 RS52.prl 1.89 START: 2013/11/20 18:46:51
EPHEMERIS: igs17673.eph [precise] STOP: 2013/11/20 19:07:34
NAV FILE: brdc3240.13n OBS USED: 1710 / 1746 : 98%
ANT NAME: TRM55971.00 NONE QUALITY IND. 27.59/ 24.58
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.258

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000) (EPOCH:2013.88710)		IGS08	
X:	1335945.018(m)	0.010(m)	1335944.177(m)	0.010(m)
Y:	-4420623.518(m)	0.016(m)	-4420622.111(m)	0.016(m)
Z:	4384709.372(m)	0.016(m)	4384709.355(m)	0.016(m)
LAT:	43 42 26.29986	0.007(m)	43 42 26.33506	0.007(m)
E LON:	286 48 54.73446	0.006(m)	286 48 54.71668	0.006(m)
W LON:	73 11 5.26554	0.006(m)	73 11 5.28332	0.006(m)
EL HGT:	99.982(m)	0.023(m)	98.821(m)	0.023(m)
ORTHO HGT:	128.890(m)	0.026(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4840965.765	134348.433
Easting (X) [meters]	646247.045	444807.739
Convergence [degrees]	1.25448148	-0.47318852
Point Scale	0.99986308	1.00000174
Combined Factor	0.99984740	0.99998606

US NATIONAL GRID DESIGNATOR: 18TXP4624740965(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	19959.6
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	32471.4
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	42558.9
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	56307.2
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	62698.5
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	74235.2
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	84667.3
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	88436.5
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	91643.2

BE-14 SESSION 1 FILE: 08863232.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886323o.13o TIME: 23:37:15 UTC

SOFTWARE: rsgps 1.37 RS83.prl 1.89 START: 2013/11/19 14:46:51
EPHEMERIS: igs17672.eph [precise] STOP: 2013/11/19 15:07:39
NAV FILE: brdc3230.13n OBS USED: 2142 / 2250 : 95%
ANT NAME: TRM55971.00 NONE QUALITY IND. 19.06/ 24.68
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.331

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.88390)

X:	1319264.908(m)	0.006(m)	1319264.068(m)	0.006(m)
Y:	-4426250.529(m)	0.012(m)	-4426249.122(m)	0.012(m)
Z:	4384050.966(m)	0.011(m)	4384050.948(m)	0.011(m)
LAT:	43 41 57.56641	0.008(m)	43 41 57.60154	0.008(m)
E LON:	286 35 48.97174	0.005(m)	286 35 48.95374	0.005(m)
W LON:	73 24 11.02826	0.005(m)	73 24 11.04626	0.005(m)
EL HGT:	74.933(m)	0.015(m)	73.772(m)	0.015(m)
ORTHO HGT:	104.273(m)	0.018(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (3101 NY E)
Northing (Y) [meters]	4839717.378	540943.526
Easting (X) [meters]	628678.561	238415.615
Convergence [degrees]	1.10343271	0.75789376
Point Scale	0.99980367	0.99999612
Combined Factor	0.99979192	0.99998437

US NATIONAL GRID DESIGNATOR: 18TXP2867839717(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	35679.3
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	38877.6
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	48837.1
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	57770.7
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	69631.8
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	77952.2
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	122395.0
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	125939.5
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	134939.1

BE-14 SESSION 2 FILE: 08863236.13o OP1389282938444

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: dgedenk@photoscience.com DATE: January 09, 2014
RINEX FILE: 0886323u.13o TIME: 17:49:20 UTC

SOFTWARE: rsgps 1.37 RS81.prl 1.89 START: 2013/11/19 20:08:09
EPHEMERIS: igs17672.eph [precise] STOP: 2013/11/19 20:28:58
NAV FILE: brdc3230.13n OBS USED: 1962 / 2394 : 82%
ANT NAME: TRM55971.00 NONE QUALITY IND. 8.71/ 20.50
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.309

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.88451)

X:	1319264.905(m)	0.005(m)	1319264.065(m)	0.005(m)
Y:	-4426250.518(m)	0.025(m)	-4426249.111(m)	0.025(m)
Z:	4384050.965(m)	0.028(m)	4384050.947(m)	0.028(m)
LAT:	43 41 57.56664	0.006(m)	43 41 57.60177	0.006(m)
E LON:	286 35 48.97176	0.005(m)	286 35 48.95375	0.005(m)
W LON:	73 24 11.02824	0.005(m)	73 24 11.04625	0.005(m)
EL HGT:	74.924(m)	0.037(m)	73.763(m)	0.037(m)
ORTHO HGT:	104.264(m)	0.039(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (3101 NY E)
Northing (Y) [meters]	4839717.385	540943.533
Easting (X) [meters]	628678.561	238415.615
Convergence [degrees]	1.10343271	0.75789376
Point Scale	0.99980367	0.99999612
Combined Factor	0.99979192	0.99998437

US NATIONAL GRID DESIGNATOR: 18TXP2867839717(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	35679.3
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	48837.1
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	57770.7
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	69631.8
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	71068.7
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	77952.2
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	88090.1
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	92233.6
DI0456	NYFV FULTONVILLE CORS ARP	N425620.997	W0742112.013	114340.8

BE-15 SESSION 1 FILE: 08863151.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886315o.13o TIME: 23:00:32 UTC

SOFTWARE: rsgps 1.37 RS93.prl 1.89 START: 2013/11/11 14:16:51
EPHEMERIS: igs17661.eph [precise] STOP: 2013/11/11 14:37:34
NAV FILE: brdc3150.13n OBS USED: 1494 / 1494 : 100%
ANT NAME: TRM55971.00 NONE QUALITY IND. 14.79/ 22.96
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.267

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.86192)

X:	1323467.889(m)	0.011(m)	1323467.048(m)	0.011(m)
Y:	-4415215.573(m)	0.029(m)	-4415214.167(m)	0.029(m)
Z:	4393818.784(m)	0.026(m)	4393818.767(m)	0.026(m)
LAT:	43 49 16.10241	0.005(m)	43 49 16.13764	0.005(m)
E LON:	286 41 10.26850	0.004(m)	286 41 10.25052	0.004(m)
W LON:	73 18 49.73150	0.004(m)	73 18 49.74948	0.004(m)
EL HGT:	64.026(m)	0.040(m)	62.868(m)	0.040(m)
ORTHO HGT:	93.152(m)	0.042(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4853389.247	147089.841
Easting (X) [meters]	635594.735	434533.529
Convergence [degrees]	1.16770820	-0.56351263
Point Scale	0.99982614	1.00001698
Combined Factor	0.99981610	1.00000694

US NATIONAL GRID DESIGNATOR: 18TXP3559453389(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	23591.8
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	35940.7
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	46843.6
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	58333.1
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	63769.7
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	76395.1
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	81423.9
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	90342.4
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	93257.0

BE-15 SESSION 2 FILE: 10671351.14o OP1400517418576

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: dgedenk@quantumspatial.com DATE: May 19, 2014
RINEX FILE: 1067135u.14o TIME: 17:44:26 UTC

SOFTWARE: rsgps 1.37 RS93.prl 1.99.2 START: 2014/05/15 20:05:39
EPHEMERIS: igr17924.eph [rapid] STOP: 2014/05/15 20:51:44
NAV FILE: brdc1350.14n OBS USED: 4815 / 5337 : 90%
ANT NAME: TRMR8-4 NONE QUALITY IND. 5.86/ 23.97
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.348

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2014.36946)	
X:	1323467.889(m)	0.006(m)	1323467.040(m)	0.006(m)
Y:	-4415215.578(m)	0.027(m)	-4415214.173(m)	0.027(m)
Z:	4393818.783(m)	0.032(m)	4393818.768(m)	0.032(m)
LAT:	43 49 16.10227	0.008(m)	43 49 16.13759	0.008(m)
E LON:	286 41 10.26844	0.008(m)	286 41 10.25010	0.008(m)
W LON:	73 18 49.73156	0.008(m)	73 18 49.74990	0.008(m)
EL HGT:	64.028(m)	0.041(m)	62.871(m)	0.041(m)
ORTHO HGT:	93.154(m)	0.043(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4853389.243	147089.837
Easting (X) [meters]	635594.734	434533.528
Convergence [degrees]	1.16770819	-0.56351264
Point Scale	0.99982614	1.00001698
Combined Factor	0.99981610	1.00000694

US NATIONAL GRID DESIGNATOR: 18TXP3559453389(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	58333.1
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	58578.1
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	63769.7
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	96167.3
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	77690.9
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	76395.1
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	81423.9
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	90342.4
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	93257.0

BE-16 SESSION 1 FILE: 08863144.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886314q.13o TIME: 23:41:27 UTC

SOFTWARE: rsgps 1.37 RS92.prl 1.89 START: 2013/11/10 16:06:25
EPHEMERIS: igs17660.eph [precise] STOP: 2013/11/10 16:27:30
NAV FILE: brdc3140.13n OBS USED: 840 / 1064 : 79%
ANT NAME: TRM55971.00 NONE QUALITY IND. 14.13/ 4.75
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.284

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000) (EPOCH:2013.85939)		IGS08	
X:	1306677.507(m)	0.007(m)	1306676.666(m)	0.007(m)
Y:	-4403436.902(m)	0.032(m)	-4403435.499(m)	0.032(m)
Z:	4410575.934(m)	0.026(m)	4410575.919(m)	0.026(m)
LAT:	44 1 48.69952	0.006(m)	44 1 48.73485	0.006(m)
E LON:	286 31 39.89563	0.005(m)	286 31 39.87735	0.005(m)
W LON:	73 28 20.10437	0.005(m)	73 28 20.12265	0.005(m)
EL HGT:	102.980(m)	0.041(m)	101.830(m)	0.041(m)
ORTHO HGT:	131.820(m)	0.042(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (3101 NY E)
Northing (Y) [meters]	4876361.026	577631.517
Easting (X) [meters]	622424.281	232381.920
Convergence [degrees]	1.06197394	0.71436382
Point Scale	0.99978433	0.99998344
Combined Factor	0.99976819	0.99996729

US NATIONAL GRID DESIGNATOR: 18TXP2242476361(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	20679.1
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	25870.7
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	53480.3
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	61496.0
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	70312.2
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	75713.6
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	84516.3
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	103093.6

BE-16 SESSION 2 FILE: 08863149.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886314u.13o TIME: 23:31:54 UTC

SOFTWARE: rsgps 1.37 RS54.prl 1.89 START: 2013/11/10 20:30:50
EPHEMERIS: igs17660.eph [precise] STOP: 2013/11/10 20:51:30
NAV FILE: brdc3140.13n OBS USED: 1000 / 1336 : 75%
ANT NAME: TRM55971.00 NONE QUALITY IND. 20.68/ 8.51
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.324

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.85990)

X:	1306677.525(m)	0.008(m)	1306676.684(m)	0.008(m)
Y:	-4403436.943(m)	0.025(m)	-4403435.540(m)	0.025(m)
Z:	4410575.961(m)	0.023(m)	4410575.946(m)	0.023(m)
LAT:	44 1 48.69915	0.012(m)	44 1 48.73448	0.012(m)
E LON:	286 31 39.89588	0.008(m)	286 31 39.87760	0.008(m)
W LON:	73 28 20.10412	0.008(m)	73 28 20.12240	0.008(m)
EL HGT:	103.031(m)	0.031(m)	101.881(m)	0.031(m)
ORTHO HGT:	131.871(m)	0.033(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (3101 NY E)
Northing (Y) [meters]	4876361.014	577631.506
Easting (X) [meters]	622424.287	232381.926
Convergence [degrees]	1.06197398	0.71436387
Point Scale	0.99978433	0.99998344
Combined Factor	0.99976818	0.99996728

US NATIONAL GRID DESIGNATOR: 18TXP2242476361(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	20679.1
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	25870.7
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	53480.3
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	61496.0
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	70429.7
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	75713.6
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	84516.3
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	103093.6

BE-17 SESSION 1 FILE: 08863173.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886317p.13o TIME: 22:58:27 UTC

SOFTWARE: rsgps 1.37 RS83.prl 1.89 START: 2013/11/13 15:59:12
EPHEMERIS: igs17663.eph [precise] STOP: 2013/11/13 16:20:49
NAV FILE: brdc3170.13n OBS USED: 1539 / 2034 : 76%
ANT NAME: TRM55971.00 NONE QUALITY IND. 33.69/ 28.25
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.265

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000) (EPOCH:2013.86760)		IGS08	
X:	1319249.911(m)	0.007(m)	1319249.069(m)	0.007(m)
Y:	-4398995.192(m)	0.018(m)	-4398993.789(m)	0.018(m)
Z:	4411165.017(m)	0.018(m)	4411165.002(m)	0.018(m)
LAT:	44 2 17.33564	0.003(m)	44 2 17.37100	0.003(m)
E LON:	286 41 37.97905	0.003(m)	286 41 37.96092	0.003(m)
W LON:	73 18 22.02095	0.003(m)	73 18 22.03908	0.003(m)
EL HGT:	36.308(m)	0.025(m)	35.158(m)	0.025(m)
ORTHO HGT:	65.250(m)	0.028(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4877504.742	171195.096
Easting (X) [meters]	635719.219	435388.104
Convergence [degrees]	1.17766024	-0.56038115
Point Scale	0.99982655	1.00001561
Combined Factor	0.99982086	1.00000992

US NATIONAL GRID DESIGNATOR: 18TXP3571977504(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	13069.2
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	26744.9
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	48538.4
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	54628.9
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	63017.8
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	68458.1
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	72368.1
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	80466.8
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	91470.5

BE-17 SESSION 2 FILE: 08863179.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886317u.13o TIME: 23:02:09 UTC

SOFTWARE: rsgps 1.37 RS82.prl 1.89 START: 2013/11/13 20:18:53
EPHEMERIS: igs17663.eph [precise] STOP: 2013/11/13 20:40:42
NAV FILE: brdc3170.13n OBS USED: 2376 / 2763 : 86%
ANT NAME: TRM55971.00 NONE QUALITY IND. 25.20/ 35.86
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.296

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2013.86809)	
X:	1319249.910(m)	0.004(m)	1319249.068(m)	0.004(m)
Y:	-4398995.187(m)	0.012(m)	-4398993.784(m)	0.012(m)
Z:	4411165.007(m)	0.012(m)	4411164.992(m)	0.012(m)
LAT:	44 2 17.33552	0.004(m)	44 2 17.37088	0.004(m)
E LON:	286 41 37.97907	0.002(m)	286 41 37.96095	0.002(m)
W LON:	73 18 22.02093	0.002(m)	73 18 22.03905	0.002(m)
EL HGT:	36.298(m)	0.017(m)	35.147(m)	0.017(m)
ORTHO HGT:	65.240(m)	0.021(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4877504.738	171195.092
Easting (X) [meters]	635719.219	435388.104
Convergence [degrees]	1.17766024	-0.56038115
Point Scale	0.99982655	1.00001561
Combined Factor	0.99982086	1.00000992

US NATIONAL GRID DESIGNATOR: 18TXP3571977504(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	13069.2
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	26744.9
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	48538.4
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	54628.9
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	63017.8
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	68458.1
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	72368.1
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	80466.8
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	91470.5

BE-19 SESSION 1 FILE: 10673154.13o OP1388766417693

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067315u.13o TIME: 16:34:43 UTC

SOFTWARE: rsgps 1.37 RS80.prl 1.89 START: 2013/11/11 20:57:14
EPHEMERIS: igs17661.eph [precise] STOP: 2013/11/11 21:19:38
NAV FILE: brdc3150.13n OBS USED: 1215 / 1485 : 82%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 20.93/ 10.20
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.359

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.86269)

X:	1355731.245(m)	0.006(m)	1355730.403(m)	0.006(m)
Y:	-4388279.195(m)	0.023(m)	-4388277.790(m)	0.023(m)
Z:	4411297.568(m)	0.025(m)	4411297.555(m)	0.025(m)
LAT:	44 2 12.03161	0.005(m)	44 2 12.06714	0.005(m)
E LON:	287 10 5.53719	0.005(m)	287 10 5.51968	0.005(m)
W LON:	72 49 54.46281	0.005(m)	72 49 54.48032	0.005(m)
EL HGT:	396.302(m)	0.034(m)	395.149(m)	0.034(m)
ORTHO HGT:	423.659(m)	0.037(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4878231.825	170768.954
Easting (X) [meters]	673728.232	473405.311
Convergence [degrees]	1.50753541	-0.23063841
Point Scale	0.99997121	0.99997298
Combined Factor	0.99990907	0.99991084

US NATIONAL GRID DESIGNATOR: 18TXP7372878231(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	21277.7
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	26071.3
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	32016.2
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	49185.0
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	56260.5
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	59897.3
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	64288.9
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	75902.0
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	87076.3

BE-19 SESSION 2 FILE: 10671394.14o OP1400859013243

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: dgedenk@quantumspatial.com DATE: May 23, 2014
RINEX FILE: 1067139t.14o TIME: 15:42:29 UTC

SOFTWARE: rsgps 1.37 RS52.prl 1.99.2 START: 2014/05/19 19:55:11
EPHEMERIS: igr17931.eph [rapid] STOP: 2014/05/19 20:40:22
NAV FILE: brdc1390.14n OBS USED: 3933 / 4941 : 80%
ANT NAME: TRMR8-4 NONE QUALITY IND. 23.72/ 35.70
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.339

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2014.38040)	
X:	1355731.261(m)	0.002(m)	1355730.411(m)	0.002(m)
Y:	-4388279.211(m)	0.010(m)	-4388277.807(m)	0.010(m)
Z:	4411297.570(m)	0.014(m)	4411297.559(m)	0.014(m)
LAT:	44 2 12.03121	0.004(m)	44 2 12.06681	0.004(m)
E LON:	287 10 5.53766	0.003(m)	287 10 5.51980	0.003(m)
W LON:	72 49 54.46234	0.003(m)	72 49 54.48020	0.003(m)
EL HGT:	396.318(m)	0.016(m)	395.166(m)	0.016(m)
ORTHO HGT:	423.675(m)	0.021(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4878231.813	170768.941
Easting (X) [meters]	673728.243	473405.322
Convergence [degrees]	1.50753550	-0.23063831
Point Scale	0.99997121	0.99997298
Combined Factor	0.99990907	0.99991084

US NATIONAL GRID DESIGNATOR: 18TXP7372878231(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	56260.6
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	57615.0
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	59897.3
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	64288.9
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	77432.3
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	87076.3
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	88644.0
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	102430.0
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	104026.9

BE-20 SESSION 1 FILE: 30763147.13o OP1389281637250

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: dgedenk@photoscience.com DATE: January 09, 2014
RINEX FILE: 3076314t.13o TIME: 17:28:21 UTC

SOFTWARE: rsgps 1.37 RS50.prl 1.89 START: 2013/11/10 19:06:16
EPHEMERIS: igs17660.eph [precise] STOP: 2013/11/10 19:27:28
NAV FILE: brdc3140.13n OBS USED: 1233 / 1620 : 76%
ANT NAME: TRM55971.00 NONE QUALITY IND. 8.46/ 18.56
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.271

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2013.85974)	
X:	1345351.148(m)	0.005(m)	1345350.305(m)	0.005(m)
Y:	-4378135.912(m)	0.018(m)	-4378134.509(m)	0.018(m)
Z:	4424562.869(m)	0.017(m)	4424562.858(m)	0.017(m)
LAT:	44 12 8.10210	0.005(m)	44 12 8.13773	0.005(m)
E LON:	287 4 53.74215	0.003(m)	287 4 53.72442	0.003(m)
W LON:	72 55 6.25785	0.003(m)	72 55 6.27558	0.003(m)
EL HGT:	477.889(m)	0.025(m)	476.742(m)	0.025(m)
ORTHO HGT:	505.483(m)	0.028(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4896443.681	189197.716
Easting (X) [meters]	666323.141	466556.725
Convergence [degrees]	1.45160565	-0.29171181
Point Scale	0.99994023	0.99997804
Combined Factor	0.99986531	0.99990311

US NATIONAL GRID DESIGNATOR: 18TXP6632396443(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	27657.5
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	37109.6
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	49734.2
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	55669.3
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	66310.1
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	74487.1
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	93329.6
DJ8955	VTD9 DERBY CORS ARP	N445703.499	W0720936.723	102711.7
DL3079	VTIP ISLAND POND CORS ARP	N444912.180	W0715325.838	106742.9

BE-20 SESSION 2 FILE: 30763176.13o OP1389041010150

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 3076317r.13o TIME: 22:20:57 UTC

SOFTWARE: rsgps 1.37 RS52.prl 1.89 START: 2013/11/13 17:13:09
EPHEMERIS: igs17663.eph [precise] STOP: 2013/11/13 17:33:56
NAV FILE: brdc3170.13n OBS USED: 2097 / 2259 : 93%
ANT NAME: TRM55971.00 NONE QUALITY IND. 24.47/ 30.26
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.299

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2013.86774)	
X:	1345351.142(m)	0.006(m)	1345350.299(m)	0.006(m)
Y:	-4378135.911(m)	0.014(m)	-4378134.508(m)	0.014(m)
Z:	4424562.873(m)	0.011(m)	4424562.862(m)	0.011(m)
LAT:	44 12 8.10226	0.005(m)	44 12 8.13788	0.005(m)
E LON:	287 4 53.74191	0.004(m)	287 4 53.72418	0.004(m)
W LON:	72 55 6.25809	0.004(m)	72 55 6.27582	0.004(m)
EL HGT:	477.890(m)	0.018(m)	476.743(m)	0.018(m)
ORTHO HGT:	505.484(m)	0.022(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4896443.686	189197.721
Easting (X) [meters]	666323.136	466556.720
Convergence [degrees]	1.45160561	-0.29171186
Point Scale	0.99994023	0.99997804
Combined Factor	0.99986531	0.99990311

US NATIONAL GRID DESIGNATOR: 18TXP6632396443(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	24230.5
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	27657.5
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	37109.6
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	49734.2
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	55669.3
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	66310.1
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	74487.1
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	93329.6
DJ8955	VTD9 DERBY CORS ARP	N445703.499	W0720936.723	102711.7

BE-21 SESSION 1 FILE: 08863121.13o OP1389282938444

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: dgedenk@photoscience.com DATE: January 09, 2014
RINEX FILE: 0886312n.13o TIME: 17:43:11 UTC

SOFTWARE: rsgps 1.37 RS82.prl 1.89 START: 2013/11/08 13:14:30
EPHEMERIS: igs17655.eph [precise] STOP: 2013/11/08 13:35:30
NAV FILE: brdc3120.13n OBS USED: 2709 / 2754 : 98%
ANT NAME: TRM55971.00 NONE QUALITY IND. 30.54/ 27.77
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.318

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.85359)

X:	1299012.160(m)	0.004(m)	1299011.314(m)	0.004(m)
Y:	-4329641.085(m)	0.007(m)	-4329639.692(m)	0.007(m)
Z:	4484632.808(m)	0.009(m)	4484632.802(m)	0.009(m)
LAT:	44 57 55.45619	0.005(m)	44 57 55.49216	0.005(m)
E LON:	286 42 2.51676	0.003(m)	286 42 2.49805	0.003(m)
W LON:	73 17 57.48324	0.003(m)	73 17 57.50195	0.003(m)
EL HGT:	5.372(m)	0.010(m)	4.252(m)	0.010(m)
ORTHO HGT:	34.744(m)	0.016(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4980514.183	274224.835
Easting (X) [meters]	634121.796	436941.986
Convergence [degrees]	1.20202803	-0.56486825
Point Scale	0.99982120	1.00001316
Combined Factor	0.99982036	1.00001232

US NATIONAL GRID DESIGNATOR: 18TXQ3412180514(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	24392.6
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	33919.5
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	55721.4
DI0602	NYML MALONE CORS ARP	N445215.384	W0741717.343	78781.6
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	86136.3
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	89688.1
DL3079	VTIP ISLAND POND CORS ARP	N444912.180	W0715325.838	112452.5
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	119052.0
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	126769.0

BE-21 SESSION 2 FILE: 08863162.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886316s.13o TIME: 23:09:50 UTC

SOFTWARE: rsgps 1.37 RS81.prl 1.89 START: 2013/11/12 18:19:21
EPHEMERIS: igs17662.eph [precise] STOP: 2013/11/12 18:41:58
NAV FILE: brdc3160.13n OBS USED: 2277 / 2520 : 90%
ANT NAME: TRM55971.00 NONE QUALITY IND. 15.02/ 16.41
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.316

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000) (EPOCH:2013.86513)		IGS08	
X:	1299012.164(m)	0.005(m)	1299011.318(m)	0.005(m)
Y:	-4329641.097(m)	0.014(m)	-4329639.704(m)	0.014(m)
Z:	4484632.812(m)	0.009(m)	4484632.806(m)	0.009(m)
LAT:	44 57 55.45599	0.010(m)	44 57 55.49196	0.010(m)
E LON:	286 42 2.51678	0.002(m)	286 42 2.49807	0.002(m)
W LON:	73 17 57.48322	0.002(m)	73 17 57.50193	0.002(m)
EL HGT:	5.384(m)	0.014(m)	4.264(m)	0.014(m)
ORTHO HGT:	34.756(m)	0.019(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4980514.177	274224.829
Easting (X) [meters]	634121.797	436941.986
Convergence [degrees]	1.20202803	-0.56486824
Point Scale	0.99982120	1.00001316
Combined Factor	0.99982036	1.00001232

US NATIONAL GRID DESIGNATOR: 18TXQ3412180514(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	24392.6
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	33919.5
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	55721.4
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	65934.6
DI0602	NYML MALONE CORS ARP	N445215.384	W0741717.343	78781.6
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	86136.3
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	89688.1
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	108062.5
DL3079	VTIP ISLAND POND CORS ARP	N444912.180	W0715325.838	112452.5

BE-22 SESSION 1 FILE: 10673105.13o OP1388759155120

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067310t.13o TIME: 14:30:12 UTC

SOFTWARE: rsgps 1.37 RS54.prl 1.89 START: 2013/11/06 19:59:13
EPHEMERIS: igs17653.eph [precise] STOP: 2013/11/06 20:20:20
NAV FILE: brdc3100.13n OBS USED: 1656 / 1764 : 94%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 18.70/ 0.98
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.311

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2013.84888)	
X:	1303994.211(m)	0.008(m)	1303993.367(m)	0.008(m)
Y:	-4352722.114(m)	0.024(m)	-4352720.718(m)	0.024(m)
Z:	4460946.011(m)	0.016(m)	4460946.002(m)	0.016(m)
LAT:	44 39 53.64950	0.009(m)	44 39 53.68526	0.009(m)
E LON:	286 40 38.04061	0.004(m)	286 40 38.02210	0.004(m)
W LON:	73 19 21.95939	0.004(m)	73 19 21.97790	0.004(m)
EL HGT:	8.975(m)	0.028(m)	7.845(m)	0.028(m)
ORTHO HGT:	38.021(m)	0.031(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4947094.645	240850.299
Easting (X) [meters]	632960.161	434752.749
Convergence [degrees]	1.17919878	-0.57839156
Point Scale	0.99981740	1.00001662
Combined Factor	0.99981599	1.00001521

US NATIONAL GRID DESIGNATOR: 18TXQ3296047094(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	10551.4
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	23900.9
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	38226.9
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	53473.6
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	72269.7
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	77950.6
DJ8955	VTD9 DERBY CORS ARP	N445703.499	W0720936.723	97310.2
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	107286.8
DL3079	VTIP ISLAND POND CORS ARP	N444912.180	W0715325.838	114736.8

BE-22 SESSION 2 FILE: 10673113.13o OP1388762072542

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067311p.13o TIME: 15:31:02 UTC

SOFTWARE: rsgps 1.37 RS83.prl 1.89 START: 2013/11/07 15:16:04
EPHEMERIS: igs17654.eph [precise] STOP: 2013/11/07 15:37:20
NAV FILE: brdc3110.13n OBS USED: 1656 / 1952 : 85%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 9.46/ 10.59
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.349

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.85108)

X:	1303994.208(m)	0.005(m)	1303993.363(m)	0.005(m)
Y:	-4352722.141(m)	0.013(m)	-4352720.745(m)	0.013(m)
Z:	4460946.018(m)	0.017(m)	4460946.009(m)	0.017(m)
LAT:	44 39 53.64909	0.008(m)	44 39 53.68486	0.008(m)
E LON:	286 40 38.04013	0.004(m)	286 40 38.02157	0.004(m)
W LON:	73 19 21.95987	0.004(m)	73 19 21.97843	0.004(m)
EL HGT:	8.998(m)	0.020(m)	7.868(m)	0.020(m)
ORTHO HGT:	38.044(m)	0.023(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4947094.633	240850.287
Easting (X) [meters]	632960.151	434752.738
Convergence [degrees]	1.17919868	-0.57839166
Point Scale	0.99981740	1.00001662
Combined Factor	0.99981599	1.00001521

US NATIONAL GRID DESIGNATOR: 18TXQ3296047094(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	10551.4
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	23900.9
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	38226.9
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	53473.6
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	72269.7
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	75270.5
DJ8955	VTD9 DERBY CORS ARP	N445703.499	W0720936.723	97310.2
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	107286.8

BE-24 SESSION 1 FILE: 10673129.13o OP1388764754319

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067312s.13o TIME: 16:08:02 UTC

SOFTWARE: rsgps 1.37 RS83.prl 1.89 START: 2013/11/08 18:05:39
EPHEMERIS: igs17655.eph [precise] STOP: 2013/11/08 18:27:27
NAV FILE: brdc3120.13n OBS USED: 2700 / 2709 : 100%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 32.26/ 34.42
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.280

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.85414)

X:	1297618.408(m)	0.005(m)	1297617.563(m)	0.005(m)
Y:	-4340356.564(m)	0.013(m)	-4340355.170(m)	0.013(m)
Z:	4474736.974(m)	0.013(m)	4474736.967(m)	0.013(m)
LAT:	44 50 22.80399	0.005(m)	44 50 22.83986	0.005(m)
E LON:	286 38 41.52829	0.004(m)	286 38 41.50961	0.004(m)
W LON:	73 21 18.47171	0.004(m)	73 21 18.49039	0.004(m)
EL HGT:	7.419(m)	0.018(m)	6.296(m)	0.018(m)
ORTHO HGT:	36.566(m)	0.022(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4966455.771	260297.162
Easting (X) [meters]	630002.011	432390.246
Convergence [degrees]	1.16000058	-0.60299726
Point Scale	0.99980782	1.00002047
Combined Factor	0.99980666	1.00001931

US NATIONAL GRID DESIGNATOR: 18TXQ3000266455(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	19319.7
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	43013.9
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	71540.9
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	82738.6
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	86643.6
DL3079	VTIP ISLAND POND CORS ARP	N444912.180	W0715325.838	115842.9
DI0612	NYPD POTSDAM CORS ARP	N443909.059	W0750230.504	135180.6
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	138613.5
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	168016.3

BE-24 SESSION 2 FILE: 1067312E.13o OP1388764754319

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067312u.13o TIME: 16:05:51 UTC

SOFTWARE: rsgps 1.37 RS81.prl 1.89 START: 2013/11/08 20:48:09
EPHEMERIS: igs17655.eph [precise] STOP: 2013/11/08 21:08:38
NAV FILE: brdc3120.13n OBS USED: 2214 / 2664 : 83%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 19.80/ 24.22
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.297

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.85445)

X:	1297618.407(m)	0.003(m)	1297617.562(m)	0.003(m)
Y:	-4340356.558(m)	0.013(m)	-4340355.164(m)	0.013(m)
Z:	4474736.973(m)	0.012(m)	4474736.966(m)	0.012(m)
LAT:	44 50 22.80410	0.005(m)	44 50 22.83998	0.005(m)
E LON:	286 38 41.52833	0.002(m)	286 38 41.50965	0.002(m)
W LON:	73 21 18.47167	0.002(m)	73 21 18.49035	0.002(m)
EL HGT:	7.414(m)	0.017(m)	6.291(m)	0.017(m)
ORTHO HGT:	36.561(m)	0.021(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4966455.775	260297.165
Easting (X) [meters]	630002.012	432390.246
Convergence [degrees]	1.16000059	-0.60299726
Point Scale	0.99980782	1.00002047
Combined Factor	0.99980666	1.00001931

US NATIONAL GRID DESIGNATOR: 18TXQ3000266455(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	19319.8
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	43013.9
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	71540.9
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	82738.6
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	86643.6
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	94839.2
DL3079	VTIP ISLAND POND CORS ARP	N444912.180	W0715325.838	115842.9
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	135300.3
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	138613.5

BE-25 SESSION 1 FILE: 08863113.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886311p.13o TIME: 22:52:14 UTC

SOFTWARE: rsgps 1.37 RS51.prl 1.89 START: 2013/11/07 15:26:45
EPHEMERIS: igs17654.eph [precise] STOP: 2013/11/07 15:47:15
NAV FILE: brdc3110.13n OBS USED: 1836 / 2133 : 86%
ANT NAME: TRM55971.00 NONE QUALITY IND. 21.56/ 1.12
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.344

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000) (EPOCH:2013.85110)		IGS08	
X:	1293147.574(m)	0.009(m)	1293146.728(m)	0.009(m)
Y:	-4328618.811(m)	0.017(m)	-4328617.419(m)	0.017(m)
Z:	4487294.170(m)	0.013(m)	4487294.164(m)	0.013(m)
LAT:	44 59 57.37819	0.010(m)	44 59 57.41415	0.010(m)
E LON:	286 37 59.46162	0.005(m)	286 37 59.44280	0.005(m)
W LON:	73 22 0.53838	0.005(m)	73 22 0.55720	0.005(m)
EL HGT:	4.231(m)	0.021(m)	3.112(m)	0.021(m)
ORTHO HGT:	33.671(m)	0.023(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (3101 NY E)
Northing (Y) [meters]	4984166.892	685418.032
Easting (X) [meters]	628721.522	239340.161
Convergence [degrees]	1.15497863	0.80132452
Point Scale	0.99980374	0.99999811
Combined Factor	0.99980308	0.99999745

US NATIONAL GRID DESIGNATOR: 18TXQ2872184166(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	30834.1
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	36065.1
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	60403.4
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	71483.4
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	88820.1
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	102894.7
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	112491.5
DL3079	VTIP ISLAND POND CORS ARP	N444912.180	W0715325.838	118274.0
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	125559.4

BE-25 SESSION 2 FILE: 08863118.13o OP1389282938444

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: dgedenk@photoscience.com DATE: January 09, 2014
RINEX FILE: 0886311t.13o TIME: 18:09:51 UTC

SOFTWARE: rsgps 1.37 RS82.prl 1.89 START: 2013/11/07 19:56:30
EPHEMERIS: igs17654.eph [precise] STOP: 2013/11/07 20:17:45
NAV FILE: brdc3110.13n OBS USED: 1528 / 1592 : 96%
ANT NAME: TRM55971.00 NONE QUALITY IND. 16.84/ 8.99
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.313

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2013.85161)	
X:	1293147.594(m)	0.007(m)	1293146.748(m)	0.007(m)
Y:	-4328618.827(m)	0.013(m)	-4328617.435(m)	0.013(m)
Z:	4487294.159(m)	0.010(m)	4487294.153(m)	0.010(m)
LAT:	44 59 57.37746	0.005(m)	44 59 57.41342	0.005(m)
E LON:	286 37 59.46229	0.006(m)	286 37 59.44347	0.006(m)
W LON:	73 22 0.53771	0.006(m)	73 22 0.55653	0.006(m)
EL HGT:	4.238(m)	0.016(m)	3.119(m)	0.016(m)
ORTHO HGT:	33.678(m)	0.019(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (3101 NY E)
Northing (Y) [meters]	4984166.870	685418.009
Easting (X) [meters]	628721.537	239340.176
Convergence [degrees]	1.15497876	0.80132465
Point Scale	0.99980374	0.99999811
Combined Factor	0.99980308	0.99999745

US NATIONAL GRID DESIGNATOR: 18TXQ2872184166(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	30834.1
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	36065.0
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	60403.4
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	88820.1
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	112491.4
DL3079	VTIP ISLAND POND CORS ARP	N444912.180	W0715325.838	118274.0
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	125559.4
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	132532.1

TW-03 SESSION 1 FILE: 10673224.13o OP1389038686929

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 1067322q.13o TIME: 20:10:17 UTC

SOFTWARE: rsgps 1.37 RS52.prl 1.89 START: 2013/11/18 16:53:49
EPHEMERIS: igs17671.eph [precise] STOP: 2013/11/18 17:14:45
NAV FILE: brdc3220.13n OBS USED: 2547 / 2565 : 99%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 18.49/ 0.03
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.393

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.88140)

X:	1363621.239(m)	0.016(m)	1363620.399(m)	0.016(m)
Y:	-4425743.468(m)	0.043(m)	-4425742.057(m)	0.043(m)
Z:	4371511.803(m)	0.034(m)	4371511.786(m)	0.034(m)
LAT:	43 32 26.72105	0.009(m)	43 32 26.75627	0.009(m)
E LON:	287 7 28.74967	0.006(m)	287 7 28.73242	0.006(m)
W LON:	72 52 31.25033	0.006(m)	72 52 31.26758	0.006(m)
EL HGT:	386.989(m)	0.057(m)	385.820(m)	0.057(m)
ORTHO HGT:	414.489(m)	0.058(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4823060.598	115685.151
Easting (X) [meters]	671652.607	469664.655
Convergence [degrees]	1.46396662	-0.25856761
Point Scale	0.99996244	0.99997560
Combined Factor	0.99990176	0.99991492

US NATIONAL GRID DESIGNATOR: 18TXP7165223060(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	23316.7
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	49396.1
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	55557.2
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	77742.7
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	83523.0
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	97421.3
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	106361.0
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	115031.6
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	128548.2

TW-03 SESSION 2 FILE: 1067322B.13o OP1388771758388

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067322v.13o TIME: 18:00:12 UTC

SOFTWARE: rsgps 1.37 RS83.prl 1.89 START: 2013/11/18 21:06:43
EPHEMERIS: igs17671.eph [precise] STOP: 2013/11/18 21:27:24
NAV FILE: brdc3220.13n OBS USED: 1647 / 1773 : 93%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 6.55/ 25.58
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.338

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.88188)

X:	1363621.248(m)	0.005(m)	1363620.408(m)	0.005(m)
Y:	-4425743.492(m)	0.017(m)	-4425742.081(m)	0.017(m)
Z:	4371511.820(m)	0.020(m)	4371511.803(m)	0.020(m)
LAT:	43 32 26.72088	0.009(m)	43 32 26.75610	0.009(m)
E LON:	287 7 28.74974	0.002(m)	287 7 28.73249	0.002(m)
W LON:	72 52 31.25026	0.002(m)	72 52 31.26751	0.002(m)
EL HGT:	387.019(m)	0.025(m)	385.850(m)	0.025(m)
ORTHO HGT:	414.519(m)	0.028(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4823060.593	115685.145
Easting (X) [meters]	671652.608	469664.656
Convergence [degrees]	1.46396663	-0.25856760
Point Scale	0.99996244	0.99997560
Combined Factor	0.99990176	0.99991492

US NATIONAL GRID DESIGNATOR: 18TXP7165223060(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	23316.7
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	49396.1
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	55557.2
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	77742.7
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	83523.0
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	97421.3
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	106361.0
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	115031.5
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	128548.2

TW-04 SESSION 1 FILE: 10673241.13o OP1389040562596

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 1067324o.13o TIME: 21:04:00 UTC

SOFTWARE: rsgps 1.37 RS83.prl 1.89 START: 2013/11/20 14:20:04
EPHEMERIS: igs17673.eph [precise] STOP: 2013/11/20 14:38:32
NAV FILE: brdc3240.13n OBS USED: 1665 / 2025 : 82%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 14.24/ 16.12
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.309

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.88659)

X:	1347560.390(m)	0.010(m)	1347559.550(m)	0.010(m)
Y:	-4423249.220(m)	0.017(m)	-4423247.811(m)	0.017(m)
Z:	4378608.858(m)	0.015(m)	4378608.841(m)	0.015(m)
LAT:	43 37 51.65561	0.005(m)	43 37 51.69082	0.005(m)
E LON:	286 56 36.83362	0.007(m)	286 56 36.81609	0.007(m)
W LON:	73 3 23.16638	0.007(m)	73 3 23.18391	0.007(m)
EL HGT:	144.613(m)	0.023(m)	143.449(m)	0.023(m)
ORTHO HGT:	173.093(m)	0.027(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4832727.138	125795.015
Easting (X) [meters]	656787.520	455096.372
Convergence [degrees]	1.34135441	-0.38395299
Point Scale	0.99990237	0.99998908
Combined Factor	0.99987970	0.99996640

US NATIONAL GRID DESIGNATOR: 18TXP5678732727(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	6759.9
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	31617.9
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	41571.0
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	50022.8
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	60855.5
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	75137.4
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	83971.0
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	93824.5
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	99872.7

TW-04 SESSION 2 FILE: 10673246.13o OP1389292319025

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: dgedenk@photoscience.com DATE: January 09, 2014
RINEX FILE: 1067324s.13o TIME: 19:15:24 UTC

SOFTWARE: rsgps 1.37 RS82.prl 1.89 START: 2013/11/20 18:37:51
EPHEMERIS: igs17673.eph [precise] STOP: 2013/11/20 18:58:52
NAV FILE: brdc3240.13n OBS USED: 1512 / 1593 :
95%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 18.93/ 21.55
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.297

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08
(EPOCH:2013.88708)

X:	1347560.398(m)	0.007(m)	1347559.558(m)	0.007(m)
Y:	-4423249.265(m)	0.012(m)	-4423247.856(m)	0.012(m)
Z:	4378608.886(m)	0.012(m)	4378608.869(m)	0.012(m)
LAT:	43 37 51.65526	0.004(m)	43 37 51.69047	0.004(m)
E LON:	286 56 36.83338	0.005(m)	286 56 36.81585	0.005(m)
W LON:	73 3 23.16662	0.005(m)	73 3 23.18415	0.005(m)
EL HGT:	144.665(m)	0.017(m)	143.501(m)	0.017(m)
ORTHO HGT:	173.145(m)	0.021(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4832727.127	125795.004
Easting (X) [meters]	656787.515	455096.367
Convergence [degrees]	1.34135436	-0.38395303
Point Scale	0.99990237	0.99998908
Combined Factor	0.99987969	0.99996640

US NATIONAL GRID DESIGNATOR: 18TXP5678732727(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	6759.9
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	31617.9
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	41571.0
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	50022.8
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	60855.5
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	75137.4
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	83971.0
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	93824.5
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	99872.7

TW-08 SESSION 1 FILE: 08863223.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886322p.13o TIME: 22:45:46 UTC

SOFTWARE: rsgps 1.37 RS92.prl 1.89 START: 2013/11/18 15:03:57
EPHEMERIS: igs17671.eph [precise] STOP: 2013/11/18 15:25:49
NAV FILE: brdc3220.13n OBS USED: 1953 / 1953 :
100%
ANT NAME: TRM55971.00 NONE QUALITY IND. 6.99/ 24.13
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.376

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08
(EPOCH:2013.88119)

X:	1317426.329(m)	0.018(m)	1317425.490(m)	0.018(m)
Y:	-4438206.541(m)	0.031(m)	-4438205.133(m)	0.031(m)
Z:	4372612.638(m)	0.029(m)	4372612.618(m)	0.029(m)
LAT:	43 33 24.82305	0.008(m)	43 33 24.85805	0.008(m)
E LON:	286 31 58.31611	0.011(m)	286 31 58.29812	0.011(m)
W LON:	73 28 1.68389	0.011(m)	73 28 1.70188	0.011(m)
EL HGT:	98.348(m)	0.044(m)	97.183(m)	0.044(m)
ORTHO HGT:	127.904(m)	0.045(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (3101 NY E)
Northing (Y) [meters]	4823801.443	525054.120
Easting (X) [meters]	623807.831	233448.147
Convergence [degrees]	1.05639242	0.71176230
Point Scale	0.99978855	0.99998563
Combined Factor	0.99977313	0.99997021

US NATIONAL GRID DESIGNATOR: 18TXP2380723801(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	32287.0
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	39785.5
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	44582.1
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	55226.4
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	61447.3
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	70026.5
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	78006.3
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	81509.7
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	85784.0

TW-08 SESSION 2 FILE: 08863235.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886323t.13o TIME: 23:17:05 UTC

SOFTWARE: rsgps 1.37 RS83.prl 1.89 START: 2013/11/19 19:21:51
EPHEMERIS: igs17672.eph [precise] STOP: 2013/11/19 19:43:19
NAV FILE: brdc3230.13n OBS USED: 1404 / 1611 : 87%
ANT NAME: TRM55971.00 NONE QUALITY IND. 3.76/ 11.45
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.320

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.88442)

X:	1317426.307(m)	0.015(m)	1317425.467(m)	0.015(m)
Y:	-4438206.518(m)	0.026(m)	-4438205.110(m)	0.026(m)
Z:	4372612.621(m)	0.026(m)	4372612.601(m)	0.026(m)
LAT:	43 33 24.82328	0.005(m)	43 33 24.85829	0.005(m)
E LON:	286 31 58.31546	0.009(m)	286 31 58.29743	0.009(m)
W LON:	73 28 1.68454	0.009(m)	73 28 1.70257	0.009(m)
EL HGT:	98.315(m)	0.038(m)	97.150(m)	0.038(m)
ORTHO HGT:	127.871(m)	0.039(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES (Zone 18)	STATE PLANE COORDINATES SPC (3101 NY E)
Northing (Y) [meters]	4823801.450	525054.127
Easting (X) [meters]	623807.817	233448.133
Convergence [degrees]	1.05639229	0.71176218
Point Scale	0.99978855	0.99998563
Combined Factor	0.99977314	0.99997021

US NATIONAL GRID DESIGNATOR: 18TXP2380723801(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	32287.0
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	39785.6
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	44582.1
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	61447.3
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	70026.5
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	81509.7
DI0456	NYFV FULTONVILLE CORS ARP	N425620.997	W0742112.013	99445.8
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	103645.5
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	119869.5

TW-13 SESSION 1 FILE: 08863212.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886321o.13o TIME: 22:53:45 UTC

SOFTWARE: rsgps 1.37 RS53.prl 1.89 START: 2013/11/17 14:28:09
EPHEMERIS: igs17670.eph [precise] STOP: 2013/11/17 14:49:49
NAV FILE: brdc3210.13n OBS USED: 1368 / 1688 : 81%
ANT NAME: TRM55971.00 NONE QUALITY IND. 5.93/ 13.13
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.314

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.87838)

X:	1349178.266(m)	0.012(m)	1349177.425(m)	0.012(m)
Y:	-4416127.045(m)	0.027(m)	-4416125.637(m)	0.027(m)
Z:	4385216.008(m)	0.024(m)	4385215.992(m)	0.024(m)
LAT:	43 42 48.35047	0.003(m)	43 42 48.38575	0.003(m)
E LON:	286 59 18.68115	0.007(m)	286 59 18.66360	0.007(m)
W LON:	73 0 41.31885	0.007(m)	73 0 41.33640	0.007(m)
EL HGT:	121.254(m)	0.037(m)	120.092(m)	0.037(m)
ORTHO HGT:	149.508(m)	0.039(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4841966.460	134928.190
Easting (X) [meters]	660194.870	458780.850
Convergence [degrees]	1.37446355	-0.35346241
Point Scale	0.99991565	0.99998518
Combined Factor	0.99989664	0.99996617

US NATIONAL GRID DESIGNATOR: 18TXP6019441966(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	12091.6
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	33657.8
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	40406.3
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	77772.6
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	85296.7
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	96798.0
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	102355.5
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	107817.8

TW-13 SESSION 2 FILE: 08863217.13o OP1389282938444

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: dgedenk@photoscience.com DATE: January 09, 2014
RINEX FILE: 0886321s.13o TIME: 18:04:40 UTC

SOFTWARE: rsgps 1.37 RS82.prl 1.89 START: 2013/11/17 18:33:44
EPHEMERIS: igs17670.eph [precise] STOP: 2013/11/17 18:55:01
NAV FILE: brdc3210.13n OBS USED: 1539 / 1800 : 86%
ANT NAME: TRM55971.00 NONE QUALITY IND. 4.56/ 13.96
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.303

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.87885)

X:	1349178.271(m)	0.007(m)	1349177.430(m)	0.007(m)
Y:	-4416127.071(m)	0.016(m)	-4416125.663(m)	0.016(m)
Z:	4385216.027(m)	0.012(m)	4385216.011(m)	0.012(m)
LAT:	43 42 48.35033	0.007(m)	43 42 48.38561	0.007(m)
E LON:	286 59 18.68103	0.004(m)	286 59 18.66347	0.004(m)
W LON:	73 0 41.31897	0.004(m)	73 0 41.33653	0.004(m)
EL HGT:	121.286(m)	0.019(m)	120.124(m)	0.019(m)
ORTHO HGT:	149.540(m)	0.023(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4841966.455	134928.185
Easting (X) [meters]	660194.867	458780.847
Convergence [degrees]	1.37446353	-0.35346243
Point Scale	0.99991565	0.99998518
Combined Factor	0.99989663	0.99996616

US NATIONAL GRID DESIGNATOR: 18TXP6019441966(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	12091.6
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	33657.8
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	40406.3
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	69593.5
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	77772.6
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	85296.7
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	93573.3
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	96798.0
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	102355.4

TW-15 SESSION 1 FILE: 10671421.14o OP1400859013243

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: dgedenk@quantumspatial.com DATE: May 23, 2014
RINEX FILE: 1067142m.14o TIME: 16:05:02 UTC

SOFTWARE: rsgps 1.37 RS91.prl 1.99.2 START: 2014/05/22 12:43:14
EPHEMERIS: igu17934.eph [ultra-rapid] STOP: 2014/05/22 13:29:20
NAV FILE: brdc1420.14n OBS USED: 5166 / 5193 : 99%
ANT NAME: TRMR8-4 NONE QUALITY IND. 9.79/ 39.23
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.362

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000) (EPOCH:2014.38780)		IGS08	
X:	1323444.697(m)	0.011(m)	1323443.848(m)	0.011(m)
Y:	-4415192.900(m)	0.031(m)	-4415191.495(m)	0.031(m)
Z:	4393845.490(m)	0.026(m)	4393845.475(m)	0.026(m)
LAT:	43 49 17.36334	0.005(m)	43 49 17.39865	0.005(m)
E LON:	286 41 9.56569	0.006(m)	286 41 9.54735	0.006(m)
W LON:	73 18 50.43431	0.006(m)	73 18 50.45265	0.006(m)
EL HGT:	62.043(m)	0.041(m)	60.886(m)	0.041(m)
ORTHO HGT:	91.169(m)	0.043(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4853427.829	147128.911
Easting (X) [meters]	635578.243	434518.207
Convergence [degrees]	1.16758040	-0.56365141
Point Scale	0.99982609	1.00001700
Combined Factor	0.99981636	1.00000727

US NATIONAL GRID DESIGNATOR: 18TXP3557853427(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	58375.0
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	58584.5
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	63802.5
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	98557.7
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	77677.1
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	81386.4
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	90379.9
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	93285.4
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	96126.8

TW-15 SESSION 2 FILE: 10671383.14o OP1400517418576

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: dgedenk@quantumspatial.com DATE: May 19, 2014
RINEX FILE: 1067138o.14o TIME: 17:47:45 UTC

SOFTWARE: rsgps 1.37 RS93.prl 1.99.2 START: 2014/05/18 14:34:47
EPHEMERIS: igu17930.eph [ultra-rapid] STOP: 2014/05/18 15:21:10
NAV FILE: brdc1380.14n OBS USED: 3996 / 4131 : 97%
ANT NAME: TRMR8-4 NONE QUALITY IND. 11.67/ 33.31
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.302

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2014.37705)	
X:	1323444.666(m)	0.003(m)	1323443.817(m)	0.003(m)
Y:	-4415192.854(m)	0.011(m)	-4415191.449(m)	0.011(m)
Z:	4393845.443(m)	0.009(m)	4393845.428(m)	0.009(m)
LAT:	43 49 17.36343	0.006(m)	43 49 17.39874	0.006(m)
E LON:	286 41 9.56495	0.003(m)	286 41 9.54661	0.003(m)
W LON:	73 18 50.43505	0.003(m)	73 18 50.45339	0.003(m)
EL HGT:	61.972(m)	0.013(m)	60.815(m)	0.013(m)
ORTHO HGT:	91.098(m)	0.018(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4853427.831	147128.914
Easting (X) [meters]	635578.227	434518.191
Convergence [degrees]	1.16758026	-0.56365155
Point Scale	0.99982609	1.00001700
Combined Factor	0.99981637	1.00000728

US NATIONAL GRID DESIGNATOR: 18TXP3557853427(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	58375.0
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	58584.5
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	63802.5
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	98557.7
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	77677.1
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	81386.3
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	90379.9
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	93285.4
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	96126.8

TW-16 SESSION 1 FILE: 08863142.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886314o.13o TIME: 23:47:19 UTC

SOFTWARE: rsgps 1.37 RS81.prl 1.89 START: 2013/11/10 14:16:55
EPHEMERIS: igs17660.eph [precise] STOP: 2013/11/10 14:37:35
NAV FILE: brdc3140.13n OBS USED: 784 / 944 : 83%
ANT NAME: TRM55971.00 NONE QUALITY IND. 4.44/ 7.53
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.342

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2013.85918)	
X:	1307445.159(m)	0.008(m)	1307444.317(m)	0.008(m)
Y:	-4401982.715(m)	0.020(m)	-4401981.313(m)	0.020(m)
Z:	4411669.866(m)	0.032(m)	4411669.851(m)	0.032(m)
LAT:	44 2 40.65445	0.012(m)	44 2 40.68977	0.012(m)
E LON:	286 32 31.53415	0.005(m)	286 32 31.51582	0.005(m)
W LON:	73 27 28.46585	0.005(m)	73 27 28.48418	0.005(m)
EL HGT:	18.296(m)	0.036(m)	17.147(m)	0.036(m)
ORTHO HGT:	47.170(m)	0.038(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (3101 NY E)
Northing (Y) [meters]	4877985.386	579249.377
Easting (X) [meters]	623543.735	233511.434
Convergence [degrees]	1.07222652	0.72452385
Point Scale	0.99978772	0.99998575
Combined Factor	0.99978485	0.99998288

US NATIONAL GRID DESIGNATOR: 18TXP2354377985(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	19496.2
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	25006.6
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	51548.3
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	62004.2
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	69534.9
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	85722.8
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	101279.0
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	107791.6

TW-16 SESSION 2 FILE: 08863147.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886314s.13o TIME: 22:54:47 UTC

SOFTWARE: rsgps 1.37 RS83.prl 1.89 START: 2013/11/10 18:46:00
EPHEMERIS: igs17660.eph [precise] STOP: 2013/11/10 19:06:40
NAV FILE: brdc3140.13n OBS USED: 777 / 875 : 89%
ANT NAME: TRM55971.00 NONE QUALITY IND. 13.86/ 2.98
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.310

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.85970)

X:	1307445.133(m)	0.072(m)	1307444.291(m)	0.072(m)
Y:	-4401982.669(m)	0.029(m)	-4401981.267(m)	0.029(m)
Z:	4411669.815(m)	0.052(m)	4411669.800(m)	0.052(m)
LAT:	44 2 40.65442	0.010(m)	44 2 40.68975	0.010(m)
E LON:	286 32 31.53361	0.062(m)	286 32 31.51529	0.062(m)
W LON:	73 27 28.46639	0.062(m)	73 27 28.48471	0.062(m)
EL HGT:	18.224(m)	0.069(m)	17.075(m)	0.069(m)
ORTHO HGT:	47.098(m)	0.069(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES (UTM (Zone 18))	STATE PLANE COORDINATES (SPC (3101 NY E))
Northing (Y) [meters]	4877985.385	579249.376
Easting (X) [meters]	623543.724	233511.422
Convergence [degrees]	1.07222642	0.72452374
Point Scale	0.99978772	0.99998575
Combined Factor	0.99978486	0.99998289

US NATIONAL GRID DESIGNATOR: 18TXP2354377985(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	19496.2
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	25006.6
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	51548.3
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	69534.9
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	74088.9
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	85722.9
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	101279.0

TW-17 SESSION 1 FILE: 08863174.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886317q.13o TIME: 23:23:18 UTC

SOFTWARE: rsgps 1.37 RS52.prl 1.89 START: 2013/11/13 16:46:24
EPHEMERIS: igs17663.eph [precise] STOP: 2013/11/13 17:09:11
NAV FILE: brdc3170.13n OBS USED: 2466 / 2880 : 86%
ANT NAME: TRM55971.00 NONE QUALITY IND. 24.71/ 37.29
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.285

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.86769)

X:	1319293.838(m)	0.005(m)	1319292.996(m)	0.005(m)
Y:	-4398308.703(m)	0.017(m)	-4398307.300(m)	0.017(m)
Z:	4411824.424(m)	0.017(m)	4411824.409(m)	0.017(m)
LAT:	44 2 47.21905	0.004(m)	44 2 47.25442	0.004(m)
E LON:	286 41 48.72709	0.003(m)	286 41 48.70897	0.003(m)
W LON:	73 18 11.27291	0.003(m)	73 18 11.29103	0.003(m)
EL HGT:	31.127(m)	0.024(m)	29.977(m)	0.024(m)
ORTHO HGT:	60.062(m)	0.027(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4878431.653	172115.074
Easting (X) [meters]	635939.446	435636.392
Convergence [degrees]	1.17991326	-0.55838919
Point Scale	0.99982728	1.00001522
Combined Factor	0.99982240	1.00001034

US NATIONAL GRID DESIGNATOR: 18TXP3593978431(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	13187.2
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	26266.9
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	47624.0
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	55324.9
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	62435.1
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	68278.2
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	71497.7
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	81269.4
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	86543.6

TW-17 SESSION 2 FILE: 08863180.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886318m.13o TIME: 23:17:52 UTC

SOFTWARE: rsgps 1.37 RS50.prl 1.89 START: 2013/11/14 12:37:45
EPHEMERIS: igs17664.eph [precise] STOP: 2013/11/14 12:58:41
NAV FILE: brdc3180.13n OBS USED: 2214 / 2268 : 98%
ANT NAME: TRM55971.00 NONE QUALITY IND. 20.13/ 33.06
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.279

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.86995)

X:	1319293.840(m)	0.003(m)	1319292.998(m)	0.003(m)
Y:	-4398308.693(m)	0.008(m)	-4398307.290(m)	0.008(m)
Z:	4411824.415(m)	0.011(m)	4411824.400(m)	0.011(m)
LAT:	44 2 47.21904	0.005(m)	44 2 47.25441	0.005(m)
E LON:	286 41 48.72730	0.003(m)	286 41 48.70918	0.003(m)
W LON:	73 18 11.27270	0.003(m)	73 18 11.29082	0.003(m)
EL HGT:	31.115(m)	0.013(m)	29.964(m)	0.013(m)
ORTHO HGT:	60.050(m)	0.018(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4878431.653	172115.074
Easting (X) [meters]	635939.451	435636.397
Convergence [degrees]	1.17991330	-0.55838915
Point Scale	0.99982728	1.00001522
Combined Factor	0.99982240	1.00001034

US NATIONAL GRID DESIGNATOR: 18TXP3593978431(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	13187.2
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	26266.9
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	47624.0
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	55324.9
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	62435.1
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	68278.2
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	71497.7
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	81269.4
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	86543.6

TW-19 SESSION 1 FILE: 30763142.13o OP1389041010150

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 3076314p.13o TIME: 21:43:10 UTC

SOFTWARE: rsgps 1.37 RS52.prl 1.89 START: 2013/11/10 15:59:21
EPHEMERIS: igs17660.eph [precise] STOP: 2013/11/10 16:21:59
NAV FILE: brdc3140.13n OBS USED: 1611 / 2043 : 79%
ANT NAME: TRM55971.00 NONE QUALITY IND. 18.47/ 27.06
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.299

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.85938)

X:	1347134.146(m)	0.007(m)	1347133.303(m)	0.007(m)
Y:	-4377656.932(m)	0.022(m)	-4377655.529(m)	0.022(m)
Z:	4424243.816(m)	0.019(m)	4424243.805(m)	0.019(m)
LAT:	44 11 59.19584	0.004(m)	44 11 59.23147	0.004(m)
E LON:	287 6 16.83079	0.004(m)	287 6 16.81309	0.004(m)
W LON:	72 53 43.16921	0.004(m)	72 53 43.18691	0.004(m)
EL HGT:	302.944(m)	0.030(m)	301.798(m)	0.030(m)
ORTHO HGT:	330.518(m)	0.032(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4896215.881	188913.695
Easting (X) [meters]	668174.353	468400.211
Convergence [degrees]	1.46764302	-0.27560781
Point Scale	0.99994784	0.99997656
Combined Factor	0.99990034	0.99992906

US NATIONAL GRID DESIGNATOR: 18TXP6817496215(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	30398.9
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	37214.2
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	51583.5
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	66070.1
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	72809.9
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	94767.4
DJ8955	VTD9 DERBY CORS ARP	N445703.499	W0720936.723	101872.0
DL3079	VTIP ISLAND POND CORS ARP	N444912.180	W0715325.838	105523.4
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	115487.9

TW-19 SESSION 2 FILE: 30763146.13o OP1389041010150

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 3076314t.13o TIME: 22:14:14 UTC

SOFTWARE: rsgps 1.37 RS92.prl 1.89 START: 2013/11/10 19:37:21
EPHEMERIS: igs17660.eph [precise] STOP: 2013/11/10 19:58:31
NAV FILE: brdc3140.13n OBS USED: 1152 / 1620 : 71%
ANT NAME: TRM55971.00 NONE QUALITY IND. 13.23/ 12.83
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.310

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2013.85979)	
X:	1347134.152(m)	0.009(m)	1347133.309(m)	0.009(m)
Y:	-4377656.961(m)	0.018(m)	-4377655.558(m)	0.018(m)
Z:	4424243.841(m)	0.016(m)	4424243.830(m)	0.016(m)
LAT:	44 11 59.19575	0.005(m)	44 11 59.23138	0.005(m)
E LON:	287 6 16.83066	0.005(m)	287 6 16.81296	0.005(m)
W LON:	72 53 43.16934	0.005(m)	72 53 43.18704	0.005(m)
EL HGT:	302.983(m)	0.025(m)	301.836(m)	0.025(m)
ORTHO HGT:	330.557(m)	0.028(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4896215.878	188913.692
Easting (X) [meters]	668174.350	468400.208
Convergence [degrees]	1.46764299	-0.27560783
Point Scale	0.99994784	0.99997656
Combined Factor	0.99990034	0.99992906

US NATIONAL GRID DESIGNATOR: 18TXP6817496215(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	30398.9
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	37214.2
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	51583.5
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	66070.1
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	69326.2
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	72809.9
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	94767.4
DJ8955	VTD9 DERBY CORS ARP	N445703.499	W0720936.723	101872.0
DL3079	VTIP ISLAND POND CORS ARP	N444912.180	W0715325.838	105523.4

TW-20 SESSION 1 FILE: 30763131.13o OP1389041010150

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 3076313o.13o TIME: 22:25:53 UTC

SOFTWARE: rsgps 1.37 RS52.prl 1.89 START: 2013/11/09 14:17:25
EPHEMERIS: igs17656.eph [precise] STOP: 2013/11/09 14:39:30
NAV FILE: brdc3130.13n OBS USED: 1161 / 1197 : 97%
ANT NAME: TRM55971.00 NONE QUALITY IND. 18.86/ 17.70
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.295

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.85645)

X:	1354115.774(m)	0.011(m)	1354114.931(m)	0.011(m)
Y:	-4371258.871(m)	0.026(m)	-4371257.468(m)	0.026(m)
Z:	4428255.697(m)	0.036(m)	4428255.687(m)	0.036(m)
LAT:	44 15 3.93294	0.011(m)	44 15 3.96865	0.011(m)
E LON:	287 12 42.41691	0.005(m)	287 12 42.39933	0.005(m)
W LON:	72 47 17.58309	0.005(m)	72 47 17.60067	0.005(m)
EL HGT:	196.316(m)	0.044(m)	195.170(m)	0.044(m)
ORTHO HGT:	223.915(m)	0.046(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4902140.629	194579.935
Easting (X) [meters]	676579.349	476981.703
Convergence [degrees]	1.54378841	-0.20112026
Point Scale	0.99998348	0.99997080
Combined Factor	0.99995270	0.99994002

US NATIONAL GRID DESIGNATOR: 18TXQ7657902140(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	16483.3
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	37680.2
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	44172.9
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	60282.1
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	66273.1
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	71315.7
DJ8955	VTD9 DERBY CORS ARP	N445703.499	W0720936.723	92385.3
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	101503.1
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	110601.2

TW-20 SESSION 2 FILE: 30763136.13o OP1389041010150

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 3076313t.13o TIME: 21:28:00 UTC

SOFTWARE: rsgps 1.37 RS52.prl 1.89 START: 2013/11/09 19:02:10
EPHEMERIS: igs17656.eph [precise] STOP: 2013/11/09 19:26:05
NAV FILE: brdc3130.13n OBS USED: 938 / 945 :
99%
ANT NAME: TRM55971.00 NONE QUALITY IND. 13.18/ 2.83
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.369

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08
(EPOCH:2013.85699)

X:	1354115.752(m)	0.109(m)	1354114.909(m)	0.109(m)
Y:	-4371258.851(m)	0.200(m)	-4371257.448(m)	0.200(m)
Z:	4428255.696(m)	0.093(m)	4428255.686(m)	0.093(m)
LAT:	44 15 3.93350	0.075(m)	44 15 3.96920	0.075(m)
E LON:	287 12 42.41623	0.116(m)	287 12 42.39864	0.116(m)
W LON:	72 47 17.58377	0.116(m)	72 47 17.60136	0.116(m)
EL HGT:	196.297(m)	0.204(m)	195.151(m)	0.204(m)
ORTHO HGT:	223.896(m)	0.204(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4902140.645	194579.953
Easting (X) [meters]	676579.333	476981.688
Convergence [degrees]	1.54378829	-0.20112039
Point Scale	0.99998348	0.99997080
Combined Factor	0.99995270	0.99994002

US NATIONAL GRID DESIGNATOR: 18TXQ7657902140(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	37680.2
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	44172.9
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	60327.7
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	66273.0
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	71315.7
DJ8955	VTD9 DERBY CORS ARP	N445703.499	W0720936.723	92385.3
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	110601.3

TW-21 SESSION 1 FILE: 30763120.13o OP1389281637250

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: dgedenk@photoscience.com DATE: January 09, 2014
RINEX FILE: 3076312o.13o TIME: 16:40:20 UTC

SOFTWARE: rsgps 1.37 RS92.prl 1.89 START: 2013/11/08 14:08:30
EPHEMERIS: igs17655.eph [precise] STOP: 2013/11/08 14:28:55
NAV FILE: brdc3120.13n OBS USED: 945 / 990 :
95%
ANT NAME: TRM55971.00 NONE QUALITY IND. 20.34/ 19.04
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.305

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08
(EPOCH:2013.85369)

X:	1359219.593(m)	0.009(m)	1359218.749(m)	0.009(m)
Y:	-4357667.823(m)	0.022(m)	-4357666.421(m)	0.022(m)
Z:	4440218.171(m)	0.030(m)	4440218.162(m)	0.030(m)
LAT:	44 24 0.66609	0.013(m)	44 24 0.70191	0.013(m)
E LON:	287 19 24.43873	0.006(m)	287 19 24.42118	0.006(m)
W LON:	72 40 35.56127	0.006(m)	72 40 35.57882	0.006(m)
EL HGT:	354.165(m)	0.035(m)	353.023(m)	0.035(m)
ORTHO HGT:	381.670(m)	0.037(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4918947.650	211121.059
Easting (X) [meters]	685025.451	485936.038
Convergence [degrees]	1.62610145	-0.12352253
Point Scale	1.00002103	0.99996672
Combined Factor	0.99996550	0.99991119

US NATIONAL GRID DESIGNATOR: 18TXQ8502518947(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	17097.8
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	42213.1
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	51554.7
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	55711.6
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	62613.5
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	69206.7
DJ8955	VTD9 DERBY CORS ARP	N445703.499	W0720936.723	73639.9
DL3079	VTIP ISLAND POND CORS ARP	N444912.180	W0715325.838	77913.6
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	91408.7

TW-21 SESSION 2 FILE: 30763127.13o OP1389041010150

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 3076312t.13o TIME: 21:19:11 UTC

SOFTWARE: rsgps 1.37 RS91.prl 1.89 START: 2013/11/08 19:12:35
EPHEMERIS: igs17655.eph [precise] STOP: 2013/11/08 19:36:50
NAV FILE: brdc3120.13n OBS USED: 888 / 976 : 91%
ANT NAME: TRM55971.00 NONE QUALITY IND. 17.66/ 7.42
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.320

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.85427)

X:	1359219.605(m)	0.009(m)	1359218.761(m)	0.009(m)
Y:	-4357667.837(m)	0.009(m)	-4357666.435(m)	0.009(m)
Z:	4440218.186(m)	0.012(m)	4440218.177(m)	0.012(m)
LAT:	44 24 0.66605	0.006(m)	44 24 0.70188	0.006(m)
E LON:	287 19 24.43906	0.010(m)	287 19 24.42151	0.010(m)
W LON:	72 40 35.56094	0.010(m)	72 40 35.57849	0.010(m)
EL HGT:	354.188(m)	0.013(m)	353.046(m)	0.013(m)
ORTHO HGT:	381.693(m)	0.018(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4918947.649	211121.058
Easting (X) [meters]	685025.458	485936.045
Convergence [degrees]	1.62610152	-0.12352247
Point Scale	1.00002103	0.99996672
Combined Factor	0.99996550	0.99991119

US NATIONAL GRID DESIGNATOR: 18TXQ8502518947(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	17097.8
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	42213.1
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	51554.7
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	55711.6
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	58646.6
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	69206.7
DJ8955	VTD9 DERBY CORS ARP	N445703.499	W0720936.723	73639.9
DL3079	VTIP ISLAND POND CORS ARP	N444912.180	W0715325.838	77913.6

UA-01 Session 1 FILE: 10673123.13o OP1388764754319

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067312o.13o TIME: 16:04:48 UTC

SOFTWARE: rsgps 1.37 RS52.prl 1.89 START: 2013/11/08 14:53:26
EPHEMERIS: igs17655.eph [precise] STOP: 2013/11/08 15:14:48
NAV FILE: brdc3120.13n OBS USED: 1206 / 1944 : 62%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 8.40/ 14.17
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.357

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.85377)

X:	1302453.497(m)	0.013(m)	1302452.651(m)	0.013(m)
Y:	-4335091.740(m)	0.022(m)	-4335090.346(m)	0.022(m)
Z:	4478403.299(m)	0.012(m)	4478403.293(m)	0.012(m)
LAT:	44 53 10.51255	0.010(m)	44 53 10.54850	0.010(m)
E LON:	286 43 21.34088	0.008(m)	286 43 21.32224	0.008(m)
W LON:	73 16 38.65912	0.008(m)	73 16 38.67776	0.008(m)
EL HGT:	2.975(m)	0.025(m)	1.853(m)	0.025(m)
ORTHO HGT:	32.201(m)	0.028(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4971758.072	265412.271
Easting (X) [meters]	636035.281	438585.077
Convergence [degrees]	1.21582359	-0.54863325
Point Scale	0.99982756	1.00001065
Combined Factor	0.99982709	1.00001018

US NATIONAL GRID DESIGNATOR: 18TXQ3603571758(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	17629.9
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	26776.5
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	46769.8
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	78036.4
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	83557.5
DJ8955	VTD9 DERBY CORS ARP	N445703.499	W0720936.723	88506.4
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	113169.0
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	118134.1
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	134530.5

UA-01 Session 2 FILE: 1067311A.13o OP1388764538401

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067311t.13o TIME: 16:00:04 UTC

SOFTWARE: rsgps 1.37 RS54.prl 1.89 START: 2013/11/07 19:02:01
EPHEMERIS: igs17654.eph [precise] STOP: 2013/11/07 19:23:01
NAV FILE: brdc3110.13n OBS USED: 2052 / 2295 : 89%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 14.08/ 17.72
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.349

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.85151)

X:	1302453.498(m)	0.005(m)	1302452.652(m)	0.005(m)
Y:	-4335091.765(m)	0.012(m)	-4335090.371(m)	0.012(m)
Z:	4478403.333(m)	0.015(m)	4478403.327(m)	0.015(m)
LAT:	44 53 10.51277	0.007(m)	44 53 10.54872	0.007(m)
E LON:	286 43 21.34060	0.005(m)	286 43 21.32196	0.005(m)
W LON:	73 16 38.65940	0.005(m)	73 16 38.67804	0.005(m)
EL HGT:	3.017(m)	0.018(m)	1.894(m)	0.018(m)
ORTHO HGT:	32.243(m)	0.022(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4971758.079	265412.278
Easting (X) [meters]	636035.274	438585.071
Convergence [degrees]	1.21582353	-0.54863330
Point Scale	0.99982756	1.00001065
Combined Factor	0.99982709	1.00001018

US NATIONAL GRID DESIGNATOR: 18TXQ3603571758(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	17629.9
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	26776.5
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	46769.8
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	78036.4
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	83557.5
DJ8955	VTD9 DERBY CORS ARP	N445703.499	W0720936.723	88506.4
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	99133.7
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	113169.0
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	118134.1

UA-02 SESSION 1 FILE: 08863233.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886323p.13o TIME: 22:52:26 UTC

SOFTWARE: rsgps 1.37 RS80.prl 1.89 START: 2013/11/19 15:18:51
EPHEMERIS: igs17672.eph [precise] STOP: 2013/11/19 15:39:42
NAV FILE: brdc3230.13n OBS USED: 1480 / 1544 : 96%
ANT NAME: TRM55971.00 NONE QUALITY IND. 12.37/ 15.97
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.325

REF FRAME:	NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2013.88396)	
X:	1319224.093(m)	0.007(m)	1319223.253(m)	0.007(m)
Y:	-4426203.231(m)	0.023(m)	-4426201.824(m)	0.023(m)
Z:	4384118.005(m)	0.016(m)	4384117.987(m)	0.016(m)
LAT:	43 42 0.41243	0.008(m)	43 42 0.44756	0.008(m)
E LON:	286 35 47.82826	0.006(m)	286 35 47.81026	0.006(m)
W LON:	73 24 12.17174	0.006(m)	73 24 12.18974	0.006(m)
EL HGT:	80.050(m)	0.027(m)	78.889(m)	0.027(m)
ORTHO HGT:	109.388(m)	0.029(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (3101 NY E)
Northing (Y) [meters]	4839804.688	541031.015
Easting (X) [meters]	628651.275	238388.851
Convergence [degrees]	1.10322910	0.75768521
Point Scale	0.99980358	0.99999606
Combined Factor	0.99979103	0.99998351

US NATIONAL GRID DESIGNATOR: 18TXP2865139804(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	35728.9
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	48916.9
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	57679.6
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	69621.5
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	78021.2
DI0456	NYFV FULTONVILLE CORS ARP	N425620.997	W0742112.013	114388.1
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	122347.4
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	125858.7

UA-02 SESSION 2 FILE: 08863237.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886323u.13o TIME: 23:15:36 UTC

SOFTWARE: rsgps 1.37 RS82.prl 1.89 START: 2013/11/19 20:35:21
EPHEMERIS: igs17672.eph [precise] STOP: 2013/11/19 20:56:40
NAV FILE: brdc3230.13n OBS USED: 1674 / 2088 : 80%
ANT NAME: TRM55971.00 NONE QUALITY IND. 9.44/ 15.92
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.361

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.88456)

X:	1319224.105(m)	0.006(m)	1319223.265(m)	0.006(m)
Y:	-4426203.247(m)	0.012(m)	-4426201.840(m)	0.012(m)
Z:	4384118.016(m)	0.017(m)	4384117.998(m)	0.017(m)
LAT:	43 42 0.41226	0.008(m)	43 42 0.44740	0.008(m)
E LON:	286 35 47.82857	0.005(m)	286 35 47.81057	0.005(m)
W LON:	73 24 12.17143	0.005(m)	73 24 12.18943	0.005(m)
EL HGT:	80.071(m)	0.019(m)	78.910(m)	0.019(m)
ORTHO HGT:	109.409(m)	0.022(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (3101 NY E)
Northing (Y) [meters]	4839804.683	541031.010
Easting (X) [meters]	628651.282	238388.858
Convergence [degrees]	1.10322916	0.75768527
Point Scale	0.99980358	0.99999606
Combined Factor	0.99979103	0.99998350

US NATIONAL GRID DESIGNATOR: 18TXP2865139804(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	35728.9
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	38815.7
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	48916.9
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	57679.7
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	69621.5
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	78021.2
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	122347.4
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	125858.7
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	134908.9

UA-03 SESSION 1 FILE: 08863194.13o OP1389282938444

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: dgedenk@photoscience.com DATE: January 09, 2014
RINEX FILE: 0886319o.13o TIME: 18:07:11 UTC

SOFTWARE: rsgps 1.37 RS50.prl 1.89 START: 2013/11/15 14:19:20
EPHEMERIS: igs17665.eph [precise] STOP: 2013/11/15 14:40:49
NAV FILE: brdc3190.13n OBS USED: 959 / 1260 : 76%
ANT NAME: TRM55971.00 NONE QUALITY IND. 10.18/ 13.02
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.253

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2013.87289)	
X:	1323130.780(m)	0.009(m)	1323129.938(m)	0.009(m)
Y:	-4401252.553(m)	0.022(m)	-4401251.149(m)	0.022(m)
Z:	4407769.441(m)	0.022(m)	4407769.426(m)	0.022(m)
LAT:	43 59 44.42015	0.010(m)	43 59 44.45551	0.010(m)
E LON:	286 43 55.71185	0.005(m)	286 43 55.69381	0.005(m)
W LON:	73 16 4.28815	0.005(m)	73 16 4.30619	0.005(m)
EL HGT:	34.187(m)	0.030(m)	33.035(m)	0.030(m)
ORTHO HGT:	63.105(m)	0.032(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4872850.605	166446.292
Easting (X) [meters]	638883.830	438410.703
Convergence [degrees]	1.20334465	-0.53337384
Point Scale	0.99983724	1.00001092
Combined Factor	0.99983188	1.00000556

US NATIONAL GRID DESIGNATOR: 18TXP3888372850(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	9250.5
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	32281.6
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	52916.4
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	62332.5
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	73333.7
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	77554.8
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	91582.1

UA-03 SESSION 2 FILE: 08863197.13o OP1389282938444

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: dgedenk@photoscience.com DATE: January 09, 2014
RINEX FILE: 0886319s.13o TIME: 17:35:33 UTC

SOFTWARE: rsgps 1.37 RS80.prl 1.89 START: 2013/11/15 18:46:51
EPHEMERIS: igs17665.eph [precise] STOP: 2013/11/15 19:08:10
NAV FILE: brdc3190.13n OBS USED: 1539 / 1701 : 90%
ANT NAME: TRM55971.00 NONE QUALITY IND. 20.59/ 25.66
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.235

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.87340)

X:	1323130.787(m)	0.006(m)	1323129.945(m)	0.006(m)
Y:	-4401252.567(m)	0.012(m)	-4401251.163(m)	0.012(m)
Z:	4407769.445(m)	0.014(m)	4407769.430(m)	0.014(m)
LAT:	43 59 44.41989	0.004(m)	43 59 44.45526	0.004(m)
E LON:	286 43 55.71197	0.003(m)	286 43 55.69393	0.003(m)
W LON:	73 16 4.28803	0.003(m)	73 16 4.30607	0.003(m)
EL HGT:	34.201(m)	0.019(m)	33.048(m)	0.019(m)
ORTHO HGT:	63.119(m)	0.022(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4872850.598	166446.284
Easting (X) [meters]	638883.833	438410.705
Convergence [degrees]	1.20334467	-0.53337381
Point Scale	0.99983724	1.00001092
Combined Factor	0.99983188	1.00000556

US NATIONAL GRID DESIGNATOR: 18TXP3888372850(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	9250.5
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	32281.6
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	49016.3
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	52916.4
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	62332.5
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	73333.7
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	77554.8
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	83430.0
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	91582.1

UA-04 Session 1 FILE: 10673100.13o OP1388759155120

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067310r.13o TIME: 14:32:50 UTC

SOFTWARE: rsgps 1.37 RS83.prl 1.89 START: 2013/11/06 17:13:28
EPHEMERIS: igs17653.eph [precise] STOP: 2013/11/06 17:34:47
NAV FILE: brdc3100.13n OBS USED: 2511 / 3096 : 81%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 15.54/ 23.66
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.344

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.84856)

X:	1308972.203(m)	0.004(m)	1308971.359(m)	0.004(m)
Y:	-4353659.875(m)	0.013(m)	-4353658.478(m)	0.013(m)
Z:	4458580.734(m)	0.014(m)	4458580.725(m)	0.014(m)
LAT:	44 38 6.10994	0.005(m)	44 38 6.14572	0.005(m)
E LON:	286 44 2.18668	0.002(m)	286 44 2.16825	0.002(m)
W LON:	73 15 57.81332	0.002(m)	73 15 57.83175	0.002(m)
EL HGT:	3.692(m)	0.018(m)	2.561(m)	0.018(m)
ORTHO HGT:	32.733(m)	0.022(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4943870.515	237487.045
Easting (X) [meters]	637526.154	439218.573
Convergence [degrees]	1.21843667	-0.53824064
Point Scale	0.99983259	1.00000970
Combined Factor	0.99983201	1.00000912

US NATIONAL GRID DESIGNATOR: 18TXQ3752643870(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	15745.4
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	19205.1
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	24194.6
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	32745.7
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	52074.6
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	68411.5
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	72873.0
DI0602	NYML MALONE CORS ARP	N445215.384	W0741717.343	85074.4
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	93675.2

UA-04 Session 2 FILE: 10673108.13o OP1388759155120

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067310v.13o TIME: 14:32:28 UTC

SOFTWARE: rsgps 1.37 RS90.prl 1.89 START: 2013/11/06 21:23:00
EPHEMERIS: igs17653.eph [precise] STOP: 2013/11/06 21:43:32
NAV FILE: brdc3100.13n OBS USED: 1896 / 2352 : 81%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 4.56/ 6.80
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.381

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.84904)

X:	1308972.188(m)	0.007(m)	1308971.344(m)	0.007(m)
Y:	-4353659.839(m)	0.021(m)	-4353658.442(m)	0.021(m)
Z:	4458580.706(m)	0.022(m)	4458580.697(m)	0.022(m)
LAT:	44 38 6.11018	0.003(m)	44 38 6.14596	0.003(m)
E LON:	286 44 2.18649	0.003(m)	286 44 2.16807	0.003(m)
W LON:	73 15 57.81351	0.003(m)	73 15 57.83193	0.003(m)
EL HGT:	3.645(m)	0.031(m)	2.513(m)	0.031(m)
ORTHO HGT:	32.686(m)	0.033(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4943870.522	237487.052
Easting (X) [meters]	637526.150	439218.569
Convergence [degrees]	1.21843664	-0.53824068
Point Scale	0.99983259	1.00000970
Combined Factor	0.99983202	1.00000913

US NATIONAL GRID DESIGNATOR: 18TXQ3752643870(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	15745.4
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	19205.1
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	24194.5
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	32745.7
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	52074.6
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	68411.5
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	72873.0
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	93675.2

UA-06 SESSION 1 FILE: 08863203.13o OP1389282938444

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: dgedenk@photoscience.com DATE: January 09, 2014
RINEX FILE: 0886320p.13o TIME: 17:39:30 UTC

SOFTWARE: rsgps 1.37 RS80.prl 1.89 START: 2013/11/16 15:27:21
EPHEMERIS: igs17666.eph [precise] STOP: 2013/11/16 15:48:46
NAV FILE: brdc3200.13n OBS USED: 1737 / 1935 : 90%
ANT NAME: TRM55971.00 NONE QUALITY IND. 16.09/ 24.70
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.312

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000) (EPOCH:2013.87576)		IGS08	
X:	1341912.285(m)	0.006(m)	1341911.444(m)	0.006(m)
Y:	-4411775.131(m)	0.024(m)	-4411773.724(m)	0.024(m)
Z:	4391743.215(m)	0.017(m)	4391743.199(m)	0.017(m)
LAT:	43 47 41.85876	0.007(m)	43 47 41.89406	0.007(m)
E LON:	286 55 4.73283	0.005(m)	286 55 4.71516	0.005(m)
W LON:	73 4 55.26717	0.005(m)	73 4 55.28484	0.005(m)
EL HGT:	98.044(m)	0.029(m)	96.884(m)	0.029(m)
ORTHO HGT:	126.573(m)	0.031(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4850887.732	144023.975
Easting (X) [meters]	654302.280	453159.676
Convergence [degrees]	1.32765703	-0.40281059
Point Scale	0.99989285	0.99999126
Combined Factor	0.99987748	0.99997589

US NATIONAL GRID DESIGNATOR: 18TXP5430250887(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	22449.6
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	41675.3
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	49938.2
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	58955.5
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	65553.2
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	68942.6
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	75112.4
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	81260.9
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	96257.0

UA-06 SESSION 2 FILE: 0886320A.13o OP1389282938444

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: dgedenk@photoscience.com DATE: January 09, 2014
RINEX FILE: 0886320u.13o TIME: 18:28:21 UTC

SOFTWARE: rsgps 1.37 RS80.prl 1.89 START: 2013/11/16 20:03:27
EPHEMERIS: igs17666.eph [precise] STOP: 2013/11/16 20:25:02
NAV FILE: brdc3200.13n OBS USED: 2340 / 2664 : 88%
ANT NAME: TRM55971.00 NONE QUALITY IND. 10.21/ 29.98
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.365

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.87628)

X:	1341912.286(m)	0.008(m)	1341911.445(m)	0.008(m)
Y:	-4411775.116(m)	0.023(m)	-4411773.709(m)	0.023(m)
Z:	4391743.196(m)	0.021(m)	4391743.180(m)	0.021(m)
LAT:	43 47 41.85863	0.006(m)	43 47 41.89393	0.006(m)
E LON:	286 55 4.73307	0.004(m)	286 55 4.71540	0.004(m)
W LON:	73 4 55.26693	0.004(m)	73 4 55.28460	0.004(m)
EL HGT:	98.020(m)	0.031(m)	96.861(m)	0.031(m)
ORTHO HGT:	126.549(m)	0.033(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4850887.728	144023.971
Easting (X) [meters]	654302.285	453159.681
Convergence [degrees]	1.32765708	-0.40281054
Point Scale	0.99989285	0.99999126
Combined Factor	0.99987748	0.99997589

US NATIONAL GRID DESIGNATOR: 18TXP5430250887(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	22449.6
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	41675.3
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	49938.2
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	58955.5
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	65553.2
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	69056.2
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	75112.4
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	81260.9
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	96257.0

UA-07 SESSION 1 FILE: 10673184.13o OP1388768537624

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067318q.13o TIME: 17:11:00 UTC

SOFTWARE: rsgps 1.37 RS53.prl 1.89 START: 2013/11/14 16:35:48
EPHEMERIS: igs17664.eph [precise] STOP: 2013/11/14 16:56:32
NAV FILE: brdc3180.13n OBS USED: 1712 / 2520 : 68%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 18.74/ 5.39
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.361

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2013.87041)	
X:	1357667.901(m)	0.006(m)	1357667.062(m)	0.006(m)
Y:	-4441166.518(m)	0.029(m)	-4441165.106(m)	0.029(m)
Z:	4357489.992(m)	0.025(m)	4357489.973(m)	0.025(m)
LAT:	43 22 7.26613	0.006(m)	43 22 7.30119	0.006(m)
E LON:	286 59 54.35243	0.004(m)	286 59 54.33513	0.004(m)
W LON:	73 0 5.64757	0.004(m)	73 0 5.66487	0.004(m)
EL HGT:	178.238(m)	0.038(m)	177.065(m)	0.038(m)
ORTHO HGT:	206.310(m)	0.040(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4803697.385	96622.228
Easting (X) [meters]	661913.468	459348.399
Convergence [degrees]	1.37260062	-0.34442711
Point Scale	0.99992249	0.99998461
Combined Factor	0.99989454	0.99995666

US NATIONAL GRID DESIGNATOR: 18TXP6191303697(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	26552.1
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	56373.0
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	71063.6
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	103020.9
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	112883.1
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	116064.9
DI0456	NYFV FULTONVILLE CORS ARP	N425620.997	W0742112.013	119856.2
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	123294.9

UA-07 SESSION 2 FILE: 1067318B.13o OP1388769115734

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067318v.13o TIME: 17:17:20 UTC

SOFTWARE: rsgps 1.37 RS81.prl 1.89 START: 2013/11/14 21:23:55
EPHEMERIS: igs17664.eph [precise] STOP: 2013/11/14 21:44:30
NAV FILE: brdc3180.13n OBS USED: 1584 / 1890 : 84%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 3.58/ 15.83
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.398

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.87096)

X:	1357667.909(m)	0.004(m)	1357667.070(m)	0.004(m)
Y:	-4441166.541(m)	0.016(m)	-4441165.129(m)	0.016(m)
Z:	4357490.013(m)	0.015(m)	4357489.994(m)	0.015(m)
LAT:	43 22 7.26609	0.005(m)	43 22 7.30114	0.005(m)
E LON:	286 59 54.35247	0.006(m)	286 59 54.33517	0.006(m)
W LON:	73 0 5.64753	0.006(m)	73 0 5.66483	0.006(m)
EL HGT:	178.270(m)	0.021(m)	177.097(m)	0.021(m)
ORTHO HGT:	206.342(m)	0.024(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4803697.384	96622.226
Easting (X) [meters]	661913.468	459348.399
Convergence [degrees]	1.37260062	-0.34442710
Point Scale	0.99992249	0.99998461
Combined Factor	0.99989454	0.99995666

US NATIONAL GRID DESIGNATOR: 18TXP6191303697(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	26552.1
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	43593.6
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	56373.0
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	71063.6
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	103020.9
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	112883.1
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	116064.9
DI0456	NYFV FULTONVILLE CORS ARP	N425620.997	W0742112.013	119856.2
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	123294.9

UA-08 SESSION 1 FILE: 10671361.14o OP1400517418576

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: dgedenk@quantumspatial.com DATE: May 19, 2014
RINEX FILE: 1067136n.14o TIME: 17:38:05 UTC

SOFTWARE: rsgps 1.37 RS53.prl 1.99.2 START: 2014/05/16 13:22:12
EPHEMERIS: igr17925.eph [rapid] STOP: 2014/05/16 14:07:37
NAV FILE: brdc1360.14n OBS USED: 4824 / 5013 : 96%
ANT NAME: TRMR8-4 NONE QUALITY IND. 22.64/ 39.77
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.363

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2014.37143)	
X:	1338587.693(m)	0.011(m)	1338586.845(m)	0.011(m)
Y:	-4427849.414(m)	0.028(m)	-4427848.006(m)	0.028(m)
Z:	4376676.319(m)	0.023(m)	4376676.302(m)	0.023(m)
LAT:	43 36 26.17463	0.007(m)	43 36 26.20983	0.007(m)
E LON:	286 49 14.32449	0.006(m)	286 49 14.30646	0.006(m)
W LON:	73 10 45.67551	0.006(m)	73 10 45.69354	0.006(m)
EL HGT:	111.805(m)	0.037(m)	110.640(m)	0.037(m)
ORTHO HGT:	140.771(m)	0.039(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4829865.134	123230.764
Easting (X) [meters]	646929.278	445155.344
Convergence [degrees]	1.25594412	-0.46857007
Point Scale	0.99986554	1.00000127
Combined Factor	0.99984801	0.99998374

US NATIONAL GRID DESIGNATOR: 18TXP4692929865(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	59247.2
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	67363.6
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	72952.1
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	79011.8
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	80538.0
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	87118.1
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	90670.4
DJ8953	VTD2 DUMMERSTON CORS ARP	N425506.107	W0723206.441	92702.6
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	95786.7

UA-08 SESSION 2 FILE: 10671372.14o OP1400517418576

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: dgedenk@quantumspatial.com DATE: May 19, 2014
RINEX FILE: 1067137s.14o TIME: 17:45:37 UTC

SOFTWARE: rsgps 1.37 RS53.prl 1.99.2 START: 2014/05/17 18:39:07
EPHEMERIS: igr17926.eph [rapid] STOP: 2014/05/17 19:24:31
NAV FILE: brdc1370.14n OBS USED: 4653 / 5004 : 93%
ANT NAME: TRMR8-4 NONE QUALITY IND. 15.18/ 33.29
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.324

REF FRAME:	NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2014.37478)	
X:	1338587.693(m)	0.006(m)	1338586.845(m)	0.006(m)
Y:	-4427849.409(m)	0.018(m)	-4427848.001(m)	0.018(m)
Z:	4376676.315(m)	0.015(m)	4376676.298(m)	0.015(m)
LAT:	43 36 26.17464	0.004(m)	43 36 26.20985	0.004(m)
E LON:	286 49 14.32455	0.003(m)	286 49 14.30652	0.003(m)
W LON:	73 10 45.67545	0.003(m)	73 10 45.69348	0.003(m)
EL HGT:	111.799(m)	0.023(m)	110.634(m)	0.023(m)
ORTHO HGT:	140.765(m)	0.026(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4829865.135	123230.765
Easting (X) [meters]	646929.280	445155.345
Convergence [degrees]	1.25594414	-0.46857006
Point Scale	0.99986554	1.00000127
Combined Factor	0.99984801	0.99998374

US NATIONAL GRID DESIGNATOR: 18TXP4692929865(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	59247.2
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	67363.6
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	72952.1
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	79011.8
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	80538.0
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	87118.0
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	90670.4
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	96563.8
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	95786.7

UA-09 SESSION 1 FILE: 08863120.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886312m.13o TIME: 23:25:29 UTC

SOFTWARE: rsgps 1.37 RS90.prl 1.89 START: 2013/11/08 12:38:30
EPHEMERIS: igs17655.eph [precise] STOP: 2013/11/08 12:59:15
NAV FILE: brdc3120.13n OBS USED: 1435 / 1799 : 80%
ANT NAME: TRM55971.00 NONE QUALITY IND. 13.17/ 15.89
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.311

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.85352)

X:	1298812.479(m)	0.038(m)	1298811.633(m)	0.038(m)
Y:	-4329627.624(m)	0.063(m)	-4329626.231(m)	0.063(m)
Z:	4484707.033(m)	0.036(m)	4484707.027(m)	0.036(m)
LAT:	44 57 58.76611	0.064(m)	44 57 58.80208	0.064(m)
E LON:	286 41 53.96590	0.019(m)	286 41 53.94719	0.019(m)
W LON:	73 18 6.03410	0.019(m)	73 18 6.05281	0.019(m)
EL HGT:	8.107(m)	0.046(m)	6.986(m)	0.046(m)
ORTHO HGT:	37.481(m)	0.048(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES (UTM (Zone 18))	STATE PLANE COORDINATES (SPC (4400 VT))
Northing (Y) [meters]	4980612.391	274328.858
Easting (X) [meters]	633932.338	436755.610
Convergence [degrees]	1.20036803	-0.56655605
Point Scale	0.99982057	1.00001345
Combined Factor	0.99981930	1.00001218

US NATIONAL GRID DESIGNATOR: 18TXQ3393280612(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	24597.1
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	33947.7
DI0602	NYML MALONE CORS ARP	N445215.384	W0741717.343	78608.9
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	86194.2
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	89900.5
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	119265.1
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	126943.4

UA-09 SESSION 2 FILE: 08863127.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886312r.13o TIME: 23:23:24 UTC

SOFTWARE: rsgps 1.37 RS81.prl 1.89 START: 2013/11/08 17:39:30
EPHEMERIS: igs17655.eph [precise] STOP: 2013/11/08 18:00:15
NAV FILE: brdc3120.13n OBS USED: 2439 / 2529 : 96%
ANT NAME: TRM55971.00 NONE QUALITY IND. 11.62/ 12.95
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.312

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000) (EPOCH:2013.85409)		IGS08	
X:	1298812.472(m)	0.006(m)	1298811.626(m)	0.006(m)
Y:	-4329627.612(m)	0.017(m)	-4329626.219(m)	0.017(m)
Z:	4484707.023(m)	0.015(m)	4484707.017(m)	0.015(m)
LAT:	44 57 58.76619	0.003(m)	44 57 58.80216	0.003(m)
E LON:	286 41 53.96575	0.003(m)	286 41 53.94704	0.003(m)
W LON:	73 18 6.03425	0.003(m)	73 18 6.05296	0.003(m)
EL HGT:	8.090(m)	0.023(m)	6.970(m)	0.023(m)
ORTHO HGT:	37.464(m)	0.026(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4980612.393	274328.861
Easting (X) [meters]	633932.335	436755.607
Convergence [degrees]	1.20036800	-0.56655608
Point Scale	0.99982057	1.00001345
Combined Factor	0.99981930	1.00001218

US NATIONAL GRID DESIGNATOR: 18TXQ3393280612(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	24597.1
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	33947.7
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	55849.9
DI0602	NYML MALONE CORS ARP	N445215.384	W0741717.343	78608.8
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	86194.2
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	89900.5
DL3079	VTIP ISLAND POND CORS ARP	N444912.180	W0715325.838	112652.1
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	119265.1
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	126943.4

UA-10 SESSION 1 FILE: 10673204.13o OP1388770259386

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067320r.13o TIME: 17:37:45 UTC

SOFTWARE: rsgps 1.37 RS53.prl 1.89 START: 2013/11/16 17:31:54
EPHEMERIS: igs17666.eph [precise] STOP: 2013/11/16 17:52:24
NAV FILE: brdc3200.13n OBS USED: 1845 / 2133 : 86%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 19.44/ 9.60
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.338

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2013.87599)	
X:	1375487.556(m)	0.010(m)	1375486.717(m)	0.010(m)
Y:	-4430367.345(m)	0.021(m)	-4430365.932(m)	0.021(m)
Z:	4363150.653(m)	0.019(m)	4363150.635(m)	0.019(m)
LAT:	43 26 13.48977	0.009(m)	43 26 13.52495	0.009(m)
E LON:	287 14 52.43851	0.006(m)	287 14 52.42151	0.006(m)
W LON:	72 45 7.56149	0.006(m)	72 45 7.57849	0.006(m)
EL HGT:	381.409(m)	0.028(m)	380.236(m)	0.028(m)
ORTHO HGT:	408.645(m)	0.031(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4811808.025	104129.417
Easting (X) [meters]	681921.155	479590.521
Convergence [degrees]	1.54598308	-0.17333415
Point Scale	1.00000711	0.99996941
Combined Factor	0.99994730	0.99990960

US NATIONAL GRID DESIGNATOR: 18TXP8192111808(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	21950.4
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	26358.4
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	57067.0
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	66417.1
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	70246.9
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	81625.1
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	92667.2
DL9078	NHCO NHDOT CONCORD CORS ARP	N431246.195	W0713111.475	103007.7
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	106733.1

UA-10 SESSION 2 FILE: 1067320C.13o OP1388770259386

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067320v.13o TIME: 17:36:19 UTC

SOFTWARE: rsgps 1.37 RS54.prl 1.89 START: 2013/11/16 21:18:38
EPHEMERIS: igs17666.eph [precise] STOP: 2013/11/16 21:39:28
NAV FILE: brdc3200.13n OBS USED: 2043 / 2187 : 93%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 6.15/ 8.21
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.326

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.87643)

X:	1375487.560(m)	0.004(m)	1375486.721(m)	0.004(m)
Y:	-4430367.348(m)	0.017(m)	-4430365.935(m)	0.017(m)
Z:	4363150.649(m)	0.018(m)	4363150.631(m)	0.018(m)
LAT:	43 26 13.48958	0.006(m)	43 26 13.52476	0.006(m)
E LON:	287 14 52.43864	0.005(m)	287 14 52.42165	0.005(m)
W LON:	72 45 7.56136	0.005(m)	72 45 7.57835	0.005(m)
EL HGT:	381.409(m)	0.024(m)	380.236(m)	0.024(m)
ORTHO HGT:	408.645(m)	0.027(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4811808.020	104129.411
Easting (X) [meters]	681921.159	479590.524
Convergence [degrees]	1.54598311	-0.17333412
Point Scale	1.00000711	0.99996941
Combined Factor	0.99994730	0.99990960

US NATIONAL GRID DESIGNATOR: 18TXP8192111808(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	21950.4
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	26358.4
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	57067.0
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	66417.1
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	70246.9
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	81625.1
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	92667.2
DL9078	NHCO NHDOT CONCORD CORS ARP	N431246.195	W0713111.475	103007.7
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	106733.1

UA-11 SESSION 1 FILE: 10673235.13o OP1389040562596

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 1067323s.13o TIME: 21:05:18 UTC

SOFTWARE: rsgps 1.37 RS91.prl 1.89 START: 2013/11/19 18:42:24
EPHEMERIS: igs17672.eph [precise] STOP: 2013/11/19 19:03:35
NAV FILE: brdc3230.13n OBS USED: 602 / 882 :
68%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 8.48/ 12.36
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.353

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08
(EPOCH:2013.88435)

X:	1364216.447(m)	0.025(m)	1364215.606(m)	0.025(m)
Y:	-4412474.571(m)	0.054(m)	-4412473.162(m)	0.054(m)
Z:	4384642.729(m)	0.022(m)	4384642.713(m)	0.022(m)
LAT:	43 42 14.17889	0.025(m)	43 42 14.21421	0.025(m)
E LON:	287 10 48.64223	0.010(m)	287 10 48.62493	0.010(m)
W LON:	72 49 11.35777	0.010(m)	72 49 11.37507	0.010(m)
EL HGT:	394.931(m)	0.057(m)	393.767(m)	0.057(m)
ORTHO HGT:	422.299(m)	0.059(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4841300.541	133796.160
Easting (X) [meters]	675662.680	474222.030
Convergence [degrees]	1.50673929	-0.22097623
Point Scale	0.99997956	0.99997246
Combined Factor	0.99991764	0.99991054

US NATIONAL GRID DESIGNATOR: 18TXP7566241300(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	16779.1
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	31407.4
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	41810.1
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	42287.3
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	54497.1
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	90267.0
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	96334.6

UA-11 SESSION 2 FILE: 10671392.14o OP1400859013243

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: dgedenk@quantumspatial.com DATE: May 23, 2014
RINEX FILE: 1067139q.14o TIME: 15:36:52 UTC

SOFTWARE: rsgps 1.37 RS90.prl 1.99.2 START: 2014/05/19 16:31:59
EPHEMERIS: igr17931.eph [rapid] STOP: 2014/05/19 17:17:28
NAV FILE: brdc1390.14n OBS USED: 1062 / 3330 : 32%
ANT NAME: TRMR8-4 NONE QUALITY IND. 17.58/ 13.77
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.367

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2014.38001)

X:	1364216.424(m)	0.011(m)	1364215.575(m)	0.011(m)
Y:	-4412474.520(m)	0.028(m)	-4412473.112(m)	0.028(m)
Z:	4384642.698(m)	0.035(m)	4384642.684(m)	0.035(m)
LAT:	43 42 14.17940	0.008(m)	43 42 14.21480	0.008(m)
E LON:	287 10 48.64192	0.006(m)	287 10 48.62427	0.006(m)
W LON:	72 49 11.35808	0.006(m)	72 49 11.37573	0.006(m)
EL HGT:	394.869(m)	0.045(m)	393.706(m)	0.045(m)
ORTHO HGT:	422.237(m)	0.046(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4841300.557	133796.176
Easting (X) [meters]	675662.673	474222.024
Convergence [degrees]	1.50673923	-0.22097629
Point Scale	0.99997956	0.99997246
Combined Factor	0.99991765	0.99991055

US NATIONAL GRID DESIGNATOR: 18TXP7566241300(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	54497.1
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	64867.7
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	75489.9
DP1320	MABN BERNARDSTON CORS ARP	N424011.991	W0723228.643	117080.6
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	117767.5
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	90267.0
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	96334.6
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	96510.0
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	107031.2

UA-12 SESSION 1 FILE: 10673223.13o OP1388771144306

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067322q.13o TIME: 17:52:17 UTC

SOFTWARE: rsgps 1.37 RS51.prl 1.89 START: 2013/11/18 16:16:03
EPHEMERIS: igs17671.eph [precise] STOP: 2013/11/18 16:36:34
NAV FILE: brdc3220.13n OBS USED: 2583 / 2952 : 88%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 8.54/ 8.06
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.351

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.88133)

X:	1355984.796(m)	0.008(m)	1355983.956(m)	0.008(m)
Y:	-4424916.006(m)	0.015(m)	-4424914.596(m)	0.015(m)
Z:	4374378.042(m)	0.018(m)	4374378.025(m)	0.018(m)
LAT:	43 34 41.76015	0.005(m)	43 34 41.79536	0.005(m)
E LON:	287 2 14.35113	0.007(m)	287 2 14.33375	0.007(m)
W LON:	72 57 45.64887	0.007(m)	72 57 45.66625	0.007(m)
EL HGT:	163.546(m)	0.023(m)	162.380(m)	0.023(m)
ORTHO HGT:	191.594(m)	0.026(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4827050.046	119888.161
Easting (X) [meters]	664494.616	462629.644
Convergence [degrees]	1.40472977	-0.31894990
Point Scale	0.99993284	0.99998146
Combined Factor	0.99990720	0.99995581

US NATIONAL GRID DESIGNATOR: 18TXP6449427050(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	25503.7
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	49143.6
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	79664.4
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	83306.4
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	89186.6
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	92814.6
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	100777.9
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	108448.7
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	113896.3

UA-12 SESSION 2 FILE: 1067322A.13o OP1388771144306

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067322u.13o TIME: 17:50:40 UTC

SOFTWARE: rsgps 1.37 RS93.prl 1.89 START: 2013/11/18 20:24:20
EPHEMERIS: igs17671.eph [precise] STOP: 2013/11/18 20:44:49
NAV FILE: brdc3220.13n OBS USED: 1836 / 2376 : 77%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 8.11/ 7.61
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.312

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.88180)

X:	1355984.780(m)	0.005(m)	1355983.940(m)	0.005(m)
Y:	-4424915.966(m)	0.007(m)	-4424914.556(m)	0.007(m)
Z:	4374378.011(m)	0.009(m)	4374377.994(m)	0.009(m)
LAT:	43 34 41.76038	0.005(m)	43 34 41.79559	0.005(m)
E LON:	287 2 14.35097	0.003(m)	287 2 14.33359	0.003(m)
W LON:	72 57 45.64903	0.003(m)	72 57 45.66641	0.003(m)
EL HGT:	163.494(m)	0.011(m)	162.327(m)	0.011(m)
ORTHO HGT:	191.542(m)	0.017(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4827050.053	119888.168
Easting (X) [meters]	664494.612	462629.640
Convergence [degrees]	1.40472974	-0.31894993
Point Scale	0.99993284	0.99998146
Combined Factor	0.99990720	0.99995582

US NATIONAL GRID DESIGNATOR: 18TXP6449427050(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	25503.7
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	49143.6
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	79664.4
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	83306.4
DI0622	NYST SARATOGA CORS ARP	N430341.735	W0734815.010	89186.6
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	92814.6
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	100777.9
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	108448.7
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	113896.3

UA-13 SESSION 1 FILE: 08863155.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886315r.13o TIME: 23:45:31 UTC

SOFTWARE: rsgps 1.37 RS53.prl 1.89 START: 2013/11/11 17:17:20
EPHEMERIS: igs17661.eph [precise] STOP: 2013/11/11 17:38:30
NAV FILE: brdc3150.13n OBS USED: 1792 / 1883 :
95%
ANT NAME: TRM55971.00 NONE QUALITY IND. 15.99/ 29.53
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.337

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08
(EPOCH:2013.86227)

X:	1317272.276(m)	0.013(m)	1317271.435(m)	0.013(m)
Y:	-4410308.297(m)	0.042(m)	-4410306.893(m)	0.042(m)
Z:	4400495.785(m)	0.036(m)	4400495.769(m)	0.036(m)
LAT:	43 54 17.50582	0.006(m)	43 54 17.54108	0.006(m)
E LON:	286 37 47.45986	0.005(m)	286 37 47.44175	0.005(m)
W LON:	73 22 12.54014	0.005(m)	73 22 12.55825	0.005(m)
EL HGT:	20.596(m)	0.057(m)	19.442(m)	0.057(m)
ORTHO HGT:	49.688(m)	0.058(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4862597.328	156438.115
Easting (X) [meters]	630881.096	430099.543
Convergence [degrees]	1.13040054	-0.60344117
Point Scale	0.99981069	1.00002436
Combined Factor	0.99980746	1.00002113

US NATIONAL GRID DESIGNATOR: 18TXP3088162597(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	20334.0
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	45657.6
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	61692.4
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	71727.4
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	99962.5
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	103056.9
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	114418.8

UA-13 SESSION 2 FILE: 0886315B.13o OP1389282938444

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: dgedenk@photoscience.com DATE: January 09, 2014
RINEX FILE: 0886315v.13o TIME: 18:17:39 UTC

SOFTWARE: rsgps 1.37 RS50.prl 1.89 START: 2013/11/11 21:40:15
EPHEMERIS: igs17661.eph [precise] STOP: 2013/11/11 22:01:12
NAV FILE: brdc3150.13n OBS USED: 1701 / 1917 : 89%
ANT NAME: TRM55971.00 NONE QUALITY IND. 14.23/ 9.69
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.315

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000) (EPOCH:2013.86277)		IGS08	
X:	1317272.271(m)	0.006(m)	1317271.430(m)	0.006(m)
Y:	-4410308.279(m)	0.027(m)	-4410306.875(m)	0.027(m)
Z:	4400495.784(m)	0.032(m)	4400495.768(m)	0.032(m)
LAT:	43 54 17.50622	0.007(m)	43 54 17.54148	0.007(m)
E LON:	286 37 47.45988	0.006(m)	286 37 47.44177	0.006(m)
W LON:	73 22 12.54012	0.006(m)	73 22 12.55823	0.006(m)
EL HGT:	20.582(m)	0.041(m)	19.428(m)	0.041(m)
ORTHO HGT:	49.674(m)	0.043(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4862597.340	156438.127
Easting (X) [meters]	630881.097	430099.544
Convergence [degrees]	1.13040055	-0.60344117
Point Scale	0.99981069	1.00002436
Combined Factor	0.99980746	1.00002113

US NATIONAL GRID DESIGNATOR: 18TXP3088162597(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	20334.0
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	36517.7
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	45657.6
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	61692.4
DK4434	HDF6 HUDSON FALLS 6 CORS ARP	N431615.821	W0733220.718	71727.4
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	86470.2
DJ8961	VTSP SPRINGFIELD VT CORS ARP	N431653.241	W0722839.238	99962.5
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	103056.9
DK8255	VTBE BENNINGTON CORS ARP	N425257.029	W0731159.648	114418.8

UA-14 SESSION 1 FILE: 08863177.13o OP1389282938444

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: dgedenk@photoscience.com DATE: January 09, 2014
RINEX FILE: 0886317s.13o TIME: 18:13:41 UTC

SOFTWARE: rsgps 1.37 RS82.prl 1.89 START: 2013/11/13 18:49:47
EPHEMERIS: igs17663.eph [precise] STOP: 2013/11/13 19:10:45
NAV FILE: brdc3170.13n OBS USED: 1773 / 1773 :
100%
ANT NAME: TRM55971.00 NONE QUALITY IND. 15.33/ 21.39
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.321

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08
(EPOCH:2013.86792)

X:	1310627.880(m)	0.005(m)	1310627.038(m)	0.005(m)
Y:	-4401719.299(m)	0.006(m)	-4401717.896(m)	0.006(m)
Z:	4410979.126(m)	0.007(m)	4410979.111(m)	0.007(m)
LAT:	44 2 9.82040	0.002(m)	44 2 9.85575	0.002(m)
E LON:	286 34 51.92697	0.004(m)	286 34 51.90871	0.004(m)
W LON:	73 25 8.07303	0.004(m)	73 25 8.09129	0.004(m)
EL HGT:	8.774(m)	0.009(m)	7.624(m)	0.009(m)
ORTHO HGT:	37.736(m)	0.016(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4877093.285	171057.759
Easting (X) [meters]	626686.316	426344.967
Convergence [degrees]	1.09917929	-0.63877246
Point Scale	0.99979739	1.00003098
Combined Factor	0.99979601	1.00002960

US NATIONAL GRID DESIGNATOR: 18TXP2668677093(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	21609.0
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	51267.3
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	59341.7
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	66296.9
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	71480.0
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	83534.1
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	89975.7
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	99117.8
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	104642.2

UA-14 SESSION 2 FILE: 08863183.13o OP1389282938444

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: dgedenk@photoscience.com DATE: January 09, 2014
RINEX FILE: 0886318o.13o TIME: 17:37:10 UTC

SOFTWARE: rsgps 1.37 RS82.prl 1.89 START: 2013/11/14 14:17:47
EPHEMERIS: igs17664.eph [precise] STOP: 2013/11/14 14:38:55
NAV FILE: brdc3180.13n OBS USED: 1176 / 1176 :
100%
ANT NAME: TRM55971.00 NONE QUALITY IND. 12.97/ 17.65
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.319

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08
(EPOCH:2013.87015)

X:	1310627.878(m)	0.009(m)	1310627.036(m)	0.009(m)
Y:	-4401719.287(m)	0.026(m)	-4401717.884(m)	0.026(m)
Z:	4410979.112(m)	0.019(m)	4410979.097(m)	0.019(m)
LAT:	44 2 9.82035	0.007(m)	44 2 9.85570	0.007(m)
E LON:	286 34 51.92703	0.004(m)	286 34 51.90877	0.004(m)
W LON:	73 25 8.07297	0.004(m)	73 25 8.09123	0.004(m)
EL HGT:	8.755(m)	0.032(m)	7.605(m)	0.032(m)
ORTHO HGT:	37.717(m)	0.035(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4877093.283	171057.757
Easting (X) [meters]	626686.317	426344.968
Convergence [degrees]	1.09917930	-0.63877244
Point Scale	0.99979739	1.00003098
Combined Factor	0.99979602	1.00002961

US NATIONAL GRID DESIGNATOR: 18TXP2668677093(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	21609.0
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	51267.3
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	59341.7
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	66296.9
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	71480.0
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	83534.1
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	99117.8

UA-15 SESSION 1 FILE: 3076312D.13o OP1389041010150

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 3076312w.13o TIME: 22:39:17 UTC

SOFTWARE: rsgps 1.37 RS93.prl 1.89 START: 2013/11/08 22:24:35
EPHEMERIS: igs17655.eph [precise] STOP: 2013/11/08 22:46:05
NAV FILE: brdc3120.13n OBS USED: 602 / 679 : 89%
ANT NAME: TRM55971.00 NONE QUALITY IND. 18.52/ 19.33
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.277

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.85463)

X:	1360437.109(m)	0.011(m)	1360436.266(m)	0.011(m)
Y:	-4365243.526(m)	0.013(m)	-4365242.123(m)	0.013(m)
Z:	4432125.446(m)	0.033(m)	4432125.436(m)	0.033(m)
LAT:	44 18 1.19558	0.024(m)	44 18 1.23133	0.024(m)
E LON:	287 18 35.10936	0.009(m)	287 18 35.09189	0.009(m)
W LON:	72 41 24.89064	0.009(m)	72 41 24.90811	0.009(m)
EL HGT:	127.840(m)	0.028(m)	126.694(m)	0.028(m)
ORTHO HGT:	155.487(m)	0.030(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4907825.420	200028.333
Easting (X) [meters]	684246.977	484818.704
Convergence [degrees]	1.61362843	-0.13287273
Point Scale	1.00001750	0.99996712
Combined Factor	0.99999745	0.99994708

US NATIONAL GRID DESIGNATOR: 18TXQ8424607825(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	9608.4
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	34683.5
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	44593.6
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	54088.0
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	64558.1
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	68648.0
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	74007.3

UA-15 SESSION 2 FILE: 30763177.13o OP1389281637250

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: dgedenk@photoscience.com DATE: January 09, 2014
RINEX FILE: 3076317s.13o TIME: 16:55:24 UTC

SOFTWARE: rsgps 1.37 RS92.prl 1.89 START: 2013/11/13 18:08:16
EPHEMERIS: igs17663.eph [precise] STOP: 2013/11/13 18:28:48
NAV FILE: brdc3170.13n OBS USED: 2187 / 2205 : 99%
ANT NAME: TRM55971.00 NONE QUALITY IND. 19.31/ 25.02
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.345

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.86784)

X:	1360437.097(m)	0.006(m)	1360436.253(m)	0.006(m)
Y:	-4365243.528(m)	0.017(m)	-4365242.125(m)	0.017(m)
Z:	4432125.388(m)	0.018(m)	4432125.379(m)	0.018(m)
LAT:	44 18 1.19427	0.004(m)	44 18 1.23005	0.004(m)
E LON:	287 18 35.10882	0.002(m)	287 18 35.09130	0.002(m)
W LON:	72 41 24.89118	0.002(m)	72 41 24.90870	0.002(m)
EL HGT:	127.798(m)	0.025(m)	126.653(m)	0.025(m)
ORTHO HGT:	155.445(m)	0.028(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4907825.380	200028.293
Easting (X) [meters]	684246.966	484818.692
Convergence [degrees]	1.61362832	-0.13287284
Point Scale	1.00001750	0.99996712
Combined Factor	0.99999746	0.99994708

US NATIONAL GRID DESIGNATOR: 18TXQ8424607825(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	9608.4
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	27333.3
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	34683.6
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	40723.1
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	44593.6
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	49922.9
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	54088.0
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	64558.2
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	68647.9

UA-16 SESSION 1 FILE: 10673172.13o OP1388767887555

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067317p.13o TIME: 16:56:25 UTC

SOFTWARE: rsgps 1.37 RS50.prl 1.89 START: 2013/11/13 15:34:56
EPHEMERIS: igs17663.eph [precise] STOP: 2013/11/13 15:55:23
NAV FILE: brdc3170.13n OBS USED: 1431 / 1476 : 97%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 26.65/ 17.27
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.294

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2013.86755)	
X:	1341855.571(m)	0.008(m)	1341854.729(m)	0.008(m)
Y:	-4384764.261(m)	0.026(m)	-4384762.858(m)	0.026(m)
Z:	4418953.587(m)	0.024(m)	4418953.575(m)	0.024(m)
LAT:	44 7 57.84155	0.004(m)	44 7 57.87709	0.004(m)
E LON:	287 0 55.86152	0.002(m)	287 0 55.84377	0.002(m)
W LON:	72 59 4.13848	0.002(m)	72 59 4.15623	0.002(m)
EL HGT:	380.076(m)	0.036(m)	378.928(m)	0.036(m)
ORTHO HGT:	407.895(m)	0.038(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4888590.559	181502.600
Easting (X) [meters]	661232.663	461229.575
Convergence [degrees]	1.40375218	-0.33736076
Point Scale	0.99991973	0.99998277
Combined Factor	0.99986014	0.99992318

US NATIONAL GRID DESIGNATOR: 18TXP6123288590(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	20090.1
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	31184.4
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	35208.4
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	41088.0
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	45285.5
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	58404.6
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	64647.2
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	71079.5
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	75562.5

UA-16 SESSION 2 FILE: 10673178.13o OP1388767887555

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067317s.13o TIME: 16:56:05 UTC

SOFTWARE: rsgps 1.37 RS83.prl 1.89 START: 2013/11/13 18:55:28
EPHEMERIS: igs17663.eph [precise] STOP: 2013/11/13 19:17:01
NAV FILE: brdc3170.13n OBS USED: 1584 / 1764 : 90%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 16.60/ 17.69
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.290

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000) (EPOCH:2013.86793)		IGS08	
X:	1341855.586(m)	0.006(m)	1341854.744(m)	0.006(m)
Y:	-4384764.285(m)	0.015(m)	-4384762.882(m)	0.015(m)
Z:	4418953.612(m)	0.016(m)	4418953.600(m)	0.016(m)
LAT:	44 7 57.84151	0.003(m)	44 7 57.87706	0.003(m)
E LON:	287 0 55.86185	0.003(m)	287 0 55.84410	0.003(m)
W LON:	72 59 4.13815	0.003(m)	72 59 4.15590	0.003(m)
EL HGT:	380.113(m)	0.022(m)	378.965(m)	0.022(m)
ORTHO HGT:	407.932(m)	0.026(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4888590.558	181502.599
Easting (X) [meters]	661232.671	461229.583
Convergence [degrees]	1.40375225	-0.33736069
Point Scale	0.99991973	0.99998277
Combined Factor	0.99986014	0.99992317

US NATIONAL GRID DESIGNATOR: 18TXP6123288590(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	20090.1
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	31184.4
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	35208.4
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	41088.0
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	45285.5
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	58404.6
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	64647.2
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	71079.5
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	75562.5

UA-17 SESSION 1 FILE: 30763135.13o OP1389041010150

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 3076313r.13o TIME: 22:34:36 UTC

SOFTWARE: rsgps 1.37 RS83.prl 1.89 START: 2013/11/09 17:08:55
EPHEMERIS: igs17656.eph [precise] STOP: 2013/11/09 17:31:05
NAV FILE: brdc3130.13n OBS USED: 1215 / 1620 : 75%
ANT NAME: TRM55971.00 NONE QUALITY IND. 24.27/ 18.89
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.318

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.85677)

X:	1352870.047(m)	0.006(m)	1352869.204(m)	0.006(m)
Y:	-4376561.999(m)	0.023(m)	-4376560.596(m)	0.023(m)
Z:	4423410.725(m)	0.027(m)	4423410.714(m)	0.027(m)
LAT:	44 11 25.29589	0.008(m)	44 11 25.33153	0.008(m)
E LON:	287 10 38.17957	0.006(m)	287 10 38.16196	0.006(m)
W LON:	72 49 21.82043	0.006(m)	72 49 21.83804	0.006(m)
EL HGT:	184.072(m)	0.035(m)	182.924(m)	0.035(m)
ORTHO HGT:	211.633(m)	0.037(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4895321.126	187842.040
Easting (X) [meters]	674003.018	474199.045
Convergence [degrees]	1.51803504	-0.22495693
Point Scale	0.99997238	0.99997247
Combined Factor	0.99994352	0.99994361

US NATIONAL GRID DESIGNATOR: 18TXP7400395321(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	20788.2
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	32974.6
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	43077.1
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	50763.8
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	57418.6
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	66016.6
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	71792.2
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	94405.4
DJ8955	VTD9 DERBY CORS ARP	N445703.499	W0720936.723	99568.4

UA-17 SESSION 2 FILE: 30763139.13o OP1389281637250

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: dgedenk@photoscience.com DATE: January 09, 2014
RINEX FILE: 3076313u.13o TIME: 16:46:02 UTC

SOFTWARE: rsgps 1.37 RS54.prl 1.89 START: 2013/11/09 20:36:25
EPHEMERIS: igs17656.eph [precise] STOP: 2013/11/09 21:00:10
NAV FILE: brdc3130.13n OBS USED: 952 / 1358 : 70%
ANT NAME: TRM55971.00 NONE QUALITY IND. 21.24/ 10.56
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.307

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.85717)

X:	1352870.053(m)	0.007(m)	1352869.210(m)	0.007(m)
Y:	-4376561.987(m)	0.020(m)	-4376560.584(m)	0.020(m)
Z:	4423410.725(m)	0.020(m)	4423410.714(m)	0.020(m)
LAT:	44 11 25.29611	0.010(m)	44 11 25.33175	0.010(m)
E LON:	287 10 38.17999	0.008(m)	287 10 38.16238	0.008(m)
W LON:	72 49 21.82001	0.008(m)	72 49 21.83762	0.008(m)
EL HGT:	184.065(m)	0.026(m)	182.917(m)	0.026(m)
ORTHO HGT:	211.626(m)	0.029(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4895321.133	187842.046
Easting (X) [meters]	674003.027	474199.055
Convergence [degrees]	1.51803512	-0.22495685
Point Scale	0.99997238	0.99997247
Combined Factor	0.99994352	0.99994361

US NATIONAL GRID DESIGNATOR: 18TXP7400395321(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	20788.2
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	32974.6
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	43077.1
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	50763.8
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	57418.6
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	66016.6
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	94405.4

UA-18 SESSION 1 FILE: 30763123.13o OP1389041010150

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 3076312q.13o TIME: 21:59:48 UTC

SOFTWARE: rsgps 1.37 RS83.prl 1.89 START: 2013/11/08 16:31:40
EPHEMERIS: igs17655.eph [precise] STOP: 2013/11/08 16:55:35
NAV FILE: brdc3120.13n OBS USED: 768 / 1352 : 57%
ANT NAME: TRM55971.00 NONE QUALITY IND. 3.22/ 13.68
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.278

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.85396)

X:	1354263.773(m)	0.005(m)	1354262.930(m)	0.005(m)
Y:	-4363704.173(m)	0.024(m)	-4363702.771(m)	0.024(m)
Z:	4435471.217(m)	0.020(m)	4435471.208(m)	0.020(m)
LAT:	44 20 33.51321	0.004(m)	44 20 33.54898	0.004(m)
E LON:	287 14 29.71749	0.005(m)	287 14 29.69991	0.005(m)
W LON:	72 45 30.28251	0.005(m)	72 45 30.30009	0.005(m)
EL HGT:	102.264(m)	0.031(m)	101.121(m)	0.031(m)
ORTHO HGT:	129.936(m)	0.033(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4912374.190	204744.516
Easting (X) [meters]	678680.958	479394.158
Convergence [degrees]	1.56716618	-0.18061698
Point Scale	0.99999265	0.99996951
Combined Factor	0.99997662	0.99995348

US NATIONAL GRID DESIGNATOR: 18TXQ7868012374(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	16664.0
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	36289.3
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	46510.7
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	57874.5
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	66859.3
DJ8955	VTD9 DERBY CORS ARP	N445703.499	W0720936.723	82596.3
DL3079	VTIP ISLAND POND CORS ARP	N444912.180	W0715325.838	86981.5
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	105382.2

UA-18 SESSION 2 FILE: 3076312A.13o OP1389281637250

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: dgedenk@photoscience.com DATE: January 09, 2014
RINEX FILE: 3076312u.13o TIME: 17:22:19 UTC

SOFTWARE: rsgps 1.37 RS50.prl 1.89 START: 2013/11/08 20:52:10
EPHEMERIS: igs17655.eph [precise] STOP: 2013/11/08 21:15:20
NAV FILE: brdc3120.13n OBS USED: 1323 / 1809 : 73%
ANT NAME: TRM55971.00 NONE QUALITY IND. 21.45/ 12.41
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.329

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.85446)

X:	1354263.766(m)	0.008(m)	1354262.923(m)	0.008(m)
Y:	-4363704.160(m)	0.036(m)	-4363702.758(m)	0.036(m)
Z:	4435471.225(m)	0.038(m)	4435471.216(m)	0.038(m)
LAT:	44 20 33.51372	0.008(m)	44 20 33.54949	0.008(m)
E LON:	287 14 29.71736	0.007(m)	287 14 29.69978	0.007(m)
W LON:	72 45 30.28264	0.007(m)	72 45 30.30022	0.007(m)
EL HGT:	102.259(m)	0.052(m)	101.116(m)	0.052(m)
ORTHO HGT:	129.931(m)	0.053(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4912374.206	204744.532
Easting (X) [meters]	678680.955	479394.155
Convergence [degrees]	1.56716616	-0.18061701
Point Scale	0.99999265	0.99996951
Combined Factor	0.99997662	0.99995348

US NATIONAL GRID DESIGNATOR: 18TXQ7868012374(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	16664.0
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	36289.3
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	46510.7
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	49550.0
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	57874.4
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	63538.2
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	66859.3
DJ8955	VTD9 DERBY CORS ARP	N445703.499	W0720936.723	82596.3
DL3079	VTIP ISLAND POND CORS ARP	N444912.180	W0715325.838	86981.5

UA-19 SESSION 1 FILE: 10673118.13o OP1388764629196

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067311r.13o TIME: 16:02:21 UTC

SOFTWARE: rsgps 1.37 RS91.prl 1.89 START: 2013/11/07 17:57:36
EPHEMERIS: igs17654.eph [precise] STOP: 2013/11/07 18:19:36
NAV FILE: brdc3110.13n OBS USED: 2601 / 2691 : 97%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 21.34/ 3.02
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.358

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.85139)

X:	1302711.711(m)	0.008(m)	1302710.866(m)	0.008(m)
Y:	-4341264.982(m)	0.021(m)	-4341263.588(m)	0.021(m)
Z:	4472399.422(m)	0.014(m)	4472399.415(m)	0.014(m)
LAT:	44 48 35.84872	0.006(m)	44 48 35.88459	0.006(m)
E LON:	286 42 11.76010	0.007(m)	286 42 11.74150	0.007(m)
W LON:	73 17 48.23990	0.007(m)	73 17 48.25850	0.007(m)
EL HGT:	13.325(m)	0.025(m)	12.201(m)	0.025(m)
ORTHO HGT:	42.439(m)	0.028(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4963250.597	256948.742
Easting (X) [meters]	634686.659	436975.018
Convergence [degrees]	1.20056982	-0.56152219
Point Scale	0.99982307	1.00001311
Combined Factor	0.99982098	1.00001102

US NATIONAL GRID DESIGNATOR: 18TXQ3468663250(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	16941.9
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	38667.9
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	69464.4
DI0602	NYML MALONE CORS ARP	N445215.384	W0741717.343	78679.7
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	83256.8
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	90884.3
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	110811.2
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	129669.0
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	136038.6

UA-19 SESSION 2 FILE: 1067311G.13o OP1388764565697

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067311v.13o TIME: 16:02:59 UTC

SOFTWARE: rsgps 1.37 RS82.prl 1.89 START: 2013/11/07 21:51:08
EPHEMERIS: igs17654.eph [precise] STOP: 2013/11/07 22:14:23
NAV FILE: brdc3110.13n OBS USED: 2250 / 2466 : 91%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 7.65/ 21.24
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.337

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.85183)

X:	1302711.702(m)	0.008(m)	1302710.857(m)	0.008(m)
Y:	-4341264.952(m)	0.025(m)	-4341263.558(m)	0.025(m)
Z:	4472399.412(m)	0.023(m)	4472399.405(m)	0.023(m)
LAT:	44 48 35.84921	0.005(m)	44 48 35.88508	0.005(m)
E LON:	286 42 11.76010	0.008(m)	286 42 11.74150	0.008(m)
W LON:	73 17 48.23990	0.008(m)	73 17 48.25850	0.008(m)
EL HGT:	13.296(m)	0.033(m)	12.171(m)	0.033(m)
ORTHO HGT:	42.410(m)	0.036(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4963250.612	256948.757
Easting (X) [meters]	634686.659	436975.018
Convergence [degrees]	1.20056983	-0.56152219
Point Scale	0.99982307	1.00001311
Combined Factor	0.99982099	1.00001103

US NATIONAL GRID DESIGNATOR: 18TXQ3468663250(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	16941.9
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	38667.9
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	69464.4
DI0602	NYML MALONE CORS ARP	N445215.384	W0741717.343	78679.7
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	83256.8
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	110811.2
DJ8957	VTOX BRADFORD CORS ARP	N440028.165	W0720651.609	129669.0
DK4109	VTRU RUTLAND CORS ARP	N433625.639	W0725845.903	136038.6
DI0612	NYPD POTSDAM CORS ARP	N443909.059	W0750230.504	139333.9

UA-20 SESSION 1 FILE: 08863131.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886313o.13o TIME: 23:31:15 UTC

SOFTWARE: rsgps 1.37 RS51.prl 1.89 START: 2013/11/09 14:58:35
EPHEMERIS: igs17656.eph [precise] STOP: 2013/11/09 15:23:30
NAV FILE: brdc3130.13n OBS USED: 1295 / 1309 :
99%
ANT NAME: TRM55971.00 NONE QUALITY IND. 4.33/ 20.29
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.288

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08
(EPOCH:2013.85653)

X:	1296067.055(m)	0.009(m)	1296066.210(m)	0.009(m)
Y:	-4349246.059(m)	0.021(m)	-4349244.664(m)	0.021(m)
Z:	4466604.487(m)	0.020(m)	4466604.479(m)	0.020(m)
LAT:	44 44 11.55242	0.005(m)	44 44 11.58822	0.005(m)
E LON:	286 35 38.24344	0.005(m)	286 35 38.22474	0.005(m)
W LON:	73 24 21.75656	0.005(m)	73 24 21.77526	0.005(m)
EL HGT:	8.754(m)	0.029(m)	7.627(m)	0.029(m)
ORTHO HGT:	37.767(m)	0.031(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (3101 NY E)
Northing (Y) [meters]	4954920.014	656181.506
Easting (X) [meters]	626202.715	236640.768
Convergence [degrees]	1.12205049	0.77002669
Point Scale	0.99979586	0.99999228
Combined Factor	0.99979449	0.99999091

US NATIONAL GRID DESIGNATOR: 18TXQ2620254920(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	7274.1
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	26843.6
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	33993.2
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	59516.1
DI0602	NYML MALONE CORS ARP	N445215.384	W0741717.343	71369.3
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	84095.7
DJ8955	VTD9 DERBY CORS ARP	N445703.499	W0720936.723	101339.3

UA-20 SESSION 2 FILE: 08863133.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886313t.13o TIME: 23:48:42 UTC

SOFTWARE: rsgps 1.37 RS52.prl 1.89 START: 2013/11/09 19:58:45
EPHEMERIS: igs17656.eph [precise] STOP: 2013/11/09 20:23:25
NAV FILE: brdc3130.13n OBS USED: 518 / 679 : 76%
ANT NAME: TRM55971.00 NONE QUALITY IND. 11.30/ 5.99
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.259

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.85710)

X:	1296067.066(m)	0.007(m)	1296066.221(m)	0.007(m)
Y:	-4349246.057(m)	0.011(m)	-4349244.662(m)	0.011(m)
Z:	4466604.497(m)	0.016(m)	4466604.489(m)	0.016(m)
LAT:	44 44 11.55262	0.008(m)	44 44 11.58842	0.008(m)
E LON:	286 35 38.24395	0.005(m)	286 35 38.22525	0.005(m)
W LON:	73 24 21.75605	0.005(m)	73 24 21.77475	0.005(m)
EL HGT:	8.762(m)	0.018(m)	7.635(m)	0.018(m)
ORTHO HGT:	37.775(m)	0.021(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (3101 NY E)
Northing (Y) [meters]	4954920.020	656181.512
Easting (X) [meters]	626202.726	236640.779
Convergence [degrees]	1.12205059	0.77002679
Point Scale	0.99979586	0.99999228
Combined Factor	0.99979449	0.99999091

US NATIONAL GRID DESIGNATOR: 18TXQ2620254920(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	7274.1
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	26843.6
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	33993.2
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	59516.1
DI0602	NYML MALONE CORS ARP	N445215.384	W0741717.343	71369.3
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	84095.7
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	109298.5

UA-21 SESSION 1 FILE: 10673101.13o OP1388761999825

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067310r.13o TIME: 15:21:27 UTC

SOFTWARE: rsgps 1.37 RS80.prl 1.89 START: 2013/11/06 17:50:16
EPHEMERIS: igs17653.eph [precise] STOP: 2013/11/06 18:10:34
NAV FILE: brdc3100.13n OBS USED: 2079 / 2277 : 91%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 11.85/ 12.25
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.379

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.84863)

X:	1306857.665(m)	0.016(m)	1306856.821(m)	0.016(m)
Y:	-4357417.814(m)	0.021(m)	-4357416.417(m)	0.021(m)
Z:	4455560.332(m)	0.015(m)	4455560.323(m)	0.015(m)
LAT:	44 35 48.40165	0.020(m)	44 35 48.43739	0.020(m)
E LON:	286 41 41.31131	0.010(m)	286 41 41.29286	0.010(m)
W LON:	73 18 18.68869	0.010(m)	73 18 18.70714	0.010(m)
EL HGT:	11.415(m)	0.020(m)	10.283(m)	0.020(m)
ORTHO HGT:	40.517(m)	0.023(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4939556.160	233266.344
Easting (X) [meters]	634510.716	436071.760
Convergence [degrees]	1.19012504	-0.56535436
Point Scale	0.99982250	1.00001452
Combined Factor	0.99982071	1.00001273

US NATIONAL GRID DESIGNATOR: 18TXQ3451039556(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	15045.1
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	29458.8
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	46922.5
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	67572.9
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	75278.5
DI0602	NYML MALONE CORS ARP	N445215.384	W0741717.343	83610.0
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	92075.9
DJ8955	VTD9 DERBY CORS ARP	N445703.499	W0720936.723	98811.6
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	104136.9

UA-21 SESSION 2 FILE: 10673162.13o OP1388767206365

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067316s.13o TIME: 16:49:26 UTC

SOFTWARE: rsgps 1.37 RS53.prl 1.89 START: 2013/11/12 18:13:57
EPHEMERIS: igs17662.eph [precise] STOP: 2013/11/12 18:35:22
NAV FILE: brdc3160.13n OBS USED: 2529 / 2709 : 93%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 19.97/ 17.51
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.408

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.86512)

X:	1306857.641(m)	0.006(m)	1306856.797(m)	0.006(m)
Y:	-4357417.803(m)	0.014(m)	-4357416.406(m)	0.014(m)
Z:	4455560.344(m)	0.017(m)	4455560.335(m)	0.017(m)
LAT:	44 35 48.40232	0.011(m)	44 35 48.43807	0.011(m)
E LON:	286 41 41.31041	0.004(m)	286 41 41.29196	0.004(m)
W LON:	73 18 18.68959	0.004(m)	73 18 18.70804	0.004(m)
EL HGT:	11.411(m)	0.019(m)	10.279(m)	0.019(m)
ORTHO HGT:	40.513(m)	0.023(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4939556.181	233266.365
Easting (X) [meters]	634510.696	436071.740
Convergence [degrees]	1.19012487	-0.56535453
Point Scale	0.99982250	1.00001452
Combined Factor	0.99982071	1.00001273

US NATIONAL GRID DESIGNATOR: 18TXQ3451039556(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	15045.0
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	29458.8
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	46922.5
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	67572.9
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	75278.5
DI0602	NYML MALONE CORS ARP	N445215.384	W0741717.343	83610.0
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	92075.9
DJ8955	VTD9 DERBY CORS ARP	N445703.499	W0720936.723	98811.6
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	104136.9

UA-22 Session 1 FILE: 10673104.13o OP1388762014090

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067310t.13o TIME: 15:18:32 UTC

SOFTWARE: rsgps 1.37 RS83.prl 1.89 START: 2013/11/06 19:34:49
EPHEMERIS: igs17653.eph [precise] STOP: 2013/11/06 19:55:22
NAV FILE: brdc3100.13n OBS USED: 1431 / 1494 : 96%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 3.82/ 16.82
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.322

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2013.84883)	
X:	1304021.888(m)	0.007(m)	1304021.044(m)	0.007(m)
Y:	-4352742.885(m)	0.017(m)	-4352741.489(m)	0.017(m)
Z:	4460918.036(m)	0.016(m)	4460918.027(m)	0.016(m)
LAT:	44 39 52.37093	0.008(m)	44 39 52.40669	0.008(m)
E LON:	286 40 38.97355	0.005(m)	286 40 38.95503	0.005(m)
W LON:	73 19 21.02645	0.005(m)	73 19 21.04497	0.005(m)
EL HGT:	9.111(m)	0.022(m)	7.981(m)	0.022(m)
ORTHO HGT:	38.157(m)	0.025(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4947055.617	240810.626
Easting (X) [meters]	632981.517	434772.902
Convergence [degrees]	1.17937363	-0.57820575
Point Scale	0.99981747	1.00001659
Combined Factor	0.99981604	1.00001516

US NATIONAL GRID DESIGNATOR: 18TXQ3298147055(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	10578.3
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	23856.4
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	38184.0
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	53443.0
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	72265.2
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	77922.0
DJ8955	VTD9 DERBY CORS ARP	N445703.499	W0720936.723	97304.0
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	107256.4
DL3079	VTIP ISLAND POND CORS ARP	N444912.180	W0715325.838	114722.8

UA-22 Session 2 FILE: 10673112.13o OP1388764582228

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067311o.13o TIME: 16:02:08 UTC

SOFTWARE: rsgps 1.37 RS83.prl 1.89 START: 2013/11/07 14:52:49
EPHEMERIS: igs17654.eph [precise] STOP: 2013/11/07 15:13:22
NAV FILE: brdc3110.13n OBS USED: 1088 / 1728 : 63%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 7.28/ 5.04
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.364

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.85103)

X:	1304021.881(m)	0.010(m)	1304021.037(m)	0.010(m)
Y:	-4352742.868(m)	0.018(m)	-4352741.472(m)	0.018(m)
Z:	4460918.024(m)	0.018(m)	4460918.015(m)	0.018(m)
LAT:	44 39 52.37107	0.009(m)	44 39 52.40683	0.009(m)
E LON:	286 40 38.97346	0.006(m)	286 40 38.95495	0.006(m)
W LON:	73 19 21.02654	0.006(m)	73 19 21.04505	0.006(m)
EL HGT:	9.089(m)	0.025(m)	7.959(m)	0.025(m)
ORTHO HGT:	38.135(m)	0.028(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4947055.621	240810.630
Easting (X) [meters]	632981.515	434772.900
Convergence [degrees]	1.17937362	-0.57820576
Point Scale	0.99981747	1.00001659
Combined Factor	0.99981605	1.00001516

US NATIONAL GRID DESIGNATOR: 18TXQ3298147055(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	10578.4
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	23856.4
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	38184.0
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	53443.0
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	77922.0
DJ8955	VTD9 DERBY CORS ARP	N445703.499	W0720936.723	97304.0
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	107256.4
DL3079	VTIP ISLAND POND CORS ARP	N444912.180	W0715325.838	114722.8

UA-23 SESSION 1 FILE: 10673127.13o OP1388765359994

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067312r.13o TIME: 16:18:15 UTC

SOFTWARE: rsgps 1.37 RS82.prl 1.89 START: 2013/11/08 17:09:16
EPHEMERIS: igs17655.eph [precise] STOP: 2013/11/08 17:38:17
NAV FILE: brdc3120.13n OBS USED: 3303 / 3420 : 97%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 23.50/ 26.78
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.269

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		IGS08 (EPOCH:2013.85404)	
X:	1297591.021(m)	0.006(m)	1297590.176(m)	0.006(m)
Y:	-4340352.127(m)	0.021(m)	-4340350.733(m)	0.021(m)
Z:	4474749.034(m)	0.019(m)	4474749.027(m)	0.019(m)
LAT:	44 50 23.35731	0.004(m)	44 50 23.39318	0.004(m)
E LON:	286 38 40.39144	0.003(m)	286 38 40.37276	0.003(m)
W LON:	73 21 19.60856	0.003(m)	73 21 19.62724	0.003(m)
EL HGT:	7.346(m)	0.028(m)	6.223(m)	0.028(m)
ORTHO HGT:	36.494(m)	0.031(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4966472.340	260314.505
Easting (X) [meters]	629976.707	432365.458
Convergence [degrees]	1.15978094	-0.60322159
Point Scale	0.99980774	1.00002051
Combined Factor	0.99980659	1.00001936

US NATIONAL GRID DESIGNATOR: 18TXQ2997666472(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	19325.3
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	43037.5
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	71552.4
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	82733.4
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	86673.4
DL3079	VTIP ISLAND POND CORS ARP	N444912.180	W0715325.838	115868.1
DI0612	NYPD POTSDAM CORS ARP	N443909.059	W0750230.504	135158.4
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	138614.5
DL2318	VTDA DANBY CORS ARP	N432059.815	W0725942.851	168037.4

UA-23 SESSION 2 FILE: 1067312C.13o OP1388764754319

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: dgedenk@photoscience.com DATE: January 03, 2014
RINEX FILE: 1067312u.13o TIME: 16:07:51 UTC

SOFTWARE: rsgps 1.37 RS54.prl 1.89 START: 2013/11/08 20:01:54
EPHEMERIS: igs17655.eph [precise] STOP: 2013/11/08 20:23:11
NAV FILE: brdc3120.13n OBS USED: 1204 / 1351 : 89%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 14.14/ 21.94
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.267

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.85436)

X:	1297591.030(m)	0.011(m)	1297590.185(m)	0.011(m)
Y:	-4340352.133(m)	0.025(m)	-4340350.739(m)	0.025(m)
Z:	4474749.045(m)	0.022(m)	4474749.038(m)	0.022(m)
LAT:	44 50 23.35737	0.005(m)	44 50 23.39325	0.005(m)
E LON:	286 38 40.39176	0.003(m)	286 38 40.37307	0.003(m)
W LON:	73 21 19.60824	0.003(m)	73 21 19.62693	0.003(m)
EL HGT:	7.360(m)	0.035(m)	6.236(m)	0.035(m)
ORTHO HGT:	36.508(m)	0.037(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (4400 VT)
Northing (Y) [meters]	4966472.342	260314.507
Easting (X) [meters]	629976.713	432365.465
Convergence [degrees]	1.15978101	-0.60322153
Point Scale	0.99980774	1.00002051
Combined Factor	0.99980659	1.00001936

US NATIONAL GRID DESIGNATOR: 18TXQ2997666472(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	19325.3
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	43037.5
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	71552.4
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	82733.4
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	86673.4
DL3079	VTIP ISLAND POND CORS ARP	N444912.180	W0715325.838	115868.1
DK7179	NYIL INDIAN LAKE CORS ARP	N434657.638	W0741639.861	138614.5

UA-24 SESSION 1 FILE: 08863124.13o OP1389282938444

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: dgedenk@photoscience.com DATE: January 09, 2014
RINEX FILE: 0886312p.13o TIME: 17:41:44 UTC

SOFTWARE: rsgps 1.37 RS81.prl 1.89 START: 2013/11/08 15:16:45
EPHEMERIS: igs17655.eph [precise] STOP: 2013/11/08 15:37:30
NAV FILE: brdc3120.13n OBS USED: 1260 / 1582 : 80%
ANT NAME: TRM55971.00 NONE QUALITY IND. 14.75/ 1.35
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.389

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000) (EPOCH:2013.85382)		IGS08	
X:	1294808.608(m)	0.027(m)	1294807.762(m)	0.027(m)
Y:	-4337312.436(m)	0.034(m)	-4337311.043(m)	0.034(m)
Z:	4478470.433(m)	0.025(m)	4478470.426(m)	0.025(m)
LAT:	44 53 13.56098	0.031(m)	44 53 13.59687	0.031(m)
E LON:	286 37 18.58826	0.018(m)	286 37 18.56948	0.018(m)
W LON:	73 22 41.41174	0.018(m)	73 22 41.43052	0.018(m)
EL HGT:	3.629(m)	0.034(m)	2.507(m)	0.034(m)
ORTHO HGT:	32.837(m)	0.036(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (3101 NY E)
Northing (Y) [meters]	4971688.195	672941.125
Easting (X) [meters]	628075.892	238617.455
Convergence [degrees]	1.14470008	0.79174033
Point Scale	0.99980171	0.99999654
Combined Factor	0.99980114	0.99999597

US NATIONAL GRID DESIGNATOR: 18TXQ2807571688(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	23706.6
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	48587.2
DI0602	NYML MALONE CORS ARP	N445215.384	W0741717.343	71923.0
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	90595.1
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	93918.9
DL3079	VTIP ISLAND POND CORS ARP	N444912.180	W0715325.838	117831.8
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	122071.0

UA-24 SESSION 2 FILE: 0886312B.13o OP1389045398128

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: dgedenk@photoscience.com DATE: January 06, 2014
RINEX FILE: 0886312t.13o TIME: 22:47:04 UTC

SOFTWARE: rsgps 1.37 RS54.prl 1.89 START: 2013/11/08 19:51:15
EPHEMERIS: igs17655.eph [precise] STOP: 2013/11/08 20:11:45
NAV FILE: brdc3120.13n OBS USED: 1184 / 1360 : 87%
ANT NAME: TRM55971.00 NONE QUALITY IND. 18.45/ 2.64
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.381

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000) (EPOCH:2013.85434)		IGS08	
X:	1294808.596(m)	0.005(m)	1294807.750(m)	0.005(m)
Y:	-4337312.441(m)	0.013(m)	-4337311.048(m)	0.013(m)
Z:	4478470.451(m)	0.007(m)	4478470.444(m)	0.007(m)
LAT:	44 53 13.56137	0.007(m)	44 53 13.59725	0.007(m)
E LON:	286 37 18.58767	0.006(m)	286 37 18.56889	0.006(m)
W LON:	73 22 41.41233	0.006(m)	73 22 41.43111	0.006(m)
EL HGT:	3.643(m)	0.013(m)	2.521(m)	0.013(m)
ORTHO HGT:	32.851(m)	0.017(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (3101 NY E)
Northing (Y) [meters]	4971688.207	672941.137
Easting (X) [meters]	628075.879	238617.442
Convergence [degrees]	1.14469997	0.79174022
Point Scale	0.99980171	0.99999654
Combined Factor	0.99980114	0.99999597

US NATIONAL GRID DESIGNATOR: 18TXQ2807571688(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	23706.6
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	48587.3
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	76375.0
DK7183	NYRB RAY BROOK CORS ARP	N441813.922	W0740442.075	85391.6
DM7840	VTHA HARDWICK CORS ARP	N443030.695	W0722157.163	90595.1
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	93918.9
DL3079	VTIP ISLAND POND CORS ARP	N444912.180	W0715325.838	117831.8
DJ8951	VTC1 RANDOLPH CORS ARP	N435621.218	W0723612.565	122071.0

UA-25 SESSION 1 FILE: 08863111.13o OP1389282938444

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: dgedenk@photoscience.com DATE: January 09, 2014
RINEX FILE: 0886311o.13o TIME: 18:25:06 UTC

SOFTWARE: rsgps 1.37 RS50.prl 1.89 START: 2013/11/07 14:08:30
EPHEMERIS: igs17654.eph [precise] STOP: 2013/11/07 14:39:15
NAV FILE: brdc3110.13n OBS USED: 2232 / 2781 : 80%
ANT NAME: TRM55971.00 NONE QUALITY IND. 14.52/ 27.78
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.349

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000) (EPOCH:2013.85096)		IGS08	
X:	1293362.924(m)	0.006(m)	1293362.078(m)	0.006(m)
Y:	-4328790.200(m)	0.016(m)	-4328788.808(m)	0.016(m)
Z:	4487068.131(m)	0.010(m)	4487068.125(m)	0.010(m)
LAT:	44 59 47.02693	0.006(m)	44 59 47.06289	0.006(m)
E LON:	286 38 6.64229	0.003(m)	286 38 6.62347	0.003(m)
W LON:	73 21 53.35771	0.003(m)	73 21 53.37653	0.003(m)
EL HGT:	4.118(m)	0.018(m)	2.999(m)	0.018(m)
ORTHO HGT:	33.552(m)	0.021(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (3101 NY E)
Northing (Y) [meters]	4983850.649	685100.722
Easting (X) [meters]	628885.179	239501.895
Convergence [degrees]	1.15633159	0.80269492
Point Scale	0.99980426	0.99999847
Combined Factor	0.99980361	0.99999782

US NATIONAL GRID DESIGNATOR: 18TXQ2888583850(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	30501.0
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	35782.2
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	60057.0
DN8745	VTRI RICHMOND CORS ARP	N442447.726	W0725941.373	71127.4
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	88529.3
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	102545.4
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	112151.7
DL3079	VTIP ISLAND POND CORS ARP	N444912.180	W0715325.838	118068.2
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	125257.9

UA-25 SESSION 2 FILE: 08863116.13o OP1389282938444

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: dgedenk@photoscience.com DATE: January 09, 2014
RINEX FILE: 0886311s.13o TIME: 18:00:32 UTC

SOFTWARE: rsgps 1.37 RS82.prl 1.89 START: 2013/11/07 18:50:00
EPHEMERIS: igs17654.eph [precise] STOP: 2013/11/07 19:10:30
NAV FILE: brdc3110.13n OBS USED: 2403 / 2673 : 90%
ANT NAME: TRM55971.00 NONE QUALITY IND. 18.60/ 21.56
ARP HEIGHT: 2.000 NORMALIZED RMS: 0.309

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2013.85148)

X:	1293362.952(m)	0.006(m)	1293362.106(m)	0.006(m)
Y:	-4328790.240(m)	0.014(m)	-4328788.848(m)	0.014(m)
Z:	4487068.166(m)	0.020(m)	4487068.160(m)	0.020(m)
LAT:	44 59 47.02667	0.008(m)	44 59 47.06263	0.008(m)
E LON:	286 38 6.64299	0.004(m)	286 38 6.62417	0.004(m)
W LON:	73 21 53.35701	0.004(m)	73 21 53.37583	0.004(m)
EL HGT:	4.176(m)	0.023(m)	3.057(m)	0.023(m)
ORTHO HGT:	33.610(m)	0.026(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES UTM (Zone 18)	STATE PLANE COORDINATES SPC (3101 NY E)
Northing (Y) [meters]	4983850.641	685100.714
Easting (X) [meters]	628885.195	239501.910
Convergence [degrees]	1.15633173	0.80269506
Point Scale	0.99980426	0.99999847
Combined Factor	0.99980361	0.99999782

US NATIONAL GRID DESIGNATOR: 18TXQ2888583850(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ8959	VTSA ST ALBANS CORS ARP	N444832.646	W0730457.288	30501.0
DI0610	NYPB PLATTSBURG CORS ARP	N444050.582	W0732714.305	35782.2
DG9783	VTUV UVM COOLIDGE CORS ARP	N442809.212	W0731152.375	60057.0
DI0602	NYML MALONE CORS ARP	N445215.384	W0741717.343	74207.6
DI0452	NYET ELIZABETHTOWN CORS ARP	N441234.850	W0733225.852	88529.3
AF9563	VCAP VERMONT CAPITAL CORS ARP	N441543.106	W0723456.554	102545.4
DL2744	VTMI MIDDLEBURY CORS ARP	N435955.025	W0730909.380	112151.7
DL3079	VTIP ISLAND POND CORS ARP	N444912.180	W0715325.838	118068.2
DK4107	VTD7 SAINT JOHNSBURY CORS ARP	N442352.310	W0720132.392	125257.9