Project Report Appendices

The following section contains the appendices as listed in the New York FEMA 2016 QL2 LiDAR Project Report.

Appendix A

GPS/IMU Processing Statistics
Flight Logs

There were 34 total lifts, 24 in the East Zone AOI and 10 in the Central Zone AOI. Graph reports generated from processing software and flight logs are found on the following pages.

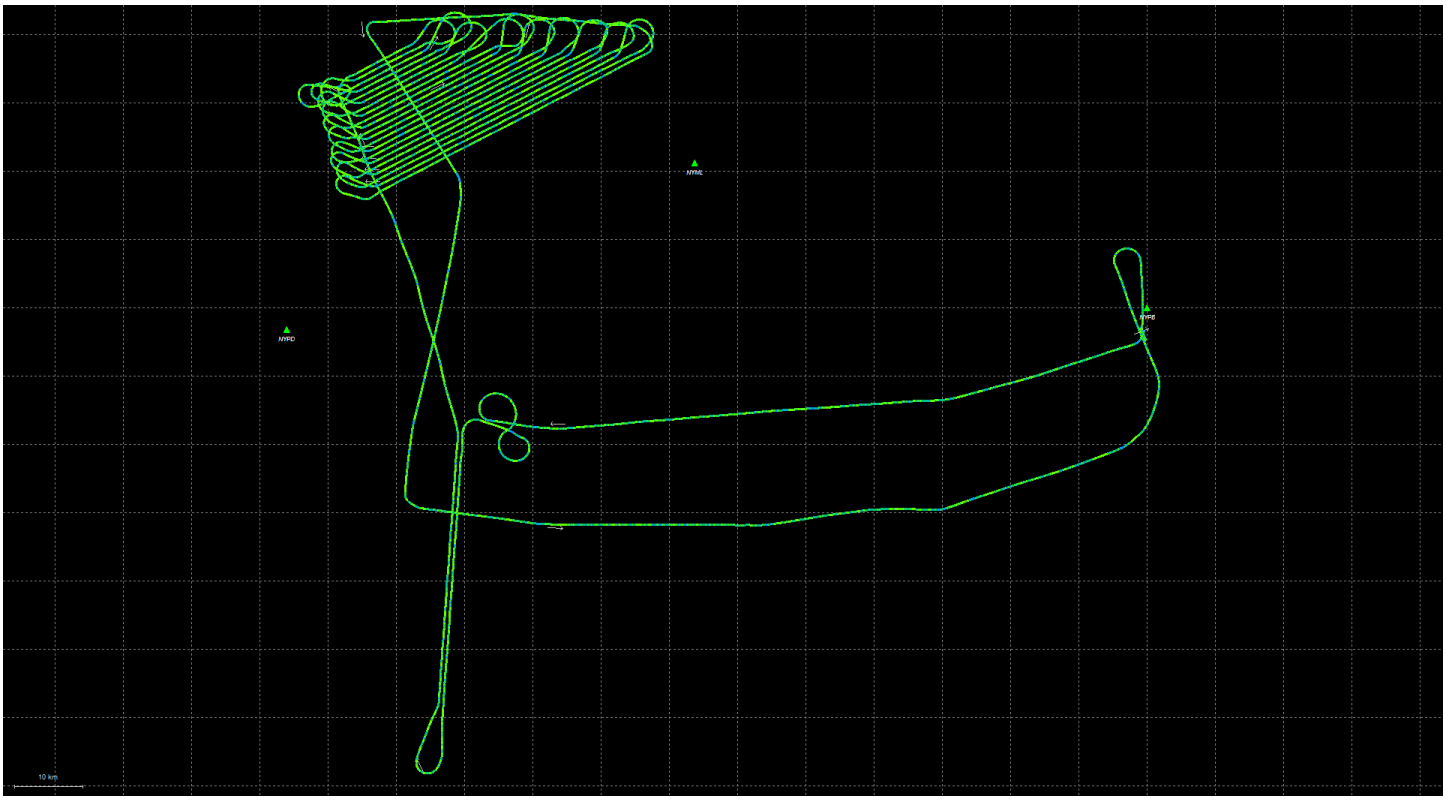
Central Zone AOI

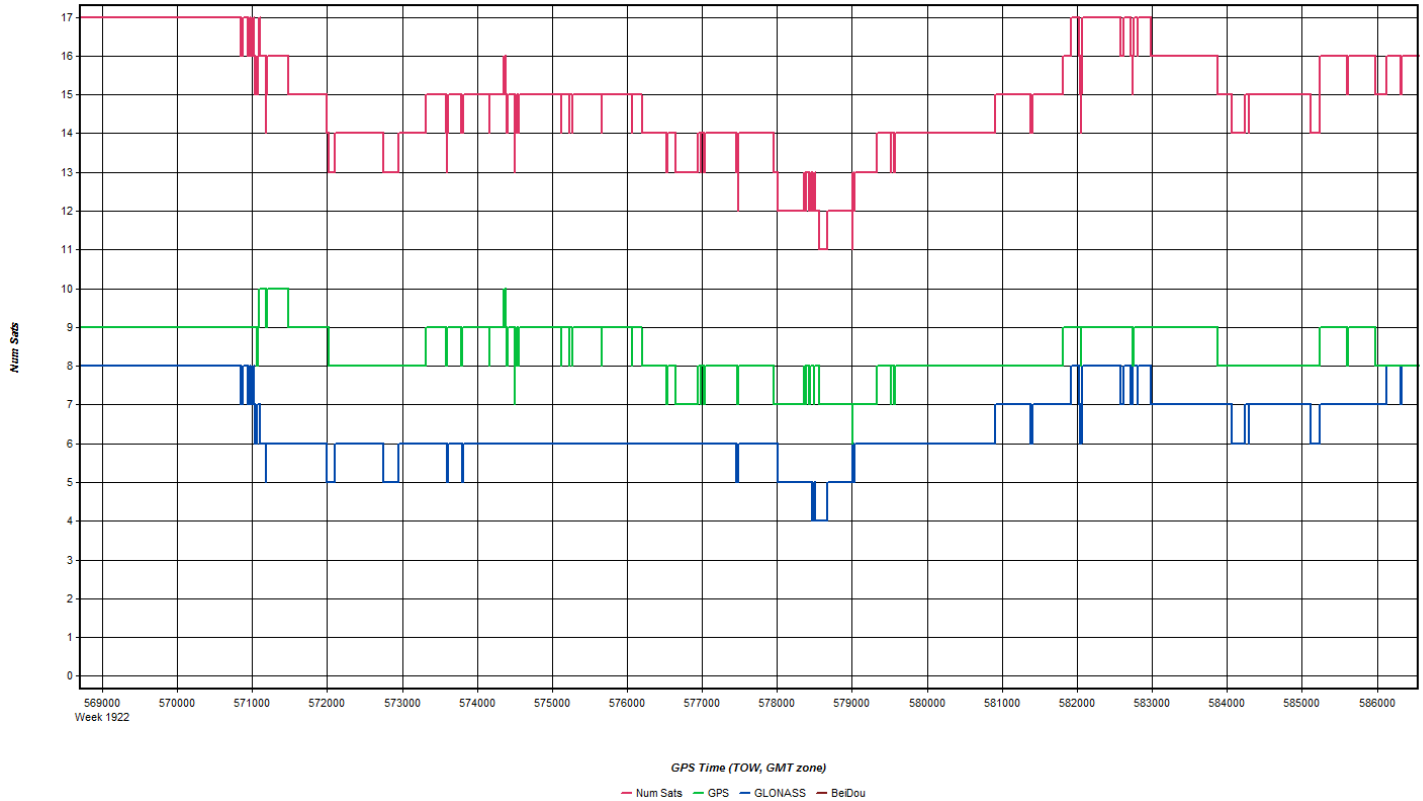
Nov 12, 2016-A (N4102J, SN7232)..... 2
Flight Log 10
Nov 12, 2016-B (N4102J, SN7232).....11
Flight Log 19
Nov 13, 2016-A (N4102J, SN7232).....20
Flight Log 28
Nov 13, 2016-C (N4102J, SN7232)..... 29
Flight Log 37
Nov 14, 2016-A (N4102J, SN7232) 38
Flight Log 46
Nov 14, 2016-B (N4102J, SN7232)..... 47
Flight Log 55
Nov 14, 2016-C (N4102J, SN7232)..... 56
Flight Log 64
Nov 14, 2016-D (N4102J, SN7232) 65
Flight Log 73
Nov 14, 2016-E (N4102J, SN7232)..... 74
Flight Log 82
Nov 15, 2016-A (N4102J, SN7232).....84
Flight Log 92
Nov 15, 2016-B (N4102J, SN7232)..... 93
Flight Log 101
Nov 15, 2016-C (N4102J, SN7232)..... 102
Flight Log 110
Nov 15, 2016-D (N4102J, SN7232)..... 111
Flight Log 119
Nov 18, 2016-A (N73TM, SN7178) 120
Flight Log 128
Apr 15, 2017-A (N604MD, SN2221277).....129
Flight Log 133
Apr 16, 2017-A (N604MD, SN2221277)..... 134
Flight Log 138
Apr 18, 2017-A (N604MD, SN2221277).....139
Flight Log 143
Apr 19, 2017-A (N604MD, SN2221277)..... 144
Flight Log 148
Apr 23, 2017-A (N604MD, SN2221277)..... 149
Flight Log 153
Apr 24, 2017-A (N604MD, SN2221277)..... 154
Flight Log 158
Apr 24, 2017-B (N604MD, SN2221277).....159
Flight Log 163
Apr 27, 2017-A (N604MD, SN2221277).....164
Flight Log 168
May 11, 2017-A (N262AS, SN7161).....169
Flight Log 177
May 11, 2017-B (N262AS, SN7161) 178
Flight Log 187

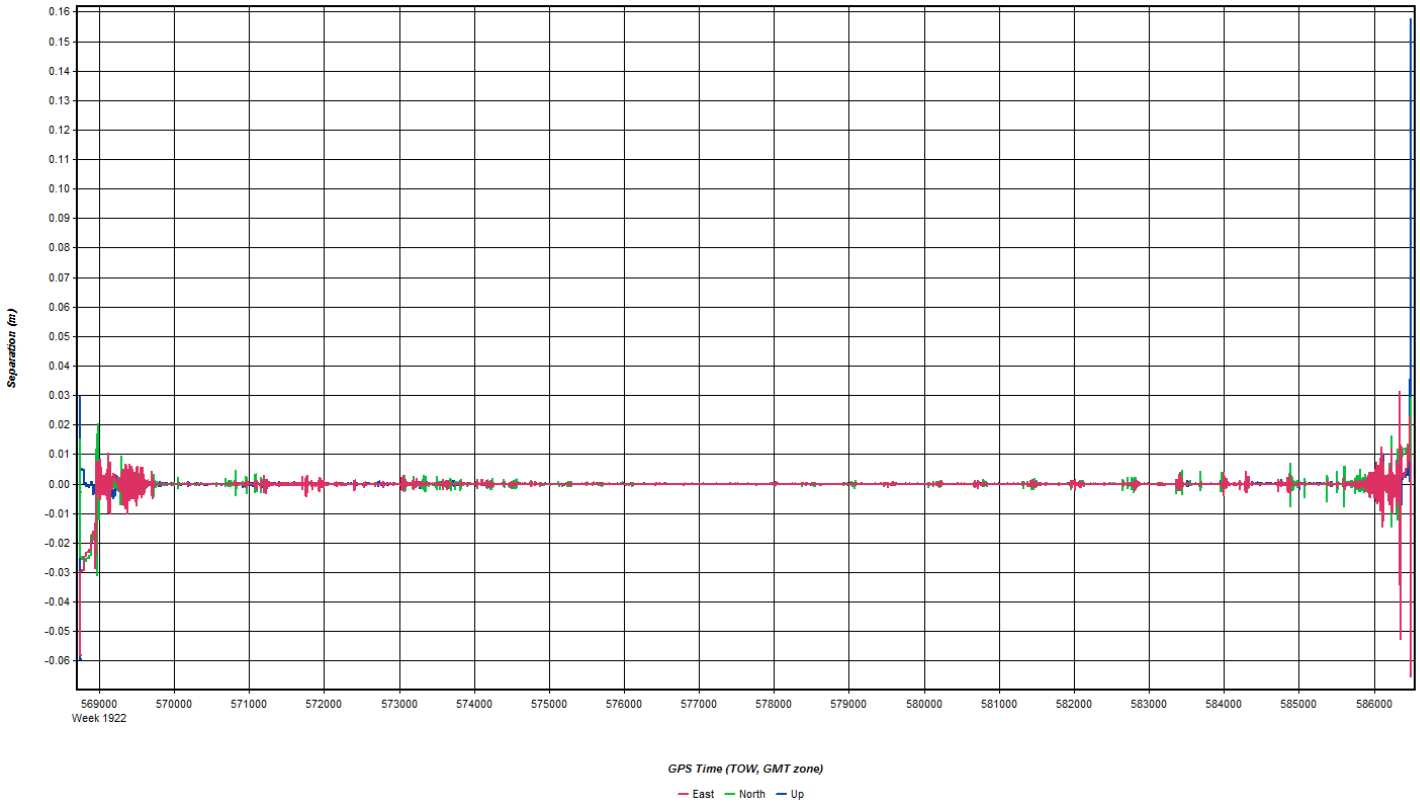
East Zone AOI

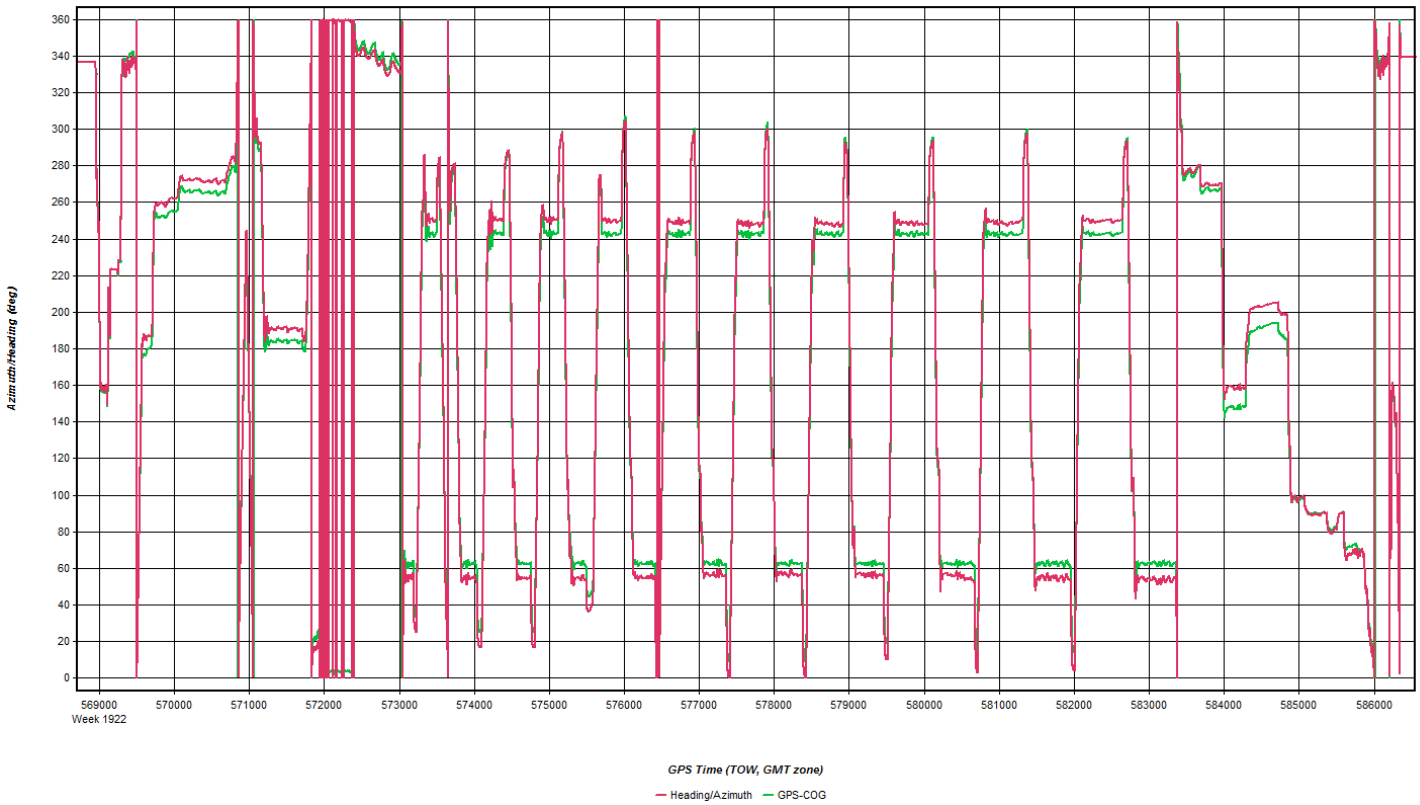
Nov 14, 2016-A (N2JJ, SN309).....188
Flight Log 192
Nov 15, 2016-A (N2JJ, SN309).....193
Flight Log 197
Nov 18, 2016-A (N2JJ, SN309).....198
Flight Log 202
Nov 18, 2016-B (N2JJ, SN309) 203
Flight Log 207
Nov 19, 2016-A (N2JJ, SN309).....208
Flight Log 212
Apr 18, 2017-A (N812TB, SN324) 213
Flight Log 217
Apr 18, 2017-B (N812TB, SN324).....220
Flight Log 224
Apr 19, 2017-A (N812TB, SN324) 227
Flight Log 231
Apr 23, 2017-A (N812TB, SN234)..... 232
Flight Log 236
Apr 23, 2017-B (N812TB, SN234)..... 239
Flight Log 243

Nov 12, 2016-A (N4102J, SN7232)

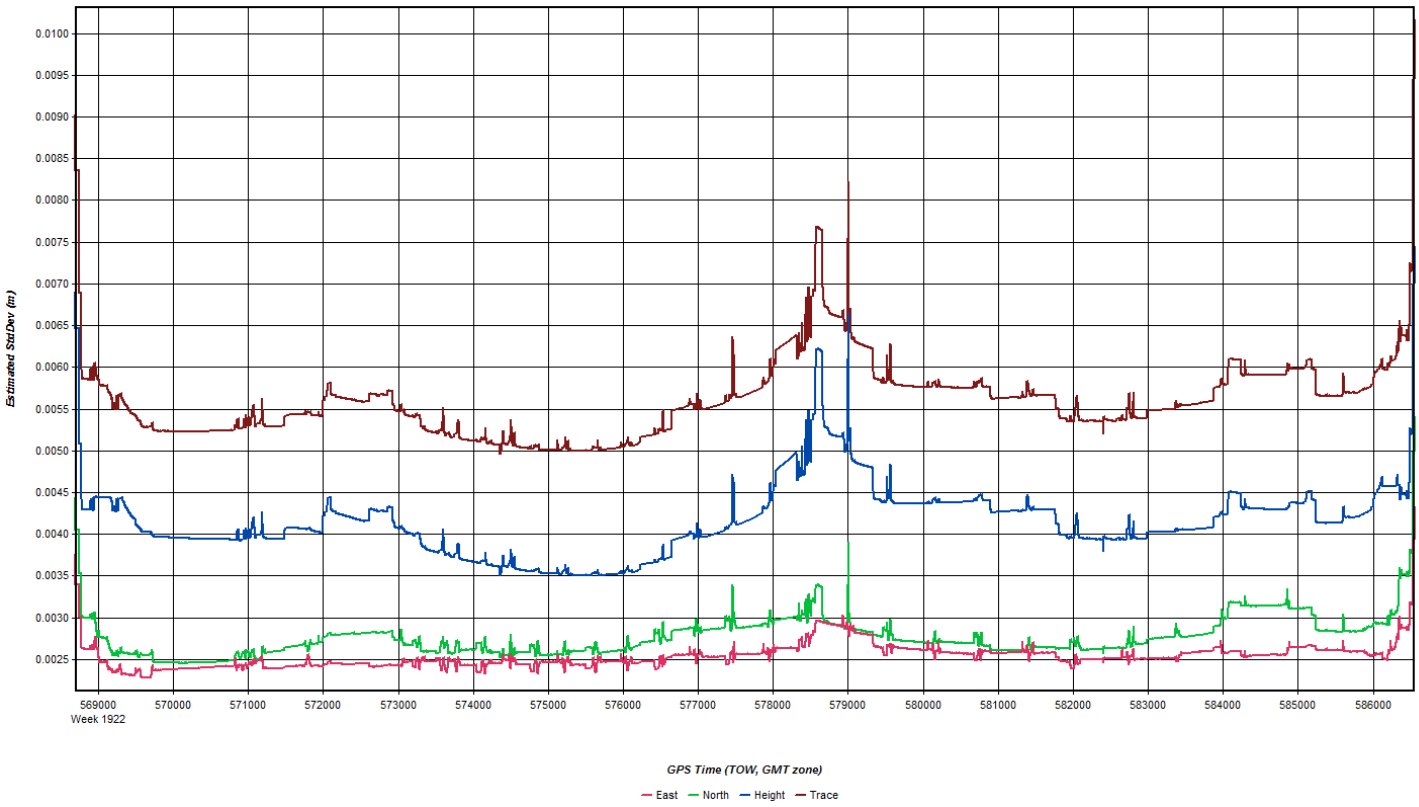

NYMK
NYRD
NYPB
10 km

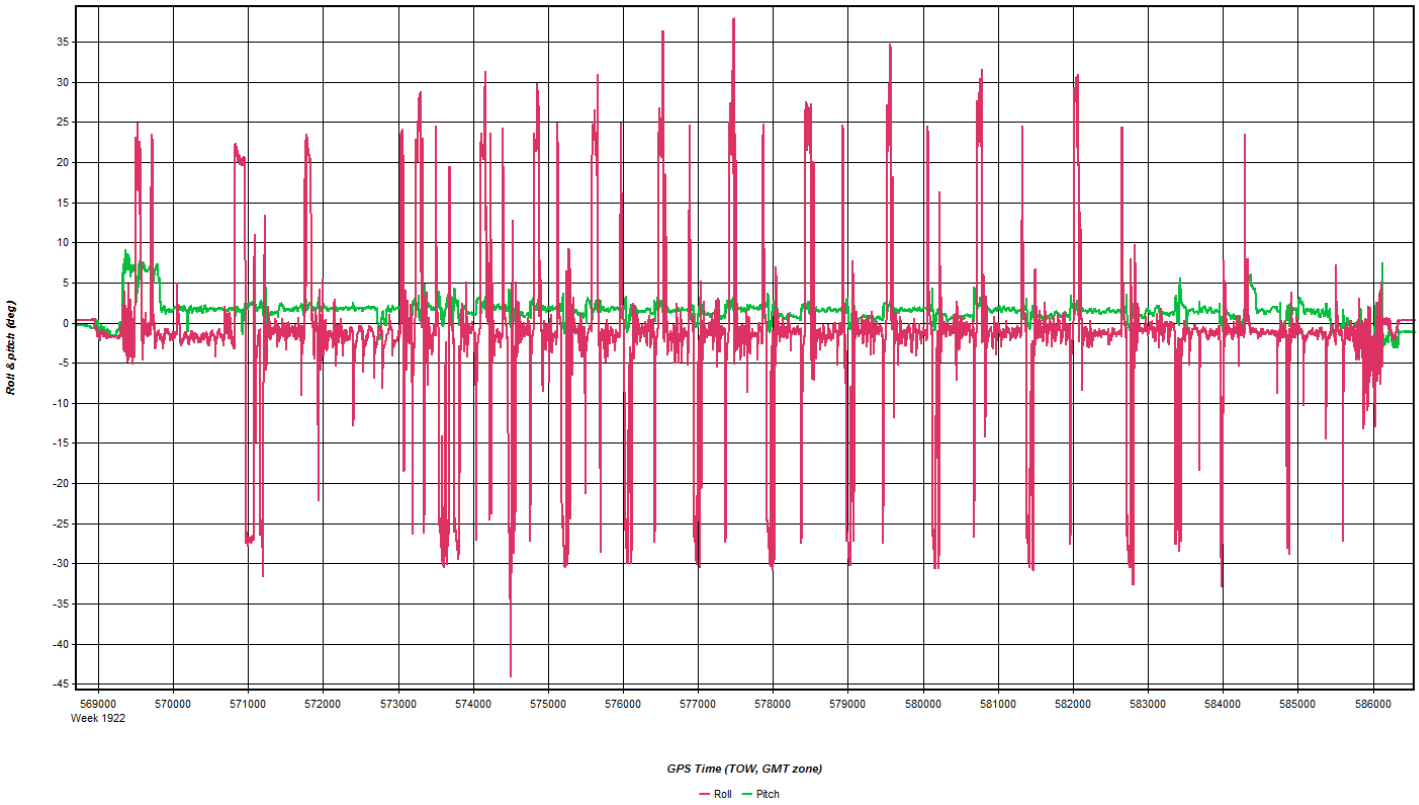

Num Sats
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
569000
Week 1922
570000
571000
572000
573000
574000
575000
576000
577000
578000
579000
580000
581000
582000
583000
584000
585000
586000
GPS Time (TOW, GMT zone)
Num Sats
GPS
GLONASS
BeiDou

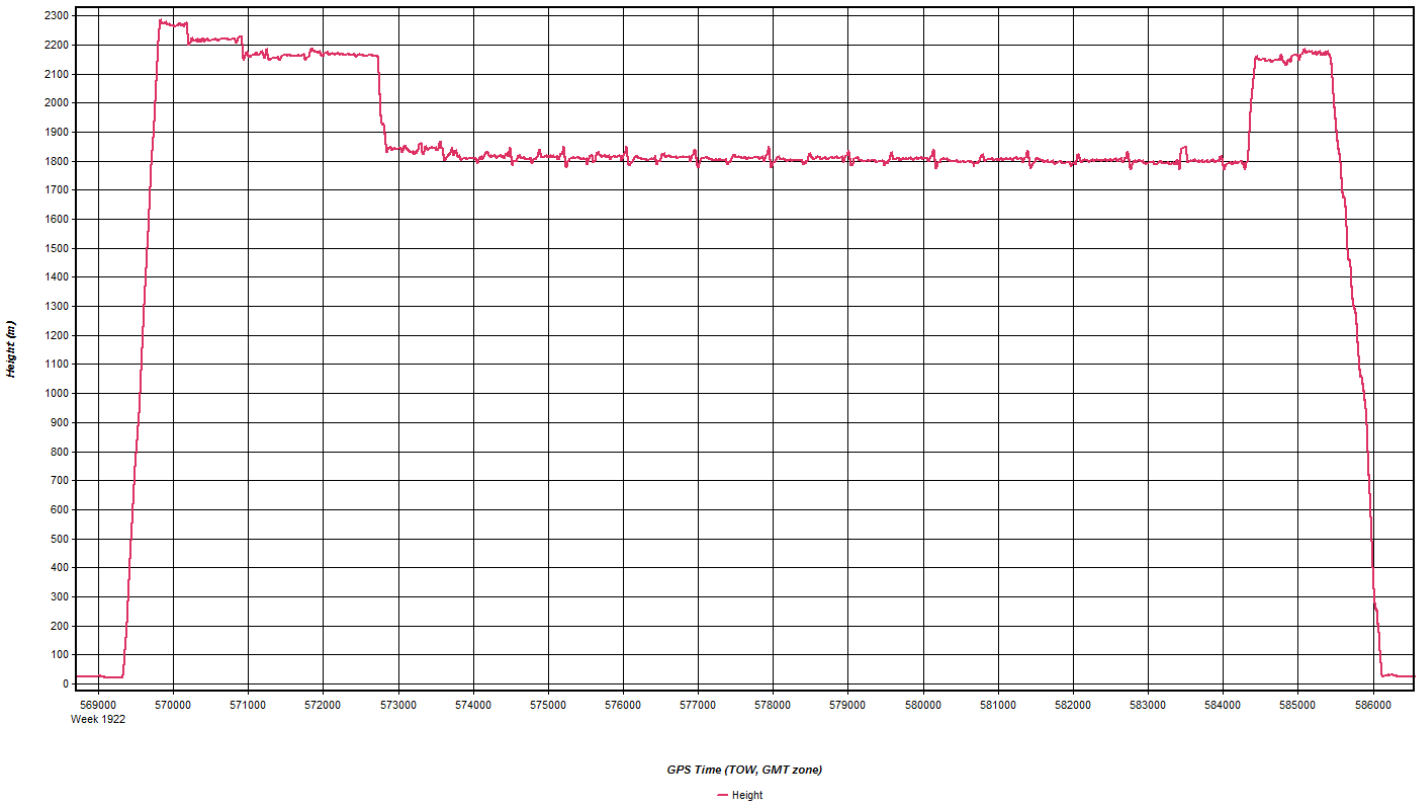

Separation (m)
0.16
0.15
0.14
0.13
0.12
0.11
0.10
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0.00
-0.01
-0.02
-0.03
-0.04
-0.05
-0.06
569000
Week 1922
570000
571000
572000
573000
574000
575000
576000
577000
578000
579000
580000
581000
582000
583000
584000
585000
586000
GPS Time (TOW, GMT zone)
East
North
Up

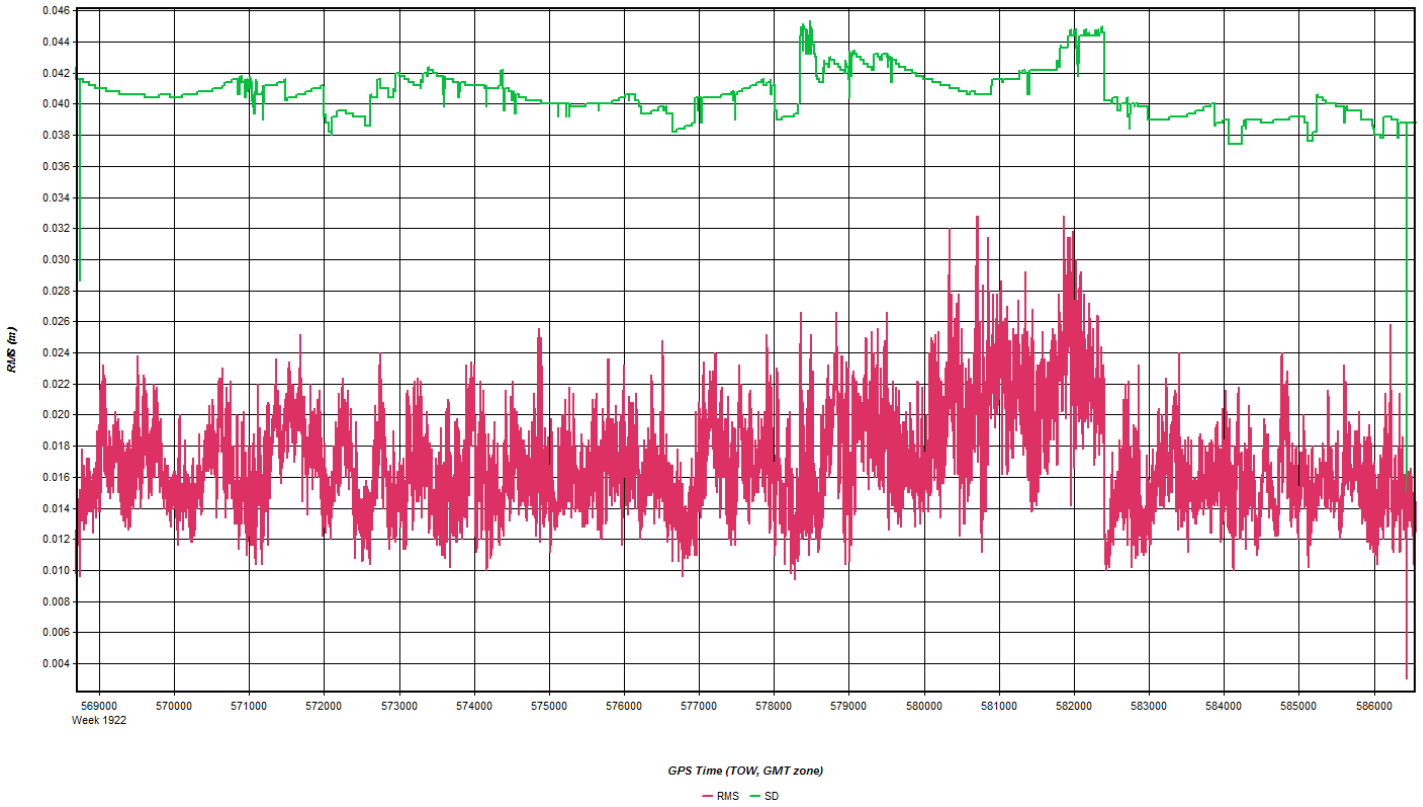

Azimuth/Heading (deg)
360
340
320
300
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
569000
Week 1922
570000
571000
572000
573000
574000
575000
576000
577000
578000
579000
580000
581000
582000
583000
584000
585000
586000
GPS Time (TOW, GMT zone)
Heading/Azimuth
GPS-COG

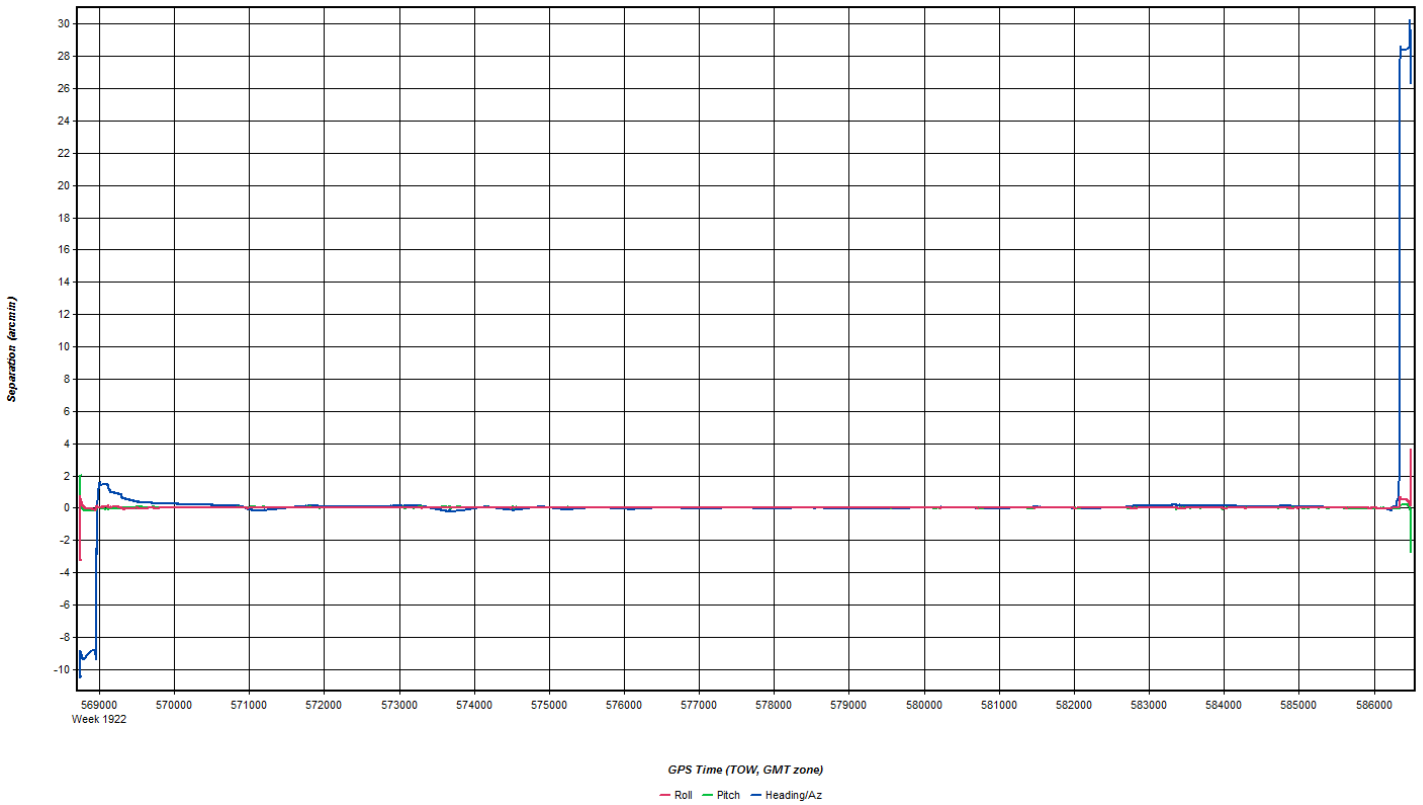

PDOP
2.3
2.2
2.1
2.0
1.9
1.8
1.7
1.6
1.5
1.4
1.3
1.2
1.1
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
569000
Week 1922
570000
571000
572000
573000
574000
575000
576000
577000
578000
579000
580000
581000
582000
583000
584000
585000
586000
GPS Time (TOW, GMT zone)
PDOP

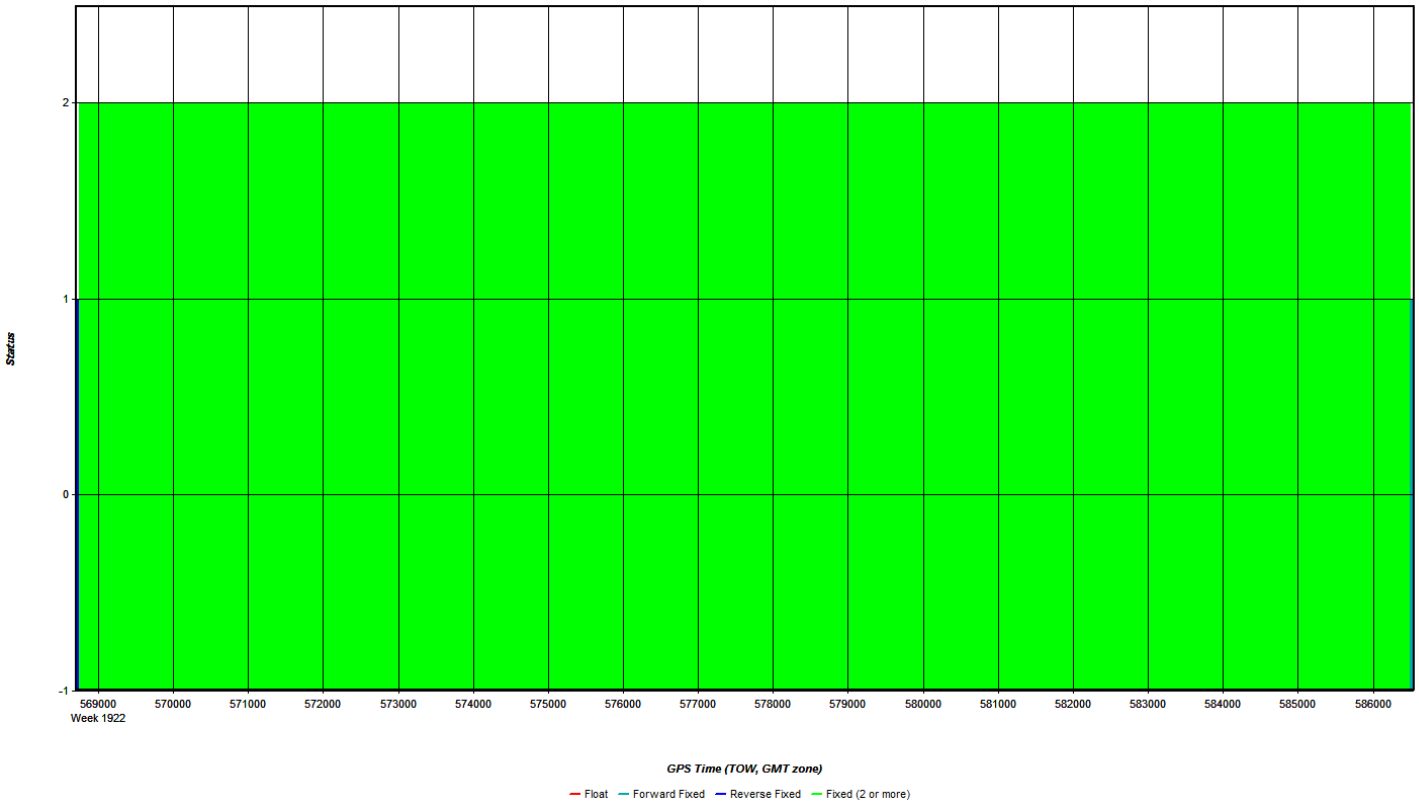

Estimated StdDev (m)
0.0100
0.0095
0.0090
0.0085
0.0080
0.0075
0.0070
0.0065
0.0060
0.0055
0.0050
0.0045
0.0040
0.0035
0.0030
0.0025
569000
Week 1922
570000
571000
572000
573000
574000
575000
576000
577000
578000
579000
580000
581000
582000
583000
584000
585000
586000
GPS Time (TOW, GMT zone)
East
North
Height
Trace

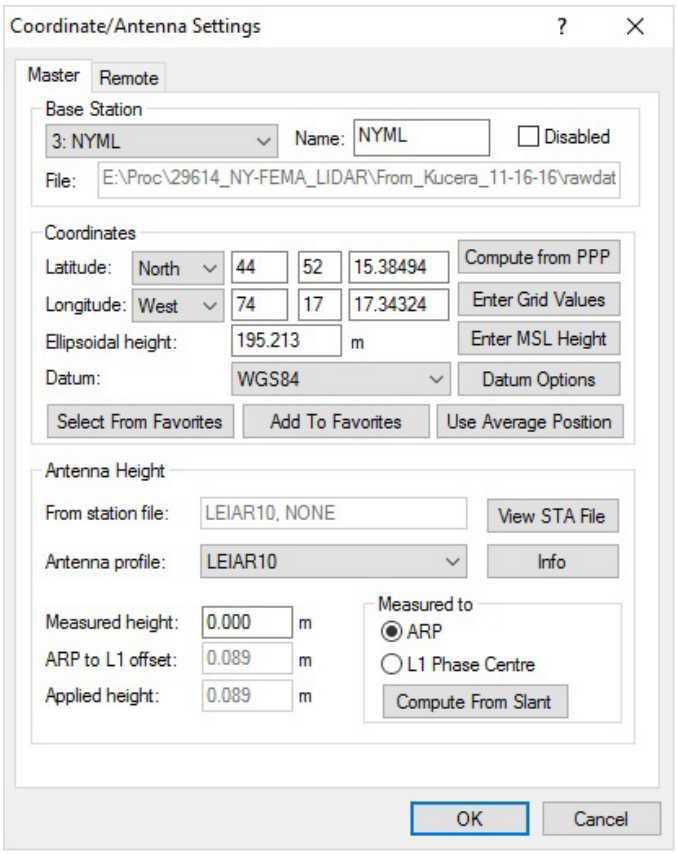

Roll & pitch (deg)
35
30
25
20
15
10
5
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
569000
Week 1922
570000
571000
572000
573000
574000
575000
576000
577000
578000
579000
580000
581000
582000
583000
584000
585000
586000
GPS Time (TOW, GMT zone)
Roll
Pitch

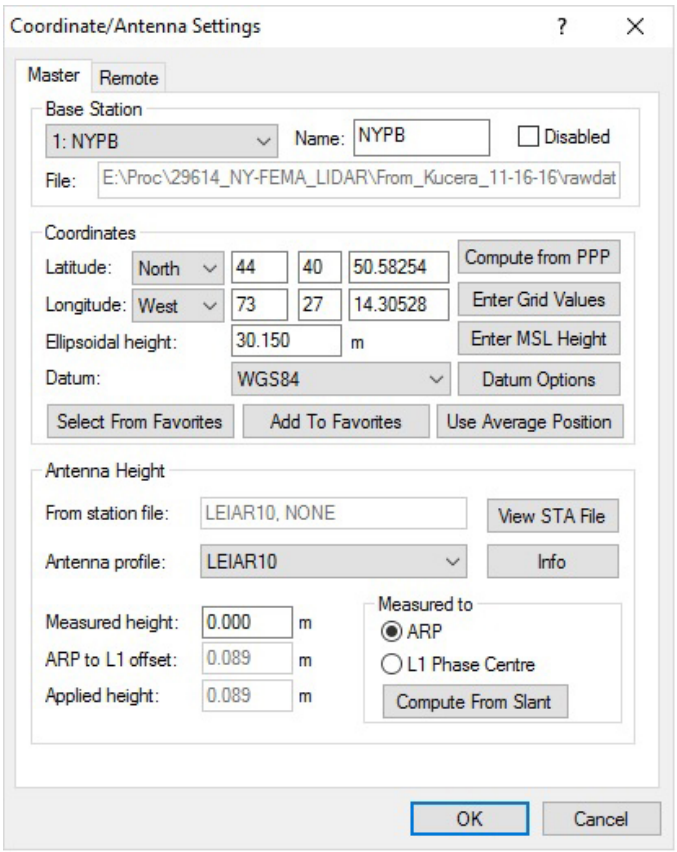

Height (m)
2300
2200
2100
2000
1900
1800
1700
1600
1500
1400
1300
1200
1100
1000
900
800
700
600
500
400
300
200
100
0
569000
Week 1922
570000
571000
572000
573000
574000
575000
576000
577000
578000
579000
580000
581000
582000
583000
584000
585000
586000
GPS Time (TOW, GMT zone)
Height

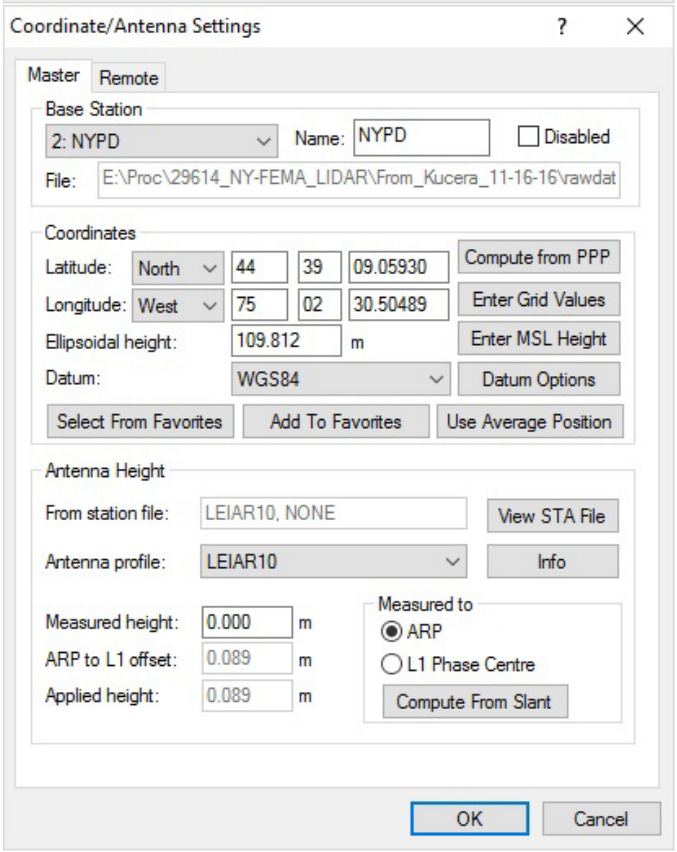

RMS (m)
0.046
0.044
0.042
0.040
0.038
0.036
0.034
0.032
0.030
0.028
0.026
0.024
0.022
0.020
0.018
0.016
0.014
0.012
0.010
0.008
0.006
0.004
569000
Week 1922
570000
571000
572000
573000
574000
575000
576000
577000
578000
579000
580000
581000
582000
583000
584000
585000
586000
GPS Time (TOW, GMT zone)
RMS
SD


Separation (arcmin)
30
28
26
24
22
20
18
16
14
12
10
8
6
4
2
0
-2
-4
-6
-8
-10
569000
Week 1922
570000
571000
572000
573000
574000
575000
576000
577000
578000
579000
580000
581000
582000
583000
584000
585000
586000
GPS Time (TOW, GMT zone)
Roll
Pitch
Heading/Az


Status
2
1
0
-1
569000
Week 1922
570000
571000
572000
573000
574000
575000
576000
577000
578000
579000
580000
581000
582000
583000
584000
585000
586000
GPS Time (TOW, GMT zone)
Float
Forward Fixed
Reverse Fixed
Fixed (2 or more)


Coordinate/Antenna Settings
Master
Remote
Base Station
3: NYML
Name:
NYML
Disabled
File:
E:\Proc\29614_NY-FEMA_LIDAR\From_Kucera_11-16-16\rawdat
Coordinates
Latitude:
North
44
52
15.38494
Compute from PPP
Longitude:
West
74
17
17.34324
Enter Grid Values
Ellipsoidal height:
195.213
m
Enter MSL Height
Datum:
WGS84
Datum Options
Select From Favorites
Add To Favorites
Use Average Position
Antenna Height
From station file:
LEIAR10, NONE
View STA File
Antenna profile:
LEIAR10
Info
Measured height:
0.000
m
ARP to L1 offset:
0.089
m
Applied height:
0.089
m
Measured to
ARP
L1 Phase Centre
Compute From Slant
OK
Cancel


Coordinate/Antenna Settings
Master
Remote
Base Station
1: NYPB
Name: NYPB
Disabled
File: E:\Proc\29614_NY-FEMA_LIDAR\From_Kucera_11-16-16\rawdat
Coordinates
Latitude: North 44 40 50.58254
Longitude: West 73 27 14.30528
Ellipsoidal height: 30.150 m
Datum: WGS84
Compute from PPP
Enter Grid Values
Enter MSL Height
Datum Options
Select From Favorites
Add To Favorites
Use Average Position
Antenna Height
From station file: LEIAR10, NONE
Antenna profile: LEIAR10
View STA File
Info
Measured height: 0.000 m
ARP to L1 offset: 0.089 m
Applied height: 0.089 m
Measured to
ARP
L1 Phase Centre
Compute From Slant
OK
Cancel


Coordinate/Antenna Settings
Master
Remote
Base Station
2: NYPD
Name: NYPD
Disabled
File: E:\Proc\29614_NY-FEMA_LIDAR\From_Kucera_11-16-16\rawdat
Coordinates
Latitude: North 44 39 09.05930
Longitude: West 75 02 30.50489
Ellipsoidal height: 109.812 m
Datum: WGS84
Compute from PPP
Enter Grid Values
Enter MSL Height
Datum Options
Select From Favorites
Add To Favorites
Use Average Position
Antenna Height
From station file: LEIAR10, NONE
Antenna profile: LEIAR10
View STA File
Info
Measured height: 0.000 m
ARP to L1 offset: 0.089 m
Applied height: 0.089 m
Measured to
ARP
L1 Phase Centre
Compute From Slant
OK
Cancel

Flight Log

LiDAR

KUCERA INTERNATIONAL INC.

LiDAR FLIGHT REPORT

Revised Feb. 2014

CREW Pilot/Operator: Brian and Brian

DATE mm/dd/yy: 11/12/2016

AIRCRAFT Tail Number: 4102J

WEATHER Sky conditions, light conditions, horizon, shadowing, visibility/haze, cloud types, wind, turbulence, etc.: Some clouds around, small clouds started popping up all around

Camera System LiDAR S/N: 7232

Camera Location (Hole) fwd/aft: fwd

GPS Source: fwd

Start-up Time / Location:

Shut-down Time / Location:

LiDAR STARTUP CHECKS

Lens cleaned	
All fpds uploaded	
Pilot's screen functional	
Compact flash drive space	
SSDs have space	
Startup beeps & IPAS recording	
Initials:	BS

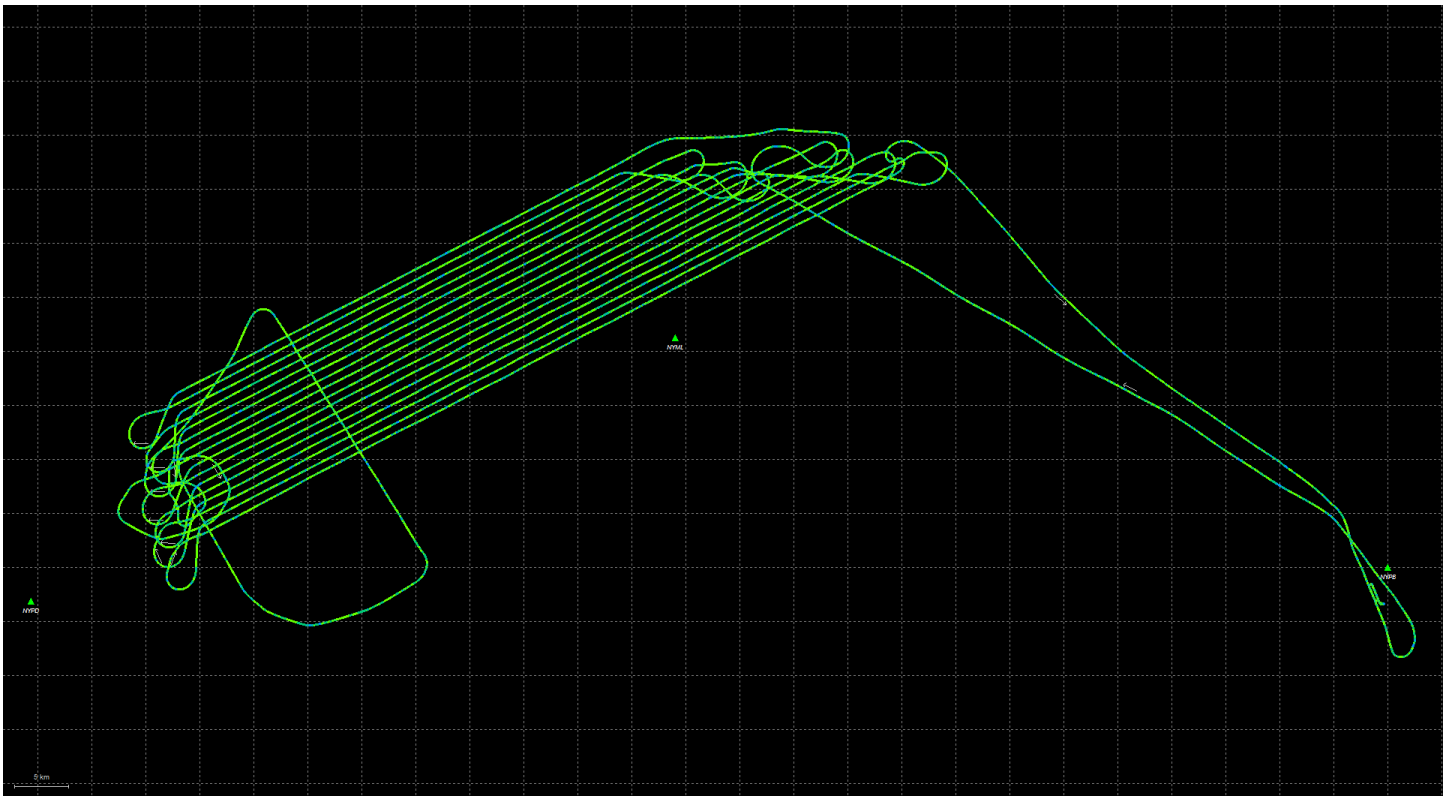
SSD

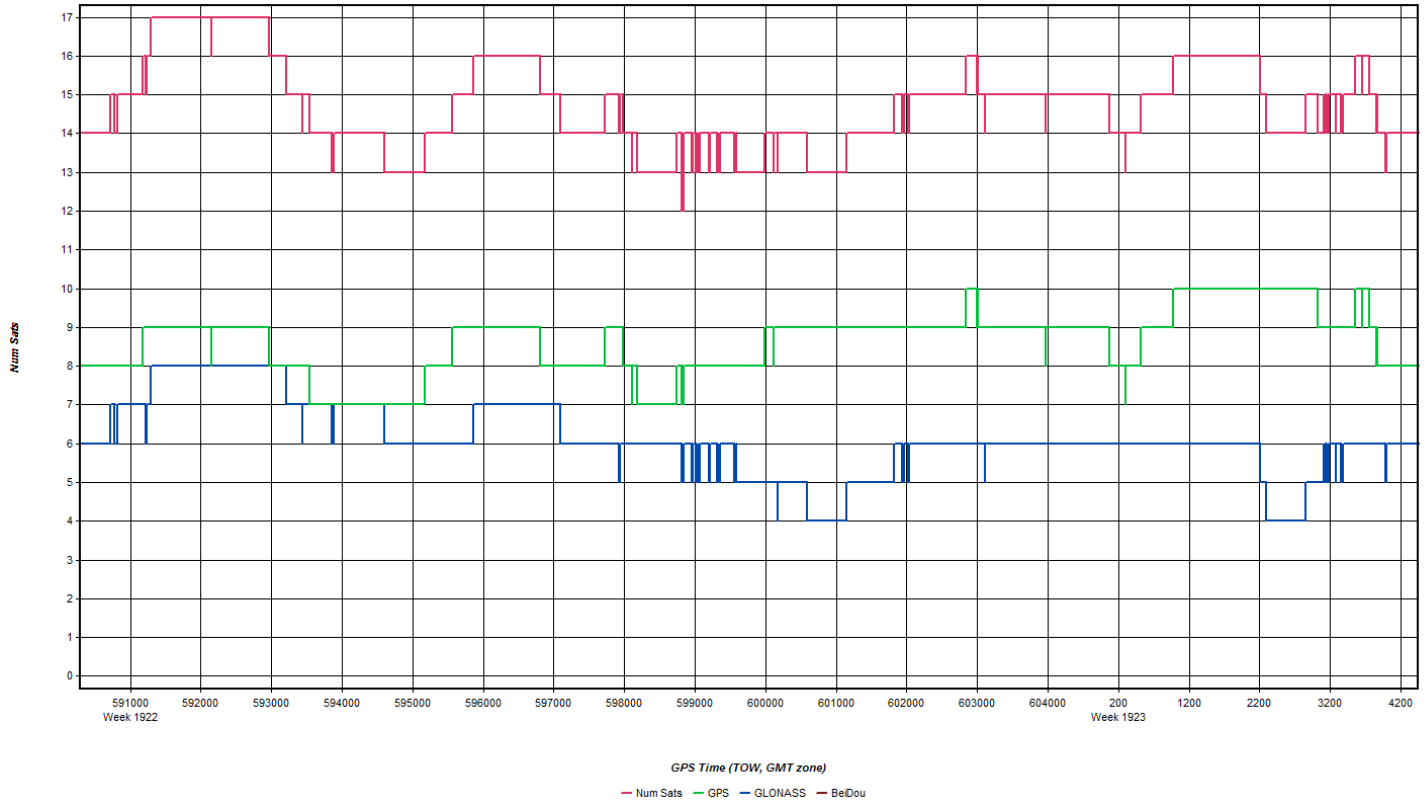
Drive #	Space Rem.
	511

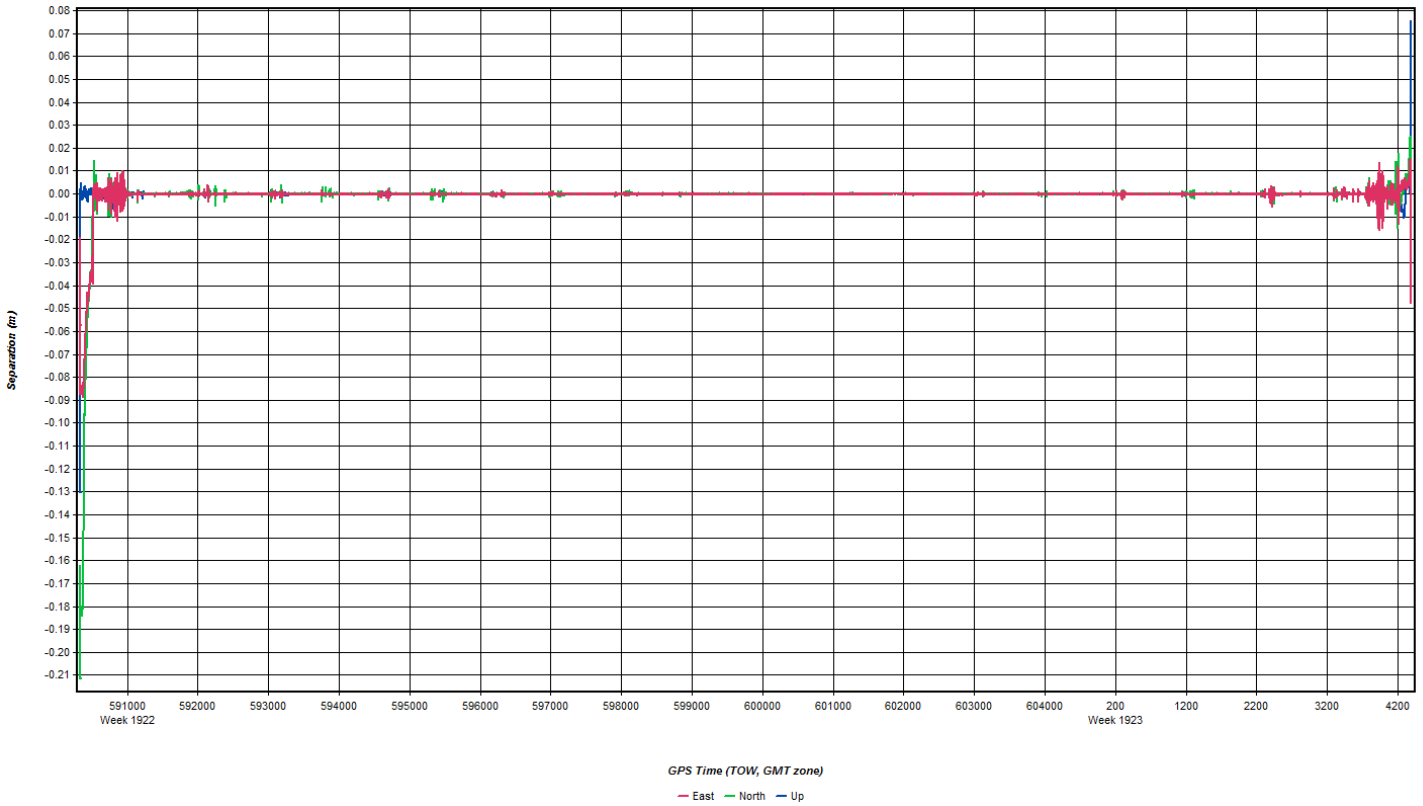
Job #	Location/ Site/Block	Line #	Flight Dir.	Crab Angle	Remarks
60686	NY	109	S	6-7	Got about 300 ft off at start, and a little fast the first mile of north end, Clouds on Southern 8 miles cancel'd line
		108	N	4-5	Started line 10mi from south end
		1	E	7-8	
		2	W	8-9	
		3	E	7-8	
		4	W	7-8	
		5	E	7-8	
		6	W	6-7	
		7	E	7-8	
		8	W	7-8	
		9	E	7-8	
		10	W	6-7	
		11	E	5-6	
		12	W	5-6	possible cloud in the middle of the line (7-9mi from East)
		13	E	5-6	
		14	W	5-6	
		15	E	5-6	
		16	W	5-6	
		17	E	5-6	
		18	W	5-6	
		19	E	5-6	
		20	W	5-6	
		21	E	5-6	
		54	S		just the area of the lines we flew
		141	E		just the area of the lines we flew

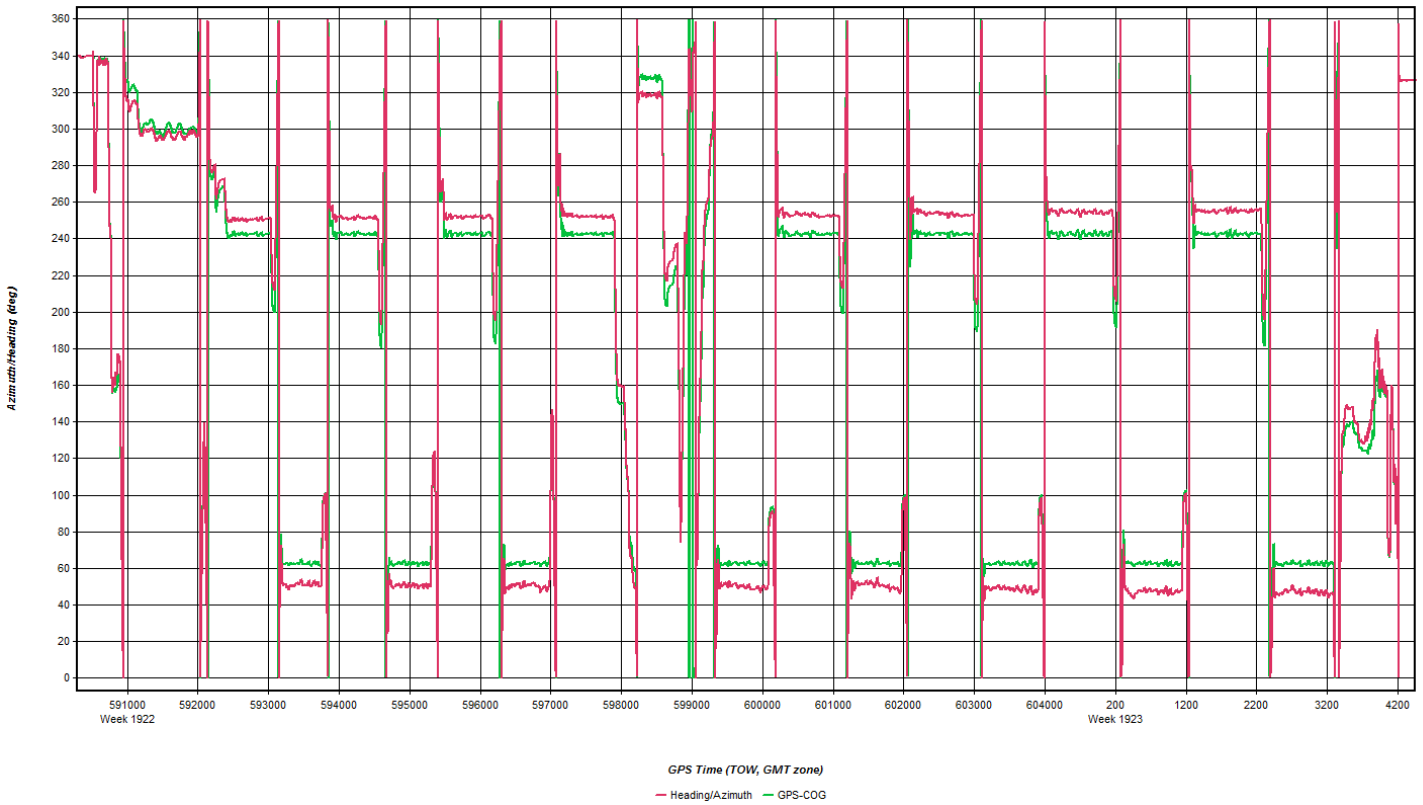
Page 1

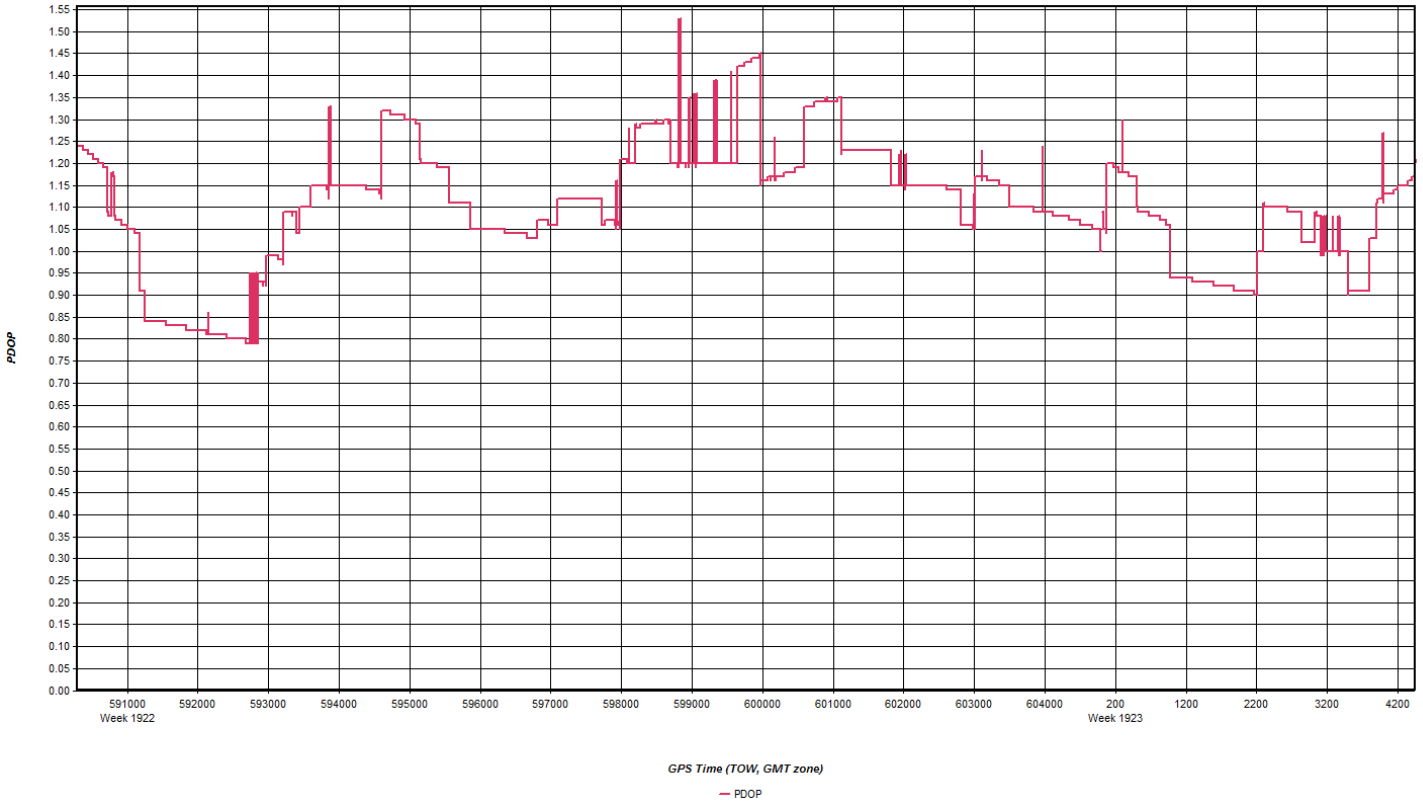
Nov 12, 2016-B (N4102J, SN7232)

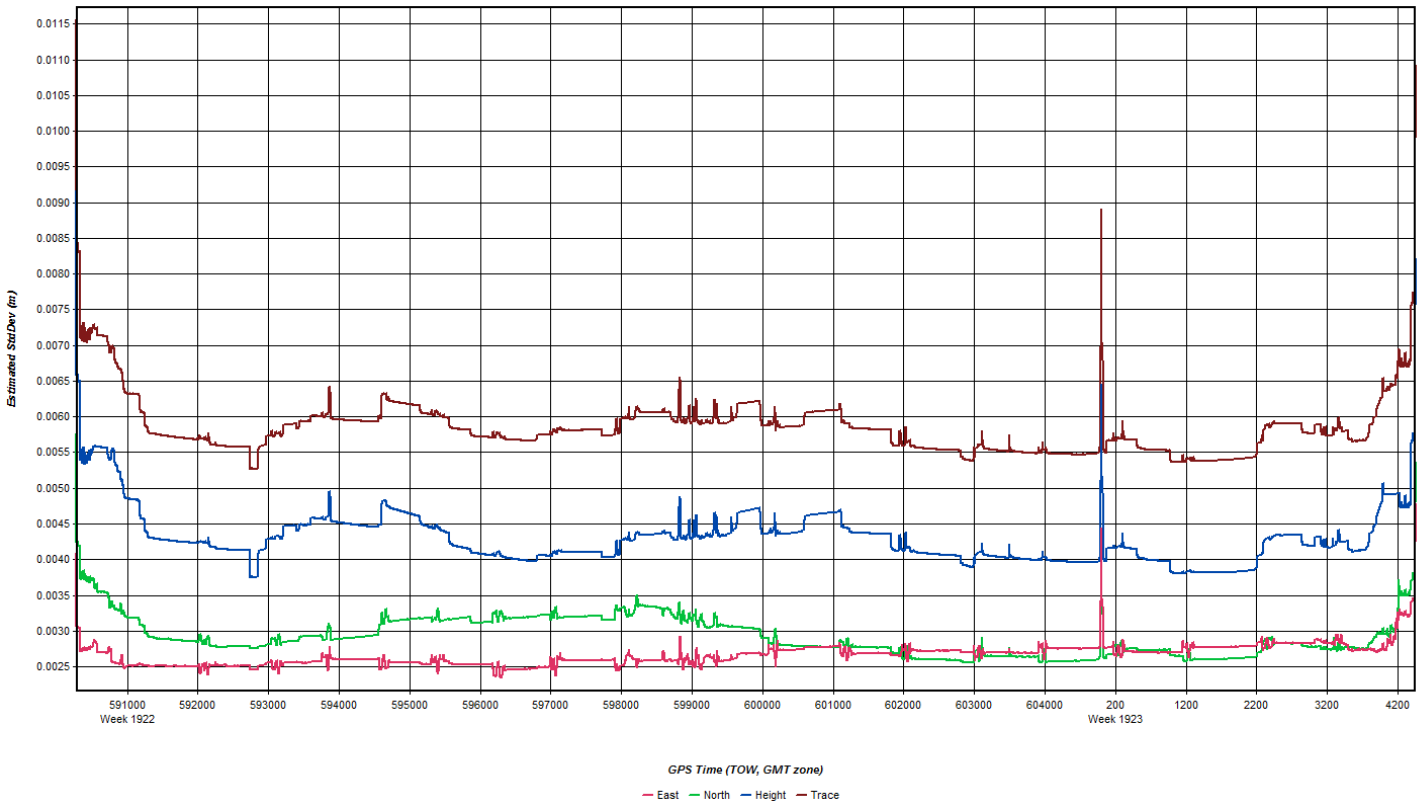


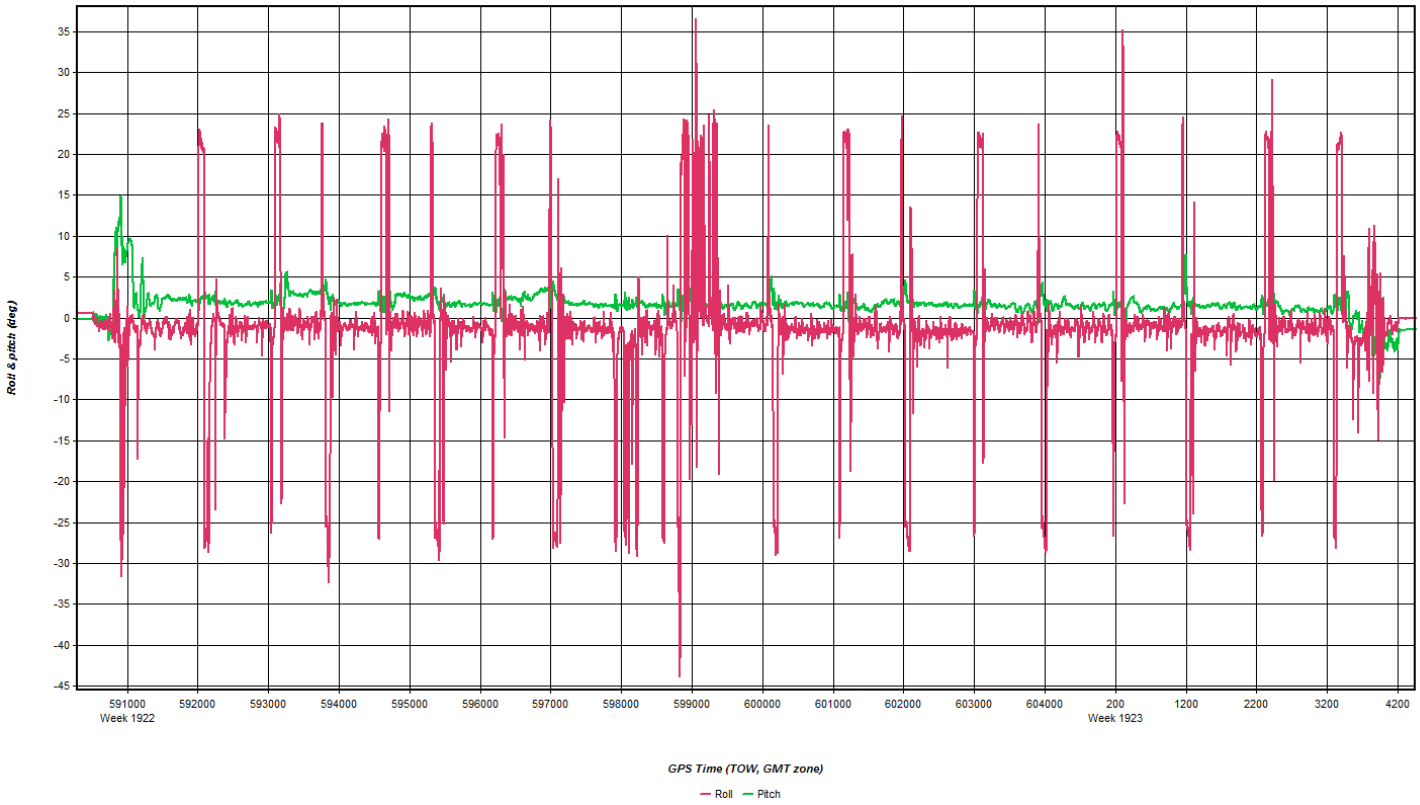

Num Sats
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
591000
Week 1922
592000
593000
594000
595000
596000
597000
598000
599000
600000
601000
602000
603000
604000
200
Week 1923
1200
2200
3200
4200
GPS Time (TOW, GMT zone)
Num Sats
GPS
GLONASS
BeiDou

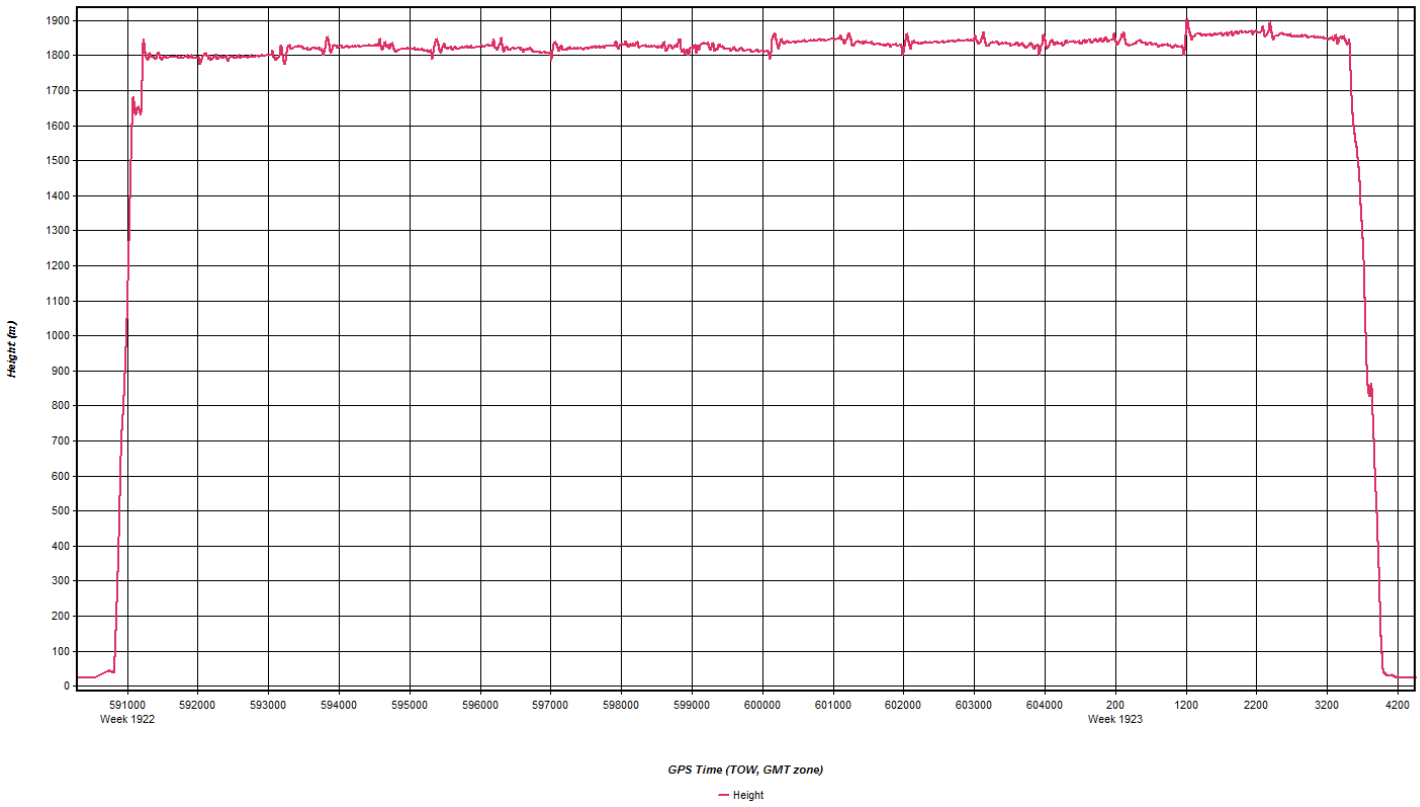

Separation (m)
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0.00
-0.01
-0.02
-0.03
-0.04
-0.05
-0.06
-0.07
-0.08
-0.09
-0.10
-0.11
-0.12
-0.13
-0.14
-0.15
-0.16
-0.17
-0.18
-0.19
-0.20
-0.21
591000
Week 1922
592000
593000
594000
595000
596000
597000
598000
599000
600000
601000
602000
603000
604000
200
Week 1923
1200
2200
3200
4200
GPS Time (TOW, GMT zone)
East
North
Up

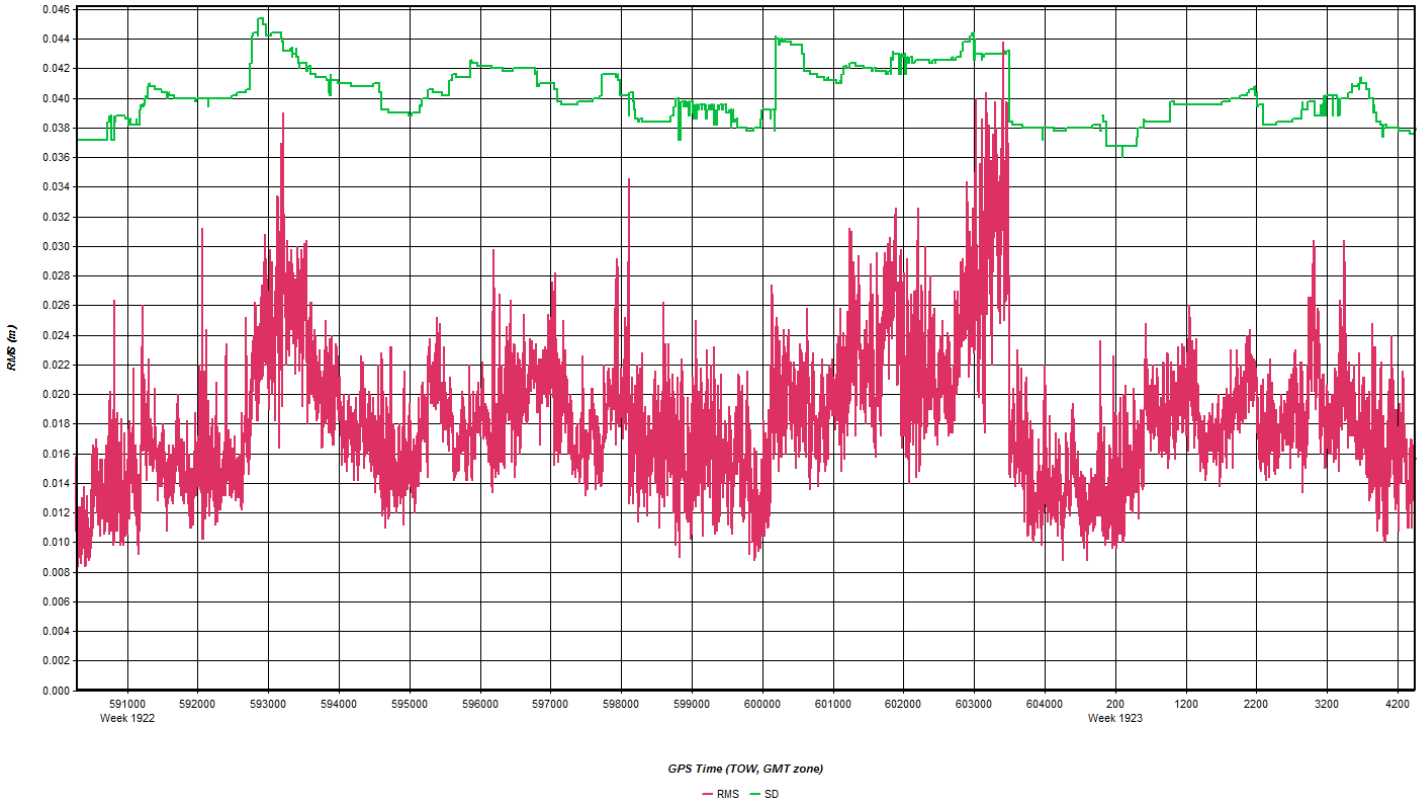

Azimuth/Heading (deg)
360
340
320
300
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
591000
Week 1922
592000
593000
594000
595000
596000
597000
598000
599000
600000
601000
602000
603000
604000
200
Week 1923
1200
2200
3200
4200
GPS Time (TOW, GMT zone)
Heading/Azimuth
GPS-COG

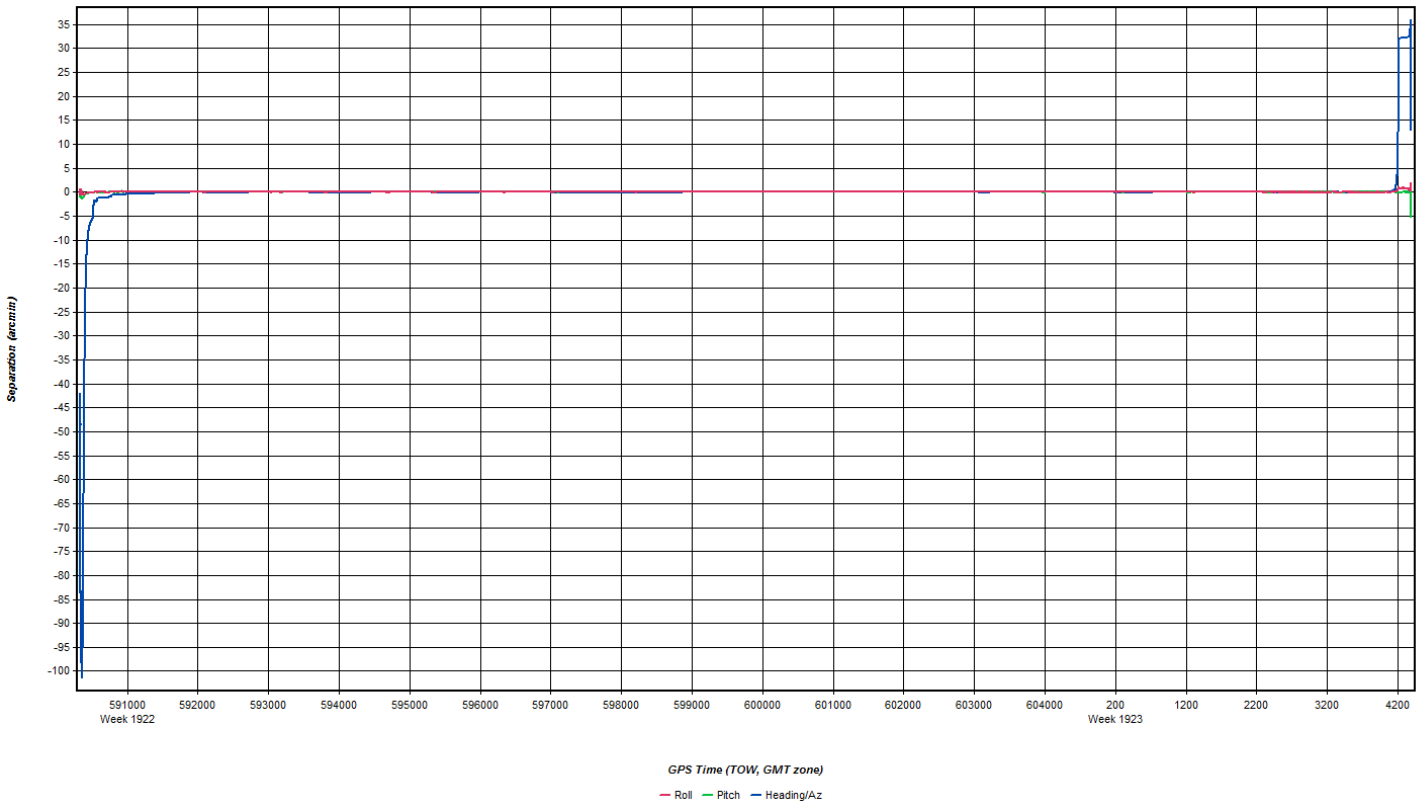

PDOP
1.55
1.50
1.45
1.40
1.35
1.30
1.25
1.20
1.15
1.10
1.05
1.00
0.95
0.90
0.85
0.80
0.75
0.70
0.65
0.60
0.55
0.50
0.45
0.40
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.00
591000
Week 1922
592000
593000
594000
595000
596000
597000
598000
599000
600000
601000
602000
603000
604000
200
Week 1923
1200
2200
3200
4200
GPS Time (TOW, GMT zone)
PDOP

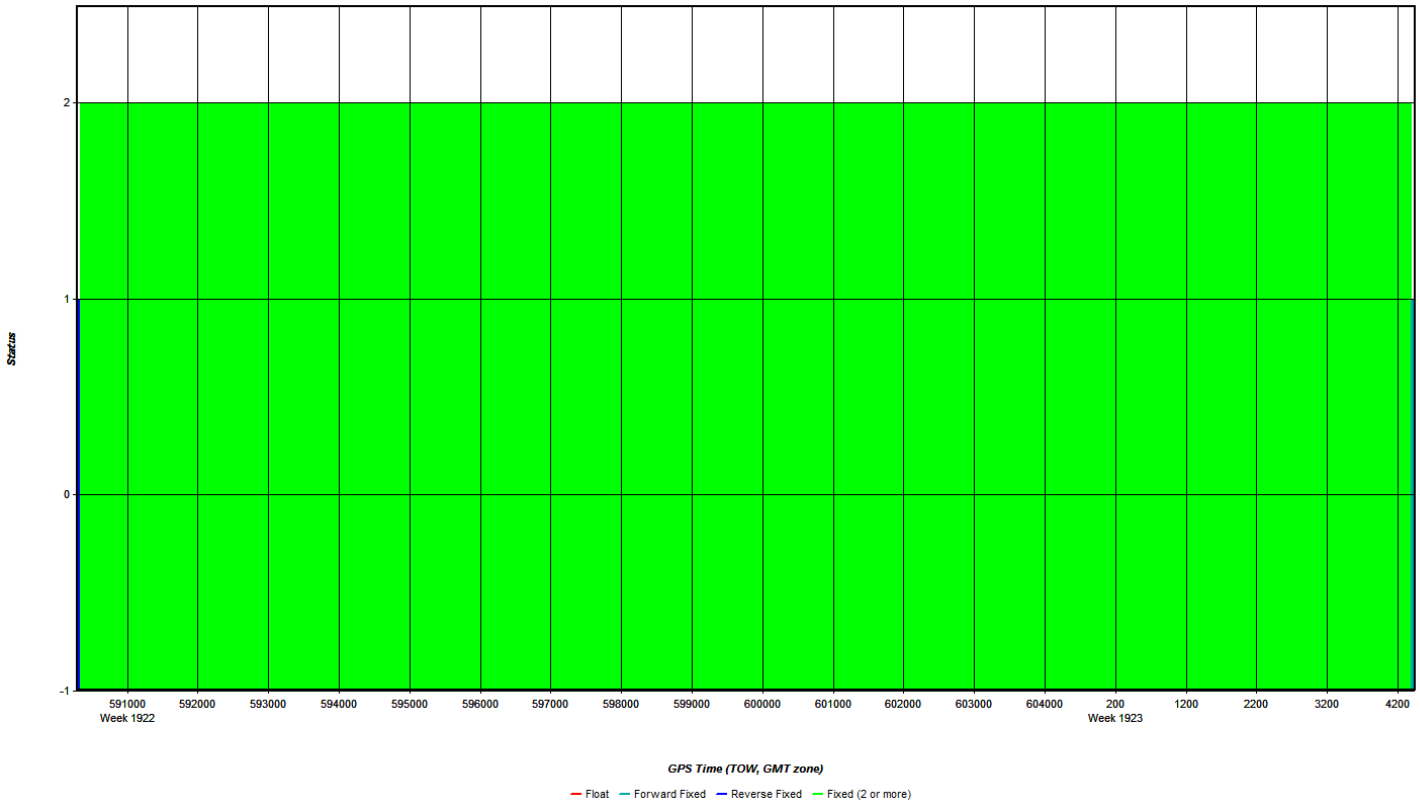

Estimated StdDev (m)
0.0115
0.0110
0.0105
0.0100
0.0095
0.0090
0.0085
0.0080
0.0075
0.0070
0.0065
0.0060
0.0055
0.0050
0.0045
0.0040
0.0035
0.0030
0.0025
591000
Week 1922
592000
593000
594000
595000
596000
597000
598000
599000
600000
601000
602000
603000
604000
200
Week 1923
1200
2200
3200
4200
GPS Time (TOW, GMT zone)
East
North
Height
Trace

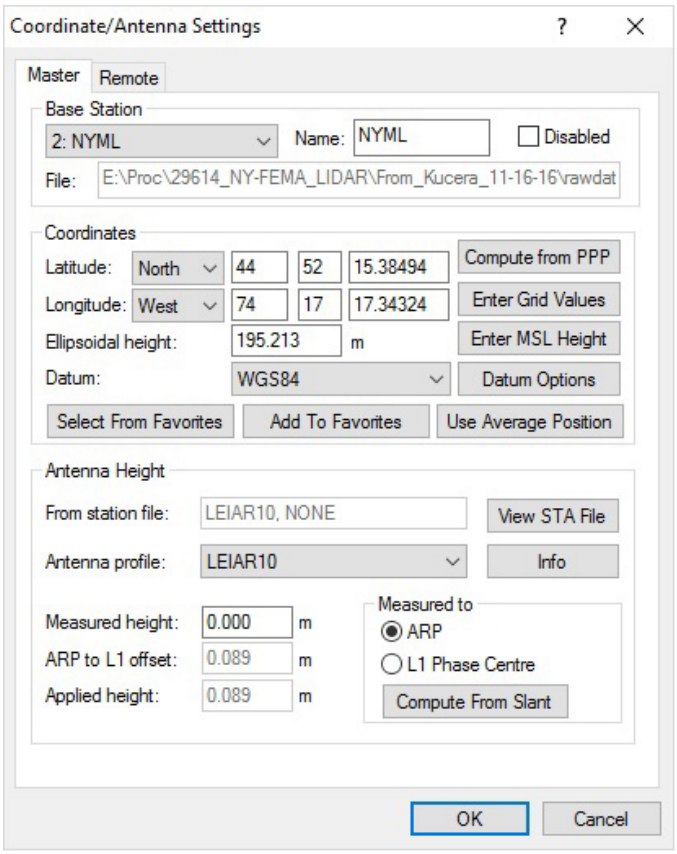

Roll & pitch (deg)
35
30
25
20
15
10
5
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
591000
Week 1922
592000
593000
594000
595000
596000
597000
598000
599000
600000
601000
602000
603000
604000
200
Week 1923
1200
2200
3200
4200
GPS Time (TOW, GMT zone)
Roll
Pitch

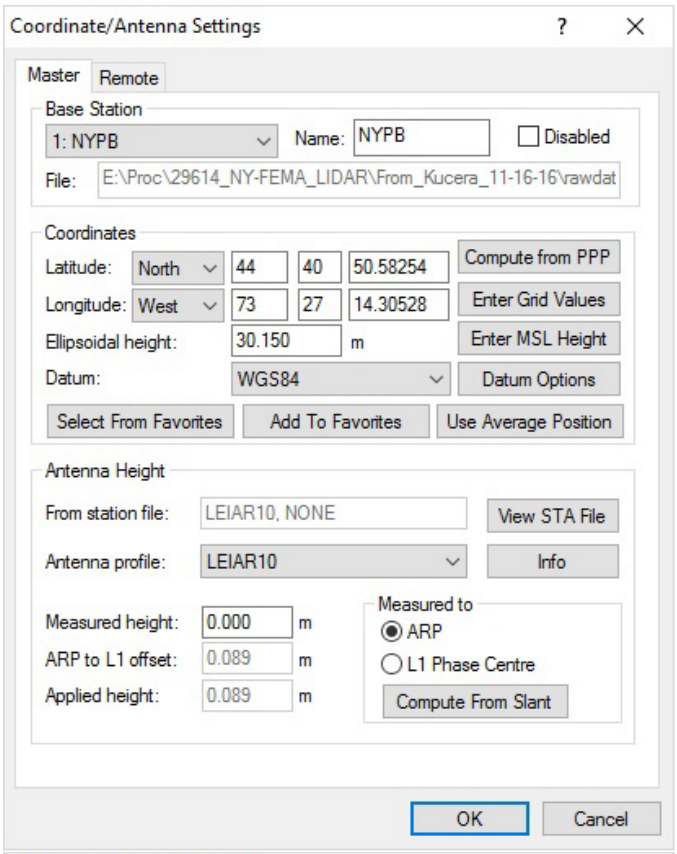

Height (m)
1900
1800
1700
1600
1500
1400
1300
1200
1100
1000
900
800
700
600
500
400
300
200
100
0
591000
Week 1922
592000
593000
594000
595000
596000
597000
598000
599000
600000
601000
602000
603000
604000
200
Week 1923
1200
2200
3200
4200
GPS Time (TOW, GMT zone)
Height

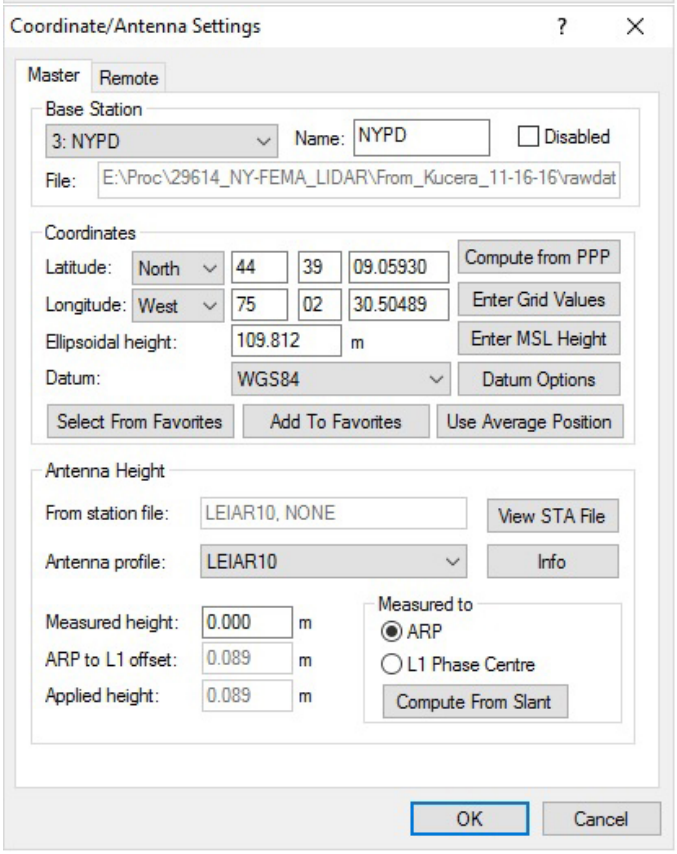

RMS (m)
0.046
0.044
0.042
0.040
0.038
0.036
0.034
0.032
0.030
0.028
0.026
0.024
0.022
0.020
0.018
0.016
0.014
0.012
0.010
0.008
0.006
0.004
0.002
0.000
591000
Week 1922
592000
593000
594000
595000
596000
597000
598000
599000
600000
601000
602000
603000
604000
200
Week 1923
1200
2200
3200
4200
GPS Time (TOW, GMT zone)
RMS
SD


Separation (arcmin)
35
30
25
20
15
10
5
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-55
-60
-65
-70
-75
-80
-85
-90
-95
-100
591000
Week 1922
592000
593000
594000
595000
596000
597000
598000
599000
600000
601000
602000
603000
604000
200
Week 1923
1200
2200
3200
4200
GPS Time (TOW, GMT zone)
Roll
Pitch
Heading/Az


Status
2
1
0
-1
591000
Week 1922
592000
593000
594000
595000
596000
597000
598000
599000
600000
601000
602000
603000
604000
200
Week 1923
1200
2200
3200
4200
GPS Time (TOW, GMT zone)
Float
Forward Fixed
Reverse Fixed
Fixed (2 or more)


Coordinate/Antenna Settings
Master
Remote
Base Station
2: NYML
Name:
NYML
Disabled
File:
E:\Proc\29614_NY-FEMA_LIDAR\From_Kucera_11-16-16\rawdat
Coordinates
Latitude:
North
44
52
15.38494
Compute from PPP
Longitude:
West
74
17
17.34324
Enter Grid Values
Ellipsoidal height:
195.213
m
Enter MSL Height
Datum:
WGS84
Datum Options
Select From Favorites
Add To Favorites
Use Average Position
Antenna Height
From station file:
LEIAR10, NONE
View STA File
Antenna profile:
LEIAR10
Info
Measured height:
0.000
m
ARP to L1 offset:
0.089
m
Applied height:
0.089
m
Measured to
ARP
L1 Phase Centre
Compute From Slant
OK
Cancel


Coordinate/Antenna Settings
Master
Remote
Base Station
1: NYPB
Name: NYPB
Disabled
File: E:\Proc\29614_NY-FEMA_LIDAR\From_Kucera_11-16-16\rawdat
Coordinates
Latitude: North 44 40 50.58254
Longitude: West 73 27 14.30528
Ellipsoidal height: 30.150 m
Datum: WGS84
Compute from PPP
Enter Grid Values
Enter MSL Height
Datum Options
Select From Favorites
Add To Favorites
Use Average Position
Antenna Height
From station file: LEIAR10, NONE
Antenna profile: LEIAR10
View STA File
Info
Measured height: 0.000 m
ARP to L1 offset: 0.089 m
Applied height: 0.089 m
Measured to
ARP
L1 Phase Centre
Compute From Slant
OK
Cancel


Coordinate/Antenna Settings
Master
Remote
Base Station
3: NYPD
Name: NYPD
Disabled
File: E:\Proc\29614_NY-FEMA_LIDAR\From_Kucera_11-16-16\rawdat
Coordinates
Latitude: North 44 39 09.05930
Longitude: West 75 02 30.50489
Ellipsoidal height: 109.812 m
Datum: WGS84
Compute from PPP
Enter Grid Values
Enter MSL Height
Datum Options
Select From Favorites
Add To Favorites
Use Average Position
Antenna Height
From station file: LEIAR10, NONE
Antenna profile: LEIAR10
View STA File
Info
Measured height: 0.000 m
ARP to L1 offset: 0.089 m
Applied height: 0.089 m
Measured to
ARP
L1 Phase Centre
Compute From Slant
OK
Cancel

KUCERA INTERNATIONAL INC.

LiDAR FLIGHT REPORT

Revised Feb. 2014

	Pilot/Operator		*Tail Number*		*Sky conditions, light conditions, horizon, shadowing, visibility/haze, cloud types, wind, turbulence, etc..*
CREW	george/Nico	**AIRCRAFT**	4102J	**WEATHER**	skc

mm/dd/yy
DATE 11/12/2016

LiDAR S/N
Camera System 7232

fwd/aft
Camera Location (Hole) fwd

Source
GPS fwd antenna

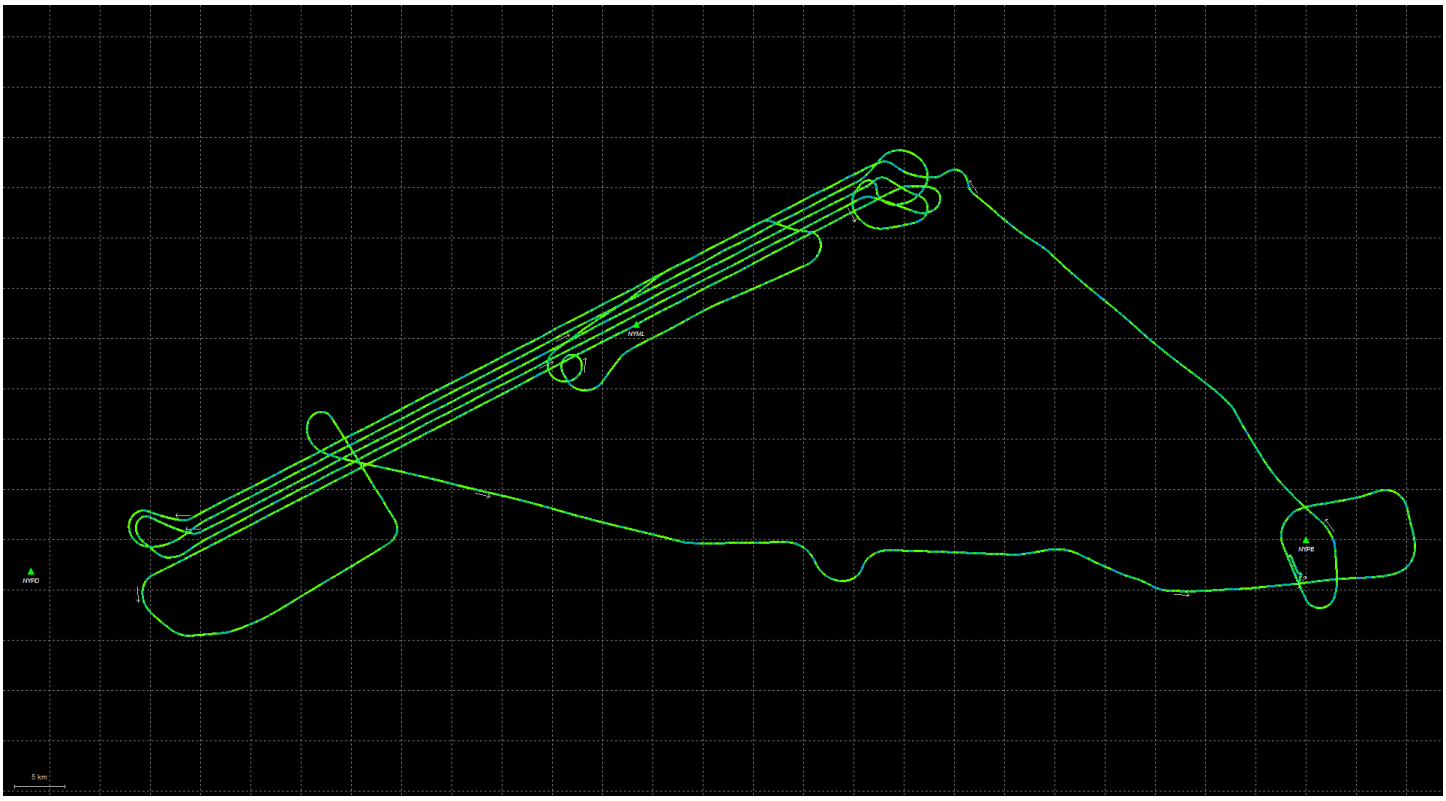
	Time	*Location*
Start-up	03:03:00 PM	KPBG
Shut-down		

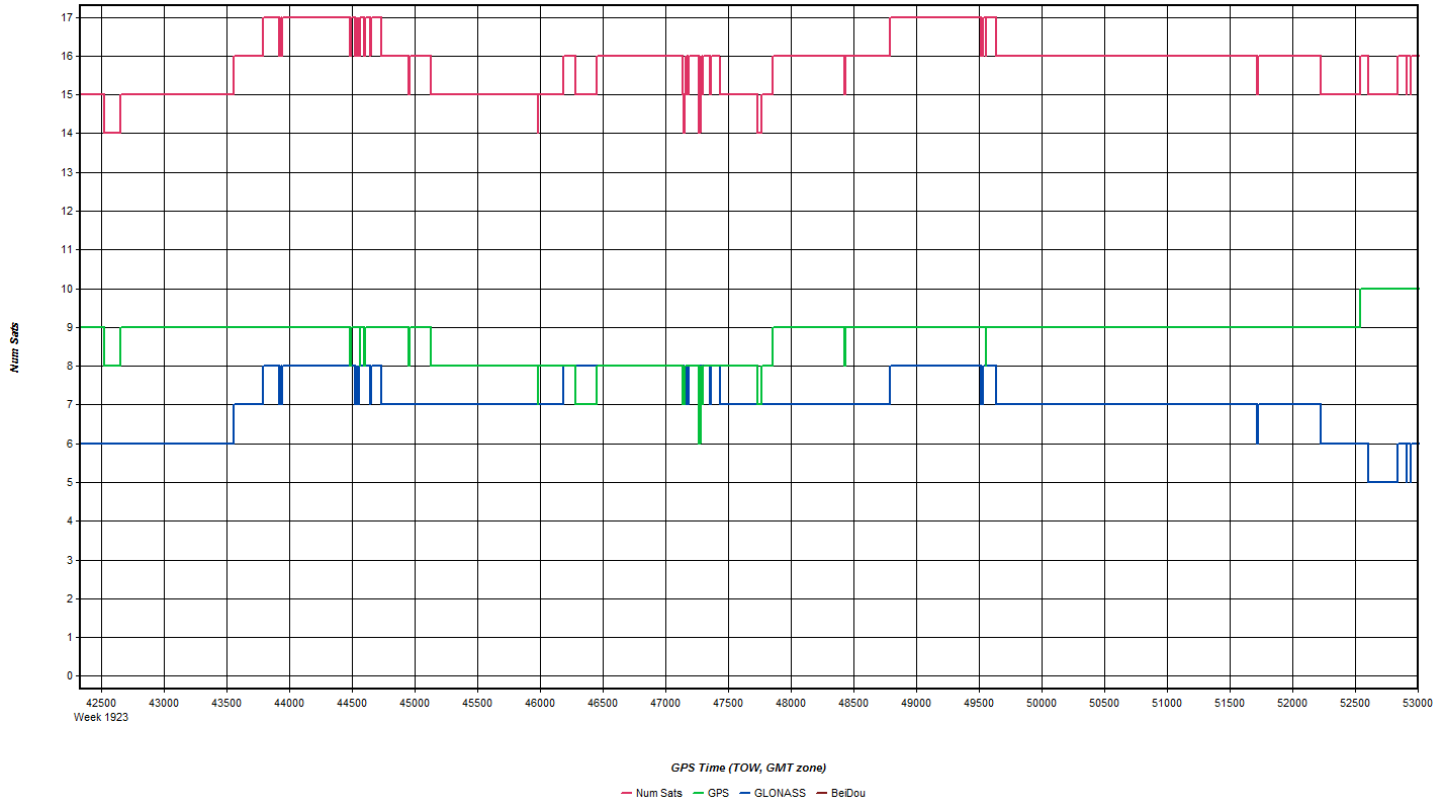
LiDAR STARTUP CHECKS	
Lens cleaned	
All fpds uploaded	
Pilot's screen functional	
Compact flash drive space	
SSDs have space	
Startup beeps & IPAS recording	
Initials:	NC

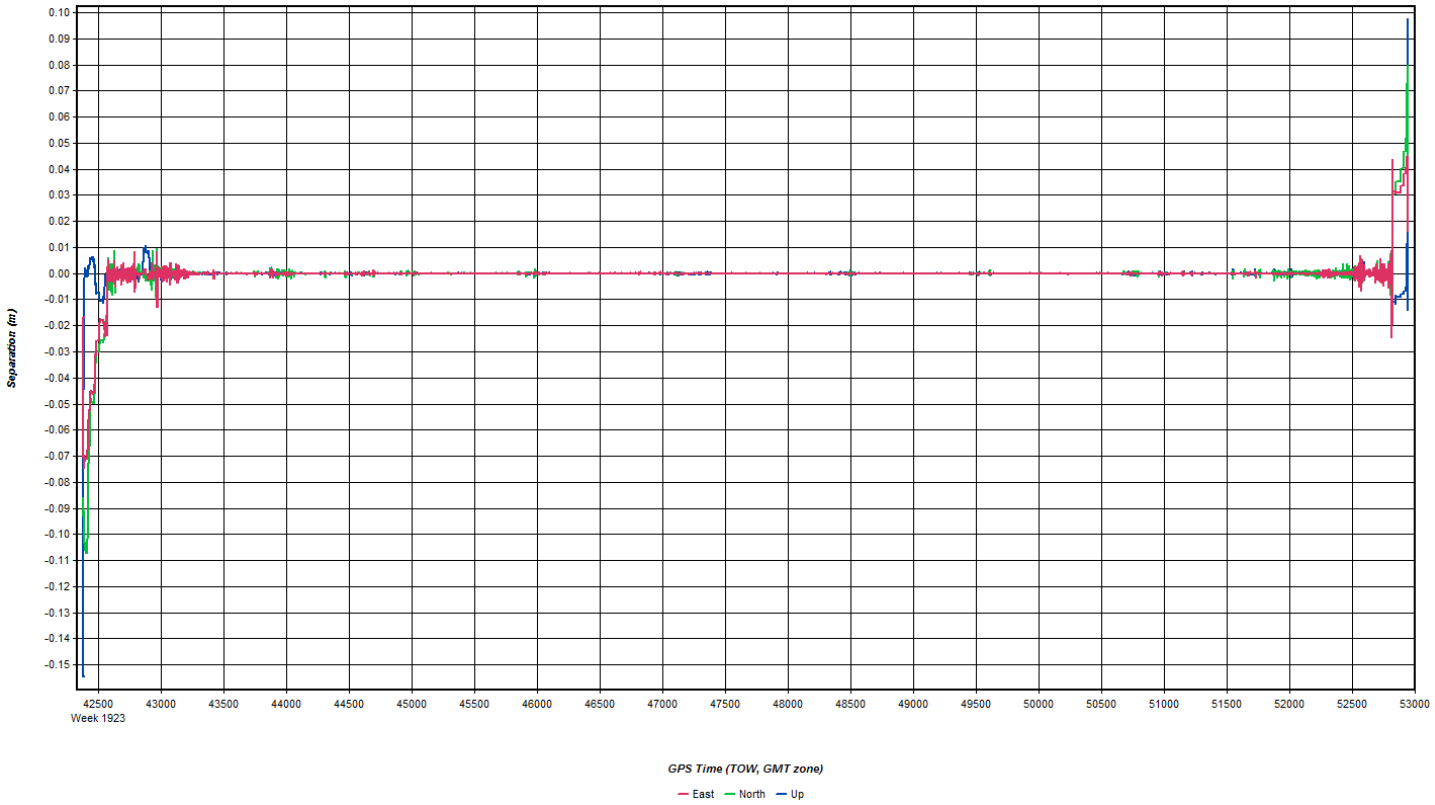
SSD
Drive #
Space Rem.
400

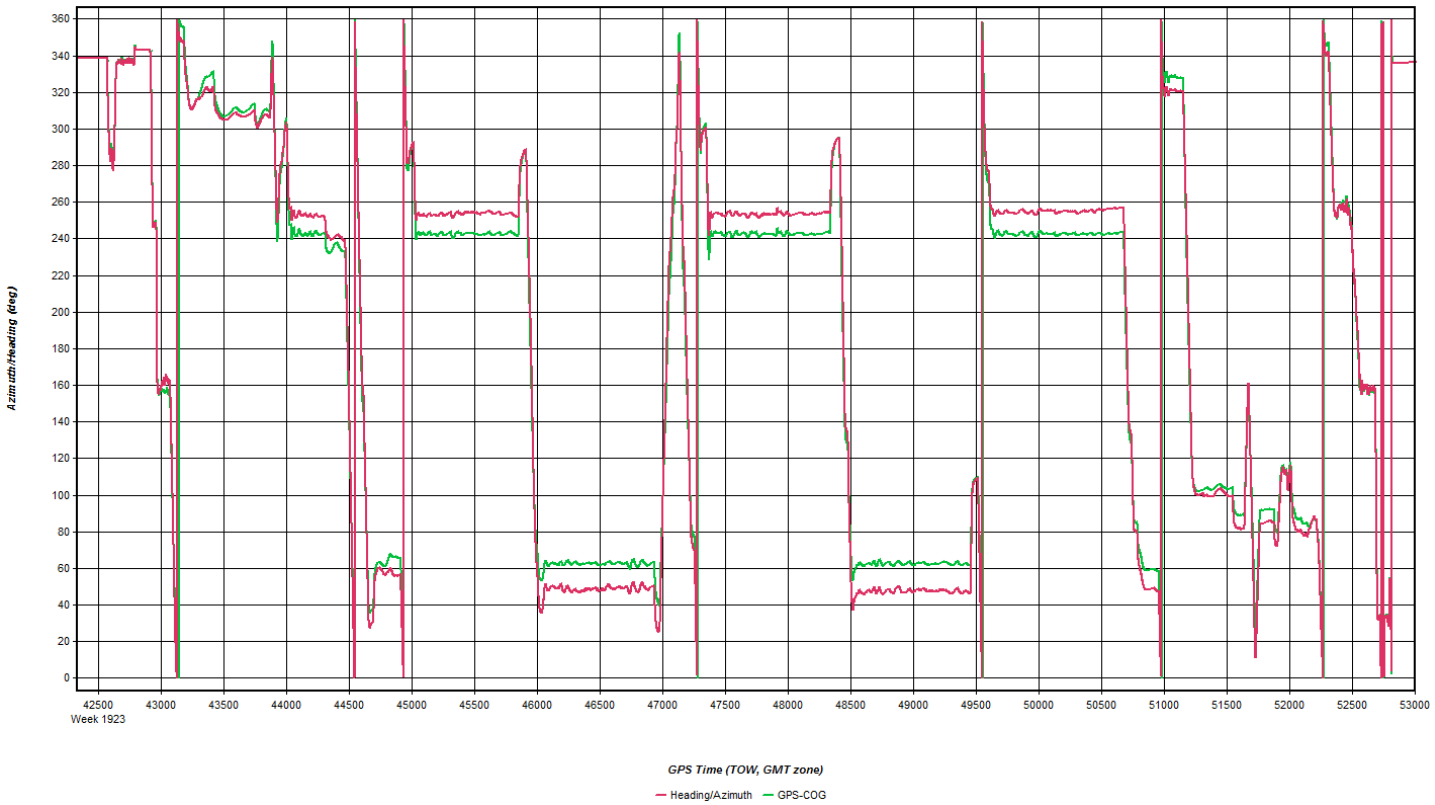
Job #	Location/ Site/Block	Line #	Flight Dir.	Crab Angle	Remarks
60686					Past over KPBG base station @ 15:10
60686	franklin	22	257	8	
"	"	23	7	12	
"	"	24	256	10	
"	"	25	7	10	
"	"	26	256	10	
"	"	27	7	10	
"	"	28	256	10	
"	"	54	341	10	
"	"	29	7	10	
"	"	30	256	10	
"	"	31	7	10	
"	"	32	256	10	possible small clouds last 5 miles on the westend but it was dark so not sure
"	"	33	7	10	possible small clouds last 5 miles on the westend but it was dark so not sure
"	"	34	256	10	possible small clouds last 5 miles on the westend but it was dark so not sure
"	"	35	7	10	possible small clouds last 5 miles on the westend but it was dark so not sure
"	"	36	256	10	possible small clouds last 5 miles on the westend but it was dark so not sure
"	"	37	7	10	possible small clouds last 5 miles on the westend but it was dark so not sure

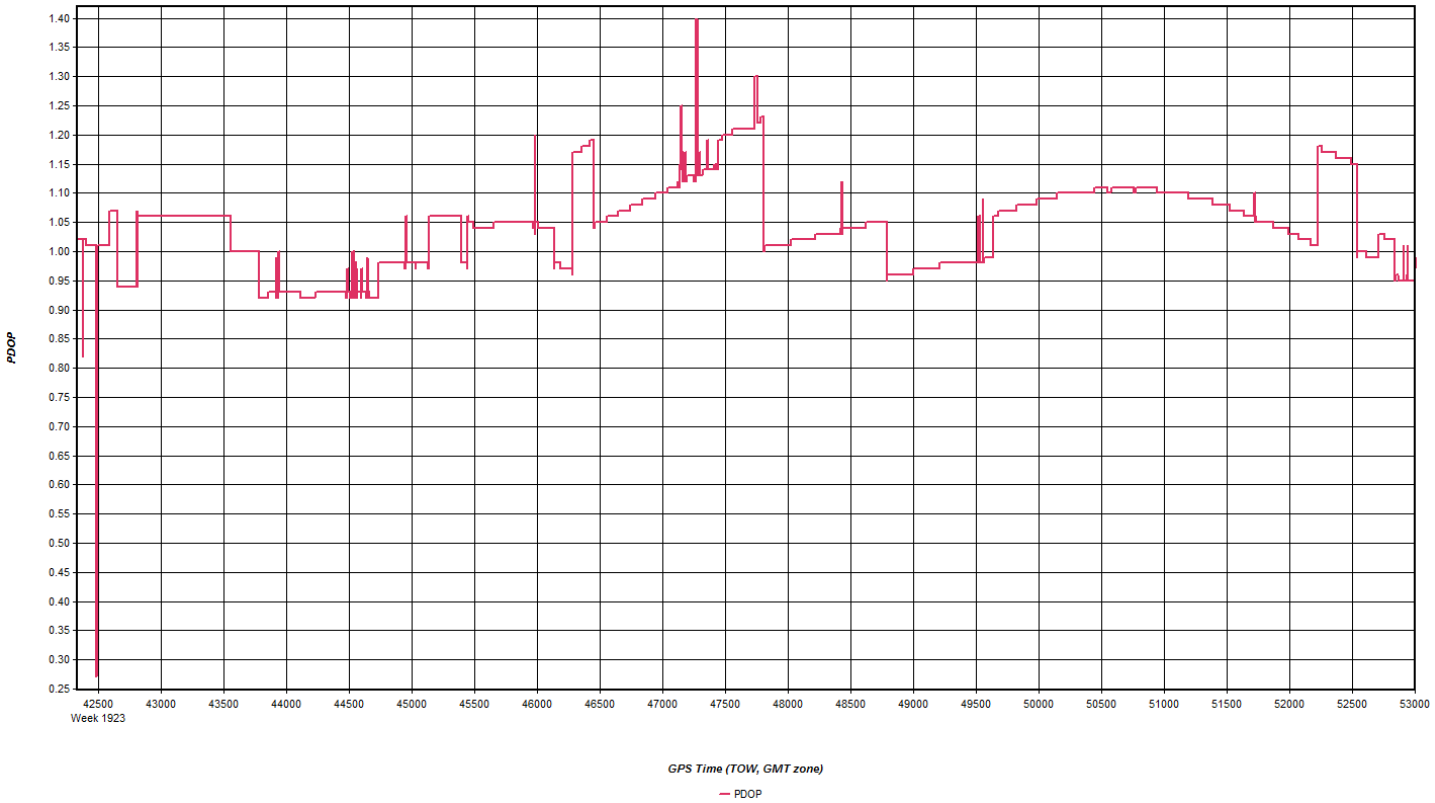
Nov 13, 2016-A (N4102J, SN7232)

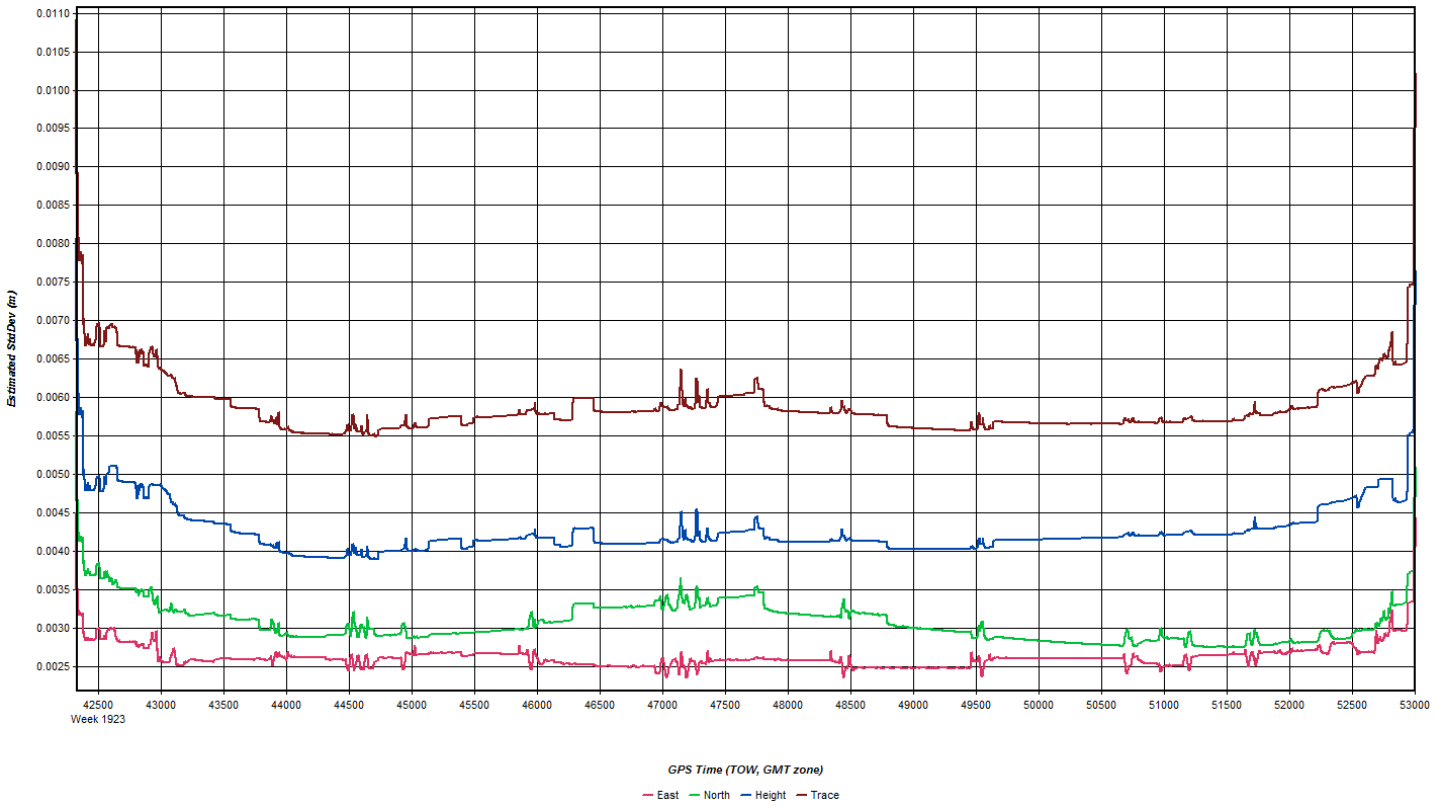

NYML
NYPB
NYPD
5 km

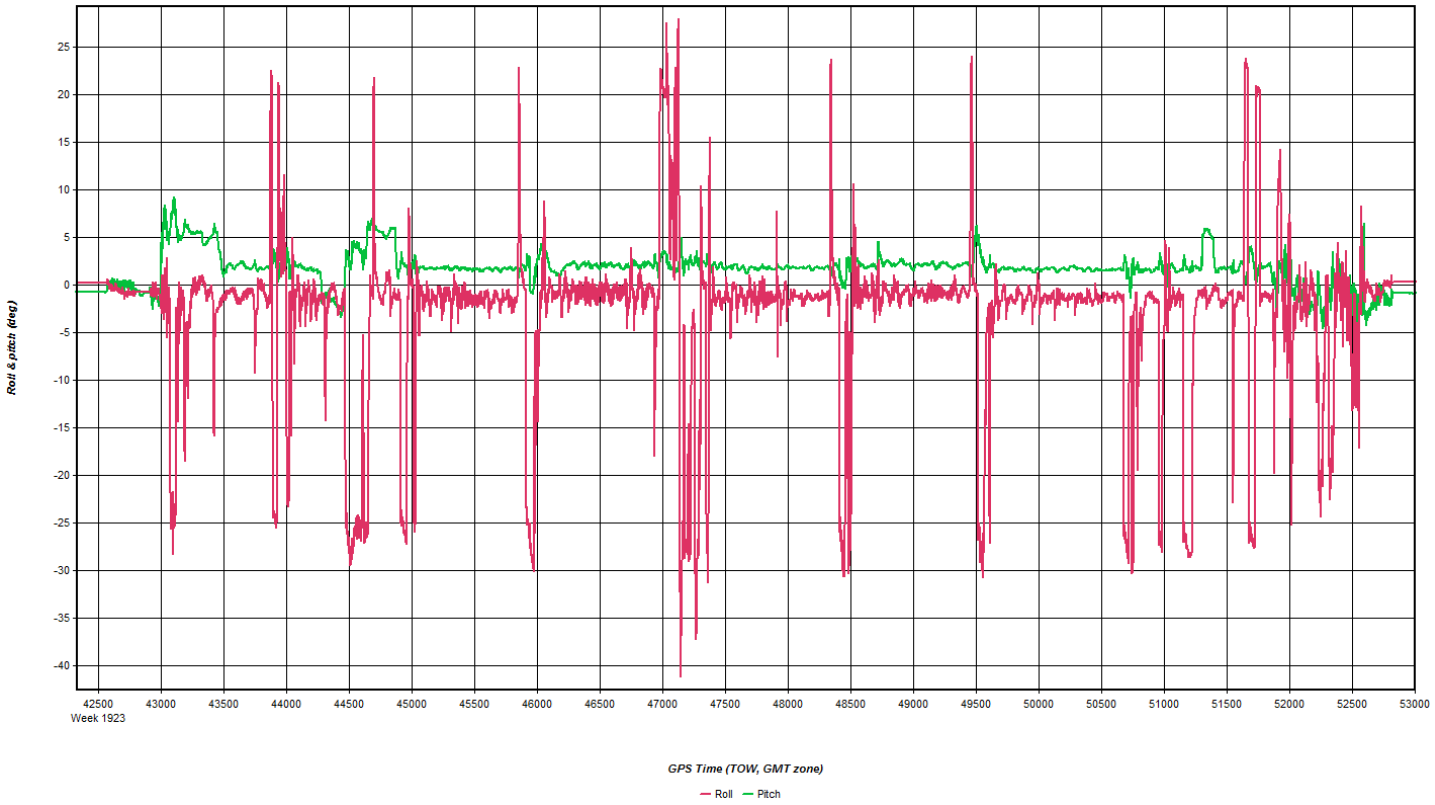

Num Sats
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
42500
Week 1923
43000
43500
44000
44500
45000
45500
46000
46500
47000
47500
48000
48500
49000
49500
50000
50500
51000
51500
52000
52500
53000
GPS Time (TOW, GMT zone)
Num Sats
GPS
GLONASS
BeiDou

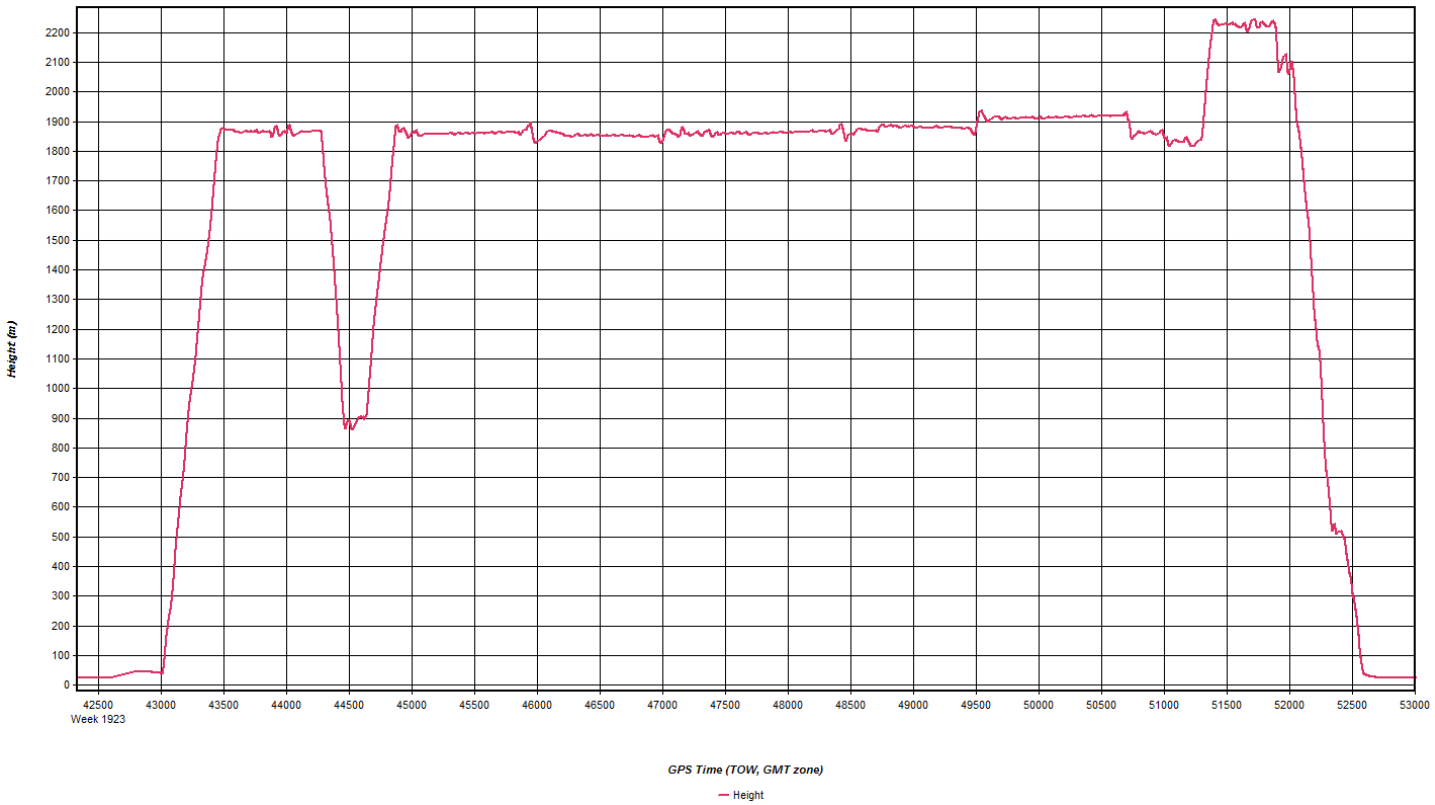

Separation (m)
0.10
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0.00
-0.01
-0.02
-0.03
-0.04
-0.05
-0.06
-0.07
-0.08
-0.09
-0.10
-0.11
-0.12
-0.13
-0.14
-0.15
42500
Week 1923
43000
43500
44000
44500
45000
45500
46000
46500
47000
47500
48000
48500
49000
49500
50000
50500
51000
51500
52000
52500
53000
GPS Time (TOW, GMT zone)
East
North
Up

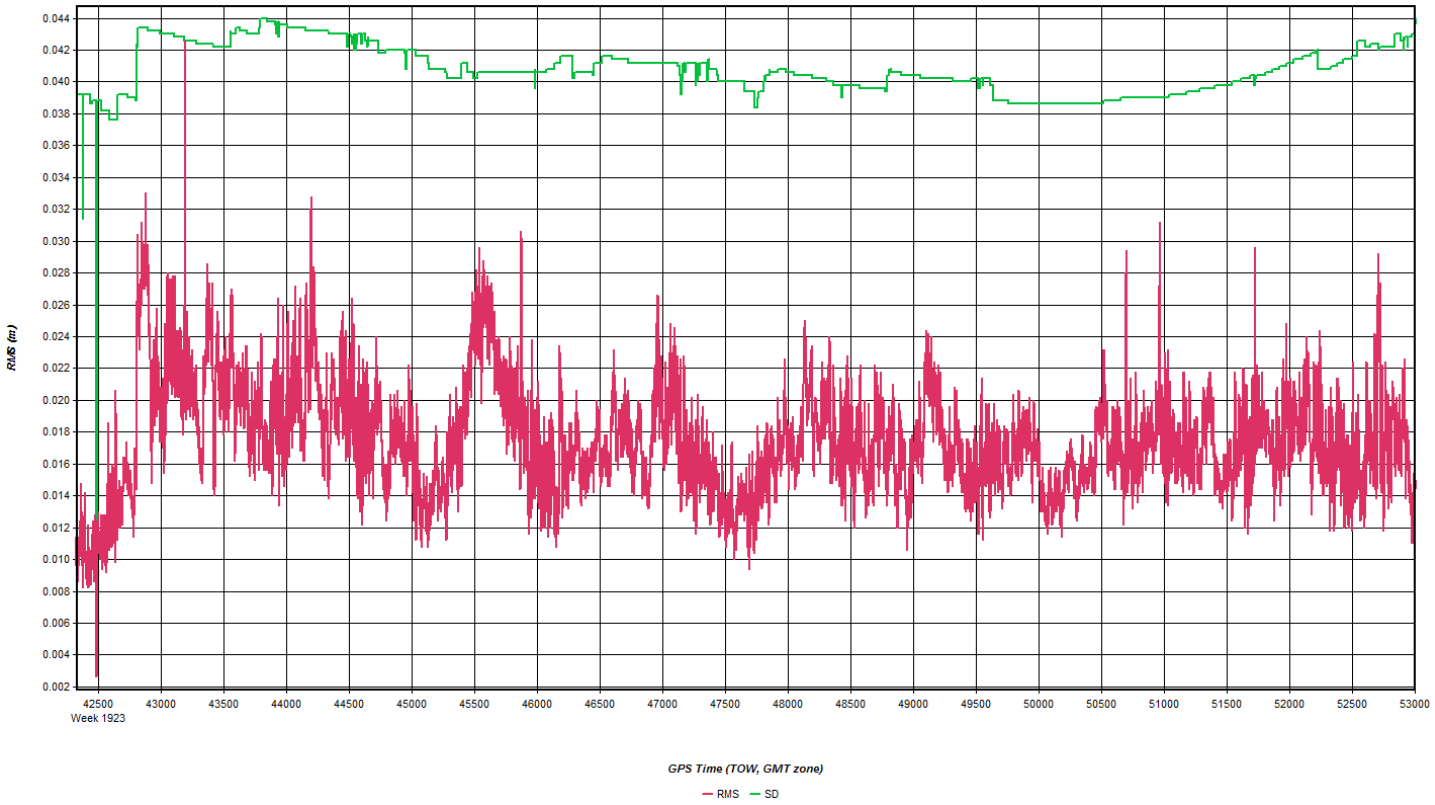

Azimuth/Heading (deg)
360
340
320
300
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
42500
Week 1923
43000
43500
44000
44500
45000
45500
46000
46500
47000
47500
48000
48500
49000
49500
50000
50500
51000
51500
52000
52500
53000
GPS Time (TOW, GMT zone)
Heading/Azimuth
GPS-COG

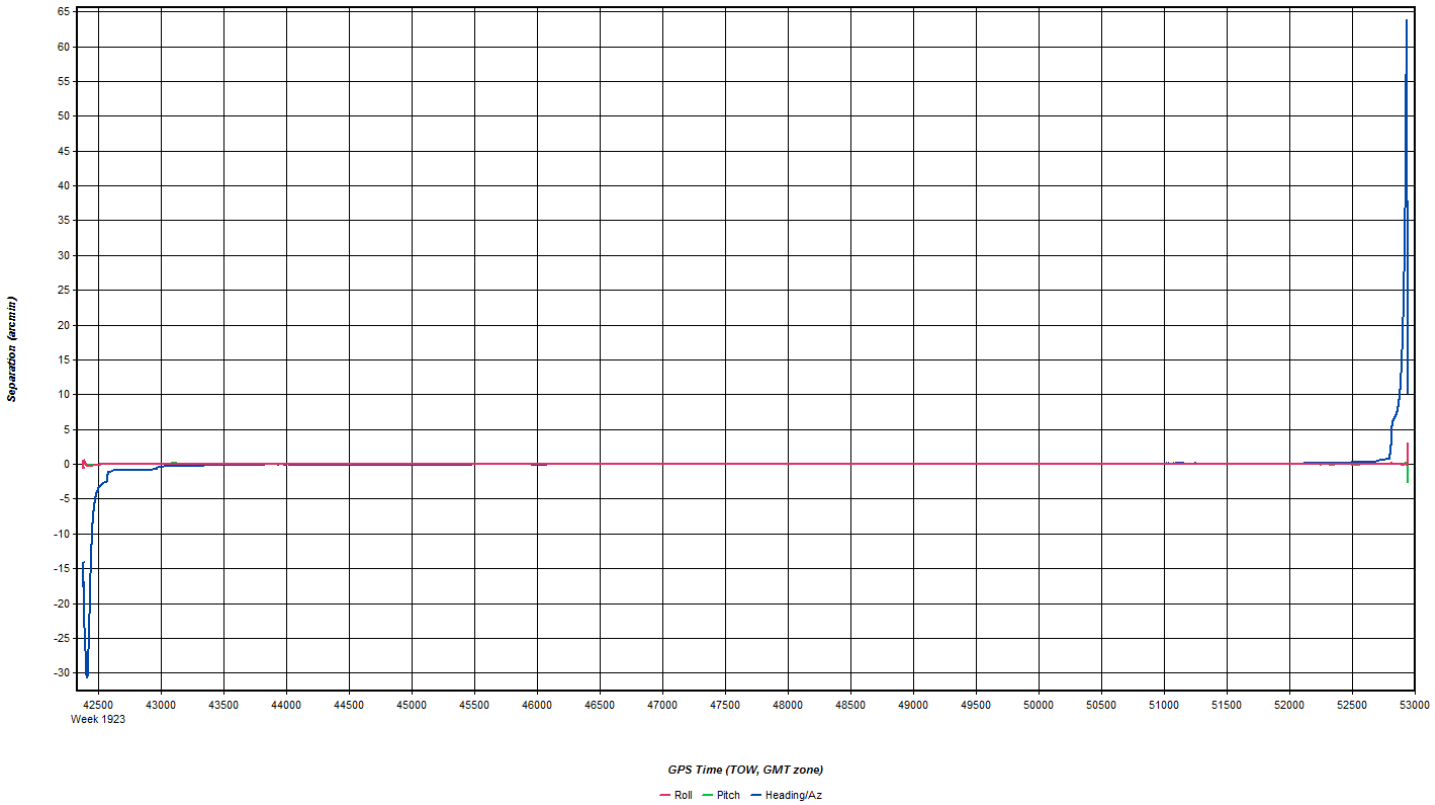

PDOP
1.40
1.35
1.30
1.25
1.20
1.15
1.10
1.05
1.00
0.95
0.90
0.85
0.80
0.75
0.70
0.65
0.60
0.55
0.50
0.45
0.40
0.35
0.30
0.25
42500
Week 1923
43000
43500
44000
44500
45000
45500
46000
46500
47000
47500
48000
48500
49000
49500
50000
50500
51000
51500
52000
52500
53000
GPS Time (TOW, GMT zone)
PDOP

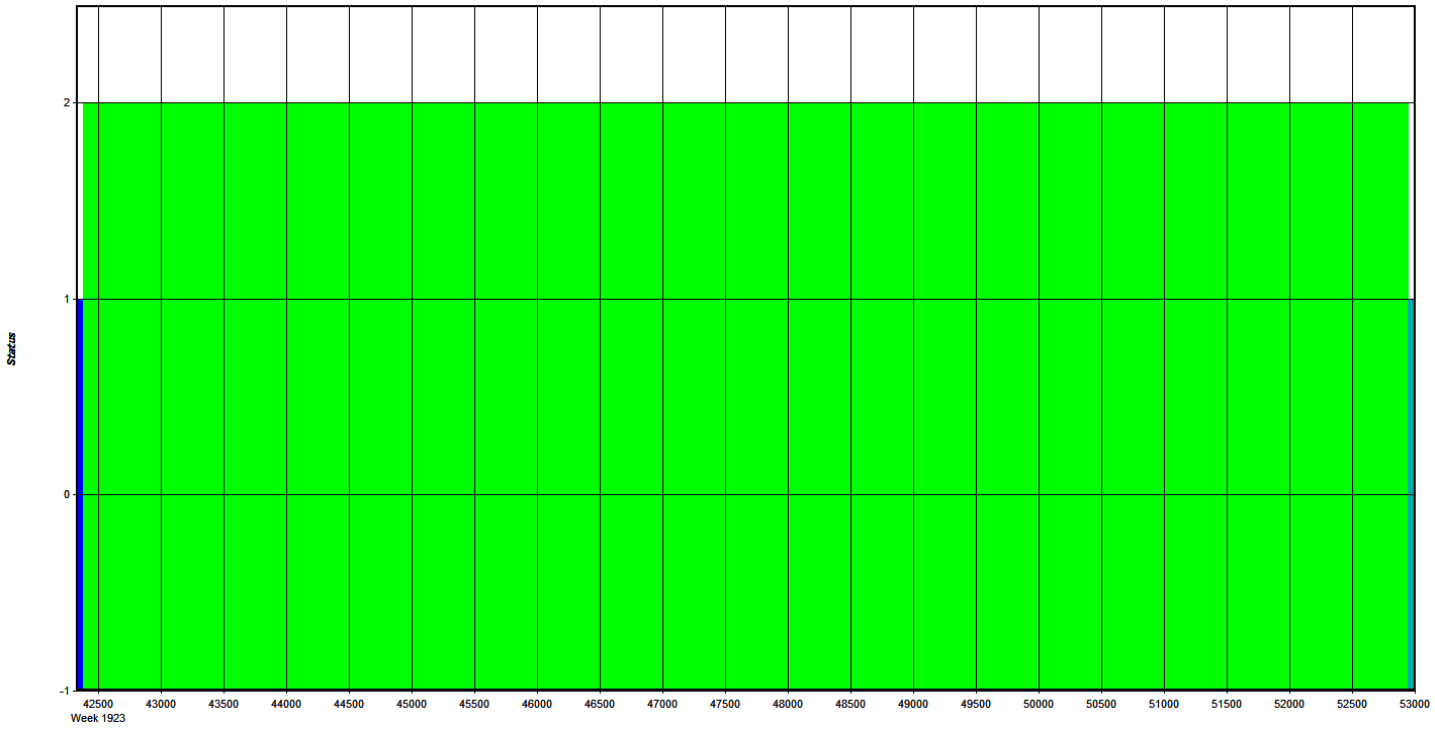

Estimated StdDev (m)
0.0110
0.0105
0.0100
0.0095
0.0090
0.0085
0.0080
0.0075
0.0070
0.0065
0.0060
0.0055
0.0050
0.0045
0.0040
0.0035
0.0030
0.0025
42500
Week 1923
43000
43500
44000
44500
45000
45500
46000
46500
47000
47500
48000
48500
49000
49500
50000
50500
51000
51500
52000
52500
53000
GPS Time (TOW, GMT zone)
East
North
Height
Trace

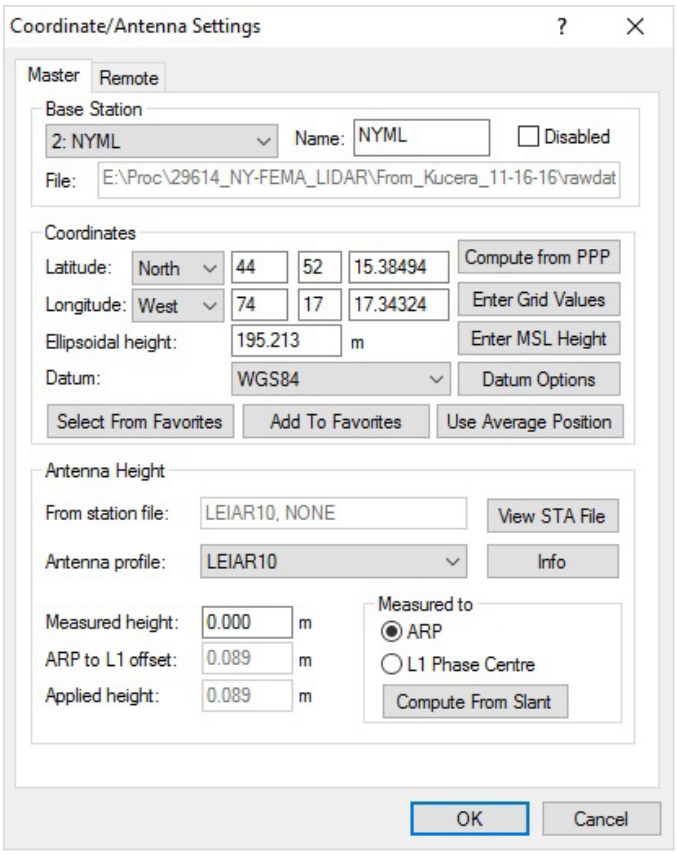

Roll & pitch (deg)
25
20
15
10
5
0
-5
-10
-15
-20
-25
-30
-35
-40
42500
Week 1923
43000
43500
44000
44500
45000
45500
46000
46500
47000
47500
48000
48500
49000
49500
50000
50500
51000
51500
52000
52500
53000
GPS Time (TOW, GMT zone)
Roll
Pitch

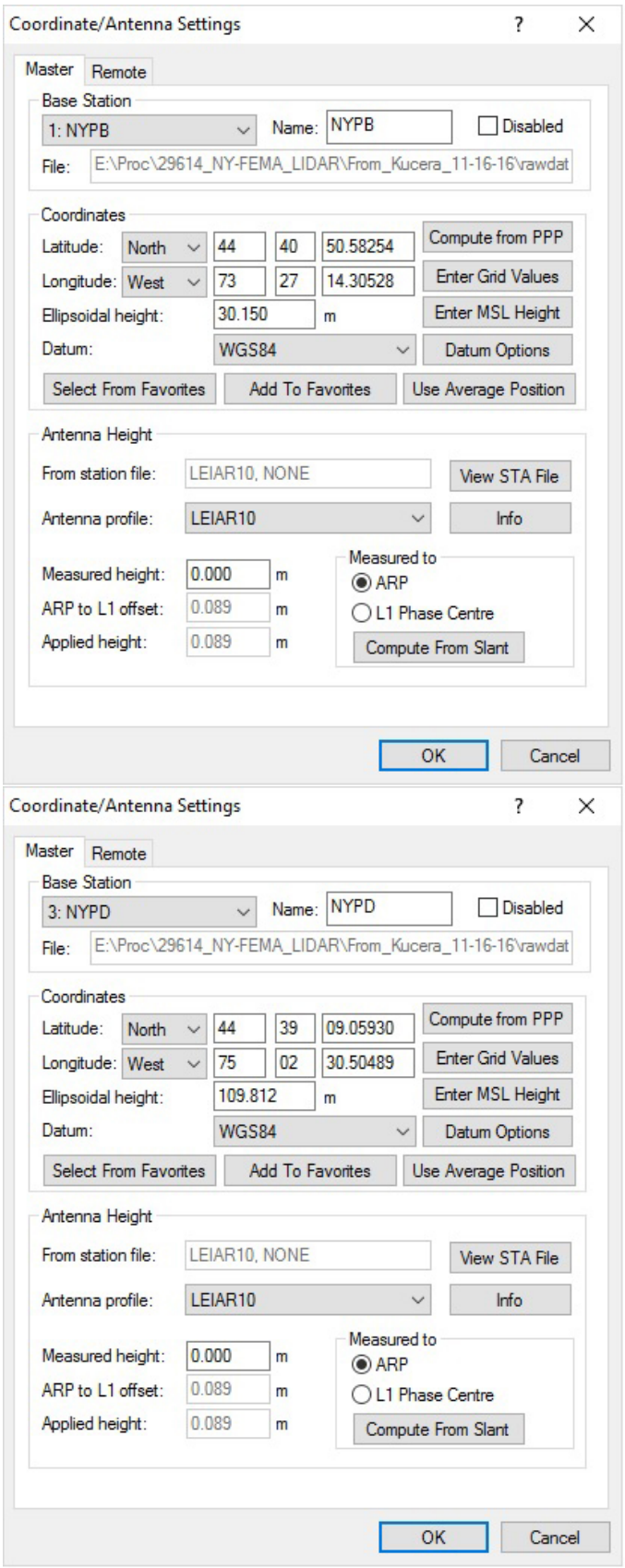

Height (m)
2200
2100
2000
1900
1800
1700
1600
1500
1400
1300
1200
1100
1000
900
800
700
600
500
400
300
200
100
0
42500
Week 1923
43000
43500
44000
44500
45000
45500
46000
46500
47000
47500
48000
48500
49000
49500
50000
50500
51000
51500
52000
52500
53000
GPS Time (TOW, GMT zone)
Height


RMS (m)
0.044
0.042
0.040
0.038
0.036
0.034
0.032
0.030
0.028
0.026
0.024
0.022
0.020
0.018
0.016
0.014
0.012
0.010
0.008
0.006
0.004
0.002
42500
Week 1923
43000
43500
44000
44500
45000
45500
46000
46500
47000
47500
48000
48500
49000
49500
50000
50500
51000
51500
52000
52500
53000
GPS Time (TOW, GMT zone)
RMS
SD

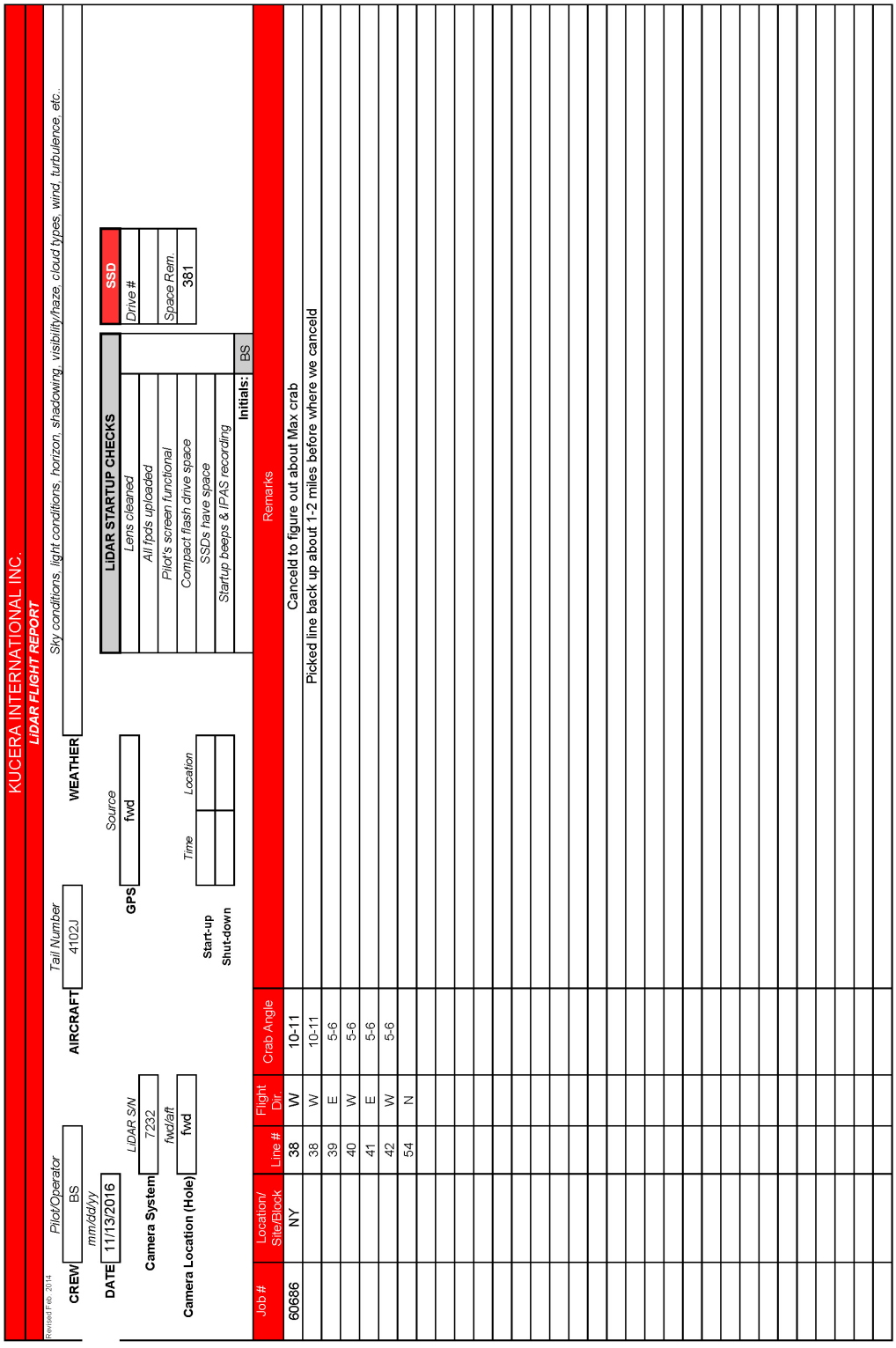

Separation (arcmin)
65
60
55
50
45
40
35
30
25
20
15
10
5
0
-5
-10
-15
-20
-25
-30
42500
Week 1923
43000
43500
44000
44500
45000
45500
46000
46500
47000
47500
48000
48500
49000
49500
50000
50500
51000
51500
52000
52500
53000
GPS Time (TOW, GMT zone)
Roll
Pitch
Heading/Az


Status
2
1
0
-1
42500
Week 1923
43000
43500
44000
44500
45000
45500
46000
46500
47000
47500
48000
48500
49000
49500
50000
50500
51000
51500
52000
52500
53000
GPS Time (TOW, GMT zone)
Float
Forward Fixed
Reverse Fixed
Fixed (2 or more)


Coordinate/Antenna Settings
Master
Remote
Base Station
2: NYML
Name:
NYML
Disabled
File:
E:\Proc\29614_NY-FEMA_LIDAR\From_Kucera_11-16-16\rawdat
Coordinates
Latitude:
North
44
52
15.38494
Compute from PPP
Longitude:
West
74
17
17.34324
Enter Grid Values
Ellipsoidal height:
195.213
m
Enter MSL Height
Datum:
WGS84
Datum Options
Select From Favorites
Add To Favorites
Use Average Position
Antenna Height
From station file:
LEIAR10, NONE
View STA File
Antenna profile:
LEIAR10
Info
Measured height:
0.000
m
ARP to L1 offset:
0.089
m
Applied height:
0.089
m
Measured to
ARP
L1 Phase Centre
Compute From Slant
OK
Cancel


Coordinate/Antenna Settings
Master
Remote
Base Station
1: NYPB
Name: NYPB
Disabled
File: E:\Proc\29614_NY-FEMA_LIDAR\From_Kucera_11-16-16\rawdat
Coordinates
Latitude: North 44 40 50.58254
Longitude: West 73 27 14.30528
Ellipsoidal height: 30.150 m
Datum: WGS84
Compute from PPP
Enter Grid Values
Enter MSL Height
Datum Options
Select From Favorites
Add To Favorites
Use Average Position
Antenna Height
From station file: LEIAR10, NONE
Antenna profile: LEIAR10
View STA File
Info
Measured height: 0.000 m
ARP to L1 offset: 0.089 m
Applied height: 0.089 m
Measured to
ARP
L1 Phase Centre
Compute From Slant
OK
Cancel
Coordinate/Antenna Settings
Master
Remote
Base Station
3: NYPD
Name: NYPD
Disabled
File: E:\Proc\29614_NY-FEMA_LIDAR\From_Kucera_11-16-16\rawdat
Coordinates
Latitude: North 44 39 09.05930
Longitude: West 75 02 30.50489
Ellipsoidal height: 109.812 m
Datum: WGS84
Compute from PPP
Enter Grid Values
Enter MSL Height
Datum Options
Select From Favorites
Add To Favorites
Use Average Position
Antenna Height
From station file: LEIAR10, NONE
Antenna profile: LEIAR10
View STA File
Info
Measured height: 0.000 m
ARP to L1 offset: 0.089 m
Applied height: 0.089 m
Measured to
ARP
L1 Phase Centre
Compute From Slant
OK
Cancel

Flight Log



KUCERA INTERNATIONAL INC.

LIDAR FLIGHT REPORT

Revised Feb. 2014

CREW: Pilot/Operator: BS; mm/dd/yy

DATE: 11/13/2016

AIRCRAFT: Tail Number: 4102J

WEATHER: Sky conditions, light conditions, horizon, shadowing, visibility/haze, cloud types, wind, turbulence, etc..

LiDAR S/N: 7232

Camera System: fwd/aft

Camera Location (Hole): fwd

GPS: Source: fwd

Start-up: Time / Location

Shut-down: Time / Location

LiDAR STARTUP CHECKS

- Lens cleaned
- All fpds uploaded
- Pilot's screen functional
- Compact flash drive space
- SSDs have space
- Startup beeps & IPAS recording

Initials: BS

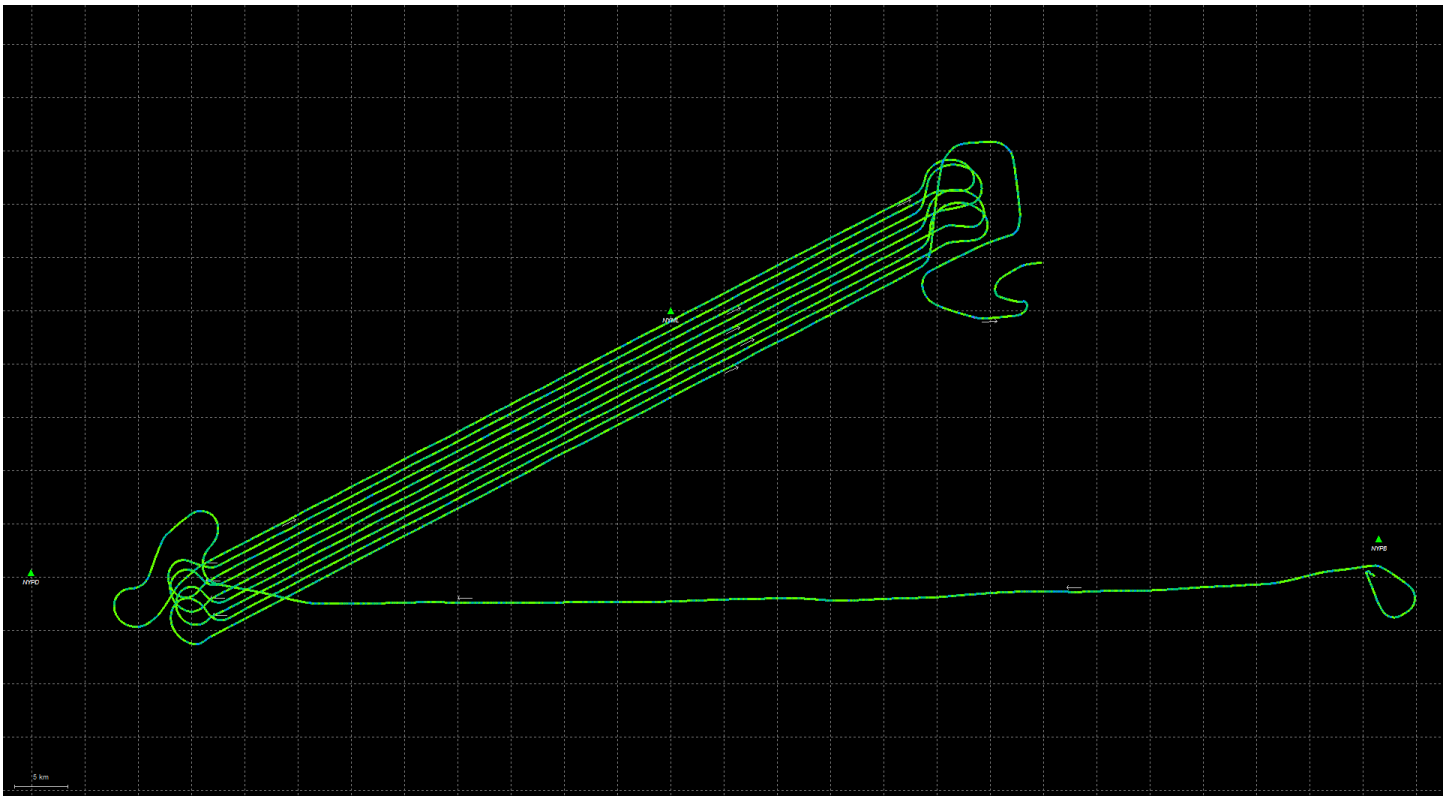
SSD: Drive #; Space Rem.: 381

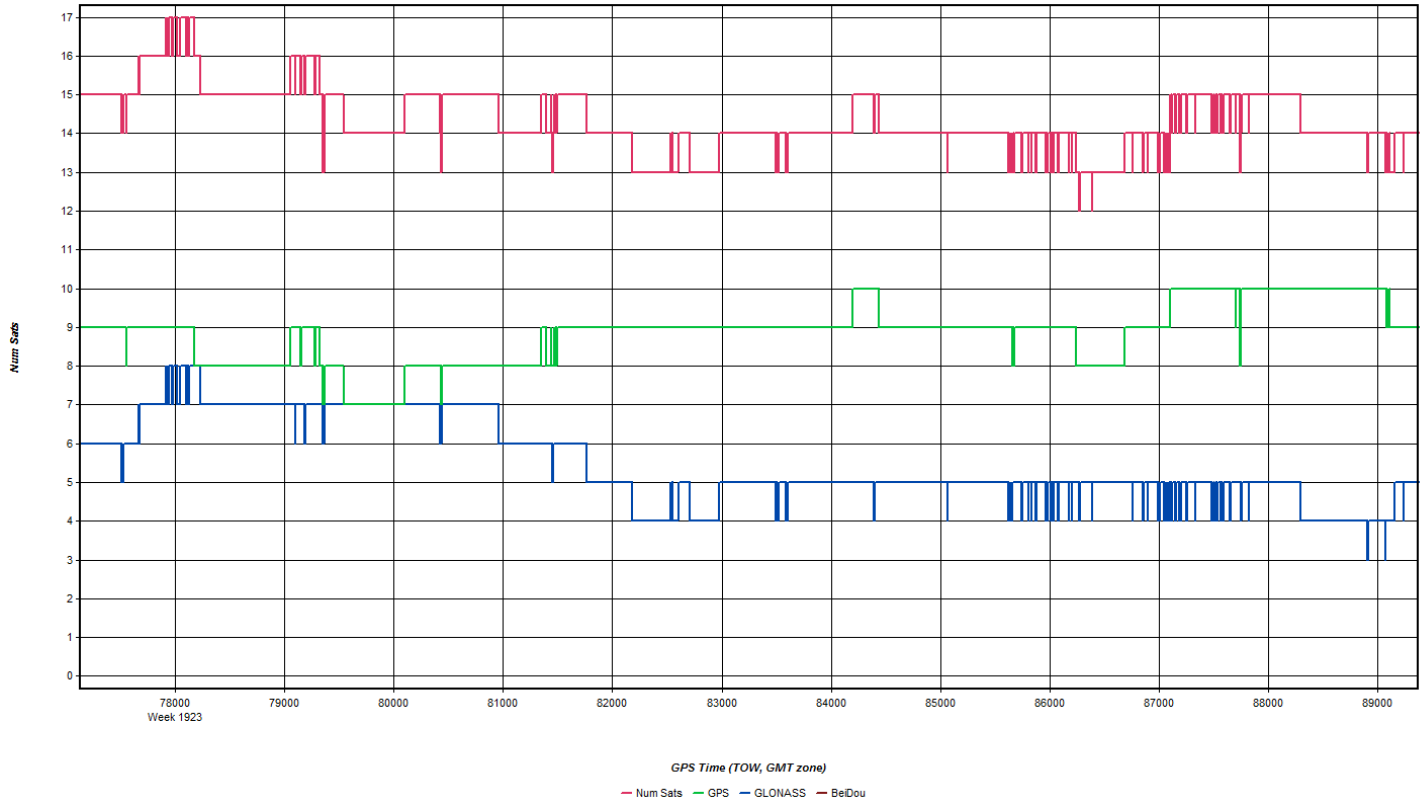
Job #	Location/ Site/Block	Line #	Flight Dir.	Crab Angle	Remarks
60686	NY	38	W	10-11	Canceld to figure out about Max crab
		38	W	10-11	Picked line back up about 1-2 miles before where we canceld
		39	E	5-6	
		40	W	5-6	
		41	E	5-6	
		42	W	5-6	
		54	N		

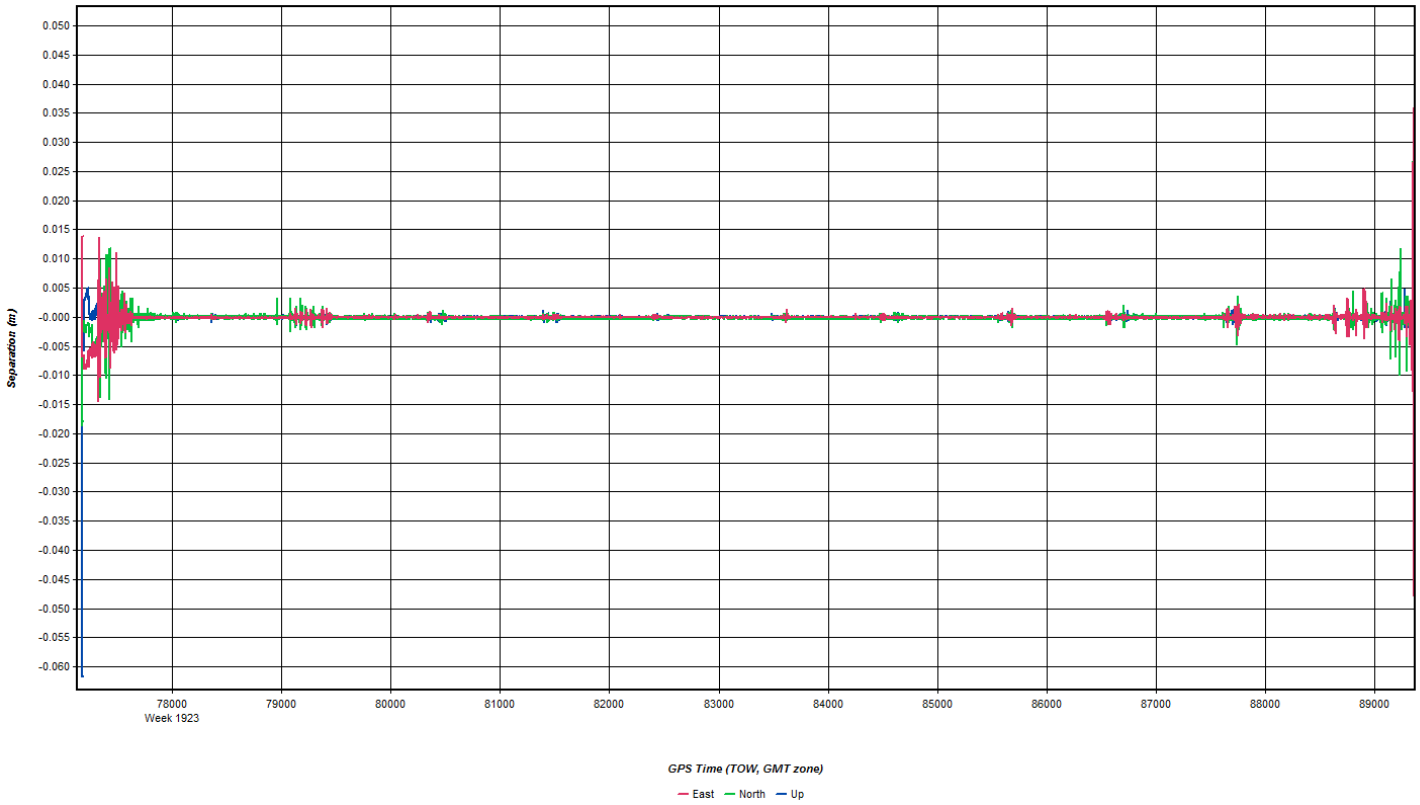
LiDAR

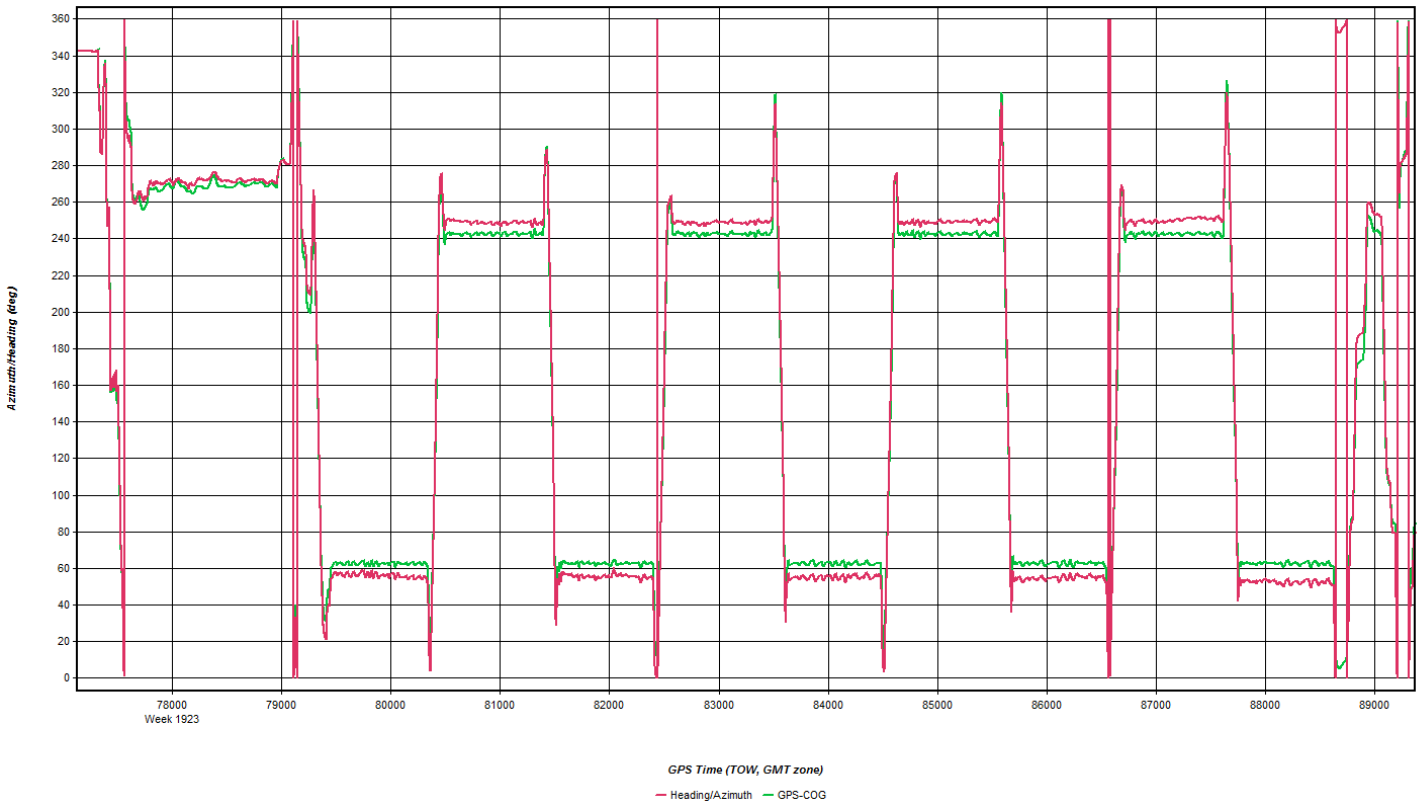
Page 1

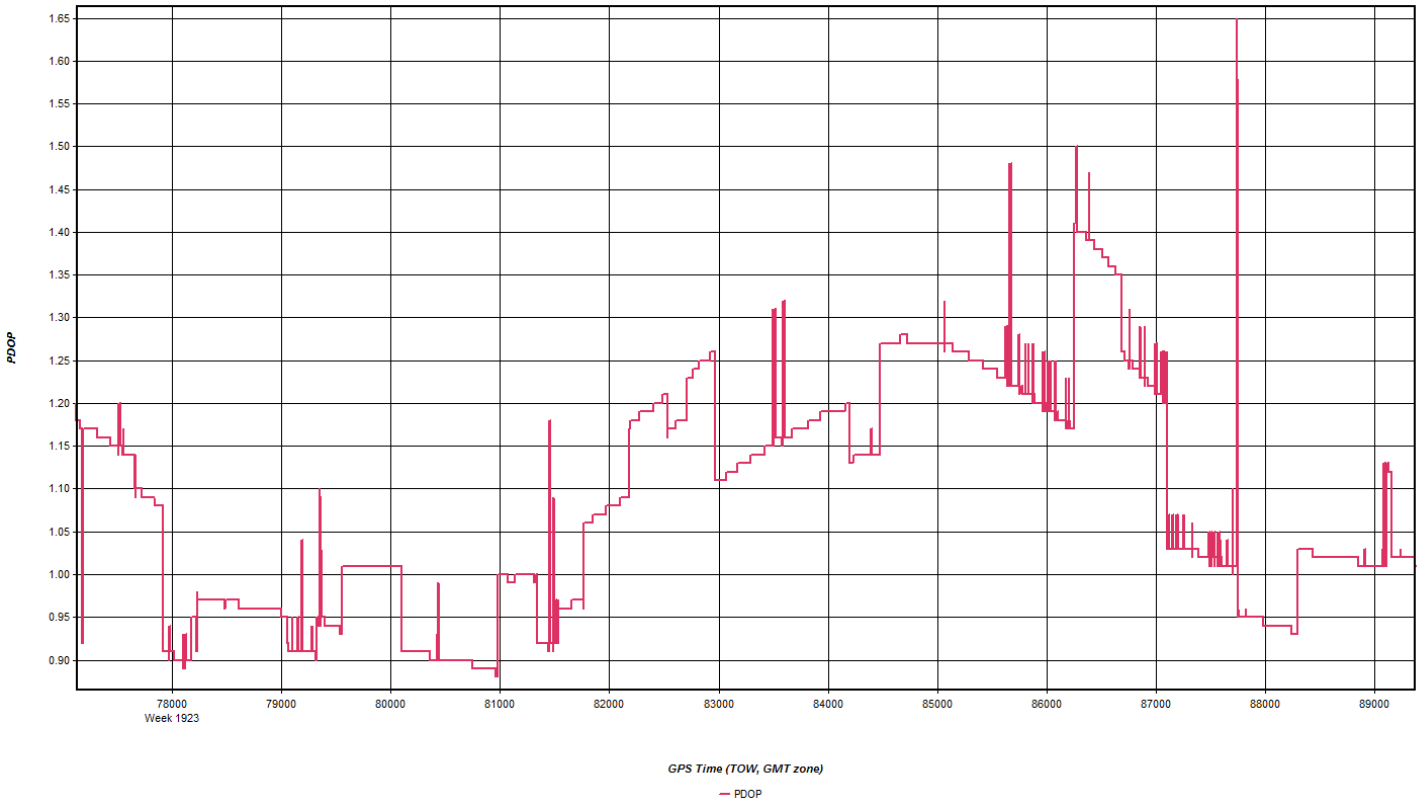
Nov 13, 2016-C (N4102J, SN7232)

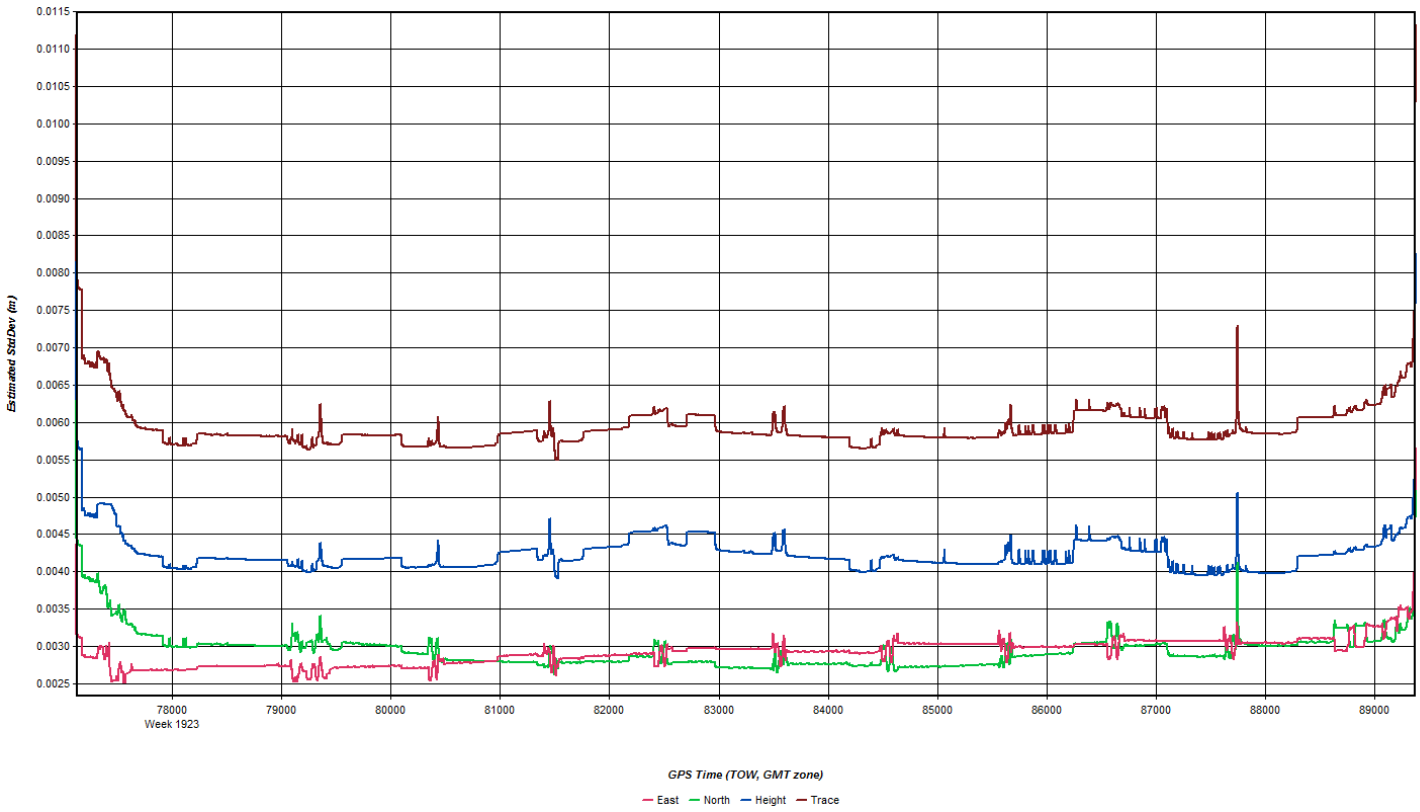

NYPD
NYPE
5 km

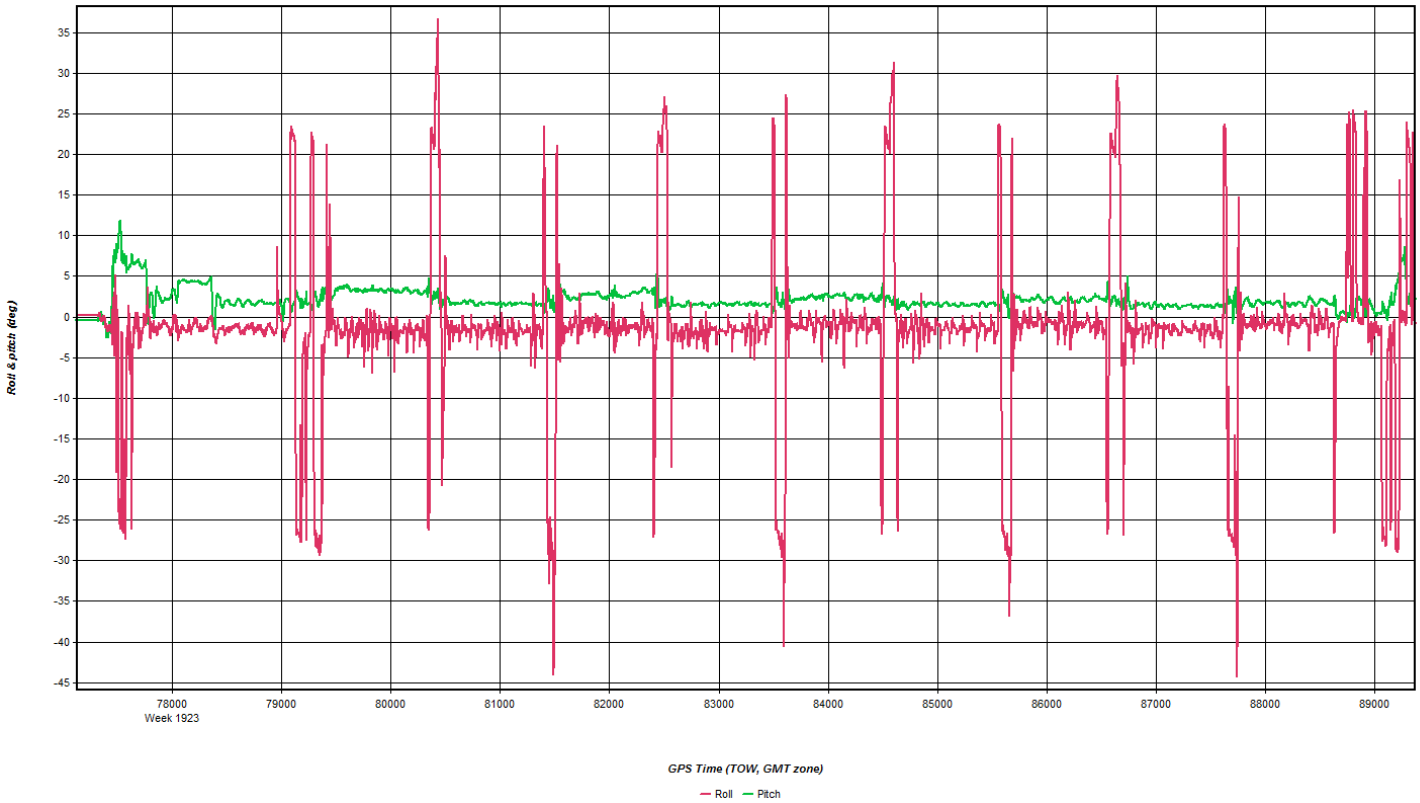

Num Sats
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
78000
Week 1923
79000
80000
81000
82000
83000
84000
85000
86000
87000
88000
89000
GPS Time (TOW, GMT zone)
Num Sats
GPS
GLONASS
BeiDou

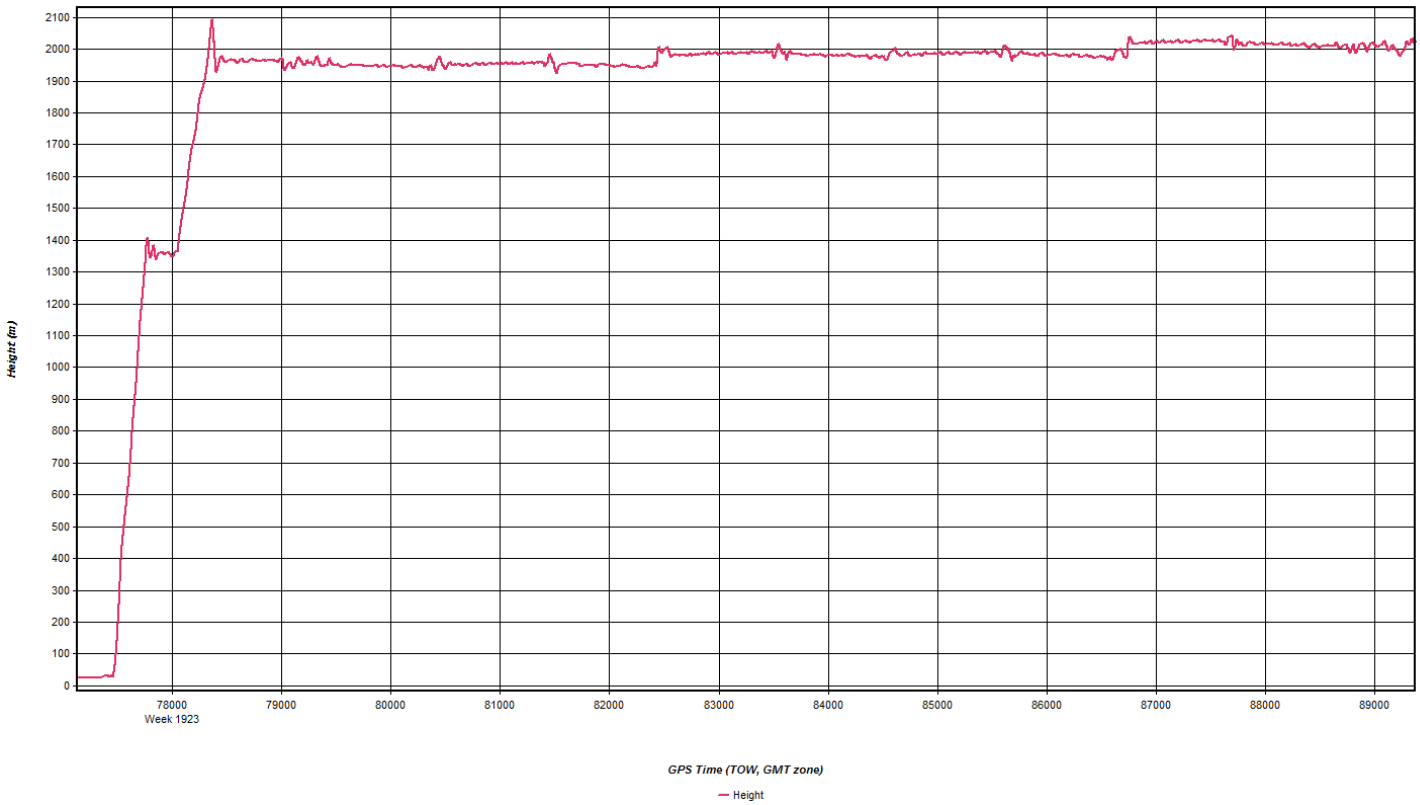

Separation (m)
0.050
0.045
0.040
0.035
0.030
0.025
0.020
0.015
0.010
0.005
-0.000
-0.005
-0.010
-0.015
-0.020
-0.025
-0.030
-0.035
-0.040
-0.045
-0.050
-0.055
-0.060
78000
Week 1923
79000
80000
81000
82000
83000
84000
85000
86000
87000
88000
89000
GPS Time (TOW, GMT zone)
East
North
Up

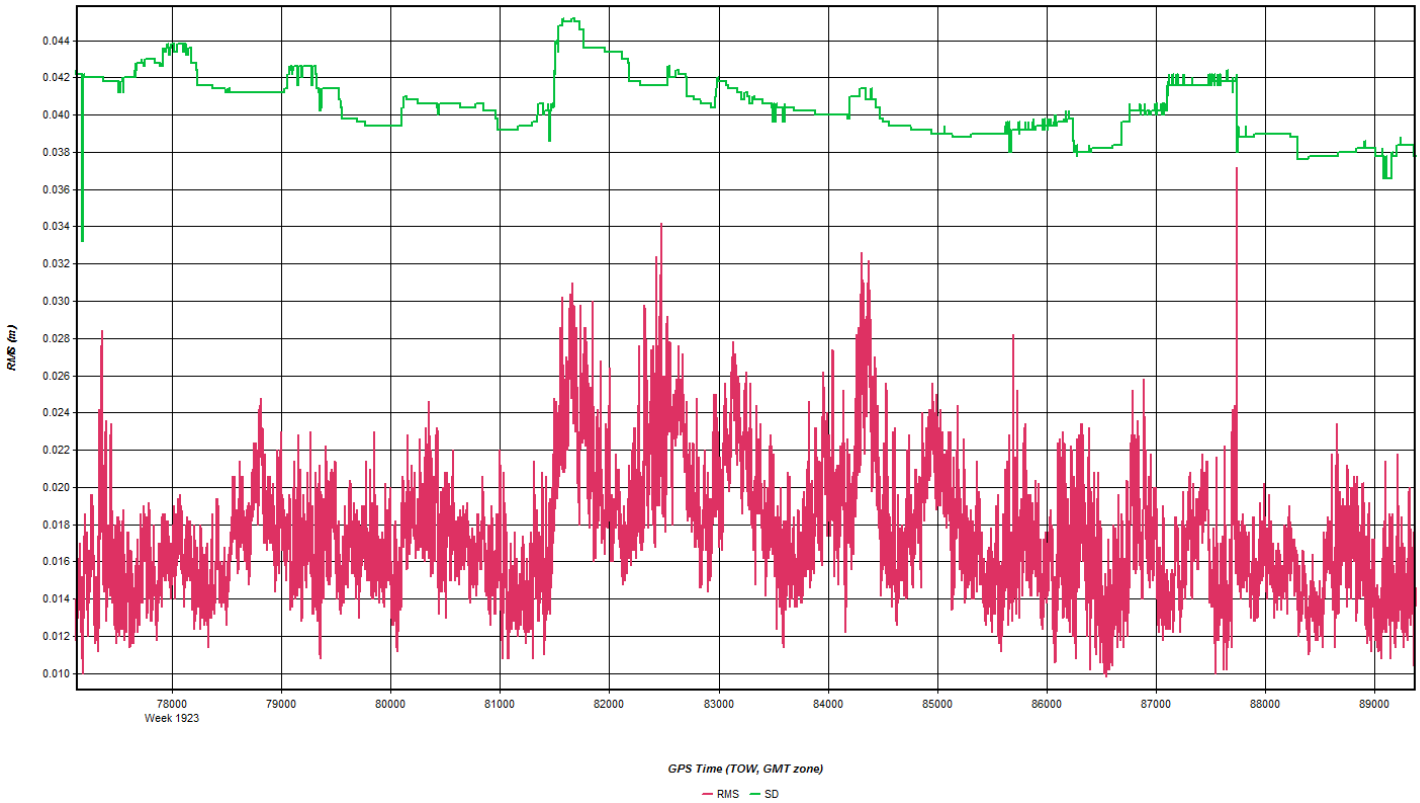

Azimuth/Heading (deg)
360
340
320
300
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
78000
Week 1923
79000
80000
81000
82000
83000
84000
85000
86000
87000
88000
89000
GPS Time (TOW, GMT zone)
Heading/Azimuth
GPS-COG

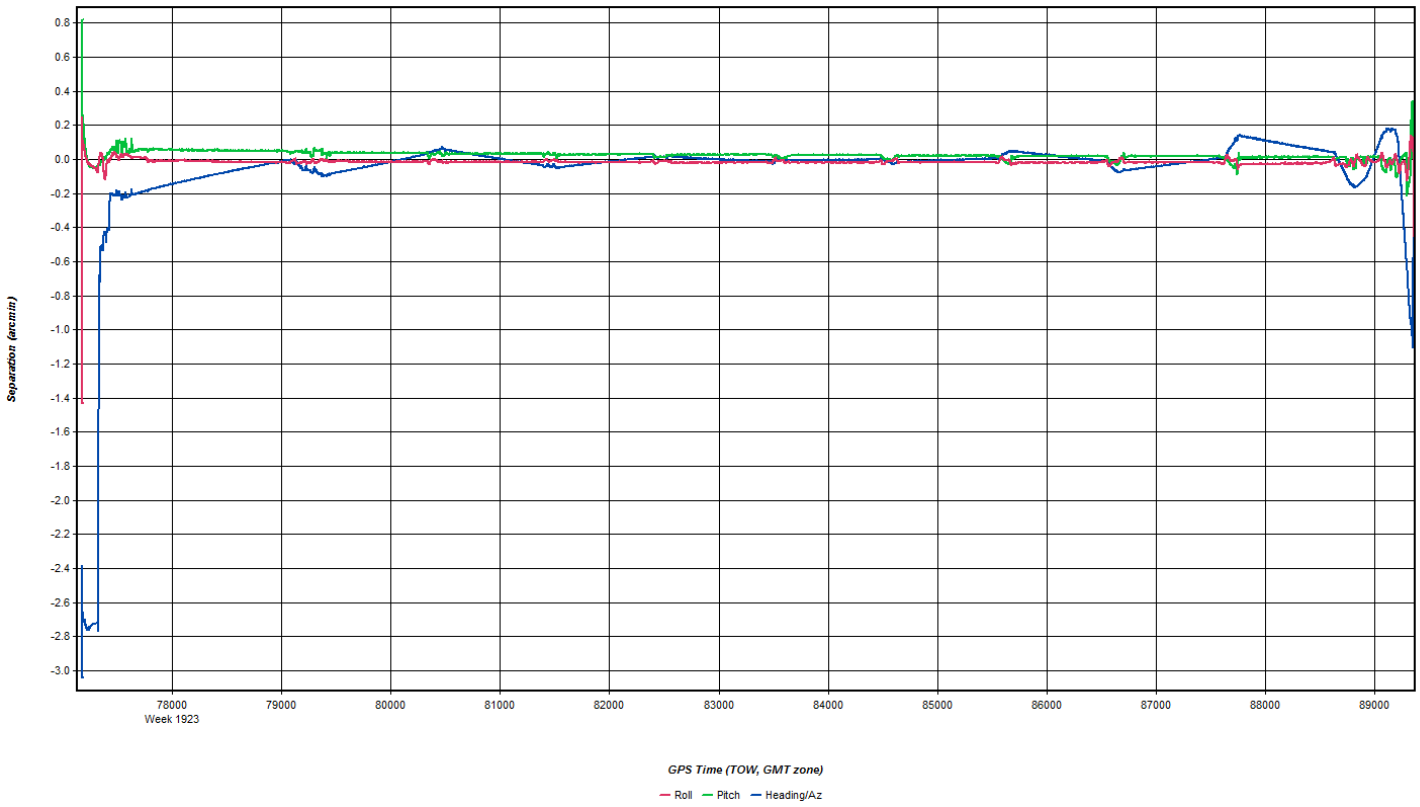

PDOP
1.65
1.60
1.55
1.50
1.45
1.40
1.35
1.30
1.25
1.20
1.15
1.10
1.05
1.00
0.95
0.90
78000
Week 1923
79000
80000
81000
82000
83000
84000
85000
86000
87000
88000
89000
GPS Time (TOW, GMT zone)
PDOP

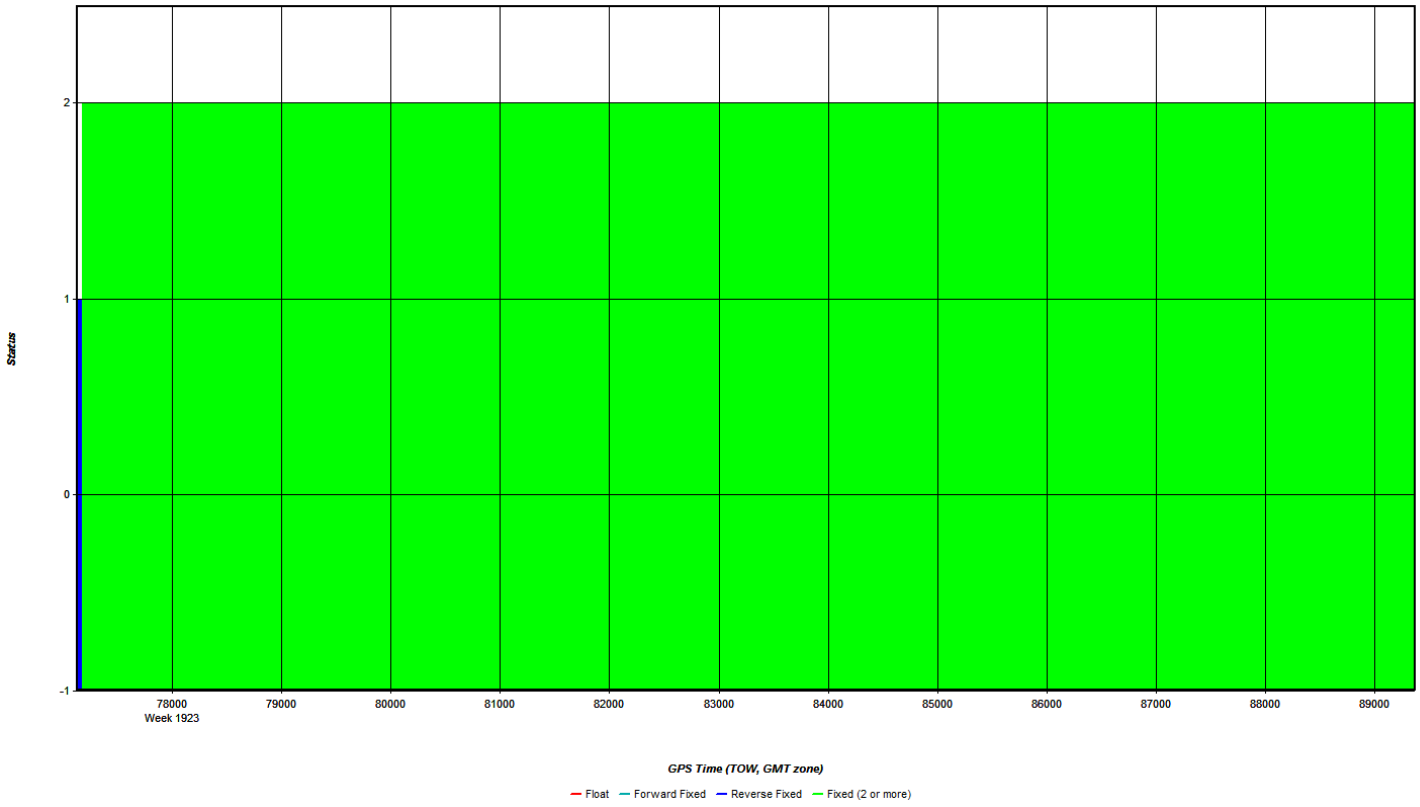

Estimated StdDev (m)
0.0115
0.0110
0.0105
0.0100
0.0095
0.0090
0.0085
0.0080
0.0075
0.0070
0.0065
0.0060
0.0055
0.0050
0.0045
0.0040
0.0035
0.0030
0.0025
78000
Week 1923
79000
80000
81000
82000
83000
84000
85000
86000
87000
88000
89000
GPS Time (TOW, GMT zone)
East
North
Height
Trace

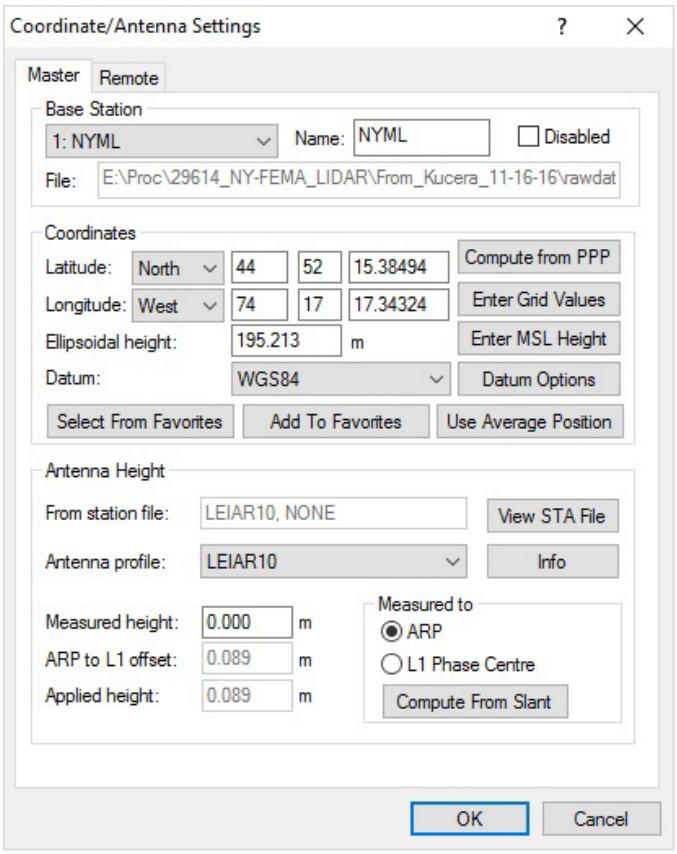

Roll & pitch (deg)
35
30
25
20
15
10
5
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
78000
Week 1923
79000
80000
81000
82000
83000
84000
85000
86000
87000
88000
89000
GPS Time (TOW, GMT zone)
Roll
Pitch

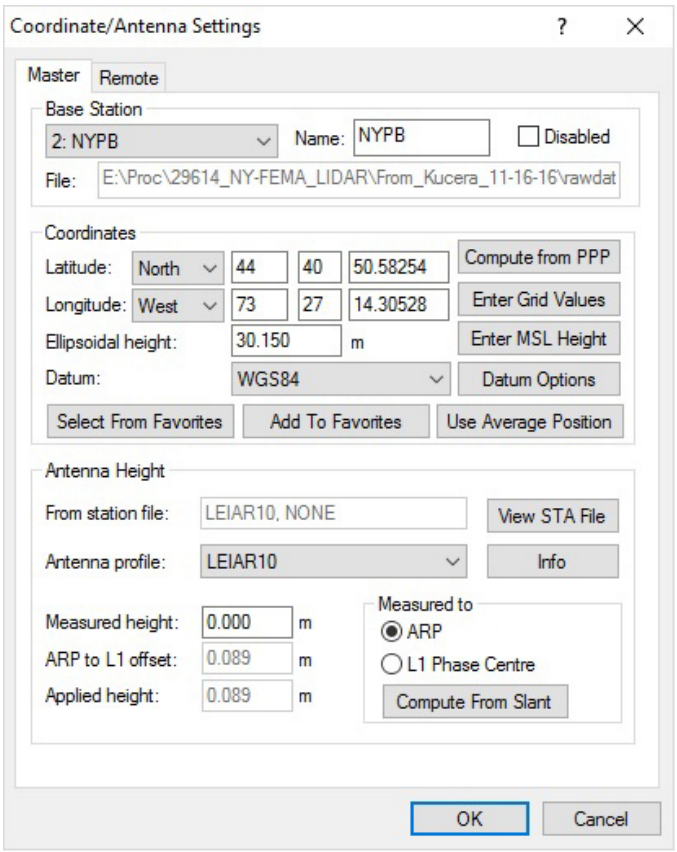

Height (m)
2100
2000
1900
1800
1700
1600
1500
1400
1300
1200
1100
1000
900
800
700
600
500
400
300
200
100
0
78000
Week 1923
79000
80000
81000
82000
83000
84000
85000
86000
87000
88000
89000
GPS Time (TOW, GMT zone)
Height

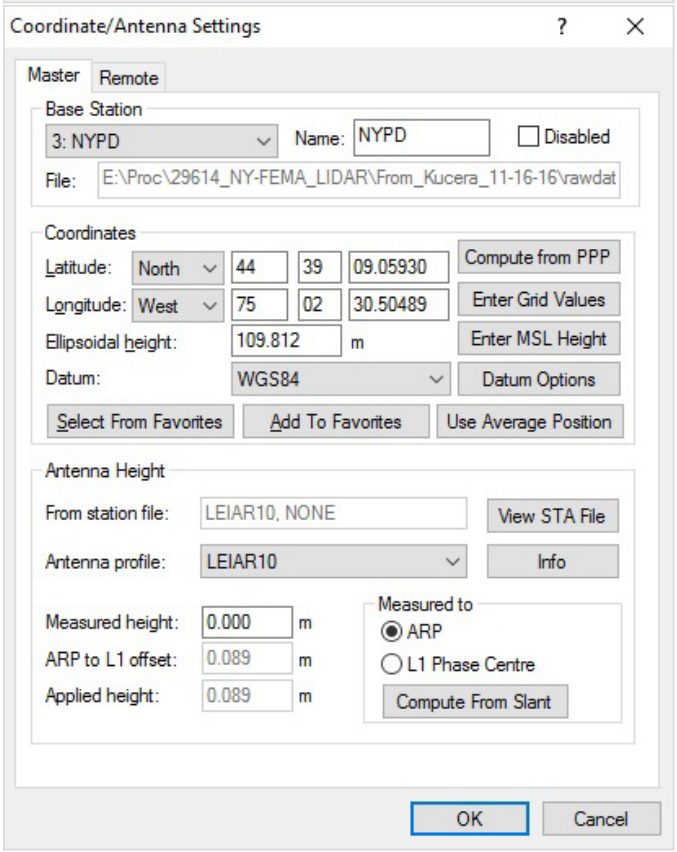

RMS (m)
0.044
0.042
0.040
0.038
0.036
0.034
0.032
0.030
0.028
0.026
0.024
0.022
0.020
0.018
0.016
0.014
0.012
0.010
78000
Week 1923
79000
80000
81000
82000
83000
84000
85000
86000
87000
88000
89000
GPS Time (TOW, GMT zone)
RMS
SD


Separation (arcmin)
0.8
0.6
0.4
0.2
0.0
-0.2
-0.4
-0.6
-0.8
-1.0
-1.2
-1.4
-1.6
-1.8
-2.0
-2.2
-2.4
-2.6
-2.8
-3.0
78000
Week 1923
79000
80000
81000
82000
83000
84000
85000
86000
87000
88000
89000
GPS Time (TOW, GMT zone)
Roll
Pitch
Heading/Az


Status
2
1
0
-1
78000
Week 1923
79000
80000
81000
82000
83000
84000
85000
86000
87000
88000
89000
GPS Time (TOW, GMT zone)
Float
Forward Fixed
Reverse Fixed
Fixed (2 or more)


Coordinate/Antenna Settings
Master
Remote
Base Station
1: NYML
Name: NYML
Disabled
File: E:\Proc\29614_NY-FEMA_LIDAR\From_Kucera_11-16-16\rawdat
Coordinates
Latitude: North 44 52 15.38494
Longitude: West 74 17 17.34324
Ellipsoidal height: 195.213 m
Datum: WGS84
Compute from PPP
Enter Grid Values
Enter MSL Height
Datum Options
Select From Favorites
Add To Favorites
Use Average Position
Antenna Height
From station file: LEIAR10, NONE
View STA File
Antenna profile: LEIAR10
Info
Measured height: 0.000 m
ARP to L1 offset: 0.089 m
Applied height: 0.089 m
Measured to
ARP
L1 Phase Centre
Compute From Slant
OK
Cancel


Coordinate/Antenna Settings
Master
Remote
Base Station
2: NYPB
Name: NYPB
Disabled
File: E:\Proc\29614_NY-FEMA_LIDAR\From_Kucera_11-16-16\rawdat
Coordinates
Latitude: North 44 40 50.58254
Longitude: West 73 27 14.30528
Ellipsoidal height: 30.150 m
Datum: WGS84
Compute from PPP
Enter Grid Values
Enter MSL Height
Datum Options
Select From Favorites
Add To Favorites
Use Average Position
Antenna Height
From station file: LEIAR10, NONE
Antenna profile: LEIAR10
View STA File
Info
Measured height: 0.000 m
ARP to L1 offset: 0.089 m
Applied height: 0.089 m
Measured to
ARP
L1 Phase Centre
Compute From Slant
OK
Cancel


Coordinate/Antenna Settings
Master
Remote
Base Station
3: NYPD
Name: NYPD
Disabled
File: E:\Proc\29614_NY-FEMA_LIDAR\From_Kucera_11-16-16\rawdat
Coordinates
Latitude: North 44 39 09.05930
Longitude: West 75 02 30.50489
Ellipsoidal height: 109.812 m
Datum: WGS84
Compute from PPP
Enter Grid Values
Enter MSL Height
Datum Options
Select From Favorites
Add To Favorites
Use Average Position
Antenna Height
From station file: LEIAR10, NONE
Antenna profile: LEIAR10
View STA File
Info
Measured height: 0.000 m
ARP to L1 offset: 0.089 m
Applied height: 0.089 m
Measured to
ARP
L1 Phase Centre
Compute From Slant
OK
Cancel

Flight Log

KUCERA INTERNATIONAL INC.

LiDAR FLIGHT REPORT

Revised Feb. 2014

CREW: Pilot/Operator: george/Nico; mm/dd/yy: 11/13/2016

AIRCRAFT: Tail Number: 4102J

WEATHER: Sky conditions, light conditions, horizon, shadowing, visibility/haze, cloud types, wind, turbulence, etc.: skc

DATE: 11/13/2016

Camera System: LiDAR S/N: als70

Camera Location (Hole): fwd/aft: fwd

GPS: Source: fwd antenna

Start-up: Time: 04:15:00 PM; Location: KPBG

Shut-down

LiDAR STARTUP CHECKS

- Lens cleaned
- All fpds uploaded
- Pilot's screen functional
- Compact flash drive space
- SSDs have space
- Startup beeps & IPAS recording

Initials: NC

SSD

Drive #

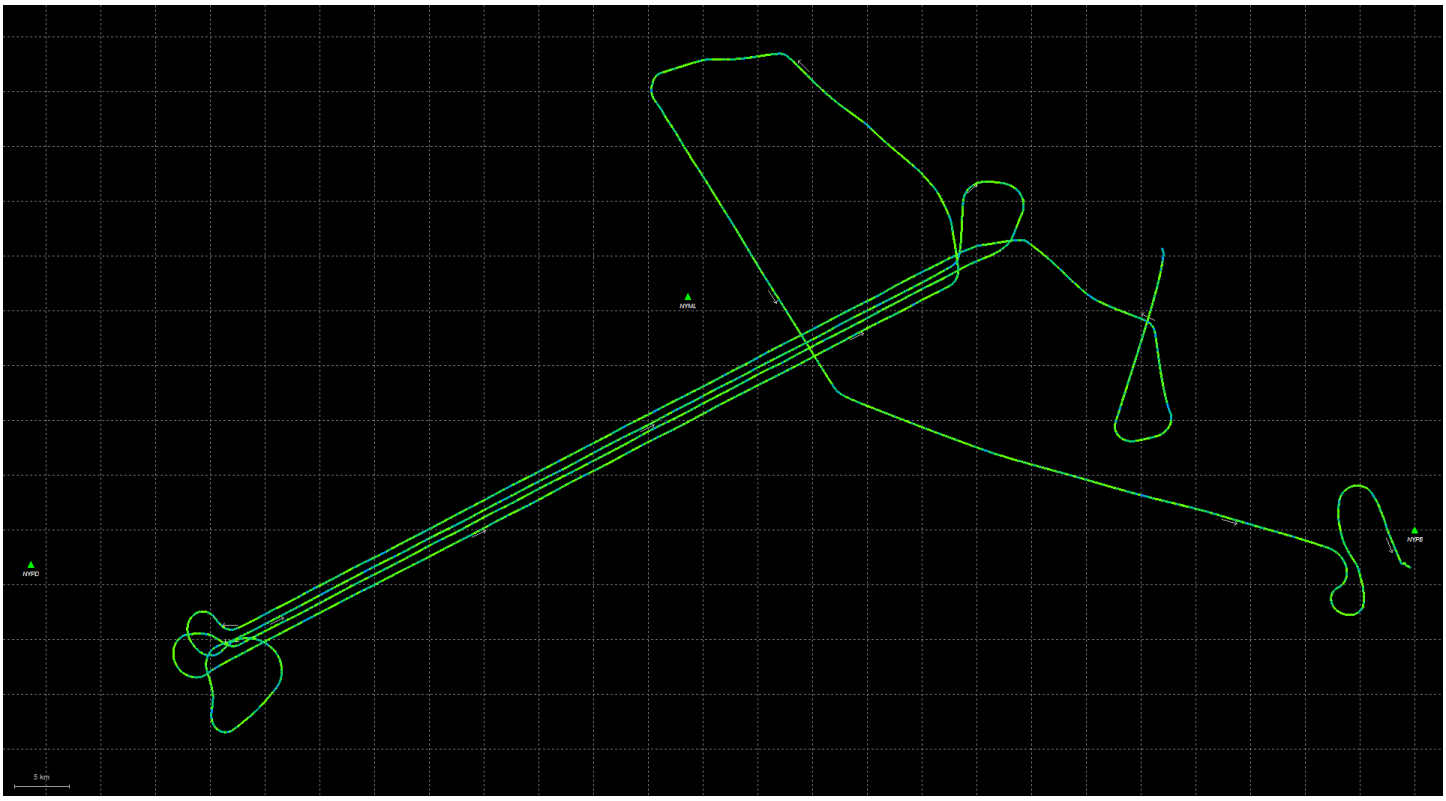
Space Rem.

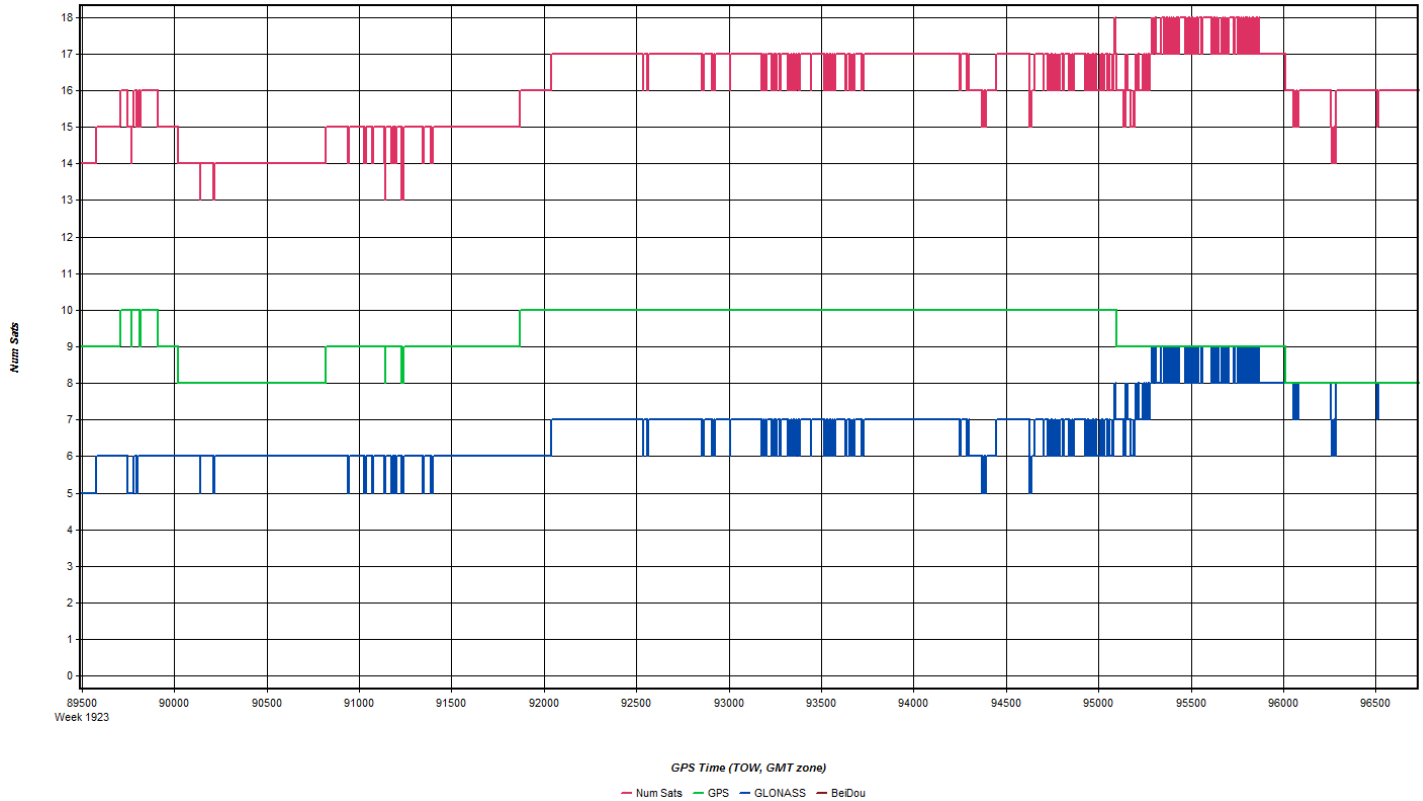
Job #	Location/ Site/Block	Line #	Flight Dir.	Crab Angle	Remarks
60686					Past over KPBG base station @ 16:34
		43	76		
		44	256		
		45	76		
		46	256		
		47	76		
		48	256		
		49	76		
		50	256		
		51	76		camera issues and had to air restart the camera ~8pm. See flight report for pictures of problem and detailed report

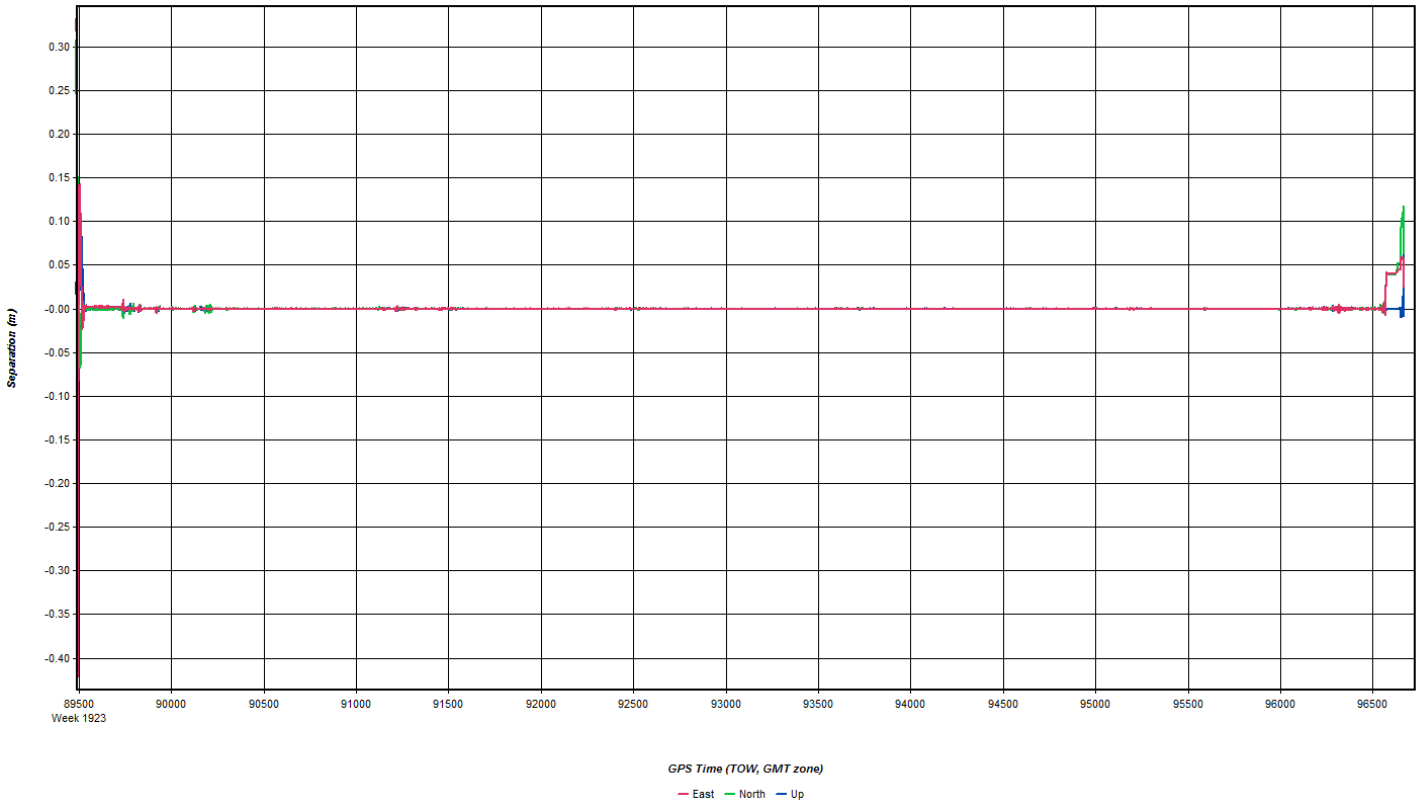
LiDAR

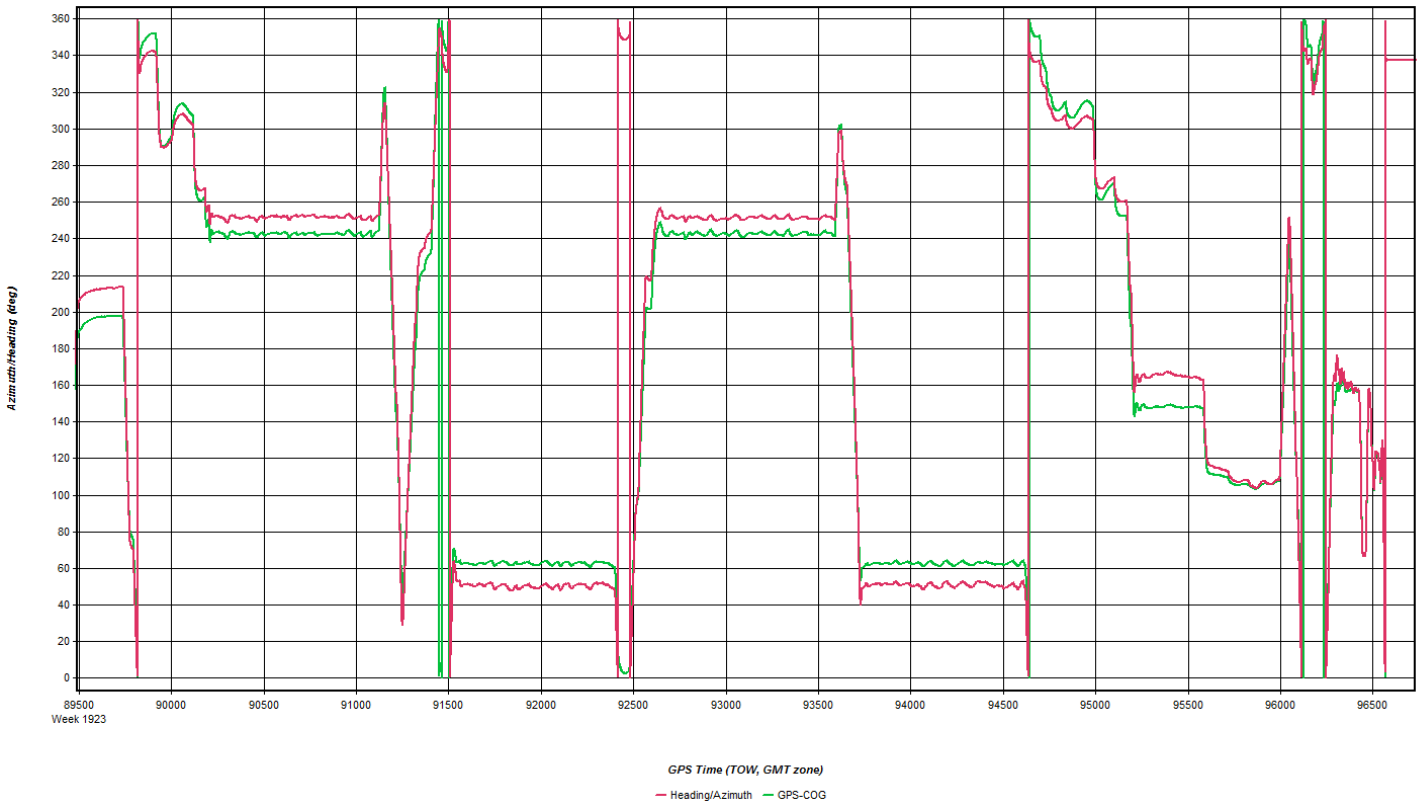
Page 1

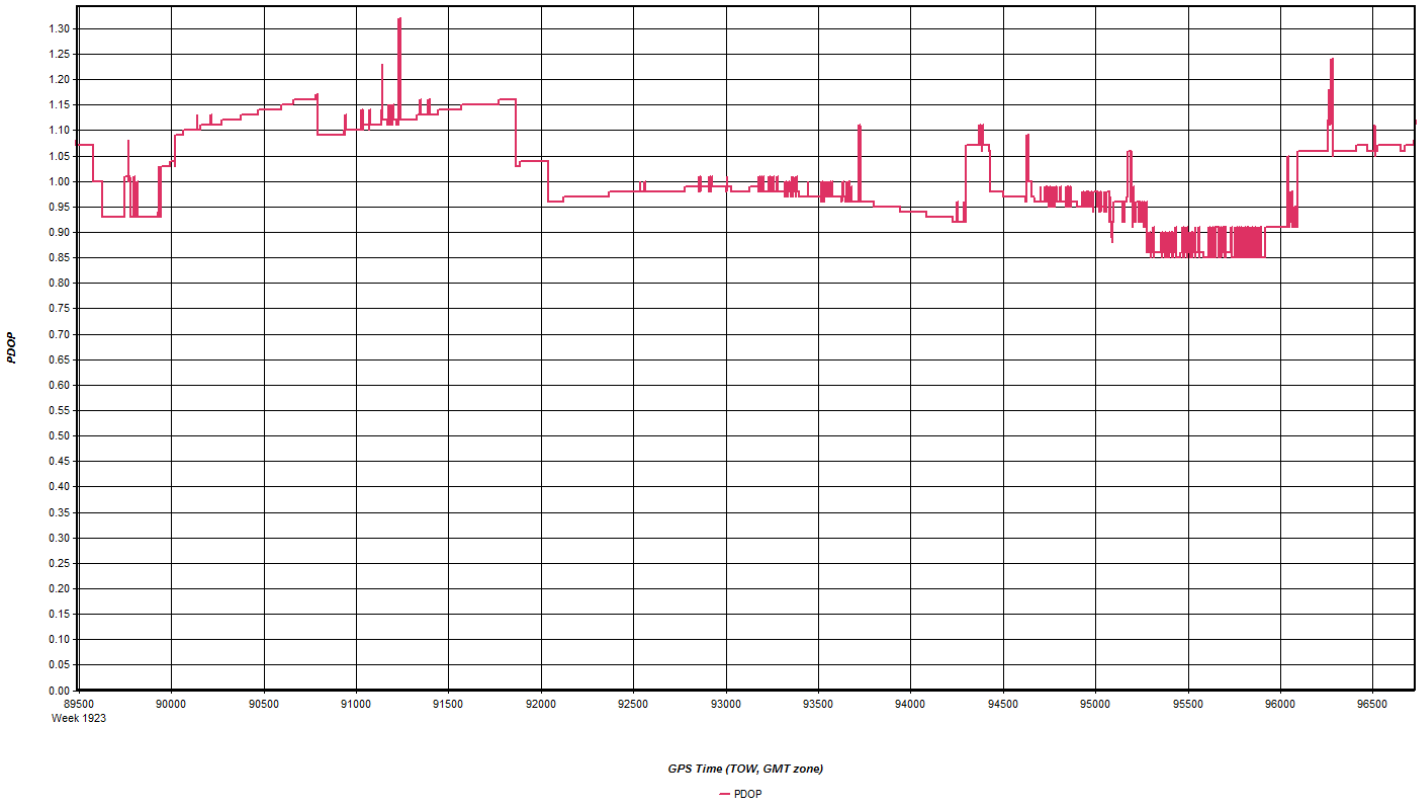
Nov 14, 2016-A (N4102J, SN7232)

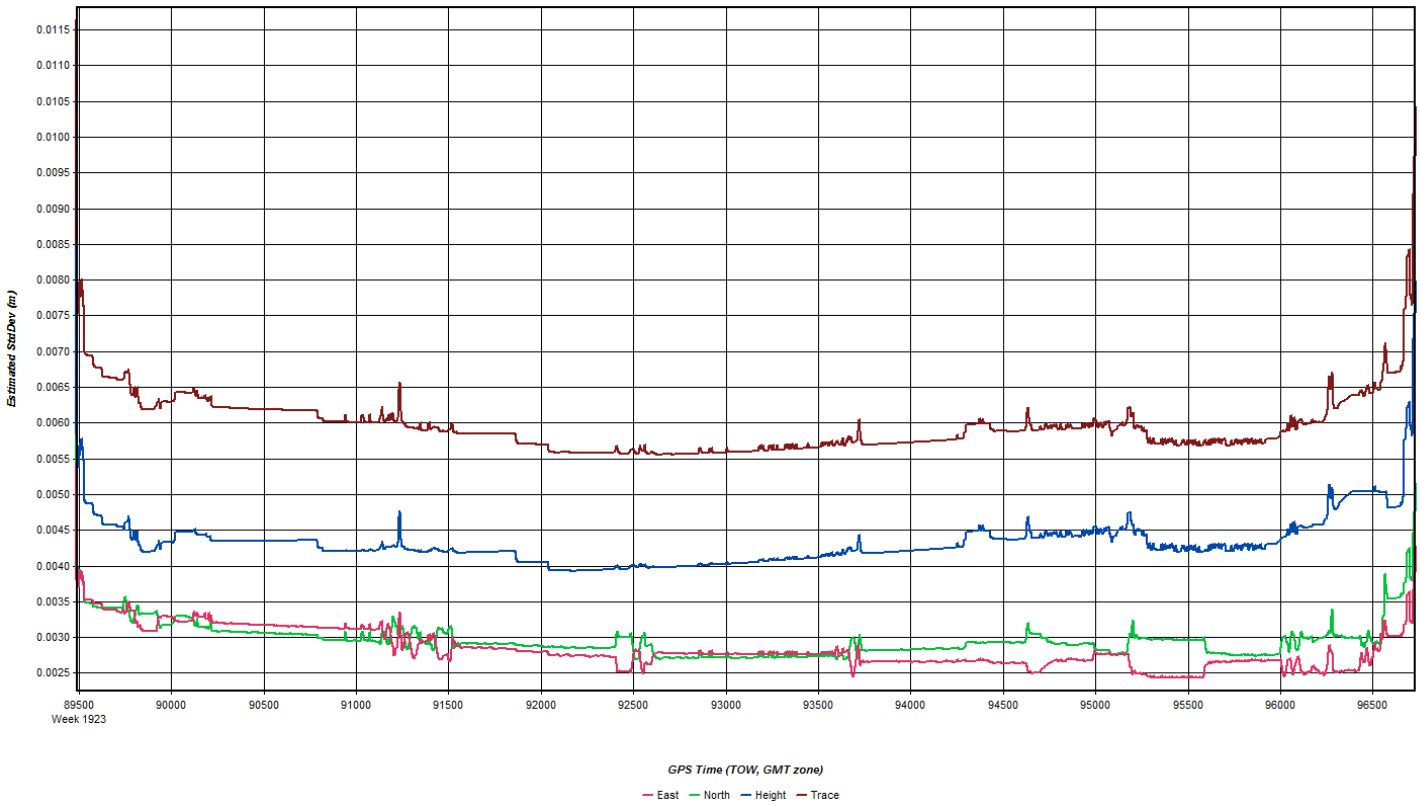

NYMI
NYPS
NYRO
5 km

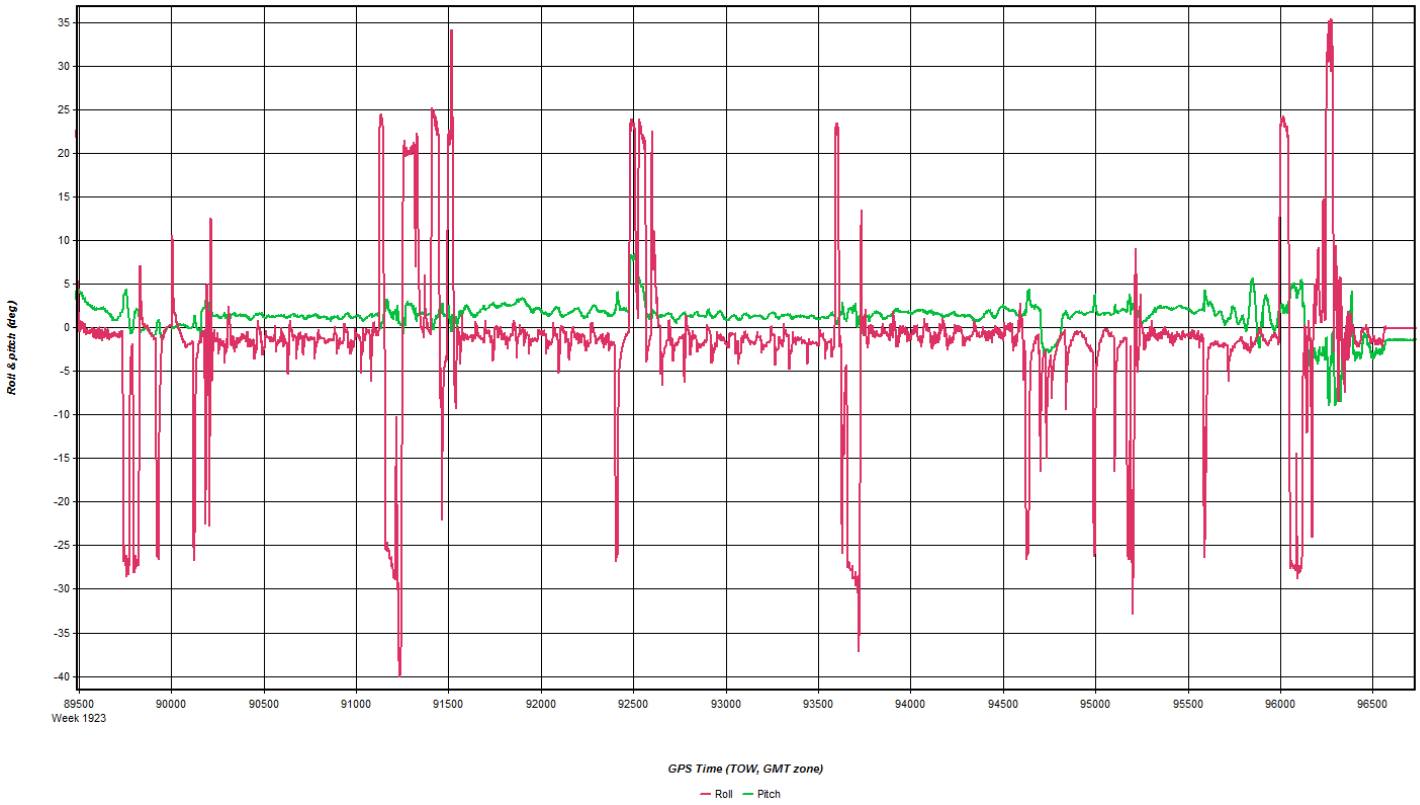

Num Sats
18
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
89500
Week 1923
90000
90500
91000
91500
92000
92500
93000
93500
94000
94500
95000
95500
96000
96500
GPS Time (TOW, GMT zone)
Num Sats
GPS
GLONASS
BeiDou

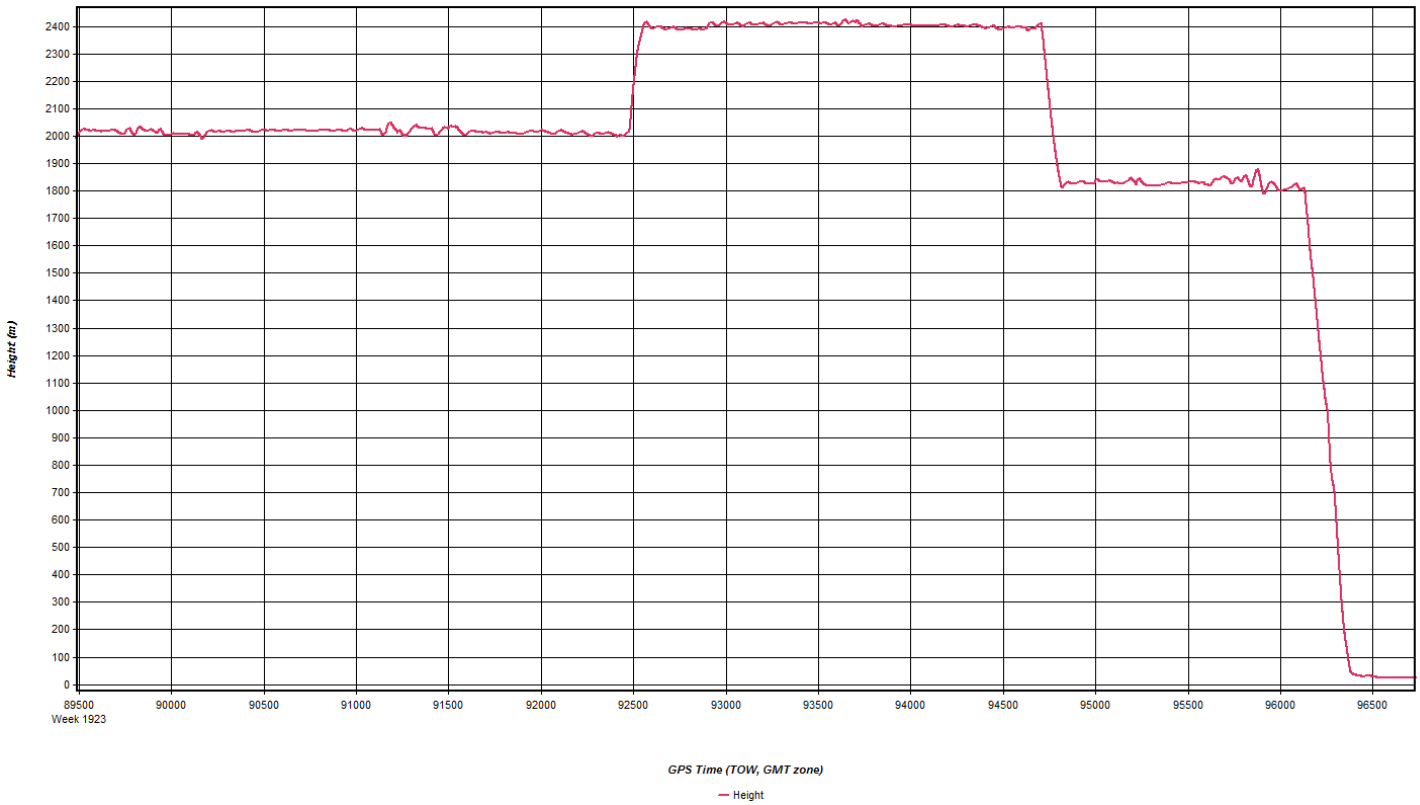

Separation (m)
0.30
0.25
0.20
0.15
0.10
0.05
-0.00
-0.05
-0.10
-0.15
-0.20
-0.25
-0.30
-0.35
-0.40
89500
Week 1923
90000
90500
91000
91500
92000
92500
93000
93500
94000
94500
95000
95500
96000
96500
GPS Time (TOW, GMT zone)
East
North
Up

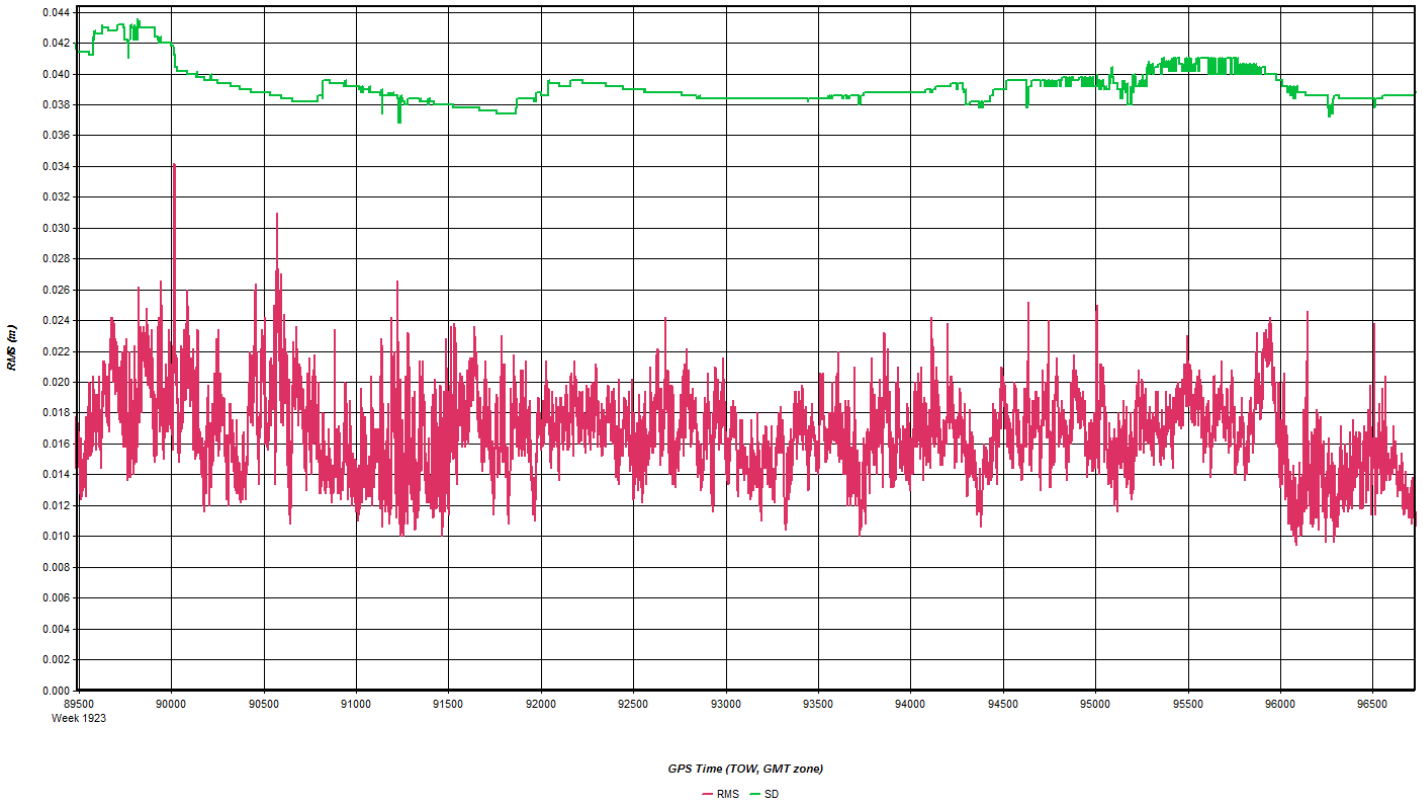

Azimuth/Heading (deg)
360
340
320
300
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
89500
Week 1923
90000
90500
91000
91500
92000
92500
93000
93500
94000
94500
95000
95500
96000
96500
GPS Time (TOW, GMT zone)
Heading/Azimuth
GPS-COG

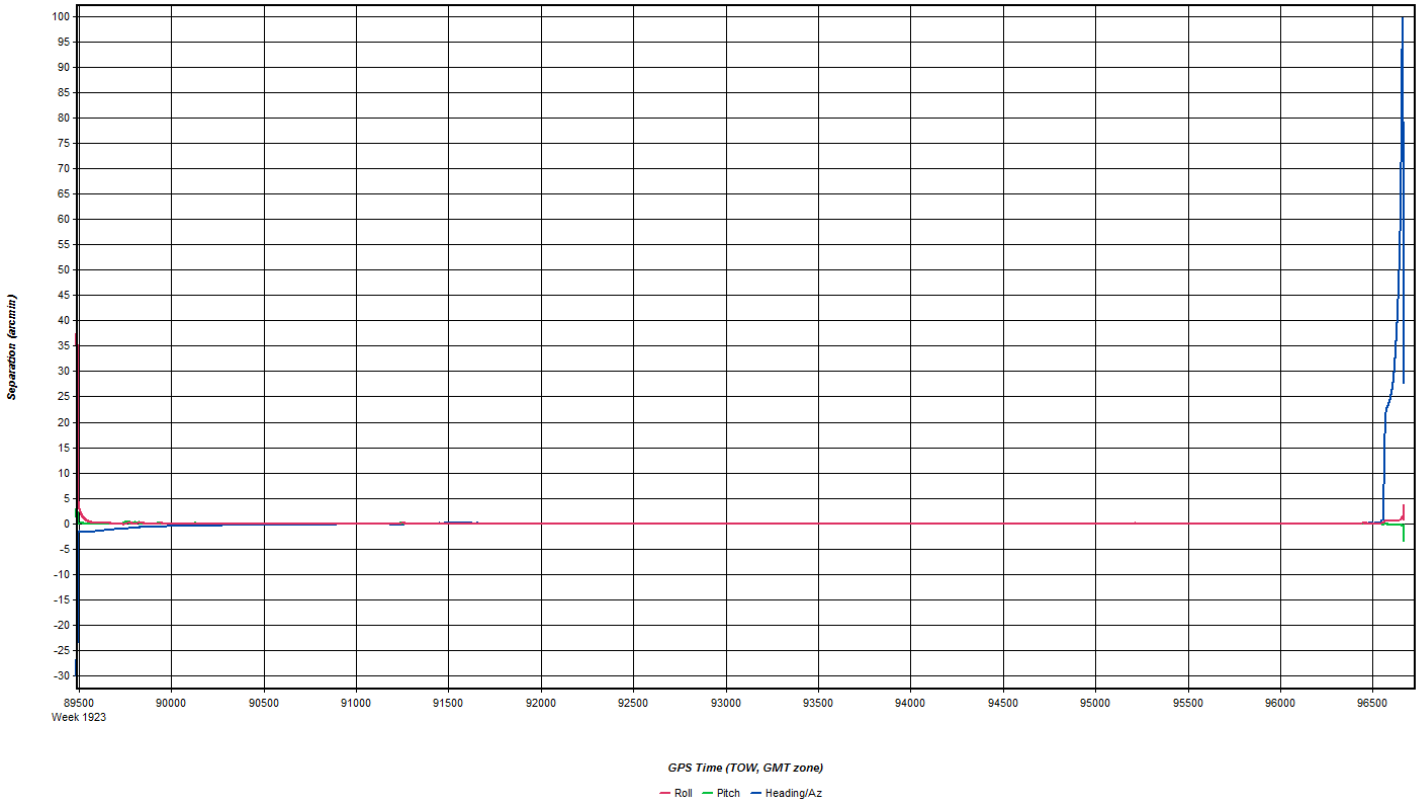

PDOP
1.30
1.25
1.20
1.15
1.10
1.05
1.00
0.95
0.90
0.85
0.80
0.75
0.70
0.65
0.60
0.55
0.50
0.45
0.40
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.00
89500
Week 1923
90000
90500
91000
91500
92000
92500
93000
93500
94000
94500
95000
95500
96000
96500
GPS Time (TOW, GMT zone)
PDOP

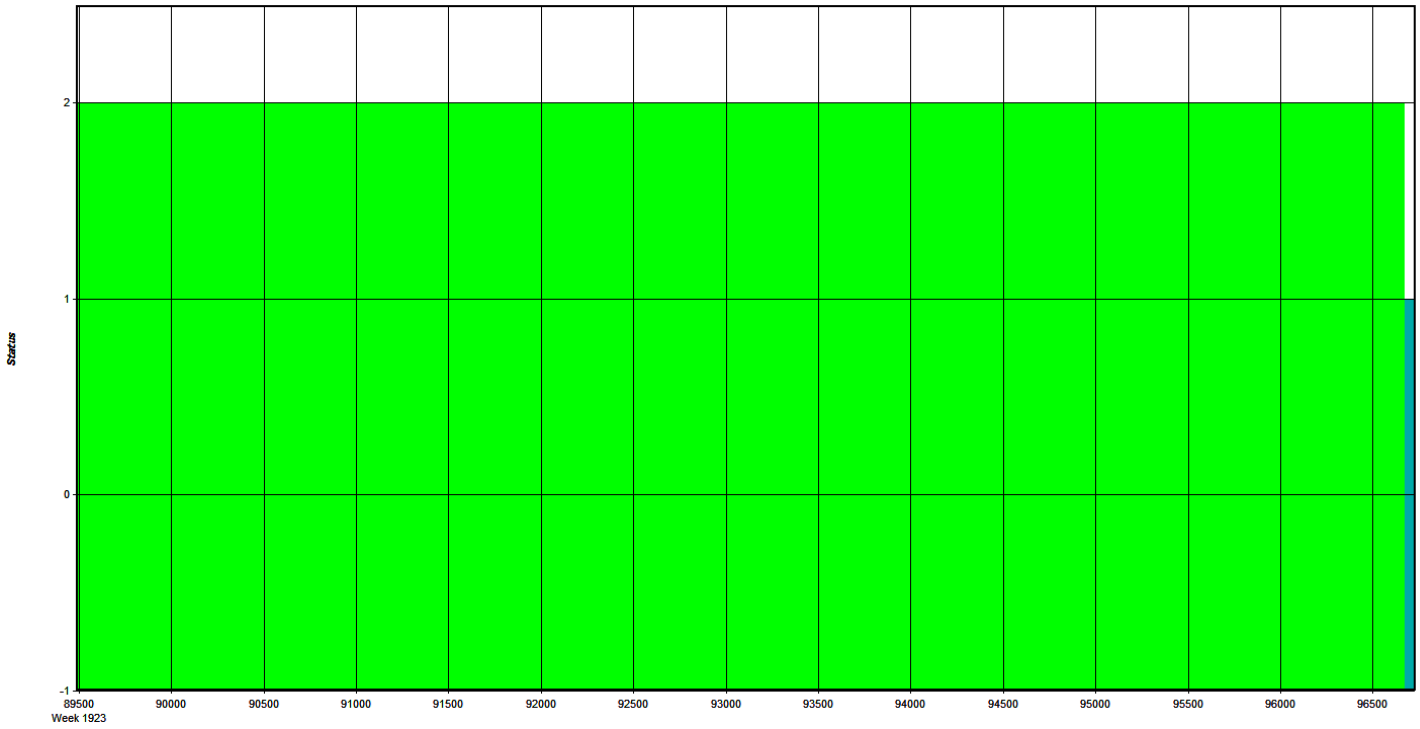

Estimated StdDev (m)
0.0115
0.0110
0.0105
0.0100
0.0095
0.0090
0.0085
0.0080
0.0075
0.0070
0.0065
0.0060
0.0055
0.0050
0.0045
0.0040
0.0035
0.0030
0.0025
89500
Week 1923
90000
90500
91000
91500
92000
92500
93000
93500
94000
94500
95000
95500
96000
96500
GPS Time (TOW, GMT zone)
East
North
Height
Trace

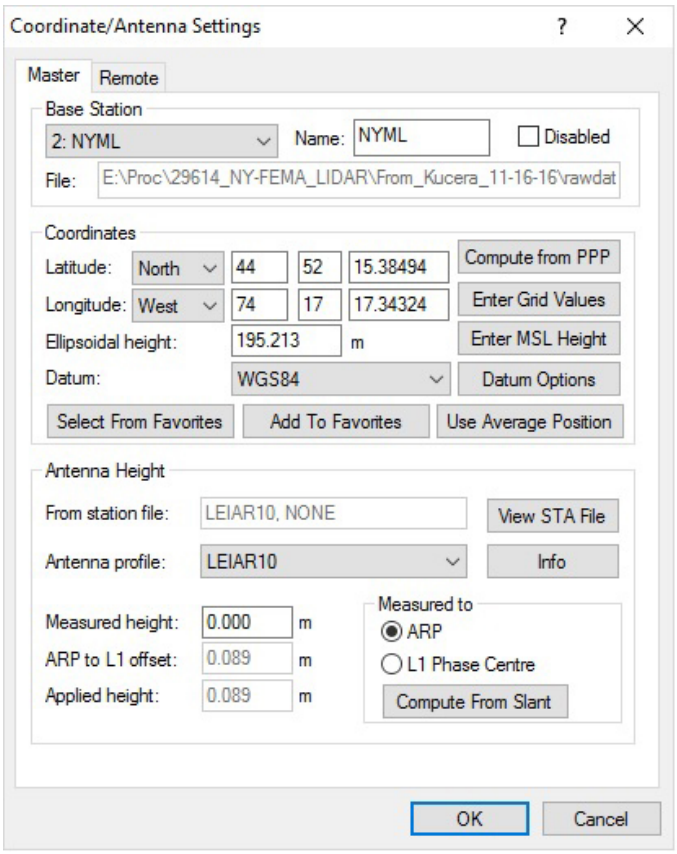

Roll & pitch (deg)
35
30
25
20
15
10
5
0
-5
-10
-15
-20
-25
-30
-35
-40
89500
Week 1923
90000
90500
91000
91500
92000
92500
93000
93500
94000
94500
95000
95500
96000
96500
GPS Time (TOW, GMT zone)
Roll
Pitch

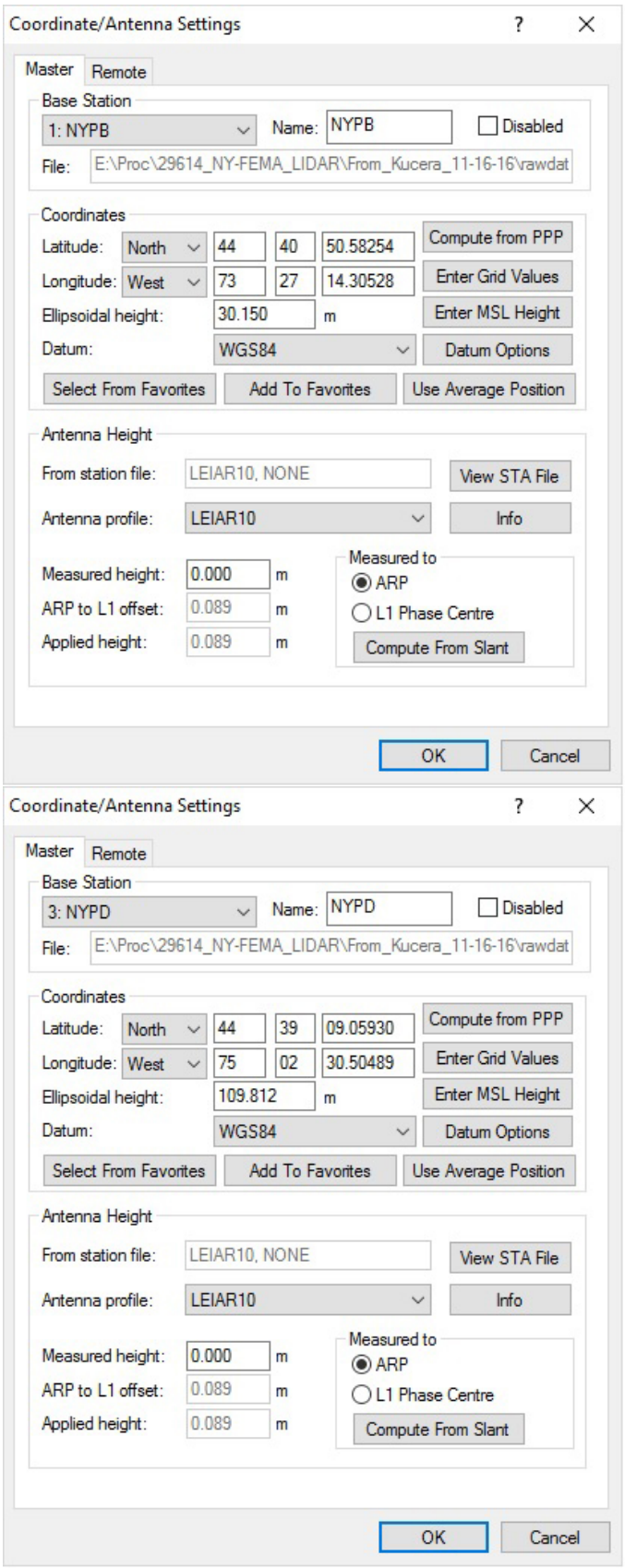

Height (m)
2400
2300
2200
2100
2000
1900
1800
1700
1600
1500
1400
1300
1200
1100
1000
900
800
700
600
500
400
300
200
100
0
89500
Week 1923
90000
90500
91000
91500
92000
92500
93000
93500
94000
94500
95000
95500
96000
96500
GPS Time (TOW, GMT zone)
Height


RMS (m)
0.044
0.042
0.040
0.038
0.036
0.034
0.032
0.030
0.028
0.026
0.024
0.022
0.020
0.018
0.016
0.014
0.012
0.010
0.008
0.006
0.004
0.002
0.000
89500
Week 1923
90000
90500
91000
91500
92000
92500
93000
93500
94000
94500
95000
95500
96000
96500
GPS Time (TOW, GMT zone)
RMS
SD


Separation (arcmin)
100
95
90
85
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
-5
-10
-15
-20
-25
-30
89500
Week 1923
90000
90500
91000
91500
92000
92500
93000
93500
94000
94500
95000
95500
96000
96500
GPS Time (TOW, GMT zone)
Roll
Pitch
Heading/Az


Status
2
1
0
-1
89500
Week 1923
90000
90500
91000
91500
92000
92500
93000
93500
94000
94500
95000
95500
96000
96500
GPS Time (TOW, GMT zone)
Float
Forward Fixed
Reverse Fixed
Fixed (2 or more)


Coordinate/Antenna Settings
Master
Remote
Base Station
2: NYML
Name: NYML
Disabled
File: E:\Proc\29614_NY-FEMA_LIDAR\From_Kucera_11-16-16\rawdat
Coordinates
Latitude: North 44 52 15.38494
Longitude: West 74 17 17.34324
Ellipsoidal height: 195.213 m
Datum: WGS84
Compute from PPP
Enter Grid Values
Enter MSL Height
Datum Options
Select From Favorites
Add To Favorites
Use Average Position
Antenna Height
From station file: LEIAR10, NONE
View STA File
Antenna profile: LEIAR10
Info
Measured height: 0.000 m
ARP to L1 offset: 0.089 m
Applied height: 0.089 m
Measured to
ARP
L1 Phase Centre
Compute From Slant
OK
Cancel


Coordinate/Antenna Settings
Master
Remote
Base Station
1: NYPB
Name: NYPB
Disabled
File: E:\Proc\29614_NY-FEMA_LIDAR\From_Kucera_11-16-16\rawdat
Coordinates
Latitude: North 44 40 50.58254
Longitude: West 73 27 14.30528
Ellipsoidal height: 30.150 m
Datum: WGS84
Compute from PPP
Enter Grid Values
Enter MSL Height
Datum Options
Select From Favorites
Add To Favorites
Use Average Position
Antenna Height
From station file: LEIAR10, NONE
Antenna profile: LEIAR10
View STA File
Info
Measured height: 0.000 m
ARP to L1 offset: 0.089 m
Applied height: 0.089 m
Measured to
ARP
L1 Phase Centre
Compute From Slant
OK
Cancel
Coordinate/Antenna Settings
Master
Remote
Base Station
3: NYPD
Name: NYPD
Disabled
File: E:\Proc\29614_NY-FEMA_LIDAR\From_Kucera_11-16-16\rawdat
Coordinates
Latitude: North 44 39 09.05930
Longitude: West 75 02 30.50489
Ellipsoidal height: 109.812 m
Datum: WGS84
Compute from PPP
Enter Grid Values
Enter MSL Height
Datum Options
Select From Favorites
Add To Favorites
Use Average Position
Antenna Height
From station file: LEIAR10, NONE
Antenna profile: LEIAR10
View STA File
Info
Measured height: 0.000 m
ARP to L1 offset: 0.089 m
Applied height: 0.089 m
Measured to
ARP
L1 Phase Centre
Compute From Slant
OK
Cancel

Flight Log

LiDAR

KUCERA INTERNATIONAL INC.

LiDAR FLIGHT REPORT

Revised Feb. 2014

CREW Pilot/Operator: george/Nico; mm/dd/yy

AIRCRAFT Tail Number: 4102J

WEATHER Sky conditions, light conditions, horizon, shadowing, visibility/haze, cloud types, wind, turbulence, etc..: skc

DATE 11/13/2016

Camera System LiDAR S/N: als70

Camera Location (Hole): fwd/aft: fwd

GPS Source: fwd antenna

	Time	Location
Start-up	04:15:00 PM	KPBG
Shut-down		

LiDAR STARTUP CHECKS

Lens cleaned	
All fpds uploaded	
Pilot's screen functional	
Compact flash drive space	
SSDs have space	
Startup beeps & IPAS recording	
Initials:	NC

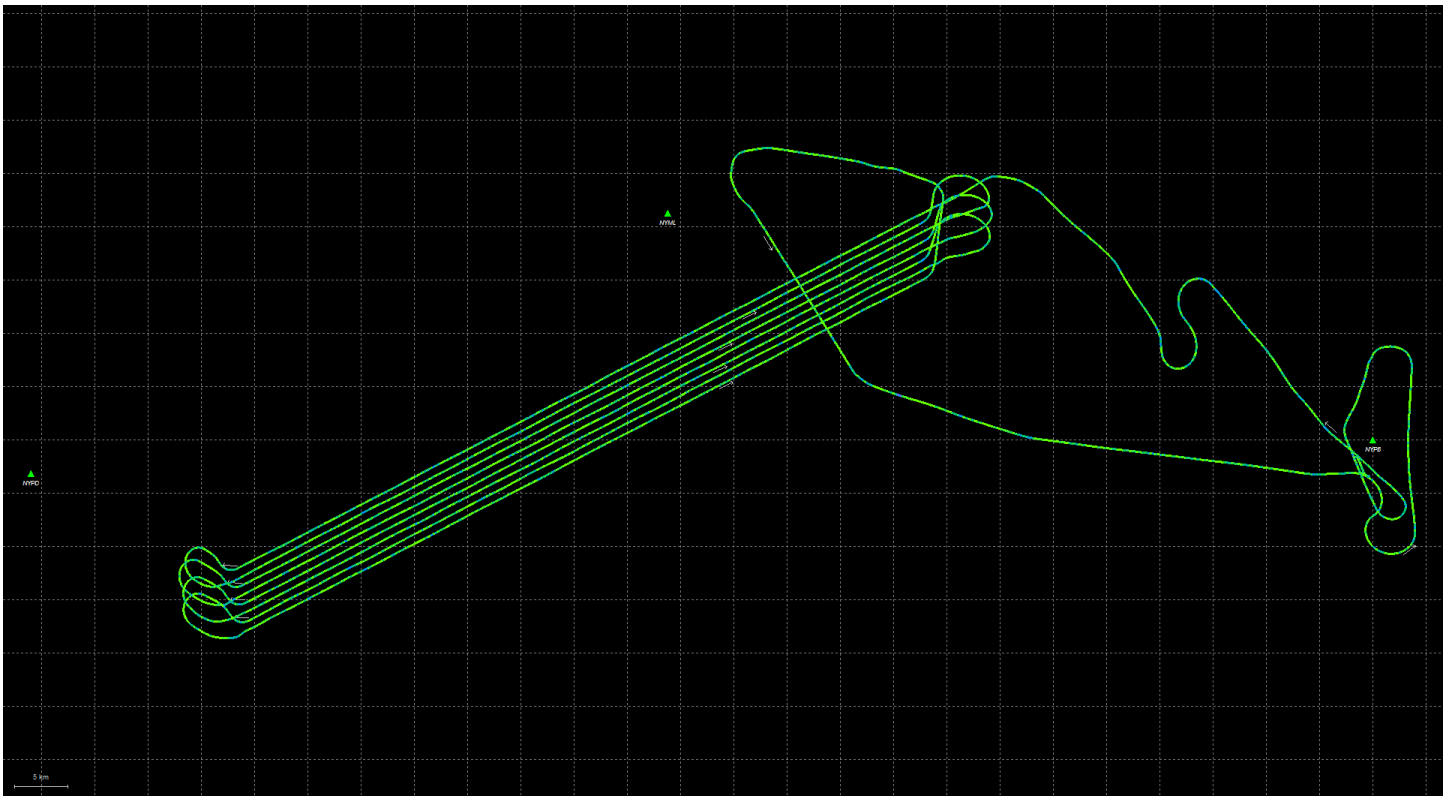
SSD

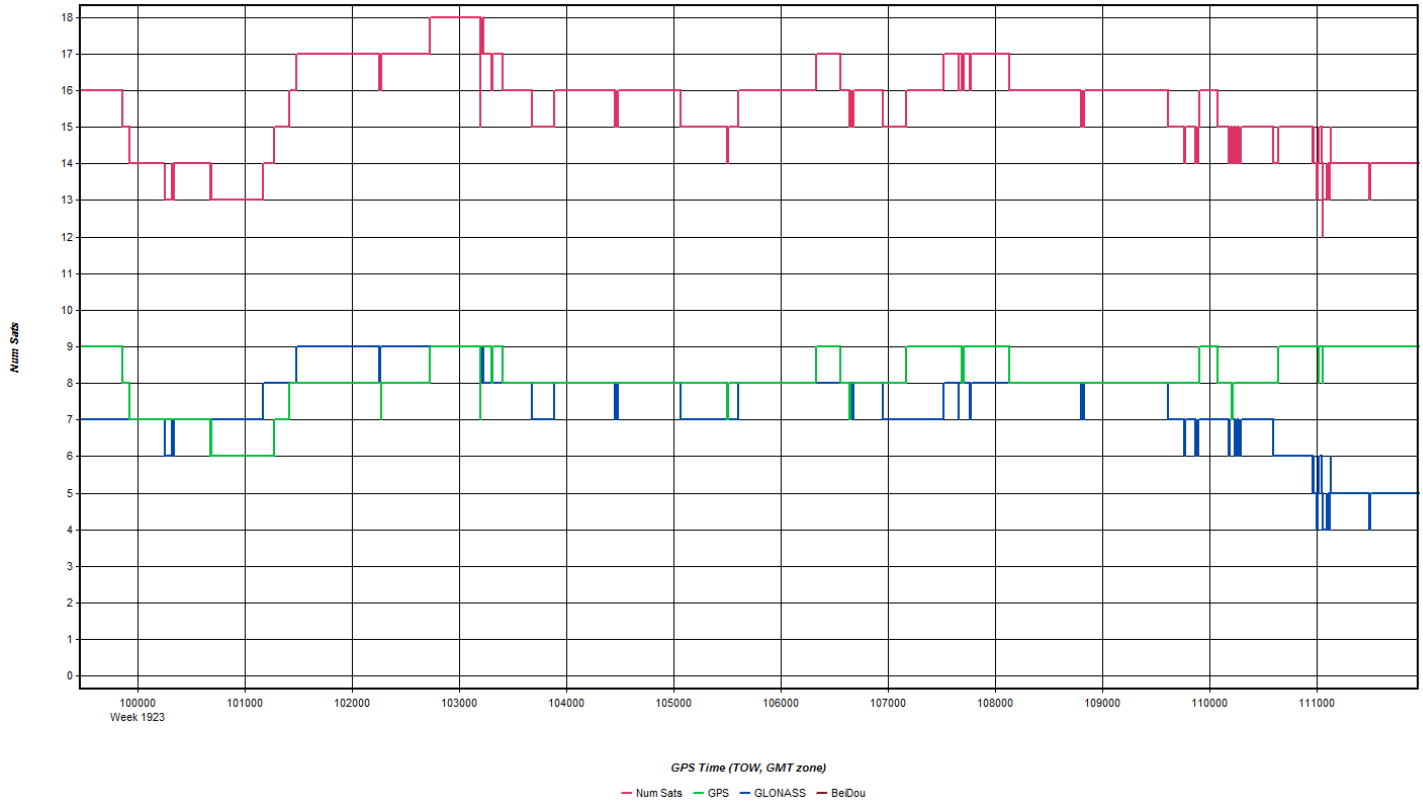
Drive #	Space Rem.

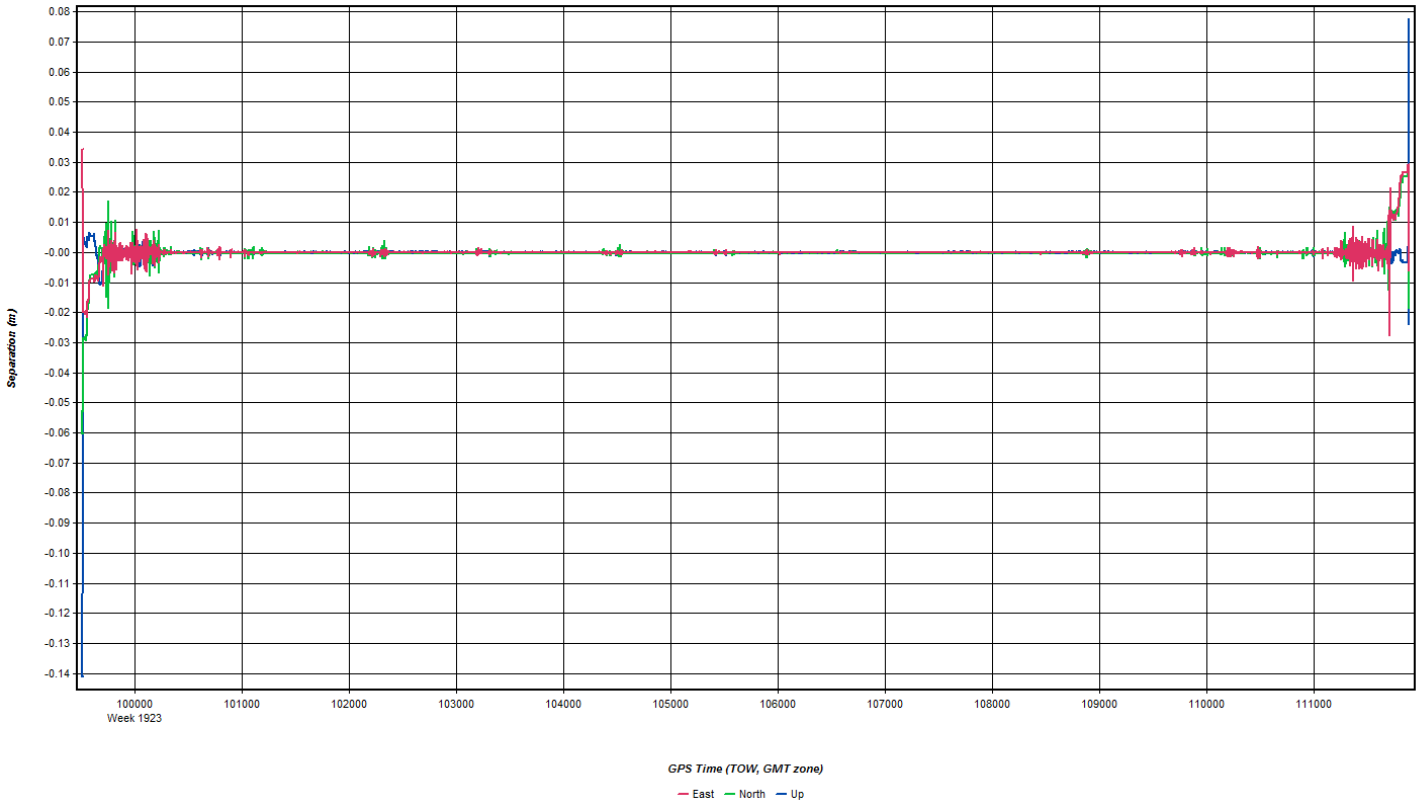
Job #	Location/ Site/Block	Line #	Flight Dir.	Crab Angle	Remarks
60686					Past over KPBG base station @ 16:34
		52	256		
		53	76		
		56	256		
		57	76	17	
		55	162		

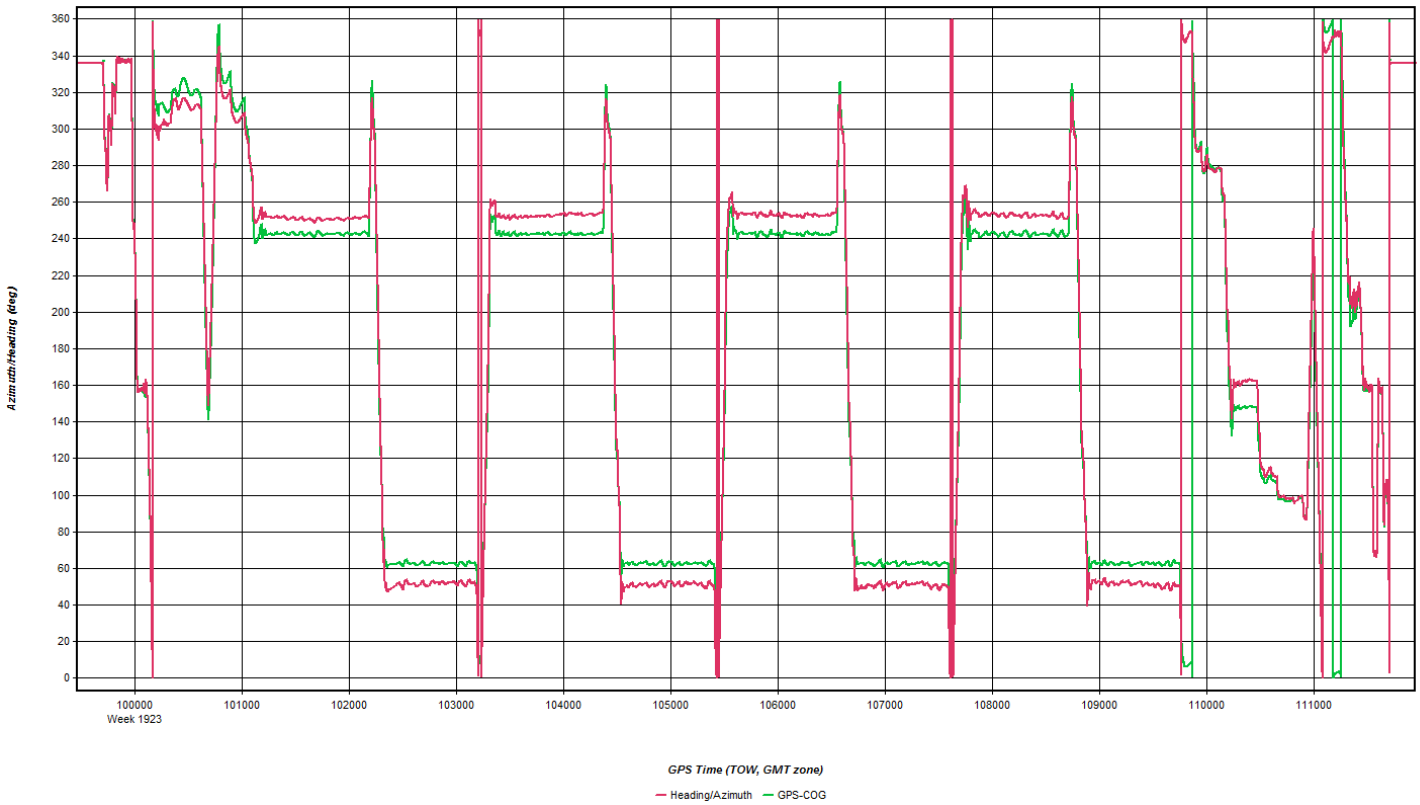
Page 1

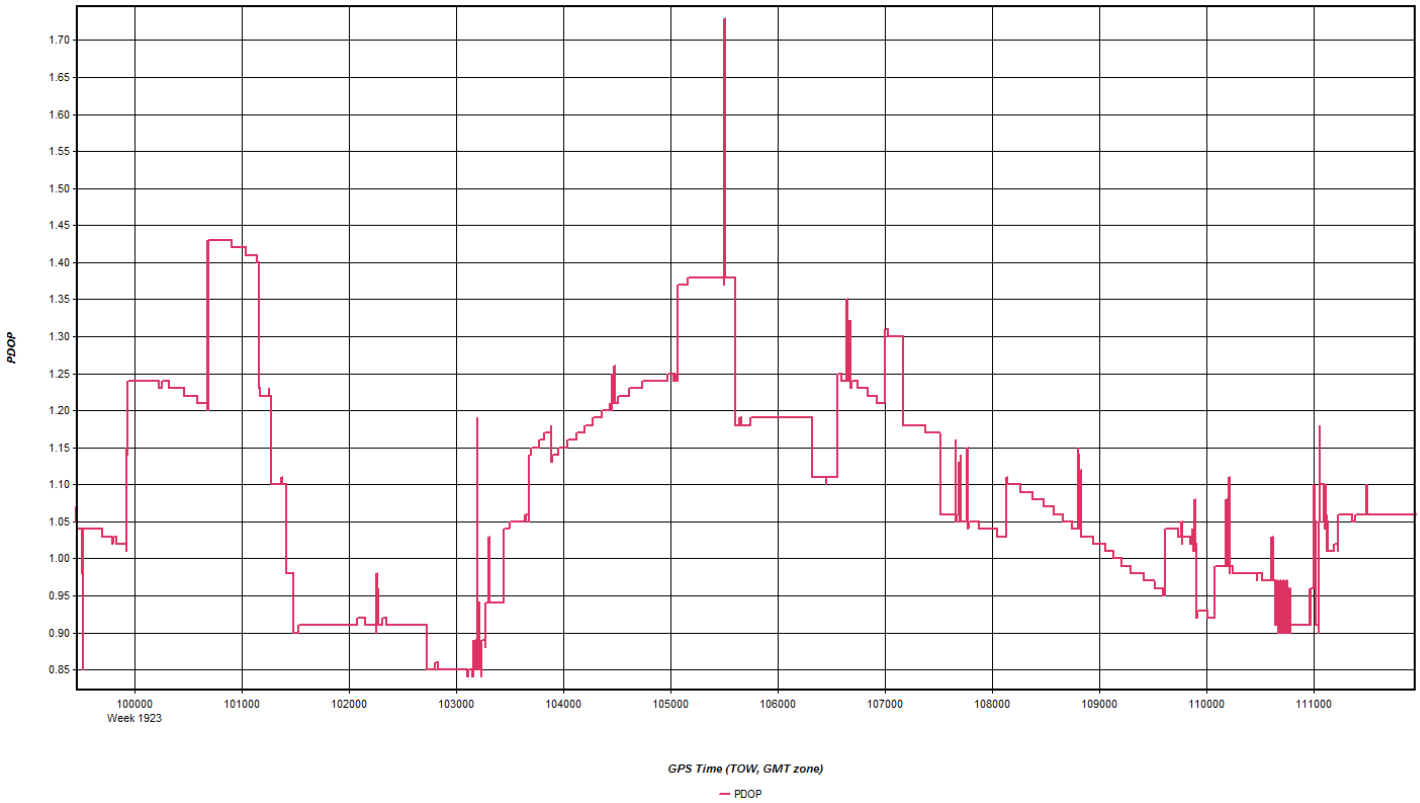
Nov 14, 2016-B (N4102J, SN7232)

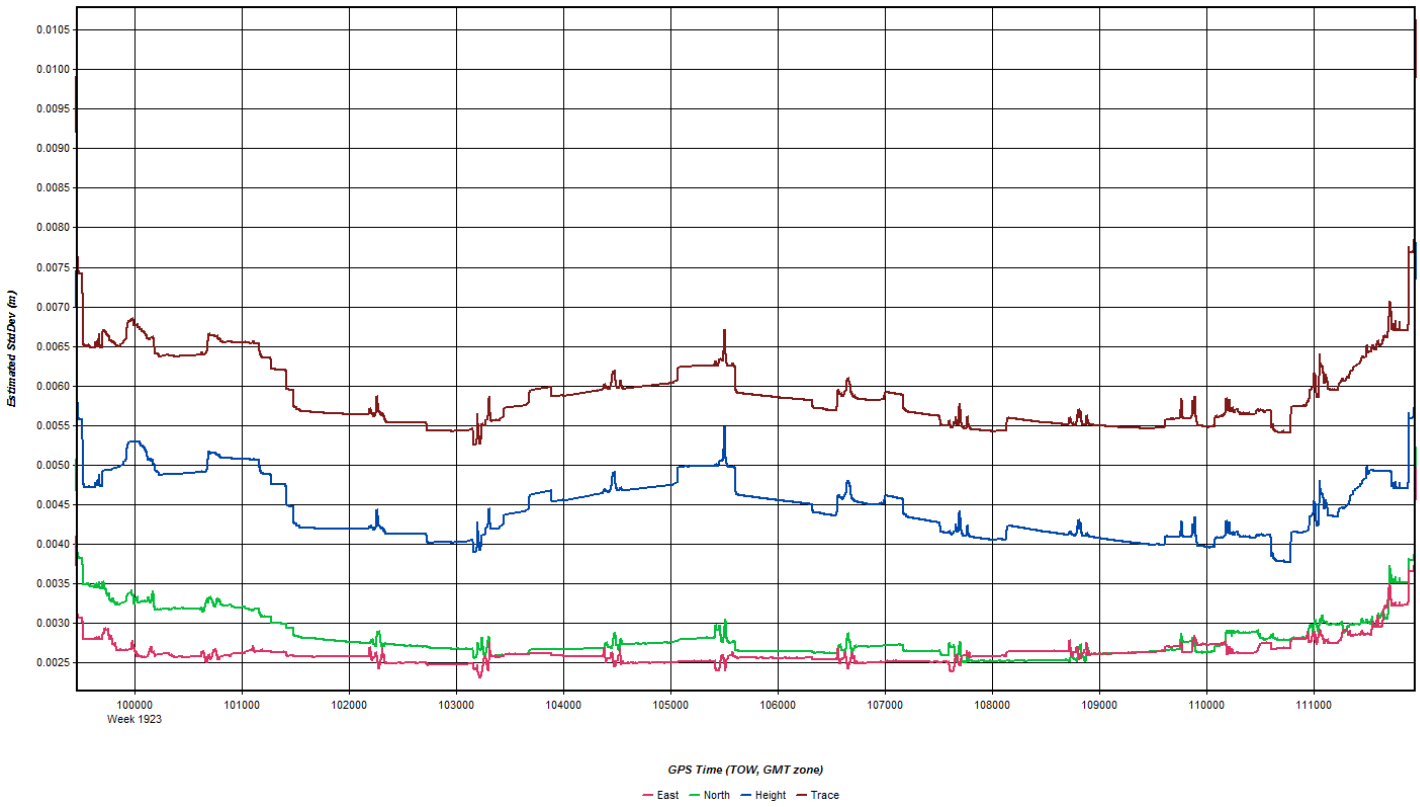

NYM2
NYP5
NYP2
5 km

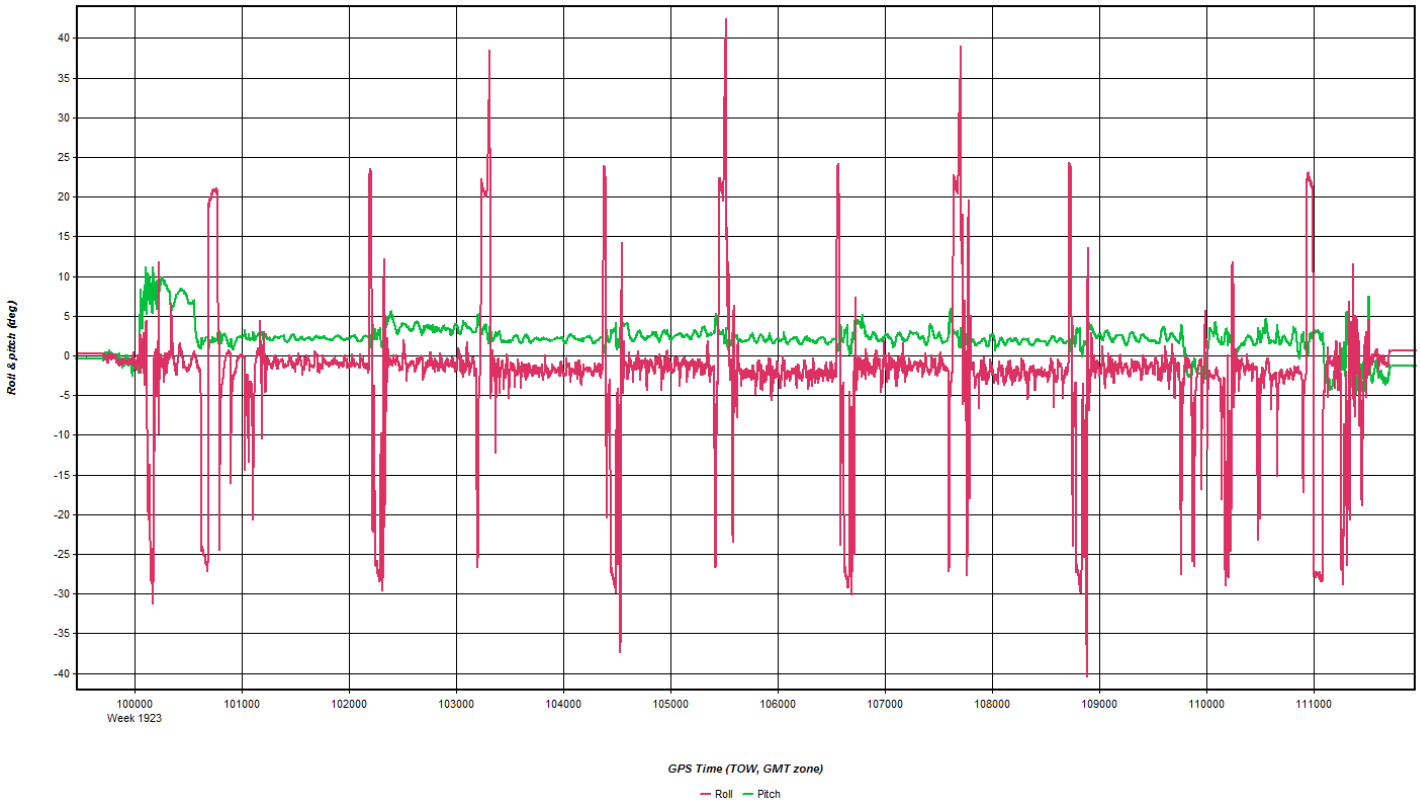

Num Sats
18
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
100000
Week 1923
101000
102000
103000
104000
105000
106000
107000
108000
109000
110000
111000
GPS Time (TOW, GMT zone)
Num Sats
GPS
GLONASS
BeiDou

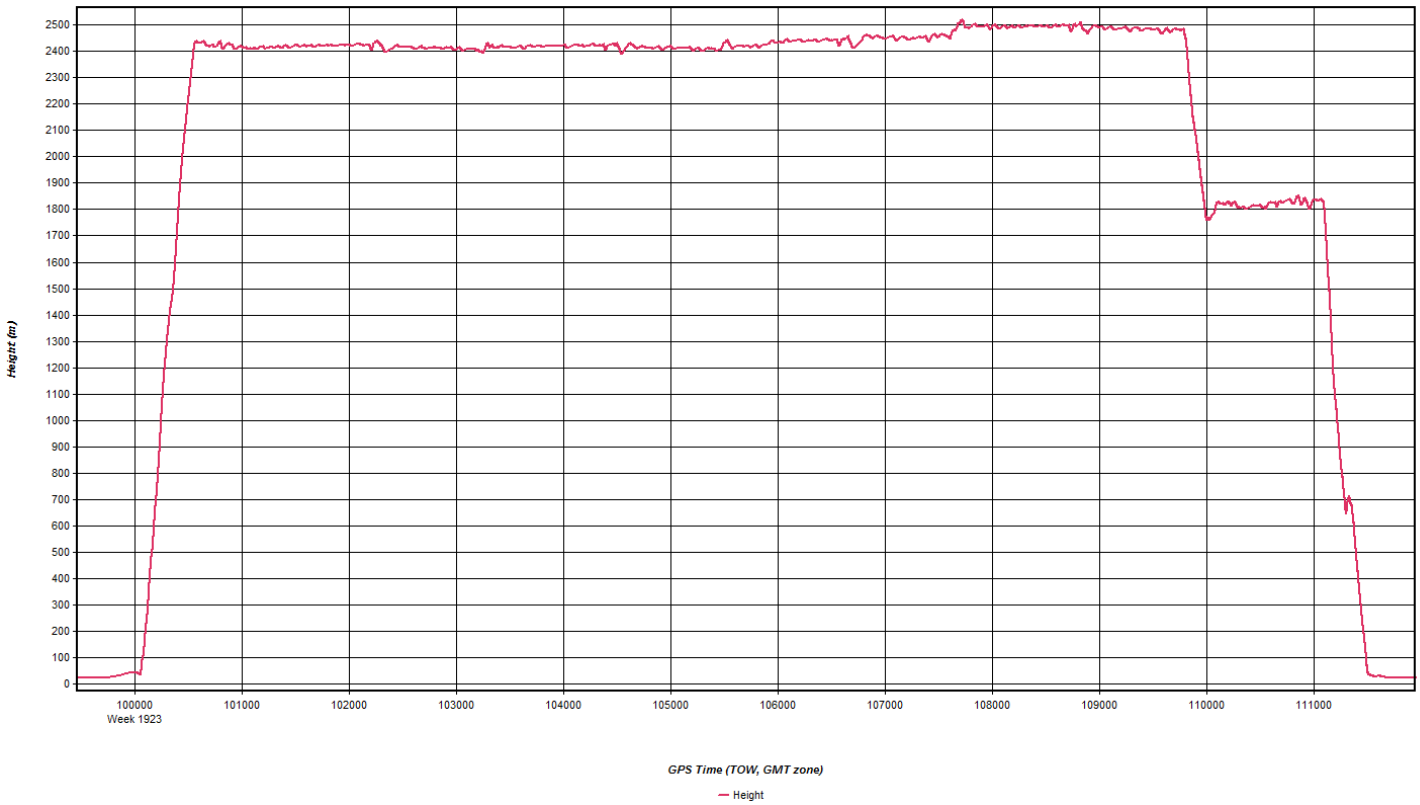

Separation (m)
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
-0.00
-0.01
-0.02
-0.03
-0.04
-0.05
-0.06
-0.07
-0.08
-0.09
-0.10
-0.11
-0.12
-0.13
-0.14
100000
Week 1923
101000
102000
103000
104000
105000
106000
107000
108000
109000
110000
111000
GPS Time (TOW, GMT zone)
East
North
Up

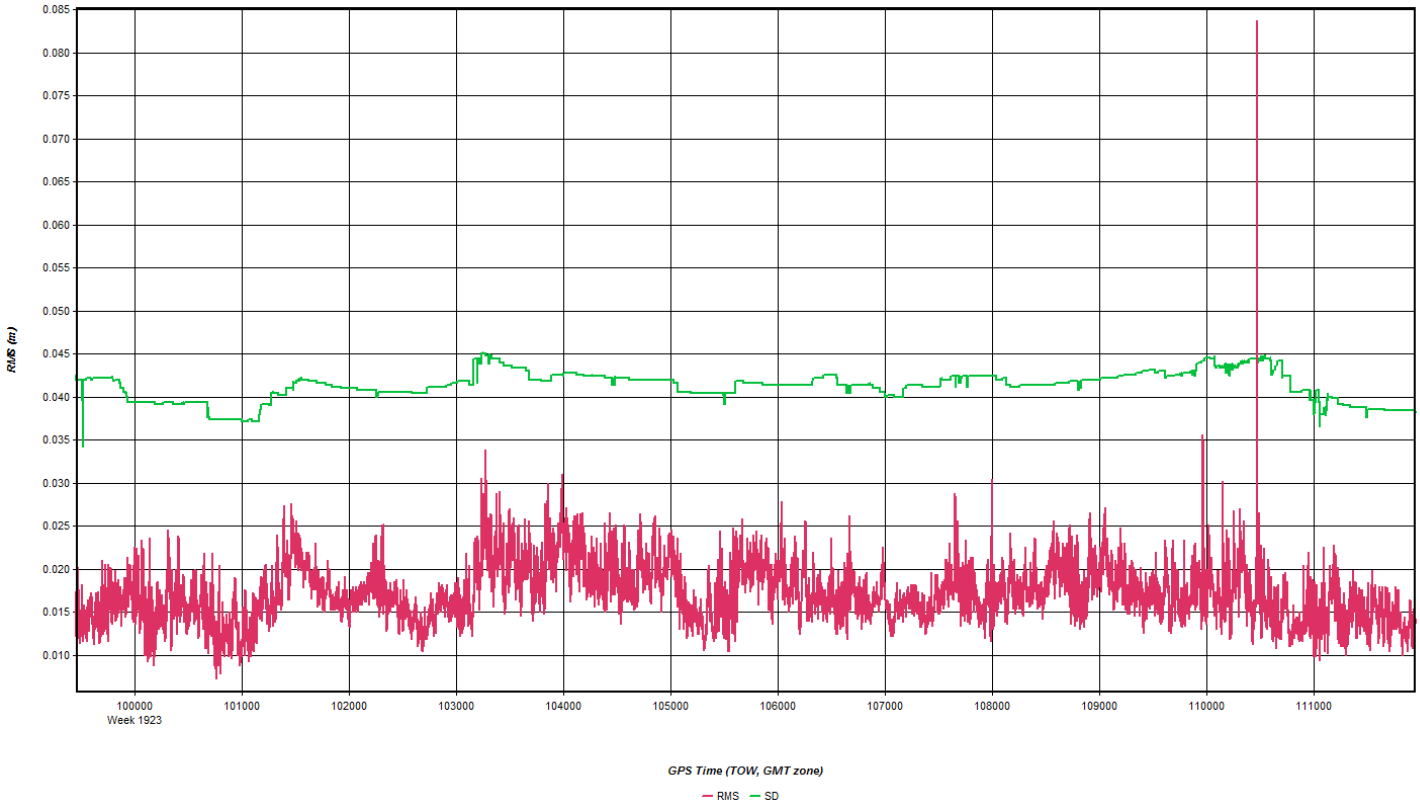

Azimuth/Heading (deg)
360
340
320
300
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
100000
Week 1923
101000
102000
103000
104000
105000
106000
107000
108000
109000
110000
111000
GPS Time (TOW, GMT zone)
Heading/Azimuth
GPS-COG

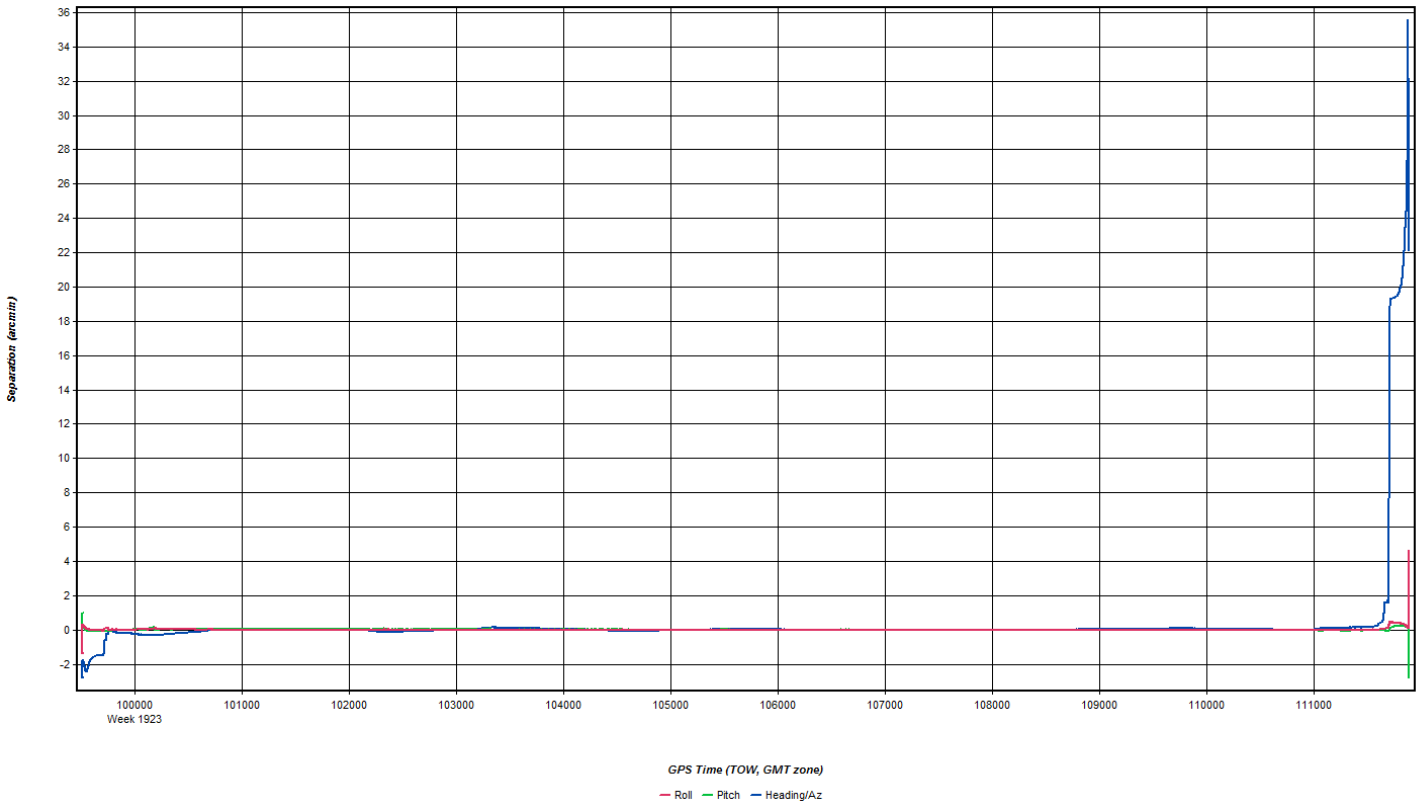

PDOP
1.70
1.65
1.60
1.55
1.50
1.45
1.40
1.35
1.30
1.25
1.20
1.15
1.10
1.05
1.00
0.95
0.90
0.85
100000
Week 1923
101000
102000
103000
104000
105000
106000
107000
108000
109000
110000
111000
GPS Time (TOW, GMT zone)
PDOP

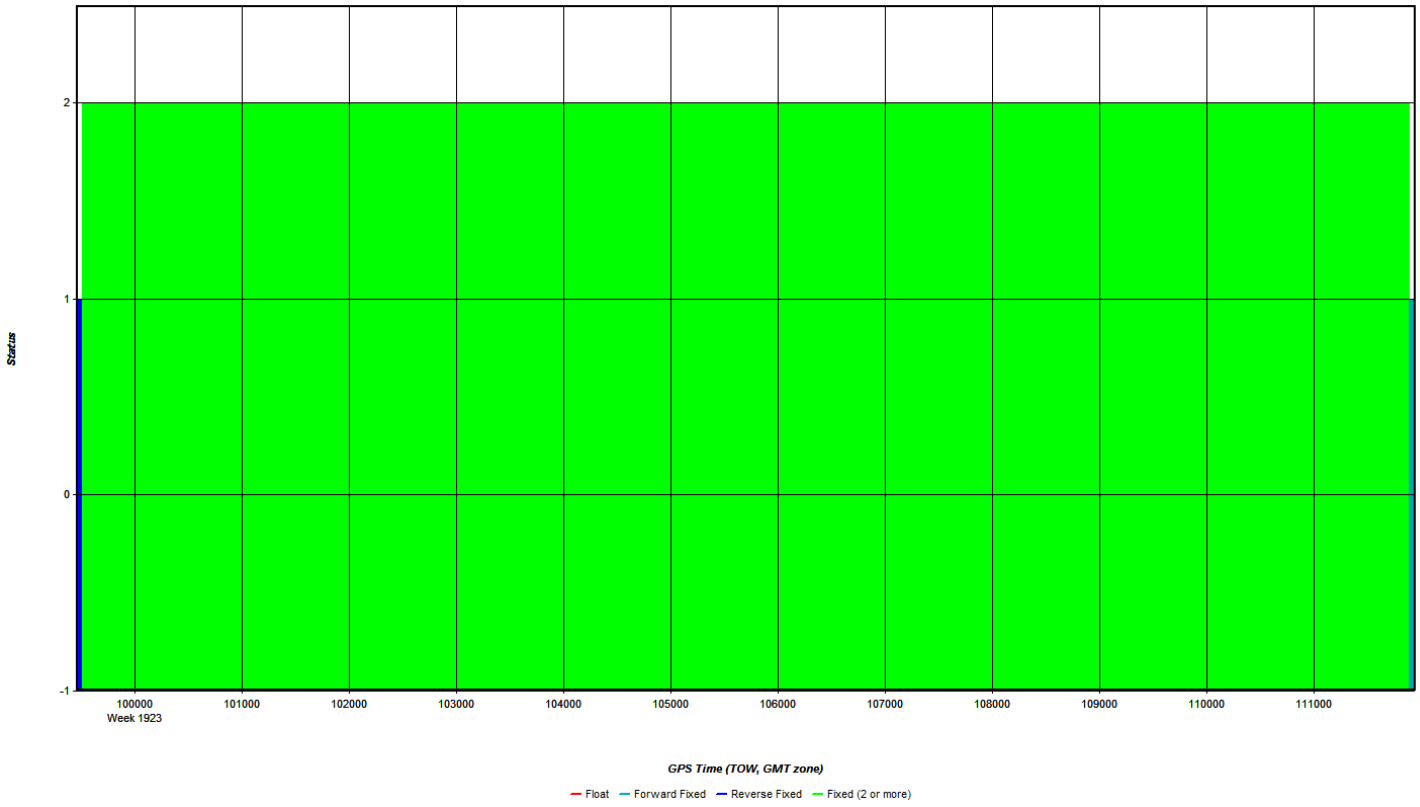

Estimated StdDev (m)
0.0105
0.0100
0.0095
0.0090
0.0085
0.0080
0.0075
0.0070
0.0065
0.0060
0.0055
0.0050
0.0045
0.0040
0.0035
0.0030
0.0025
100000
Week 1923
101000
102000
103000
104000
105000
106000
107000
108000
109000
110000
111000
GPS Time (TOW, GMT zone)
East
North
Height
Trace

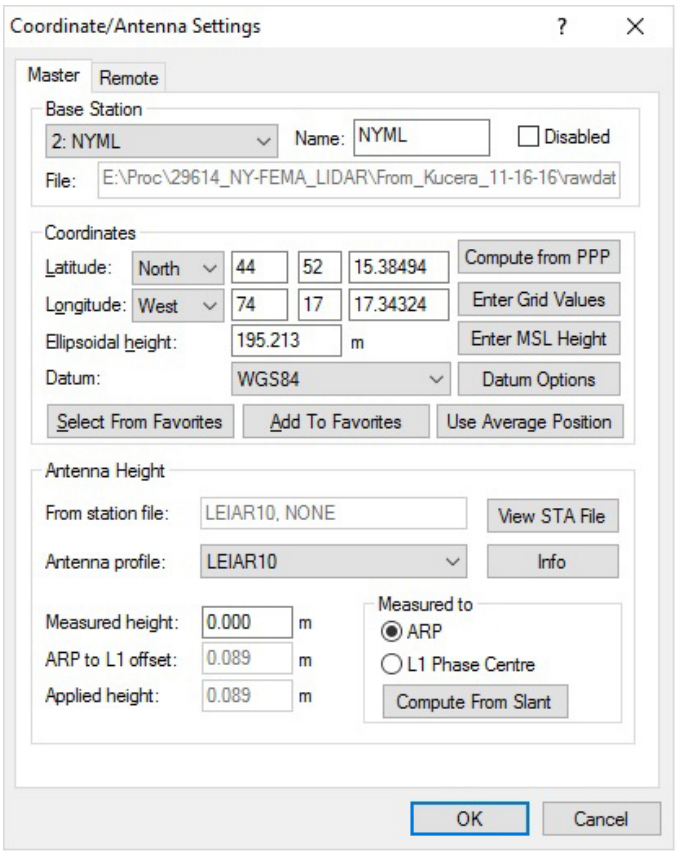

Roll & pitch (deg)
40
35
30
25
20
15
10
5
0
-5
-10
-15
-20
-25
-30
-35
-40
100000
Week 1923
101000
102000
103000
104000
105000
106000
107000
108000
109000
110000
111000
GPS Time (TOW, GMT zone)
Roll
Pitch

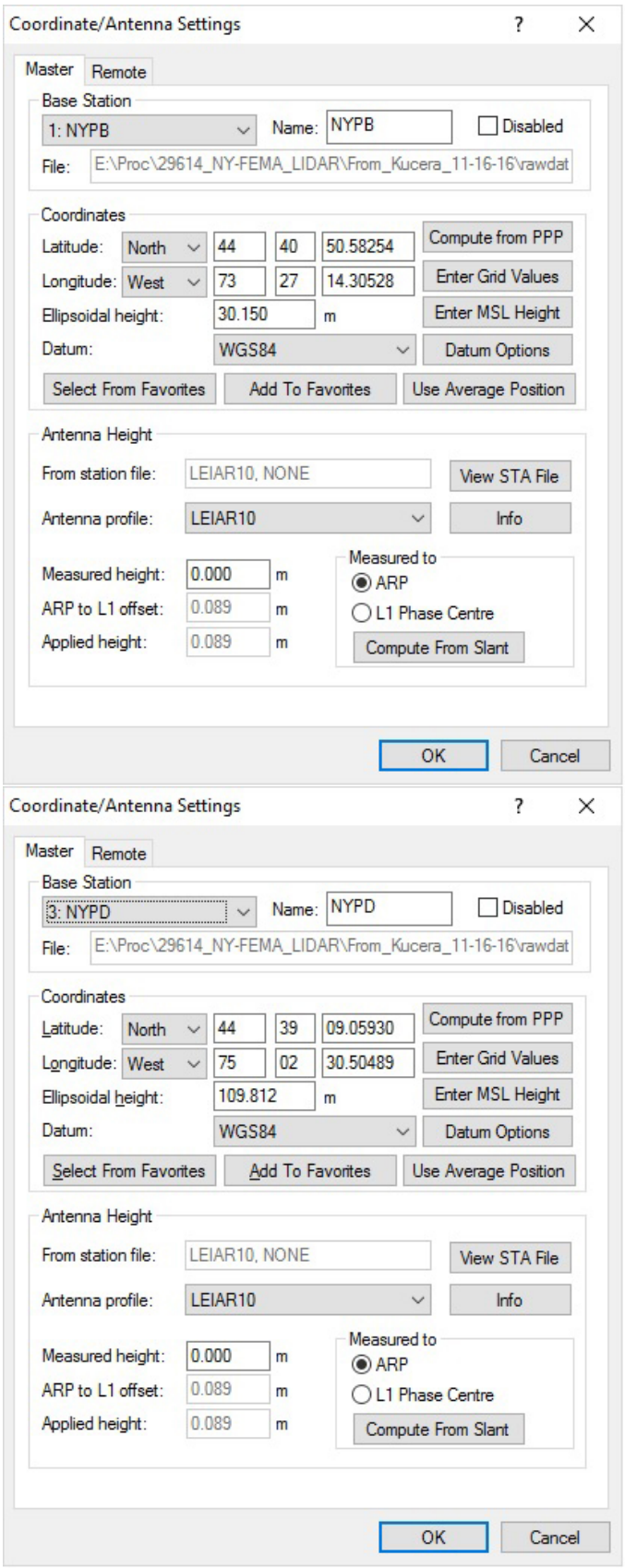

Height (m)
2500
2400
2300
2200
2100
2000
1900
1800
1700
1600
1500
1400
1300
1200
1100
1000
900
800
700
600
500
400
300
200
100
0
100000
Week 1923
101000
102000
103000
104000
105000
106000
107000
108000
109000
110000
111000
GPS Time (TOW, GMT zone)
Height


RMS (m)
0.085
0.080
0.075
0.070
0.065
0.060
0.055
0.050
0.045
0.040
0.035
0.030
0.025
0.020
0.015
0.010
100000
Week 1923
101000
102000
103000
104000
105000
106000
107000
108000
109000
110000
111000
GPS Time (TOW, GMT zone)
RMS
SD


Separation (arcmin)
36
34
32
30
28
26
24
22
20
18
16
14
12
10
8
6
4
2
0
-2
100000
Week 1923
101000
102000
103000
104000
105000
106000
107000
108000
109000
110000
111000
GPS Time (TOW, GMT zone)
Roll
Pitch
Heading/Az


Status
2
1
0
-1
100000
Week 1923
101000
102000
103000
104000
105000
106000
107000
108000
109000
110000
111000
GPS Time (TOW, GMT zone)
Float
Forward Fixed
Reverse Fixed
Fixed (2 or more)


Coordinate/Antenna Settings
Master
Remote
Base Station
2: NYML
Name: NYML
Disabled
File: E:\Proc\29614_NY-FEMA_LIDAR\From_Kucera_11-16-16\rawdat
Coordinates
Latitude: North 44 52 15.38494
Longitude: West 74 17 17.34324
Ellipsoidal height: 195.213 m
Datum: WGS84
Compute from PPP
Enter Grid Values
Enter MSL Height
Datum Options
Select From Favorites
Add To Favorites
Use Average Position
Antenna Height
From station file: LEIAR10, NONE
View STA File
Antenna profile: LEIAR10
Info
Measured height: 0.000 m
ARP to L1 offset: 0.089 m
Applied height: 0.089 m
Measured to
ARP
L1 Phase Centre
Compute From Slant
OK
Cancel


Coordinate/Antenna Settings
Master
Remote
Base Station
1: NYPB
Name: NYPB
Disabled
File: E:\Proc\29614_NY-FEMA_LIDAR\From_Kucera_11-16-16\rawdat
Coordinates
Latitude: North 44 40 50.58254
Longitude: West 73 27 14.30528
Ellipsoidal height: 30.150 m
Datum: WGS84
Compute from PPP
Enter Grid Values
Enter MSL Height
Datum Options
Select From Favorites
Add To Favorites
Use Average Position
Antenna Height
From station file: LEIAR10, NONE
Antenna profile: LEIAR10
View STA File
Info
Measured height: 0.000 m
ARP to L1 offset: 0.089 m
Applied height: 0.089 m
Measured to
ARP
L1 Phase Centre
Compute From Slant
OK
Cancel
Coordinate/Antenna Settings
Master
Remote
Base Station
3: NYPD
Name: NYPD
Disabled
File: E:\Proc\29614_NY-FEMA_LIDAR\From_Kucera_11-16-16\rawdat
Coordinates
Latitude: North 44 39 09.05930
Longitude: West 75 02 30.50489
Ellipsoidal height: 109.812 m
Datum: WGS84
Compute from PPP
Enter Grid Values
Enter MSL Height
Datum Options
Select From Favorites
Add To Favorites
Use Average Position
Antenna Height
From station file: LEIAR10, NONE
Antenna profile: LEIAR10
View STA File
Info
Measured height: 0.000 m
ARP to L1 offset: 0.089 m
Applied height: 0.089 m
Measured to
ARP
L1 Phase Centre
Compute From Slant
OK
Cancel

Flight Log

KUCERA INTERNATIONAL INC.

LiDAR FLIGHT REPORT

Revised Feb. 2014

CREW Pilot/Operator: george/Nico; mm/dd/yy: **DATE** 11/13/2016

AIRCRAFT Tail Number: 4102J

WEATHER Sky conditions, light conditions, horizon, shadowing, visibility/haze, cloud types, wind, turbulence, etc.: skc

Camera System LiDAR S/N: als70

Camera Location (Hole): fwd/aft: fwd

GPS Source: fwd antenna

	Time	Location
Start-up	11:15:00 PM	KPBG
Shut-down	02:15:00 AM	KPBG

LiDAR STARTUP CHECKS

Lens cleaned	
All fpds uploaded	
Pilot's screen functional	
Compact flash drive space	
SSDs have space	
Startup beeps & IPAS recording	
Initials:	NC

SSD

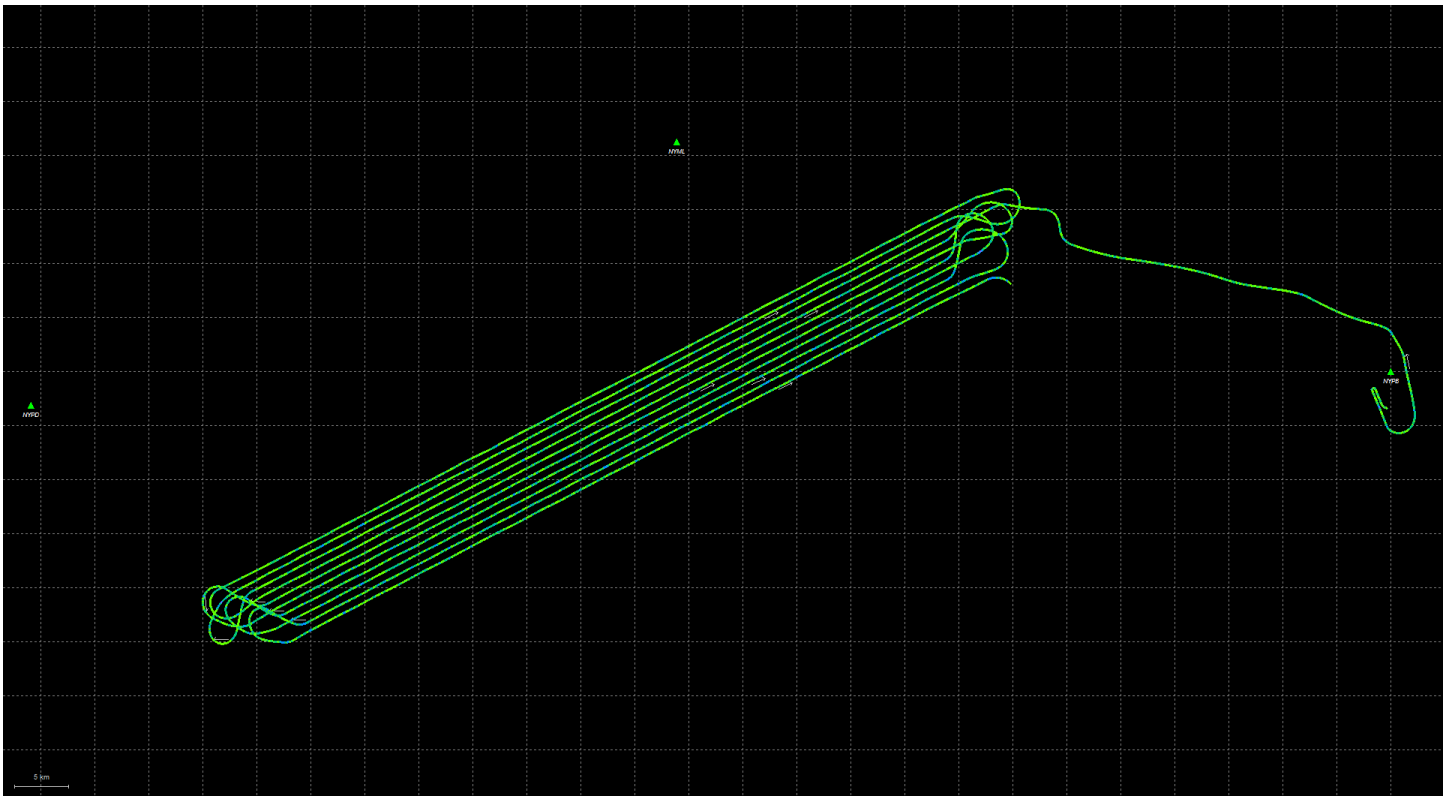
Drive #	Space Rem.
	200

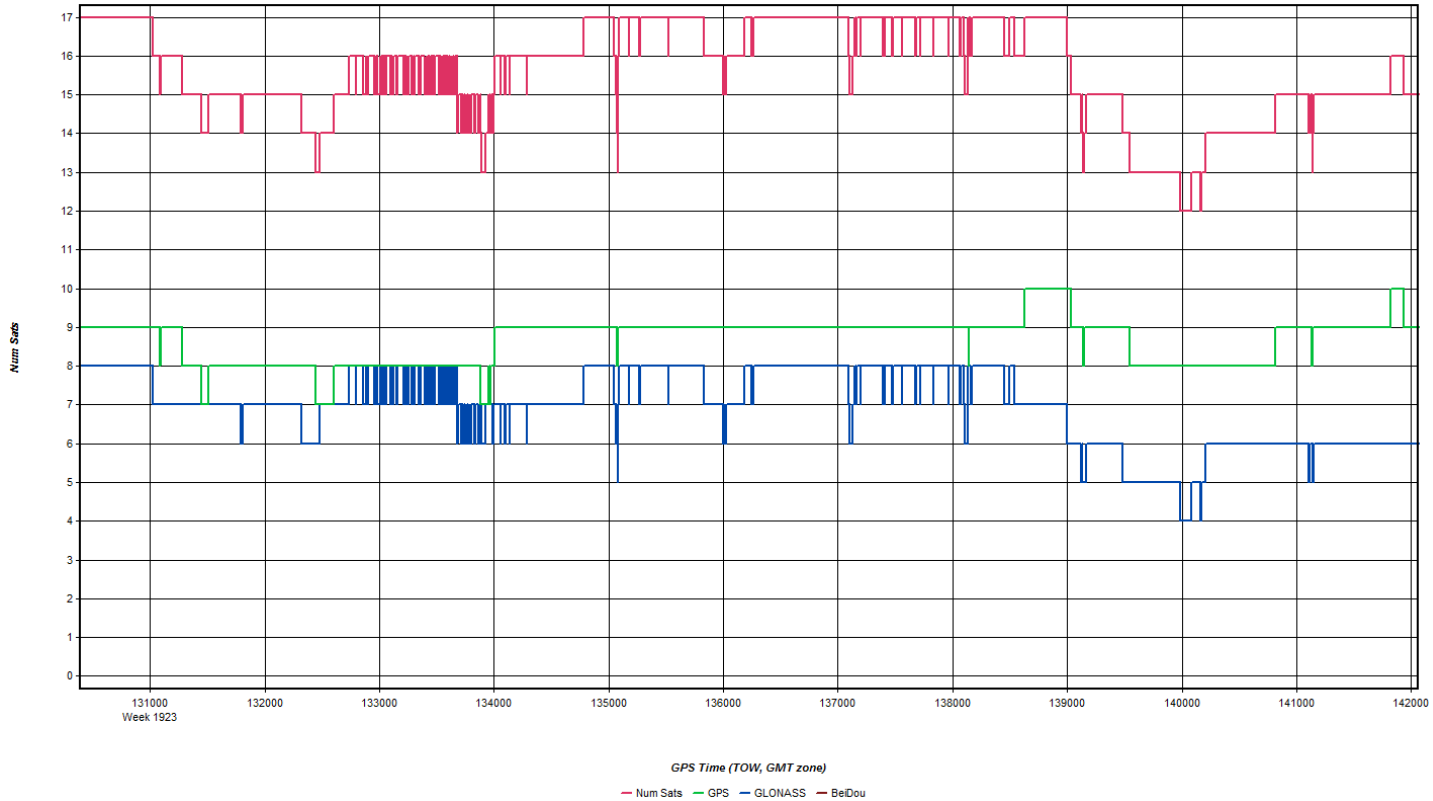
Job #	Location/ Site/Block	Line #	Flight Dir.	Crab Angle	Remarks
60686	franklin NY	58	256	10	
		59	76	10	
		60	256	10	
		61	76	10	
		62	256	10	
		63	76	10	
		64	256	10	
		65	76	10	
		55	161		

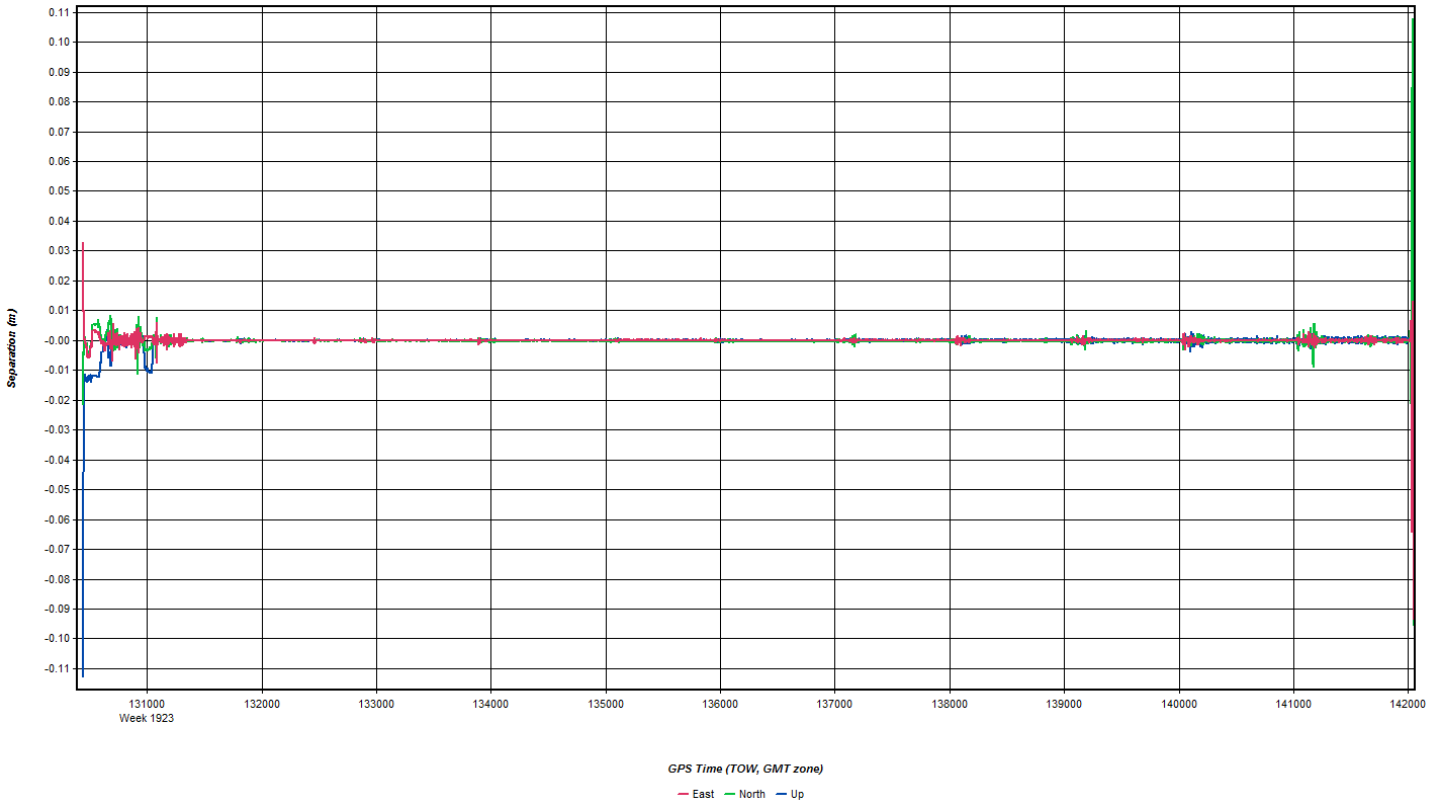
LiDAR

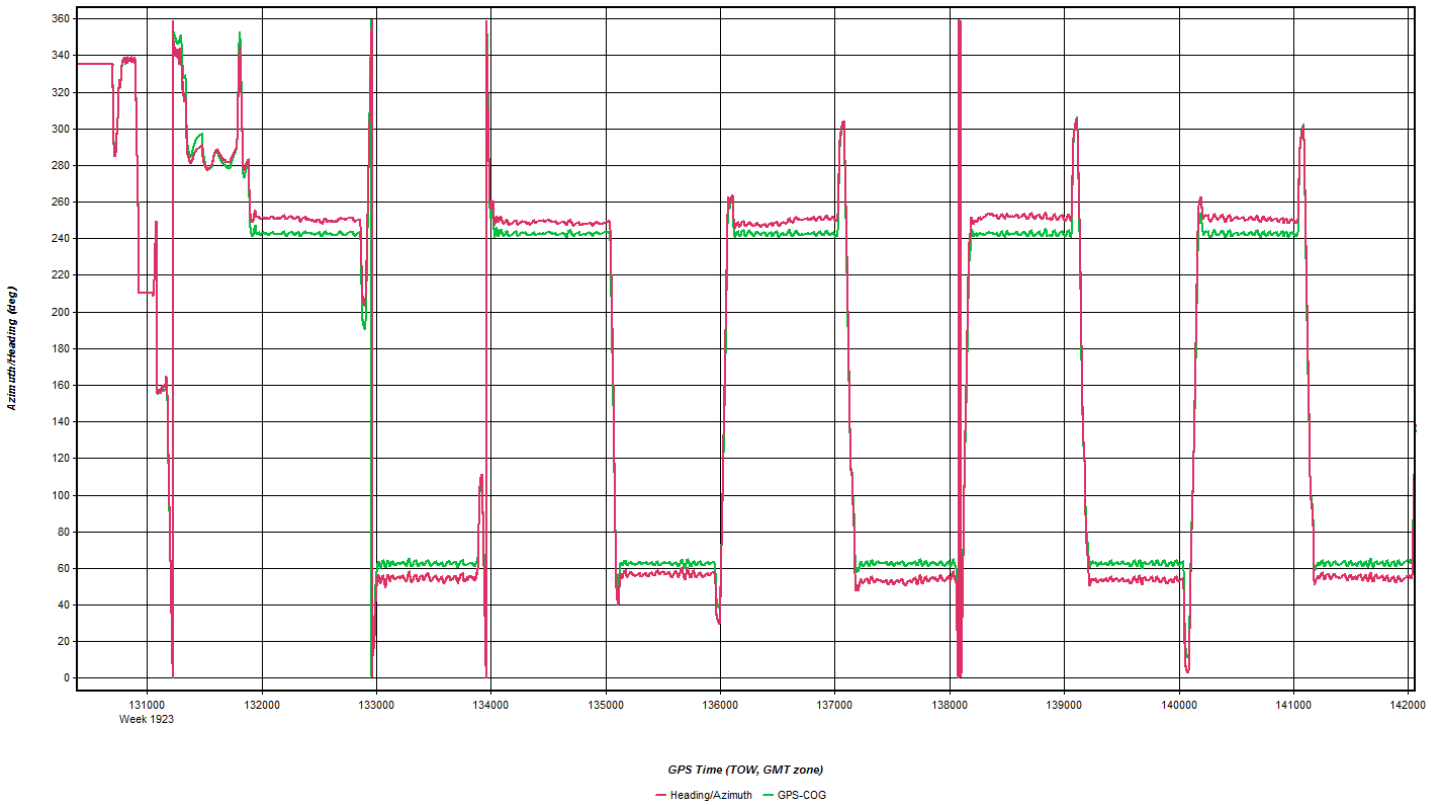
Page 1

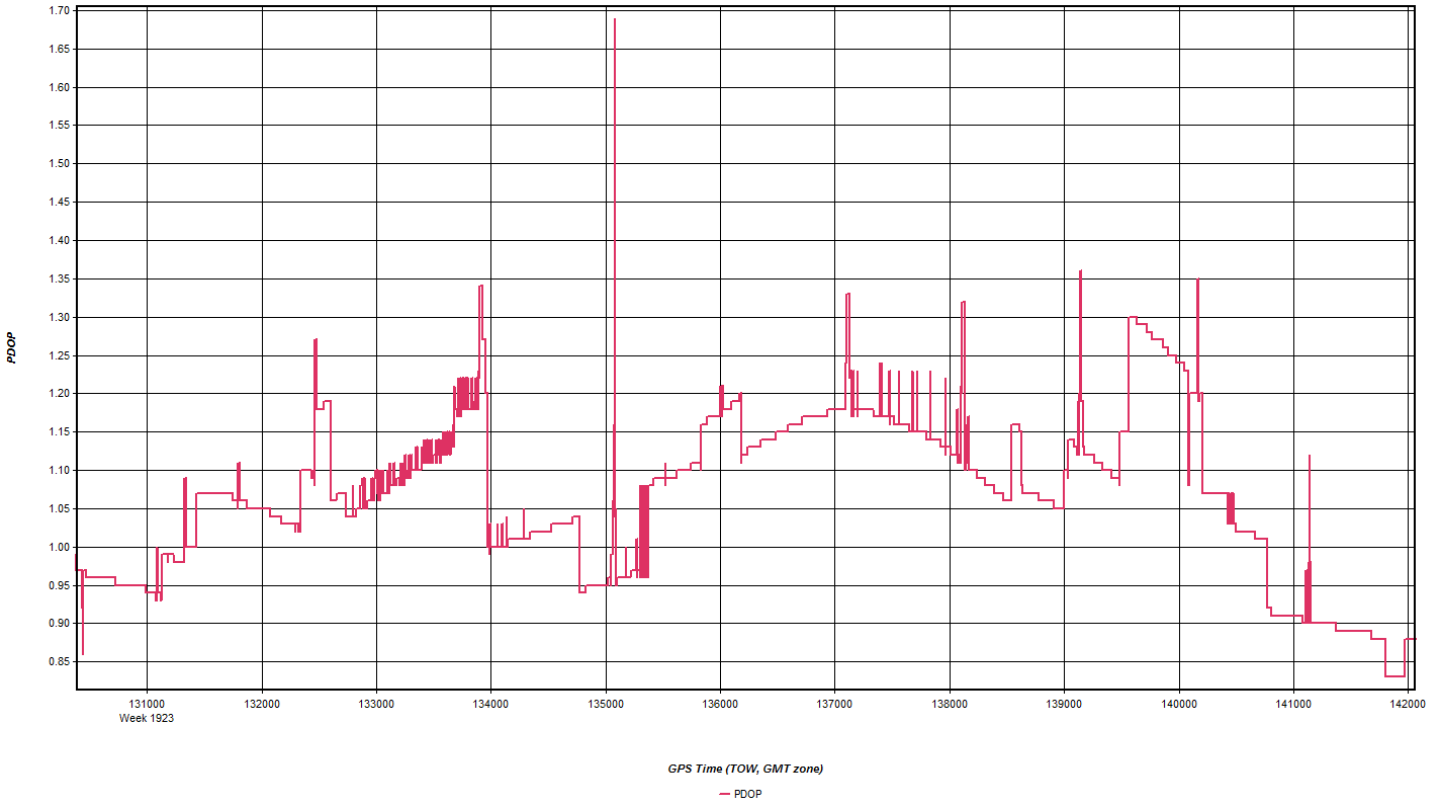
Nov 14, 2016-C (N4102J, SN7232)

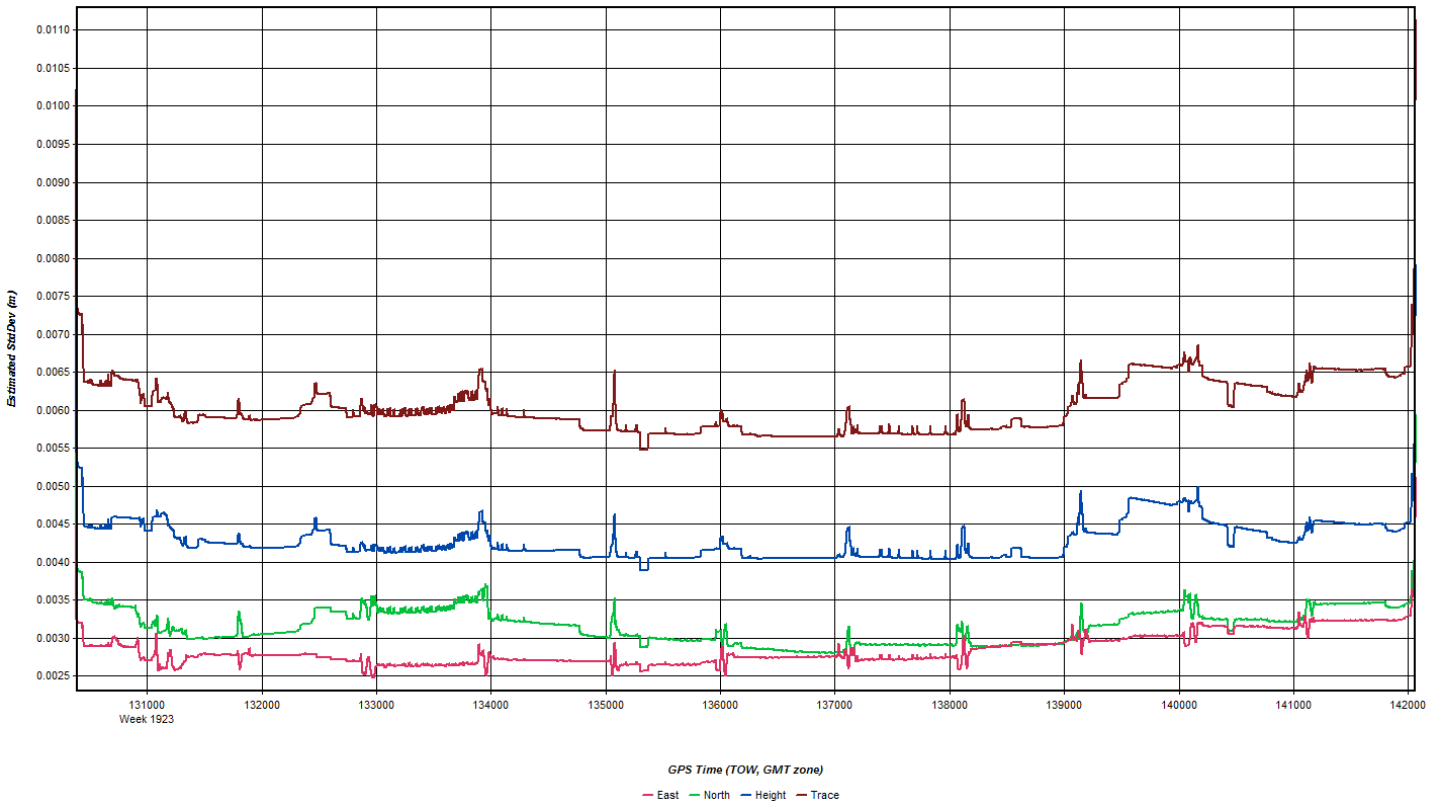

NYNE
NYPE
NYPO
5 km

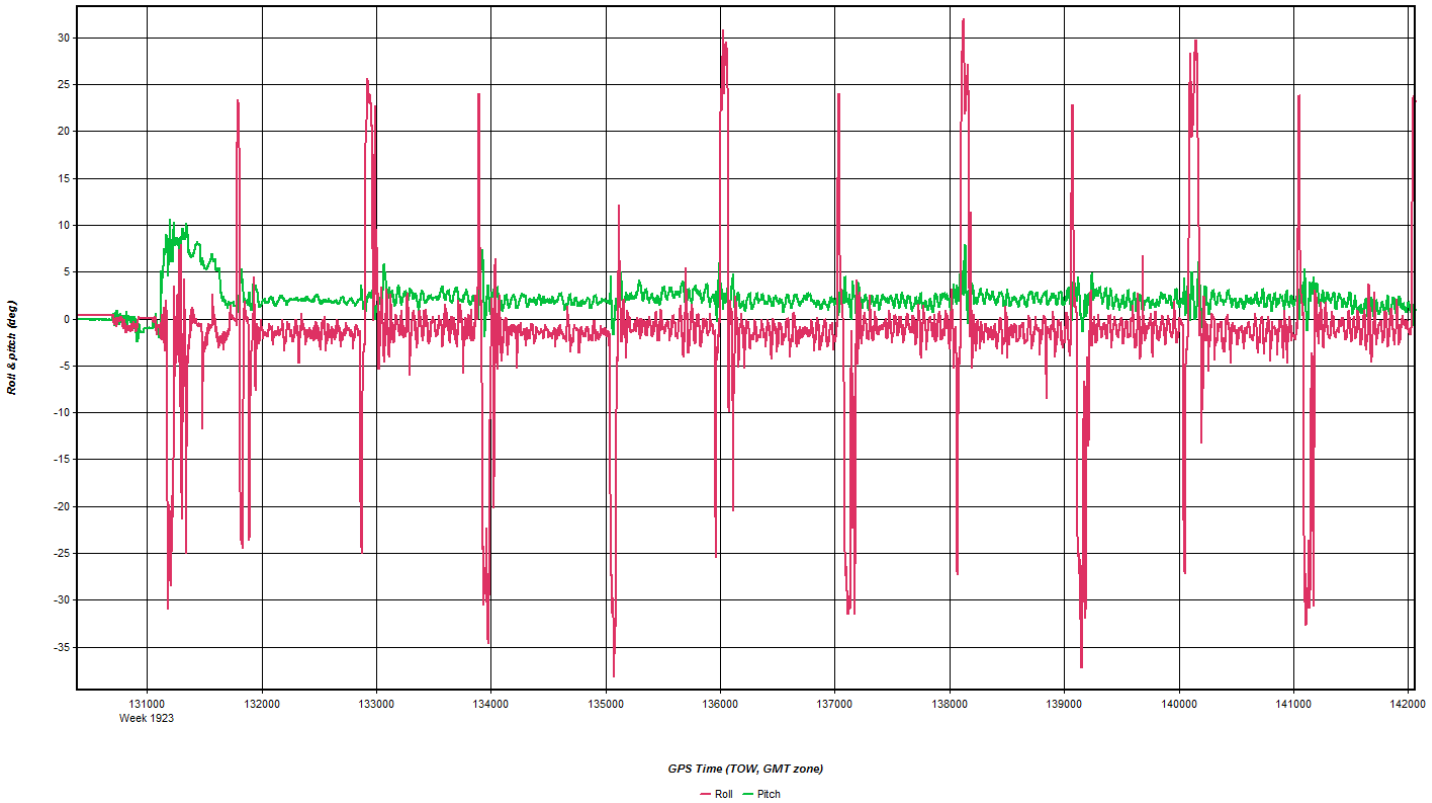

Num Sats
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
131000
Week 1923
132000
133000
134000
135000
136000
137000
138000
139000
140000
141000
142000
GPS Time (TOW, GMT zone)
Num Sats
GPS
GLONASS
BeiDou

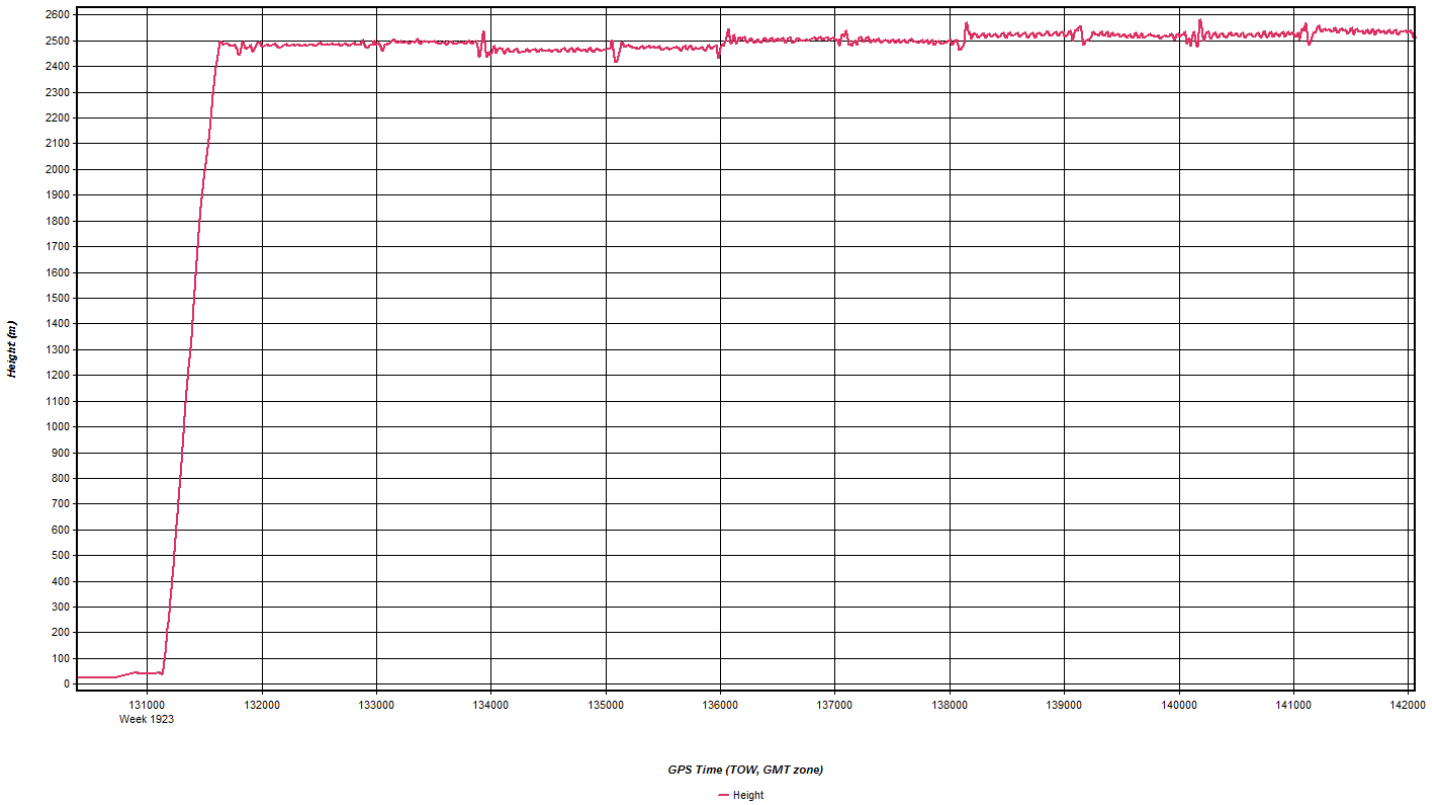

Separation (m)
0.11
0.10
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
-0.00
-0.01
-0.02
-0.03
-0.04
-0.05
-0.06
-0.07
-0.08
-0.09
-0.10
-0.11
131000
Week 1923
132000
133000
134000
135000
136000
137000
138000
139000
140000
141000
142000
GPS Time (TOW, GMT zone)
East
North
Up

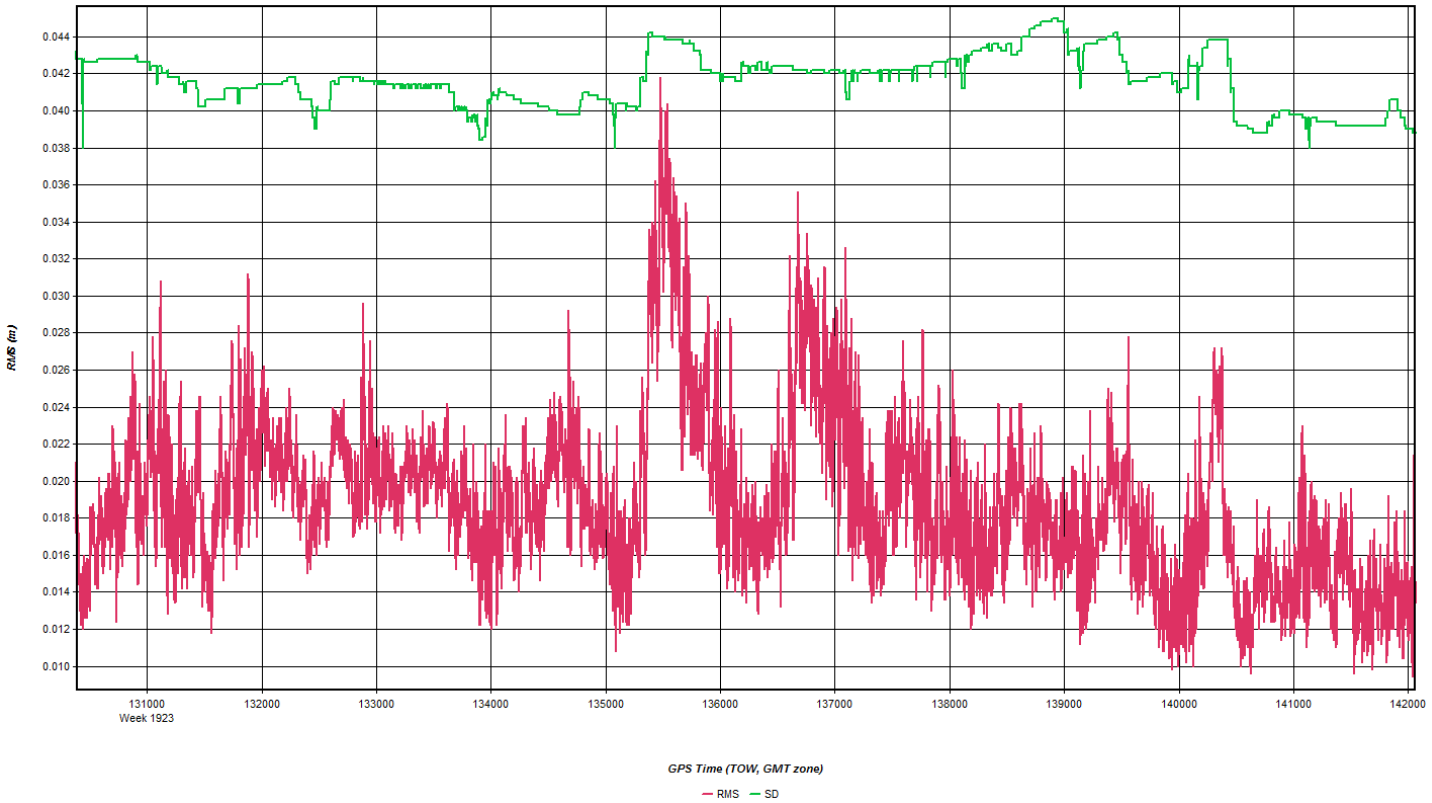

Azimuth/Heading (deg)
360
340
320
300
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
131000
Week 1923
132000
133000
134000
135000
136000
137000
138000
139000
140000
141000
142000
GPS Time (TOW, GMT zone)
Heading/Azimuth
GPS-COG

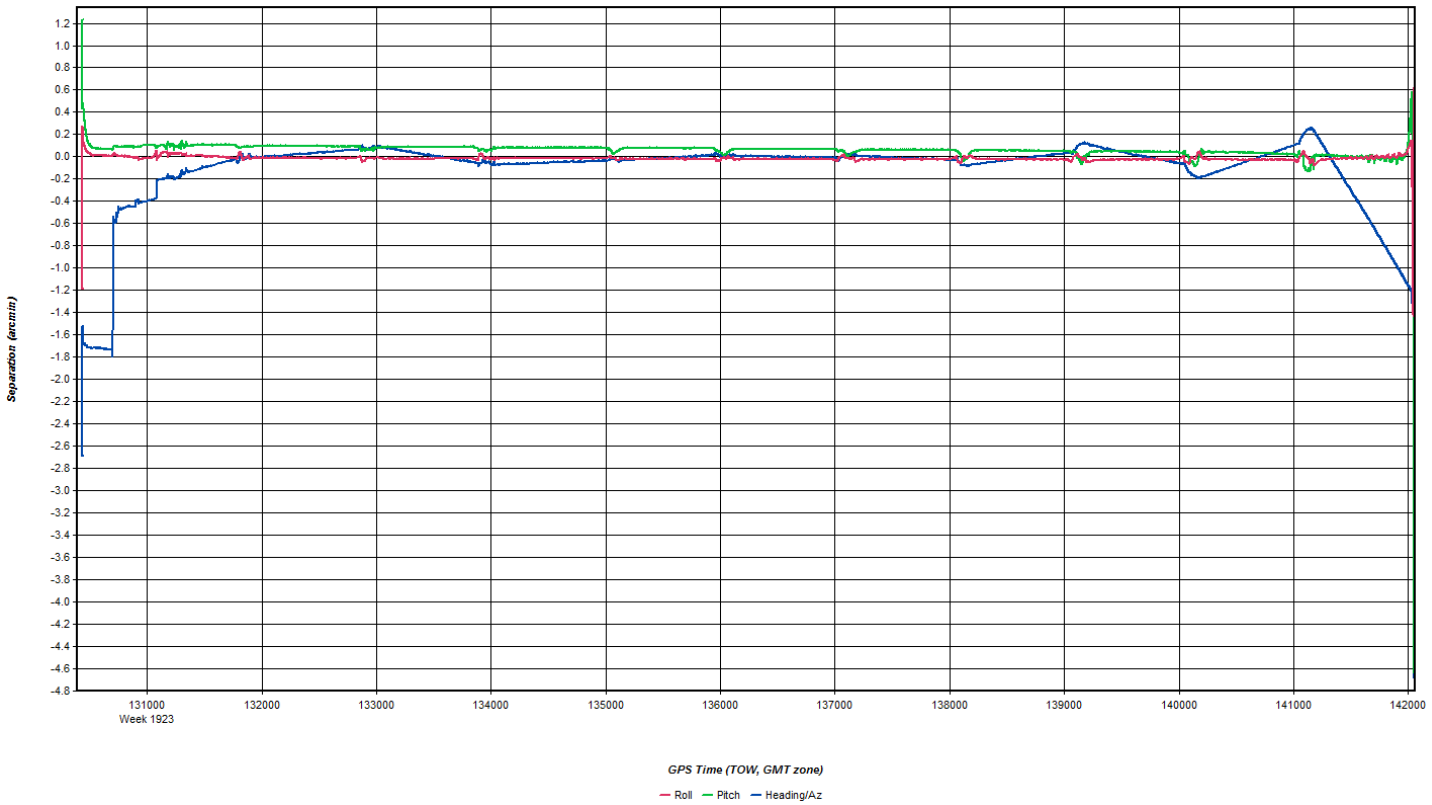

PDOP
1.70
1.65
1.60
1.55
1.50
1.45
1.40
1.35
1.30
1.25
1.20
1.15
1.10
1.05
1.00
0.95
0.90
0.85
131000
Week 1923
132000
133000
134000
135000
136000
137000
138000
139000
140000
141000
142000
GPS Time (TOW, GMT zone)
PDOP

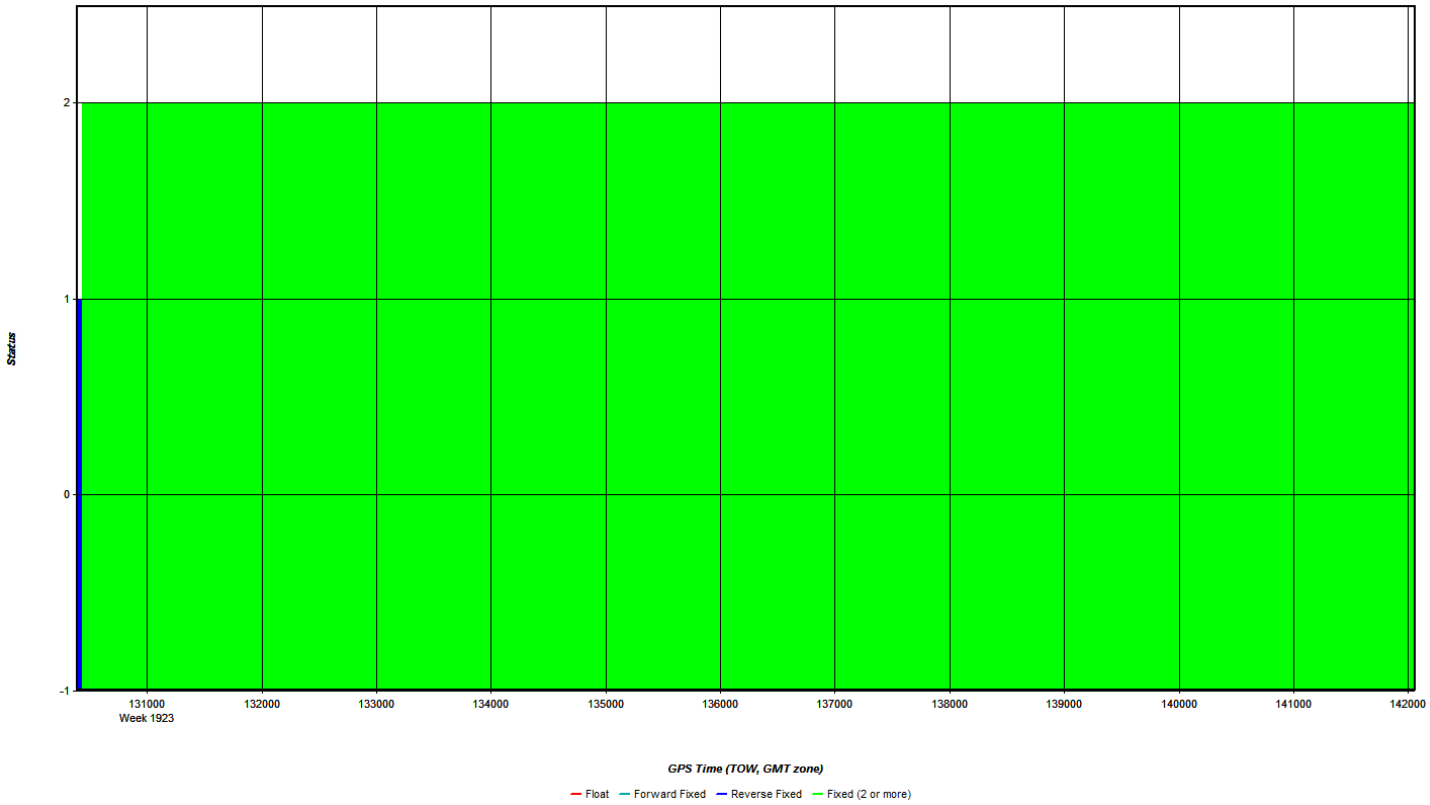

Estimated StdDev (m)
0.0110
0.0105
0.0100
0.0095
0.0090
0.0085
0.0080
0.0075
0.0070
0.0065
0.0060
0.0055
0.0050
0.0045
0.0040
0.0035
0.0030
0.0025
131000
Week 1923
132000
133000
134000
135000
136000
137000
138000
139000
140000
141000
142000
GPS Time (TOW, GMT zone)
East
North
Height
Trace

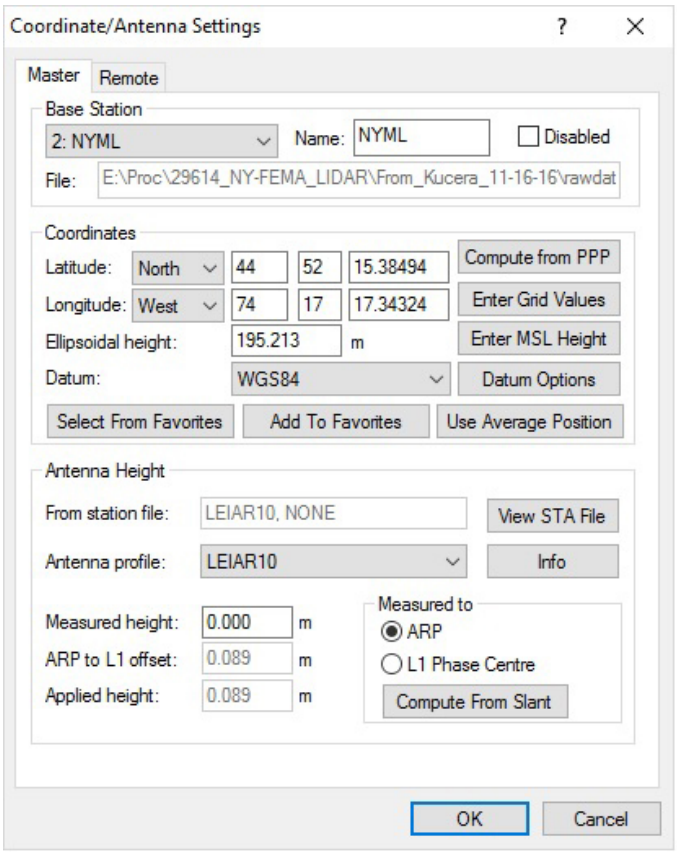

Roll & pitch (deg)
30
25
20
15
10
5
0
-5
-10
-15
-20
-25
-30
-35
131000
Week 1923
132000
133000
134000
135000
136000
137000
138000
139000
140000
141000
142000
GPS Time (TOW, GMT zone)
Roll
Pitch

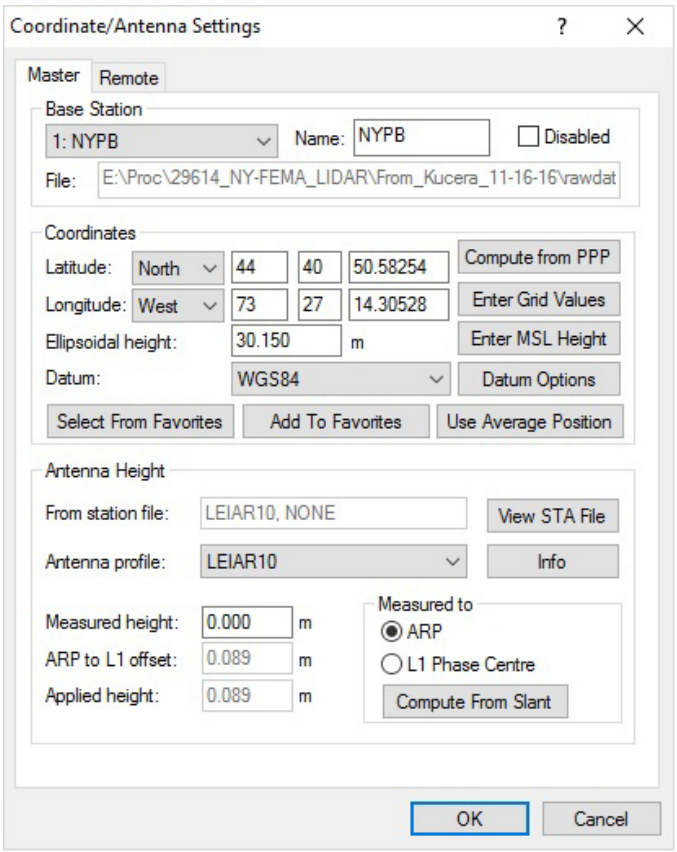

Height (m)
2600
2500
2400
2300
2200
2100
2000
1900
1800
1700
1600
1500
1400
1300
1200
1100
1000
900
800
700
600
500
400
300
200
100
0
131000
Week 1923
132000
133000
134000
135000
136000
137000
138000
139000
140000
141000
142000
GPS Time (TOW, GMT zone)
Height

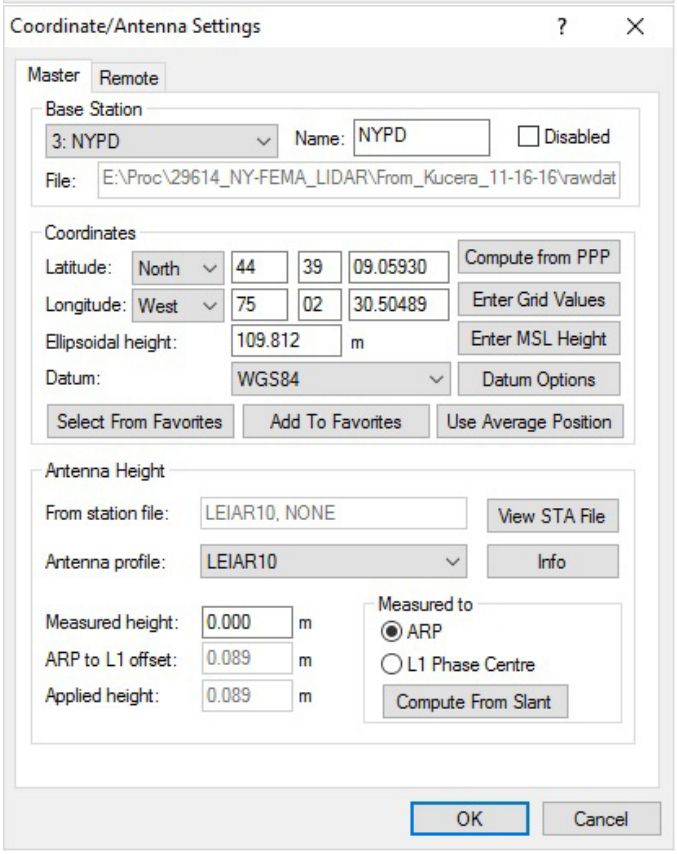

RMS (m)
0.044
0.042
0.040
0.038
0.036
0.034
0.032
0.030
0.028
0.026
0.024
0.022
0.020
0.018
0.016
0.014
0.012
0.010
131000
Week 1923
132000
133000
134000
135000
136000
137000
138000
139000
140000
141000
142000
GPS Time (TOW, GMT zone)
RMS
SD


Separation (arcmin)
1.2
1.0
0.8
0.6
0.4
0.2
0.0
-0.2
-0.4
-0.6
-0.8
-1.0
-1.2
-1.4
-1.6
-1.8
-2.0
-2.2
-2.4
-2.6
-2.8
-3.0
-3.2
-3.4
-3.6
-3.8
-4.0
-4.2
-4.4
-4.6
-4.8
131000
Week 1923
132000
133000
134000
135000
136000
137000
138000
139000
140000
141000
142000
GPS Time (TOW, GMT zone)
Roll
Pitch
Heading/Az


Status
2
1
0
-1
131000
Week 1923
132000
133000
134000
135000
136000
137000
138000
139000
140000
141000
142000
GPS Time (TOW, GMT zone)
Float
Forward Fixed
Reverse Fixed
Fixed (2 or more)


Coordinate/Antenna Settings
Master
Remote
Base Station
2: NYML
Name: NYML
Disabled
File: E:\Proc\29614_NY-FEMA_LIDAR\From_Kucera_11-16-16\rawdat
Coordinates
Latitude: North 44 52 15.38494
Longitude: West 74 17 17.34324
Ellipsoidal height: 195.213 m
Datum: WGS84
Compute from PPP
Enter Grid Values
Enter MSL Height
Datum Options
Select From Favorites
Add To Favorites
Use Average Position
Antenna Height
From station file: LEIAR10, NONE
View STA File
Antenna profile: LEIAR10
Info
Measured height: 0.000 m
ARP to L1 offset: 0.089 m
Applied height: 0.089 m
Measured to
ARP
L1 Phase Centre
Compute From Slant
OK
Cancel


Coordinate/Antenna Settings
Master
Remote
Base Station
1: NYPB
Name: NYPB
Disabled
File: E:\Proc\29614_NY-FEMA_LIDAR\From_Kucera_11-16-16\rawdat
Coordinates
Latitude: North 44 40 50.58254
Longitude: West 73 27 14.30528
Ellipsoidal height: 30.150 m
Datum: WGS84
Compute from PPP
Enter Grid Values
Enter MSL Height
Datum Options
Select From Favorites
Add To Favorites
Use Average Position
Antenna Height
From station file: LEIAR10, NONE
Antenna profile: LEIAR10
View STA File
Info
Measured height: 0.000 m
ARP to L1 offset: 0.089 m
Applied height: 0.089 m
Measured to
ARP
L1 Phase Centre
Compute From Slant
OK
Cancel


Coordinate/Antenna Settings
Master
Remote
Base Station
3: NYPD
Name: NYPD
Disabled
File: E:\Proc\29614_NY-FEMA_LIDAR\From_Kucera_11-16-16\rawdat
Coordinates
Latitude: North 44 39 09.05930
Longitude: West 75 02 30.50489
Ellipsoidal height: 109.812 m
Datum: WGS84
Compute from PPP
Enter Grid Values
Enter MSL Height
Datum Options
Select From Favorites
Add To Favorites
Use Average Position
Antenna Height
From station file: LEIAR10, NONE
Antenna profile: LEIAR10
View STA File
Info
Measured height: 0.000 m
ARP to L1 offset: 0.089 m
Applied height: 0.089 m
Measured to
ARP
L1 Phase Centre
Compute From Slant
OK
Cancel

Flight Log

LiDAR

KUCERA INTERNATIONAL INC.

LiDAR FLIGHT REPORT

Revised Feb. 2014

	Pilot/Operator		Tail Number		Sky conditions, light conditions, horizon, shadowing, visibility/haze, cloud types, wind, turbulence, etc..
CREW	BS x2	**AIRCRAFT**	4102J	**WEATHER**	

mm/dd/yy

DATE 11/14/2016

	LiDAR S/N
Camera System	7232
	fwd/aft
Camera Location (Hole)	fwd

	Source
GPS	fwd

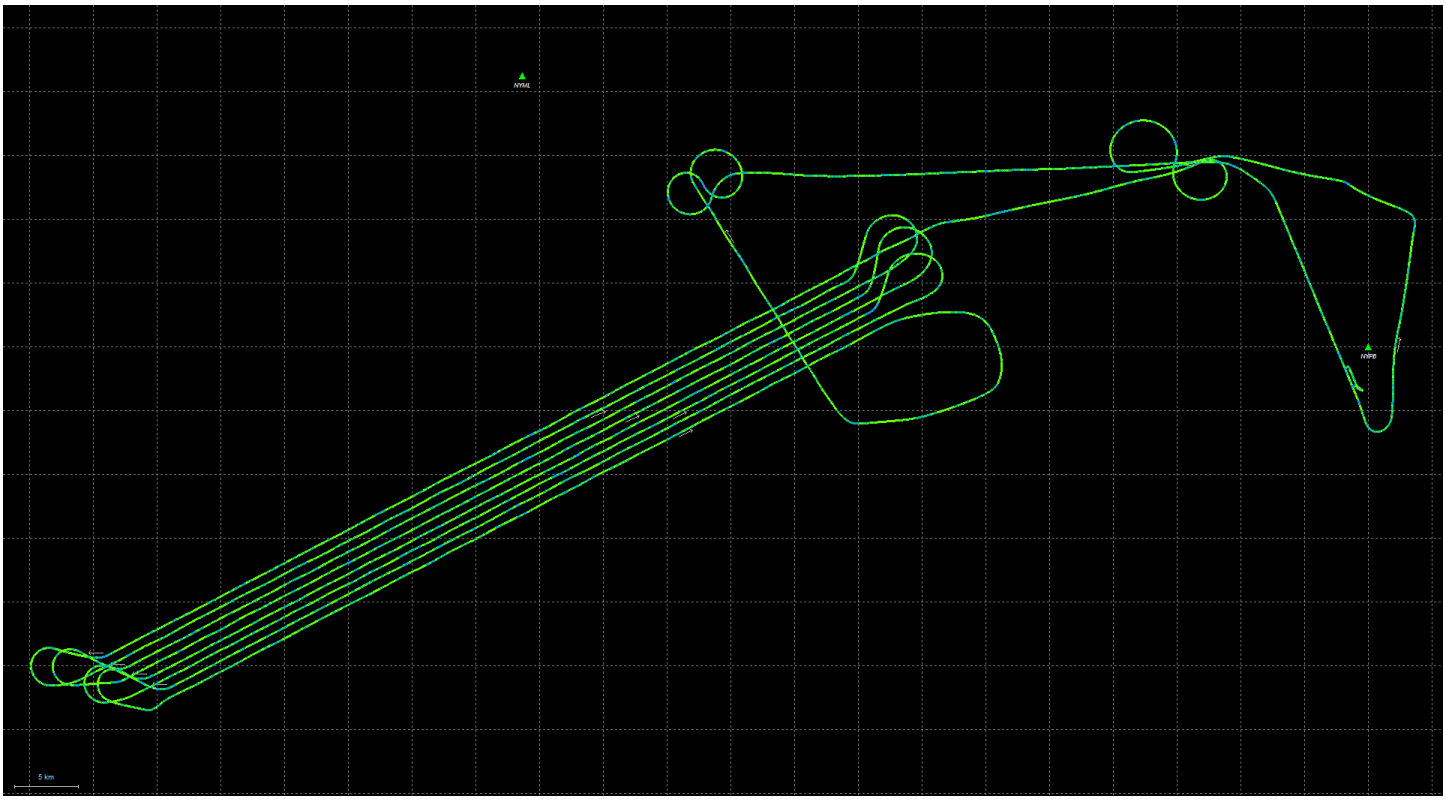
	Time	Location
Start-up		
Shut-down		

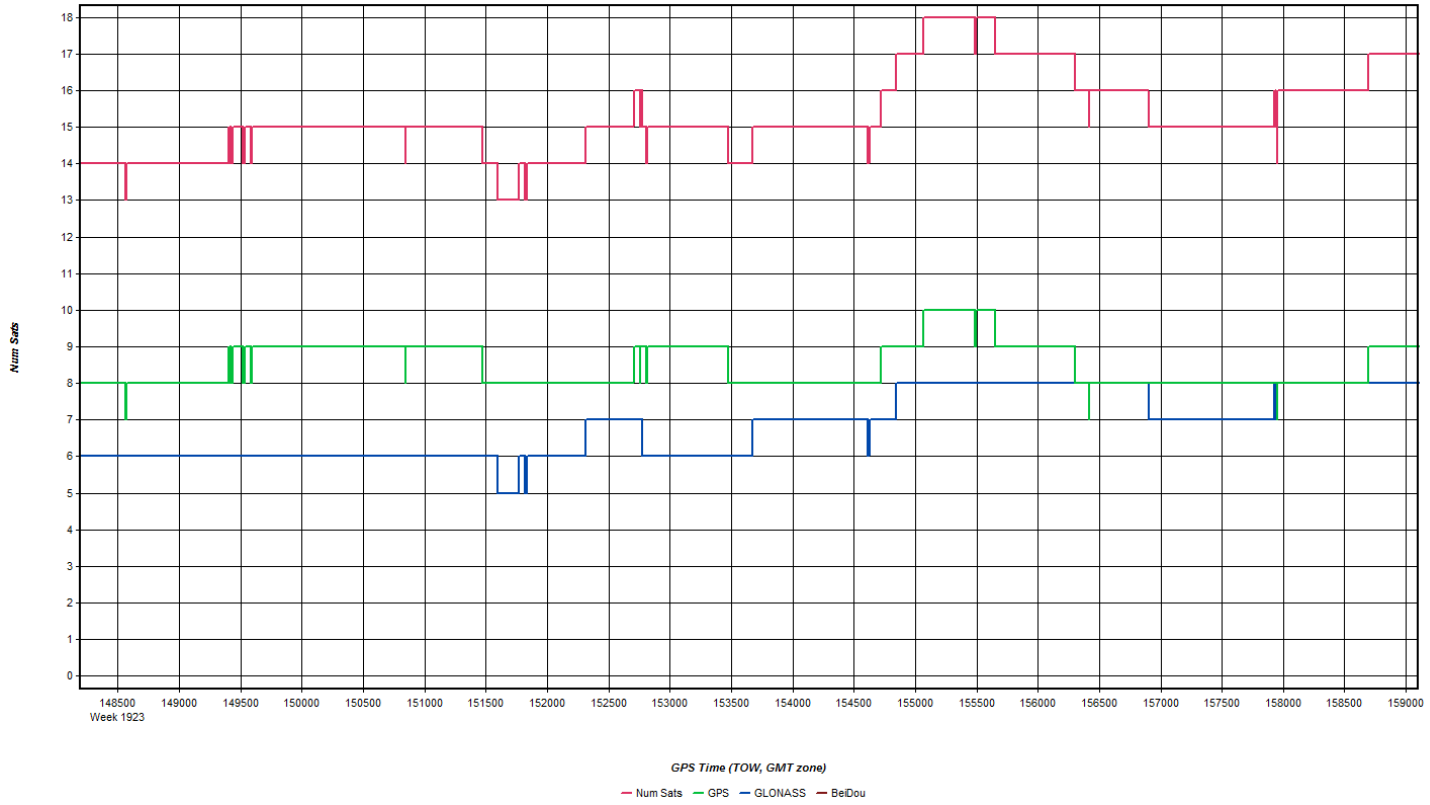
LiDAR STARTUP CHECKS	
Lens cleaned	
All fpds uploaded	
Pilot's screen functional	
Compact flash drive space	
SSDs have space	
Startup beeps & IPAS recording	
Initials:	BS

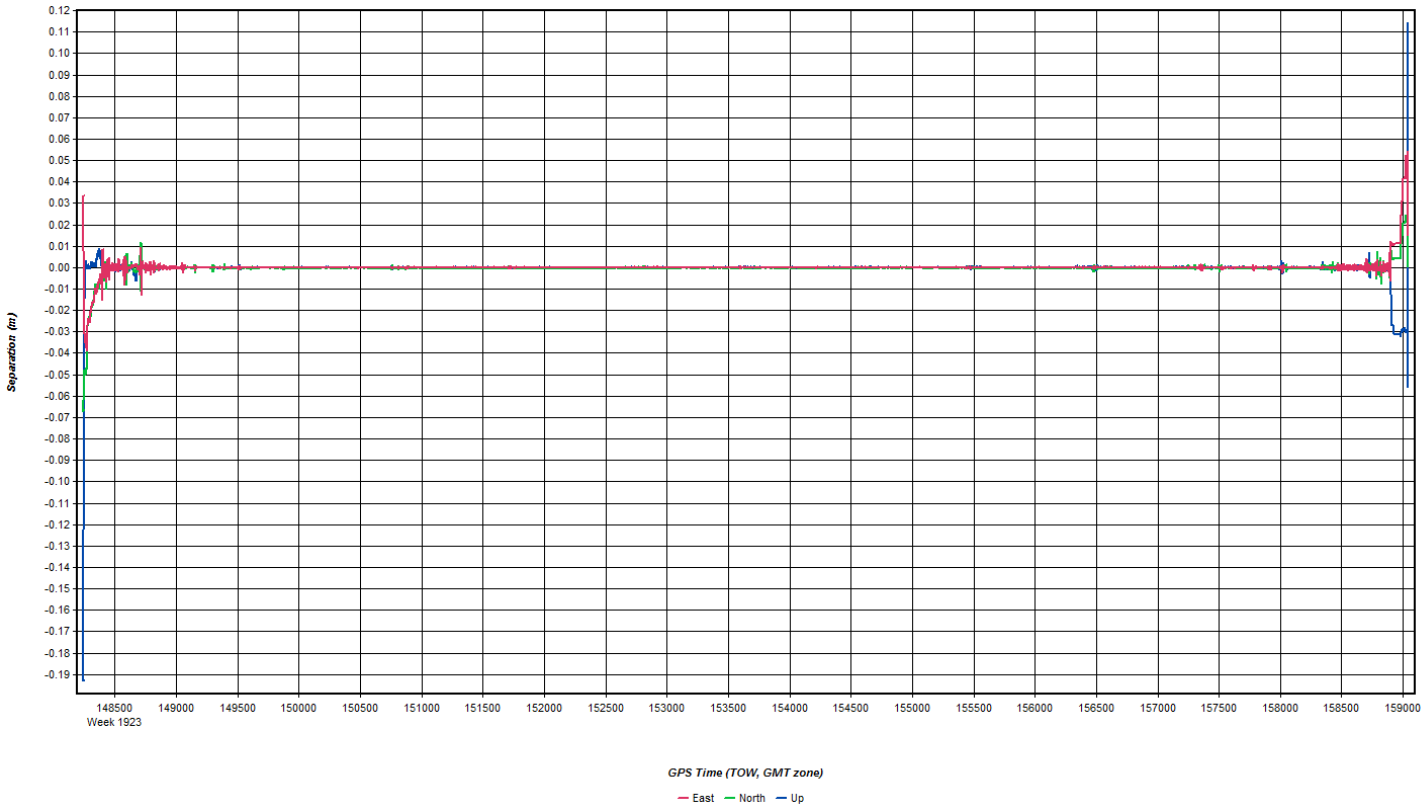
SSD
Drive #
Space Rem.
214 / 559

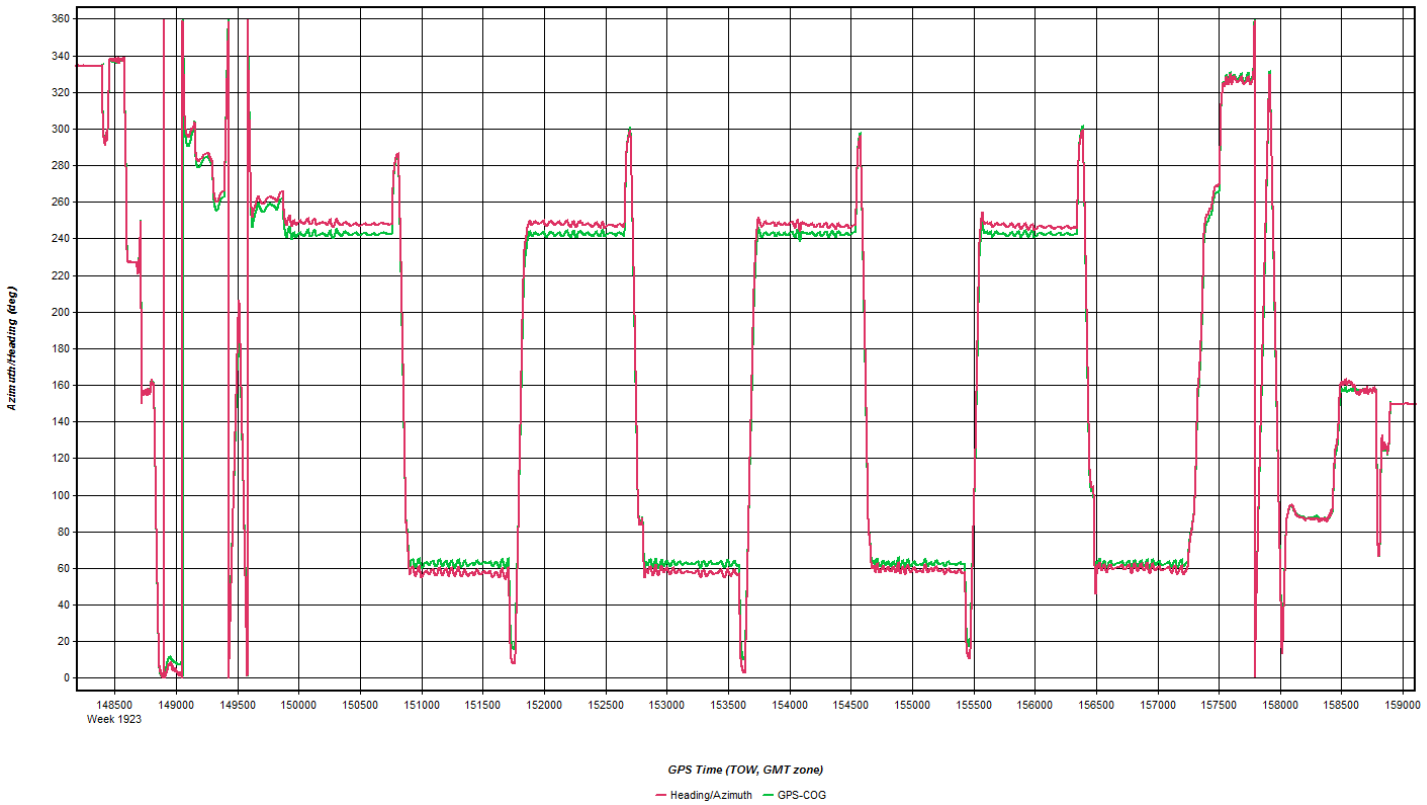
Job #	Location/ Site/Block	Line #	Flight Dir.	Crab Angle	Remarks
60686	NY	68	W	7-8	Possible cloud 9mi from the West end
		67	E	7-8	Possible cloud 9mi from the West end
		66	W	7-8	
		69	E	6-7	
		70	W	6-7	
		71	E	6-7	
		72	W	8-9	
		73	E	8-9	
		74	W	6-7	
		75	E	6-7	Camera froze at the end of this line (the transition from online to offline) and eventually error'd out and had to reboot we did not have the gas to do 3 more lines and the tie line, so we landed for gas instead.

Nov 14, 2016-D (N4102J, SN7232)

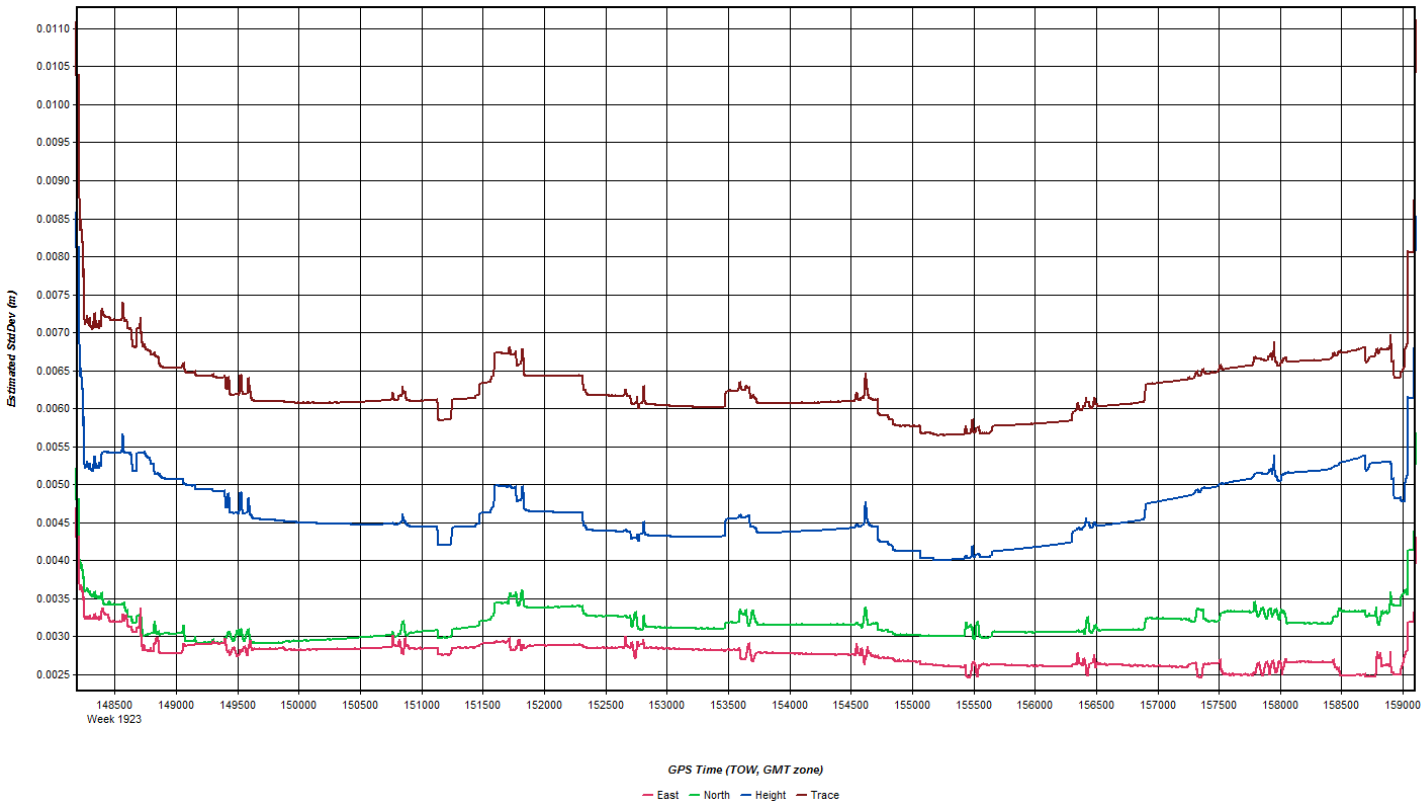

NYML
NYBE
5 km

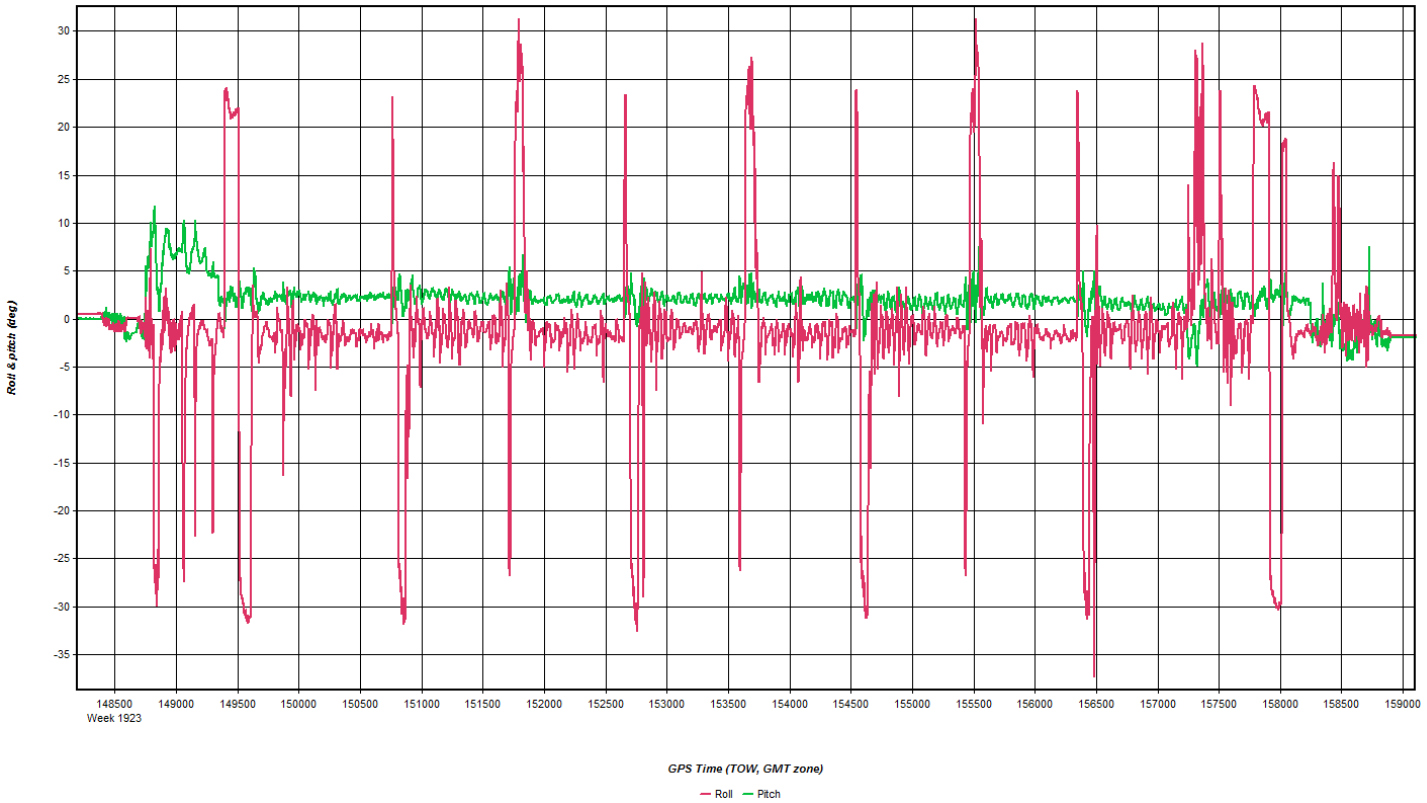

Num Sats
18
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
148500
149000
149500
150000
150500
151000
151500
152000
152500
153000
153500
154000
154500
155000
155500
156000
156500
157000
157500
158000
158500
159000
Week 1923
GPS Time (TOW, GMT zone)
Num Sats
GPS
GLONASS
BeiDou

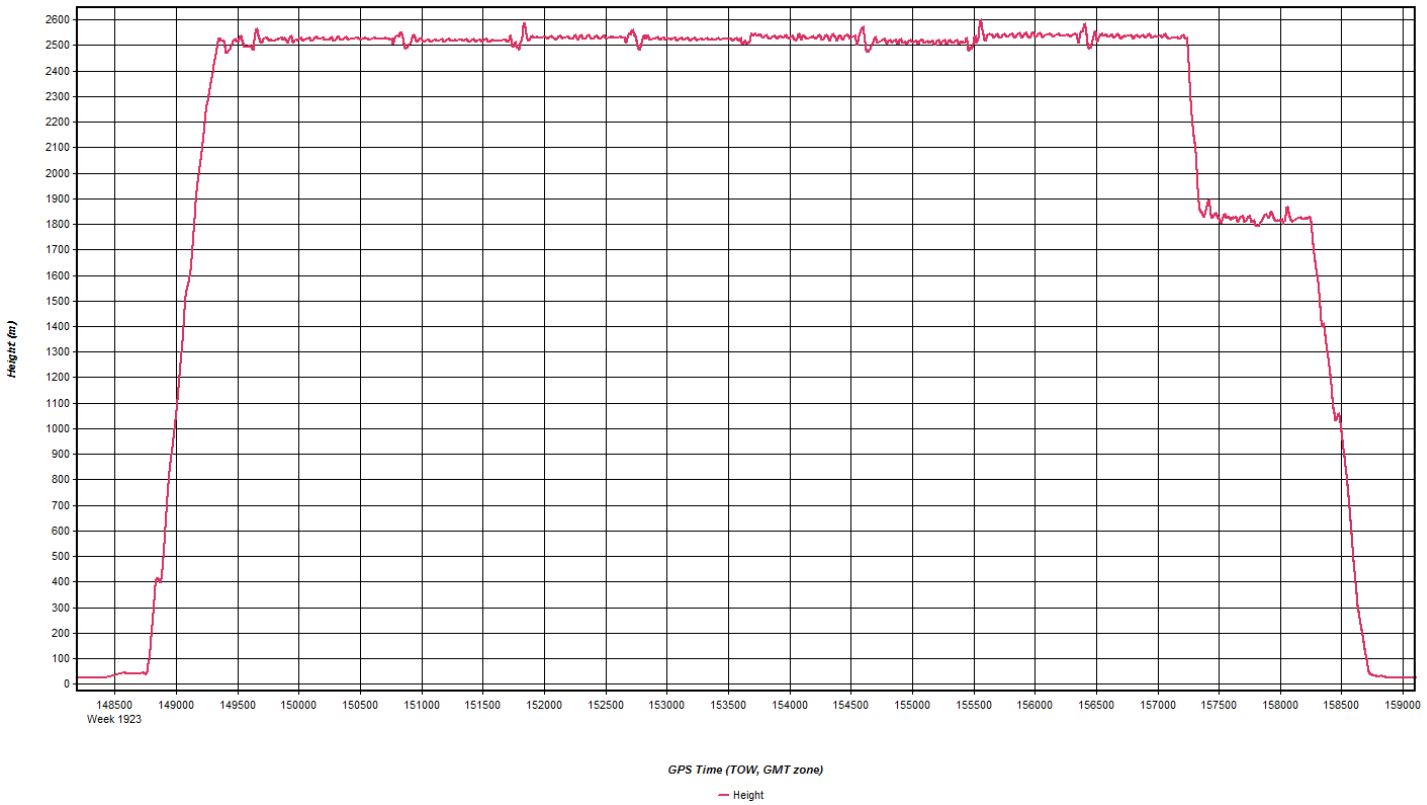

Separation (m)
0.12
0.11
0.10
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0.00
-0.01
-0.02
-0.03
-0.04
-0.05
-0.06
-0.07
-0.08
-0.09
-0.10
-0.11
-0.12
-0.13
-0.14
-0.15
-0.16
-0.17
-0.18
-0.19
148500
Week 1923
149000
149500
150000
150500
151000
151500
152000
152500
153000
153500
154000
154500
155000
155500
156000
156500
157000
157500
158000
158500
159000
GPS Time (TOW, GMT zone)
East
North
Up

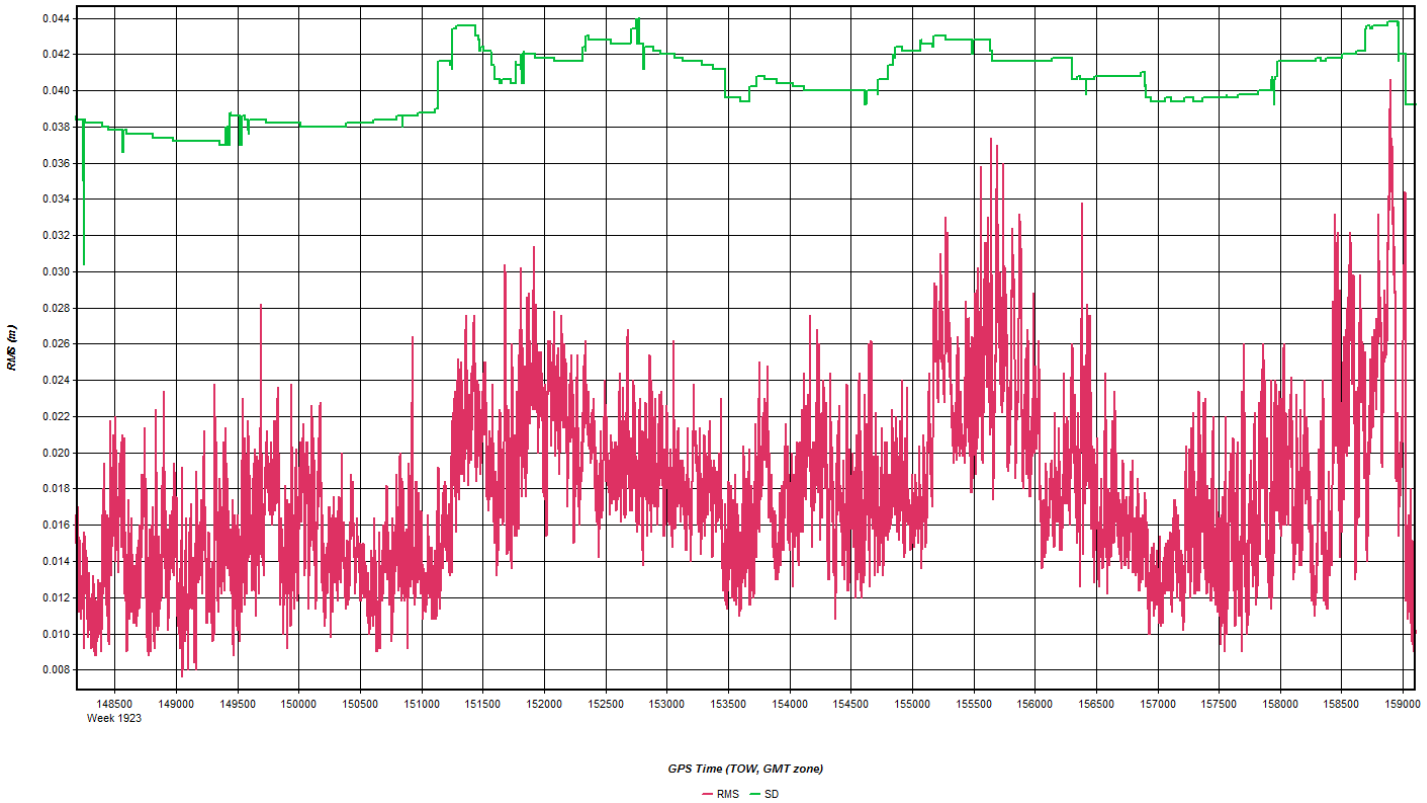

Azimuth/Heading (deg)
360
340
320
300
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
148500
Week 1923
149000
149500
150000
150500
151000
151500
152000
152500
153000
153500
154000
154500
155000
155500
156000
156500
157000
157500
158000
158500
159000
GPS Time (TOW, GMT zone)
Heading/Azimuth
GPS-COG

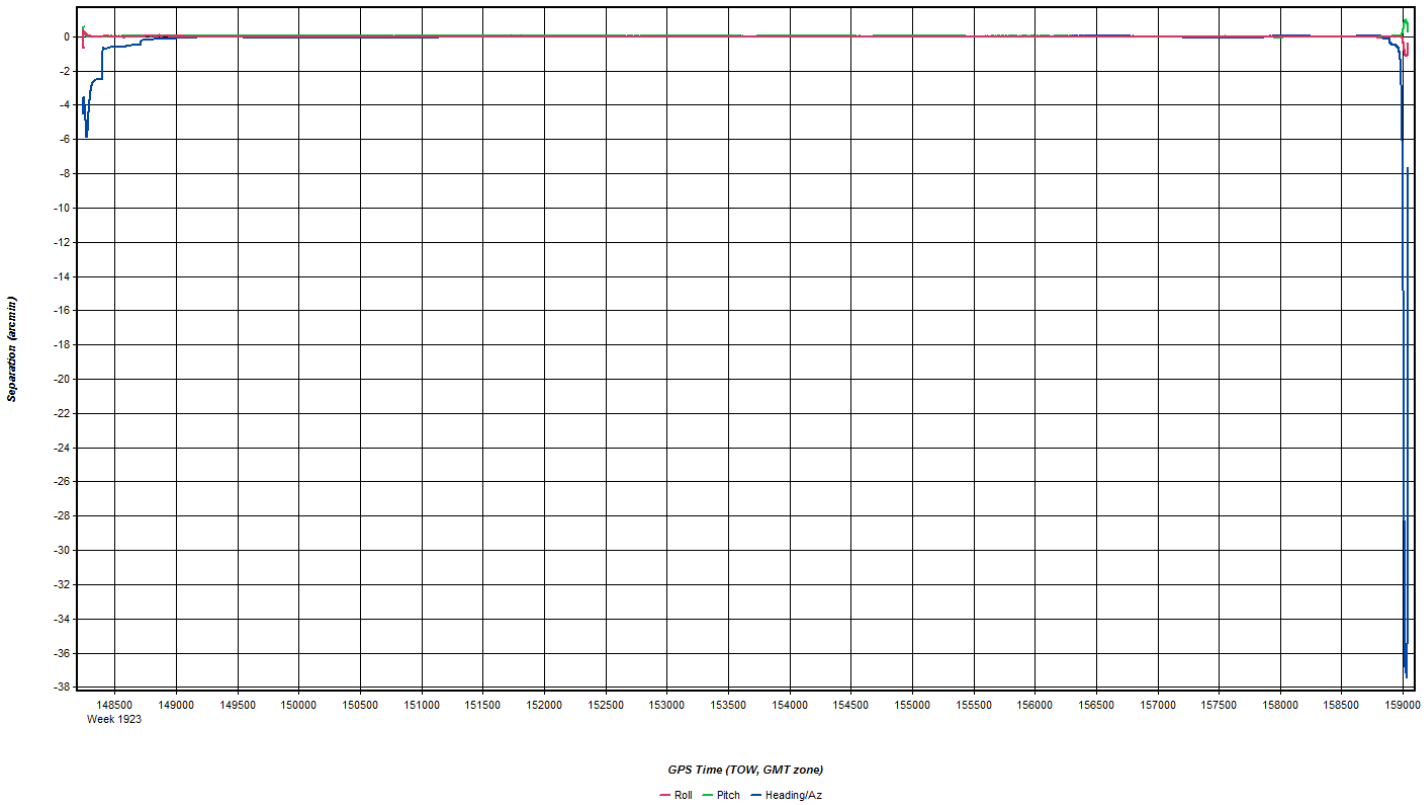

PDOP
1.55
1.50
1.45
1.40
1.35
1.30
1.25
1.20
1.15
1.10
1.05
1.00
0.95
0.90
148500
Week 1923
149000
149500
150000
150500
151000
151500
152000
152500
153000
153500
154000
154500
155000
155500
156000
156500
157000
157500
158000
158500
159000
GPS Time (TOW, GMT zone)
PDOP

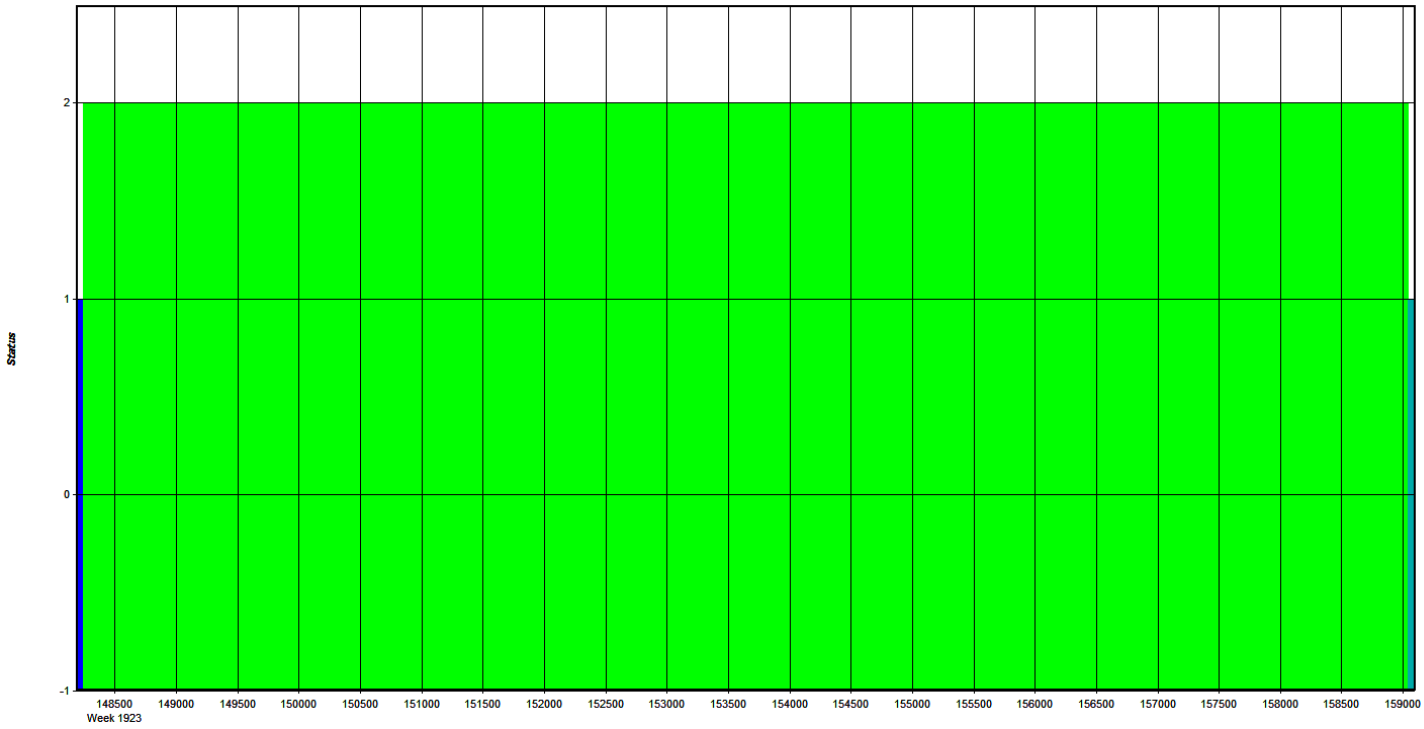

Estimated StdDev (m)
0.0110
0.0105
0.0100
0.0095
0.0090
0.0085
0.0080
0.0075
0.0070
0.0065
0.0060
0.0055
0.0050
0.0045
0.0040
0.0035
0.0030
0.0025
148500
Week 1923
149000
149500
150000
150500
151000
151500
152000
152500
153000
153500
154000
154500
155000
155500
156000
156500
157000
157500
158000
158500
159000
GPS Time (TOW, GMT zone)
East
North
Height
Trace

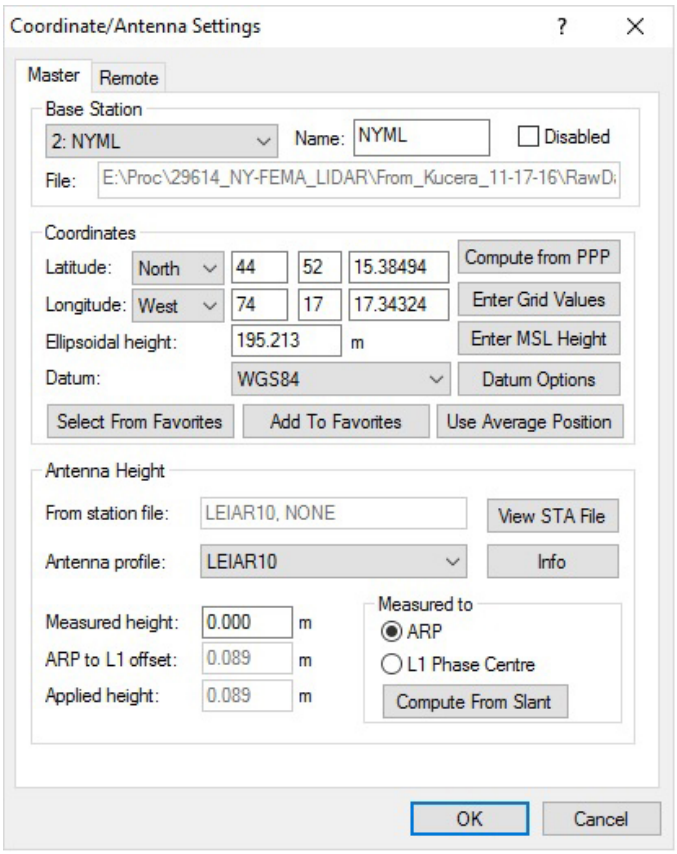

Roll & pitch (deg)
30
25
20
15
10
5
0
-5
-10
-15
-20
-25
-30
-35
148500
Week 1923
149000
149500
150000
150500
151000
151500
152000
152500
153000
153500
154000
154500
155000
155500
156000
156500
157000
157500
158000
158500
159000
GPS Time (TOW, GMT zone)
Roll
Pitch

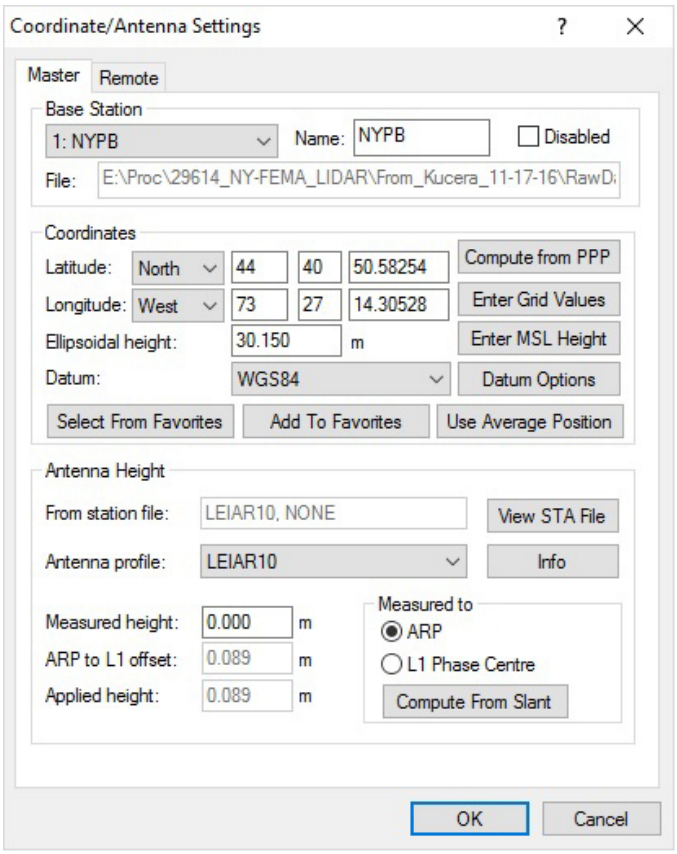

Height (m)
2600
2500
2400
2300
2200
2100
2000
1900
1800
1700
1600
1500
1400
1300
1200
1100
1000
900
800
700
600
500
400
300
200
100
0
148500
Week 1923
149000
149500
150000
150500
151000
151500
152000
152500
153000
153500
154000
154500
155000
155500
156000
156500
157000
157500
158000
158500
159000
GPS Time (TOW, GMT zone)
Height


RMS (m)
0.044
0.042
0.040
0.038
0.036
0.034
0.032
0.030
0.028
0.026
0.024
0.022
0.020
0.018
0.016
0.014
0.012
0.010
0.008
148500
Week 1923
149000
149500
150000
150500
151000
151500
152000
152500
153000
153500
154000
154500
155000
155500
156000
156500
157000
157500
158000
158500
159000
GPS Time (TOW, GMT zone)
RMS
SD


Separation (arcmin)
0
-2
-4
-6
-8
-10
-12
-14
-16
-18
-20
-22
-24
-26
-28
-30
-32
-34
-36
-38
148500
Week 1923
149000
149500
150000
150500
151000
151500
152000
152500
153000
153500
154000
154500
155000
155500
156000
156500
157000
157500
158000
158500
159000
GPS Time (TOW, GMT zone)
Roll
Pitch
Heading/Az


Status
2
1
0
-1
148500
Week 1923
149000
149500
150000
150500
151000
151500
152000
152500
153000
153500
154000
154500
155000
155500
156000
156500
157000
157500
158000
158500
159000
GPS Time (TOW, GMT zone)
Float
Forward Fixed
Reverse Fixed
Fixed (2 or more)


Coordinate/Antenna Settings
Master
Remote
Base Station
2: NYML
Name:
NYML
Disabled
File:
E:\Proc\29614_NY-FEMA_LIDAR\From_Kucera_11-17-16\RawD
Coordinates
Latitude:
North
44
52
15.38494
Compute from PPP
Longitude:
West
74
17
17.34324
Enter Grid Values
Ellipsoidal height:
195.213
m
Enter MSL Height
Datum:
WGS84
Datum Options
Select From Favorites
Add To Favorites
Use Average Position
Antenna Height
From station file:
LEIAR10, NONE
View STA File
Antenna profile:
LEIAR10
Info
Measured height:
0.000
m
ARP to L1 offset:
0.089
m
Applied height:
0.089
m
Measured to
ARP
L1 Phase Centre
Compute From Slant
OK
Cancel


Coordinate/Antenna Settings
Master
Remote
Base Station
1: NYPB
Name: NYPB
Disabled
File: E:\Proc\29614_NY-FEMA_LIDAR\From_Kucera_11-17-16\RawD
Coordinates
Latitude: North 44 40 50.58254
Longitude: West 73 27 14.30528
Ellipsoidal height: 30.150 m
Datum: WGS84
Compute from PPP
Enter Grid Values
Enter MSL Height
Datum Options
Select From Favorites
Add To Favorites
Use Average Position
Antenna Height
From station file: LEIAR10, NONE
View STA File
Antenna profile: LEIAR10
Info
Measured height: 0.000 m
ARP to L1 offset: 0.089 m
Applied height: 0.089 m
Measured to
ARP
L1 Phase Centre
Compute From Slant
OK
Cancel

Flight Log

LiDAR

KUCERA INTERNATIONAL INC.

LiDAR FLIGHT REPORT

Revised Feb. 2014

	Pilot/Operator		Tail Number		Sky conditions, light conditions, horizon, shadowing, visibility/haze, cloud types, wind, turbulence, etc..
CREW	BS x2	**AIRCRAFT**	4102J	**WEATHER**	

	mm/dd/yy
DATE	11/14/2016

	LiDAR S/N
Camera System	7232

	fwd/aft
Camera Location (Hole)	fwd

	Source
GPS	fwd

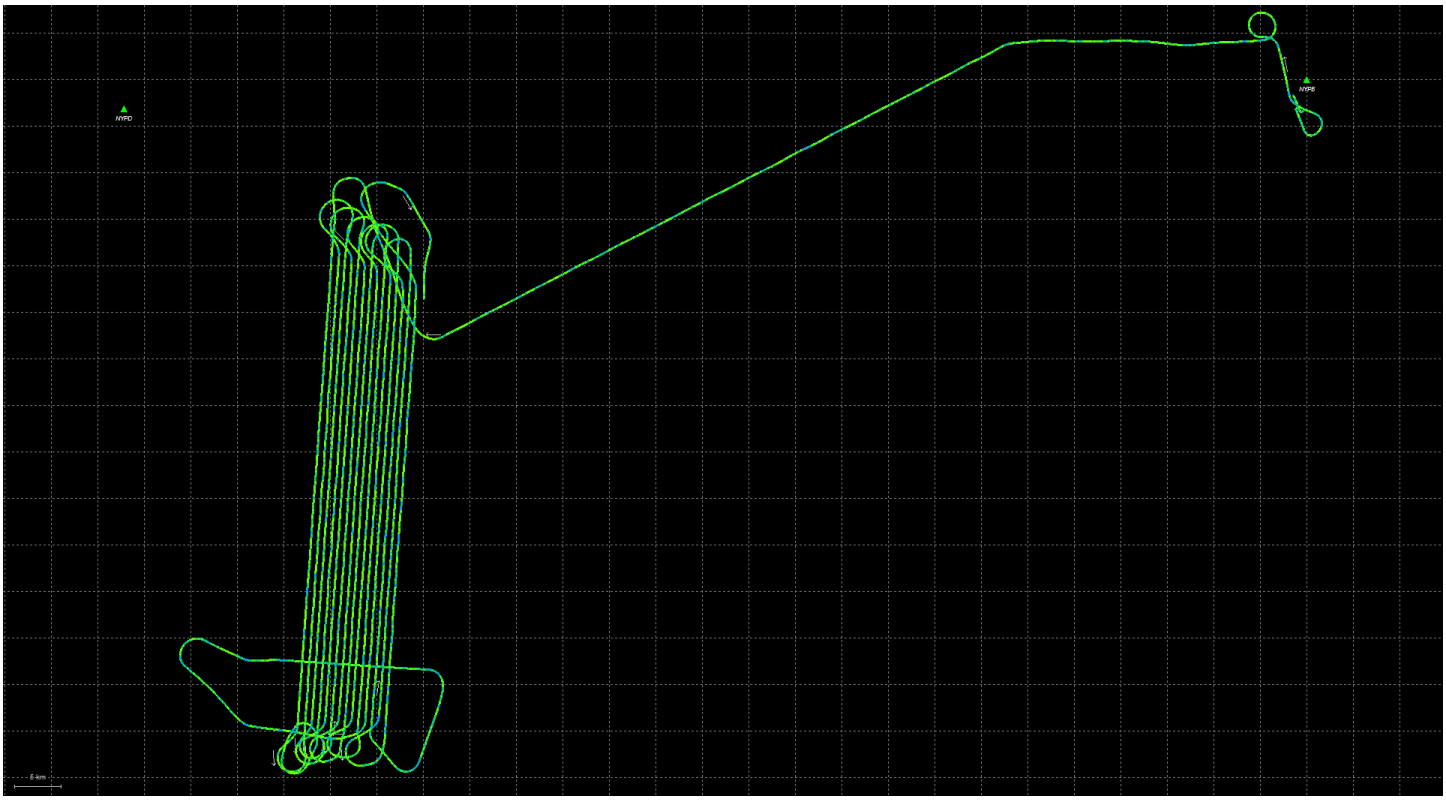
	Time	Location
Start-up		
Shut-down		

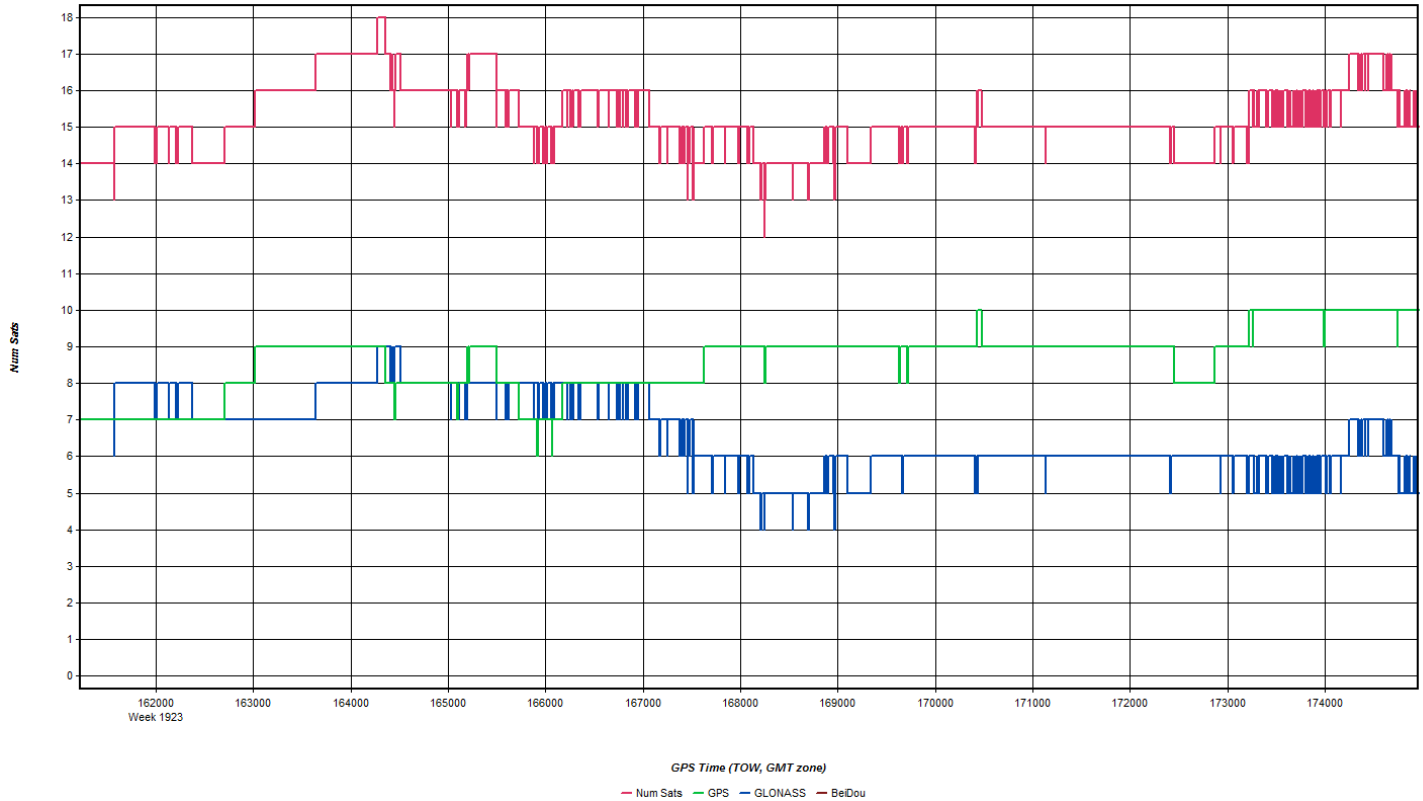
LiDAR STARTUP CHECKS	
Lens cleaned	
All fpds uploaded	
Pilot's screen functional	
Compact flash drive space	
SSDs have space	
Startup beeps & IPAS recording	
Initials:	BS

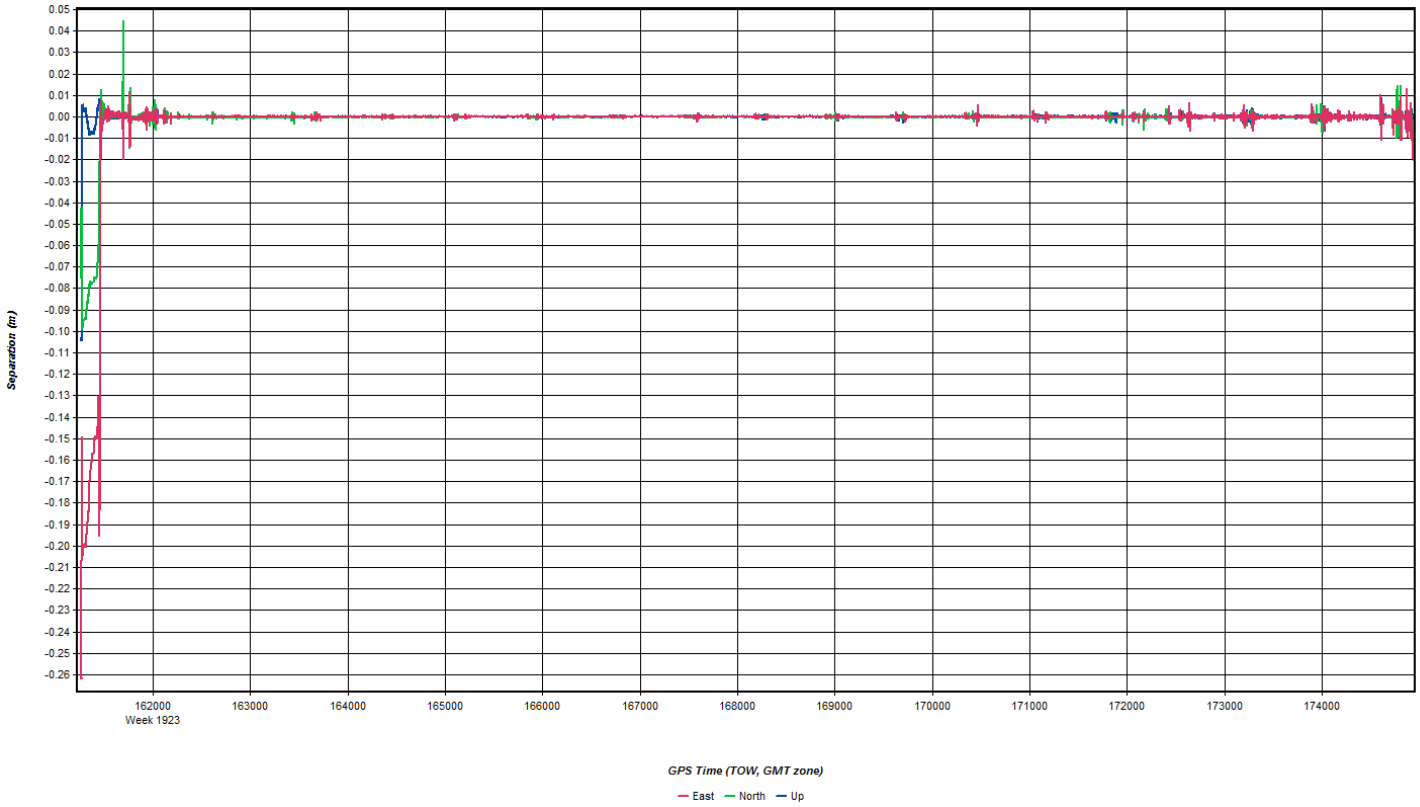
SSD
Drive #
Space Rem.
214 / 559

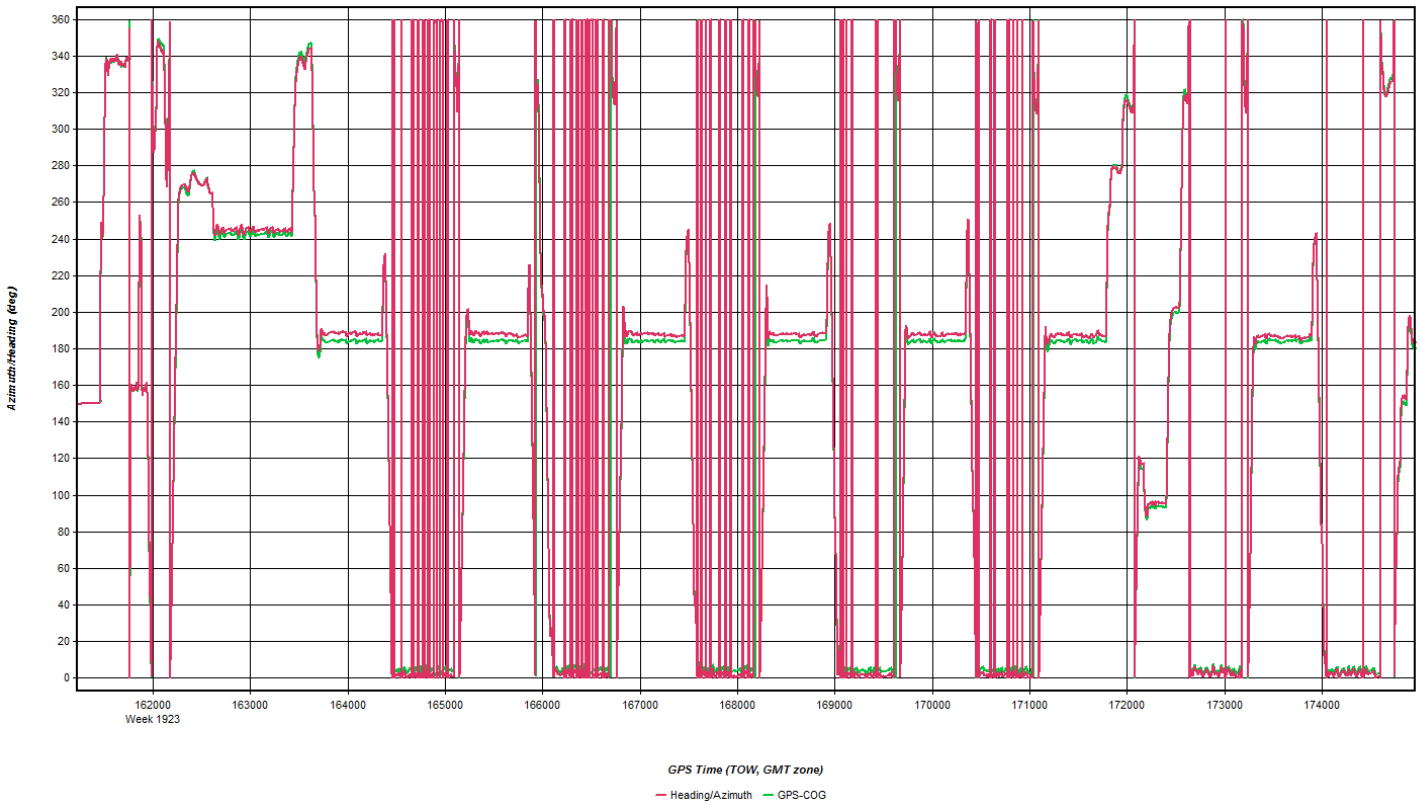
Job #	Location/ Site/Block	Line #	Flight Dir.	Crab Angle	Remarks
60686		76	W	5-6	
		77	E	5-6	
		78	W	5-6	
		79	E	5-6	
		80	W	5-6	
		81	E	5-6	
		82	W	5-6	
		83	E	5-6	
		55	N		Covers from line 66 to 83 (since we didnt get a tie line earlier from camera failure), the lidar graph was showing we had something below us but there wasnt on about ¾ of this line, and we were getting lower returns, no water below, no clouds below, couldnt see fogging or anything on lense through the hole.

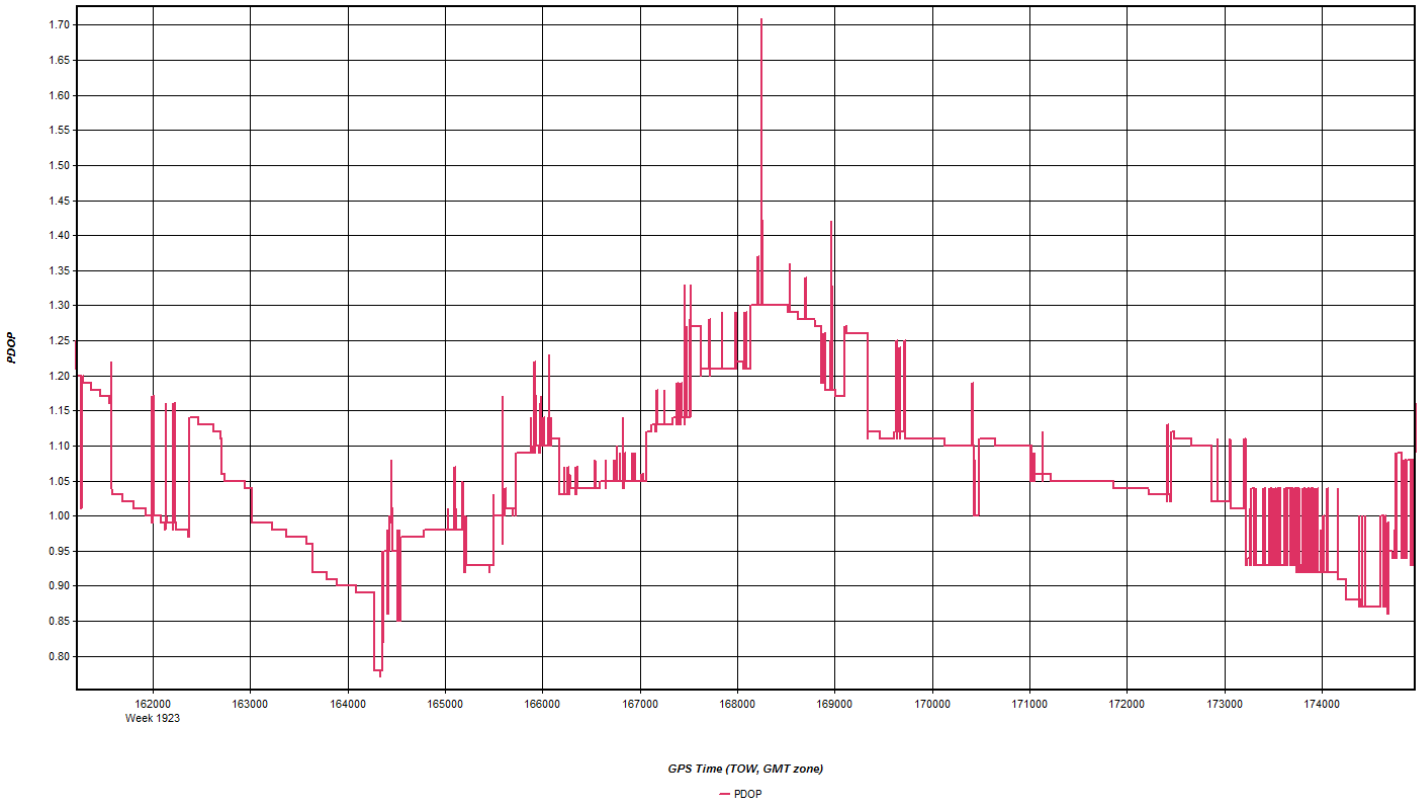
Nov 14, 2016-E (N4102J, SN7232)

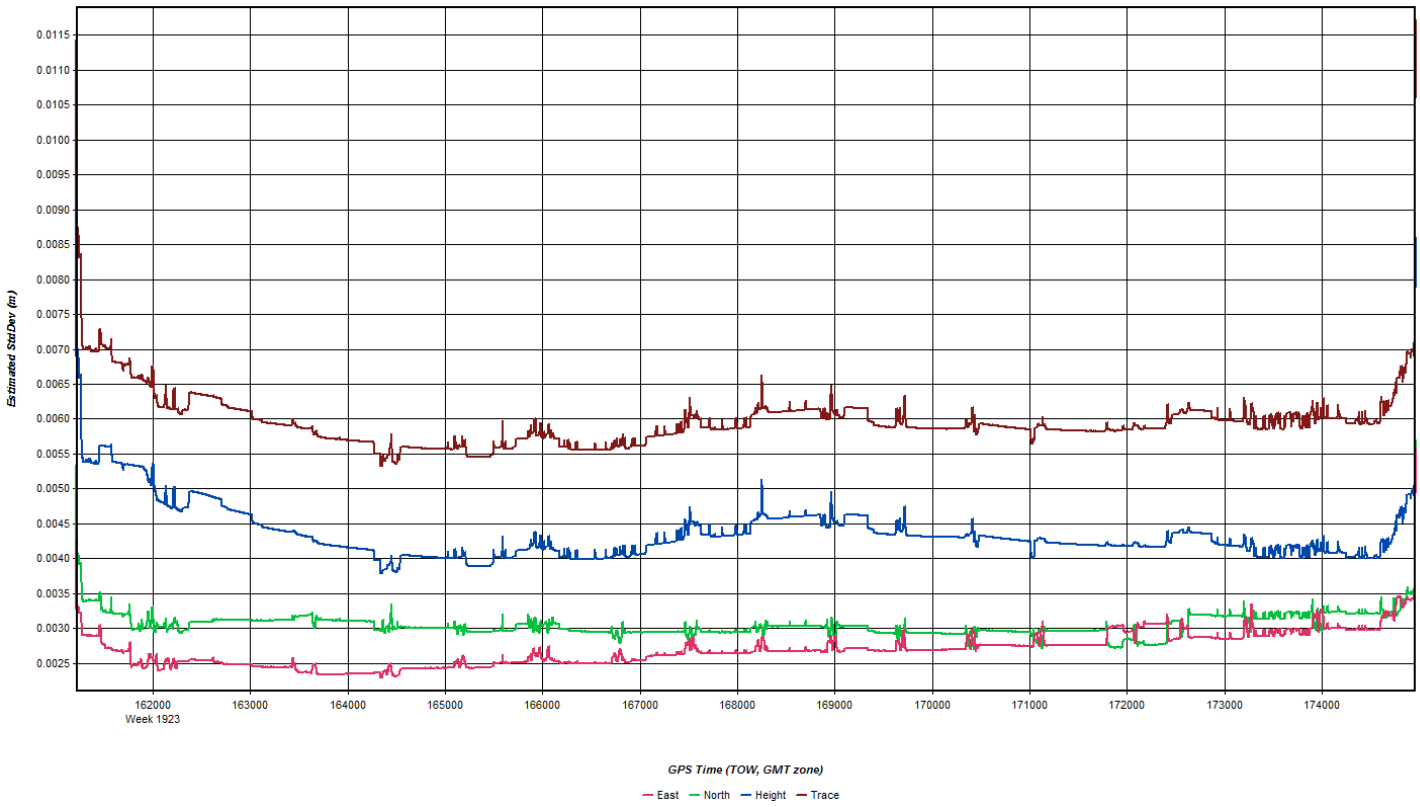

HYPO
HYPE
5 km

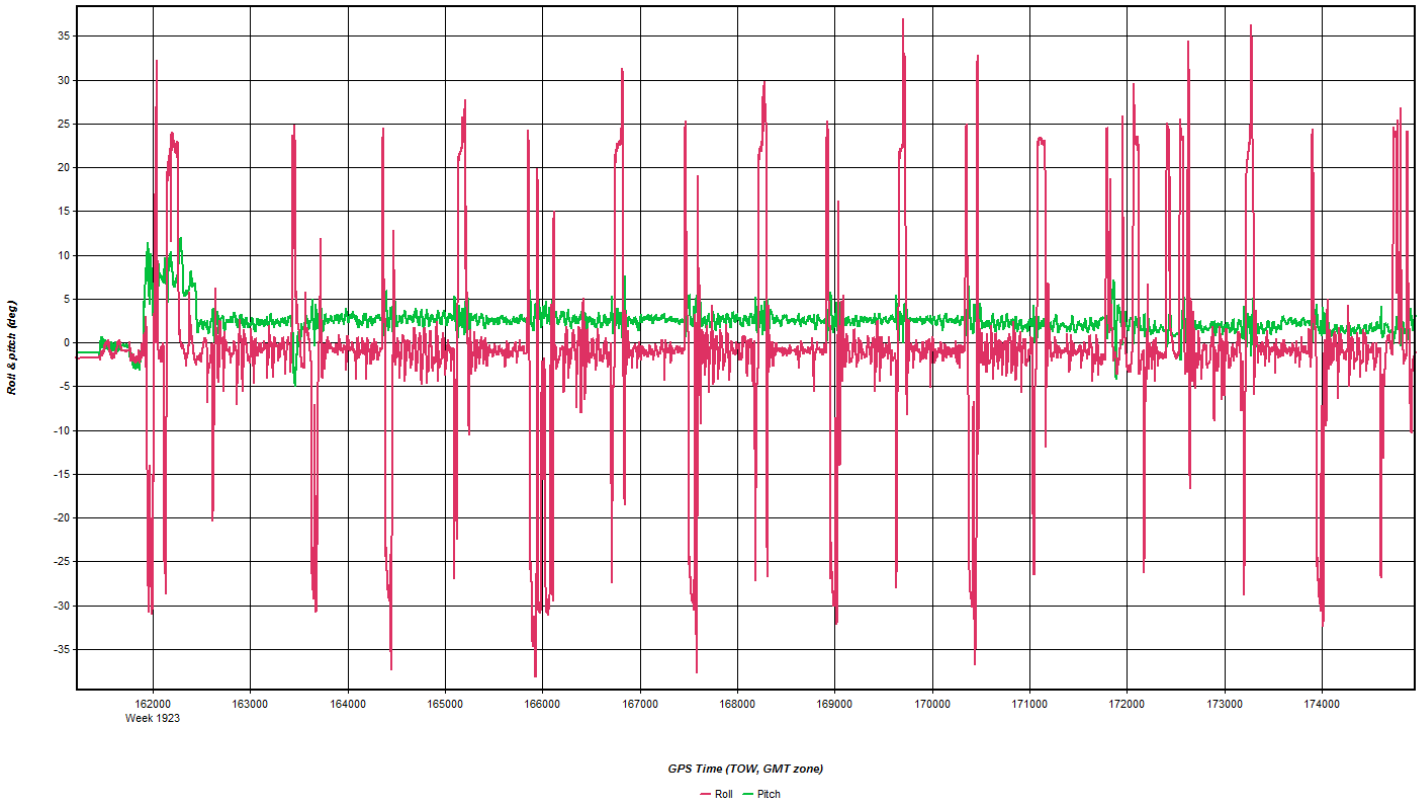

Num Sats
18
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
162000
Week 1923
163000
164000
165000
166000
167000
168000
169000
170000
171000
172000
173000
174000
GPS Time (TOW, GMT zone)
Num Sats
GPS
GLONASS
BeiDou

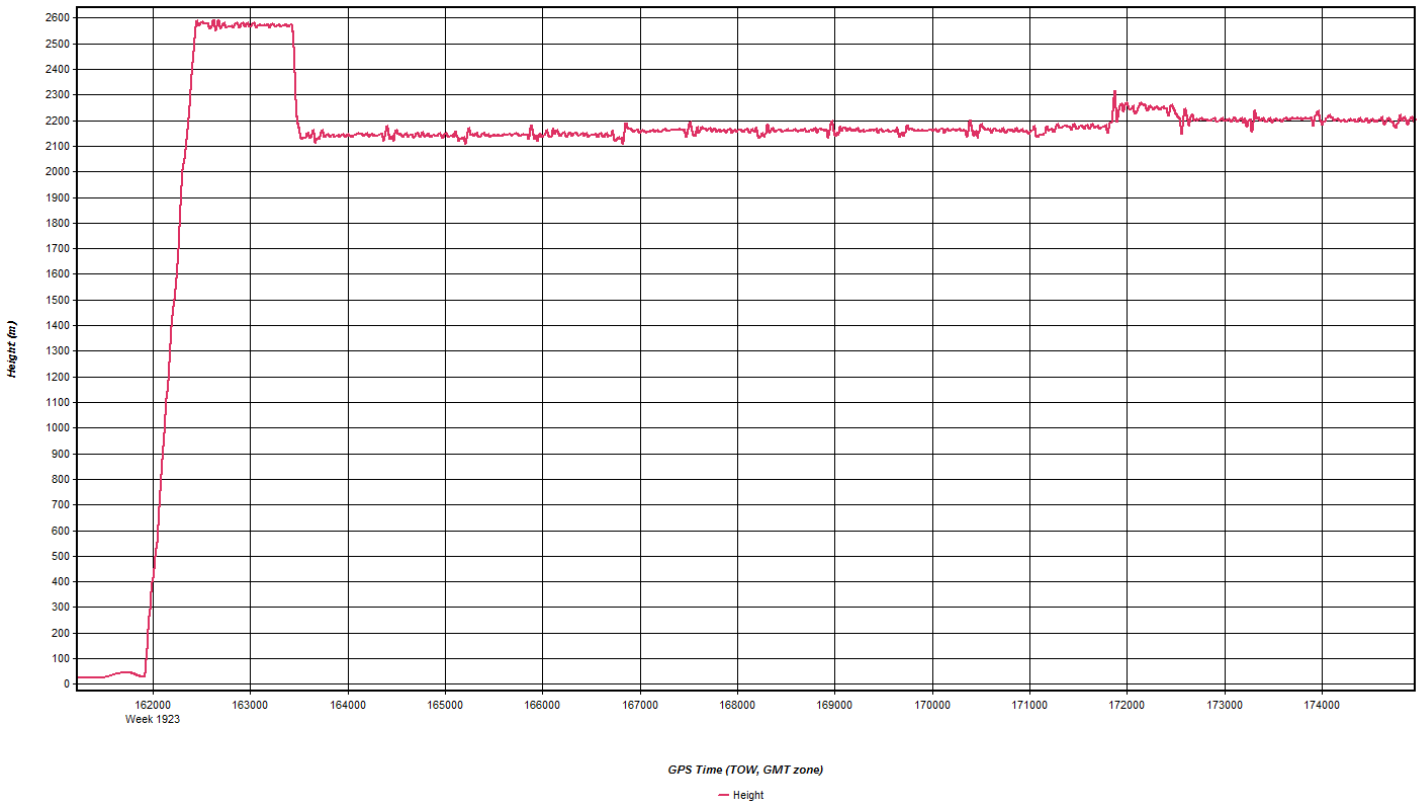

Separation (m)
0.05
0.04
0.03
0.02
0.01
0.00
-0.01
-0.02
-0.03
-0.04
-0.05
-0.06
-0.07
-0.08
-0.09
-0.10
-0.11
-0.12
-0.13
-0.14
-0.15
-0.16
-0.17
-0.18
-0.19
-0.20
-0.21
-0.22
-0.23
-0.24
-0.25
-0.26
162000
Week 1923
163000
164000
165000
166000
167000
168000
169000
170000
171000
172000
173000
174000
GPS Time (TOW, GMT zone)
East
North
Up

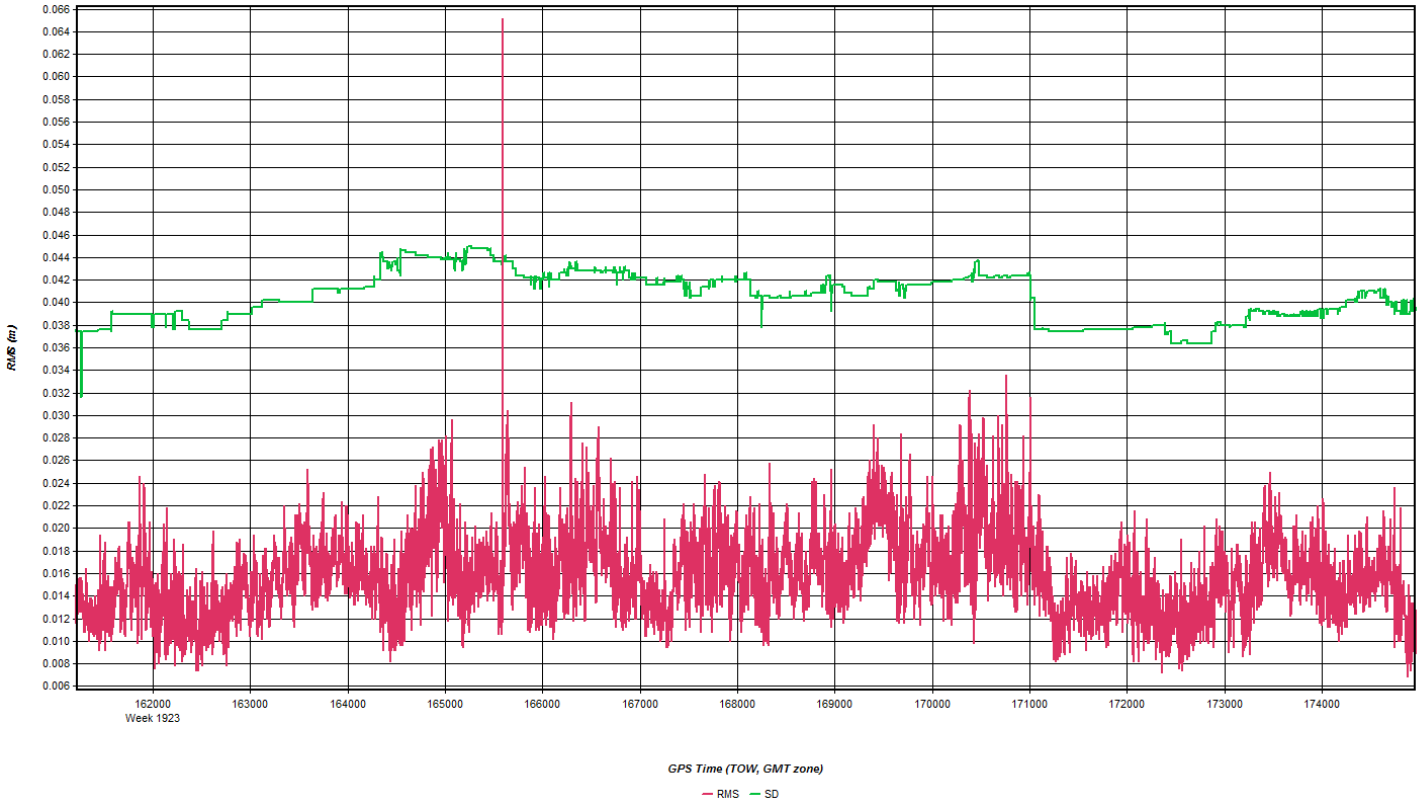

Azimuth/Heading (deg)
360
340
320
300
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
162000
Week 1923
163000
164000
165000
166000
167000
168000
169000
170000
171000
172000
173000
174000
GPS Time (TOW, GMT zone)
Heading/Azimuth
GPS-COG

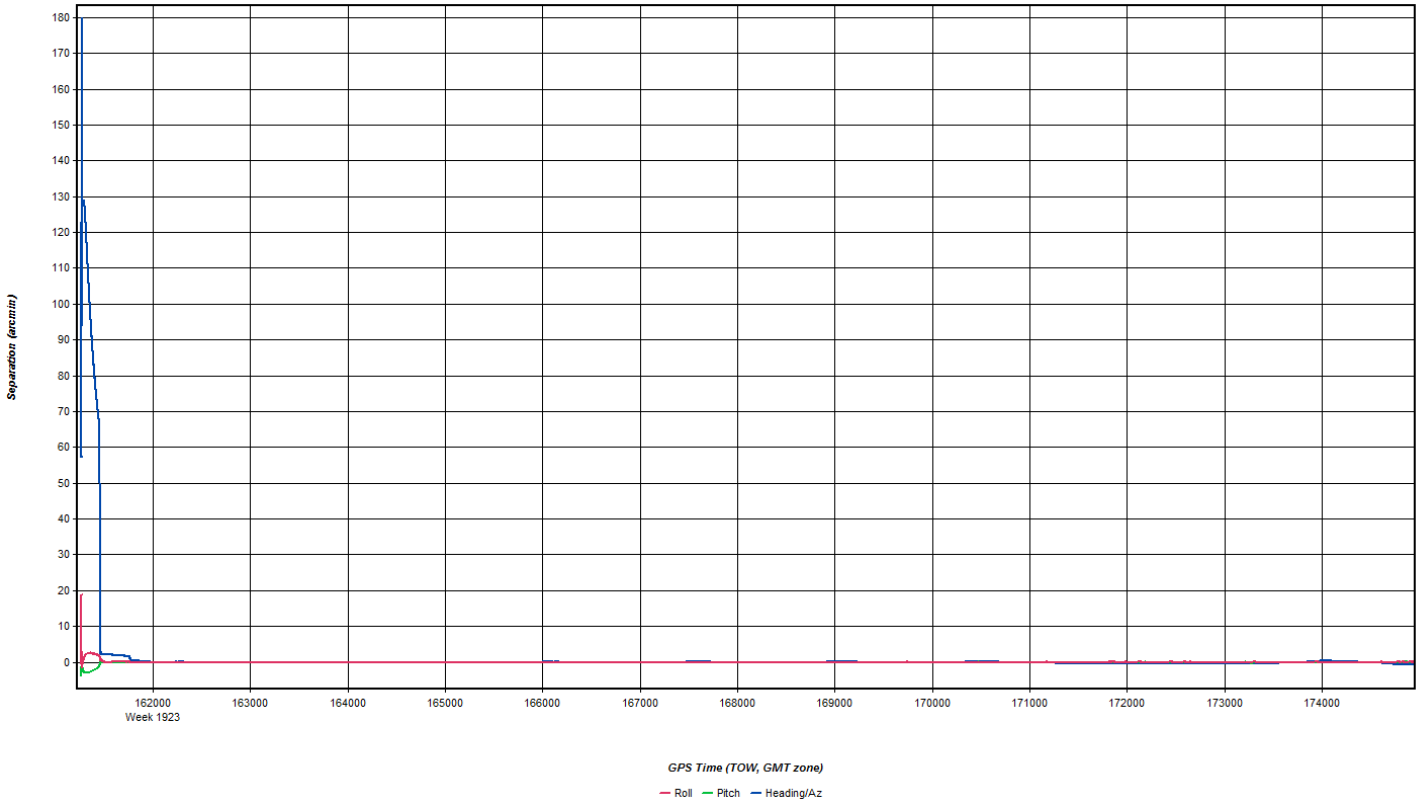

PDOP
1.70
1.65
1.60
1.55
1.50
1.45
1.40
1.35
1.30
1.25
1.20
1.15
1.10
1.05
1.00
0.95
0.90
0.85
0.80
162000
Week 1923
163000
164000
165000
166000
167000
168000
169000
170000
171000
172000
173000
174000
GPS Time (TOW, GMT zone)
PDOP

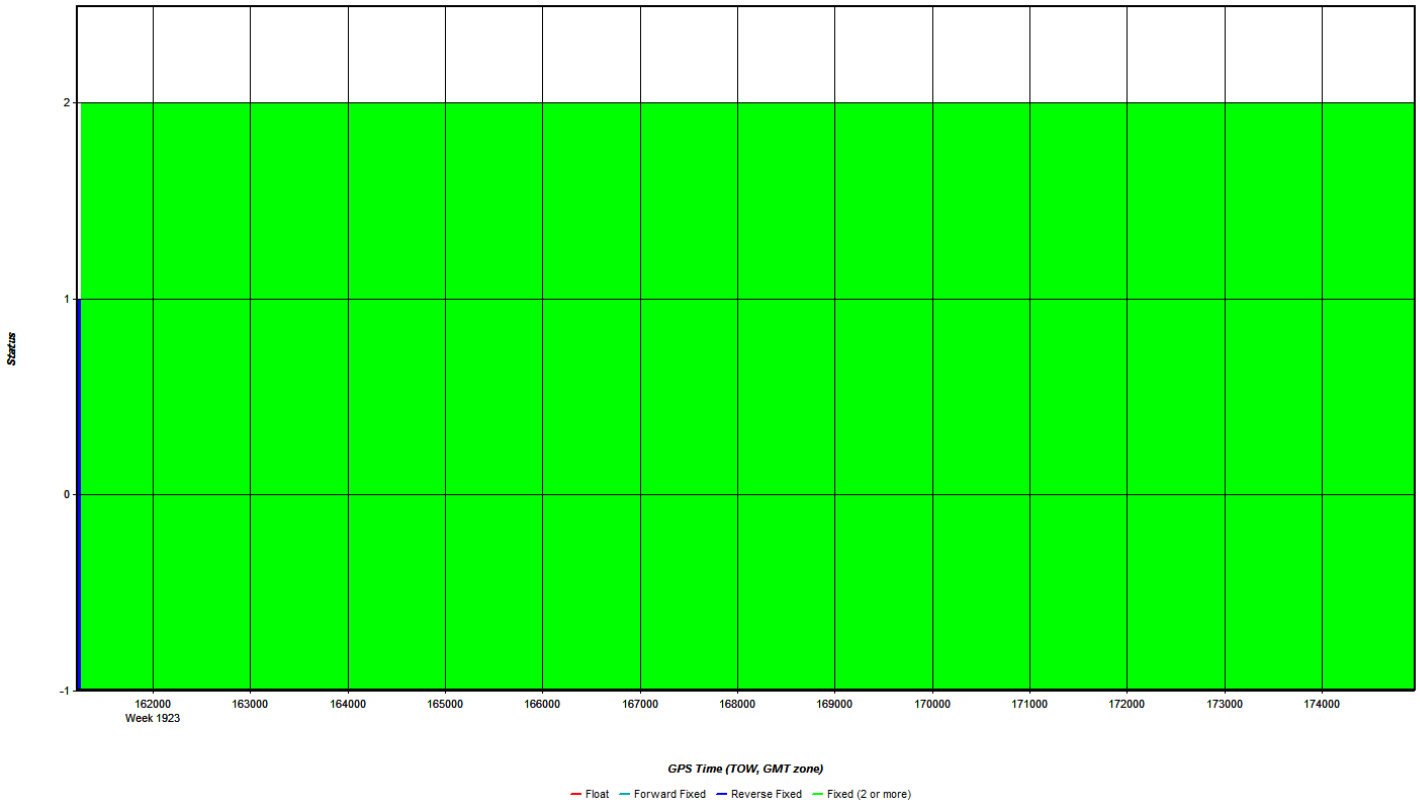

Estimated StdDev (m)
0.0115
0.0110
0.0105
0.0100
0.0095
0.0090
0.0085
0.0080
0.0075
0.0070
0.0065
0.0060
0.0055
0.0050
0.0045
0.0040
0.0035
0.0030
0.0025
162000
Week 1923
163000
164000
165000
166000
167000
168000
169000
170000
171000
172000
173000
174000
GPS Time (TOW, GMT zone)
East
North
Height
Trace

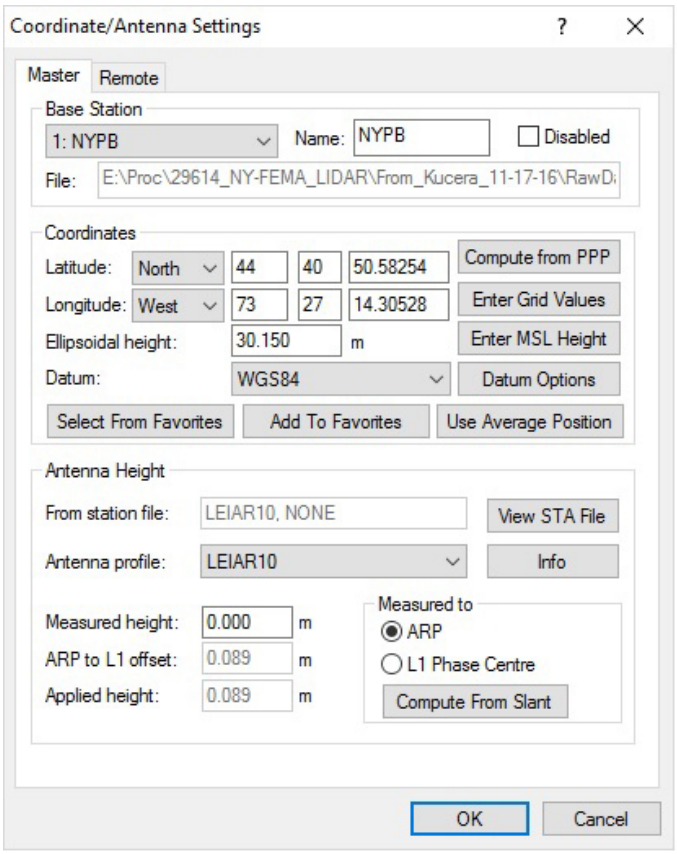

Roll & pitch (deg)
35
30
25
20
15
10
5
0
-5
-10
-15
-20
-25
-30
-35
162000
Week 1923
163000
164000
165000
166000
167000
168000
169000
170000
171000
172000
173000
174000
GPS Time (TOW, GMT zone)
Roll
Pitch

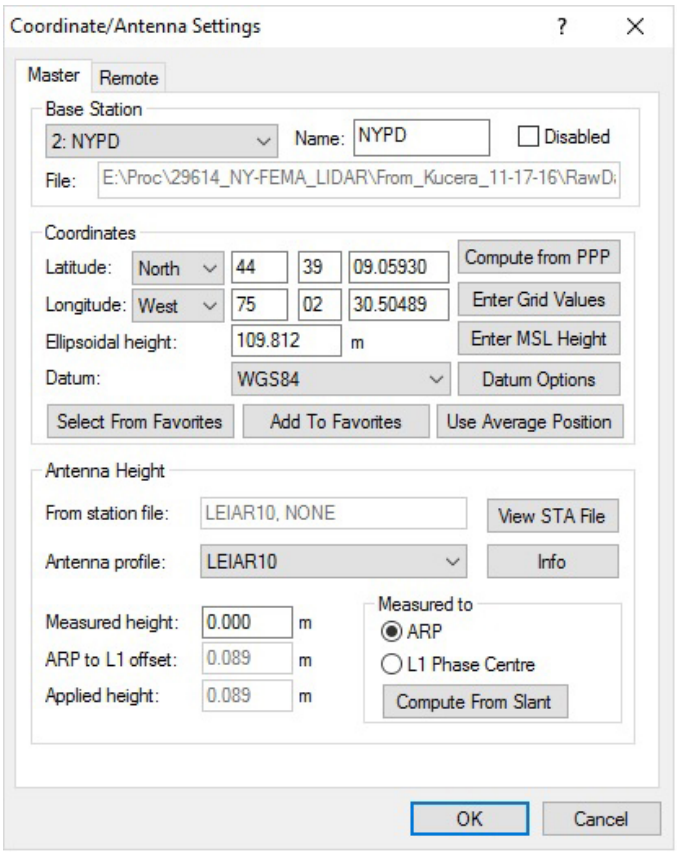

Height (m)
2600
2500
2400
2300
2200
2100
2000
1900
1800
1700
1600
1500
1400
1300
1200
1100
1000
900
800
700
600
500
400
300
200
100
0
162000
Week 1923
163000
164000
165000
166000
167000
168000
169000
170000
171000
172000
173000
174000
GPS Time (TOW, GMT zone)
Height


RMS (m)
0.066
0.064
0.062
0.060
0.058
0.056
0.054
0.052
0.050
0.048
0.046
0.044
0.042
0.040
0.038
0.036
0.034
0.032
0.030
0.028
0.026
0.024
0.022
0.020
0.018
0.016
0.014
0.012
0.010
0.008
0.006
162000
Week 1923
163000
164000
165000
166000
167000
168000
169000
170000
171000
172000
173000
174000
GPS Time (TOW, GMT zone)
RMS
SD


Separation (arcmin)
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
162000
Week 1923
163000
164000
165000
166000
167000
168000
169000
170000
171000
172000
173000
174000
GPS Time (TOW, GMT zone)
Roll
Pitch
Heading/Az


Status
2
1
0
-1
162000
Week 1923
163000
164000
165000
166000
167000
168000
169000
170000
171000
172000
173000
174000
GPS Time (TOW, GMT zone)
Float
Forward Fixed
Reverse Fixed
Fixed (2 or more)


Coordinate/Antenna Settings
Master
Remote
Base Station
1: NYPB
Name:
NYPB
Disabled
File:
E:\Proc\29614_NY-FEMA_LIDAR\From_Kucera_11-17-16\RawD
Coordinates
Latitude:
North
44
40
50.58254
Compute from PPP
Longitude:
West
73
27
14.30528
Enter Grid Values
Ellipsoidal height:
30.150
m
Enter MSL Height
Datum:
WGS84
Datum Options
Select From Favorites
Add To Favorites
Use Average Position
Antenna Height
From station file:
LEIAR10, NONE
View STA File
Antenna profile:
LEIAR10
Info
Measured height:
0.000
m
ARP to L1 offset:
0.089
m
Applied height:
0.089
m
Measured to
ARP
L1 Phase Centre
Compute From Slant
OK
Cancel


Coordinate/Antenna Settings
Master
Remote
Base Station
2: NYPD
Name: NYPD
Disabled
File: E:\Proc\29614_NY-FEMA_LIDAR\From_Kucera_11-17-16\RawD
Coordinates
Latitude: North 44 39 09.05930
Longitude: West 75 02 30.50489
Ellipsoidal height: 109.812 m
Datum: WGS84
Compute from PPP
Enter Grid Values
Enter MSL Height
Datum Options
Select From Favorites
Add To Favorites
Use Average Position
Antenna Height
From station file: LEIAR10, NONE
View STA File
Antenna profile: LEIAR10
Info
Measured height: 0.000 m
ARP to L1 offset: 0.089 m
Applied height: 0.089 m
Measured to
ARP
L1 Phase Centre
Compute From Slant
OK
Cancel

Flight Log

LiDAR

KUCERA INTERNATIONAL INC.

LiDAR FLIGHT REPORT

Revised Feb. 2014

	Pilot/Operator		*Tail Number*		*Sky conditions, light conditions, horizon, shadowing, visibility/haze, cloud types, wind, turbulence, etc..*
CREW	george/Nico	**AIRCRAFT**	4102J	**WEATHER**	skc

mm/dd/yy
DATE 11/14/2016

LiDAR S/N
Camera System als70

fwd/aft
Camera Location (Hole) fwd

Source
GPS fwd antenna

	Time	*Location*
Start-up	04:00:00 PM	KPBG
Shut-down	09:30:00 PM	KPBG

LiDAR STARTUP CHECKS	
Lens cleaned	
All fpds uploaded	
Pilot's screen functional	
Compact flash drive space	
SSDs have space	
Startup beeps & IPAS recording	
Initials:	NC

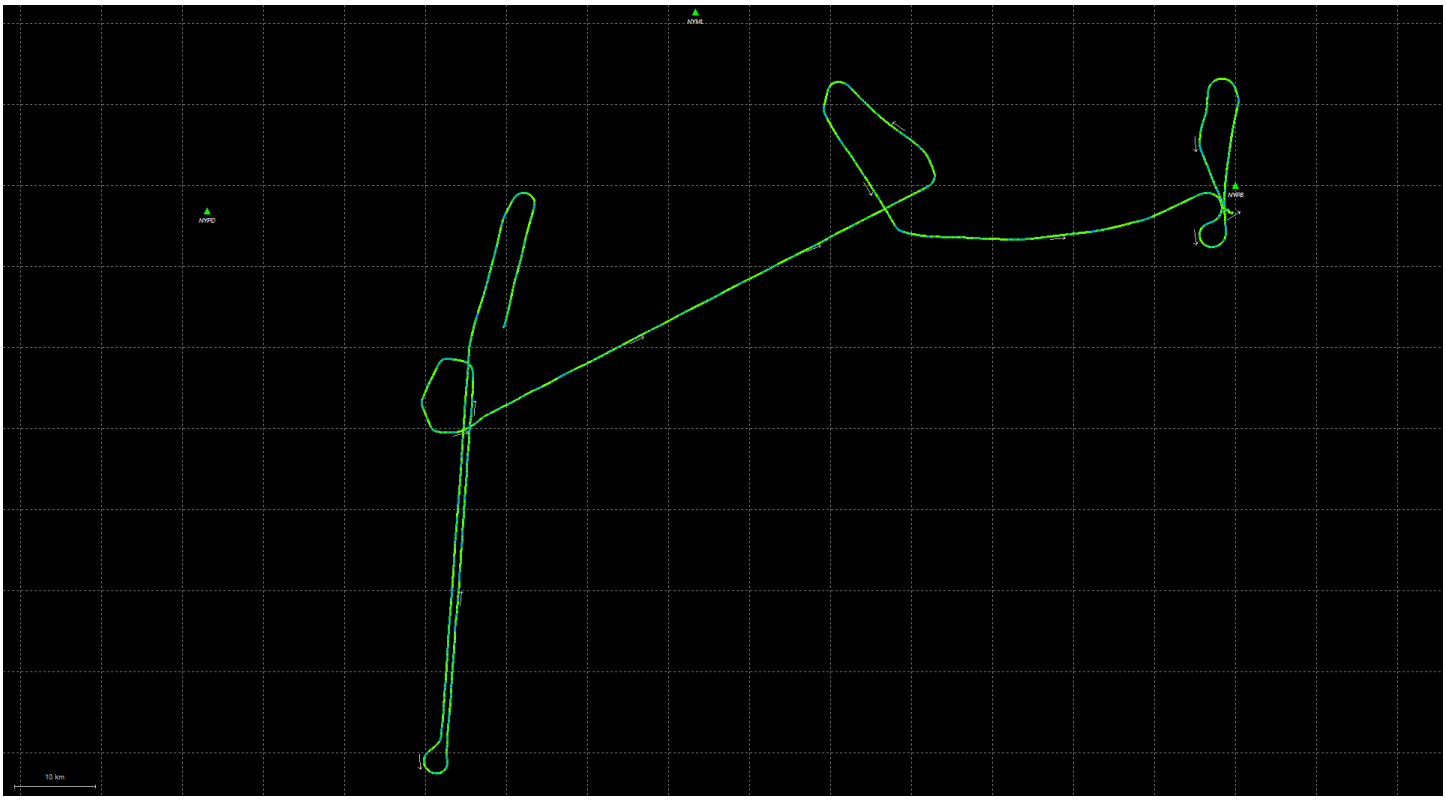
SSD
Drive #
SSD2
Space Rem.

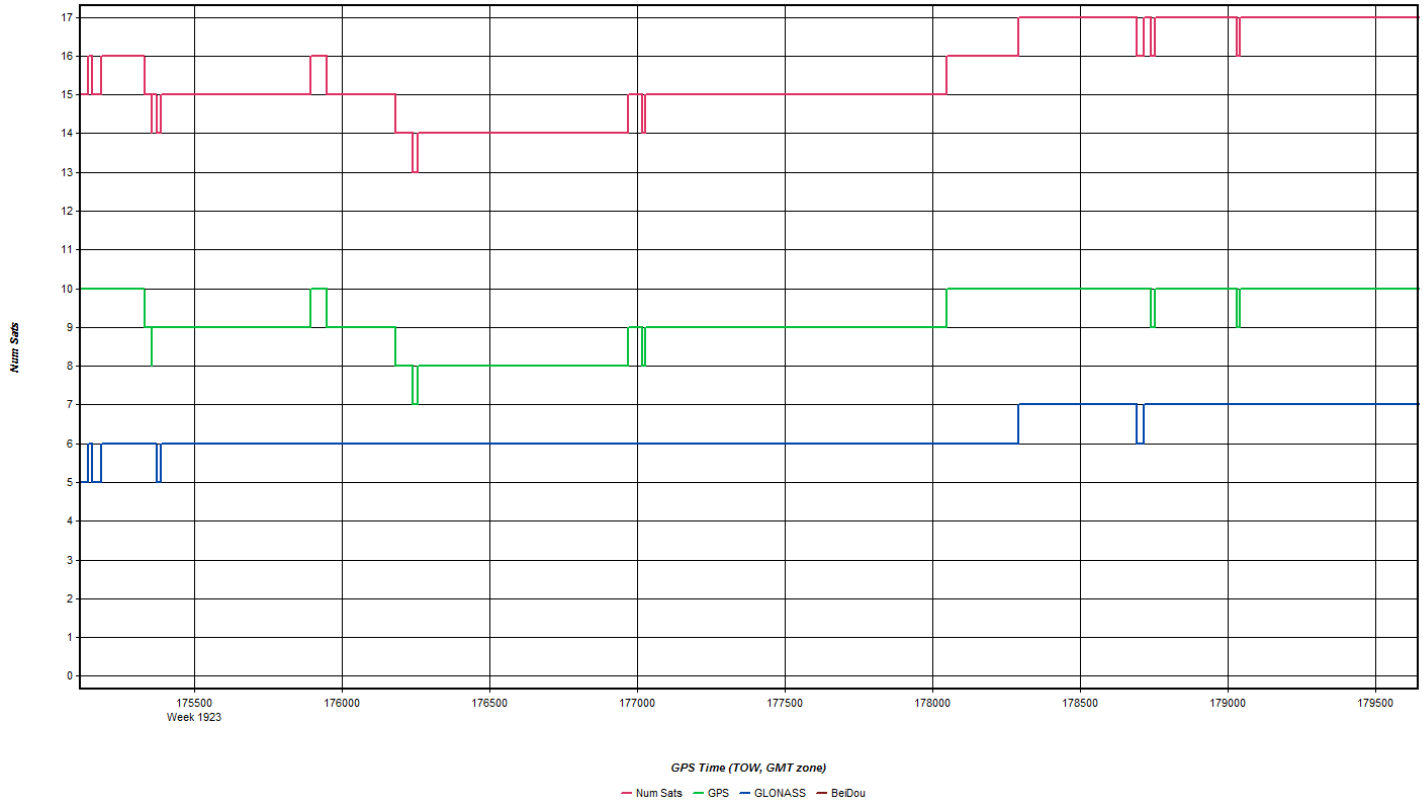
Job #	Location/ Site/Block	Line #	Flight Dir.	Crab Angle	Remarks
60686	franklin, Ny	84	256	2	
		104	197	3	Low returns last 10NM from south end and intermittently throughout the whole line. We checked the lens humidity level on camera and everything was AOK. The Area is full of swamps, lakes and wetland so we think that was the cause. Also we flew at night so couldn't tell exactly
		105	17	3	"
		106	197	3	"
		107	17	2	"
		108	197	3	"
		109	17	2	"
		110	197	3	"
		111	17	2	"
		112	197	3	"
		113	17	2	"
		114	197	2	"
		142	106		"
		115	17	3	"
		116	197	3	"
		117	17	2	System froze and we couldn't control it. Air restart between 117 & 118

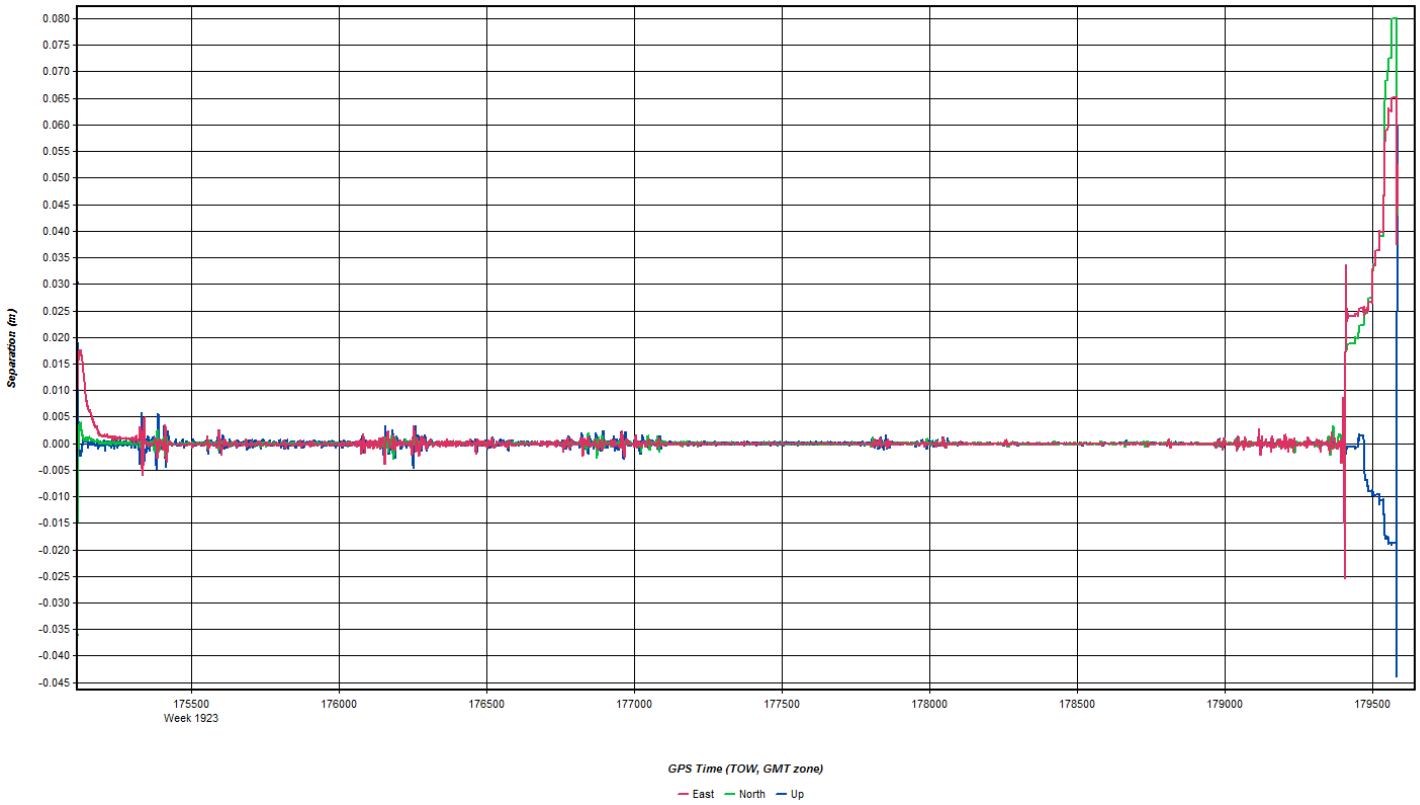
LiDAR

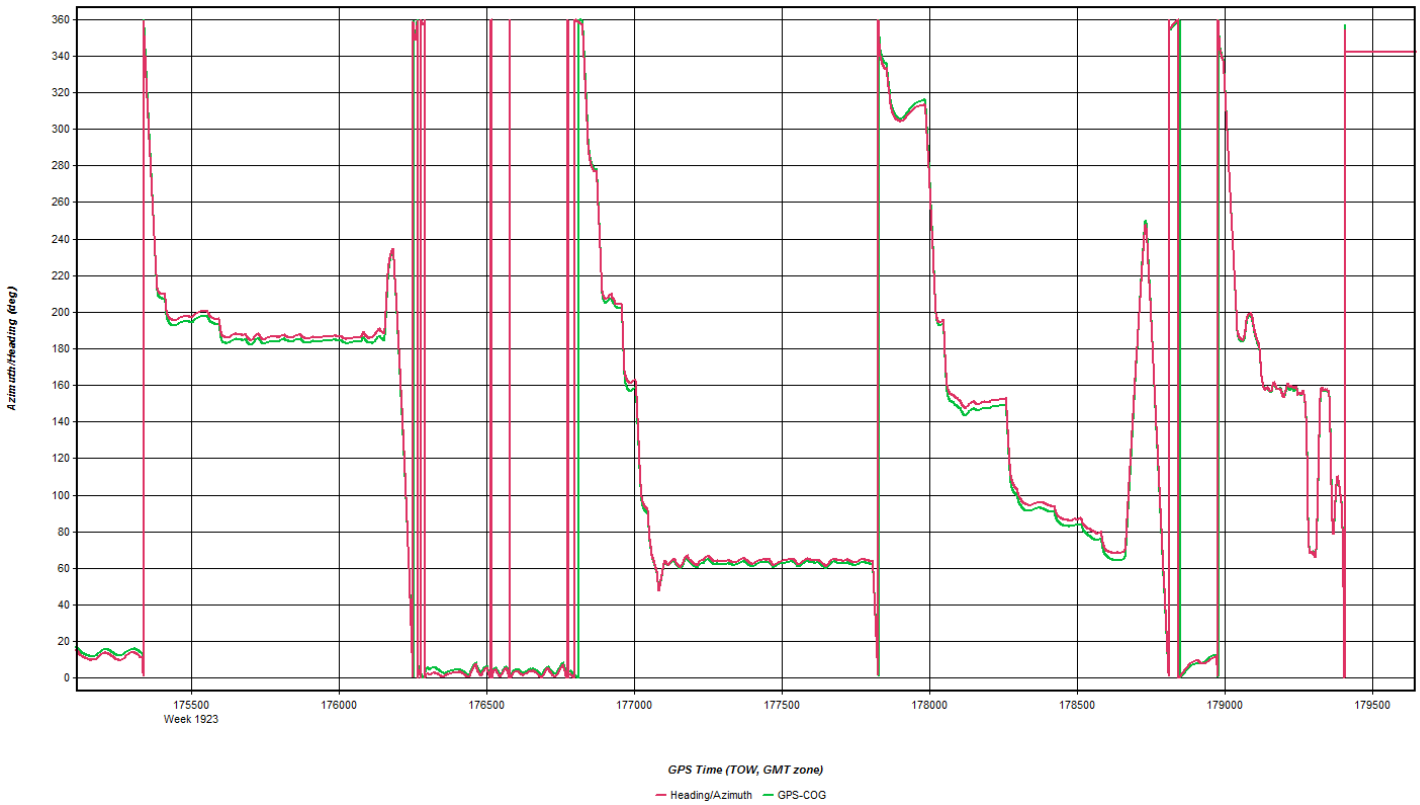
Page 2

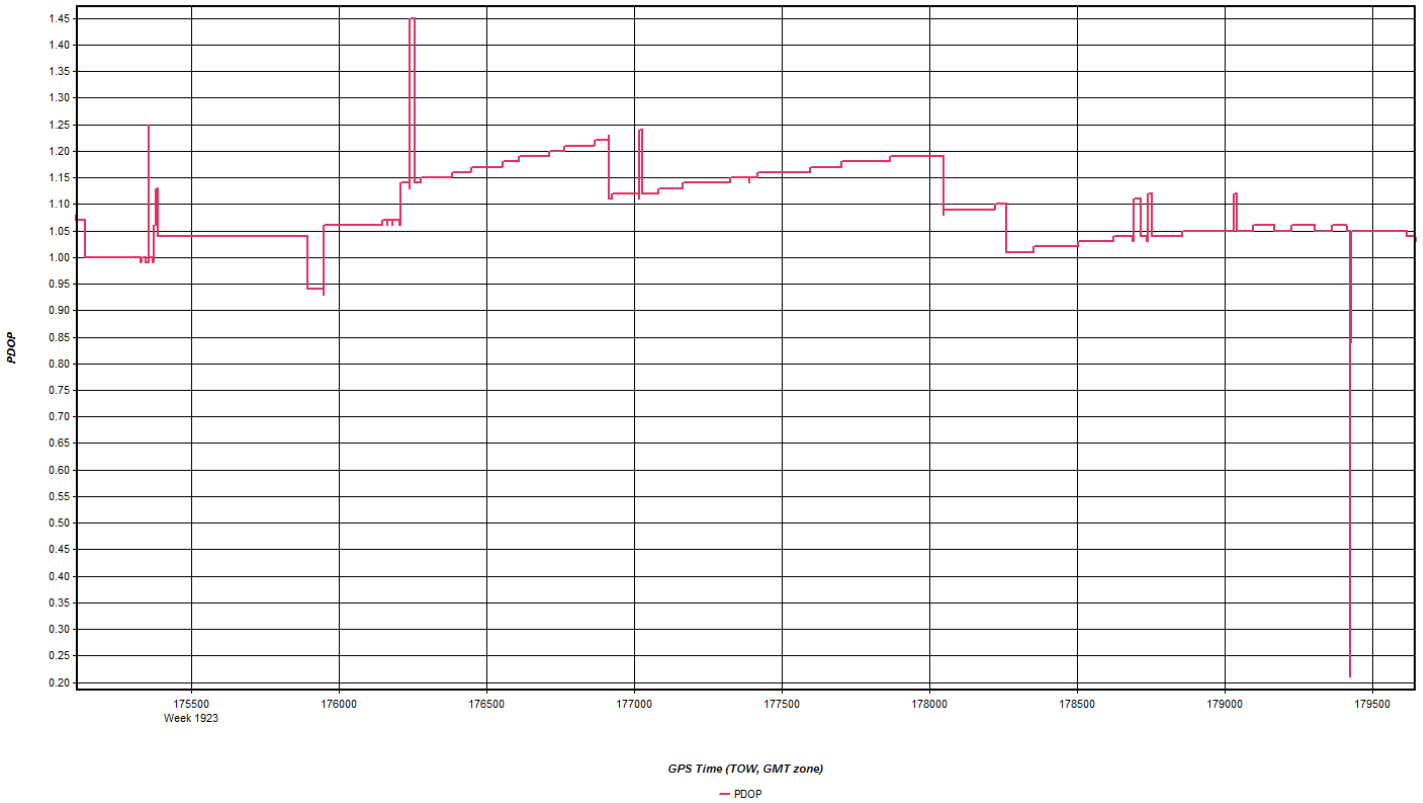
Nov 15, 2016-A (N4102J, SN7232)

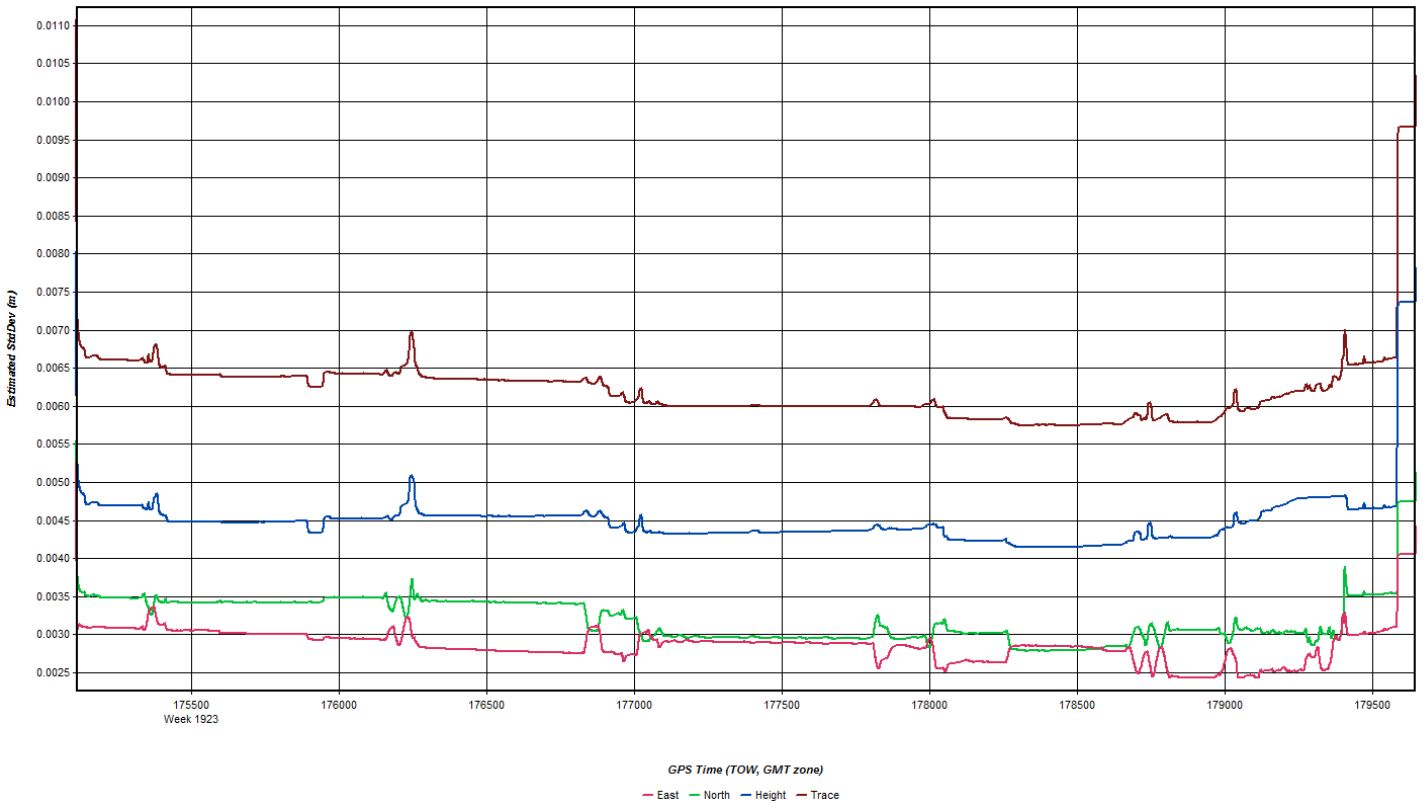

NYAL
NYPD
NYPB
10 km

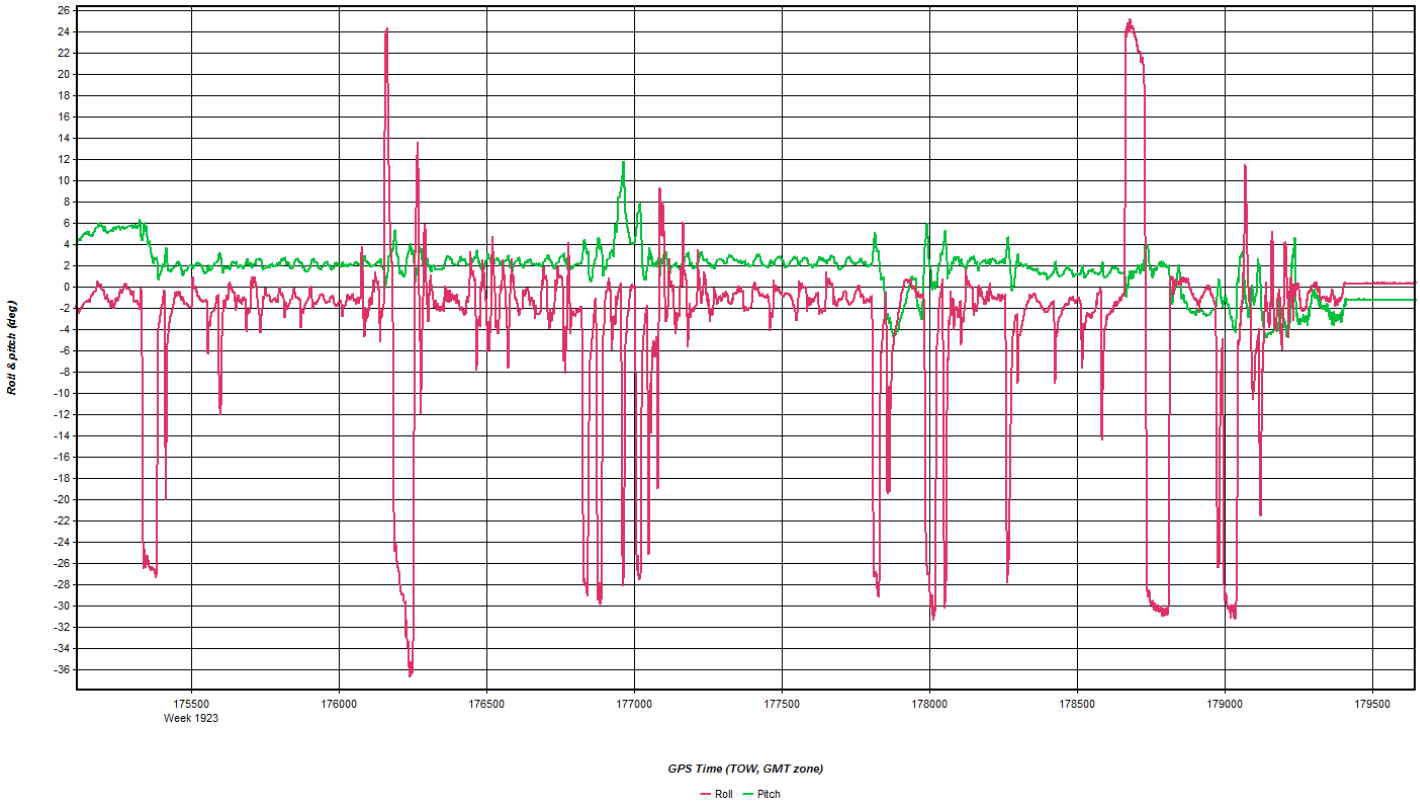

Num Sats
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
175500
Week 1923
176000
176500
177000
177500
178000
178500
179000
179500
GPS Time (TOW, GMT zone)
Num Sats
GPS
GLONASS
BeiDou

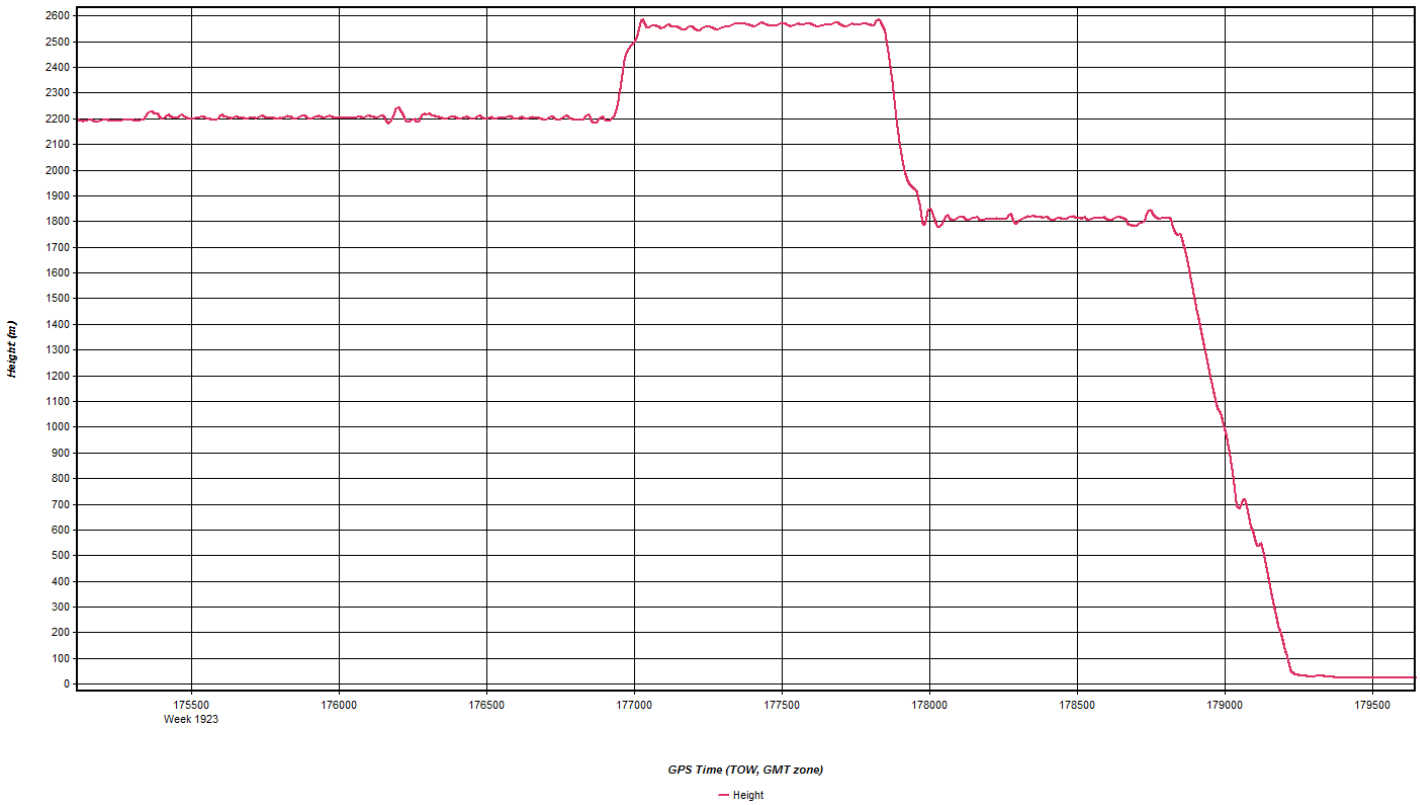

Separation (m)
0.080
0.075
0.070
0.065
0.060
0.055
0.050
0.045
0.040
0.035
0.030
0.025
0.020
0.015
0.010
0.005
0.000
-0.005
-0.010
-0.015
-0.020
-0.025
-0.030
-0.035
-0.040
-0.045
175500
Week 1923
176000
176500
177000
177500
178000
178500
179000
179500
GPS Time (TOW, GMT zone)
East
North
Up

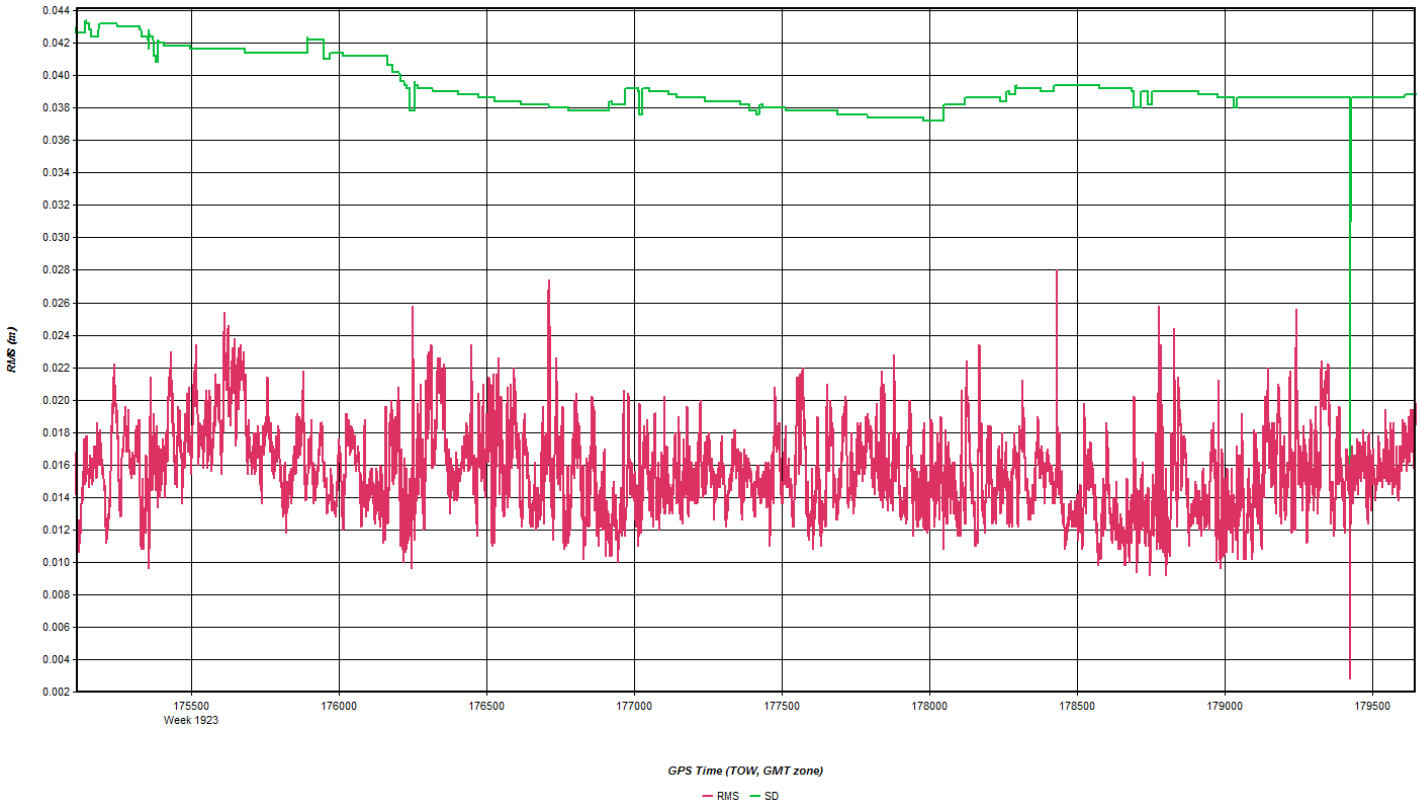

Azimuth/Heading (deg)
360
340
320
300
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
175500
Week 1923
176000
176500
177000
177500
178000
178500
179000
179500
GPS Time (TOW, GMT zone)
Heading/Azimuth
GPS-COG

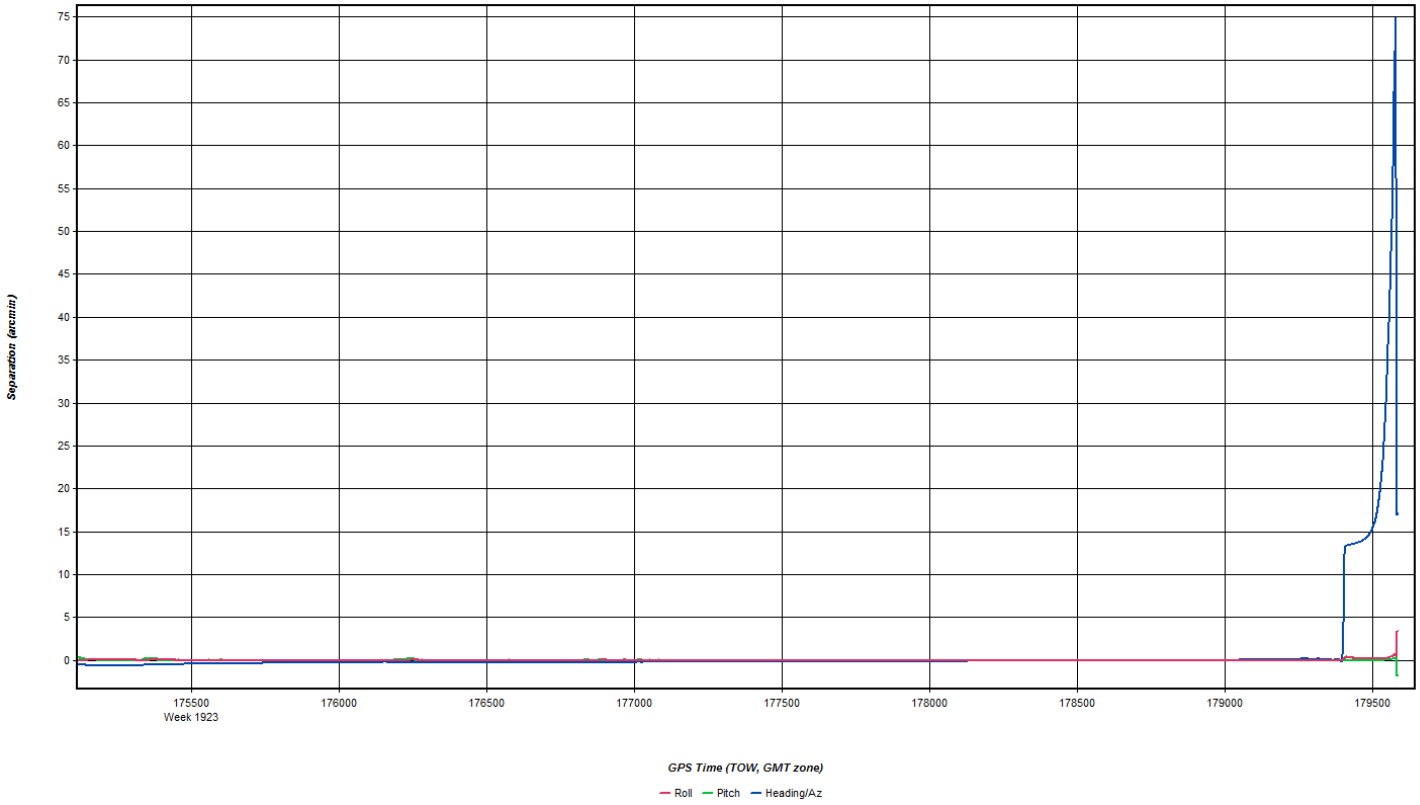

PDOP
1.45
1.40
1.35
1.30
1.25
1.20
1.15
1.10
1.05
1.00
0.95
0.90
0.85
0.80
0.75
0.70
0.65
0.60
0.55
0.50
0.45
0.40
0.35
0.30
0.25
0.20
175500
Week 1923
176000
176500
177000
177500
178000
178500
179000
179500
GPS Time (TOW, GMT zone)
PDOP

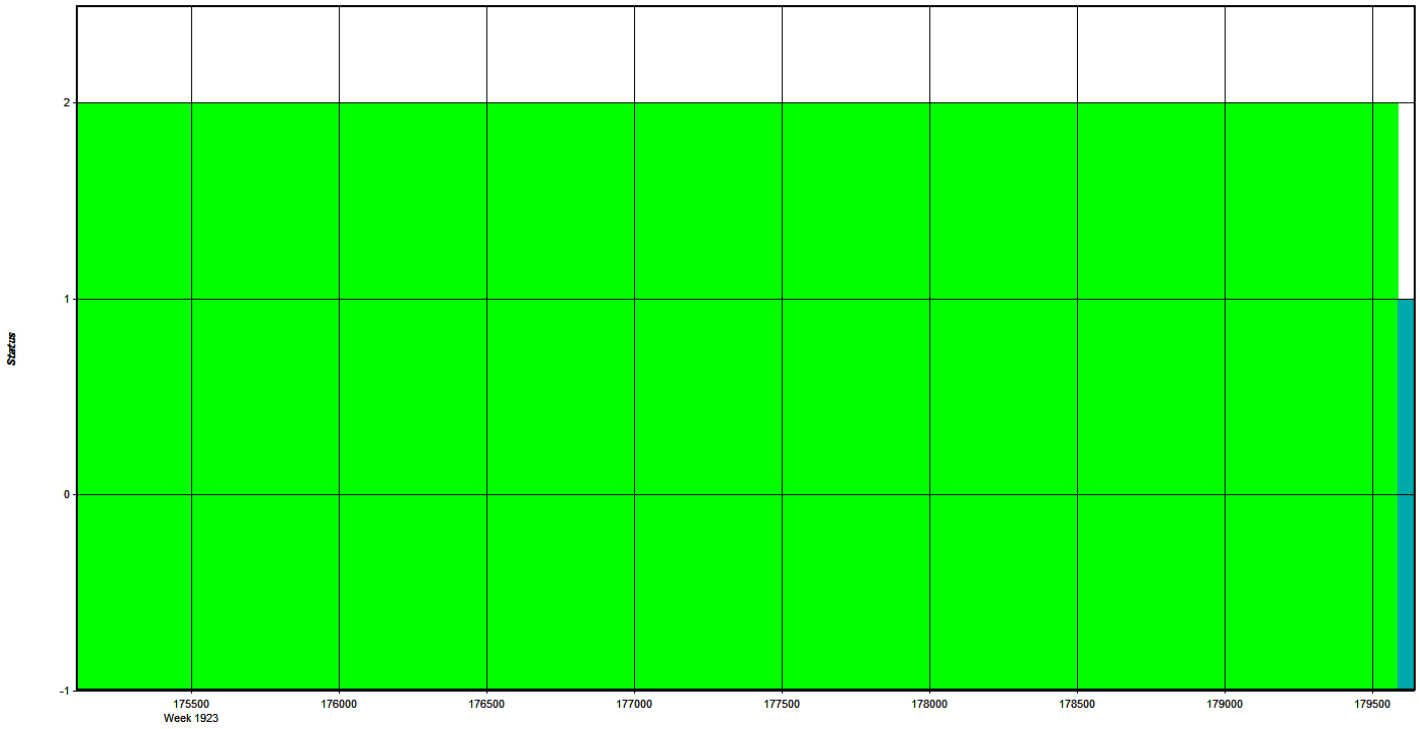

Estimated StdDev (m)
0.0110
0.0105
0.0100
0.0095
0.0090
0.0085
0.0080
0.0075
0.0070
0.0065
0.0060
0.0055
0.0050
0.0045
0.0040
0.0035
0.0030
0.0025
175500
Week 1923
176000
176500
177000
177500
178000
178500
179000
179500
GPS Time (TOW, GMT zone)
East
North
Height
Trace

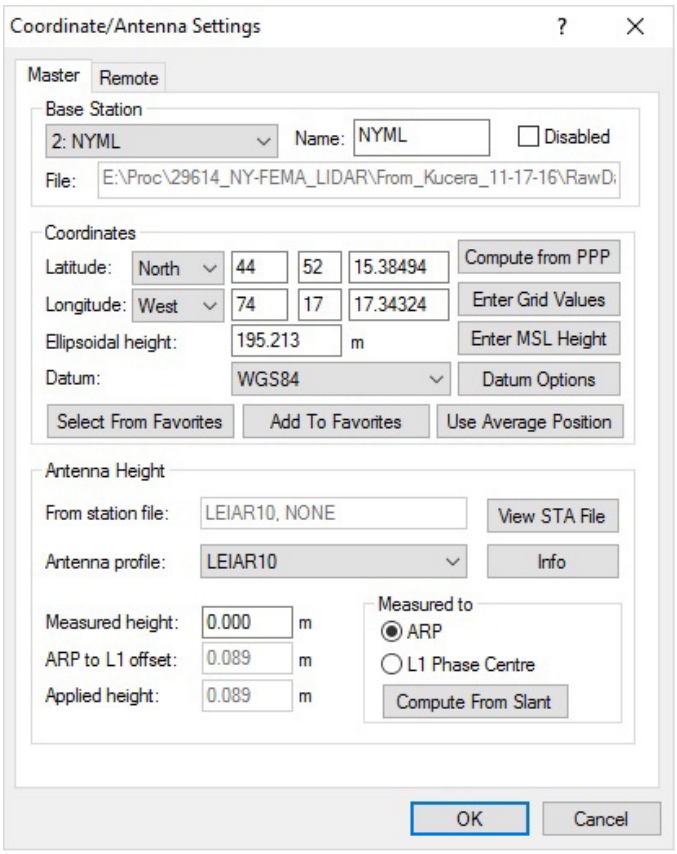

Roll & pitch (deg)
26
24
22
20
18
16
14
12
10
8
6
4
2
0
-2
-4
-6
-8
-10
-12
-14
-16
-18
-20
-22
-24
-26
-28
-30
-32
-34
-36
175500
Week 1923
176000
176500
177000
177500
178000
178500
179000
179500
GPS Time (TOW, GMT zone)
Roll
Pitch

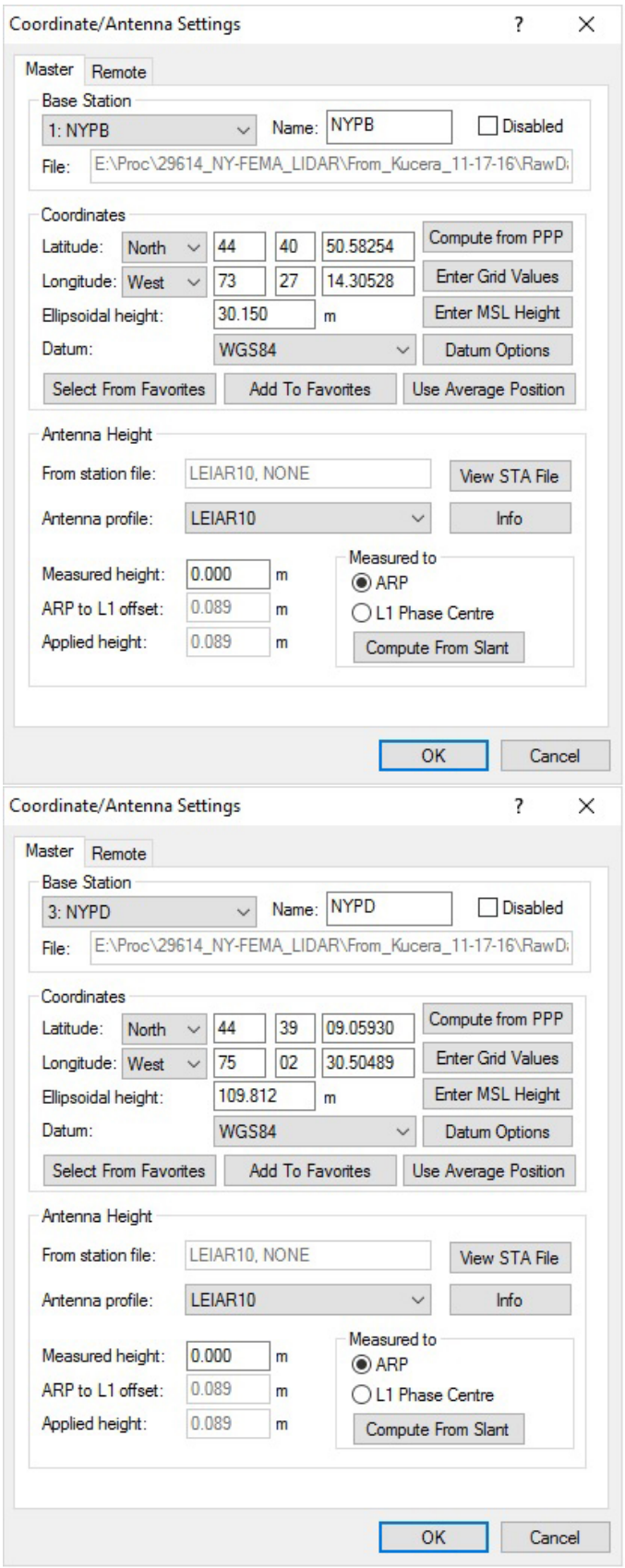

Height (m)
2600
2500
2400
2300
2200
2100
2000
1900
1800
1700
1600
1500
1400
1300
1200
1100
1000
900
800
700
600
500
400
300
200
100
0
175500
Week 1923
176000
176500
177000
177500
178000
178500
179000
179500
GPS Time (TOW, GMT zone)
Height


RMS (m)
0.044
0.042
0.040
0.038
0.036
0.034
0.032
0.030
0.028
0.026
0.024
0.022
0.020
0.018
0.016
0.014
0.012
0.010
0.008
0.006
0.004
0.002
175500
Week 1923
176000
176500
177000
177500
178000
178500
179000
179500
GPS Time (TOW, GMT zone)
RMS
SD


Separation (arcmin)
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
175500
Week 1923
176000
176500
177000
177500
178000
178500
179000
179500
GPS Time (TOW, GMT zone)
Roll
Pitch
Heading/Az


Status
2
1
0
-1
175500
Week 1923
176000
176500
177000
177500
178000
178500
179000
179500
GPS Time (TOW, GMT zone)
Float
Forward Fixed
Reverse Fixed
Fixed (2 or more)


Coordinate/Antenna Settings
Master
Remote
Base Station
2: NYML
Name: NYML
Disabled
File: E:\Proc\29614_NY-FEMA_LIDAR\From_Kucera_11-17-16\RawD
Coordinates
Latitude: North 44 52 15.38494
Compute from PPP
Longitude: West 74 17 17.34324
Enter Grid Values
Ellipsoidal height: 195.213 m
Enter MSL Height
Datum: WGS84
Datum Options
Select From Favorites
Add To Favorites
Use Average Position
Antenna Height
From station file: LEIAR10, NONE
View STA File
Antenna profile: LEIAR10
Info
Measured height: 0.000 m
ARP to L1 offset: 0.089 m
Applied height: 0.089 m
Measured to
ARP
L1 Phase Centre
Compute From Slant
OK
Cancel


Coordinate/Antenna Settings
Master
Remote
Base Station
1: NYPB
Name: NYPB
Disabled
File: E:\Proc\29614_NY-FEMA_LIDAR\From_Kucera_11-17-16\RawD
Coordinates
Latitude: North 44 40 50.58254
Longitude: West 73 27 14.30528
Ellipsoidal height: 30.150 m
Datum: WGS84
Compute from PPP
Enter Grid Values
Enter MSL Height
Datum Options
Select From Favorites
Add To Favorites
Use Average Position
Antenna Height
From station file: LEIAR10, NONE
Antenna profile: LEIAR10
View STA File
Info
Measured height: 0.000 m
ARP to L1 offset: 0.089 m
Applied height: 0.089 m
Measured to
ARP
L1 Phase Centre
Compute From Slant
OK
Cancel
Coordinate/Antenna Settings
Master
Remote
Base Station
3: NYPD
Name: NYPD
Disabled
File: E:\Proc\29614_NY-FEMA_LIDAR\From_Kucera_11-17-16\RawD
Coordinates
Latitude: North 44 39 09.05930
Longitude: West 75 02 30.50489
Ellipsoidal height: 109.812 m
Datum: WGS84
Compute from PPP
Enter Grid Values
Enter MSL Height
Datum Options
Select From Favorites
Add To Favorites
Use Average Position
Antenna Height
From station file: LEIAR10, NONE
Antenna profile: LEIAR10
View STA File
Info
Measured height: 0.000 m
ARP to L1 offset: 0.089 m
Applied height: 0.089 m
Measured to
ARP
L1 Phase Centre
Compute From Slant
OK
Cancel

Flight Log

KUCERA INTERNATIONAL INC.

LiDAR FLIGHT REPORT

Revised Feb. 2014

CREW Pilot/Operator: george/Nico; mm/dd/yy

DATE 11/14/2016

AIRCRAFT Tail Number: 4102J

WEATHER Sky conditions, light conditions, horizon, shadowing, visibility/haze, cloud types, wind, turbulence, etc.: skc

Camera System LiDAR S/N: als70

Camera Location (Hole) fwd/aft: fwd

GPS Source: fwd antenna

	Time	Location
Start-up	04:00:00 PM	KPBG
Shut-down	09:30:00 PM	KPBG

LiDAR STARTUP CHECKS

Lens cleaned	
All fpds uploaded	
Pilot's screen functional	
Compact flash drive space	
SSDs have space	
Startup beeps & IPAS recording	
Initials:	NC

SSD

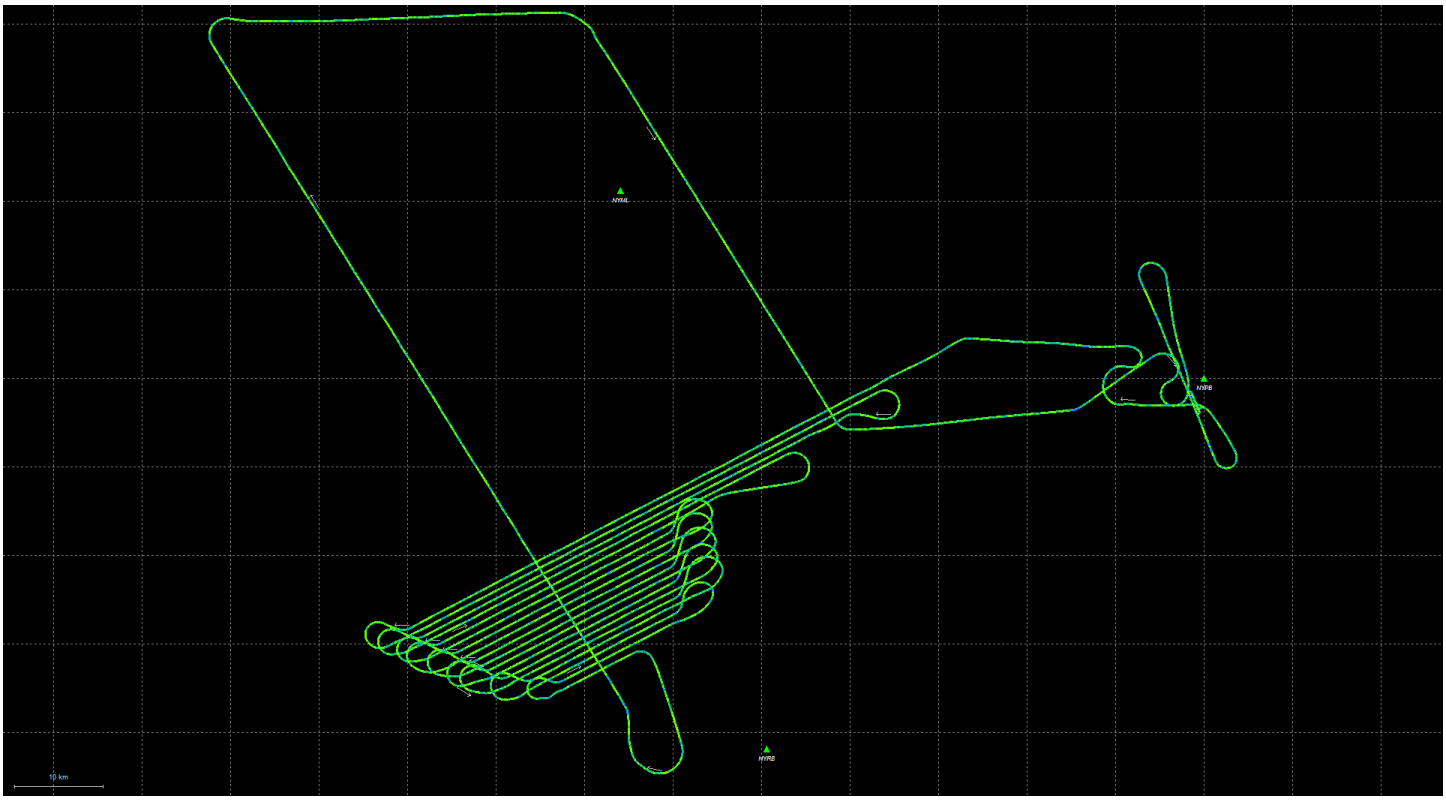
Drive #	*Space Rem.*
SSD2	

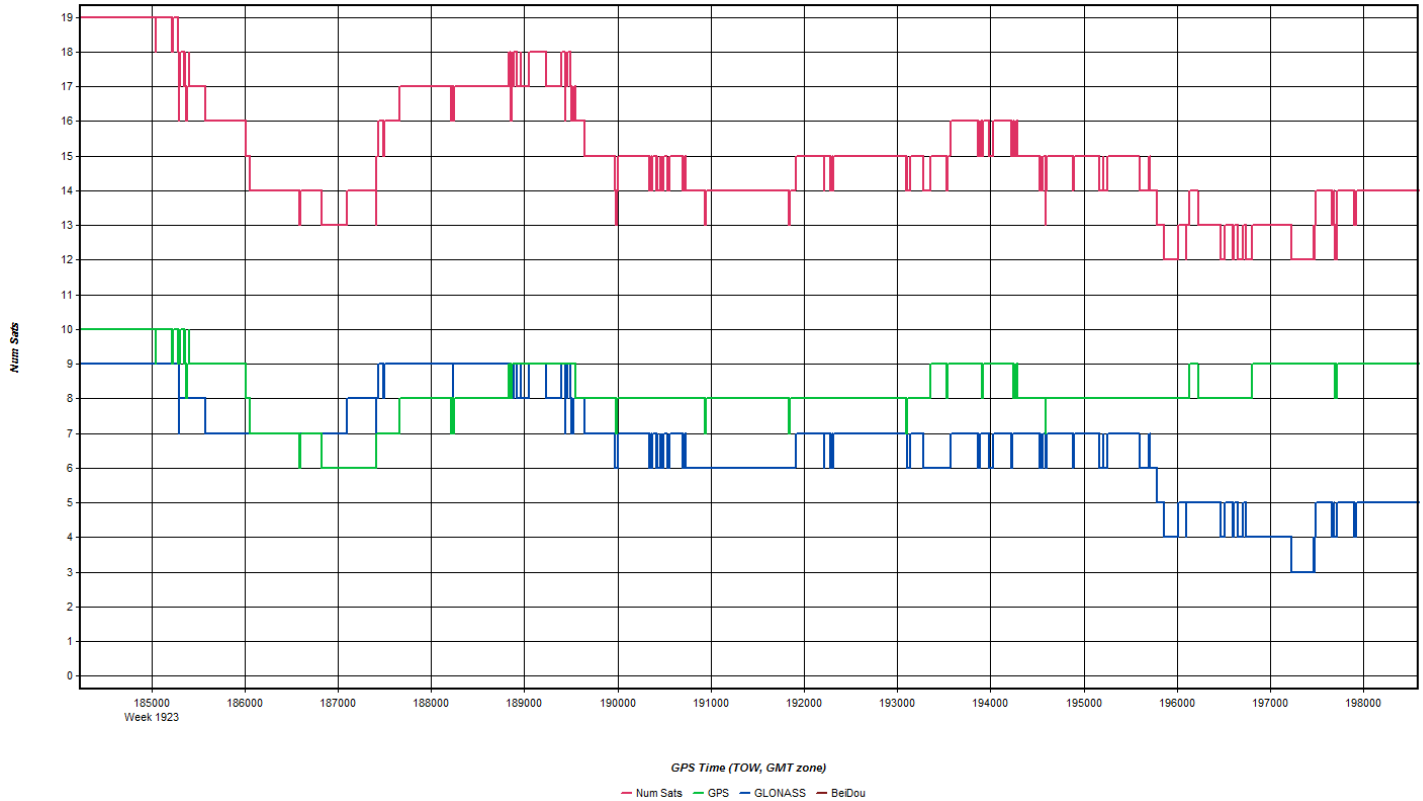
Job #	Location/ Site/Block	Line #	Flight Dir.	Crab Angle	Remarks
60686	franklin, Ny	118	197	3	
		119	17	2	
		85	76	2	
		55	162	2	East and West most ends have low returns. Camera humidity AOK

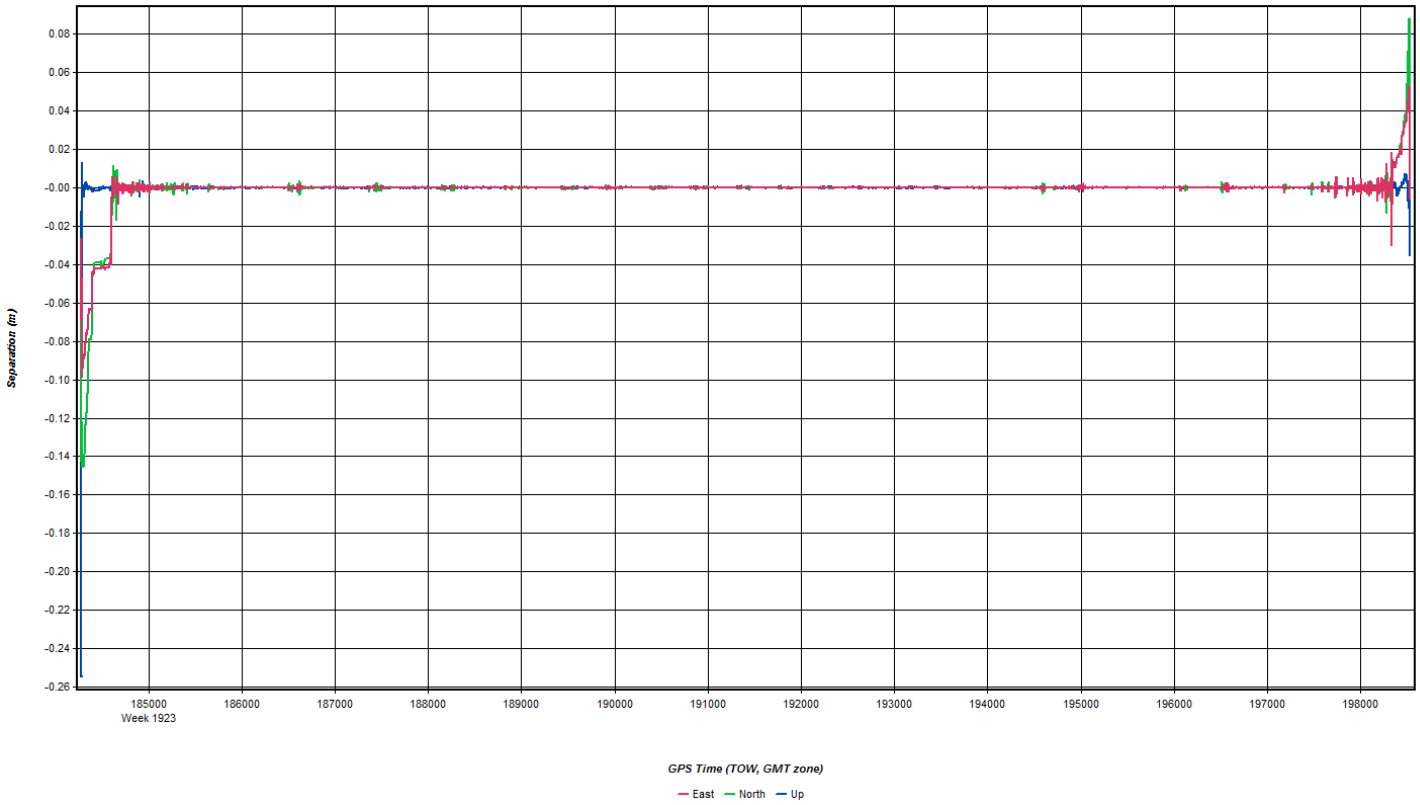
LiDAR

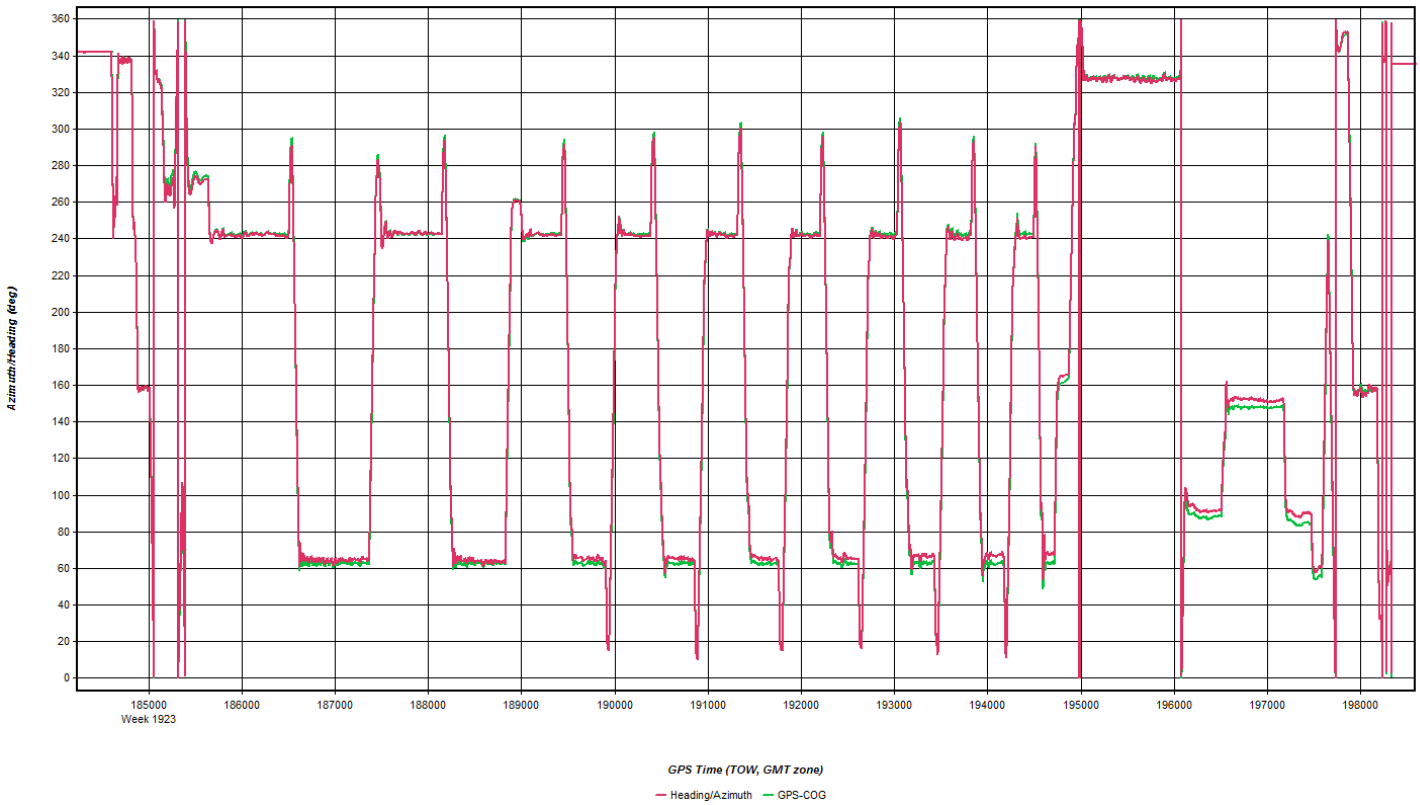
Page 1

Nov 15, 2016-B (N4102J, SN7232)

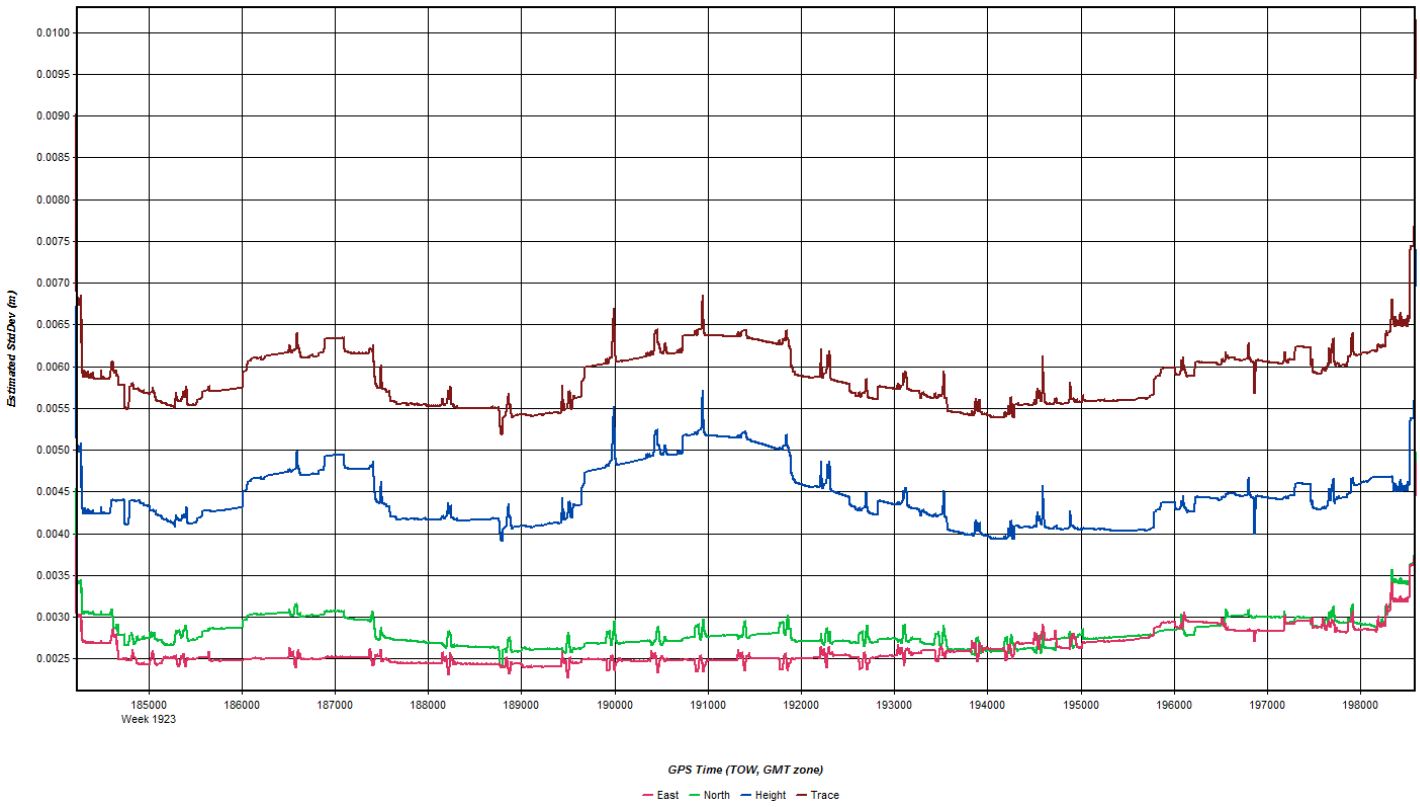

NYM1
NYF8
NYF2
10 km

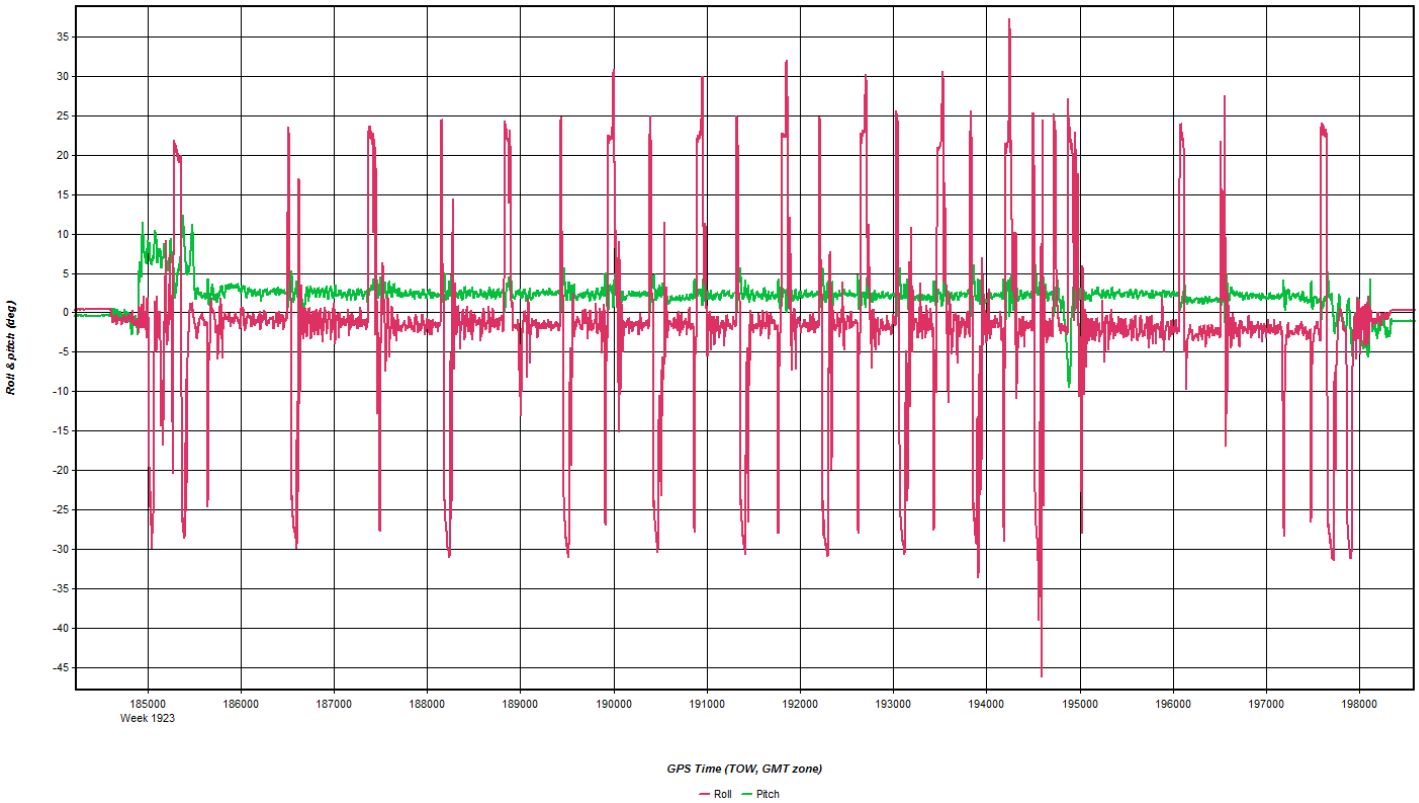

Num Sats
19
18
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
185000
Week 1923
186000
187000
188000
189000
190000
191000
192000
193000
194000
195000
196000
197000
198000
GPS Time (TOW, GMT zone)
Num Sats
GPS
GLONASS
BeiDou

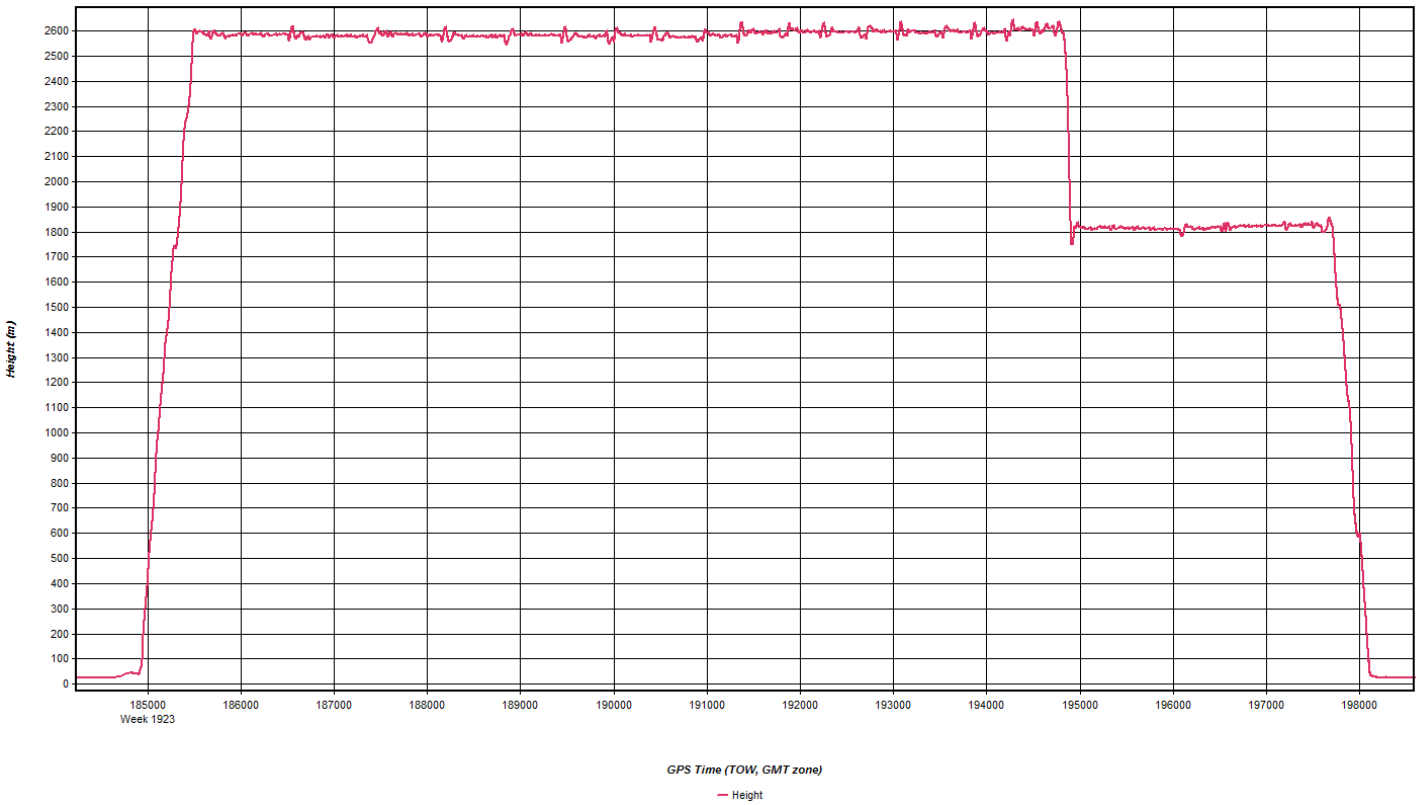

Separation (m)
0.08
0.06
0.04
0.02
0.00
-0.02
-0.04
-0.06
-0.08
-0.10
-0.12
-0.14
-0.16
-0.18
-0.20
-0.22
-0.24
-0.26
185000
Week 1923
186000
187000
188000
189000
190000
191000
192000
193000
194000
195000
196000
197000
198000
GPS Time (TOW, GMT zone)
East
North
Up

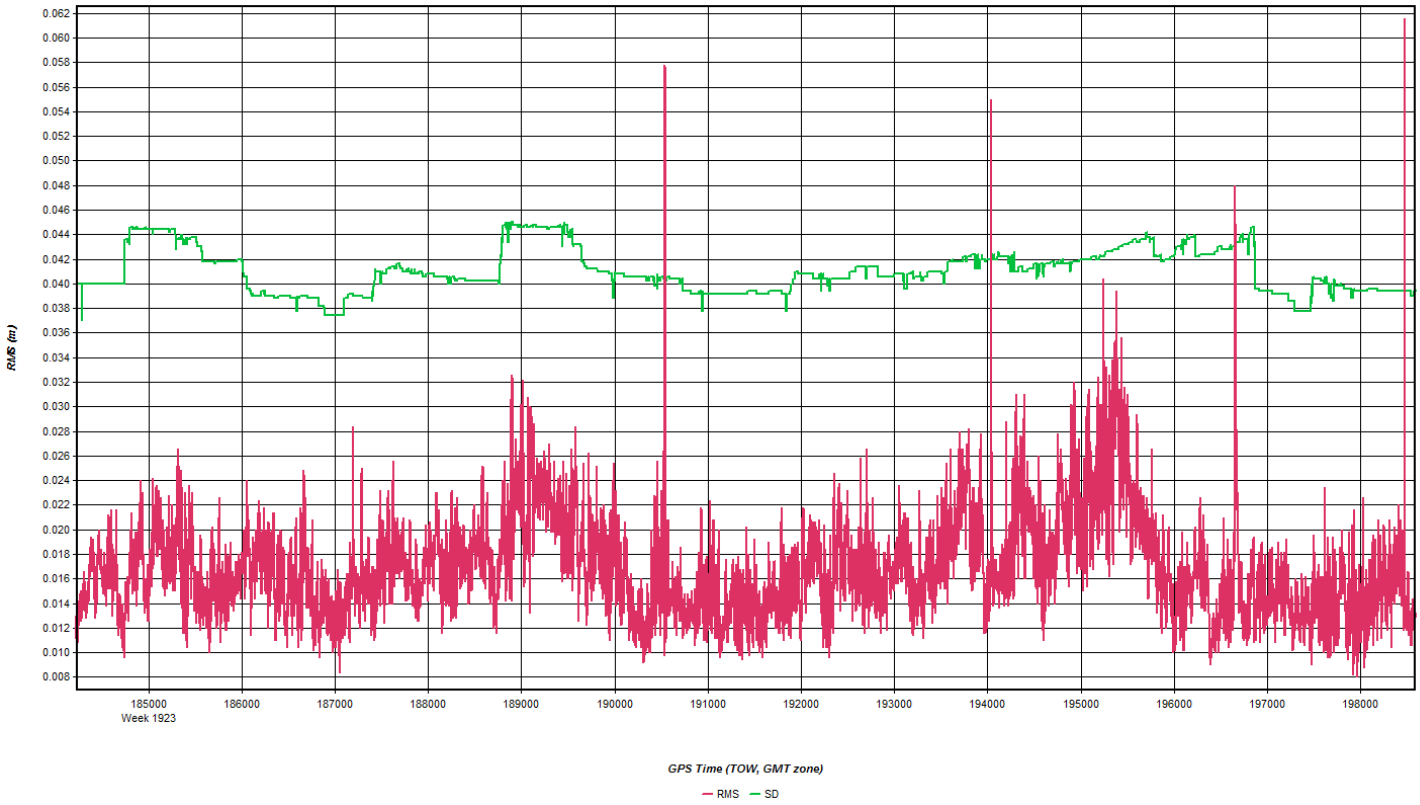

Azimuth/Heading (deg)
360
340
320
300
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
185000
Week 1923
186000
187000
188000
189000
190000
191000
192000
193000
194000
195000
196000
197000
198000
GPS Time (TOW, GMT zone)
Heading/Azimuth
GPS-COG

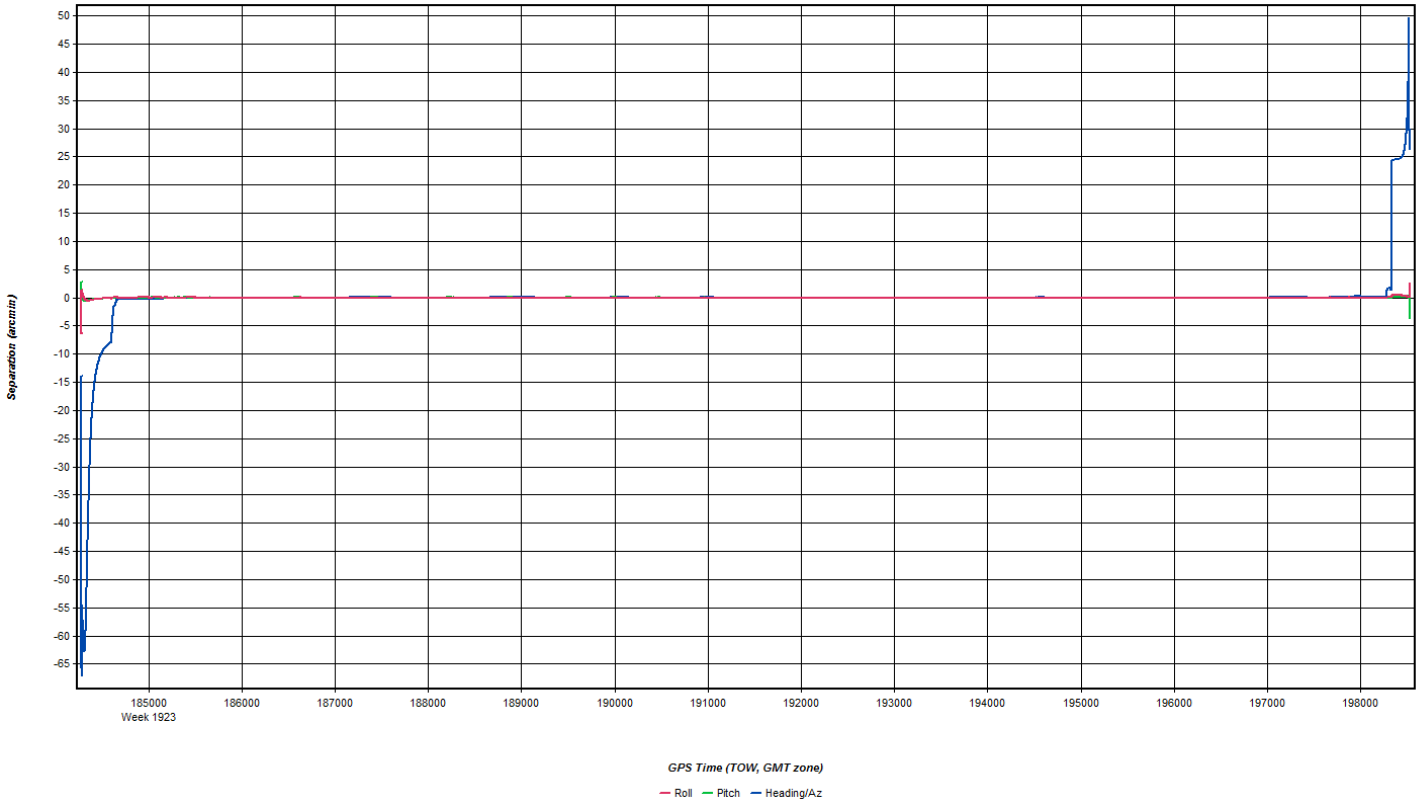

PDOP
1.75
1.70
1.65
1.60
1.55
1.50
1.45
1.40
1.35
1.30
1.25
1.20
1.15
1.10
1.05
1.00
0.95
0.90
0.85
0.80
0.75
0.70
185000
Week 1923
186000
187000
188000
189000
190000
191000
192000
193000
194000
195000
196000
197000
198000
GPS Time (TOW, GMT zone)
PDOP

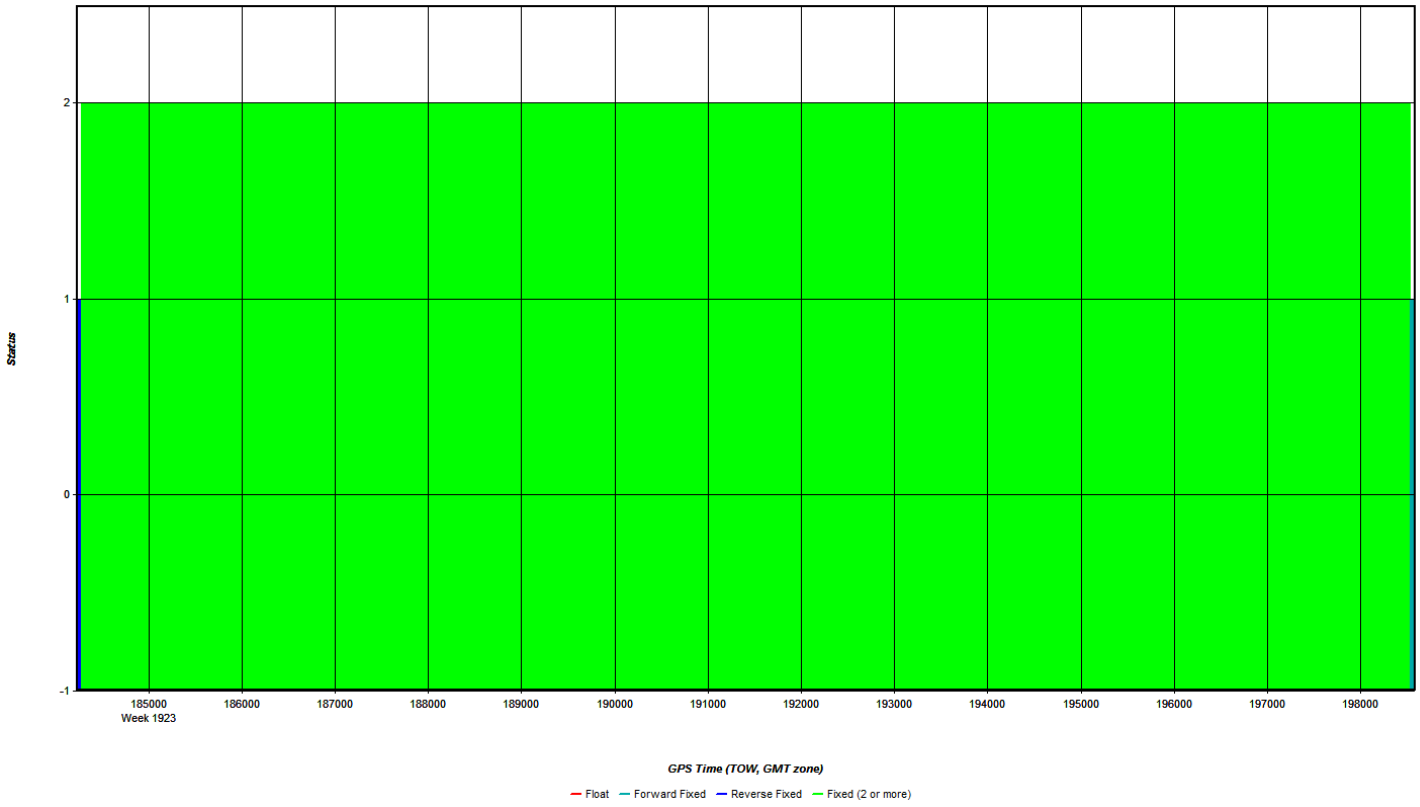

Estimated StdDev (m)
0.0100
0.0095
0.0090
0.0085
0.0080
0.0075
0.0070
0.0065
0.0060
0.0055
0.0050
0.0045
0.0040
0.0035
0.0030
0.0025
185000
Week 1923
186000
187000
188000
189000
190000
191000
192000
193000
194000
195000
196000
197000
198000
GPS Time (TOW, GMT zone)
East
North
Height
Trace

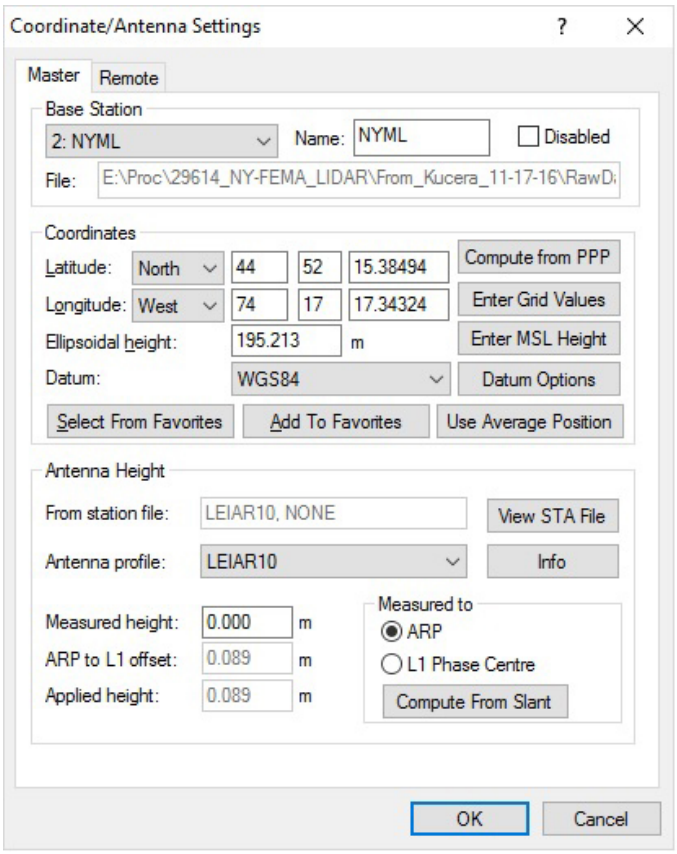

Roll & pitch (deg)
35
30
25
20
15
10
5
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
185000
Week 1923
186000
187000
188000
189000
190000
191000
192000
193000
194000
195000
196000
197000
198000
GPS Time (TOW, GMT zone)
Roll
Pitch

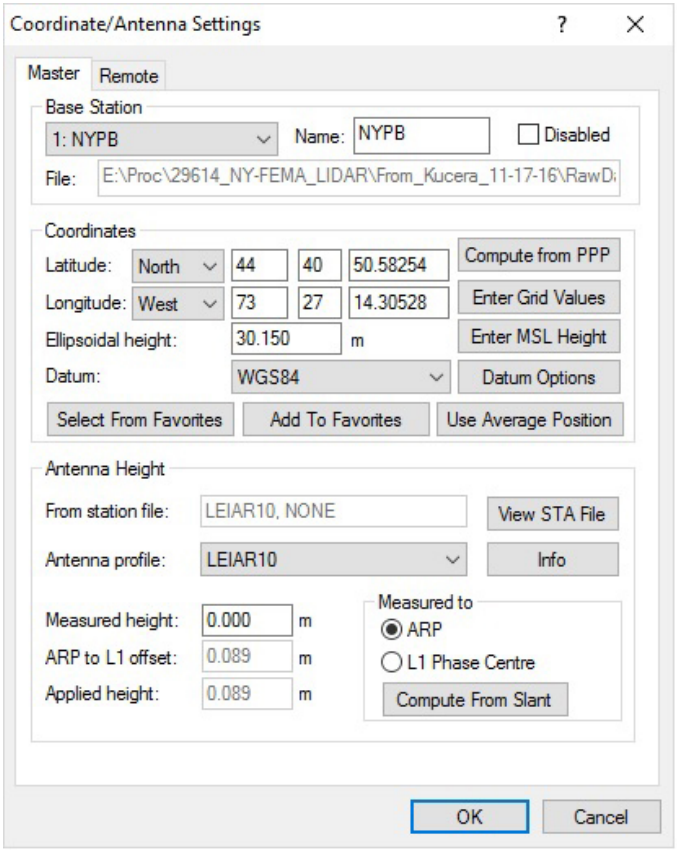

Height (m)
2600
2500
2400
2300
2200
2100
2000
1900
1800
1700
1600
1500
1400
1300
1200
1100
1000
900
800
700
600
500
400
300
200
100
0
185000
Week 1923
186000
187000
188000
189000
190000
191000
192000
193000
194000
195000
196000
197000
198000
GPS Time (TOW, GMT zone)
Height

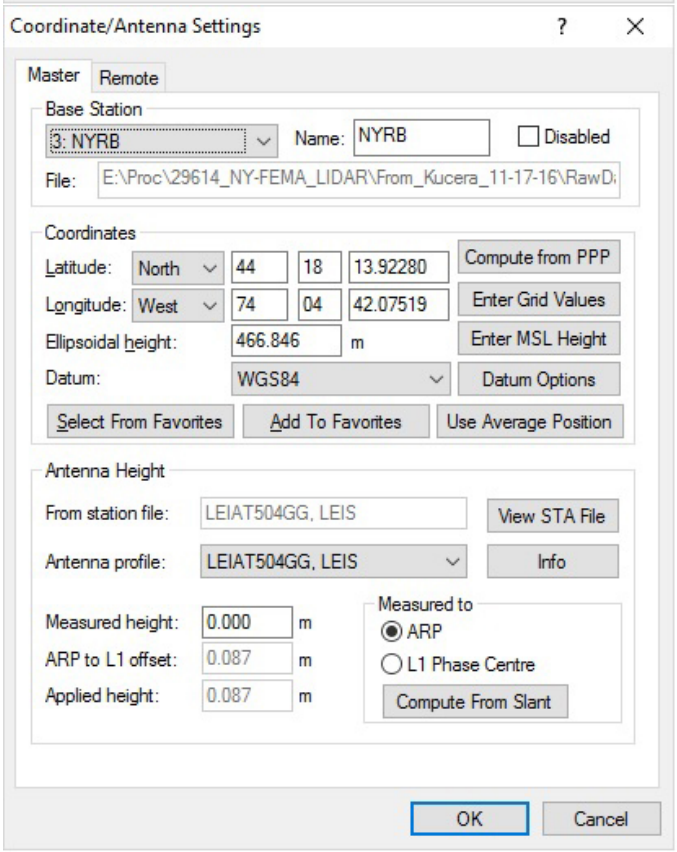

RMS (m)
0.062
0.060
0.058
0.056
0.054
0.052
0.050
0.048
0.046
0.044
0.042
0.040
0.038
0.036
0.034
0.032
0.030
0.028
0.026
0.024
0.022
0.020
0.018
0.016
0.014
0.012
0.010
0.008
185000
Week 1923
186000
187000
188000
189000
190000
191000
192000
193000
194000
195000
196000
197000
198000
GPS Time (TOW, GMT zone)
RMS
SD


Separation (arcmin)
50
45
40
35
30
25
20
15
10
5
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-55
-60
-65
185000
Week 1923
186000
187000
188000
189000
190000
191000
192000
193000
194000
195000
196000
197000
198000
GPS Time (TOW, GMT zone)
Roll
Pitch
Heading/Az


Status
2
1
0
-1
185000
Week 1923
186000
187000
188000
189000
190000
191000
192000
193000
194000
195000
196000
197000
198000
GPS Time (TOW, GMT zone)
Float
Forward Fixed
Reverse Fixed
Fixed (2 or more)


Coordinate/Antenna Settings
Master
Remote
Base Station
2: NYML
Name: NYML
Disabled
File: E:\Proc\29614_NY-FEMA_LIDAR\From_Kucera_11-17-16\RawD
Coordinates
Latitude: North 44 52 15.38494
Longitude: West 74 17 17.34324
Ellipsoidal height: 195.213 m
Datum: WGS84
Compute from PPP
Enter Grid Values
Enter MSL Height
Datum Options
Select From Favorites
Add To Favorites
Use Average Position
Antenna Height
From station file: LEIAR10, NONE
View STA File
Antenna profile: LEIAR10
Info
Measured height: 0.000 m
ARP to L1 offset: 0.089 m
Applied height: 0.089 m
Measured to
ARP
L1 Phase Centre
Compute From Slant
OK
Cancel


Coordinate/Antenna Settings
Master
Remote
Base Station
1: NYPB
Name: NYPB
Disabled
File: E:\Proc\29614_NY-FEMA_LIDAR\From_Kucera_11-17-16\RawD
Coordinates
Latitude: North 44 40 50.58254
Longitude: West 73 27 14.30528
Ellipsoidal height: 30.150 m
Datum: WGS84
Compute from PPP
Enter Grid Values
Enter MSL Height
Datum Options
Select From Favorites
Add To Favorites
Use Average Position
Antenna Height
From station file: LEIAR10, NONE
Antenna profile: LEIAR10
View STA File
Info
Measured height: 0.000 m
ARP to L1 offset: 0.089 m
Applied height: 0.089 m
Measured to
ARP
L1 Phase Centre
Compute From Slant
OK
Cancel


Coordinate/Antenna Settings
Master
Remote
Base Station
3: NYRB
Name: NYRB
Disabled
File: E:\Proc\29614_NY-FEMA_LIDAR\From_Kucera_11-17-16\RawD
Coordinates
Latitude: North 44 18 13.92280
Longitude: West 74 04 42.07519
Ellipsoidal height: 466.846 m
Datum: WGS84
Compute from PPP
Enter Grid Values
Enter MSL Height
Datum Options
Select From Favorites
Add To Favorites
Use Average Position
Antenna Height
From station file: LEIAT504GG, LEIS
Antenna profile: LEIAT504GG, LEIS
View STA File
Info
Measured height: 0.000 m
ARP to L1 offset: 0.087 m
Applied height: 0.087 m
Measured to
ARP
L1 Phase Centre
Compute From Slant
OK
Cancel

Flight Log

LiDAR

KUCERA INTERNATIONAL INC.

LiDAR FLIGHT REPORT

Revised Feb. 2014

CREW Pilot/Operator: george/Nico; mm/dd/yy: **DATE** 11/14/2016

AIRCRAFT Tail Number: 4102J

WEATHER Sky conditions, light conditions, horizon, shadowing, visibility/haze, cloud types, wind, turbulence, etc.: skc

Camera System LiDAR S/N: als70

Camera Location (Hole): fwd/aft: fwd

GPS Source: fwd antenna

	Time	Location
Start-up		KPBG
Shut-down		

LiDAR STARTUP CHECKS

Lens cleaned	
All fpds uploaded	
Pilot's screen functional	
Compact flash drive space	
SSDs have space	
Startup beeps & IPAS recording	
Initials:	NC

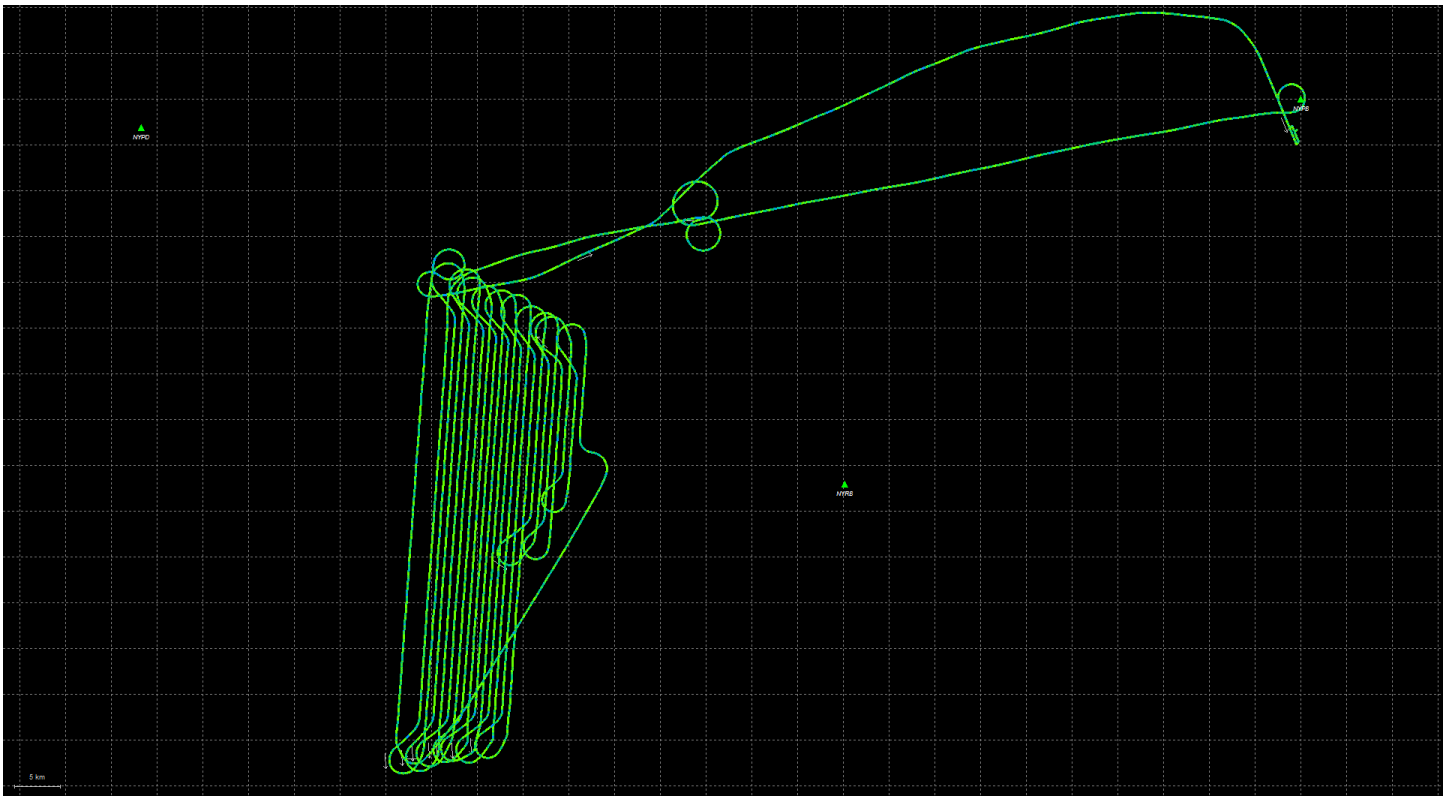
SSD

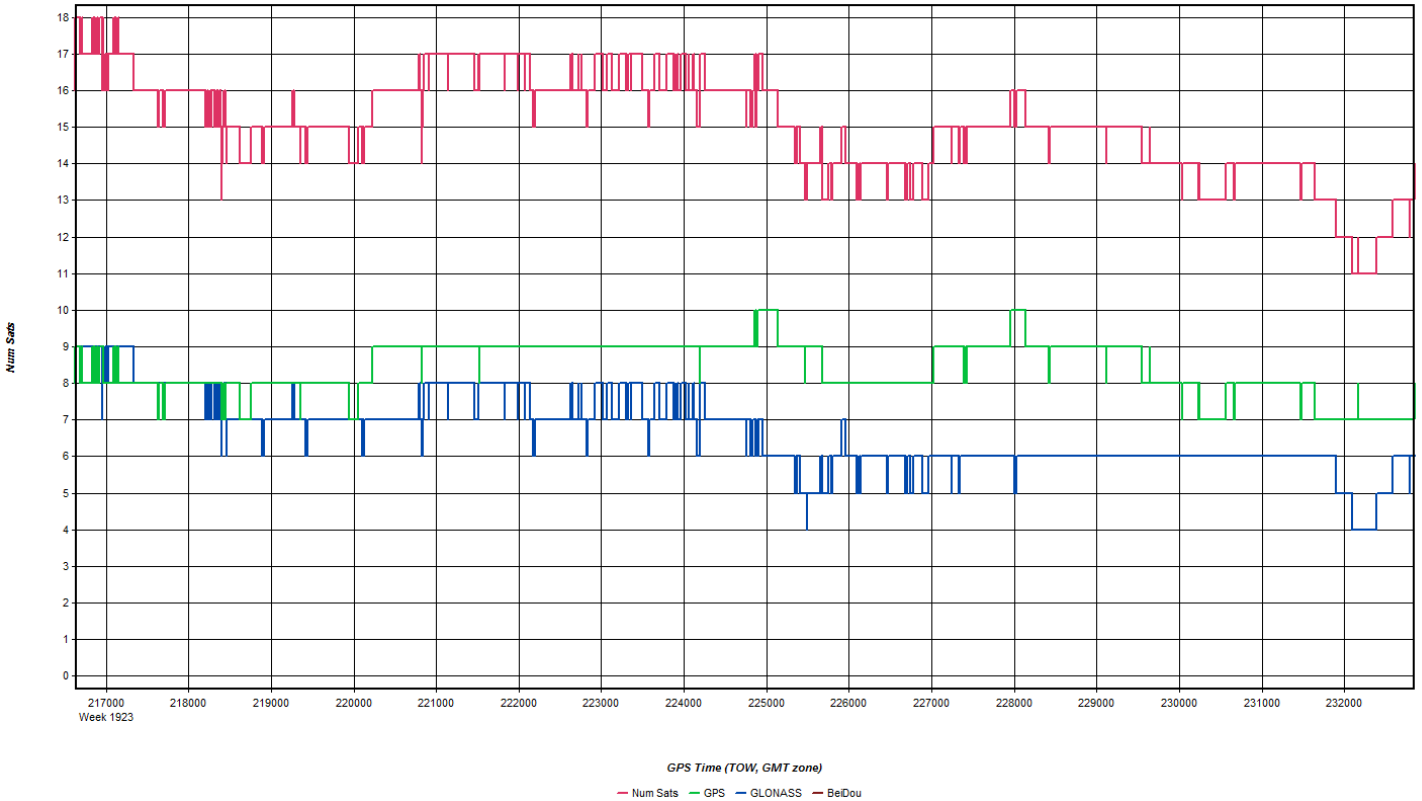
Drive #	Space Rem.
SSD2	

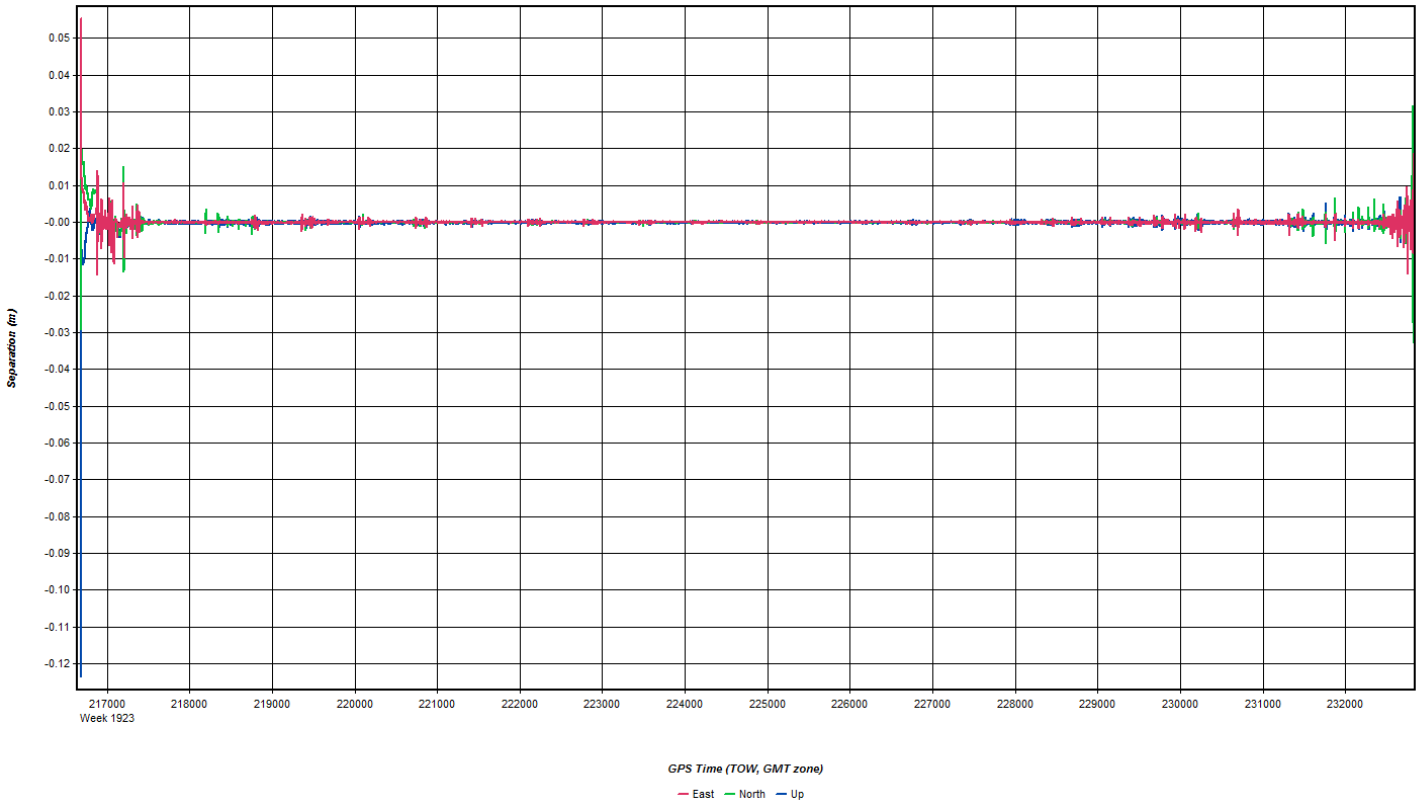
Job #	Location/ Site/Block	Line #	Flight Dir.	Crab Angle	Remarks
60686	Franklin, NY	86	256		
		87	76		
		88	256		
		89	76		
		90	256		
		91	76		
		92	256		
		93	76		
		94	256		
		95	76		
		96	256		
		97	76		
		98	256		
		99	76		
		100	256		
		101	76		
		102	256		
		103	76		
		54	N		
		55	S		

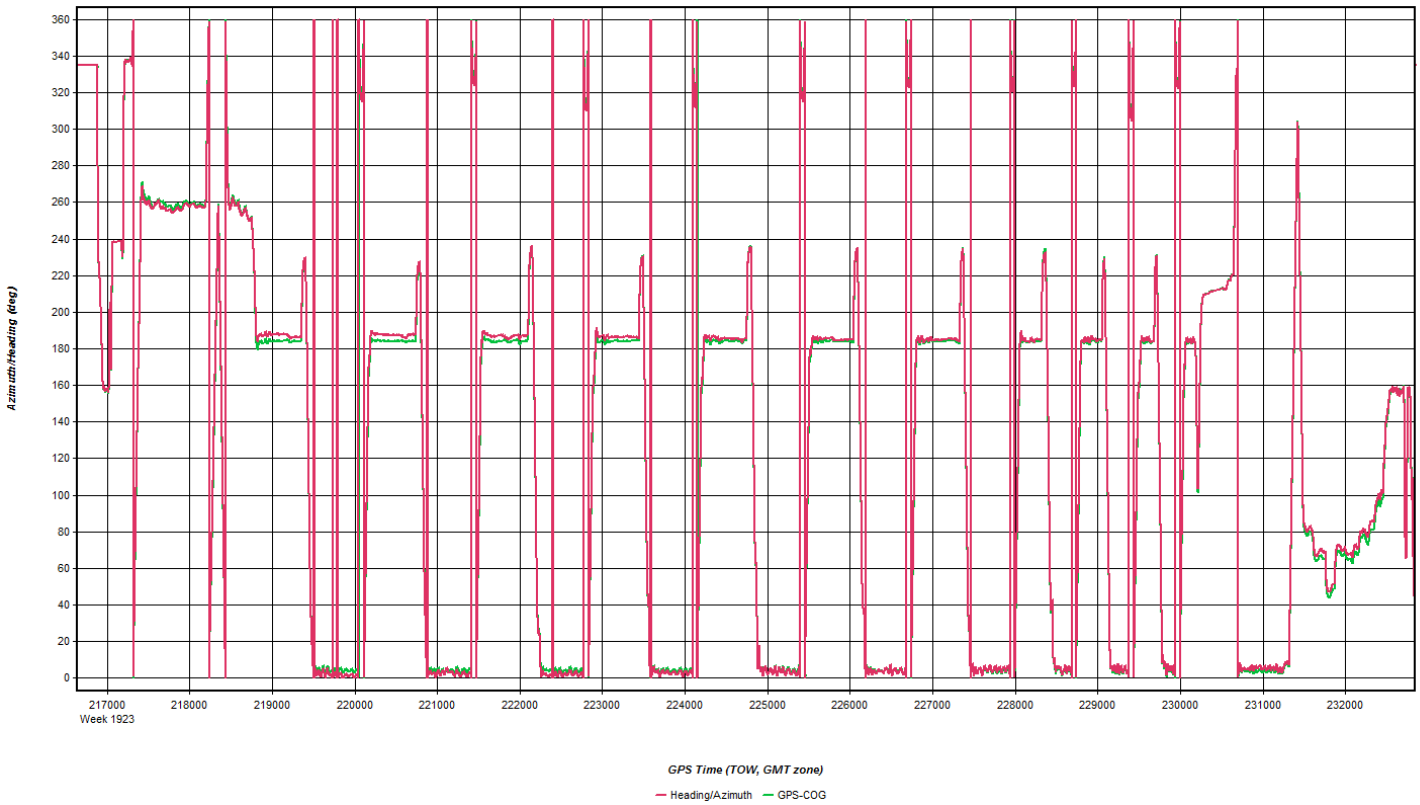
Page 1

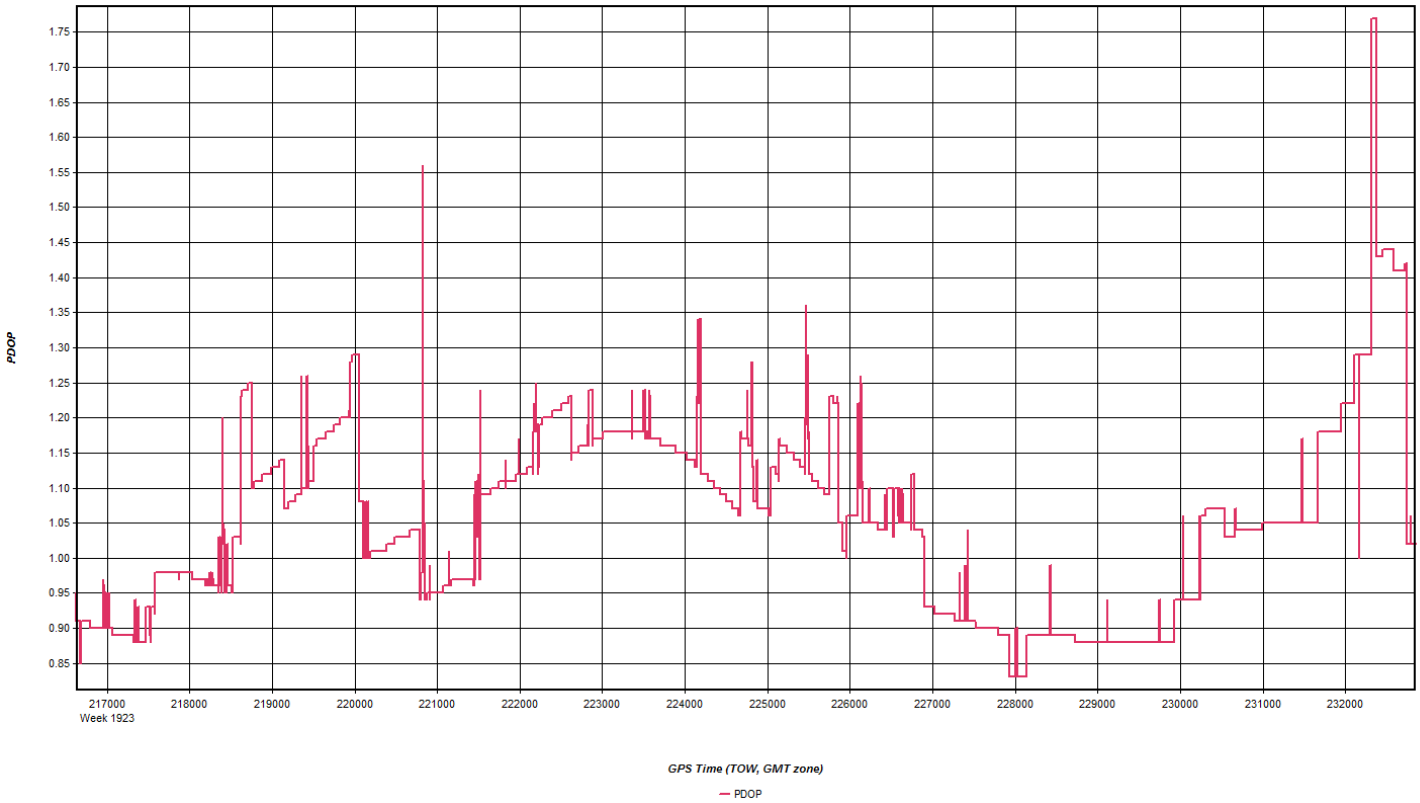
Nov 15, 2016-C (N4102J, SN7232)

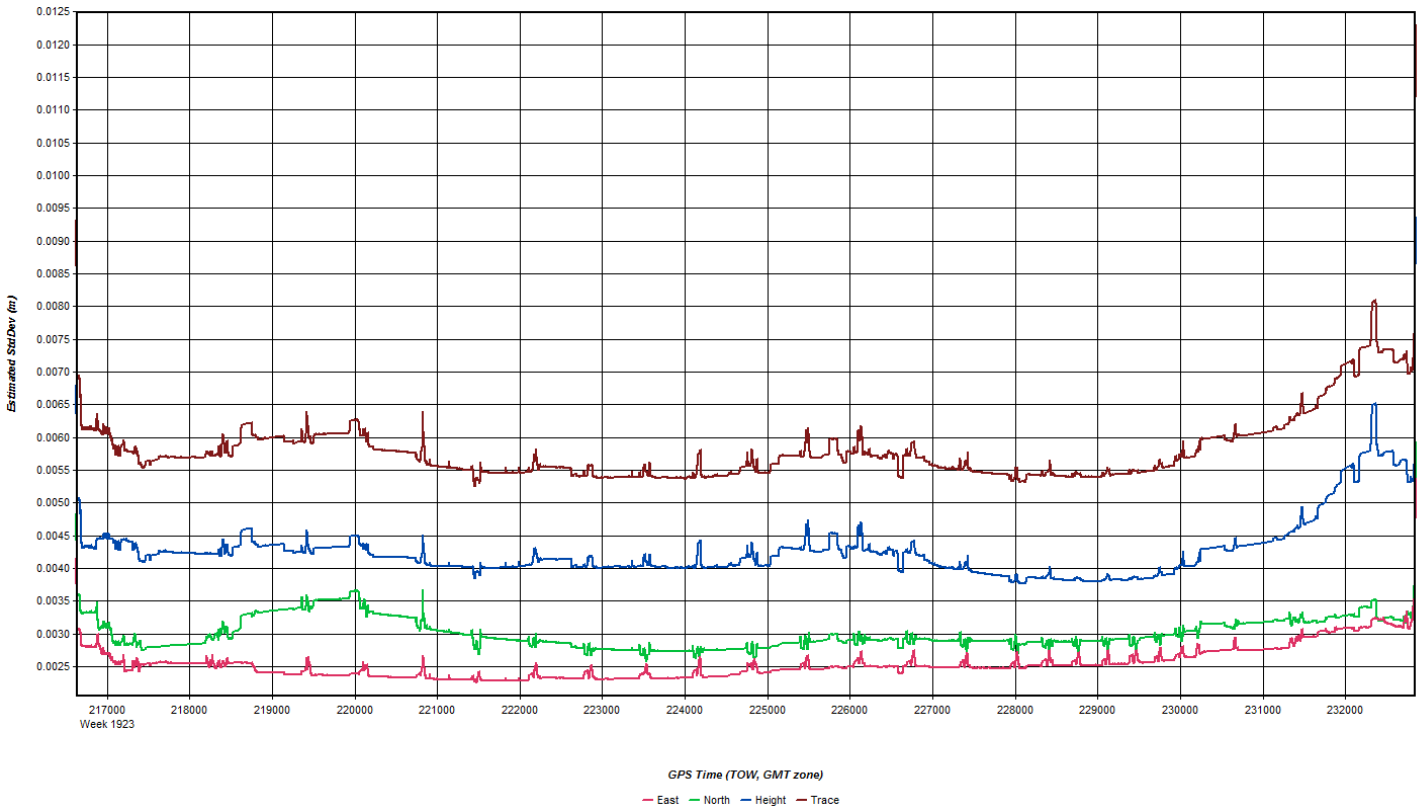

NYRD
NYRB
NYRE
5 km

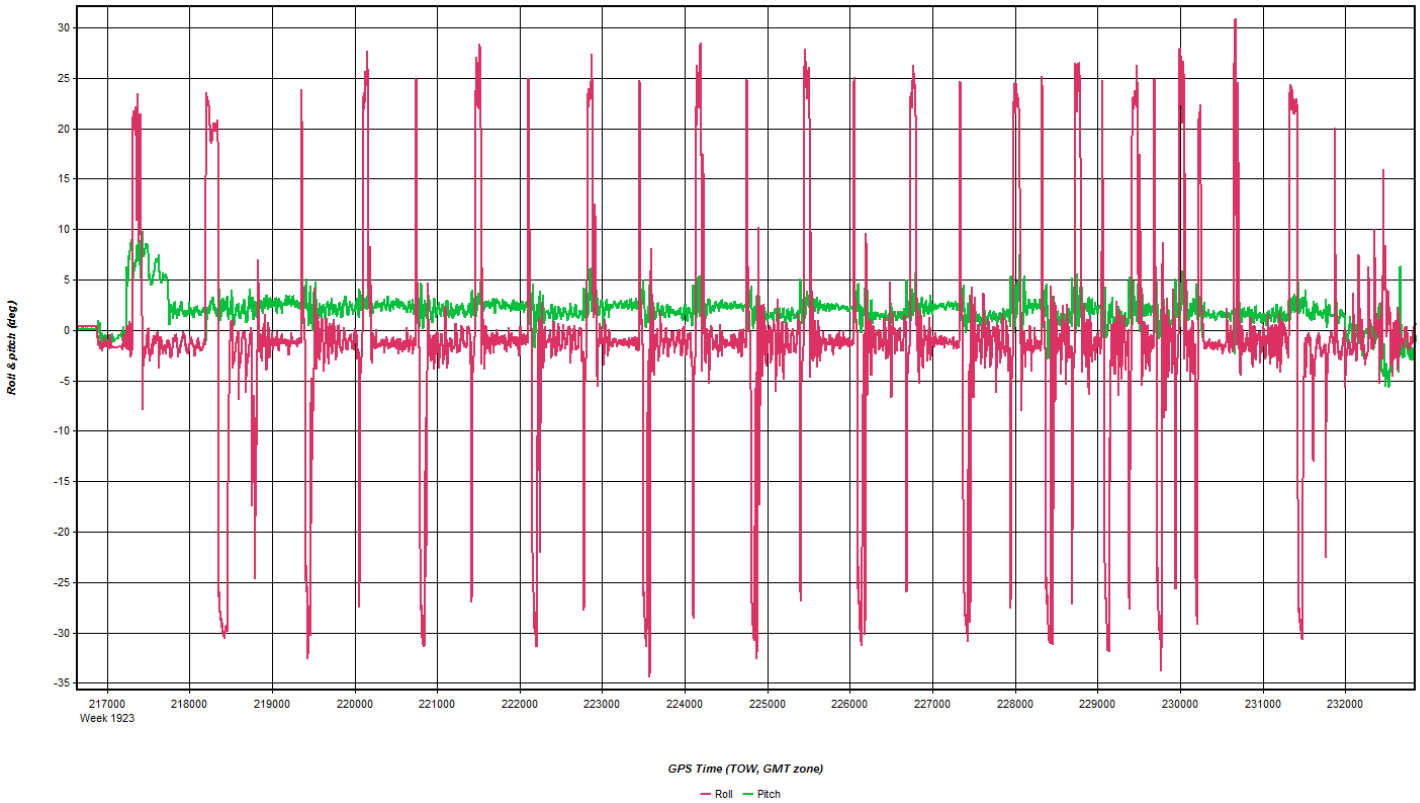

Num Sats
18
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
217000
Week 1923
218000
219000
220000
221000
222000
223000
224000
225000
226000
227000
228000
229000
230000
231000
232000
GPS Time (TOW, GMT zone)
Num Sats
GPS
GLONASS
BeiDou

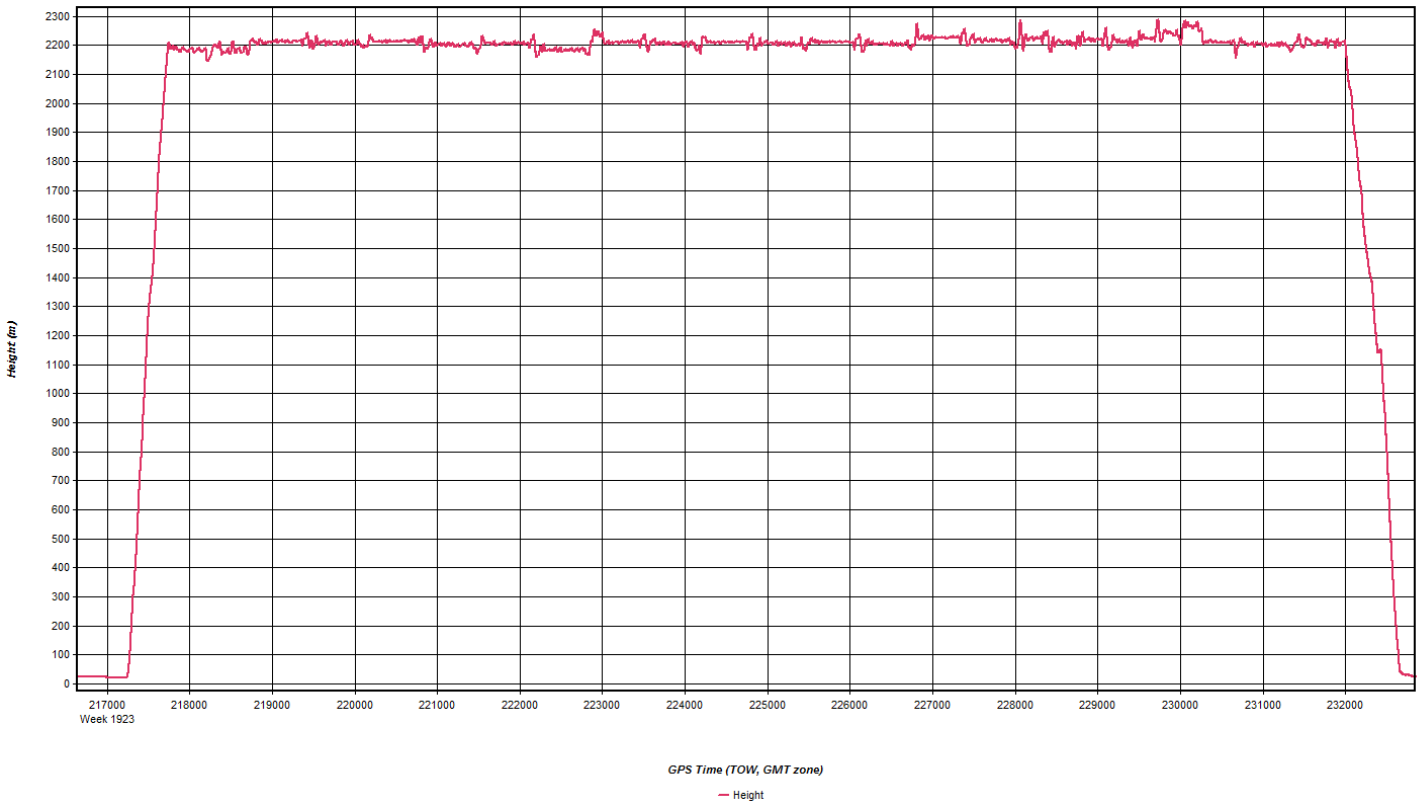

Separation (m)
0.05
0.04
0.03
0.02
0.01
-0.00
-0.01
-0.02
-0.03
-0.04
-0.05
-0.06
-0.07
-0.08
-0.09
-0.10
-0.11
-0.12
217000
Week 1923
218000
219000
220000
221000
222000
223000
224000
225000
226000
227000
228000
229000
230000
231000
232000
GPS Time (TOW, GMT zone)
East
North
Up

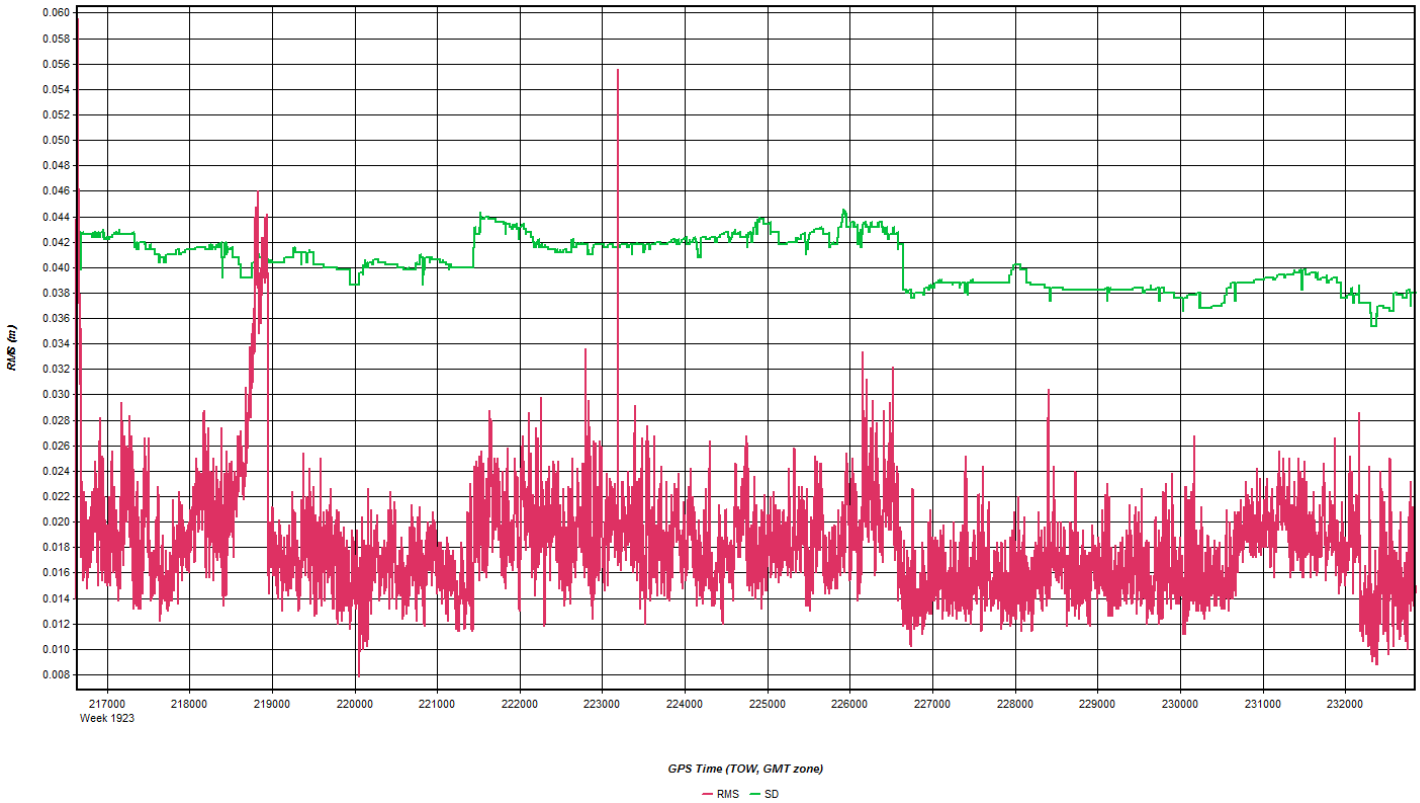

Azimuth/Heading (deg)
360
340
320
300
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
217000
Week 1923
218000
219000
220000
221000
222000
223000
224000
225000
226000
227000
228000
229000
230000
231000
232000
GPS Time (TOW, GMT zone)
Heading/Azimuth
GPS-COG

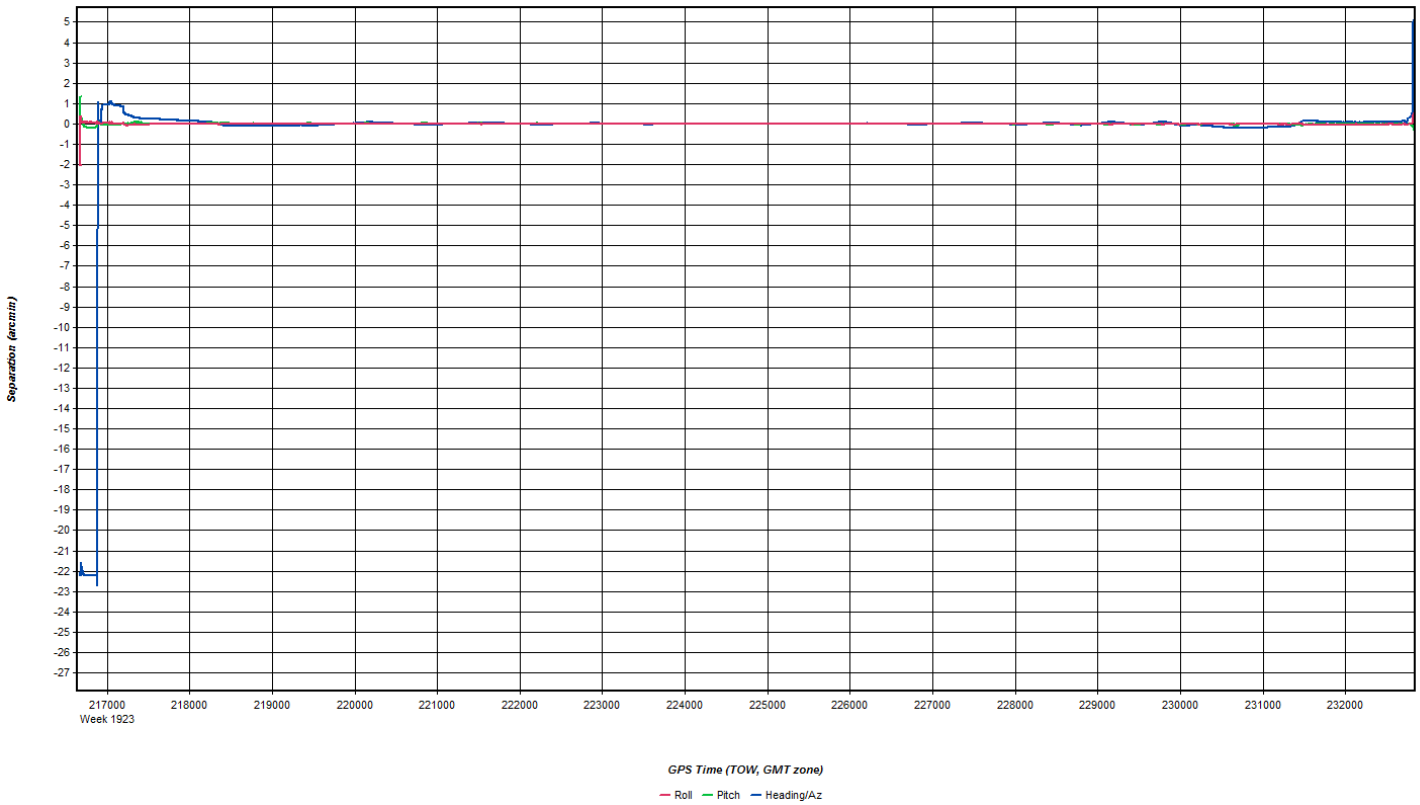

PDOP
1.75
1.70
1.65
1.60
1.55
1.50
1.45
1.40
1.35
1.30
1.25
1.20
1.15
1.10
1.05
1.00
0.95
0.90
0.85
217000
Week 1923
218000
219000
220000
221000
222000
223000
224000
225000
226000
227000
228000
229000
230000
231000
232000
GPS Time (TOW, GMT zone)
PDOP

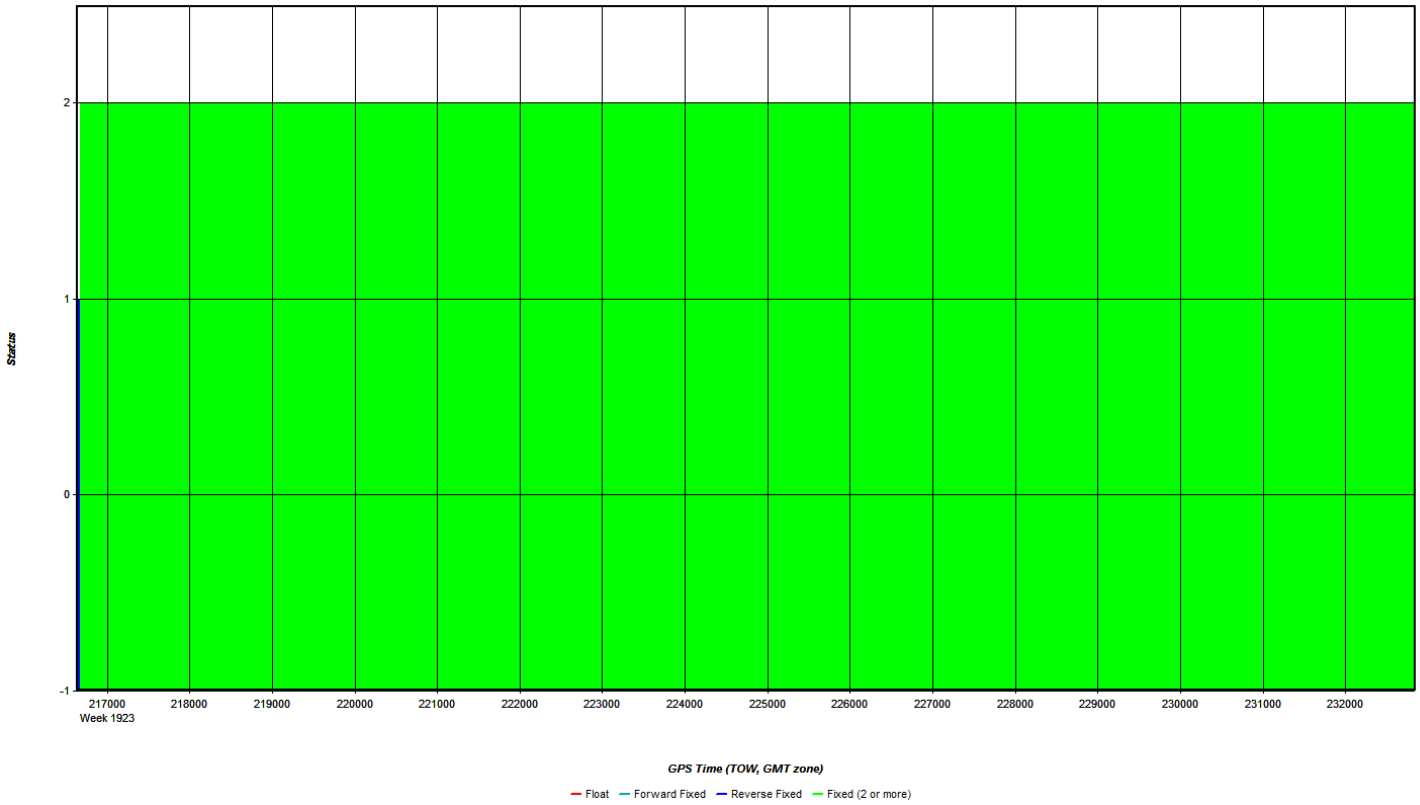

Estimated StdDev (m)
0.0125
0.0120
0.0115
0.0110
0.0105
0.0100
0.0095
0.0090
0.0085
0.0080
0.0075
0.0070
0.0065
0.0060
0.0055
0.0050
0.0045
0.0040
0.0035
0.0030
0.0025
217000
Week 1923
218000
219000
220000
221000
222000
223000
224000
225000
226000
227000
228000
229000
230000
231000
232000
GPS Time (TOW, GMT zone)
East
North
Height
Trace

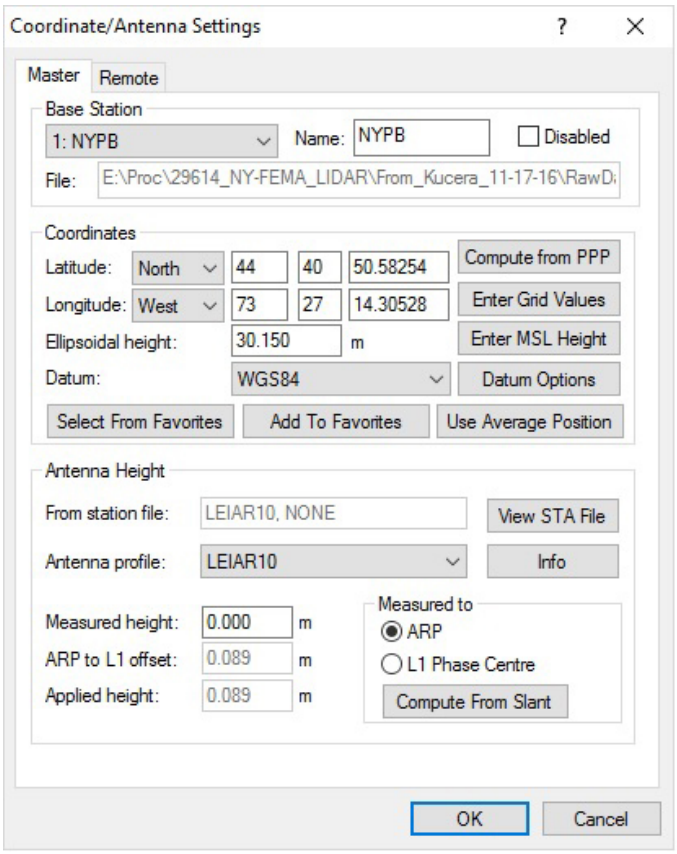

Roll & pitch (deg)
30
25
20
15
10
5
0
-5
-10
-15
-20
-25
-30
-35
217000
Week 1923
218000
219000
220000
221000
222000
223000
224000
225000
226000
227000
228000
229000
230000
231000
232000
GPS Time (TOW, GMT zone)
Roll
Pitch

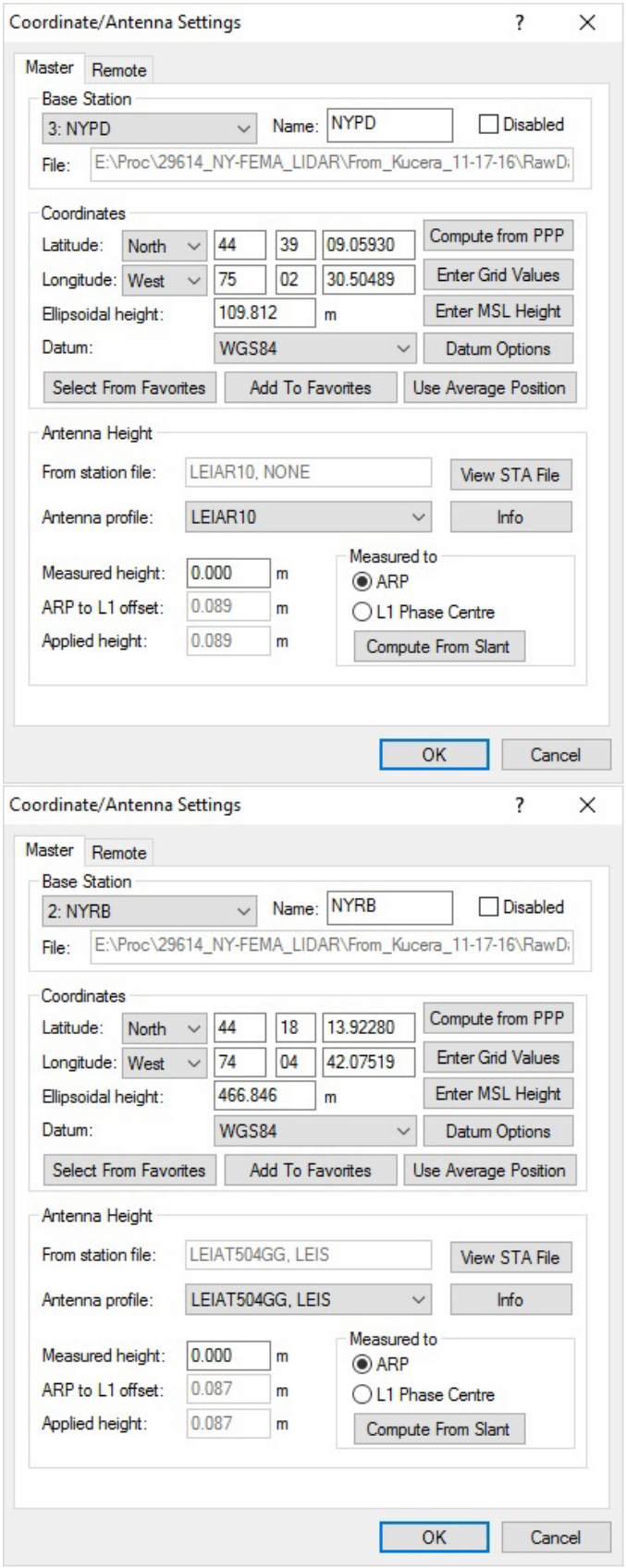

Height (m)
2300
2200
2100
2000
1900
1800
1700
1600
1500
1400
1300
1200
1100
1000
900
800
700
600
500
400
300
200
100
0
217000
Week 1923
218000
219000
220000
221000
222000
223000
224000
225000
226000
227000
228000
229000
230000
231000
232000
GPS Time (TOW, GMT zone)
Height


RMS (m)
0.060
0.058
0.056
0.054
0.052
0.050
0.048
0.046
0.044
0.042
0.040
0.038
0.036
0.034
0.032
0.030
0.028
0.026
0.024
0.022
0.020
0.018
0.016
0.014
0.012
0.010
0.008
217000
Week 1923
218000
219000
220000
221000
222000
223000
224000
225000
226000
227000
228000
229000
230000
231000
232000
GPS Time (TOW, GMT zone)
RMS
SD


Separation (arcmin)
5
4
3
2
1
0
-1
-2
-3
-4
-5
-6
-7
-8
-9
-10
-11
-12
-13
-14
-15
-16
-17
-18
-19
-20
-21
-22
-23
-24
-25
-26
-27
217000
Week 1923
218000
219000
220000
221000
222000
223000
224000
225000
226000
227000
228000
229000
230000
231000
232000
GPS Time (TOW, GMT zone)
Roll
Pitch
Heading/Az


Status
2
1
0
-1
217000
Week 1923
218000
219000
220000
221000
222000
223000
224000
225000
226000
227000
228000
229000
230000
231000
232000
GPS Time (TOW, GMT zone)
Float
Forward Fixed
Reverse Fixed
Fixed (2 or more)


Coordinate/Antenna Settings
Master
Remote
Base Station
1: NYPB
Name:
NYPB
Disabled
File:
E:\Proc\29614_NY-FEMA_LIDAR\From_Kucera_11-17-16\RawD
Coordinates
Latitude:
North
44
40
50.58254
Compute from PPP
Longitude:
West
73
27
14.30528
Enter Grid Values
Ellipsoidal height:
30.150
m
Enter MSL Height
Datum:
WGS84
Datum Options
Select From Favorites
Add To Favorites
Use Average Position
Antenna Height
From station file:
LEIAR10, NONE
View STA File
Antenna profile:
LEIAR10
Info
Measured height:
0.000
m
ARP to L1 offset:
0.089
m
Applied height:
0.089
m
Measured to
ARP
L1 Phase Centre
Compute From Slant
OK
Cancel


Coordinate/Antenna Settings
Master
Remote
Base Station
3: NYPD
Name: NYPD
Disabled
File: E:\Proc\29614_NY-FEMA_LIDAR\From_Kucera_11-17-16\RawD
Coordinates
Latitude: North 44 39 09.05930
Longitude: West 75 02 30.50489
Ellipsoidal height: 109.812 m
Datum: WGS84
Compute from PPP
Enter Grid Values
Enter MSL Height
Datum Options
Select From Favorites
Add To Favorites
Use Average Position
Antenna Height
From station file: LEIAR10, NONE
Antenna profile: LEIAR10
View STA File
Info
Measured height: 0.000 m
ARP to L1 offset: 0.089 m
Applied height: 0.089 m
Measured to
ARP
L1 Phase Centre
Compute From Slant
OK
Cancel
Coordinate/Antenna Settings
Master
Remote
Base Station
2: NYRB
Name: NYRB
Disabled
File: E:\Proc\29614_NY-FEMA_LIDAR\From_Kucera_11-17-16\RawD
Coordinates
Latitude: North 44 18 13.92280
Longitude: West 74 04 42.07519
Ellipsoidal height: 466.846 m
Datum: WGS84
Compute from PPP
Enter Grid Values
Enter MSL Height
Datum Options
Select From Favorites
Add To Favorites
Use Average Position
Antenna Height
From station file: LEIAT504GG, LEIS
Antenna profile: LEIAT504GG, LEIS
View STA File
Info
Measured height: 0.000 m
ARP to L1 offset: 0.087 m
Applied height: 0.087 m
Measured to
ARP
L1 Phase Centre
Compute From Slant
OK
Cancel

Flight Log

LiDAR

KUCERA INTERNATIONAL INC.

LiDAR FLIGHT REPORT

Revised Feb. 2014

	Pilot/Operator		*Tail Number*		*Sky conditions, light conditions, horizon, shadowing, visibility/haze, cloud types, wind, turbulence, etc..*
CREW	BS x2	**AIRCRAFT**	4102J	**WEATHER**	

mm/dd/yy
DATE 11/15/2016

LiDAR S/N
Camera System 7232

fwd/aft
Camera Location (Hole) fwd

Source
GPS fwd

	Time	*Location*
Start-up		
Shut-down		

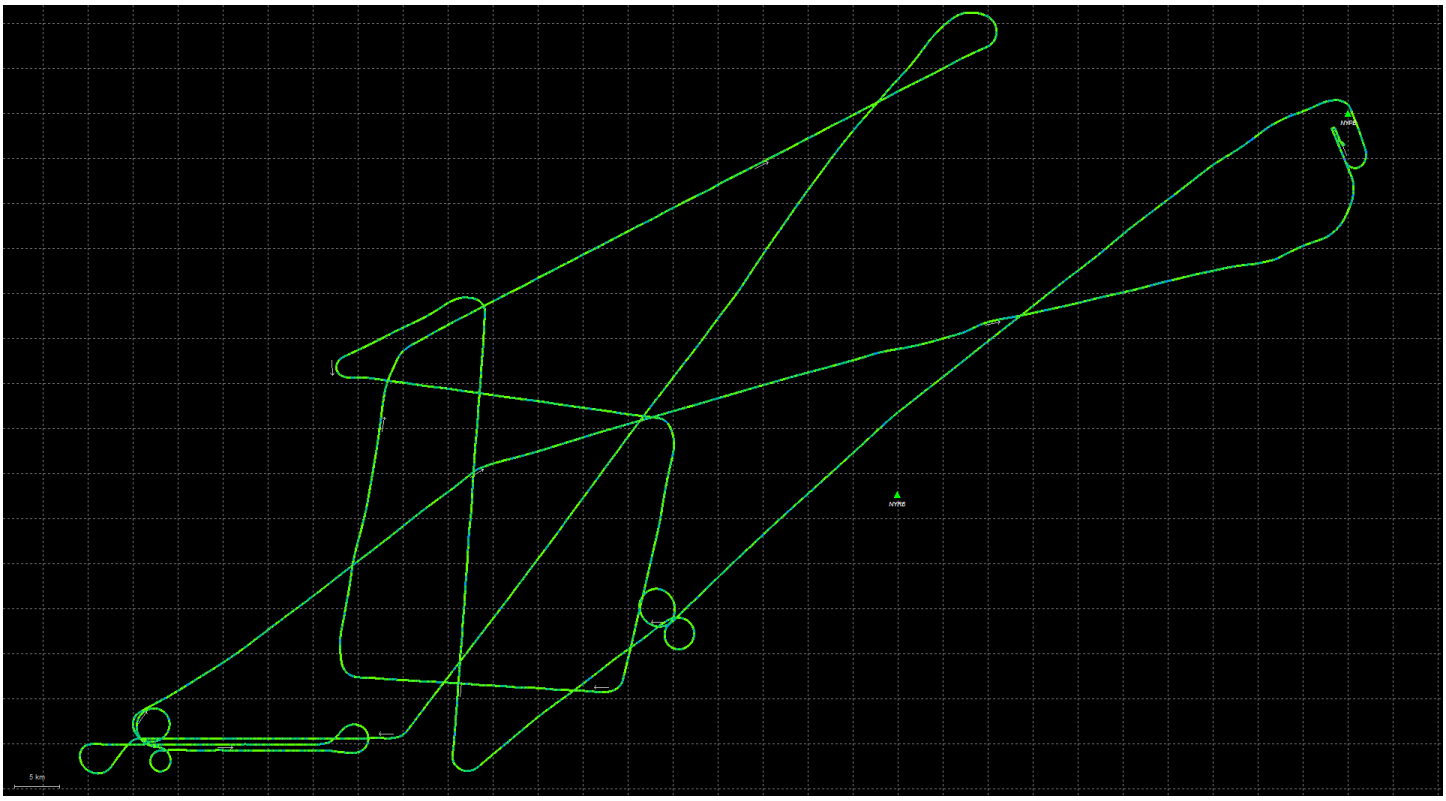
LiDAR STARTUP CHECKS	
Lens cleaned	
All fpds uploaded	
Pilot's screen functional	
Compact flash drive space	
SSDs have space	
Startup beeps & IPAS recording	
Initials:	BS

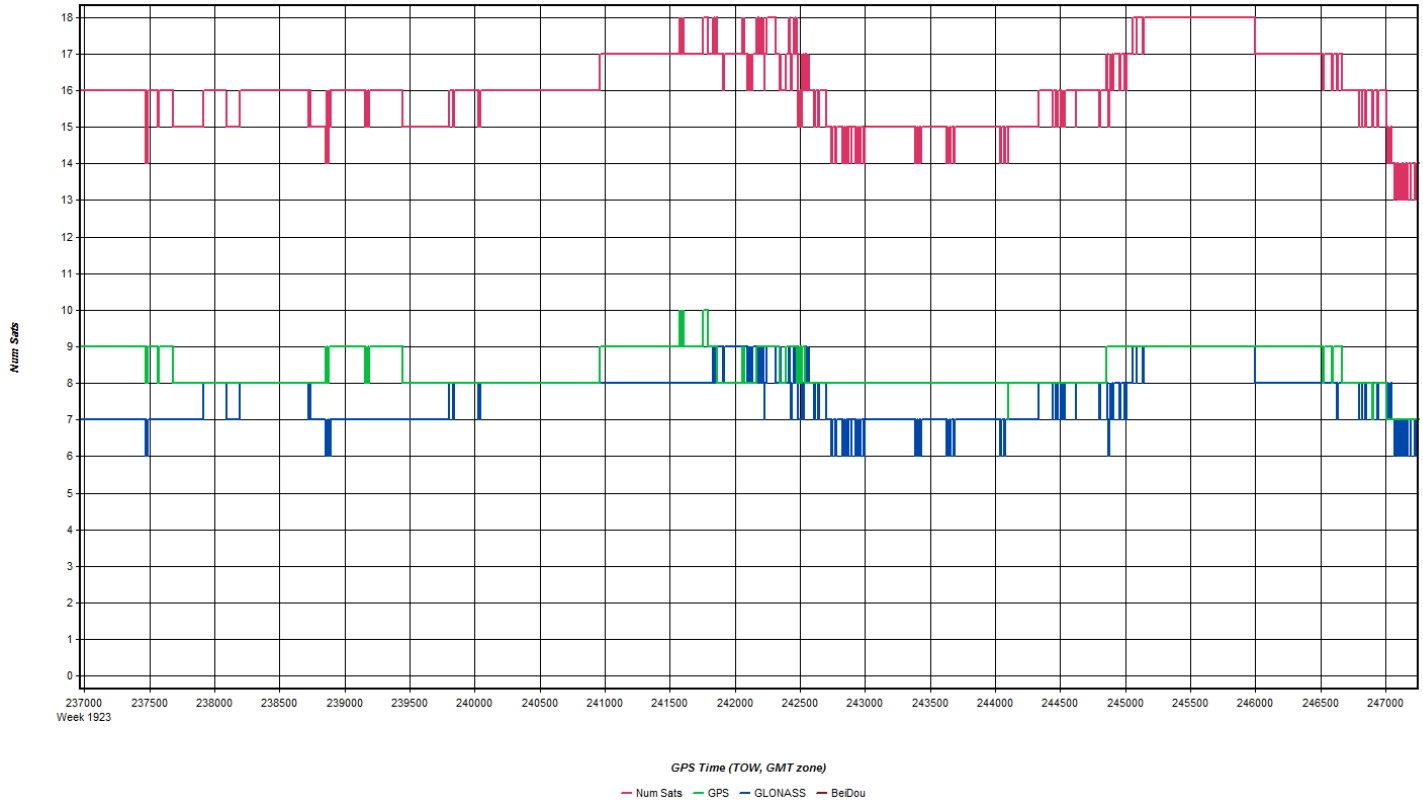
SSD
Drive #
6
Space Rem.
522

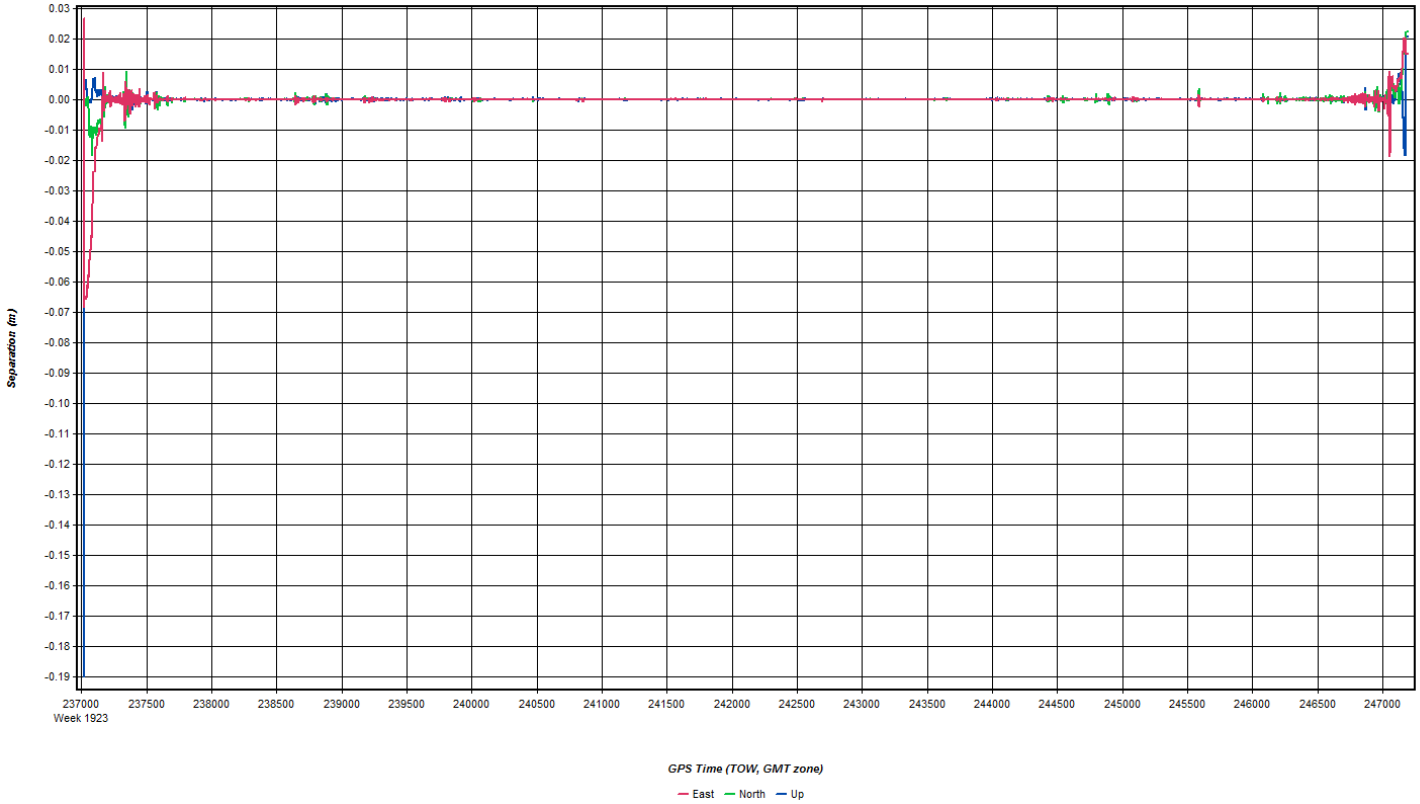
Job #	Location/ Site/Block	Line #	Flight Dir.	Crab Angle	Remarks
60686	NY	120	S	4-5	
		121	N	4-5	
		122	S	4-5	
		123	N	4-5	
		124	S	4-5	
		125	N	4-5	
		126	S		
		127	N		
		128	S		
		129	N		
		130	S	2-3	
		131	N		
		132	S		
		133	N		
		134	S		
		135	N		
		136	S		
		137	N		
		138	S		
		139	N		
		140	S		
		117	N		At the end of this line the system froze again and got the same error “System Clock is inaccurate” the system did unfreeze but the error message stayed, had to land for gas to finish everything up and refly this line again

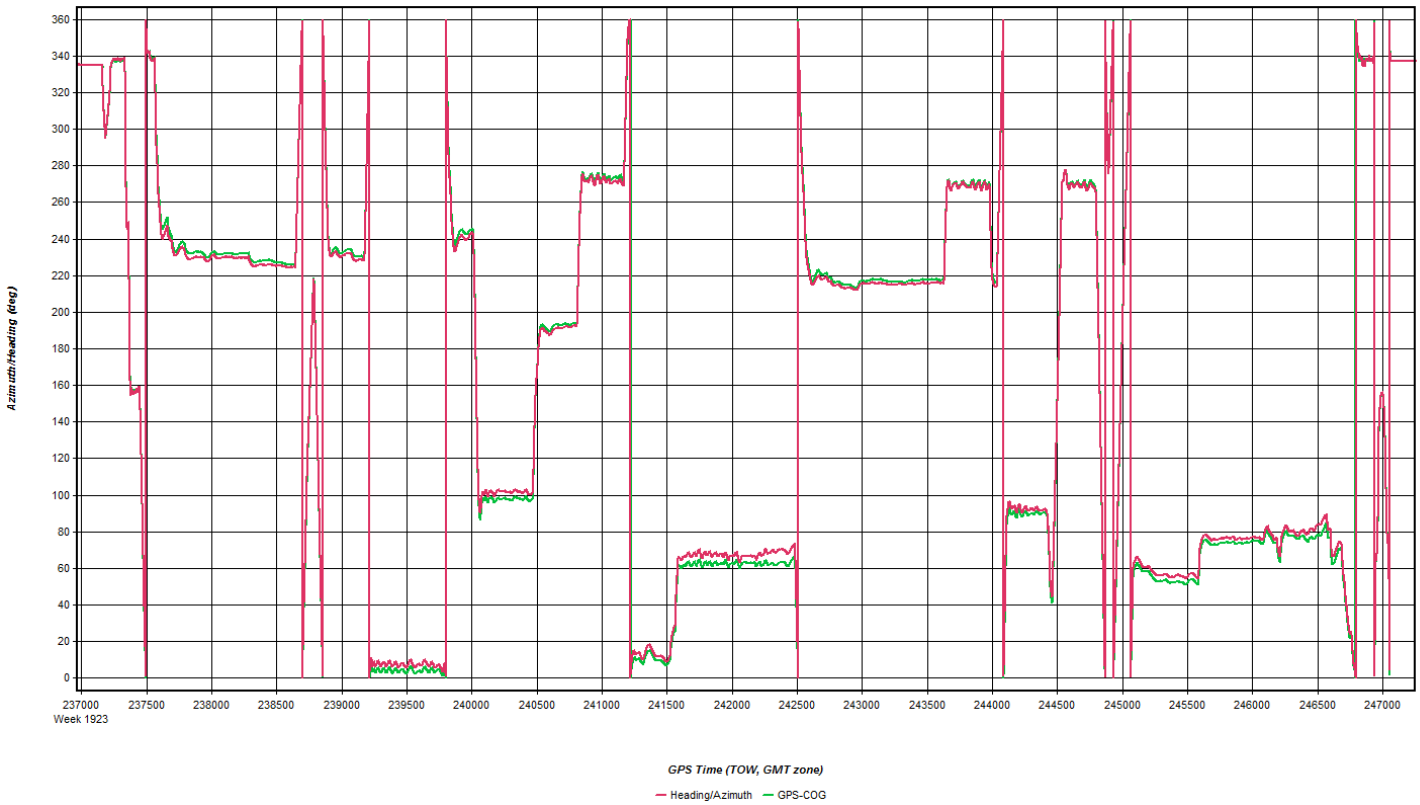
Page 1

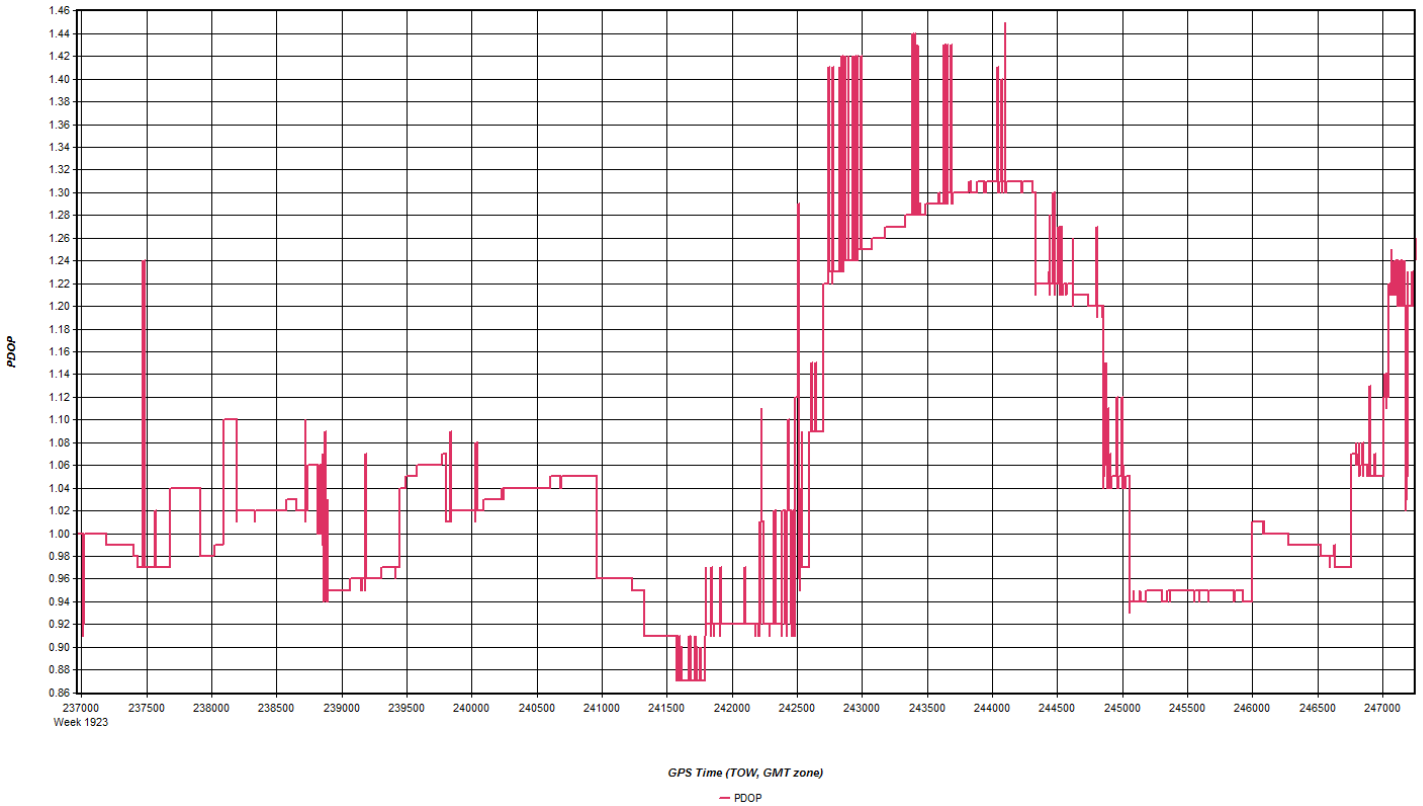
Nov 15, 2016-D (N4102J, SN7232)

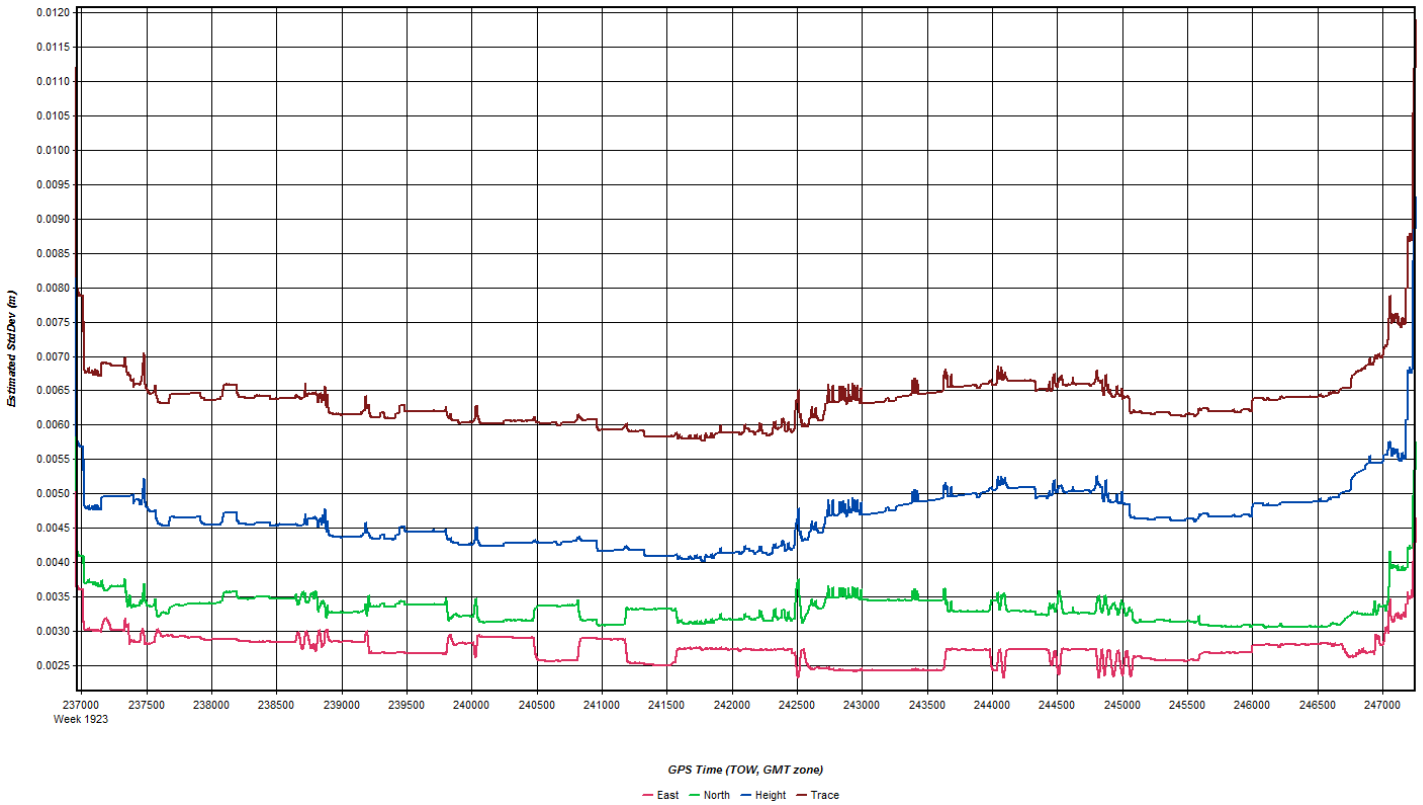

NYRS
NYRS
5 km

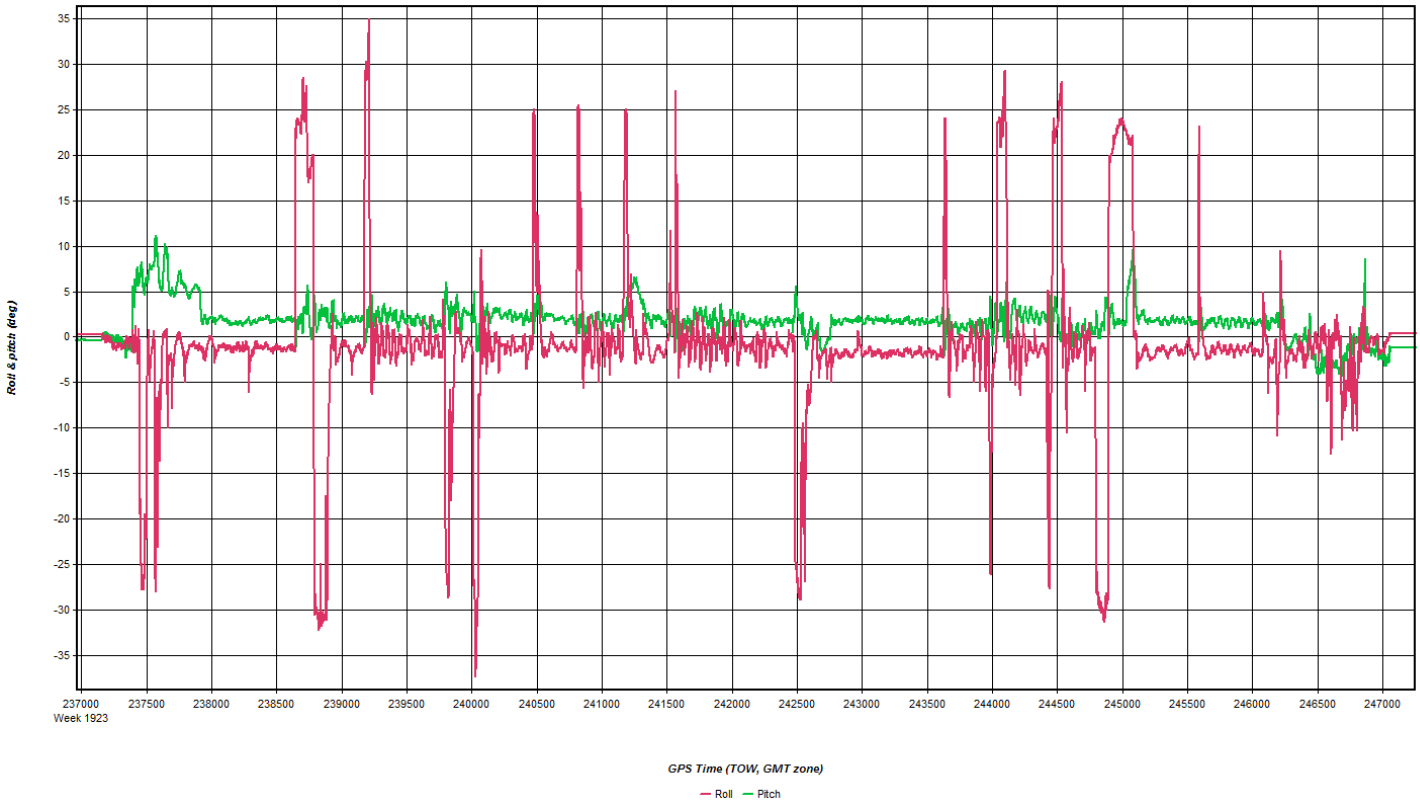

Num Sats
18
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
237000
Week 1923
237500
238000
238500
239000
239500
240000
240500
241000
241500
242000
242500
243000
243500
244000
244500
245000
245500
246000
246500
247000
GPS Time (TOW, GMT zone)
Num Sats
GPS
GLONASS
BeiDou

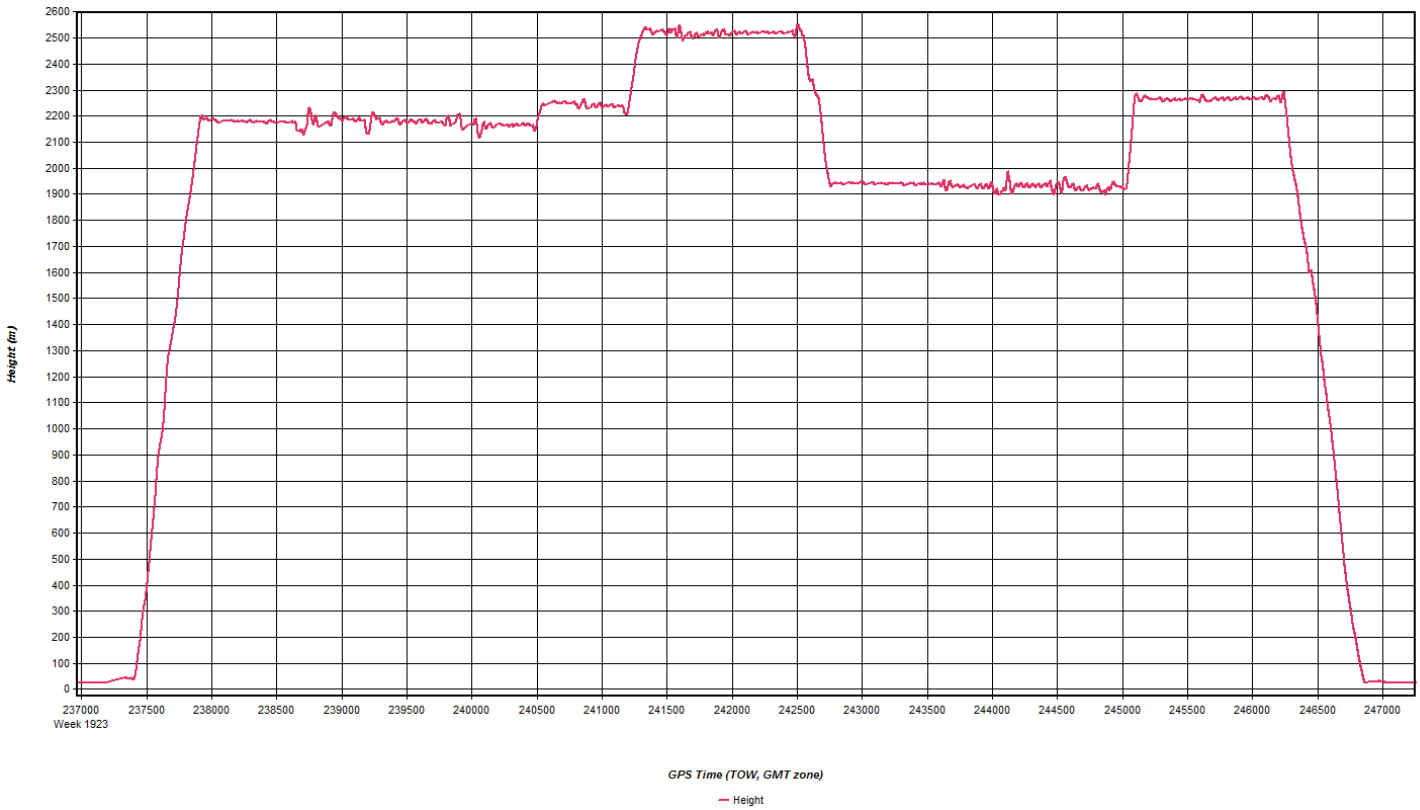

Separation (m)
0.03
0.02
0.01
0.00
-0.01
-0.02
-0.03
-0.04
-0.05
-0.06
-0.07
-0.08
-0.09
-0.10
-0.11
-0.12
-0.13
-0.14
-0.15
-0.16
-0.17
-0.18
-0.19
237000
Week 1923
237500
238000
238500
239000
239500
240000
240500
241000
241500
242000
242500
243000
243500
244000
244500
245000
245500
246000
246500
247000
GPS Time (TOW, GMT zone)
East
North
Up

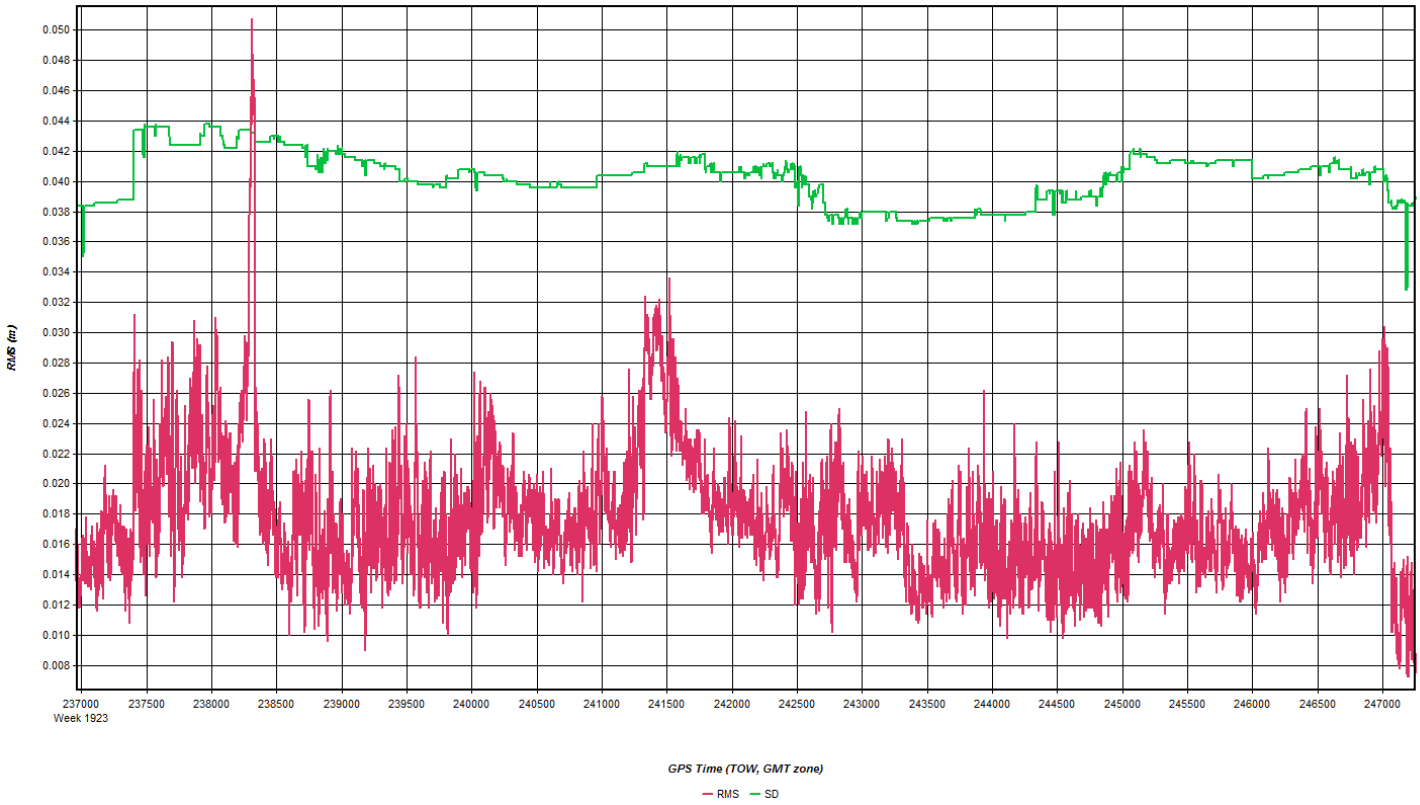

Azimuth/Heading (deg)
360
340
320
300
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
237000
Week 1923
237500
238000
238500
239000
239500
240000
240500
241000
241500
242000
242500
243000
243500
244000
244500
245000
245500
246000
246500
247000
GPS Time (TOW, GMT zone)
Heading/Azimuth
GPS-COG

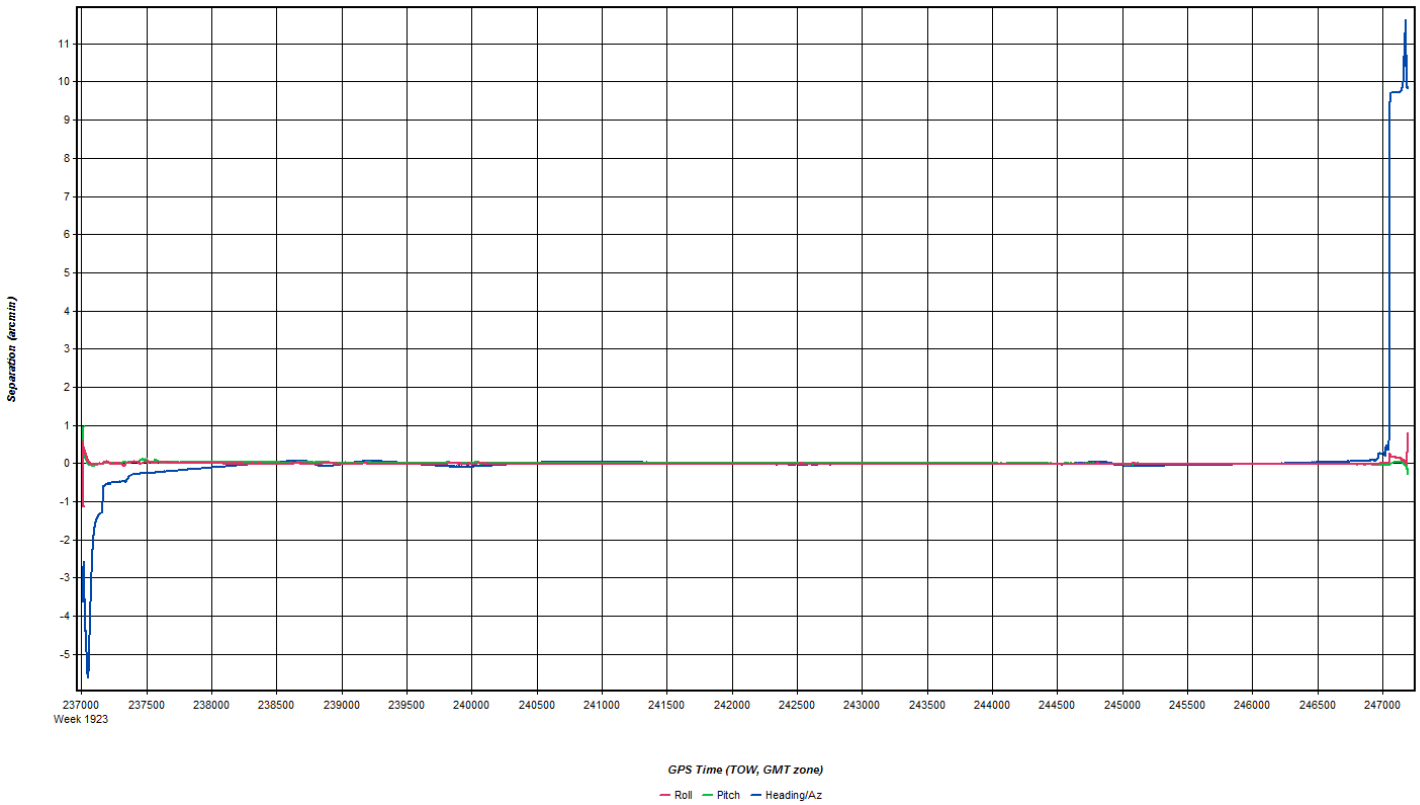

PDOP
1.46
1.44
1.42
1.40
1.38
1.36
1.34
1.32
1.30
1.28
1.26
1.24
1.22
1.20
1.18
1.16
1.14
1.12
1.10
1.08
1.06
1.04
1.02
1.00
0.98
0.96
0.94
0.92
0.90
0.88
0.86
237000
Week 1923
237500
238000
238500
239000
239500
240000
240500
241000
241500
242000
242500
243000
243500
244000
244500
245000
245500
246000
246500
247000
GPS Time (TOW, GMT zone)
PDOP

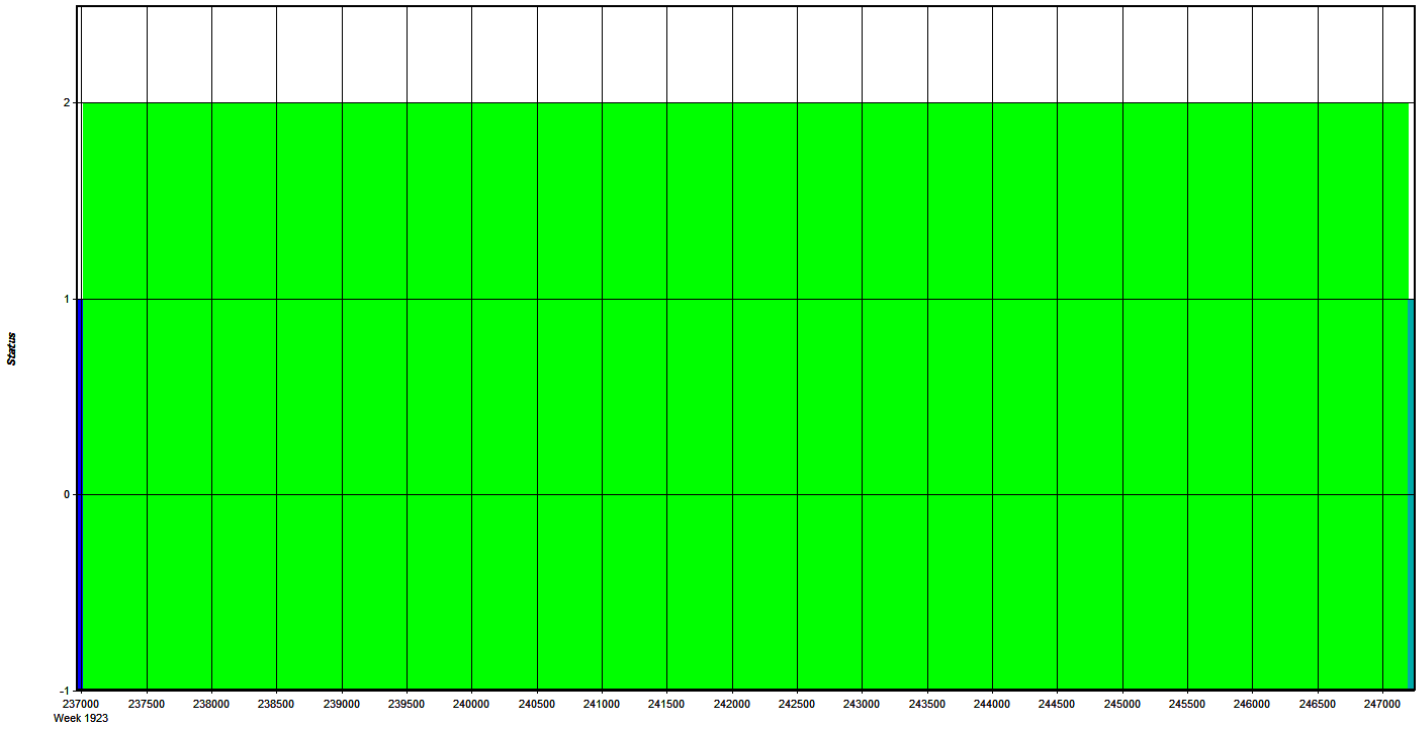

Estimated StdDev (m)
0.0120
0.0115
0.0110
0.0105
0.0100
0.0095
0.0090
0.0085
0.0080
0.0075
0.0070
0.0065
0.0060
0.0055
0.0050
0.0045
0.0040
0.0035
0.0030
0.0025
237000
Week 1923
237500
238000
238500
239000
239500
240000
240500
241000
241500
242000
242500
243000
243500
244000
244500
245000
245500
246000
246500
247000
GPS Time (TOW, GMT zone)
East
North
Height
Trace

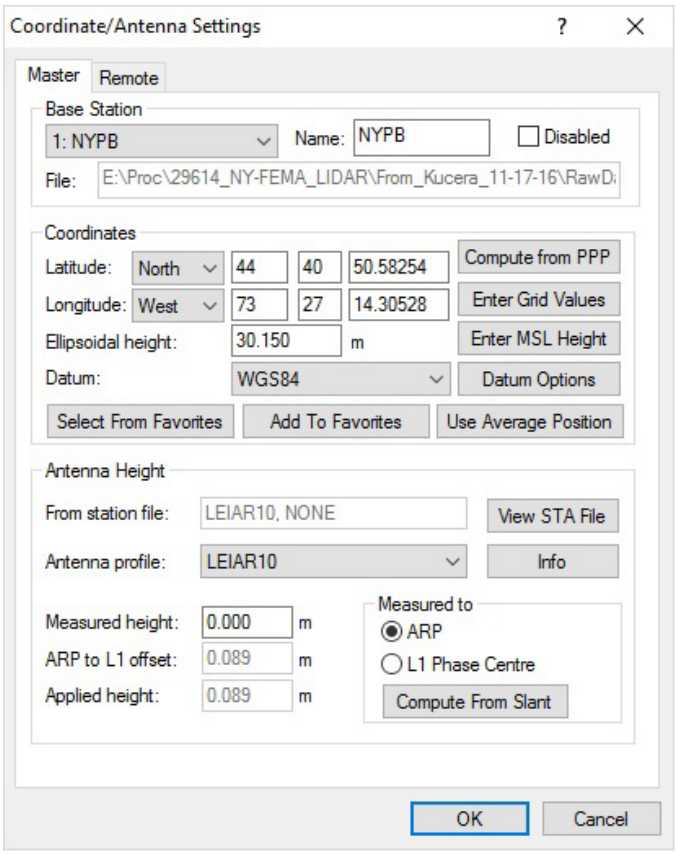

Roll & pitch (deg)
35
30
25
20
15
10
5
0
-5
-10
-15
-20
-25
-30
-35
237000
Week 1923
237500
238000
238500
239000
239500
240000
240500
241000
241500
242000
242500
243000
243500
244000
244500
245000
245500
246000
246500
247000
GPS Time (TOW, GMT zone)
Roll
Pitch

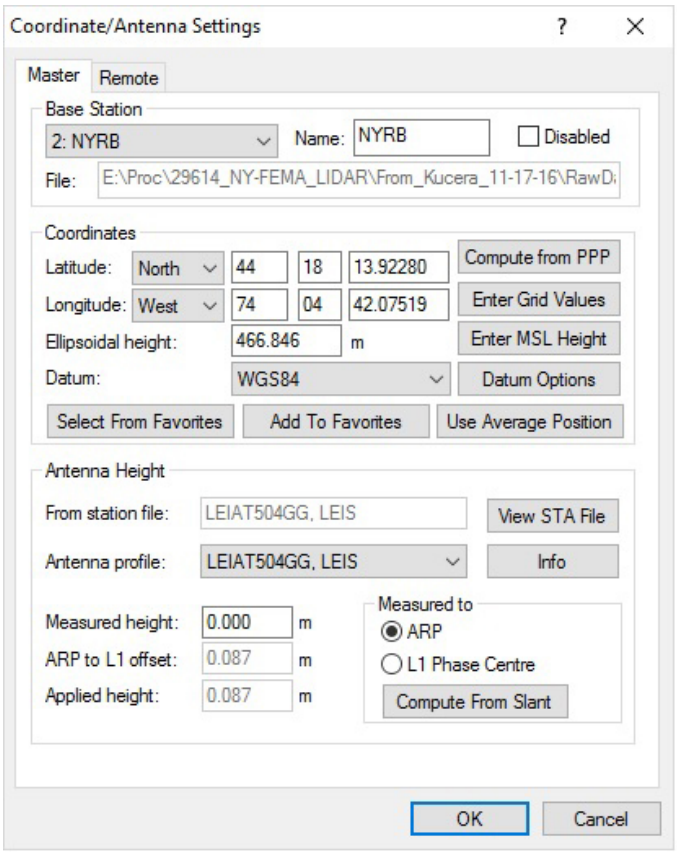

Height (m)
2600
2500
2400
2300
2200
2100
2000
1900
1800
1700
1600
1500
1400
1300
1200
1100
1000
900
800
700
600
500
400
300
200
100
0
237000
Week 1923
237500
238000
238500
239000
239500
240000
240500
241000
241500
242000
242500
243000
243500
244000
244500
245000
245500
246000
246500
247000
GPS Time (TOW, GMT zone)
Height


RMS (m)
0.050
0.048
0.046
0.044
0.042
0.040
0.038
0.036
0.034
0.032
0.030
0.028
0.026
0.024
0.022
0.020
0.018
0.016
0.014
0.012
0.010
0.008
237000
Week 1923
237500
238000
238500
239000
239500
240000
240500
241000
241500
242000
242500
243000
243500
244000
244500
245000
245500
246000
246500
247000
GPS Time (TOW, GMT zone)
RMS
SD


Separation (arcmin)
11
10
9
8
7
6
5
4
3
2
1
0
-1
-2
-3
-4
-5
237000
Week 1923
237500
238000
238500
239000
239500
240000
240500
241000
241500
242000
242500
243000
243500
244000
244500
245000
245500
246000
246500
247000
GPS Time (TOW, GMT zone)
Roll
Pitch
Heading/Az


Status
2
1
0
-1
237000
Week 1923
237500
238000
238500
239000
239500
240000
240500
241000
241500
242000
242500
243000
243500
244000
244500
245000
245500
246000
246500
247000
GPS Time (TOW, GMT zone)
Float
Forward Fixed
Reverse Fixed
Fixed (2 or more)


Coordinate/Antenna Settings
Master
Remote
Base Station
1: NYPB
Name:
NYPB
Disabled
File:
E:\Proc\29614_NY-FEMA_LIDAR\From_Kucera_11-17-16\RawD
Coordinates
Latitude:
North
44
40
50.58254
Compute from PPP
Longitude:
West
73
27
14.30528
Enter Grid Values
Ellipsoidal height:
30.150
m
Enter MSL Height
Datum:
WGS84
Datum Options
Select From Favorites
Add To Favorites
Use Average Position
Antenna Height
From station file:
LEIAR10, NONE
View STA File
Antenna profile:
LEIAR10
Info
Measured height:
0.000
m
ARP to L1 offset:
0.089
m
Applied height:
0.089
m
Measured to
ARP
L1 Phase Centre
Compute From Slant
OK
Cancel


Coordinate/Antenna Settings
Master
Remote
Base Station
2: NYRB
Name: NYRB
Disabled
File: E:\Proc\29614_NY-FEMA_LIDAR\From_Kucera_11-17-16\RawD
Coordinates
Latitude: North 44 18 13.92280
Longitude: West 74 04 42.07519
Ellipsoidal height: 466.846 m
Datum: WGS84
Compute from PPP
Enter Grid Values
Enter MSL Height
Datum Options
Select From Favorites
Add To Favorites
Use Average Position
Antenna Height
From station file: LEIAT504GG, LEIS
View STA File
Antenna profile: LEIAT504GG, LEIS
Info
Measured height: 0.000 m
ARP to L1 offset: 0.087 m
Applied height: 0.087 m
Measured to
ARP
L1 Phase Centre
Compute From Slant
OK
Cancel

Flight Log

LiDAR

KUCERA INTERNATIONAL INC.

LiDAR FLIGHT REPORT

Revised Feb. 2014

	Pilot/Operator		*Tail Number*		*Sky conditions, light conditions, horizon, shadowing, visibility/haze, cloud types, wind, turbulence, etc..*
CREW	BS x2	**AIRCRAFT**	4102J	**WEATHER**	

mm/dd/yy
DATE 11/15/2016

LiDAR S/N
Camera System 7232

fwd/aft
Camera Location (Hole) fwd

Source
GPS fwd

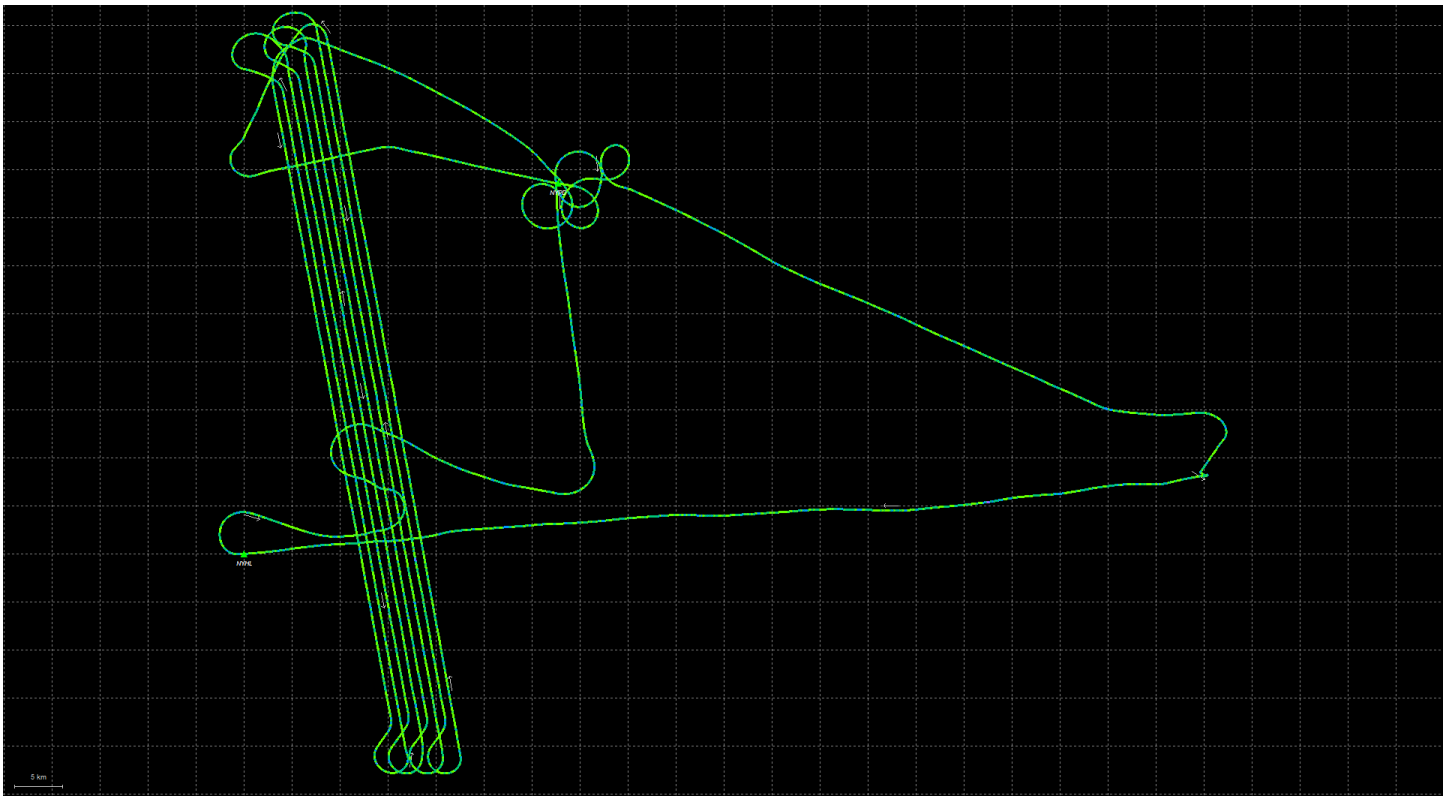
	Time	*Location*
Start-up		
Shut-down		

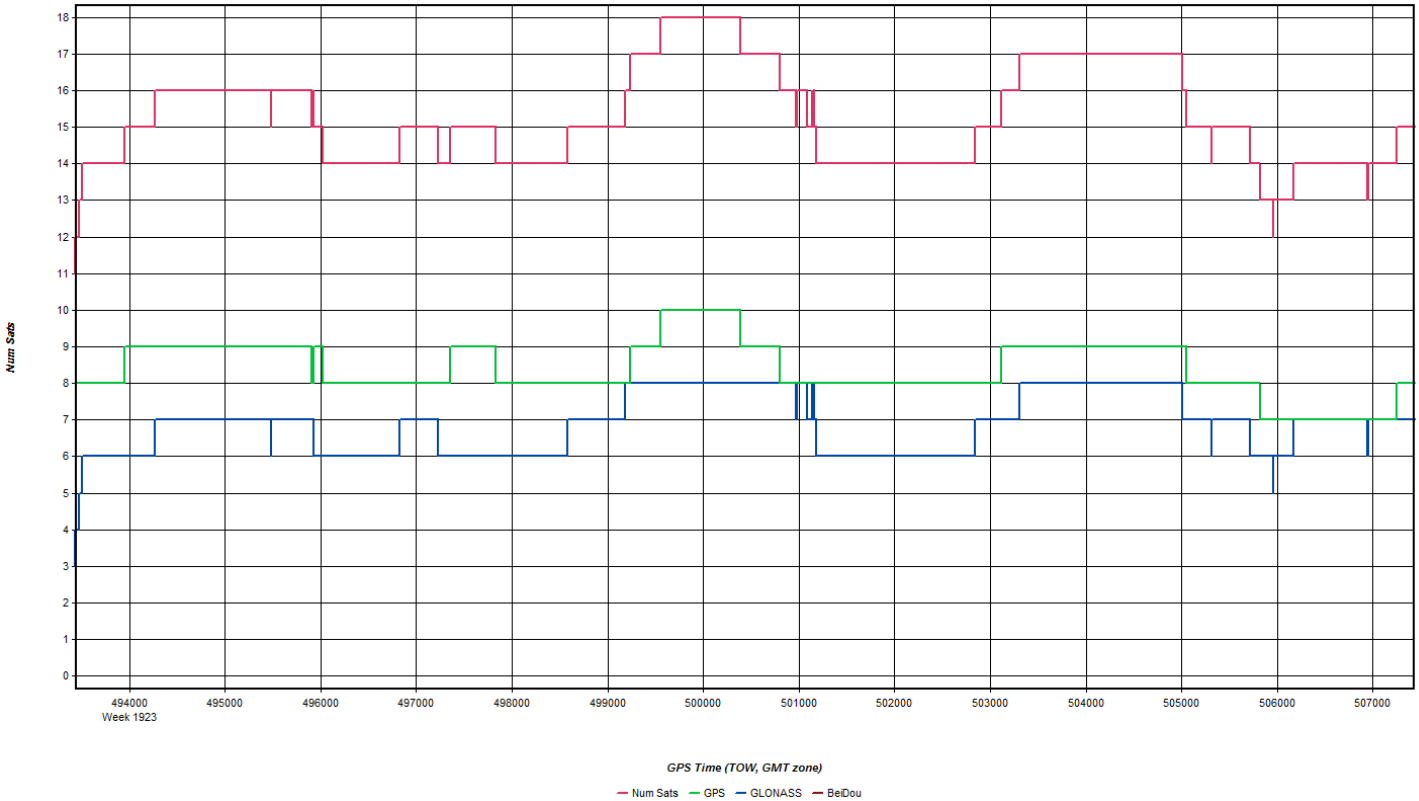
LiDAR STARTUP CHECKS	
Lens cleaned	
All fpds uploaded	
Pilot's screen functional	
Compact flash drive space	
SSDs have space	
Startup beeps & IPAS recording	
Initials:	BS

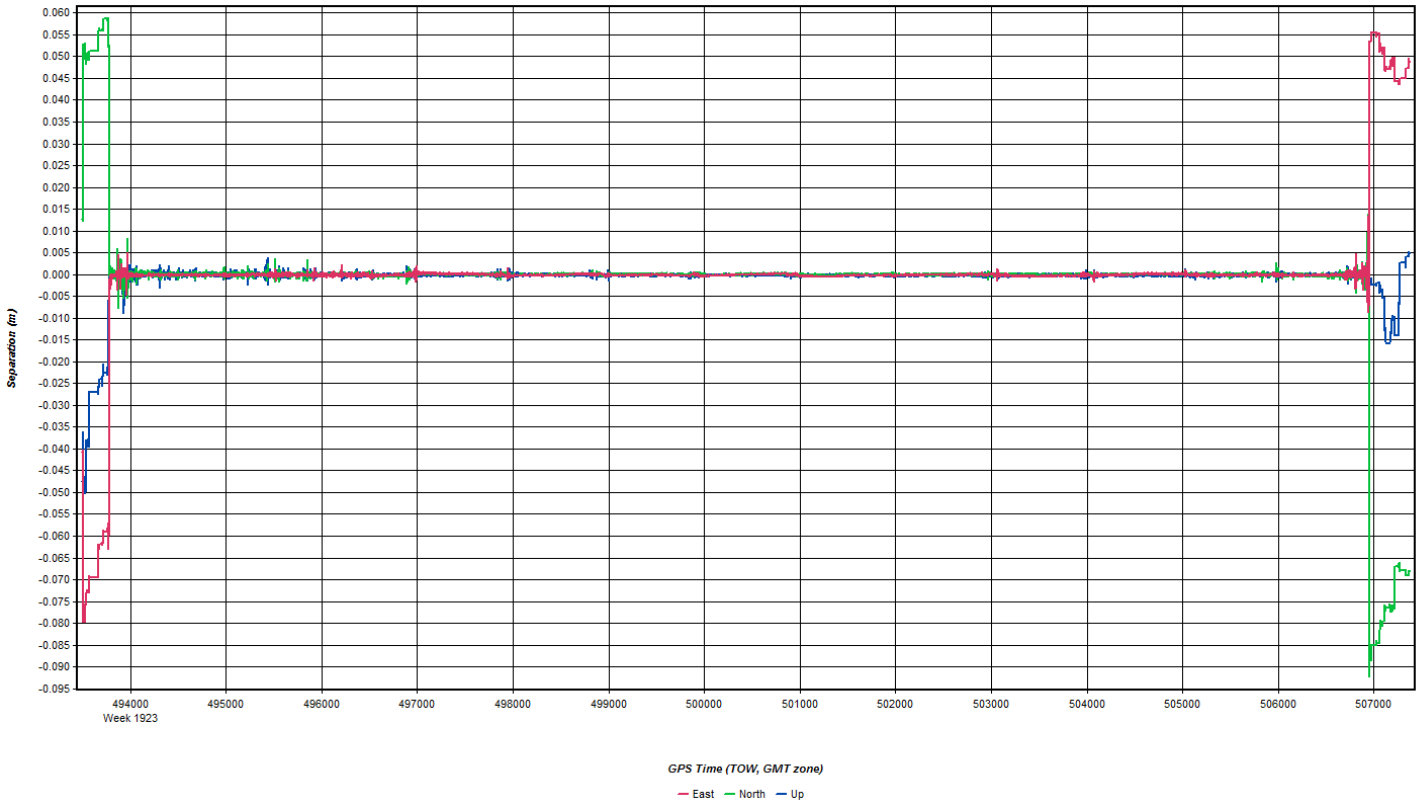
SSD
Drive #
6
Space Rem.
464

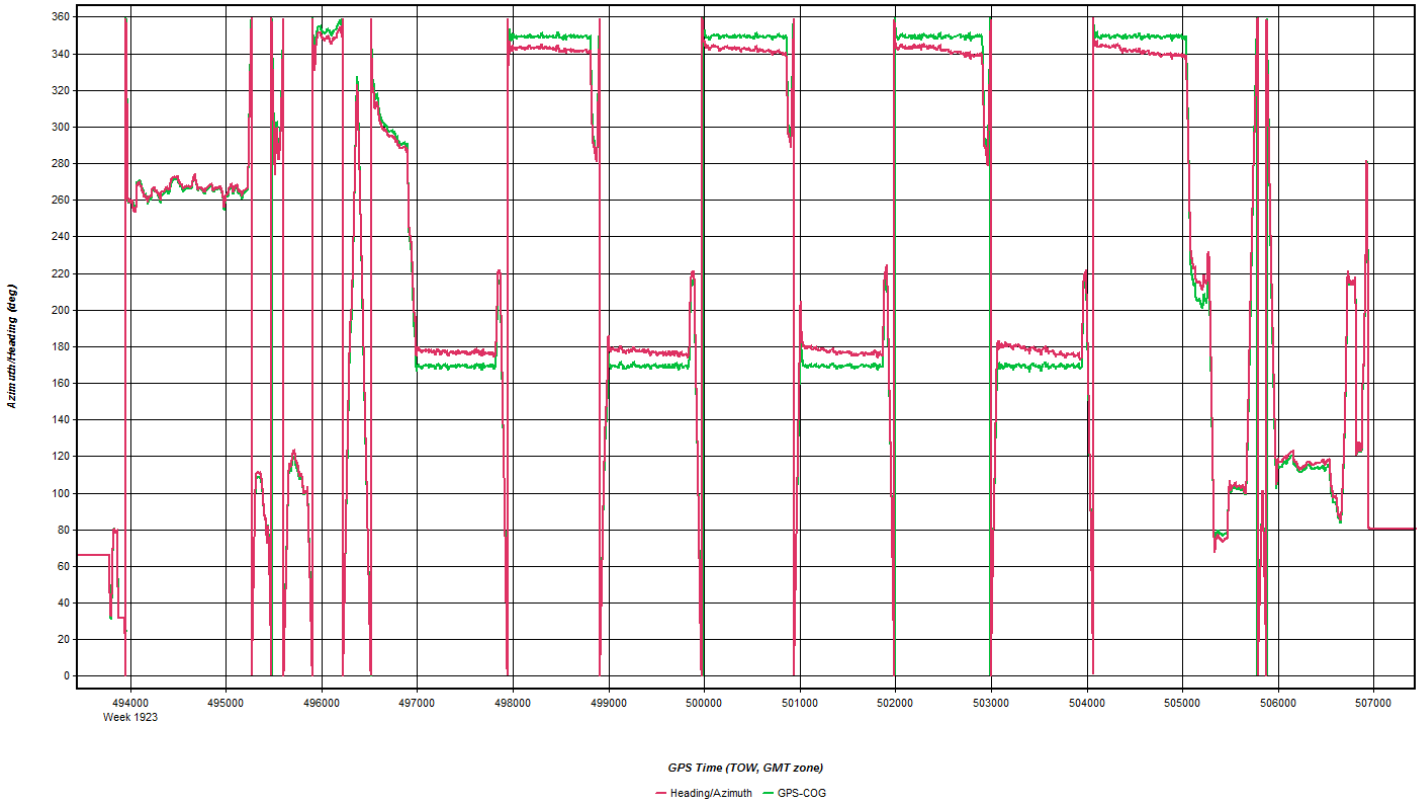
Job #	Location/ Site/Block	Line #	Flight Dir.	Crab Angle	Remarks
60686	NY	117	N		
		141	E		
		142	W		
		75	E		
60686	NY PAR	200	W		Graph is showin the terrain higher then it should be but nothing below us, not throwing any errors or warnings
		201	E		
		202	W		

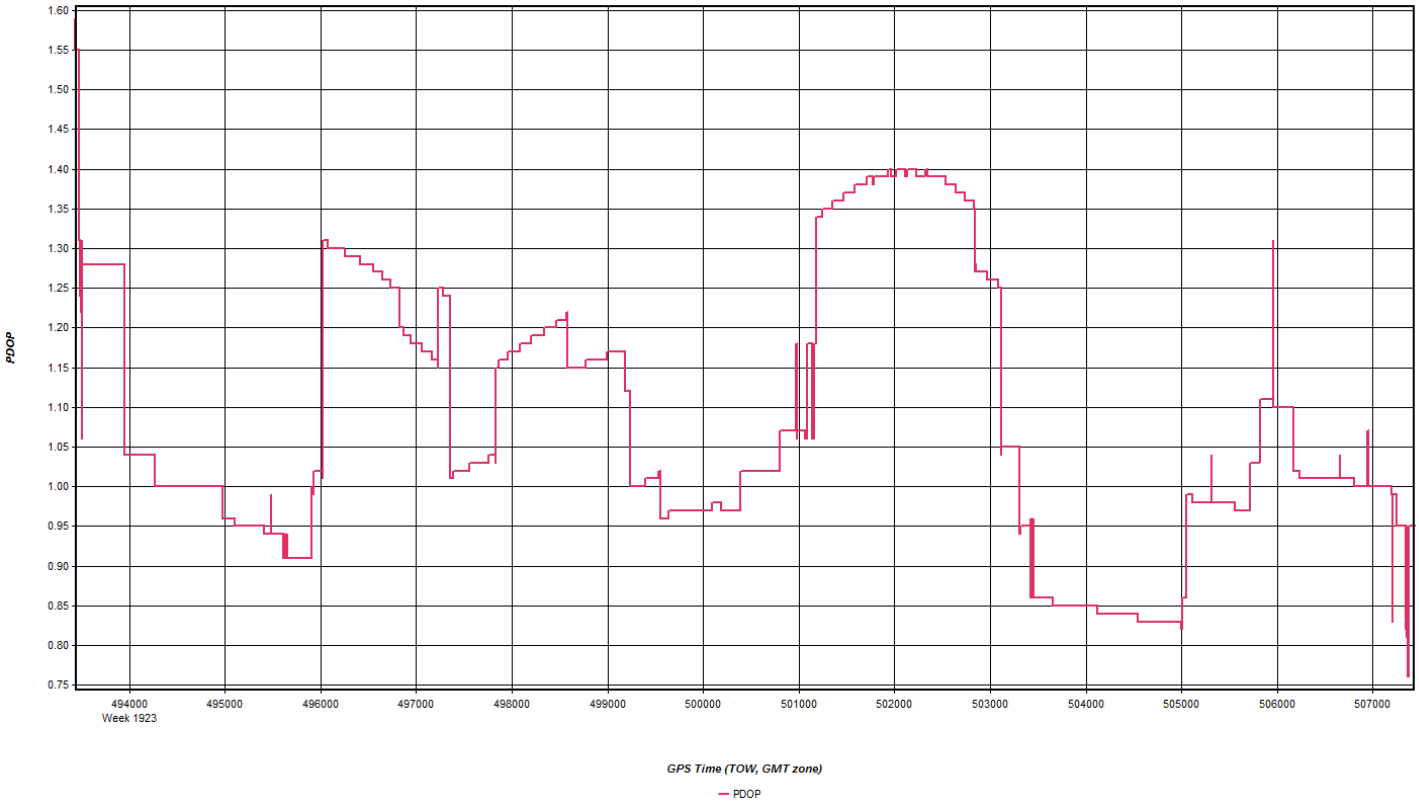
Nov 18, 2016-A (N73TM, SN7178)

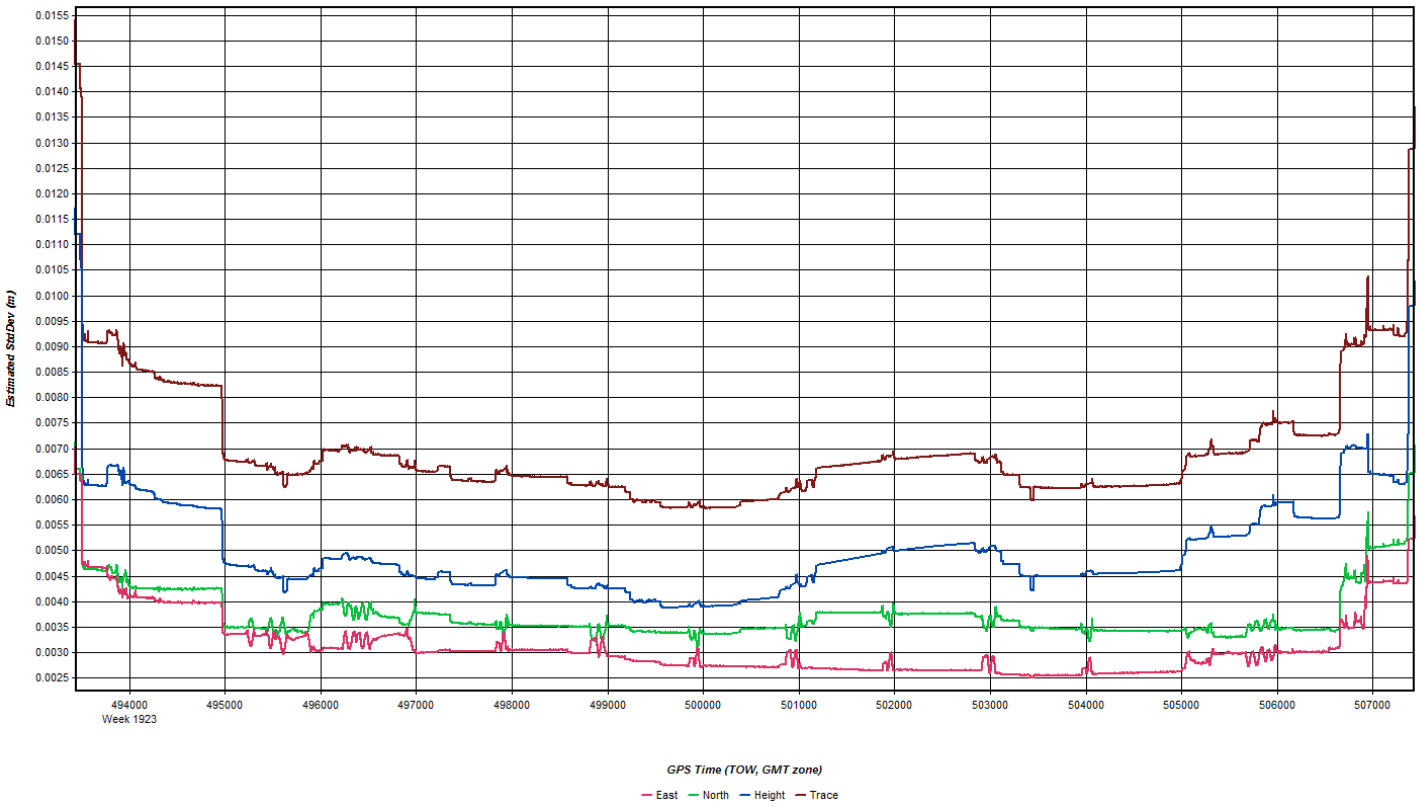


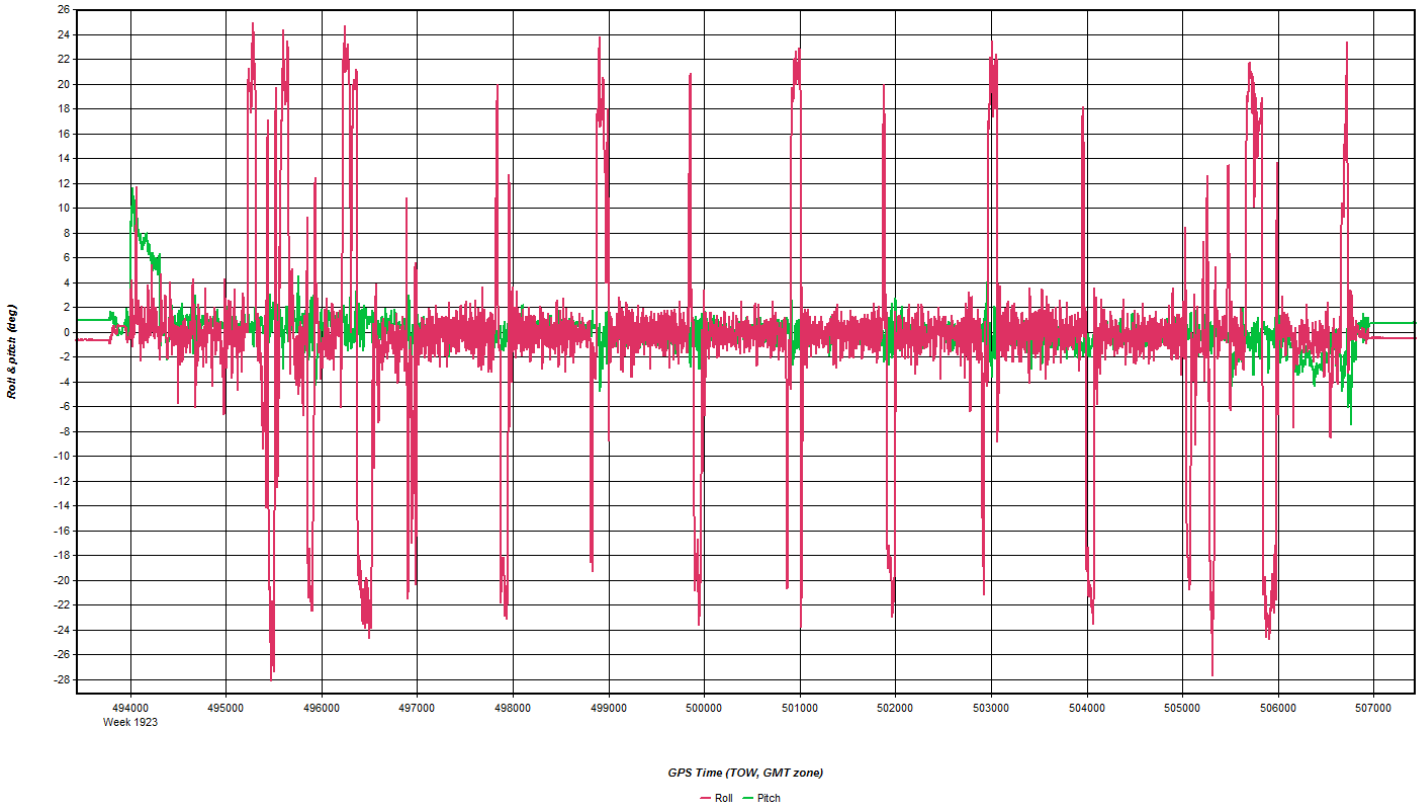

Num Sats
18
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
494000
Week 1923
495000
496000
497000
498000
499000
500000
501000
502000
503000
504000
505000
506000
507000
GPS Time (TOW, GMT zone)
Num Sats
GPS
GLONASS
BeiDou

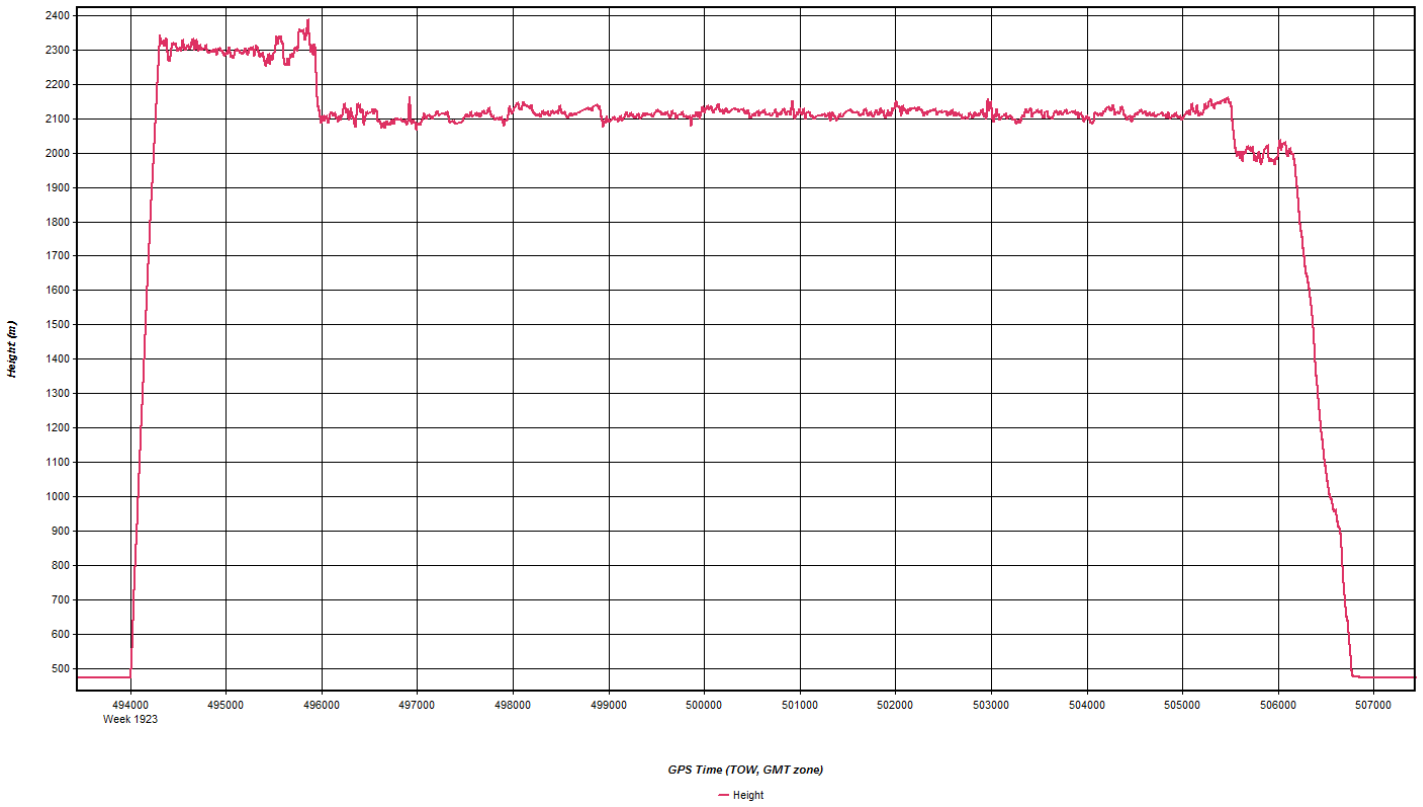

Separation (m)
0.060
0.055
0.050
0.045
0.040
0.035
0.030
0.025
0.020
0.015
0.010
0.005
0.000
-0.005
-0.010
-0.015
-0.020
-0.025
-0.030
-0.035
-0.040
-0.045
-0.050
-0.055
-0.060
-0.065
-0.070
-0.075
-0.080
-0.085
-0.090
-0.095
494000
Week 1923
495000
496000
497000
498000
499000
500000
501000
502000
503000
504000
505000
506000
507000
GPS Time (TOW, GMT zone)
East
North
Up


Azimuth/Heading (deg)
360
340
320
300
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
494000
Week 1923
495000
496000
497000
498000
499000
500000
501000
502000
503000
504000
505000
506000
507000
GPS Time (TOW, GMT zone)
Heading/Azimuth
GPS-COG

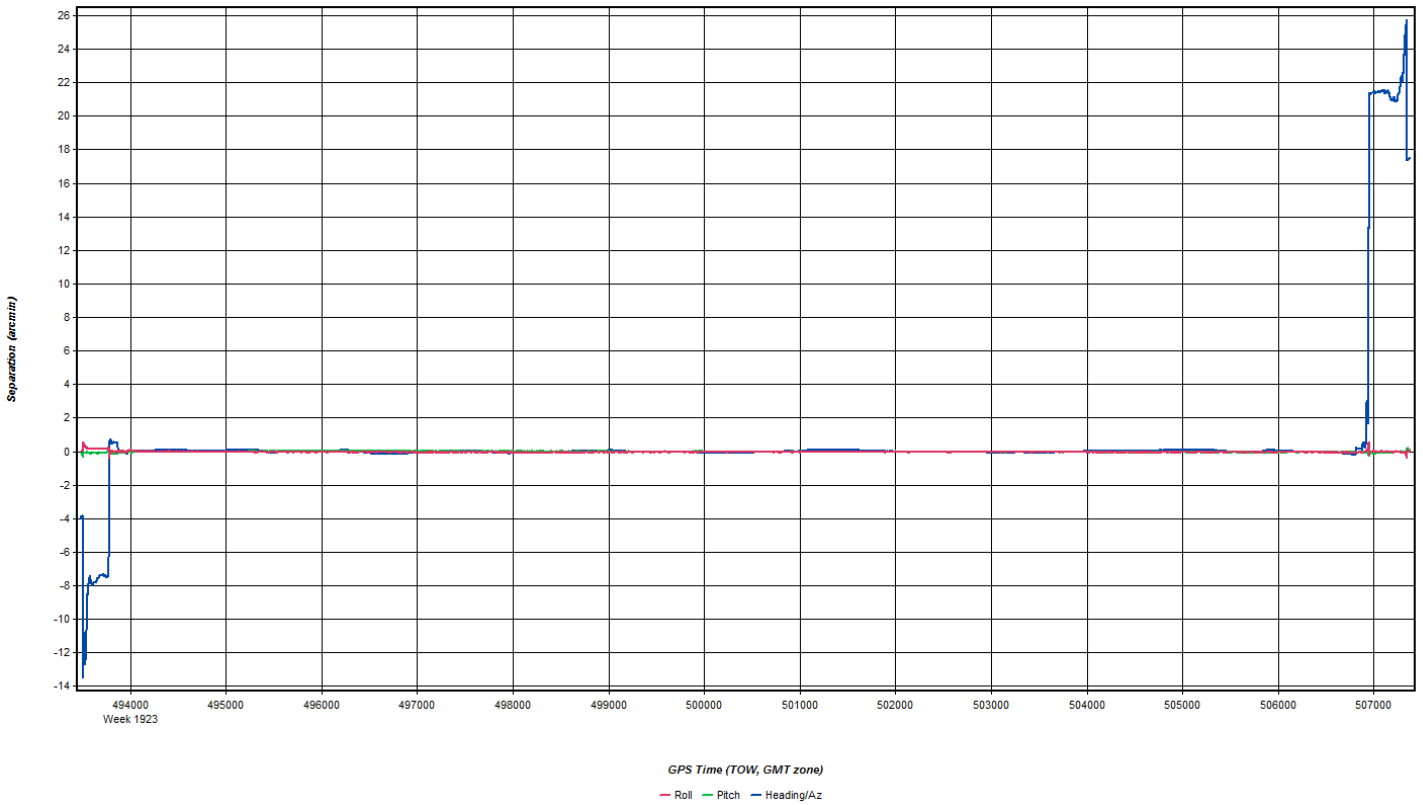

PDOP
1.60
1.55
1.50
1.45
1.40
1.35
1.30
1.25
1.20
1.15
1.10
1.05
1.00
0.95
0.90
0.85
0.80
0.75
494000
Week 1923
495000
496000
497000
498000
499000
500000
501000
502000
503000
504000
505000
506000
507000
GPS Time (TOW, GMT zone)
PDOP

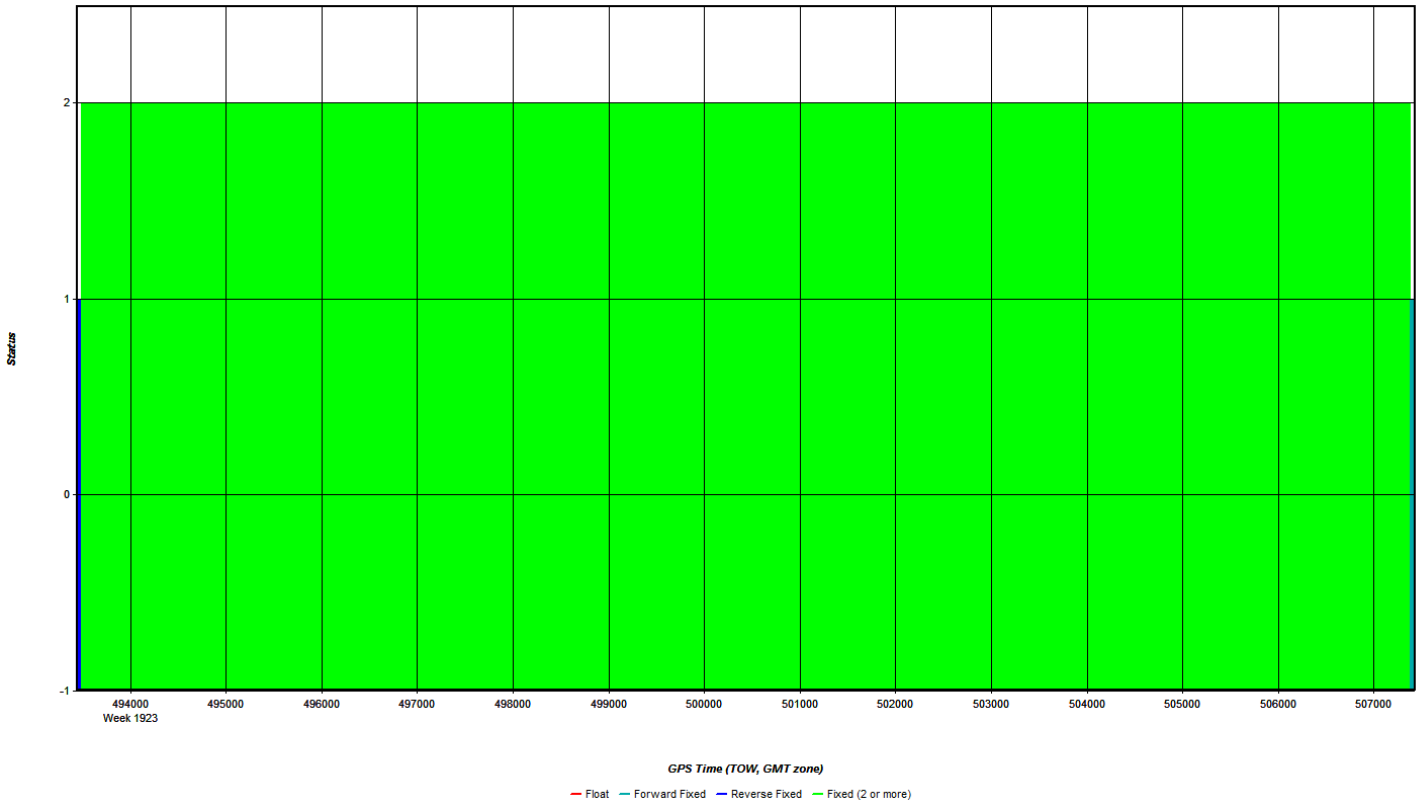

Estimated StdDev (m)
0.0155
0.0150
0.0145
0.0140
0.0135
0.0130
0.0125
0.0120
0.0115
0.0110
0.0105
0.0100
0.0095
0.0090
0.0085
0.0080
0.0075
0.0070
0.0065
0.0060
0.0055
0.0050
0.0045
0.0040
0.0035
0.0030
0.0025
494000
Week 1923
495000
496000
497000
498000
499000
500000
501000
502000
503000
504000
505000
506000
507000
GPS Time (TOW, GMT zone)
East
North
Height
Trace

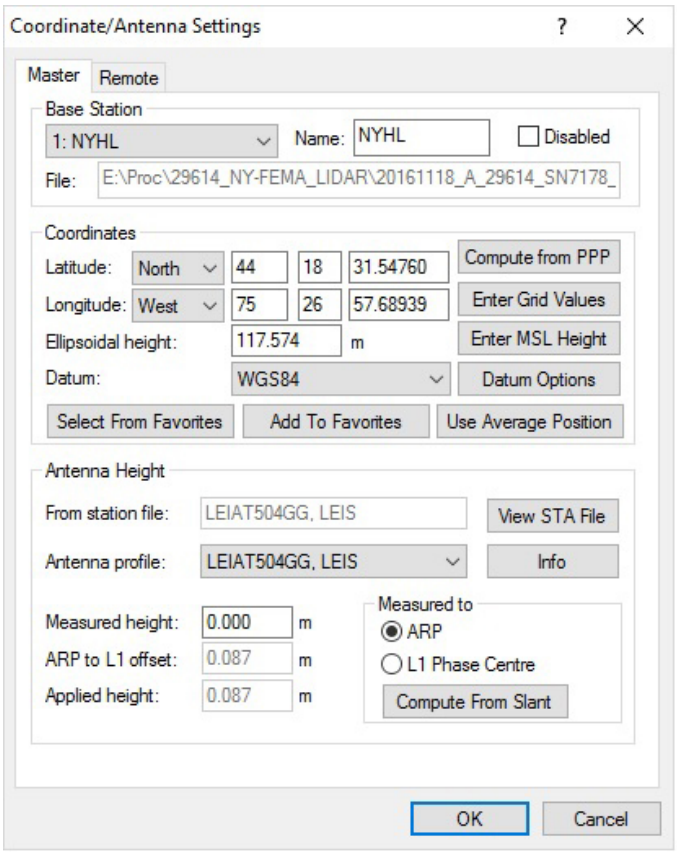

Roll & pitch (deg)
26
24
22
20
18
16
14
12
10
8
6
4
2
0
-2
-4
-6
-8
-10
-12
-14
-16
-18
-20
-22
-24
-26
-28
494000
Week 1923
495000
496000
497000
498000
499000
500000
501000
502000
503000
504000
505000
506000
507000
GPS Time (TOW, GMT zone)
Roll
Pitch

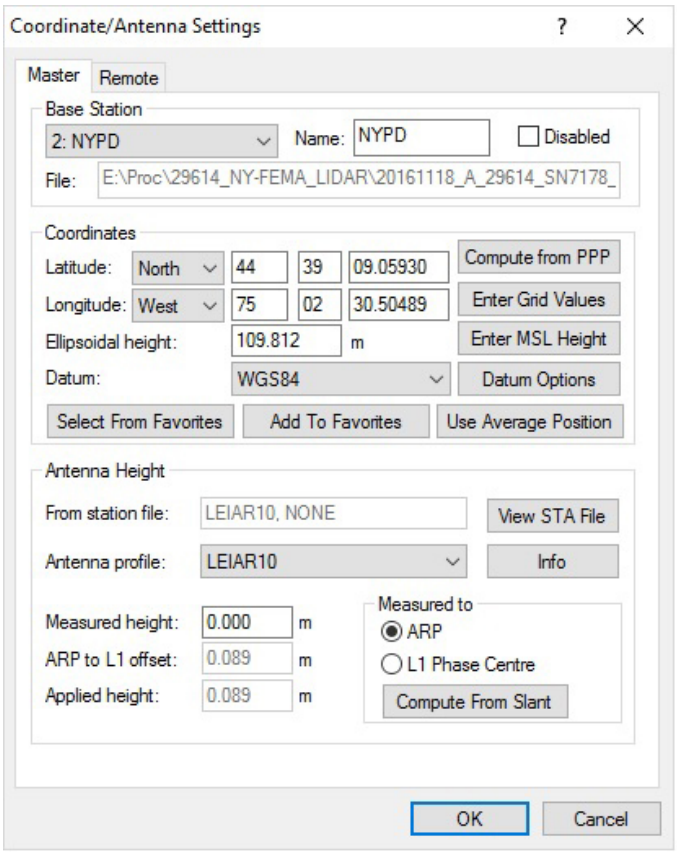

Height (m)
2400
2300
2200
2100
2000
1900
1800
1700
1600
1500
1400
1300
1200
1100
1000
900
800
700
600
500
494000
Week 1923
495000
496000
497000
498000
499000
500000
501000
502000
503000
504000
505000
506000
507000
GPS Time (TOW, GMT zone)
Height


RMS (m)
0.044
0.042
0.040
0.038
0.036
0.034
0.032
0.030
0.028
0.026
0.024
0.022
0.020
0.018
0.016
0.014
0.012
0.010
0.008
494000
Week 1923
495000
496000
497000
498000
499000
500000
501000
502000
503000
504000
505000
506000
507000
GPS Time (TOW, GMT zone)
RMS
SD


Separation (arcmin)
26
24
22
20
18
16
14
12
10
8
6
4
2
0
-2
-4
-6
-8
-10
-12
-14
494000
Week 1923
495000
496000
497000
498000
499000
500000
501000
502000
503000
504000
505000
506000
507000
GPS Time (TOW, GMT zone)
Roll
Pitch
Heading/Az


Status
2
1
0
-1
494000
Week 1923
495000
496000
497000
498000
499000
500000
501000
502000
503000
504000
505000
506000
507000
GPS Time (TOW, GMT zone)
Float
Forward Fixed
Reverse Fixed
Fixed (2 or more)


Coordinate/Antenna Settings
Master
Remote
Base Station
1: NYHL
Name:
NYHL
Disabled
File:
E:\Proc\29614_NY-FEMA_LIDAR\20161118_A_29614_SN7178_
Coordinates
Latitude:
North
44
18
31.54760
Compute from PPP
Longitude:
West
75
26
57.68939
Enter Grid Values
Ellipsoidal height:
117.574
m
Enter MSL Height
Datum:
WGS84
Datum Options
Select From Favorites
Add To Favorites
Use Average Position
Antenna Height
From station file:
LEIAT504GG, LEIS
View STA File
Antenna profile:
LEIAT504GG, LEIS
Info
Measured height:
0.000
m
ARP to L1 offset:
0.087
m
Applied height:
0.087
m
Measured to
ARP
L1 Phase Centre
Compute From Slant
OK
Cancel


Coordinate/Antenna Settings
Master
Remote
Base Station
2: NYPD
Name: NYPD
Disabled
File: E:\Proc\29614_NY-FEMA_LIDAR\20161118_A_29614_SN7178_
Coordinates
Latitude: North 44 39 09.05930
Longitude: West 75 02 30.50489
Ellipsoidal height: 109.812 m
Datum: WGS84
Compute from PPP
Enter Grid Values
Enter MSL Height
Datum Options
Select From Favorites
Add To Favorites
Use Average Position
Antenna Height
From station file: LEIAR10, NONE
View STA File
Antenna profile: LEIAR10
Info
Measured height: 0.000 m
ARP to L1 offset: 0.089 m
Applied height: 0.089 m
Measured to
ARP
L1 Phase Centre
Compute From Slant
OK
Cancel

Flight Log

Airborne LiDAR Data Collection Log Sheet :: Quantum Spatial, Inc

(email log daily to flight_log_distribution_list@quantumspatial.com)

Date: 11-18-16

Lift (A) B C D E Pg 1 of 1

Project: USGS NY FEMA LIDAR Proj #: 29614 Flight Mgmt File:

Aircraft: 73MM Begin Hobbs: 6503.3 End Hobbs: 6506.8 Total: 3.5 Pilot: J RADNUM Co-Pilot: Tech: M MUST

Dep Apt: SLK Dep Time (Lcl): 12:10 (Z): 17:10 Arr Apt: SLK Arr Time (Local): 3:50 (Z): 12:50 Tot Time Aloft: 3.5

CORS: (Y) N Sta 1: N441 Sta 2: N429 Flyovers: (Y) / N If Y, times: Sta1) 1734 Sta2) 1750, 2027

GPS Unit: Y / N Sta 1: Sta 2: Flyovers: Y / N If Y, times: Sta 1) Sta 2)

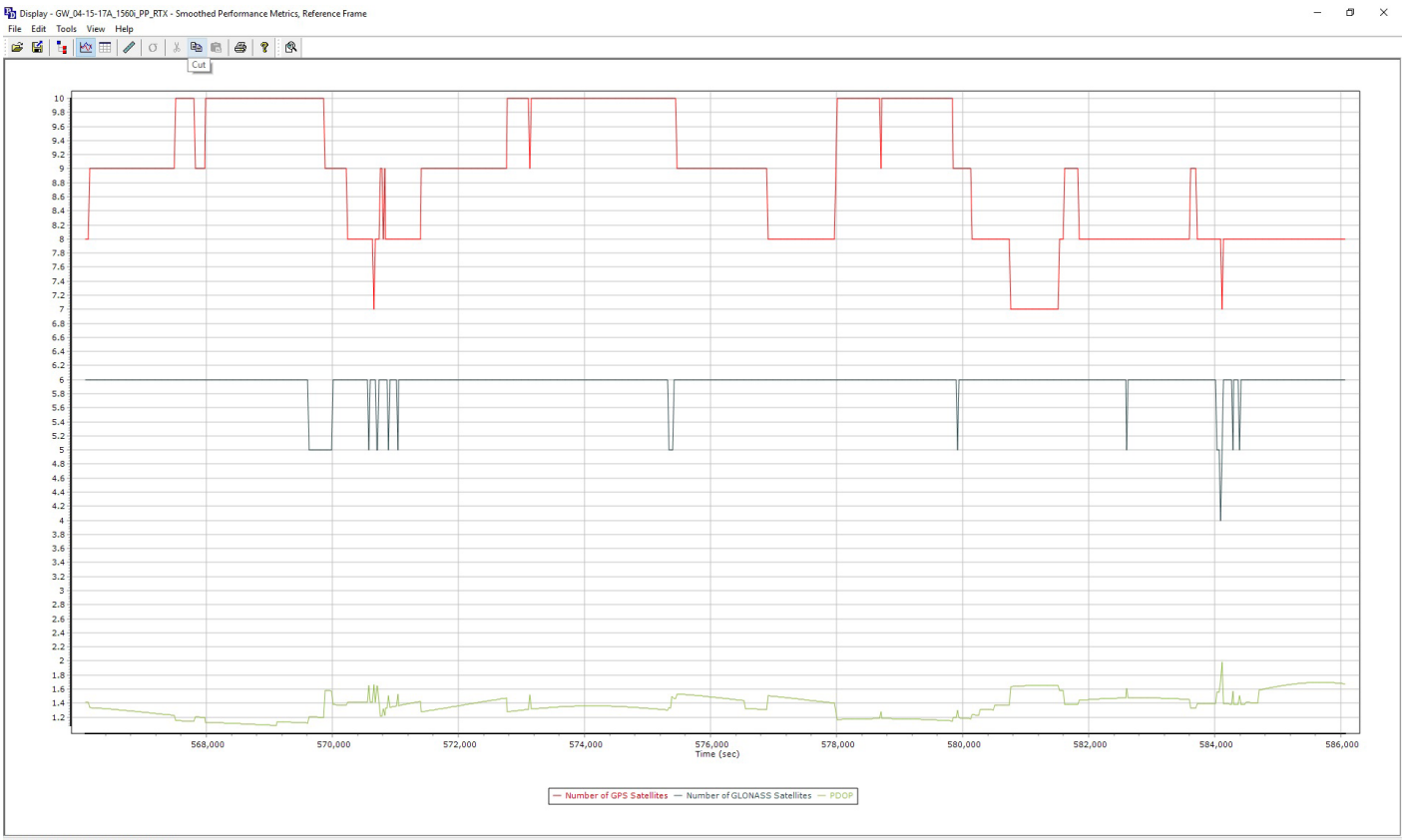
Gd Temp beg: 11 °c End: 14 °c OAT beg: °c End: °c Altimeter begin: 30.08 end: 30.04

	Type	Serial #		Alt		Avg Terr		Max		Avg Pt		Beg GB	330	Storage Name/#
LiDAR		7170		AGL		Ht		Gdspd		Spacing		End GB	289	4
	FOV 40	Scan Freq 53	MpIA (Y) N		Alt AMSL 7.0	Pulses In Air	Pulse Rate 267	Power 100		PPSM		Tot GB	41	

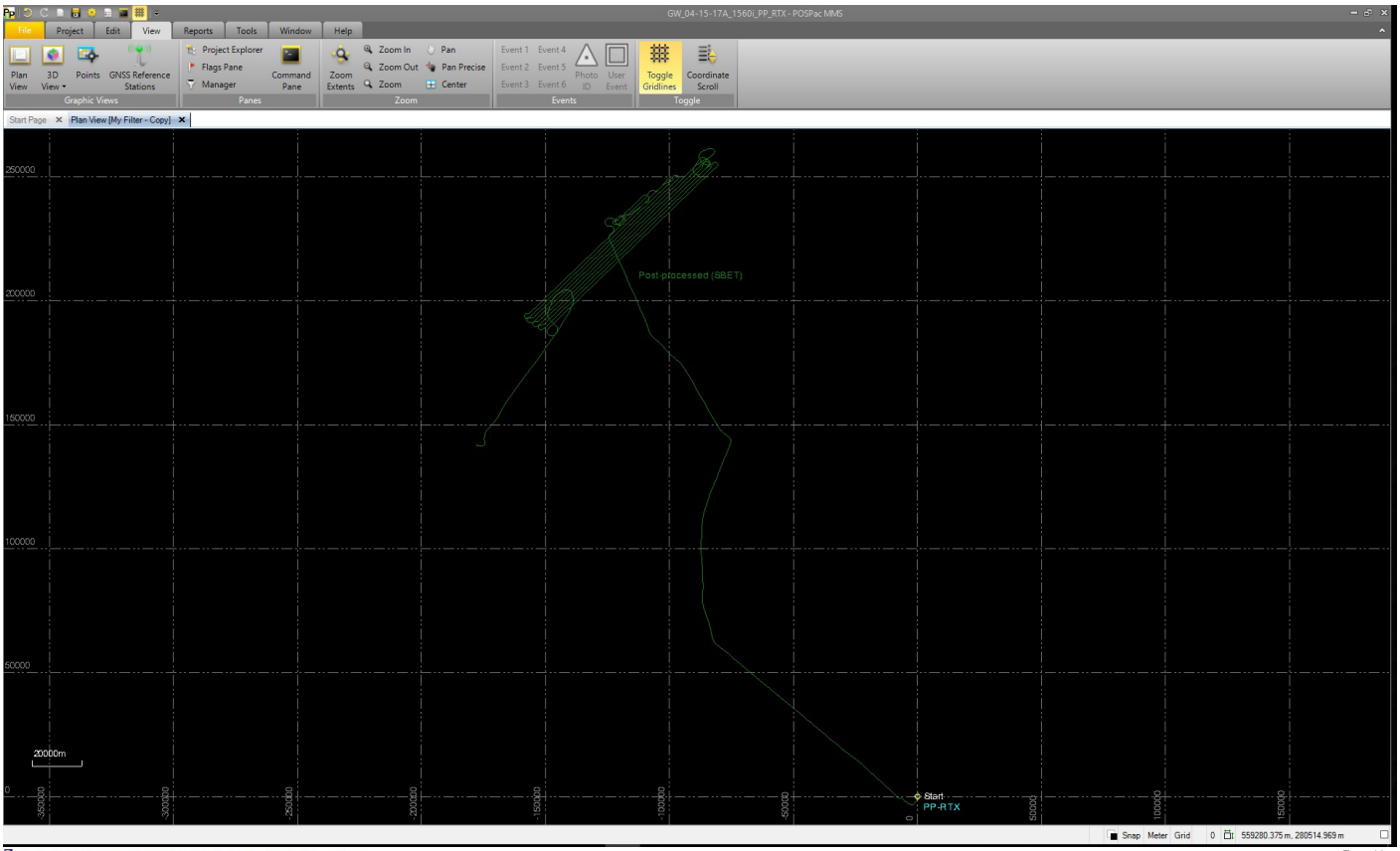
Line #	Hdg	Start (UTC)	End (UTC)	Gd Spd	PDOP/Sats	GPS Altitude	Crab	Turb (0, -, +)	FLIGHT LINE NOTES – visibility, clouds, smoke, partial, etc.
139	S	1803	1816	151	1.2/16	6.8			
140	N	1819	1833	151	1.1/12	7.0			
141	S	1837	1850	152	1.0/19	6.9			
142	N	1853	1907	152	1.1/18	7.0			
143	S	1910	1924	159	1.0/18	6.9			
144	N	1927	1941	153	1.1/14	7.0			
145	S	1945	1958	157	1.2/17	6.9			
146	N	2002	2016	148	1.2/17	6.9			CROSSFLIGHT
1001E	E	2022	2024	187	1.0/19	7.0			

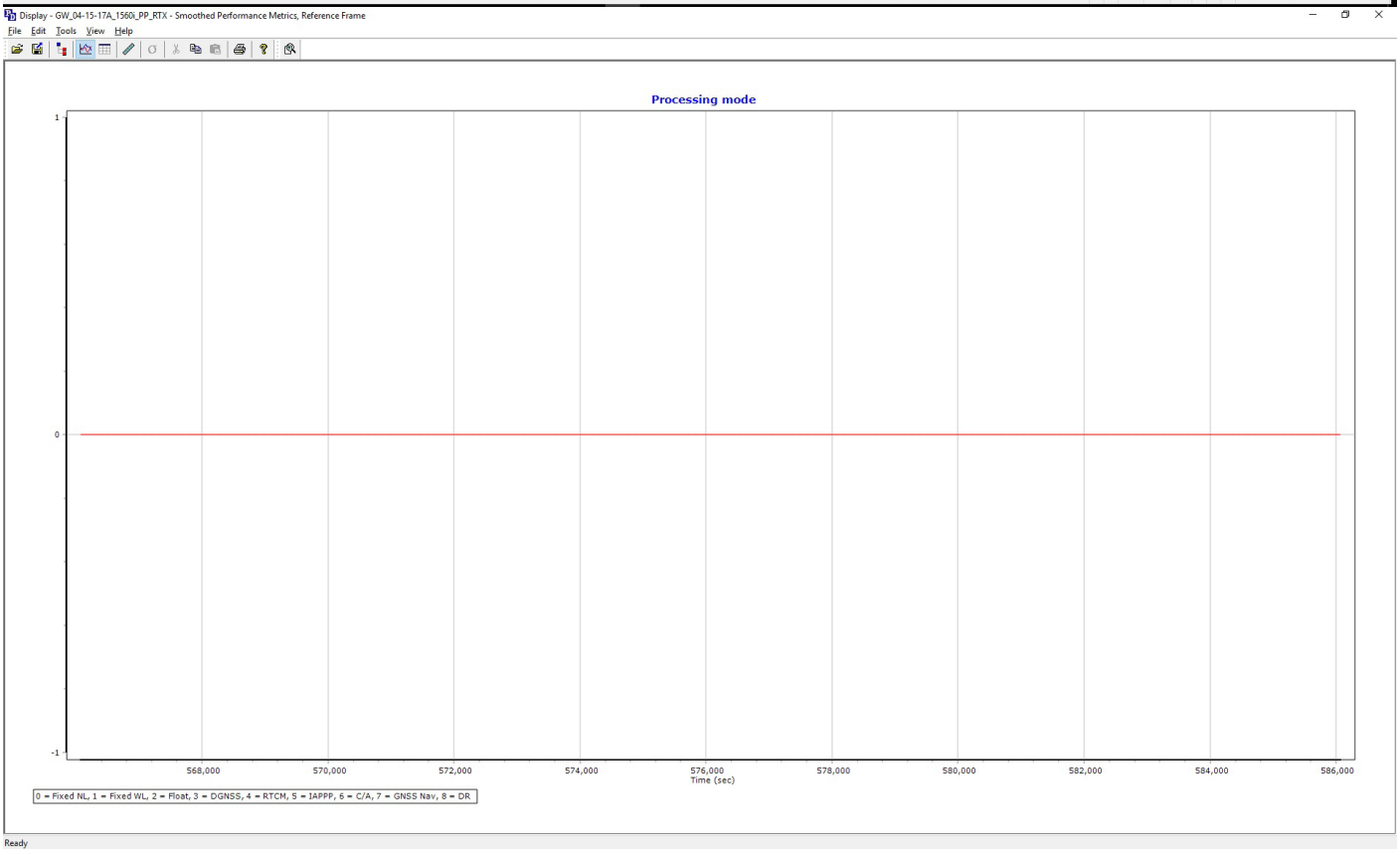
Total Proj Lines: Lines Flown: Lines Remain: On-Line Time: 2.5 Mob Time: 1 Notes:

Apr 15, 2017-A (N604MD, SN2221277)


Display - GW_04-15-17A_1560i_PP_RTX - Smoothed Performance Metrics, Reference Frame
File Edit Tools View Help
Cut
Time (sec)
Number of GPS Satellites
Number of GLONASS Satellites
PDOP

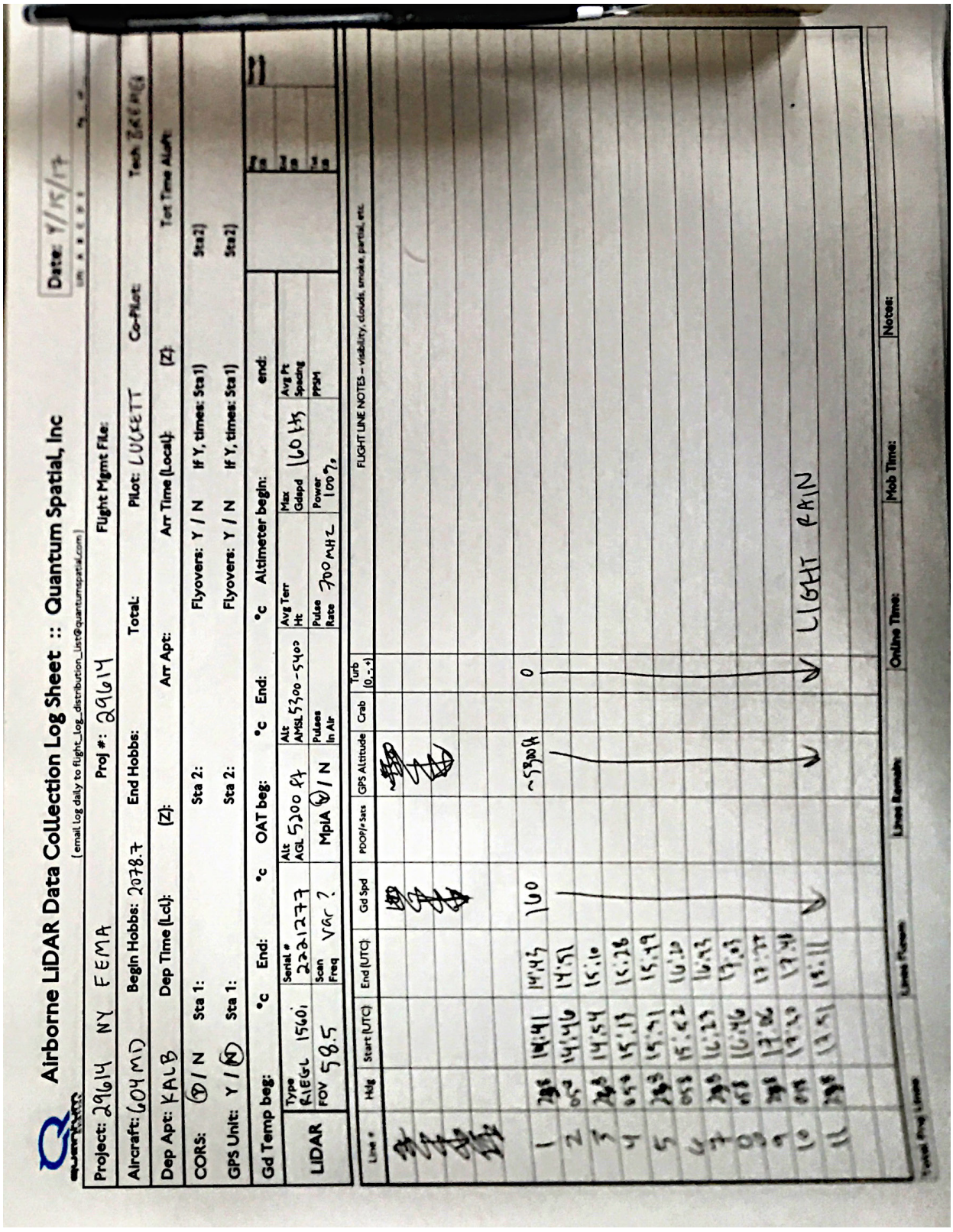

Cut the selection and put it on the Clipboard
Display - GW_04-15-17A_1560i_PP_RTX - Smoothed Performance Metrics, Reference Frame
File Edit Tools View Help
Time (sec)
North Position Error RMS (m)
East Position Error RMS (m)
Down Position Error RMS (m)
Ready


GW_04-15-17A_1560i_PP_RTX - POSPac MMS
Post-processed (SBET)
Start
PP-RTX
20000m


Display - GW_04-15-17A_1560i_PP_RTX - Smoothed Performance Metrics, Reference Frame
Processing mode
Time (sec)
0 = Fixed NL, 1 = Fixed WL, 2 = Float, 3 = DGNSS, 4 = RTCM, 5 = IAPPP, 6 = C/A, 7 = GNSS Nav, 8 = DR
Ready


Display - GW_04-15-17A_1560i_PP_RTX - Real Time Trajectory, Vehicle Frame
File Edit Tools View Help
360 350 340 330 320 310 300 290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 -10 -20
566,000 568,000 570,000 572,000 574,000 576,000 578,000 580,000 582,000 584,000 586,000
Time (sec)
Roll (deg) Pitch (deg) True Heading (deg)
Ready

Flight Log



Airborne LiDAR Data Collection Log Sheet :: Quantum Spatial, Inc

(email Log daily to flight_Log_distribution_List@quantumspatial.com)

Date: 7/15/17

Project: 29614 NY FEMA Proj #: 29614 Flight Mgmt File:

Aircraft: 604 MD Begin Hobbs: 2078.7 End Hobbs: Total: Pilot: LUCKETT Co-Pilot: Tech: BARNES

Dep Apt: KALB Dep Time (Lcl): (Z): Arr Apt: Arr Time (Local): (Z): Tot Time Aloft:

CORS: (Y) / N Sta 1: Sta 2: Flyovers: Y / N If Y, times: Sta1) Sta2)

GPS Unit: Y / (N) Sta 1: Sta 2: Flyovers: Y / N If Y, times: Sta1) Sta2)

Gd Temp beg: °c End: °c OAT beg: °c End: °c Altimeter beg: end:

LiDAR	Type	Serial #	Alt AGL	Alt AMSL	Avg Terr Ht	Max Gdspd	Avg Pt Spacing
	RIEGL 1560i	22012737	5200 ft	5300-5400		160 kts	
	FOV 58.5	Scan Freq Var ?	MpiA (Y) / N	Pulses In Air	Pulse Rate 700 kHz	Power 100%	PRR#

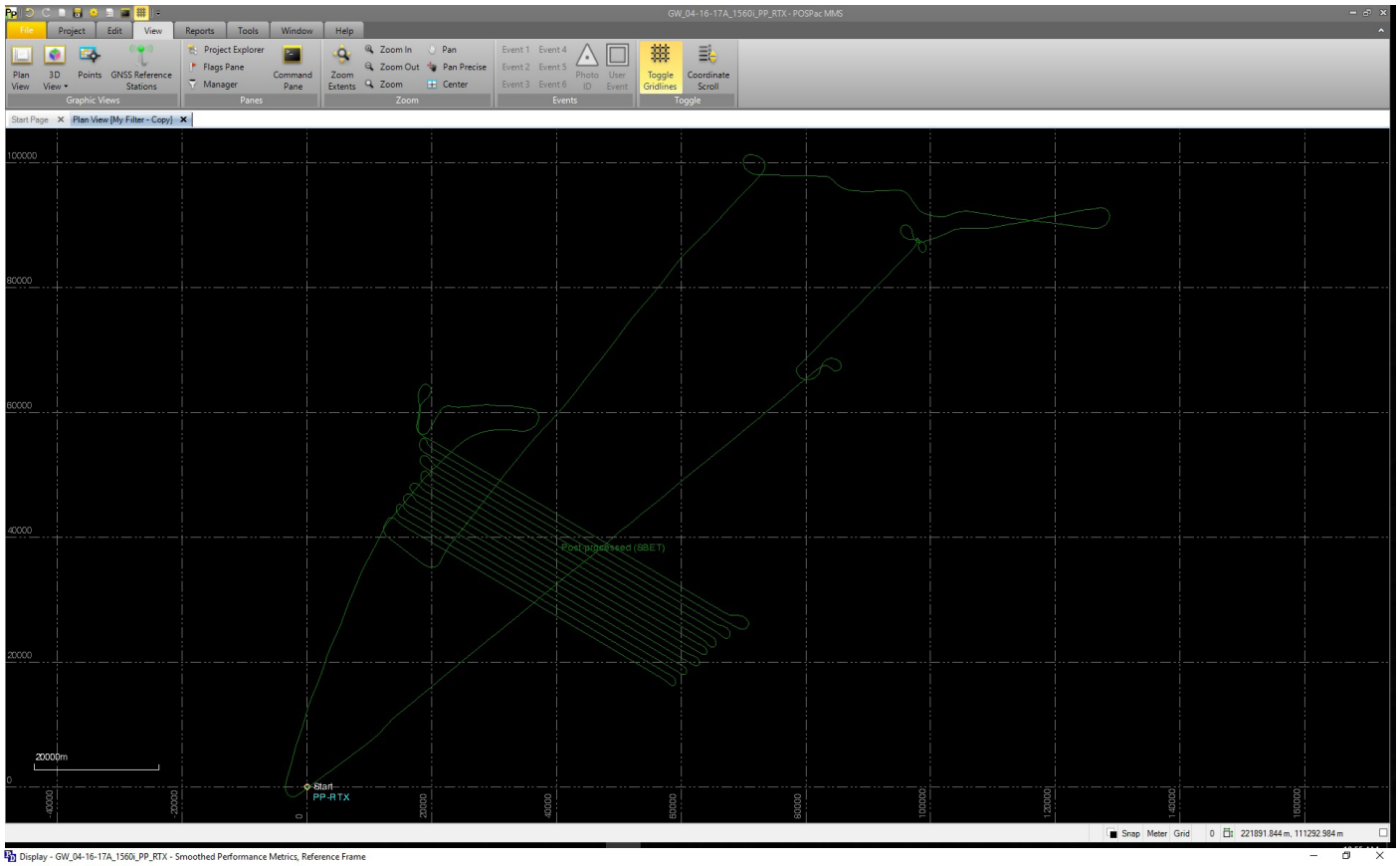
Line #	Hdg	Start (UTC)	End (UTC)	Gd Spd	PDOP/#Sats	GPS Altitude	Crab	Turb (0,+,-)	FLIGHT LINE NOTES – visibility, clouds, smoke, partial, etc.
1	298	14:41	14:45	160		~5300ft	0		
2	118	14:46	14:51						
3	298	14:54	15:10						
4	118	15:13	15:28						
5	298	15:31	15:49						
6	118	15:52	16:10						
7	298	16:13	16:33						
8	118	16:36	16:53						
9	298	17:02	17:22						
10	118	17:26	17:41						LIGHT RAIN
11	298	17:51	18:11						

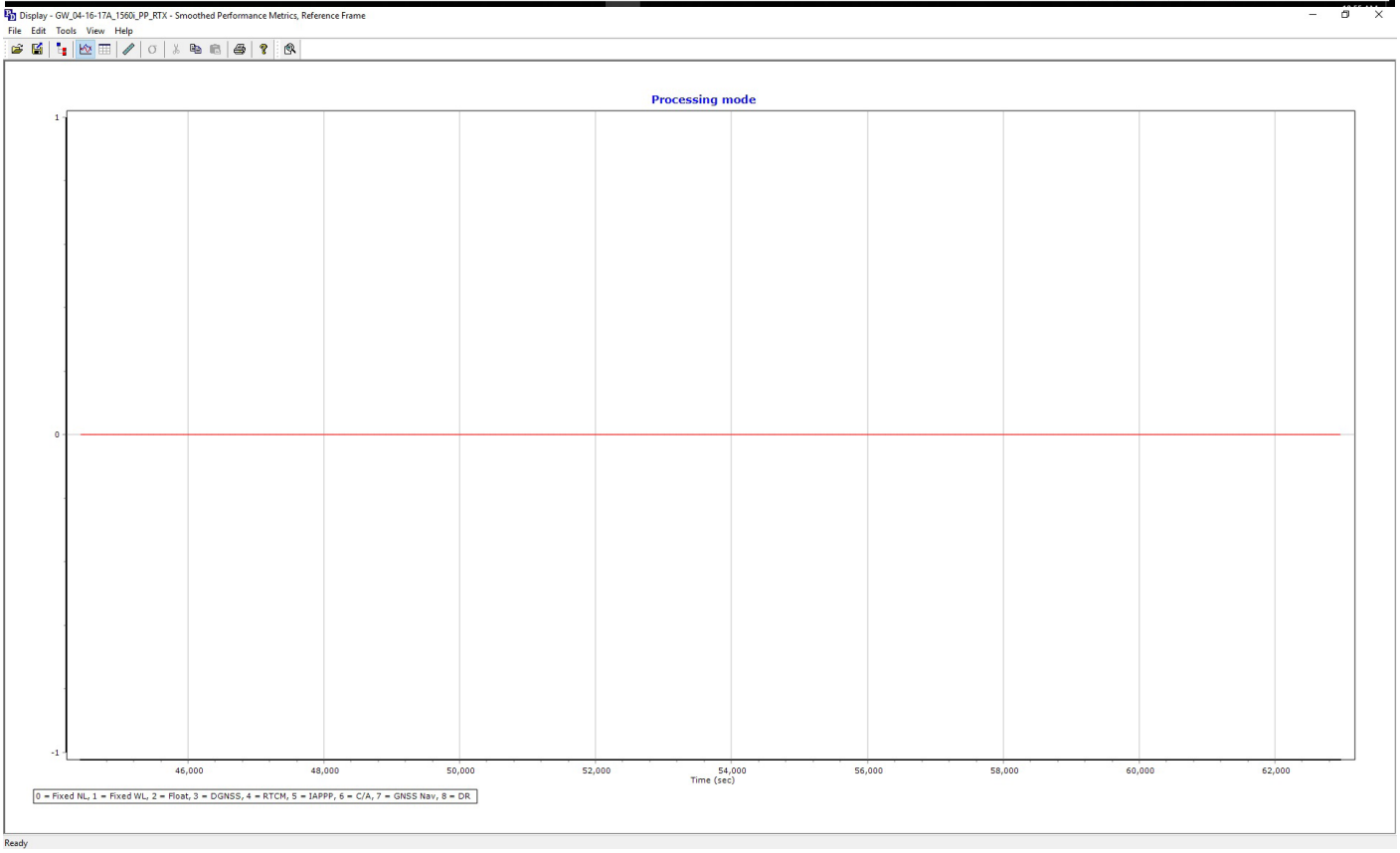
Total Proj Lines: Lines Flown: Lines Remain: Online Time: Mob Time: Notes:

Apr 16, 2017-A (N604MD, SN2221277)


Display - GW_04-16-17A_1560i_PP_RTX - Smoothed Performance Metrics, Reference Frame
File Edit Tools View Help
Time (sec)
Number of GPS Satellites
Number of GLONASS Satellites
PDOP
Ready

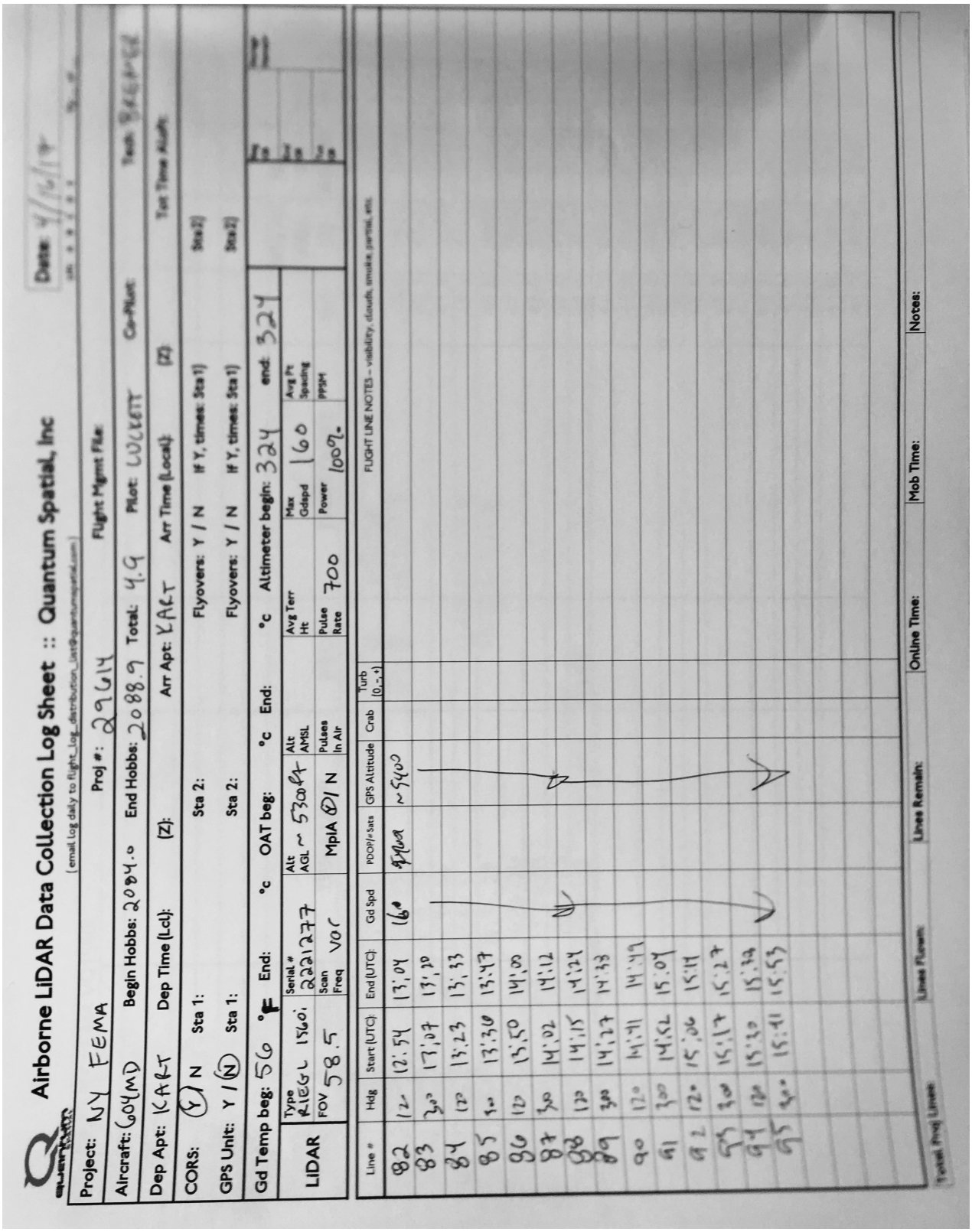

Display - GW_04-16-17A_1560i_PP_RTX - Smoothed Performance Metrics, Reference Frame
File Edit Tools View Help
Time (sec)
North Position Error RMS (m)
East Position Error RMS (m)
Down Position Error RMS (m)
Ready


GW_04-16-17A_1560i_PP_RTX - POSPac MMS
File
Project
Edit
View
Reports
Tools
Window
Help
Plan View
3D View
Points
GNSS Reference Stations
Graphic Views
Project Explorer
Flags Pane
Manager
Command Pane
Panes
Zoom Extents
Zoom In
Zoom Out
Zoom
Pan
Pan Precise
Center
Zoom
Event 1
Event 2
Event 3
Event 4
Event 5
Event 6
Photo ID
User Event
Events
Toggle Gridlines
Coordinate Scroll
Toggle
Start Page
Plan View [My Filter - Copy]
Post processed (SBET)
20000m
Start
PP-RTX
Snap
Meter
Grid


Display - GW_04-16-17A_1560i_PP_RTX - Smoothed Performance Metrics, Reference Frame
File
Edit
Tools
View
Help
Processing mode
Time (sec)
0 = Fixed NL, 1 = Fixed WL, 2 = Float, 3 = DGNSS, 4 = RTCM, 5 = IAPPP, 6 = C/A, 7 = GNSS Nav, 8 = DR
Ready


Display - GW_04-16-17A_1560i_PP_RTX - Real Time Trajectory, Vehicle Frame
File Edit Tools View Help
360 350 340 330 320 310 300 290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 -10 -20
44,000 46,000 48,000 50,000 52,000 54,000 56,000 58,000 60,000 62,000
Time (sec)
Roll (deg) Pitch (deg) True Heading (deg)
Ready

Flight Log



Airborne LiDAR Data Collection Log Sheet :: Quantum Spatial, Inc

(email Log daily to flight_log_distribution_list@quantumspatial.com)

Date: 4/16/17

Project: NY FEMA Proj #: 29614 Flight Mgmt File:

Aircraft: 60YMD Begin Hobbs: 2084.0 End Hobbs: 2088.9 Total: 4.9 Pilot: WILKEY Co-Pilot: Tech: BARNES

Dep Apt: KART Dep Time (Lcl): (Z): Arr Apt: KART Arr Time (Local): (Z): Tot Time Aloft:

CORS: (Y) N Sta 1: Sta 2: Flyovers: Y / N If Y, times: Sta 1) Sta 2)

GPS Unit: Y / (N) Sta 1: Sta 2: Flyovers: Y / N If Y, times: Sta 1) Sta 2)

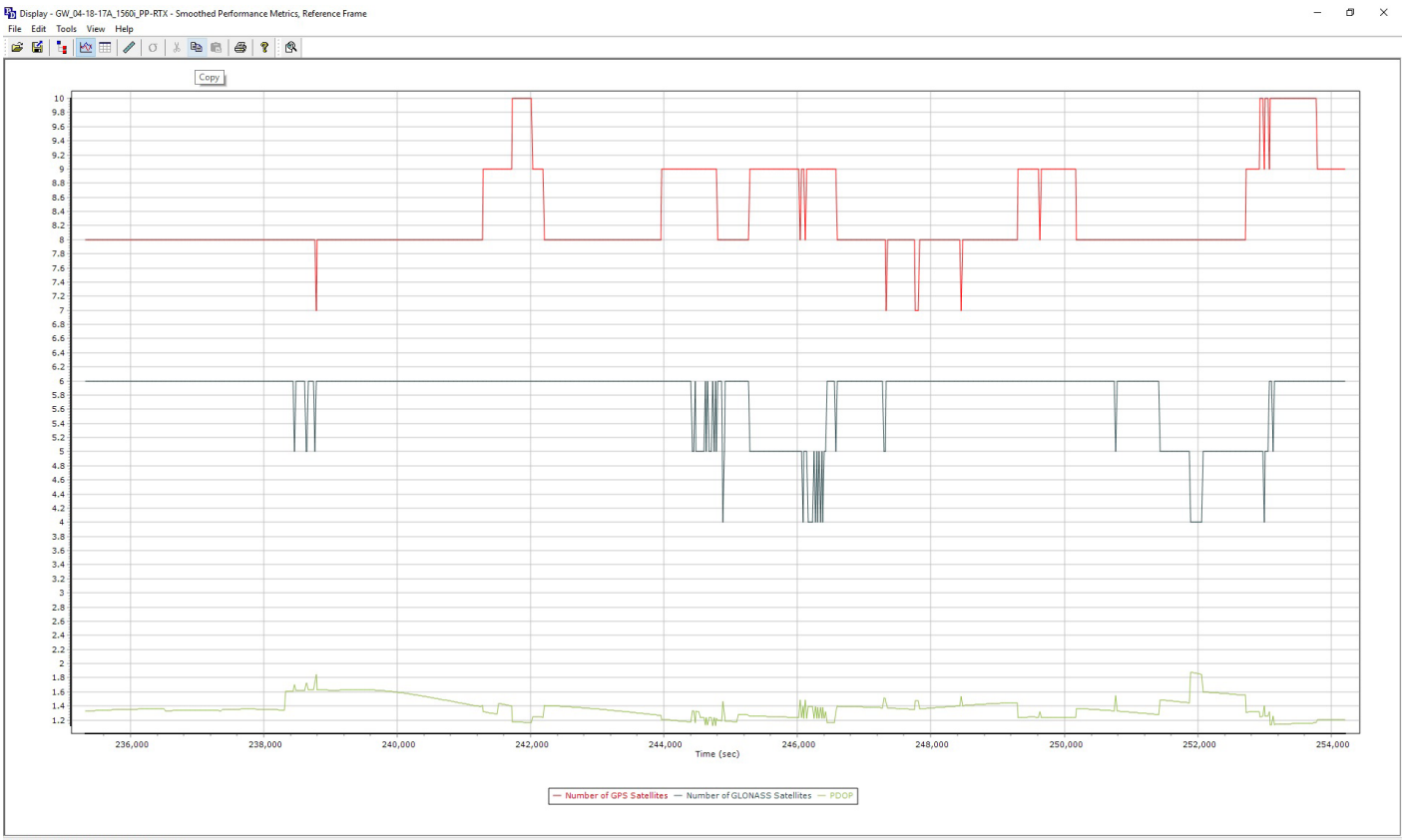
Gd Temp beg: 56 °F End: °c OAT beg: °c End: °c Altimeter begin: 324 end: 324

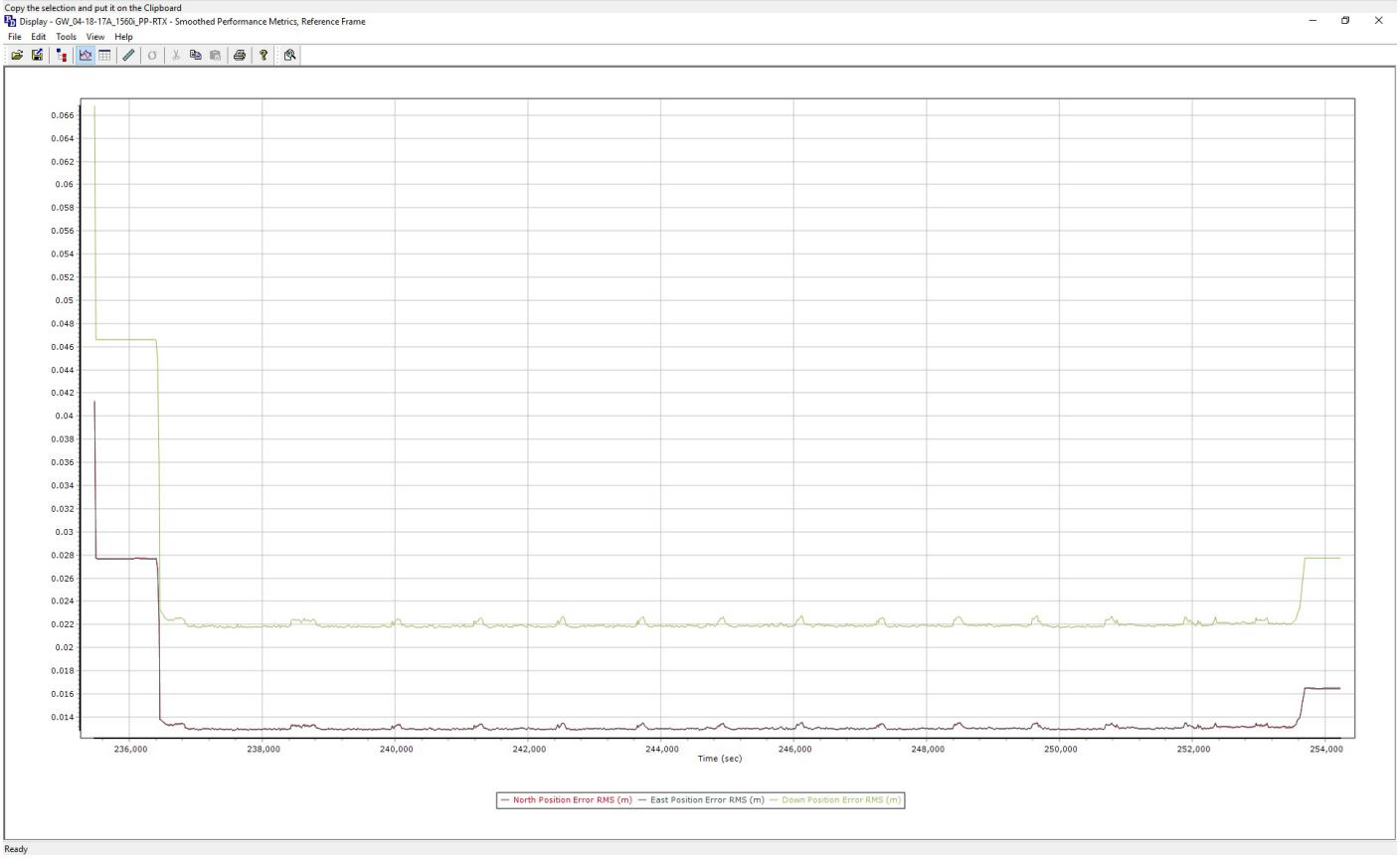
LIDAR: Type RIEGL VQ-580; Serial # 22212277; Scan Freq VOR; FOV 58.5; Alt AGL ~ 5300ft; MpiA (D) N; Alt AMSL; Pulses In Air; Avg Terr Ht; Pulse Rate 700; Max Gdspd; Power 100%; Avg Pt Spacing; PPSM 1.60

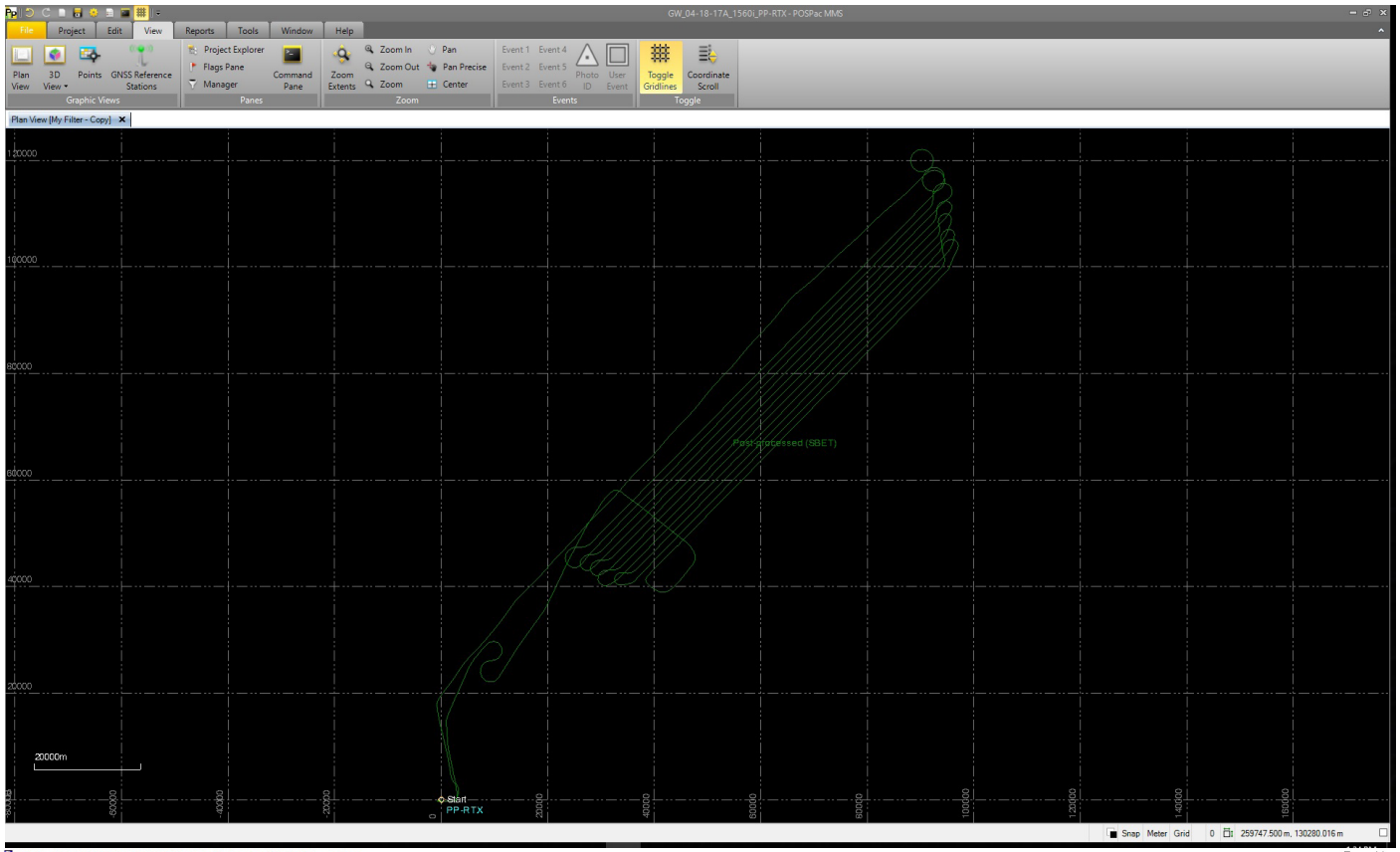
Line #	Hdg	Start (UTC)	End (UTC)	Gd Spd	PDOP/#Sats	GPS Altitude	Crab	Turb (0,-,+)	FLIGHT LINE NOTES – visibility, clouds, smoke, partial, etc.
82	120	12:54	13:09	160	Appr	~5400			
83	300	13:07	13:20						
84	120	13:23	13:33						
85	300	13:36	13:47						
86	120	13:50	14:00						
87	300	14:02	14:12						
88	120	14:15	14:24						
89	300	14:27	14:38						
90	120	14:41	14:49						
91	300	14:52	15:04						
92	120	15:06	15:19						
93	300	15:19	15:27						
94	120	15:32	15:43						
95	300	15:41	15:53						

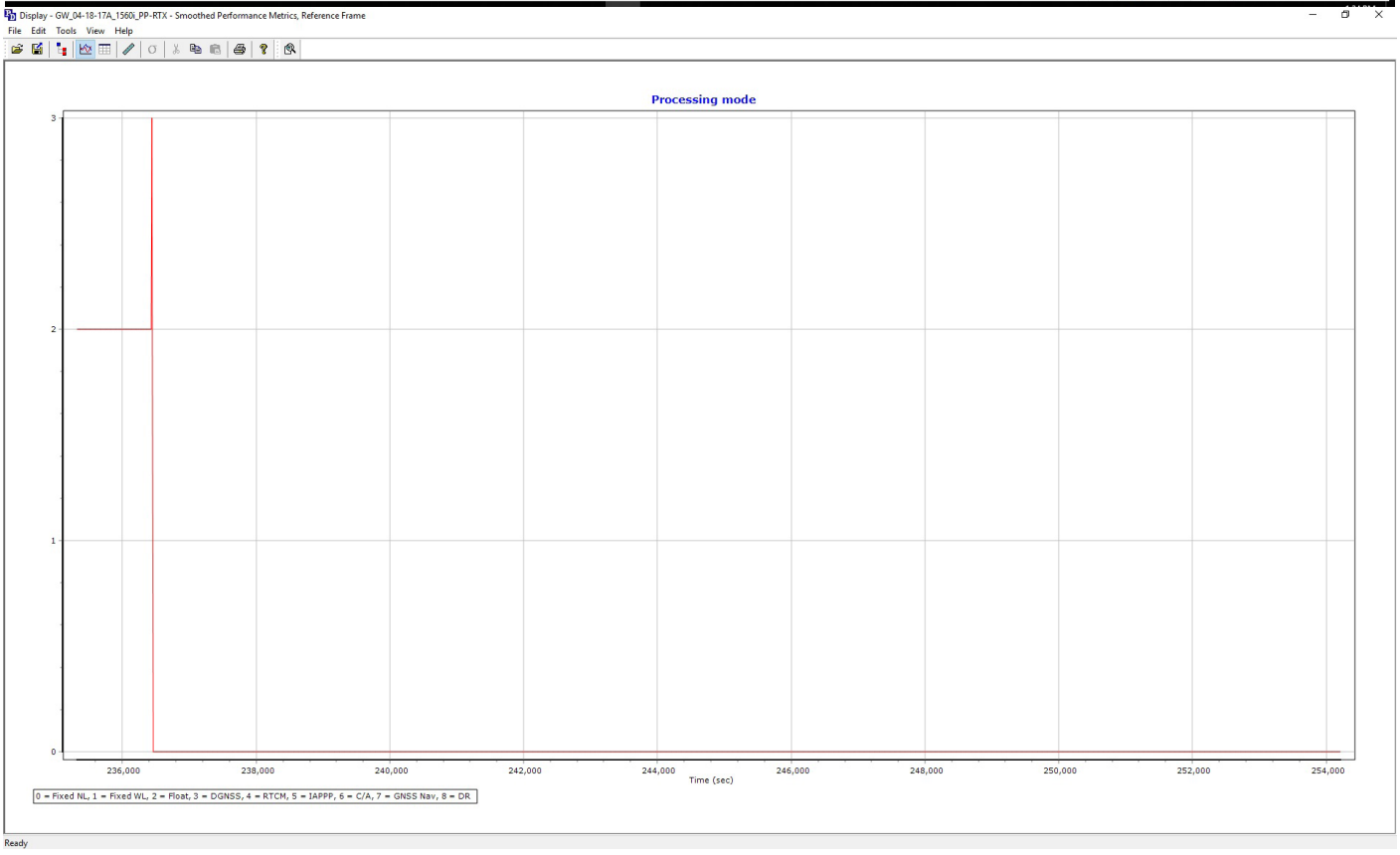
Total Prod Lines: Lines Flown: Lines Remain: Online Time: Mob Time: Notes:

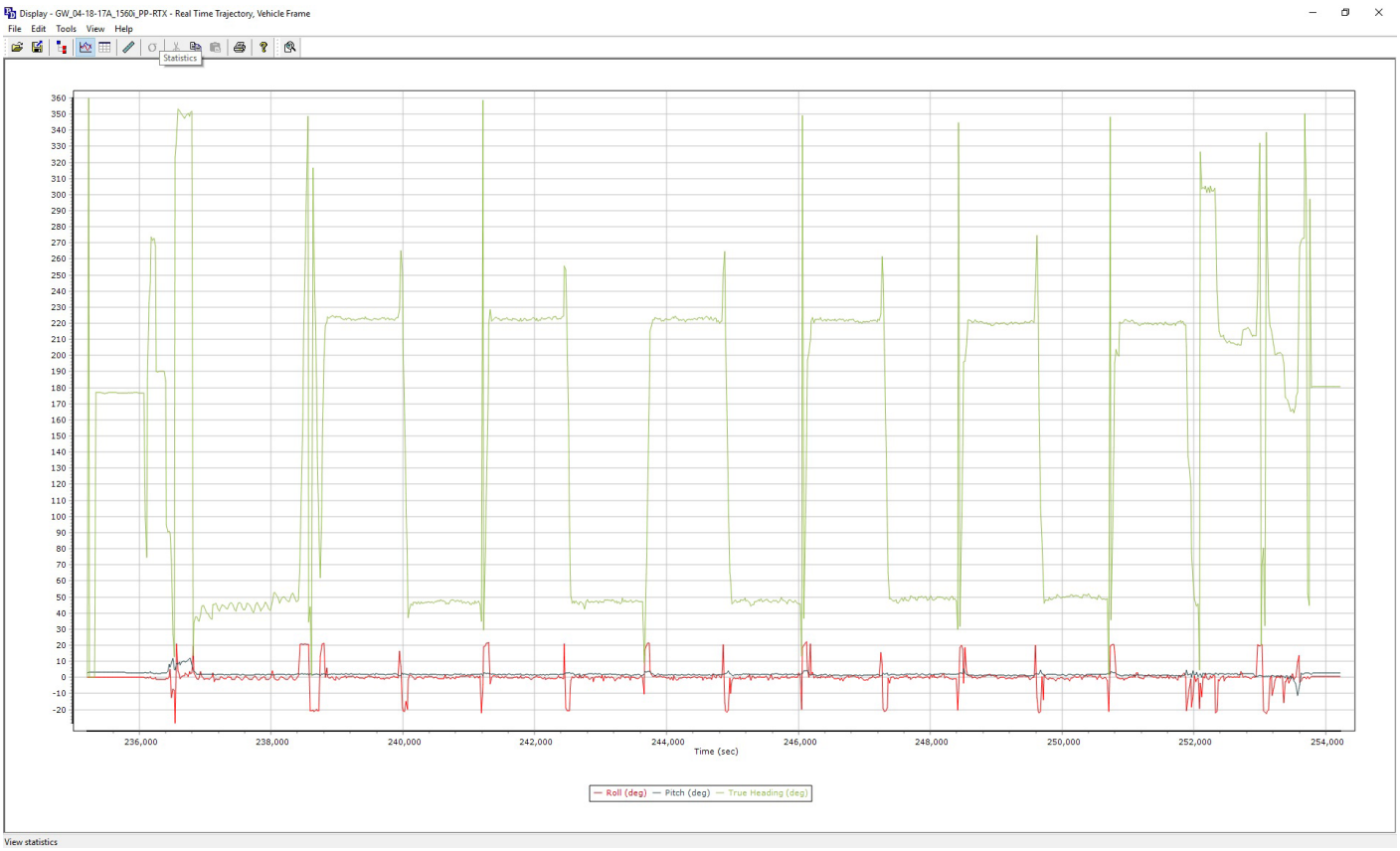
Apr 18, 2017-A (N604MD, SN2221277)


Display - GW_04-18-17A_1560i_PP-RTX - Smoothed Performance Metrics, Reference Frame
File Edit Tools View Help
Copy
Time (sec)
Number of GPS Satellites
Number of GLONASS Satellites
PDOP

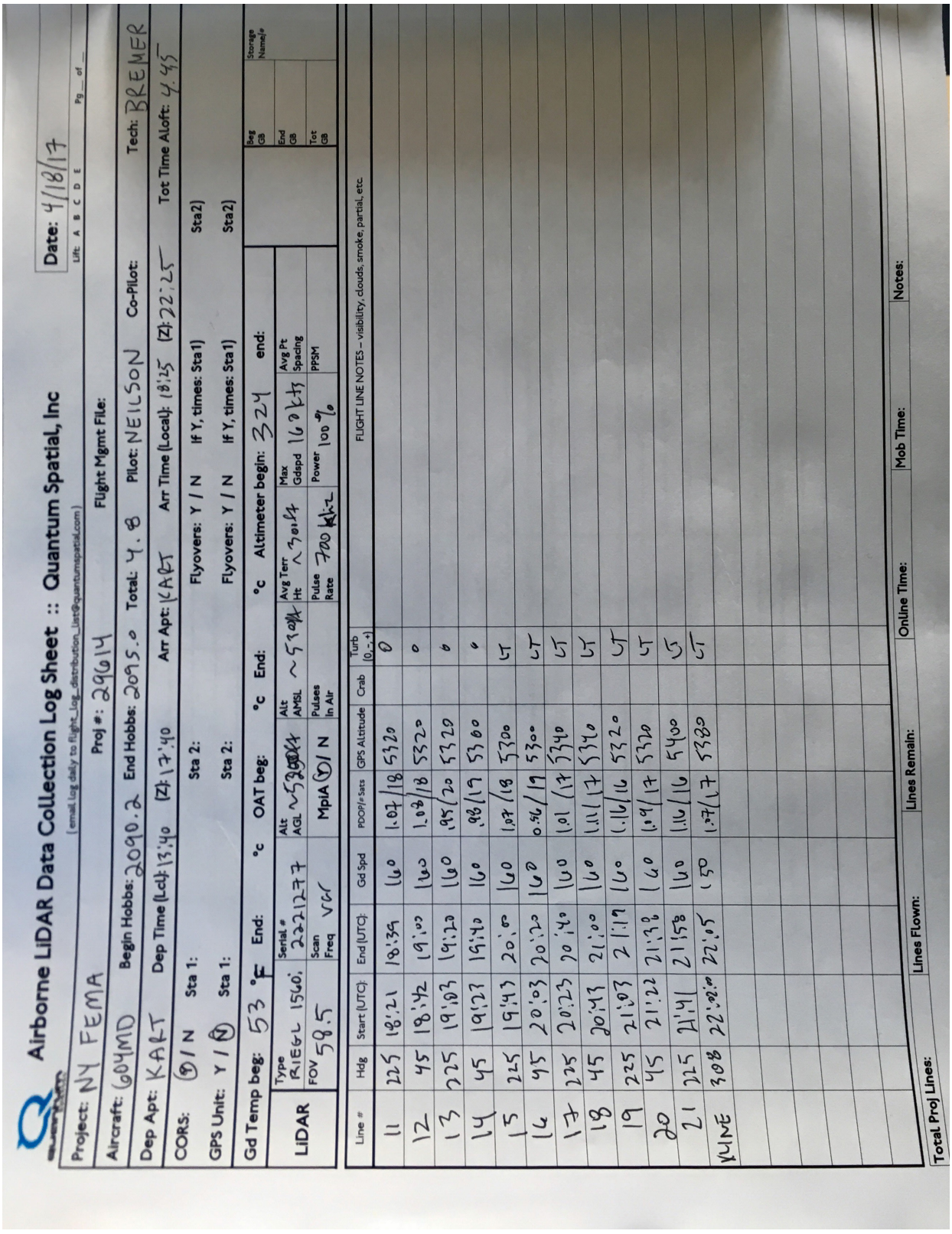

Copy the selection and put it on the Clipboard
Display - GW_04-18-17A_1560i_PP-RTX - Smoothed Performance Metrics, Reference Frame
File Edit Tools View Help
Time (sec)
North Position Error RMS (m)
East Position Error RMS (m)
Down Position Error RMS (m)
Ready


GW_04-18-17A_1560i_PP-RTX - POSPac MMS
File
Project
Edit
View
Reports
Tools
Window
Help
Plan View
3D View
Points
GNSS Reference Stations
Graphic Views
Project Explorer
Flags Pane
Manager
Command Pane
Panes
Zoom Extents
Zoom In
Zoom Out
Zoom
Pan
Pan Precise
Center
Zoom
Event 1
Event 2
Event 3
Event 4
Event 5
Event 6
Photo ID
User Event
Events
Toggle Gridlines
Coordinate Scroll
Toggle
Plan View [My Filter - Copy]
Post-processed (SBET)
20000m
Start
PP-RTX
Snap
Meter
Grid


Display - GW_04-18-17A_1560i_PP-RTX - Smoothed Performance Metrics, Reference Frame
File
Edit
Tools
View
Help
Processing mode
Time (sec)
0 = Fixed NL, 1 = Fixed WL, 2 = Float, 3 = DGNSS, 4 = RTCM, 5 = IAPPP, 6 = C/A, 7 = GNSS Nav, 8 = DR
Ready


Display - GW_04-18-17A_1560i_PP-RTX - Real Time Trajectory, Vehicle Frame
File Edit Tools View Help
Statistics
360
350
340
330
320
310
300
290
280
270
260
250
240
230
220
210
200
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
-10
-20
236,000
238,000
240,000
242,000
244,000
246,000
248,000
250,000
252,000
254,000
Time (sec)
Roll (deg)
Pitch (deg)
True Heading (deg)
View statistics

Flight Log



Airborne LiDAR Data Collection Log Sheet :: Quantum Spatial, Inc

(email Log daily to Flight_Log_distribution_List@quantumspatial.com)

Date: 4/18/17

Project: NY FEMA Proj #: 29614 Flight Mgmt File:

Aircraft: 604MD Begin Hobbs: 2090.2 End Hobbs: 2095.0 Total: 4.8 Pilot: NEILSON Co-Pilot: Tech: BREMER

Dep Apt: KART Dep Time (Lcl): 13:40 (Z) 17:40 Arr Apt: KART Arr Time (Local): 18:25 (Z) 22:25 Tot Time Aloft: 4.45

CORS: (Y) / N Sta 1: Sta 2: Flyovers: Y / N If Y, times: Sta1) Sta2)

GPS Unit: Y / (N) Sta 1: Sta 2: Flyovers: Y / N If Y, times: Sta1) Sta2)

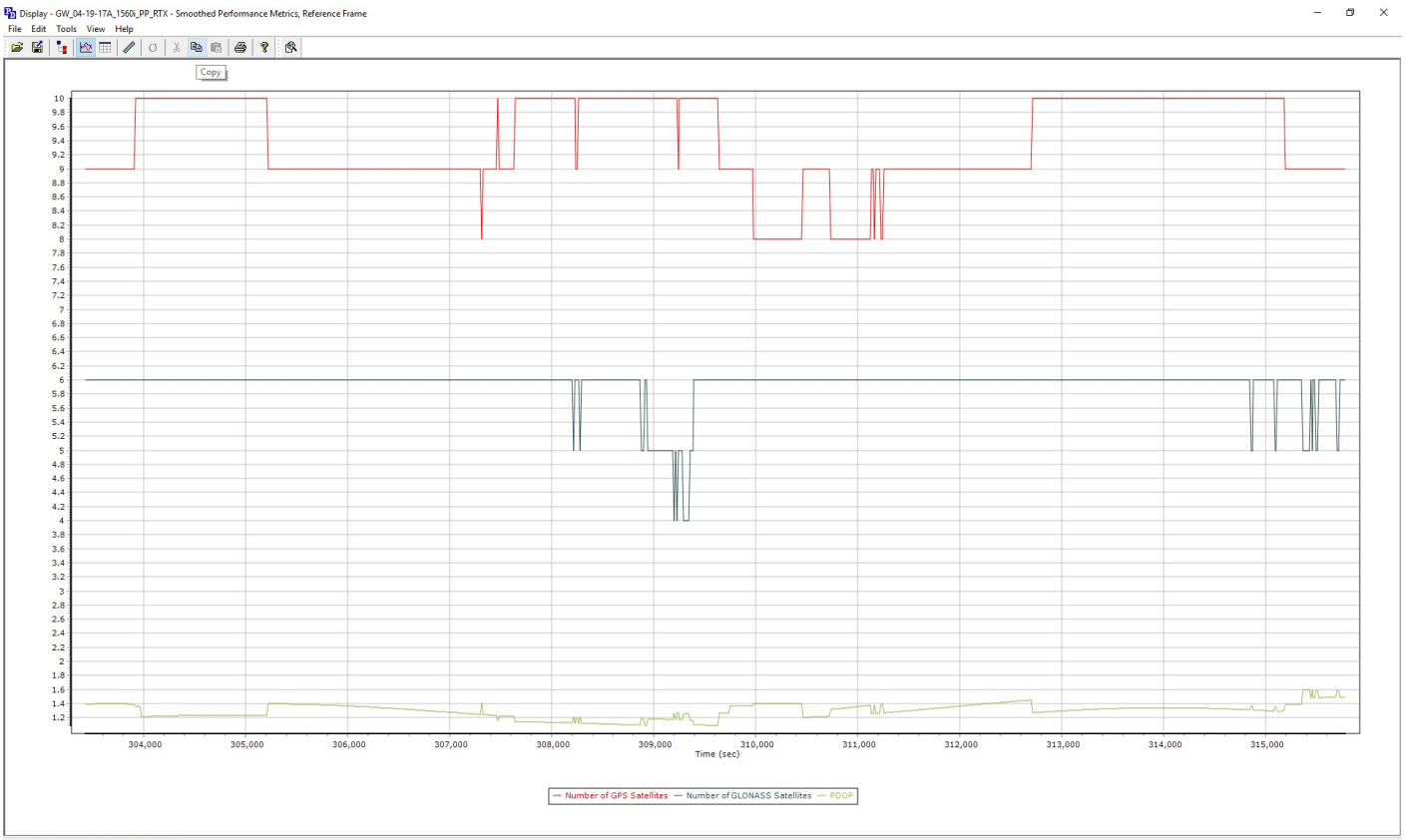
Gd Temp beg: 53 °F End: °c OAT beg: °c End: °c Altimeter begin: 32.4 end:

LiDAR	Type RIEGL 1560,	Serial # 22211277	Alt AGL ~5300	Alt AMSL ~5700	Avg Terr Ht ~7000	Max Gdspd 160 kts	Avg Pt Spacing
	FOV 58.5	Scan Freq VGR	MpiA (Y) / N	Pulses In Air	Pulse Rate 700 kHz	Power 100 %	PPSM

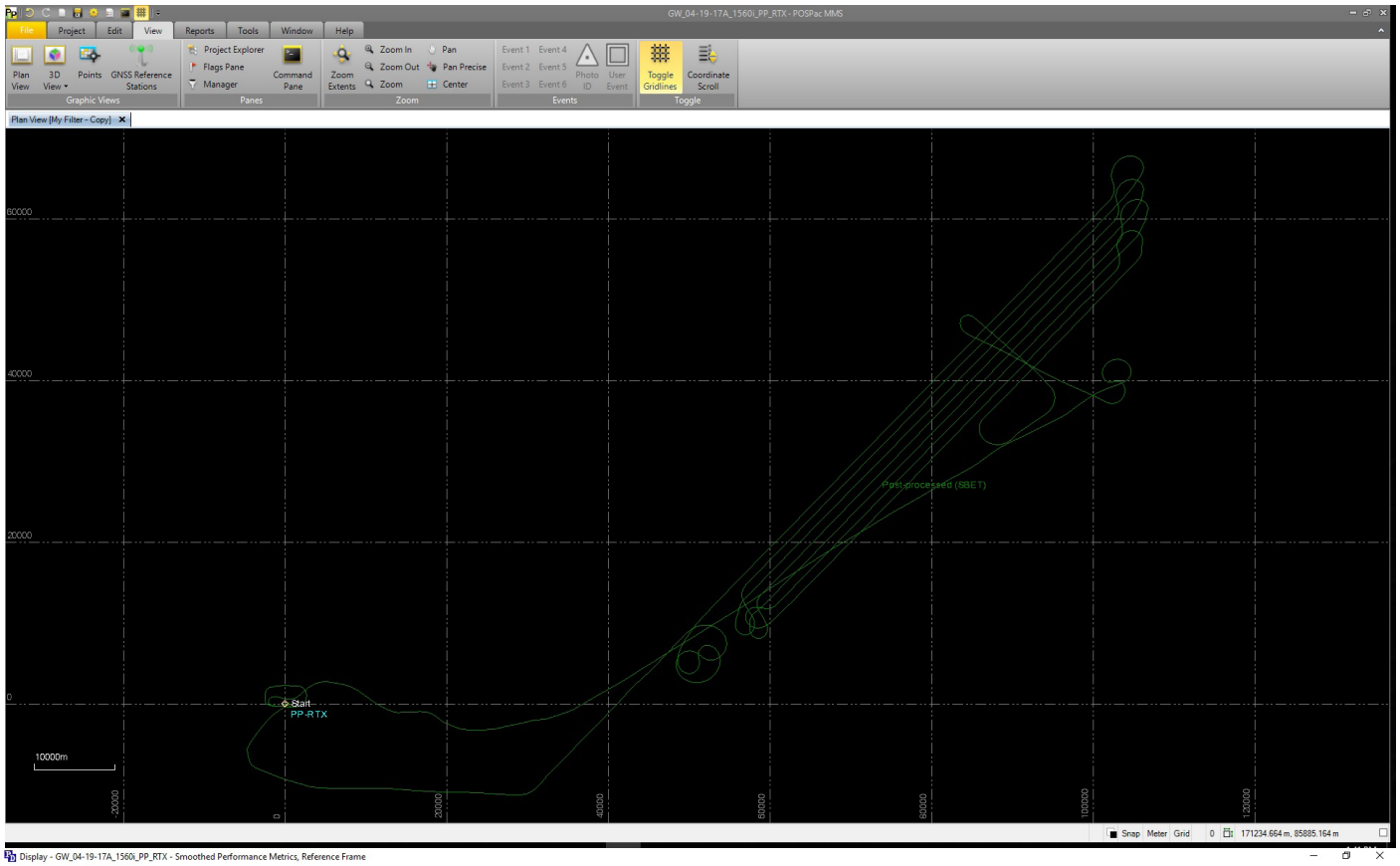
Line #	Hdg	Start (UTC)	End (UTC)	Gd Spd	PDOP/# Sats	GPS Altitude	Crab	Turb (0,-,+)	FLIGHT LINE NOTES – visibility, clouds, smoke, partial, etc.
11	225	18:21	18:39	160	1.07/18	5320		0	
12	45	18:42	19:00	160	1.08/18	5320		0	
13	225	19:03	19:20	160	.95/20	5320		0	
14	45	19:23	19:40	160	.98/19	5300		0	
15	225	19:43	20:00	160	1.02/19	5300		LT	
16	45	20:03	20:20	160	0.96/19	5300		LT	
17	225	20:23	20:40	160	1.01/17	5340		LT	
18	45	20:43	21:00	160	1.11/17	5340		LT	
19	225	21:03	21:19	160	1.16/16	5320		LT	
20	45	21:22	21:39	160	1.09/17	5320		LT	
21	225	21:41	21:58	160	1.16/16	5400		LT	
RUME	308	22:08	22:25	150	1.07/17	5380		LT	

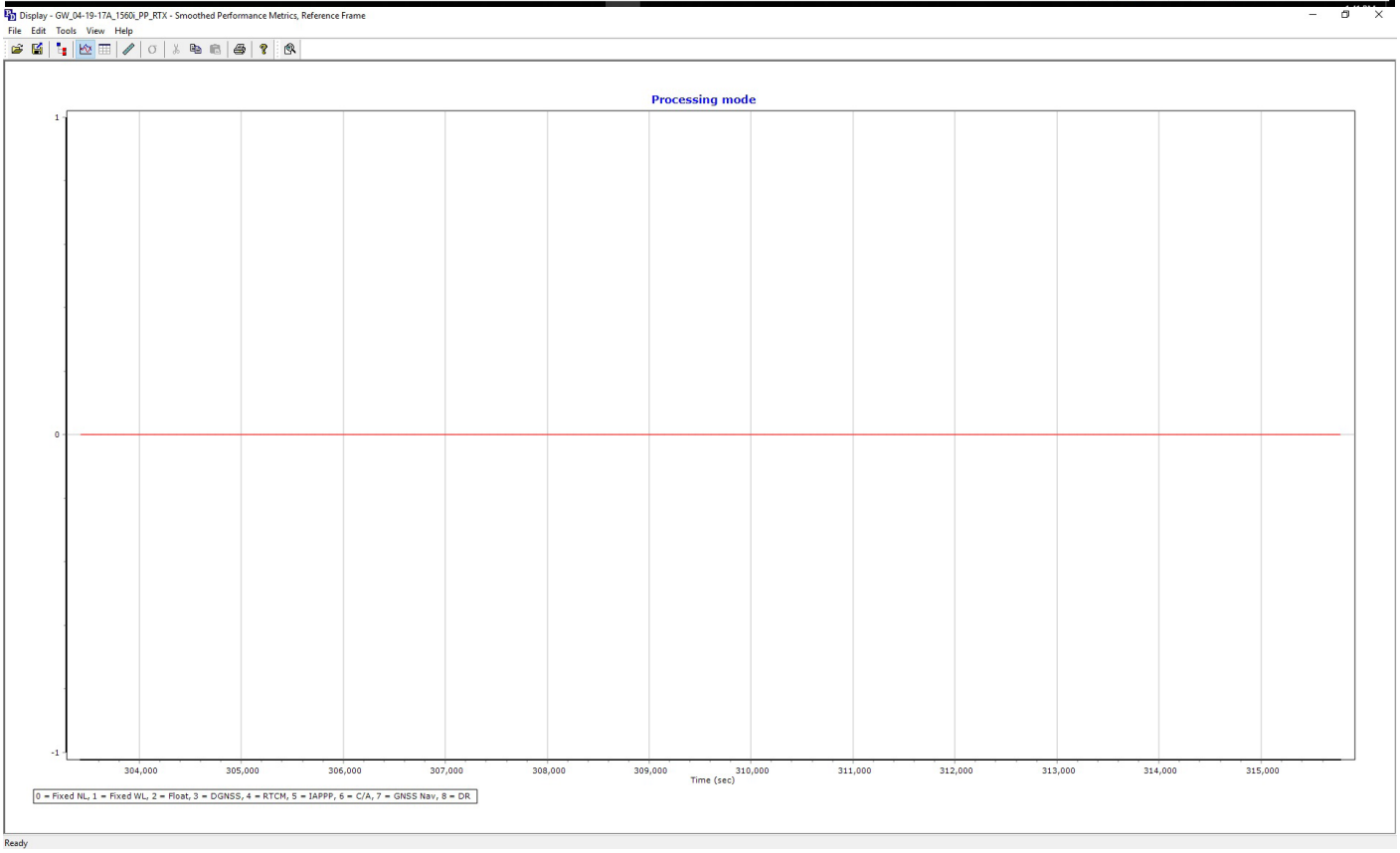
Total Proj Lines: Lines Flown: Lines Remain: Online Time: Mob Time: Notes:

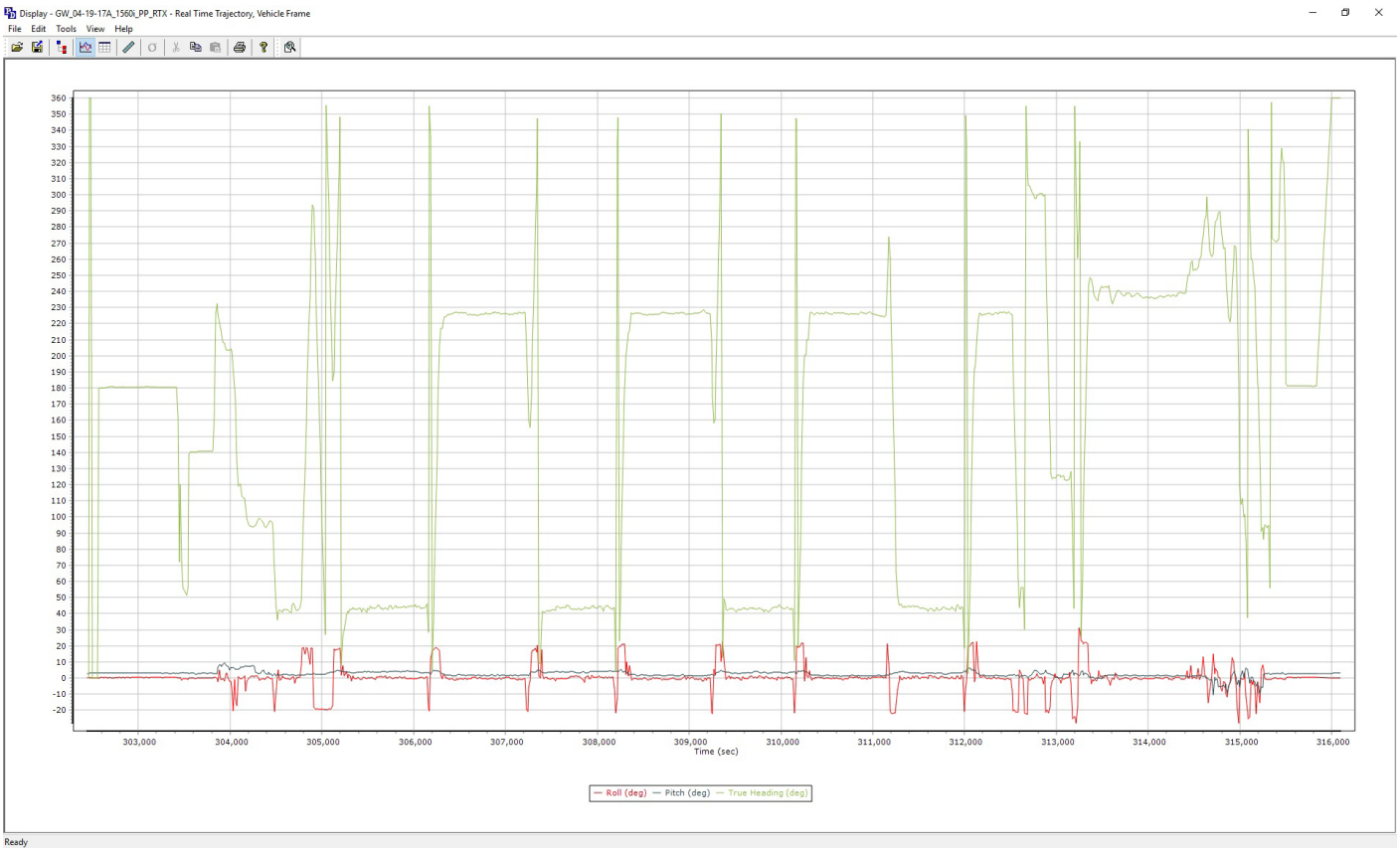
Apr 19, 2017-A (N604MD, SN2221277)


Display - GW_04-19-17A_1560i_PP_RTX - Smoothed Performance Metrics, Reference Frame
File Edit Tools View Help
Copy
Time (sec)
Number of GPS Satellites
Number of GLONASS Satellites
PDOP
Copy the selection and put it on the Clipboard

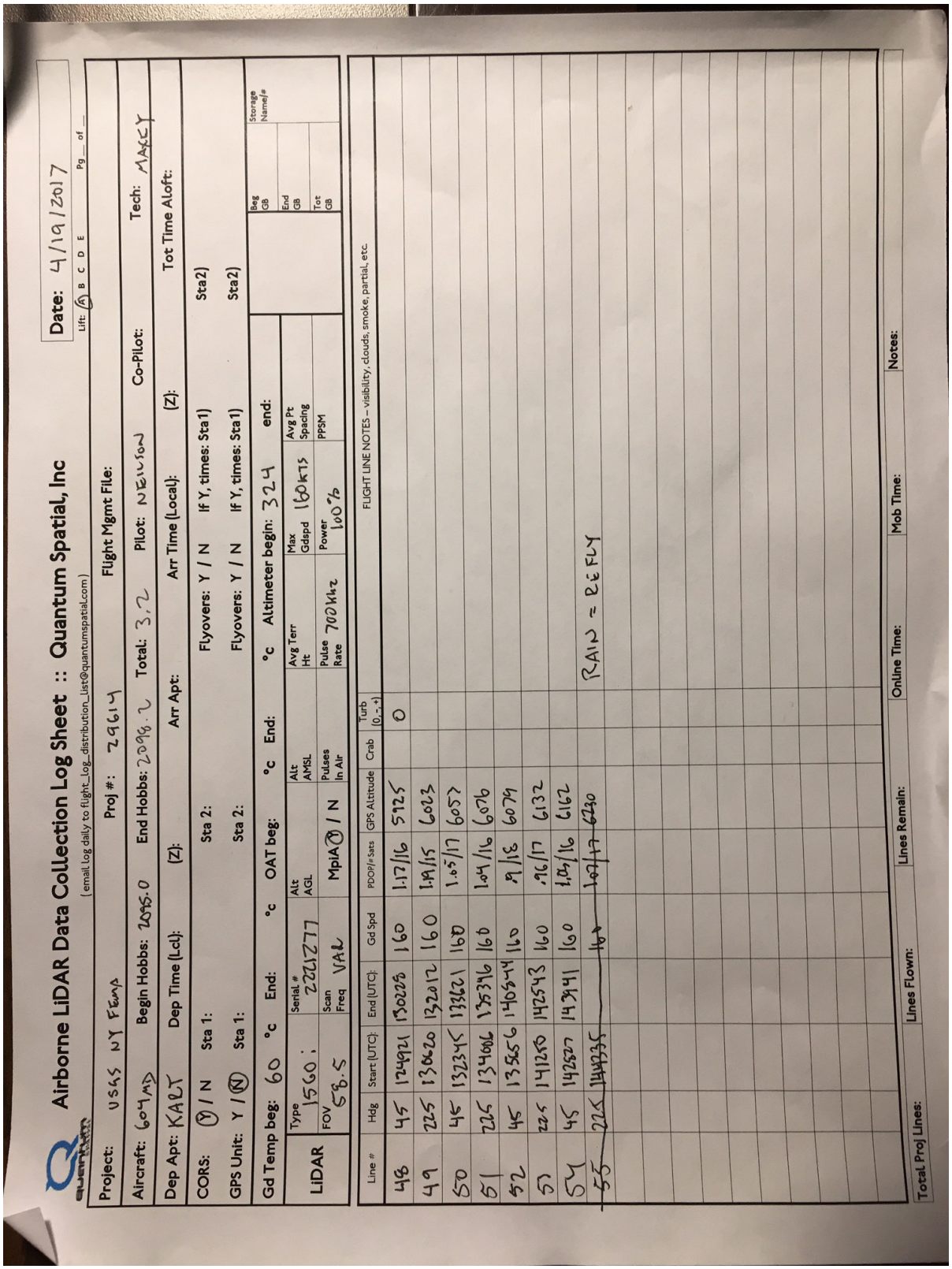

Display - GW_04-19-17A_1560i_PP_RTX - Smoothed Performance Metrics, Reference Frame
File Edit Tools View Help
Statistics
Time (sec)
North Position Error RMS (m)
East Position Error RMS (m)
Down Position Error RMS (m)
View statistics


GW_04-19-17A_1560i_PP_RTX - POSPac MMS
File
Project
Edit
View
Reports
Tools
Window
Help
Plan View
3D View
Points
GNSS Reference Stations
Graphic Views
Project Explorer
Flags Pane
Manager
Command Pane
Panes
Zoom In
Zoom Out
Zoom
Pan
Pan Precise
Center
Zoom Extents
Zoom
Event 1
Event 2
Event 3
Event 4
Event 5
Event 6
Photo ID
User Event
Events
Toggle Gridlines
Coordinate Scroll
Toggle
Plan View (My Filter - Copy)
60000
40000
20000
0
Post-processed (SBET)
Start
PP-RTX
10000m
-20000
20000
40000
60000
80000
100000
120000
Snap
Meter
Grid
171234.664 m, 85885.164 m


Display - GW_04-19-17A_1560i_PP_RTX - Smoothed Performance Metrics, Reference Frame
File
Edit
Tools
View
Help
Processing mode
1
0
-1
304,000
305,000
306,000
307,000
308,000
309,000
310,000
311,000
312,000
313,000
314,000
315,000
Time (sec)
0 = Fixed NL, 1 = Fixed WL, 2 = Float, 3 = DGNSS, 4 = RTCM, 5 = IAPPP, 6 = C/A, 7 = GNSS Nav, 8 = DR
Ready


Display - GW_04-19-17A_1560i_PP_RTX - Real Time Trajectory, Vehicle Frame
File Edit Tools View Help
360 350 340 330 320 310 300 290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 -10 -20
303,000 304,000 305,000 306,000 307,000 308,000 309,000 310,000 311,000 312,000 313,000 314,000 315,000 316,000
Time (sec)
Roll (deg) Pitch (deg) True Heading (deg)
Ready

Flight Log



Airborne LiDAR Data Collection Log Sheet :: Quantum Spatial, Inc

(email Log daily to flight_Log_distribution_List@quantumspatial.com)

Date: 4/19/2017

Lift: A B C D E Pg __ of __

Project: USGS NY FEMA Proj #: 29614 Flight Mgmt File:

Aircraft: 604MD Begin Hobbs: 2095.0 End Hobbs: 2098.2 Total: 3.2 Pilot: NELSON Co-Pilot: Tech: MACEY

Dep Apt: KALB Dep Time (Lcl): (Z): Arr Apt: Arr Time (Local): (Z): Tot Time Aloft:

CORS: Y / N Sta 1: Sta 2: Flyovers: Y / N If Y, times: Sta 1) Sta2)

GPS Unit: Y / N Sta 1: Sta 2: Flyovers: Y / N If Y, times: Sta 1) Sta2)

Gd Temp beg: 60 °c End: °c OAT beg: °c End: °c Altimeter begin: 32.4 end:

LiDAR	Type 1560;	Serial # 2201277	Alt AGL	Alt AMSL	Avg Terr Ht	Max Gdspd 160kts	Avg Pt Spacing	Beg GB	Storage Name/#
	FOV 58.5	Scan Freq VAR	MpiA Y / N	Pulses In Air	Pulse Rate 700kHz	Power 100%	PPSM	End GB	
								Tot GB	

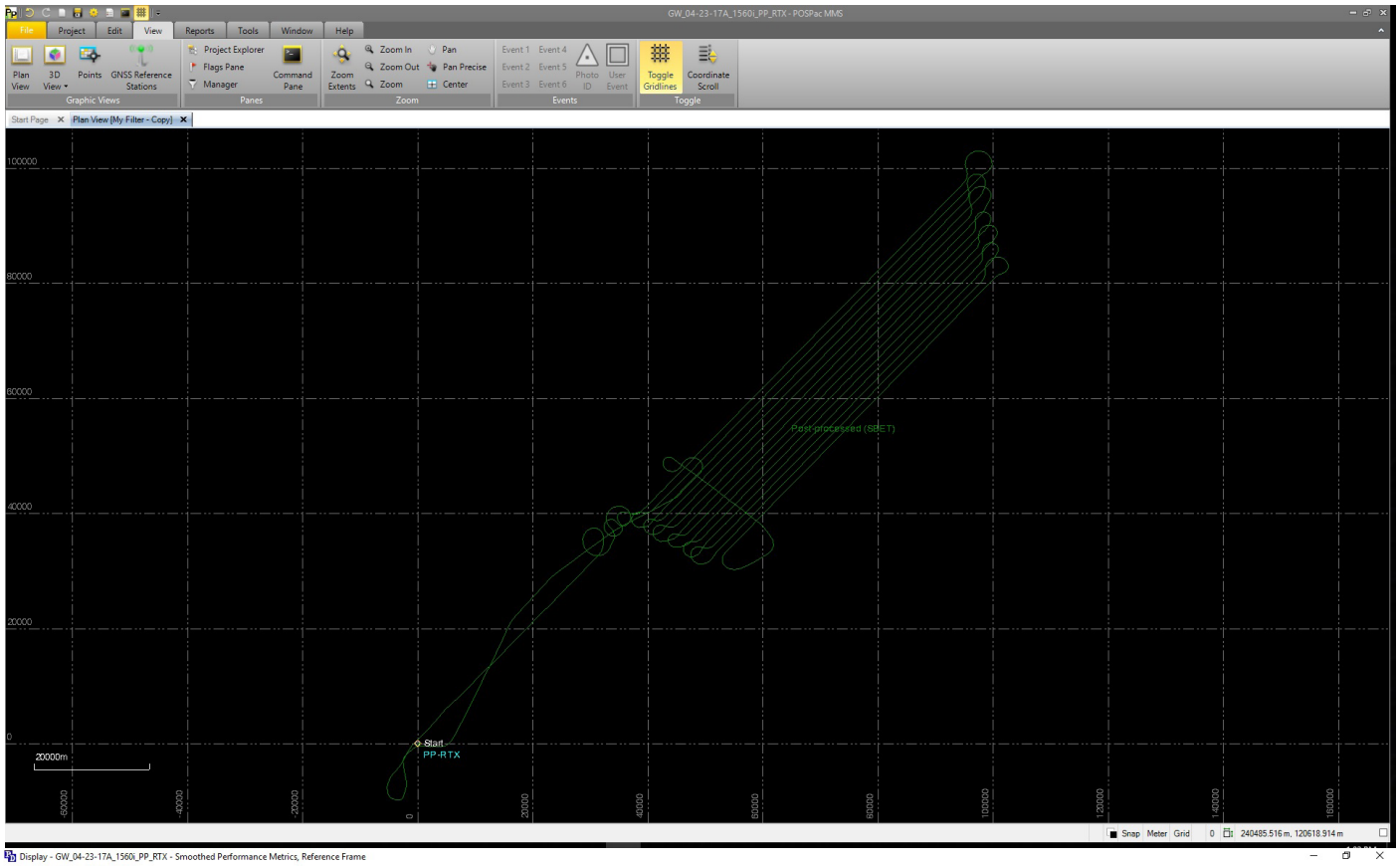
Line #	Hdg	Start (UTC)	End (UTC)	Gd Spd	PDOP/#sats	GPS Altitude	Crab	Turb (0,-,+)	FLIGHT LINE NOTES – visibility, clouds, smoke, partial, etc.
48	45	124921	130228	160	1.17/16	5125		0	
49	225	130620	132012	160	1.19/15	6023			
50	45	132345	133621	160	1.05/17	6057			
51	225	134006	135316	160	1.09/16	6076			
52	45	135656	140944	160	.9/16	6079			
53	225	141250	142543	160	.96/17	6132			
54	45	142527	143941	160	1.04/16	6162			RAIN = RE FLY
~~55~~	~~225~~	~~144235~~	~~~~	~~160~~	~~1.07/17~~	~~6130~~			

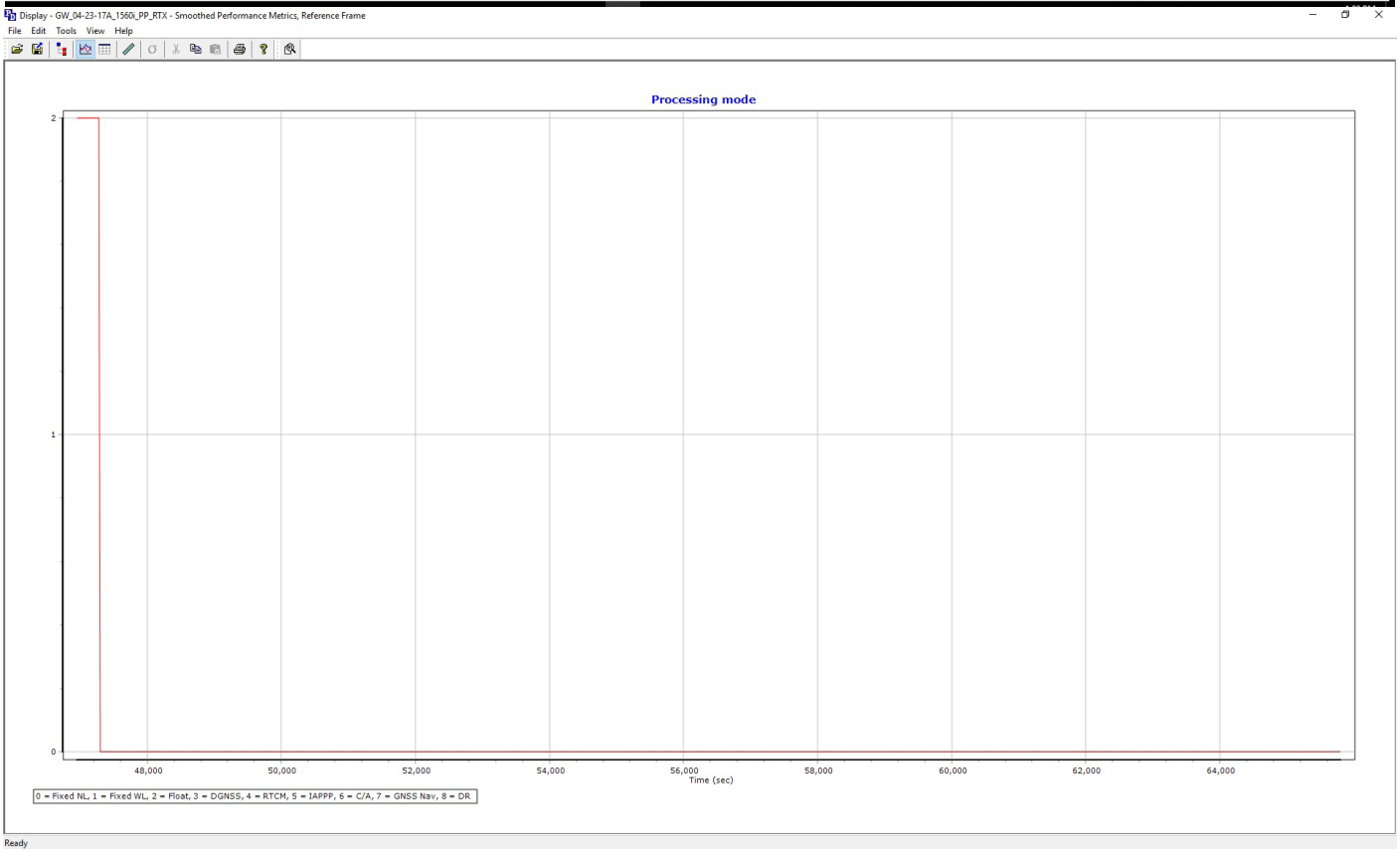
Total Proj Lines: Lines Flown: Lines Remain: Online Time: Mob Time: Notes:

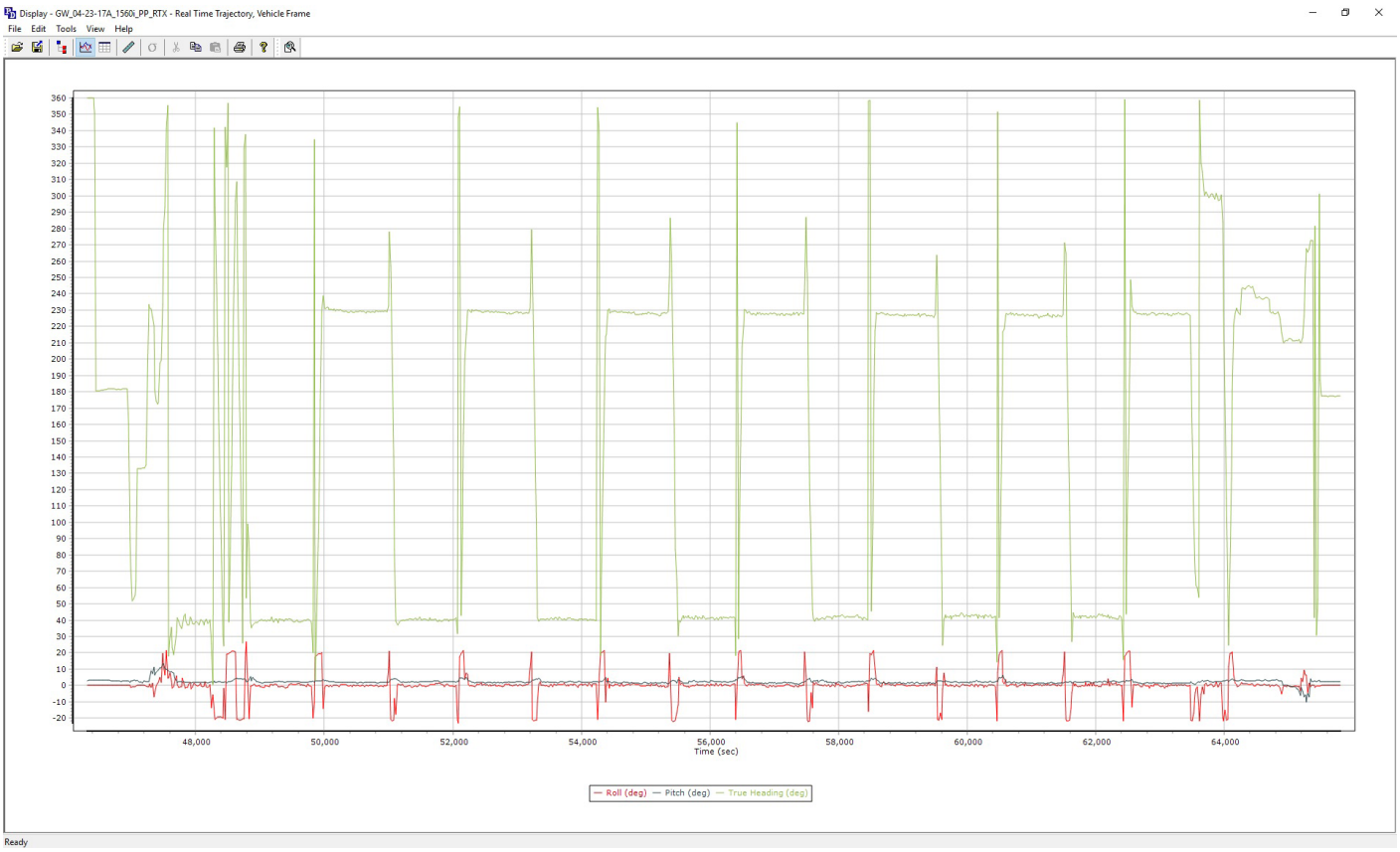
Apr 23, 2017-A (N604MD, SN2221277)


Display - GW_04-23-17A_1560i_PP_RTX - Smoothed Performance Metrics, Reference Frame
File Edit Tools View Help
Time (sec)
Number of GPS Satellites
Number of GLONASS Satellites
PDOP
Ready

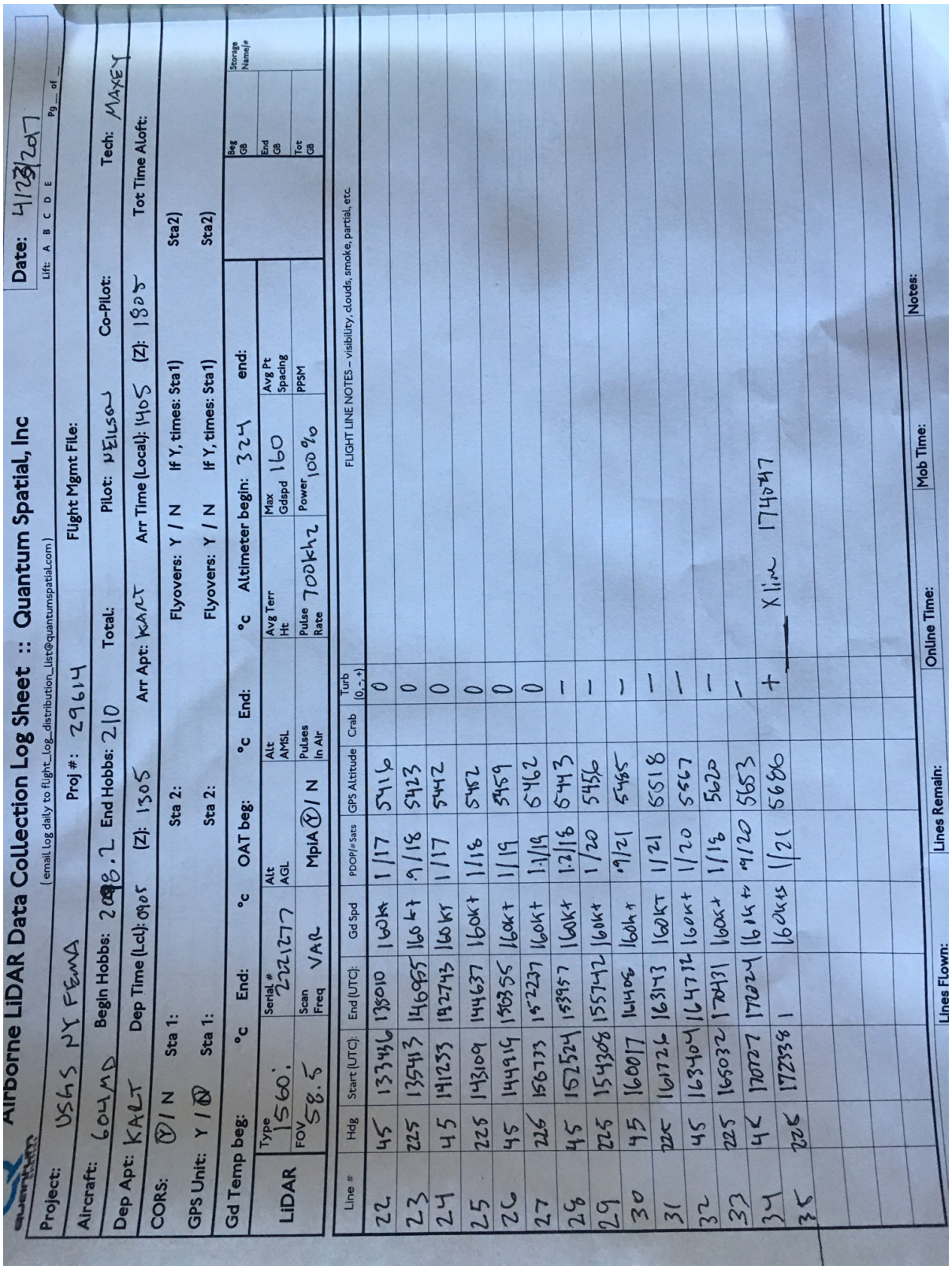

Display - GW_04-23-17A_1560i_PP_RTX - Smoothed Performance Metrics, Reference Frame
File Edit Tools View Help
Time (sec)
North Position Error RMS (m)
East Position Error RMS (m)
Down Position Error RMS (m)
Ready


GW_04-23-17A_1560i_PP_RTX - POSPac MMS
File
Project
Edit
View
Reports
Tools
Window
Help
Plan View
3D View
Points
GNSS Reference Stations
Graphic Views
Project Explorer
Flags Pane
Manager
Command Pane
Panes
Zoom Extents
Zoom In
Zoom Out
Zoom
Pan
Pan Precise
Center
Zoom
Event 1
Event 2
Event 3
Event 4
Event 5
Event 6
Photo ID
User Event
Events
Toggle Gridlines
Coordinate Scroll
Toggle
Start Page
Plan View [My Filter - Copy]
Post-processed (SBET)
Start
PP-RTX
20000m
Snap
Meter
Grid


Display - GW_04-23-17A_1560i_PP_RTX - Smoothed Performance Metrics, Reference Frame
File
Edit
Tools
View
Help
Processing mode
Time (sec)
0 = Fixed NL, 1 = Fixed WL, 2 = Float, 3 = DGNSS, 4 = RTCM, 5 = IAPPP, 6 = C/A, 7 = GNSS Nav, 8 = DR
Ready


Display - GW_04-23-17A_1560i_PP_RTX - Real Time Trajectory, Vehicle Frame
File Edit Tools View Help
360 350 340 330 320 310 300 290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 -10 -20
48,000 50,000 52,000 54,000 56,000 58,000 60,000 62,000 64,000
Time (sec)
Roll (deg) Pitch (deg) True Heading (deg)
Ready

Flight Log



Airborne LiDAR Data Collection Log Sheet :: Quantum Spatial, Inc

(email Log daily to flight_log_distribution_list@quantumspatial.com)

Date: 4/28/2017

Lift: A B C D E Pg__ of__

Project: USGS NY FEMA Proj #: 29614 Flight Mgmt File:

Aircraft: 60UMD Begin Hobbs: 2088.2 End Hobbs: 210 Total: Pilot: NELSON Co-Pilot: Tech: MAYER

Dep Apt: KALB Dep Time (Lcl): 0905 (Z): 1305 Arr Apt: KART Arr Time (Local): 1405 (Z): 1805 Tot Time Aloft:

CORs: Y / N Sta 1: Sta 2: Flyovers: Y / N If Y, times: Sta1) Sta2)

GPS Unit: Y / N Sta 1: Sta 2: Flyovers: Y / N If Y, times: Sta1) Sta2)

Gd Temp beg: °c End: °c OAT beg: °c End: °c Altimeter begin: 32.4 end:

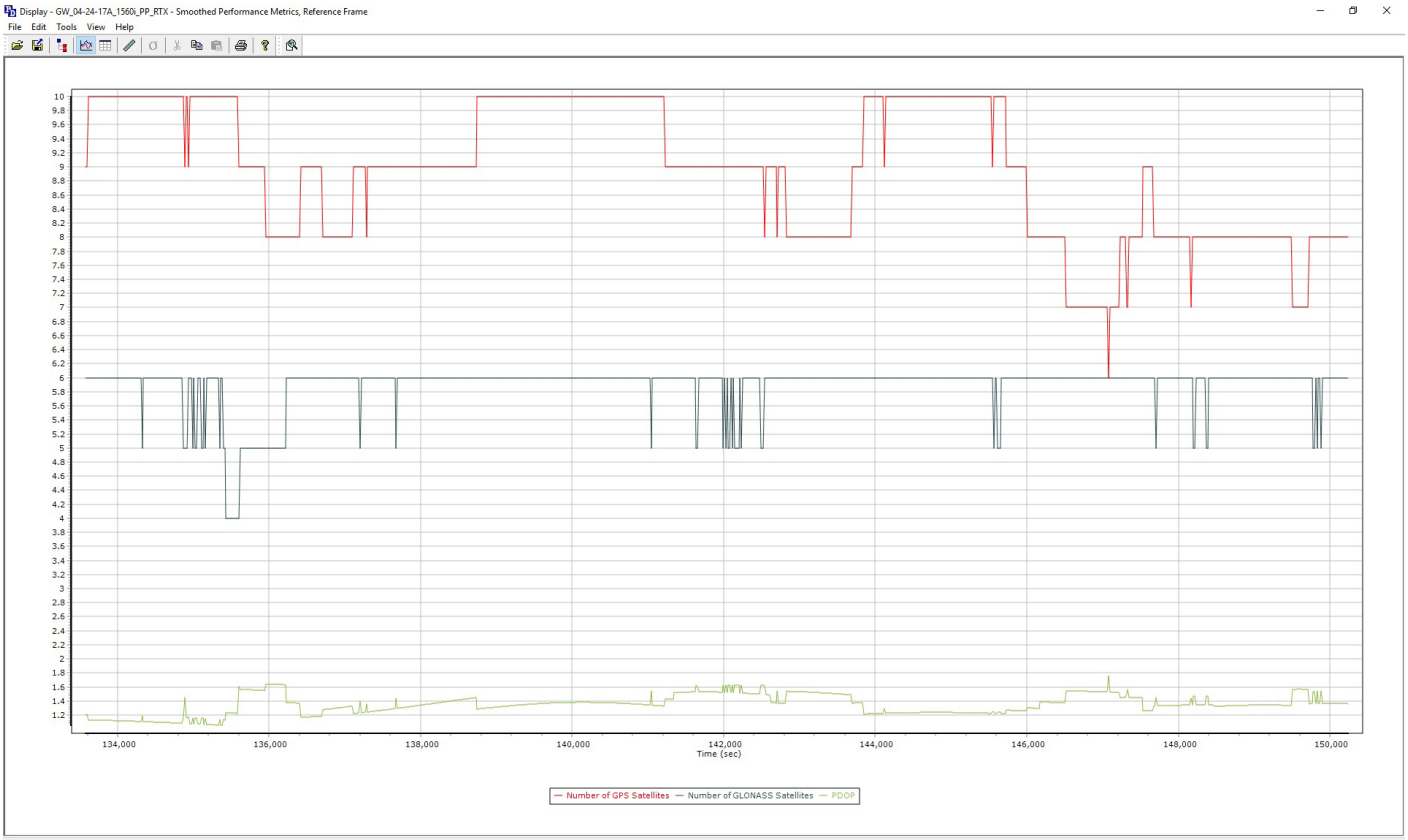
LiDAR: Type 1560. Serial # 222127 Alt AGL: MpiA Y / N Alt AMSL: Pulses In Air: Avg Terr Ht: Pulse Rate 700kHz Max Gdspd 160 Power 100 % Avg Pt Spacing: PPSM: FOV 58.5 Scan Freq VAR

Beg GB: End GB: Tot GB: Storage Name/#:

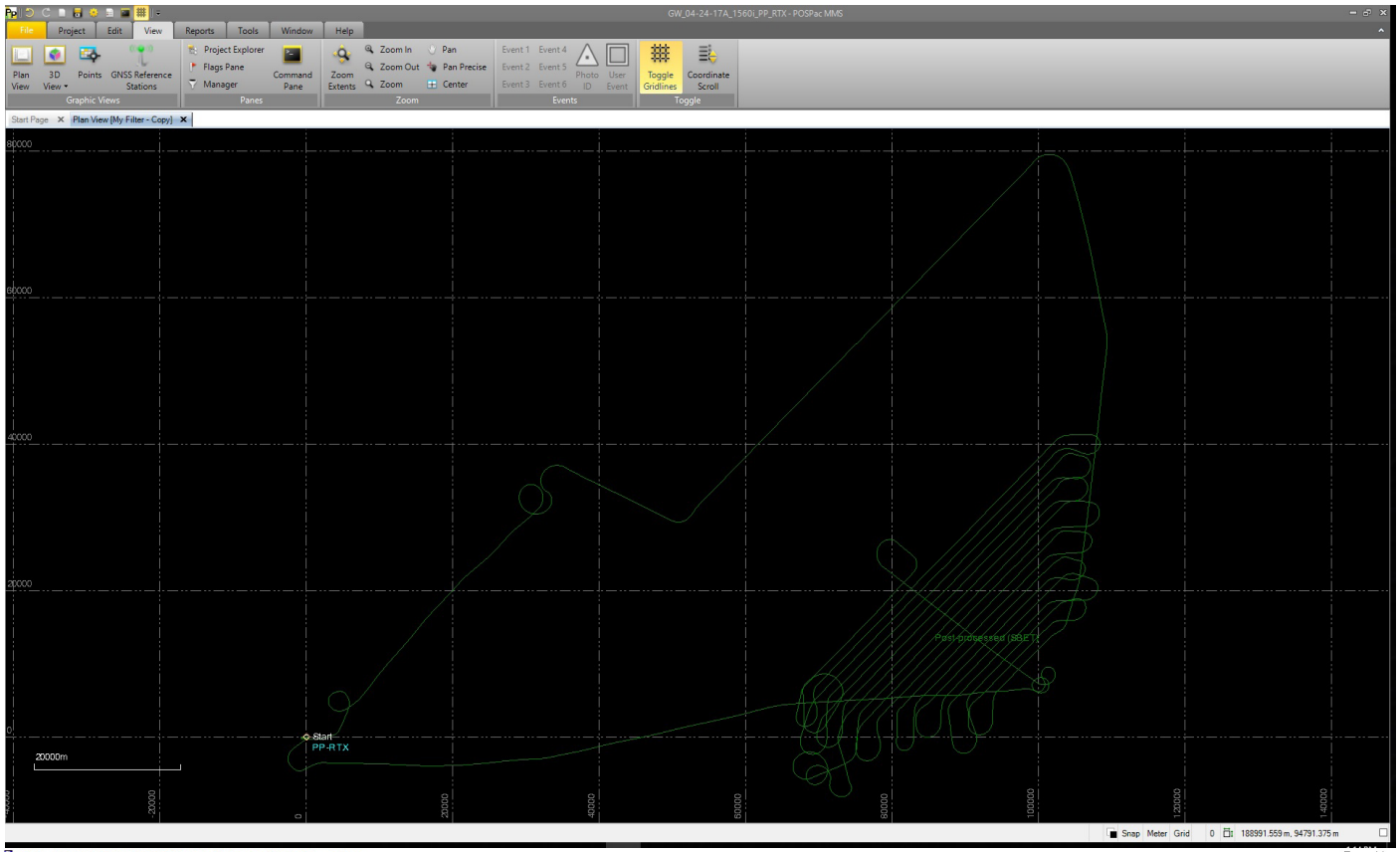
Line #	Hdg	Start (UTC):	End (UTC):	Gd Spd	PDOP/# Sats	GPS Altitude	Crab	Turb (0, -, +)	FLIGHT LINE NOTES – visibility, clouds, smoke, partial, etc.
22	45	133446	138010	160kt	1/17	5916		0	
23	225	135413	140955	160kt	9/16	5923		0	
24	45	141235	142743	160kt	1/17	5942		0	
25	225	143109	144637	160kt	1/16	5952		0	
26	45	144914	150355	160kt	1/19	5959		0	
27	226	150733	152237	160kt	1:1/19	6462		0	
28	45	152524	153957	160kt	1:2/16	6443		-	
29	225	154306	155742	160kt	1/20	5456		-	
30	45	160017	161406	160kt	9/21	6465		-	
31	225	161726	163143	160kt	1/21	6518		-	
32	45	163409	164712	160kt	1/20	5967		-	
33	225	165032	170431	160kt	1/18	5620		-	
34	45	170727	172024	161kt	9/20	5653		-	
35	225	172358	1	160kts	1/21	5680		+	X line 174047

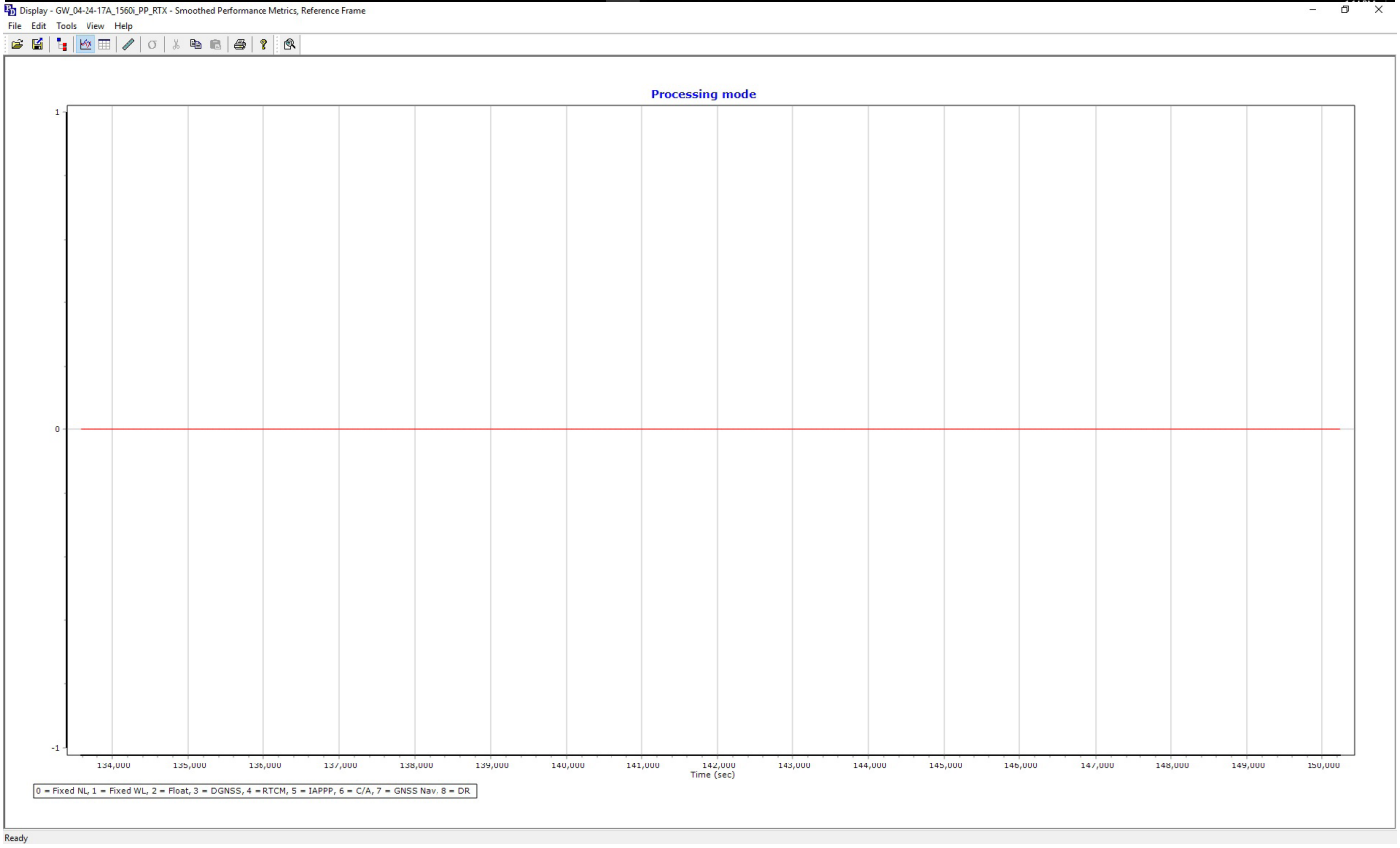
Lines Flown: Lines Remain: Online Time: Mob Time: Notes:

Apr 24, 2017-A (N604MD, SN2221277)


Display - GW_04-24-17A_1560i_PP_RTX - Smoothed Performance Metrics, Reference Frame
File Edit Tools View Help
Time (sec)
Number of GPS Satellites
Number of GLONASS Satellites
PDOP

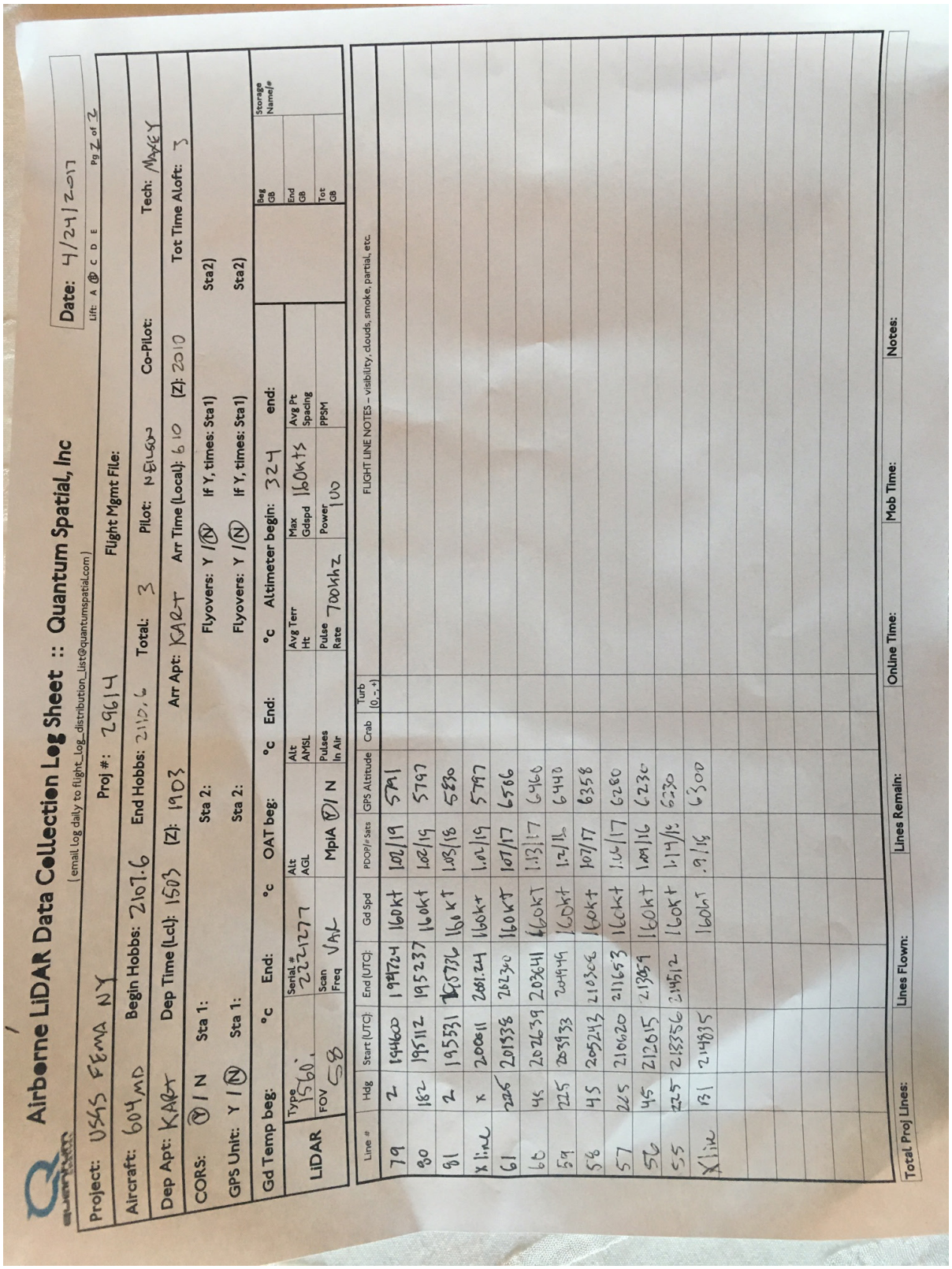

Ready
Display - GW_04-24-17A_1560i_PP_RTX - Smoothed Performance Metrics, Reference Frame
File Edit Tools View Help
Cut
Time (sec)
North Position Error RMS (m)
East Position Error RMS (m)
Down Position Error RMS (m)
Cut the selection and put it on the Clipboard


GW_04-24-17A_1560i_PP_RTX - POSPac MMS
File
Project
Edit
View
Reports
Tools
Window
Help
Plan View
3D View
Points
GNSS Reference Stations
Graphic Views
Project Explorer
Flags Pane
Manager
Command Pane
Panes
Zoom Extents
Zoom In
Zoom Out
Zoom
Pan
Pan Precise
Center
Zoom
Event 1
Event 2
Event 3
Event 4
Event 5
Event 6
Photo ID
User Event
Events
Toggle Gridlines
Coordinate Scroll
Toggle
Start Page
Plan View [My Filter - Copy]
80000
60000
40000
20000
0
Post-processed (SBET)
Start
PP-RTX
20000m
-20000
0
20000
40000
80000
100000
120000
140000
Snap
Meter
Grid
188991.559 m, 94791.375 m


Display - GW_04-24-17A_1560i_PP_RTX - Smoothed Performance Metrics, Reference Frame
File
Edit
Tools
View
Help
Processing mode
1
0
-1
134,000
135,000
136,000
137,000
138,000
139,000
140,000
141,000
142,000
143,000
144,000
145,000
146,000
147,000
148,000
149,000
150,000
Time (sec)
0 = Fixed NL, 1 = Fixed WL, 2 = Float, 3 = DGNSS, 4 = RTCM, 5 = IAPPP, 6 = C/A, 7 = GNSS Nav, 8 = DR
Ready


Display - GW_04-24-17A_1560i_PP_RTX - Real Time Trajectory, Vehicle Frame
File Edit Tools View Help
360 350 340 330 320 310 300 290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 -10 -20
134,000 136,000 138,000 140,000 142,000 144,000 146,000 148,000 150,000
Time (sec)
Roll (deg) Pitch (deg) True Heading (deg)
Ready

Flight Log



Airborne LiDAR Data Collection Log Sheet :: Quantum Spatial, Inc

(email Log daily to flight_Log_distribution_List@quantumspatial.com)

Date: 4/24/2017

Project: USGS FEMA NY — Proj #: 29614 — Flight Mgmt File:

Aircraft: 604MD — Begin Hobbs: 2107.6 — End Hobbs: 2112.6 — Total: 3 — Pilot: Nelson — Co-Pilot: — Tech: MAKEY

Dep Apt: KART — Dep Time (Lcl): 1503 (Z): 1903 — Arr Apt: KART — Arr Time (Local): 610 (Z): 2010 — Tot Time Aloft: 3

CORS: (Y) / N — Sta 1: — Sta 2: — Flyovers: Y / (N) If Y, times: Sta1) Sta2)

GPS Unit: Y / (N) — Sta 1: — Sta 2: — Flyovers: Y / (N) If Y, times: Sta1) Sta2)

Gd Temp beg: °c End: °c — OAT beg: °c End: °c — Altimeter begin: 32.4 end:

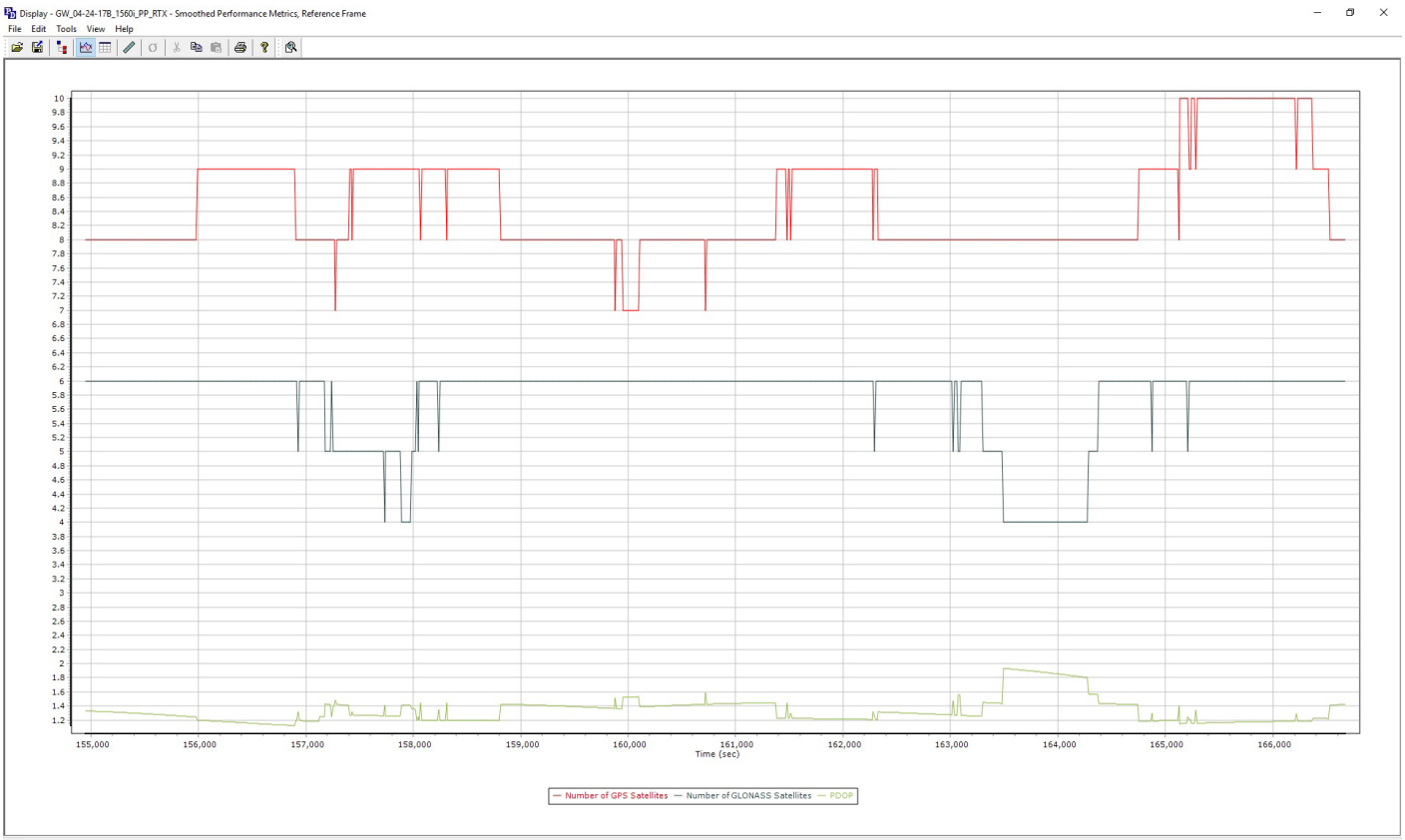
LiDAR: Type 1560, Serial # 22267, Scan Freq 58, FOV VAR, Alt AGL MpiA (F) / N, Alt AMSL Pulses In Air, Avg Terr Ht Pulse Rate 700khz, Max Gdspd 160kts, Avg Pt Spacing PPSM, Power 100

Beg GB / End GB / Tot GB / Storage Name/#

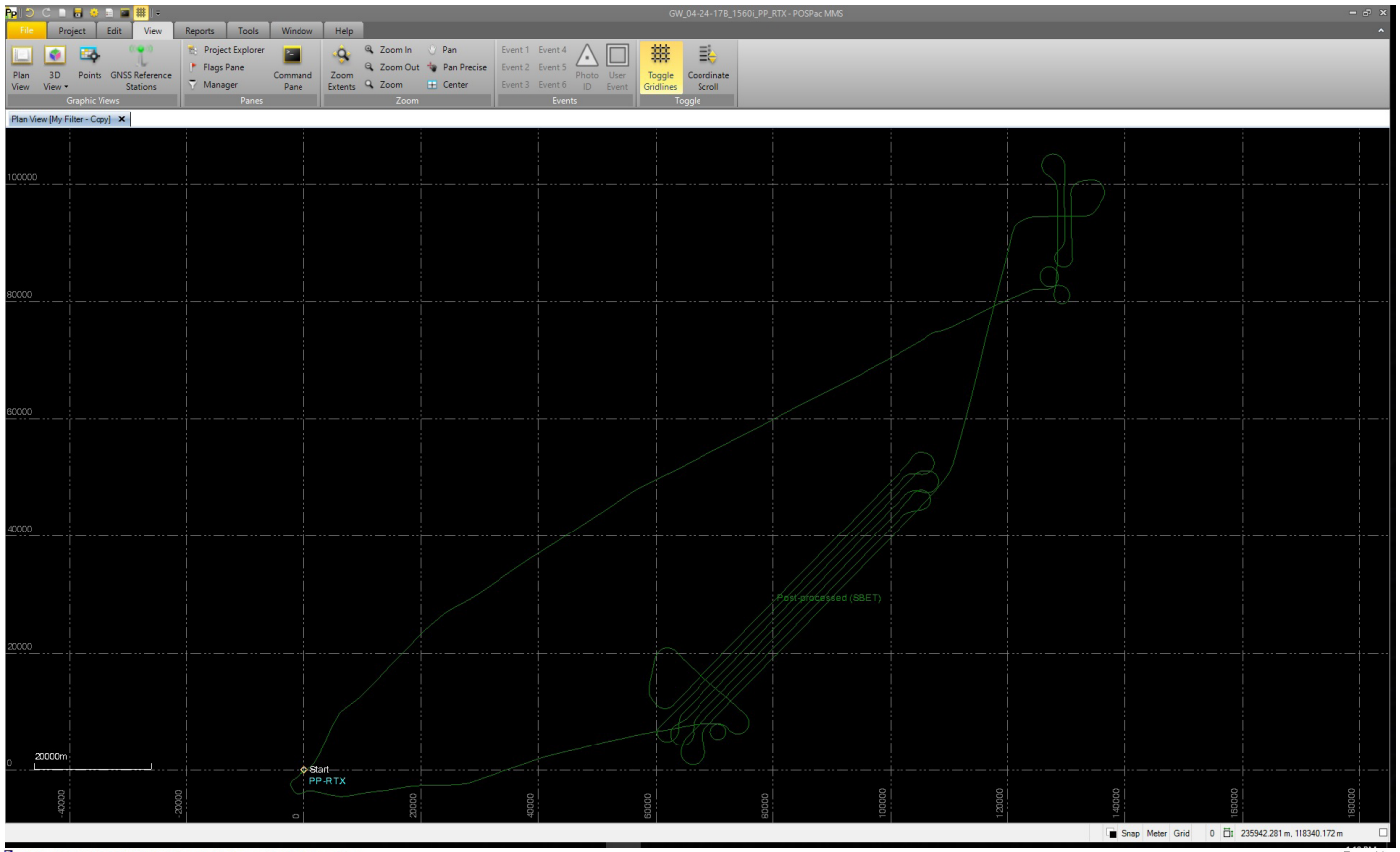
Line #	Hdg	Start (UTC):	End (UTC):	Gd Spd	PDOP/# Sats	GPS Altitude	Crab	Turb (0,+)	FLIGHT LINE NOTES – visibility, clouds, smoke, partial, etc.
79	2	194600	195124	160kt	1.0/19	5791			
80	182	195112	195237	160kt	1.0/19	5797			
81	2	195531	195736	160kt	1.0/18	5830			
X line	x	200811	201124	160kt	1.0/19	5797			
61	226	201338	201530	160kt	1.0/17	6566			
60	45	202639	202841	160kt	1.1/17	6960			
59	225	203933	204149	160kt	1.1/16	6640			
58	45	205242	205506	160kt	1.0/17	6358			
57	225	210620	211653	160kt	1.0/17	6280			
56	45	212015	213059	160kt	1.0/16	6230			
55	225	213356	214512	160kt	1.1/15	6230			
X line	131	214835		160kt	.9/14	6300			

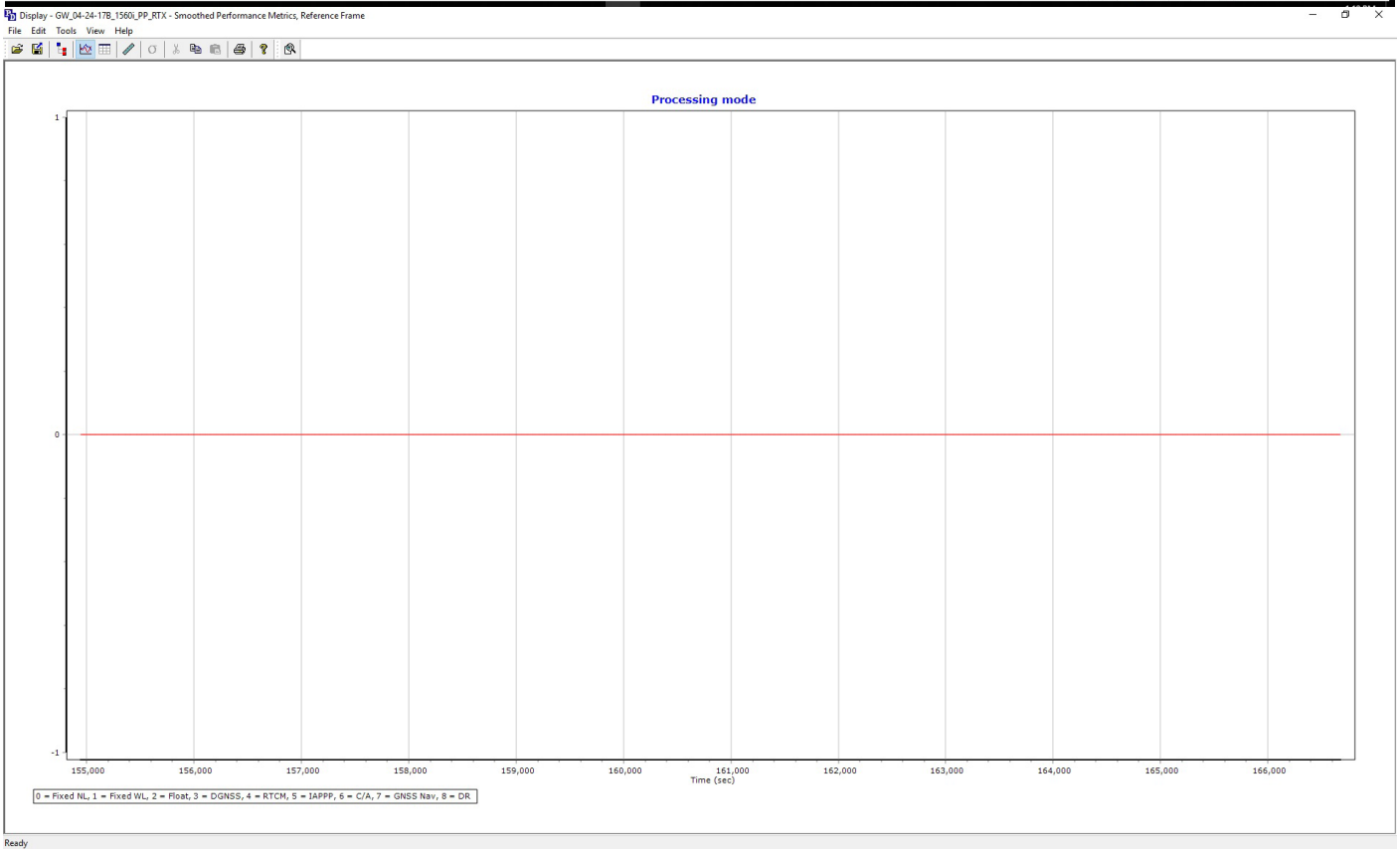
Total Proj Lines: — Lines Flown: — Lines Remain: — Online Time: — Mob Time: — Notes:

Apr 24, 2017-B (N604MD, SN2221277)


Display - GW_04-24-17B_1560i_PP_RTX - Smoothed Performance Metrics, Reference Frame
File Edit Tools View Help
Time (sec)
Number of GPS Satellites
Number of GLONASS Satellites
PDOP

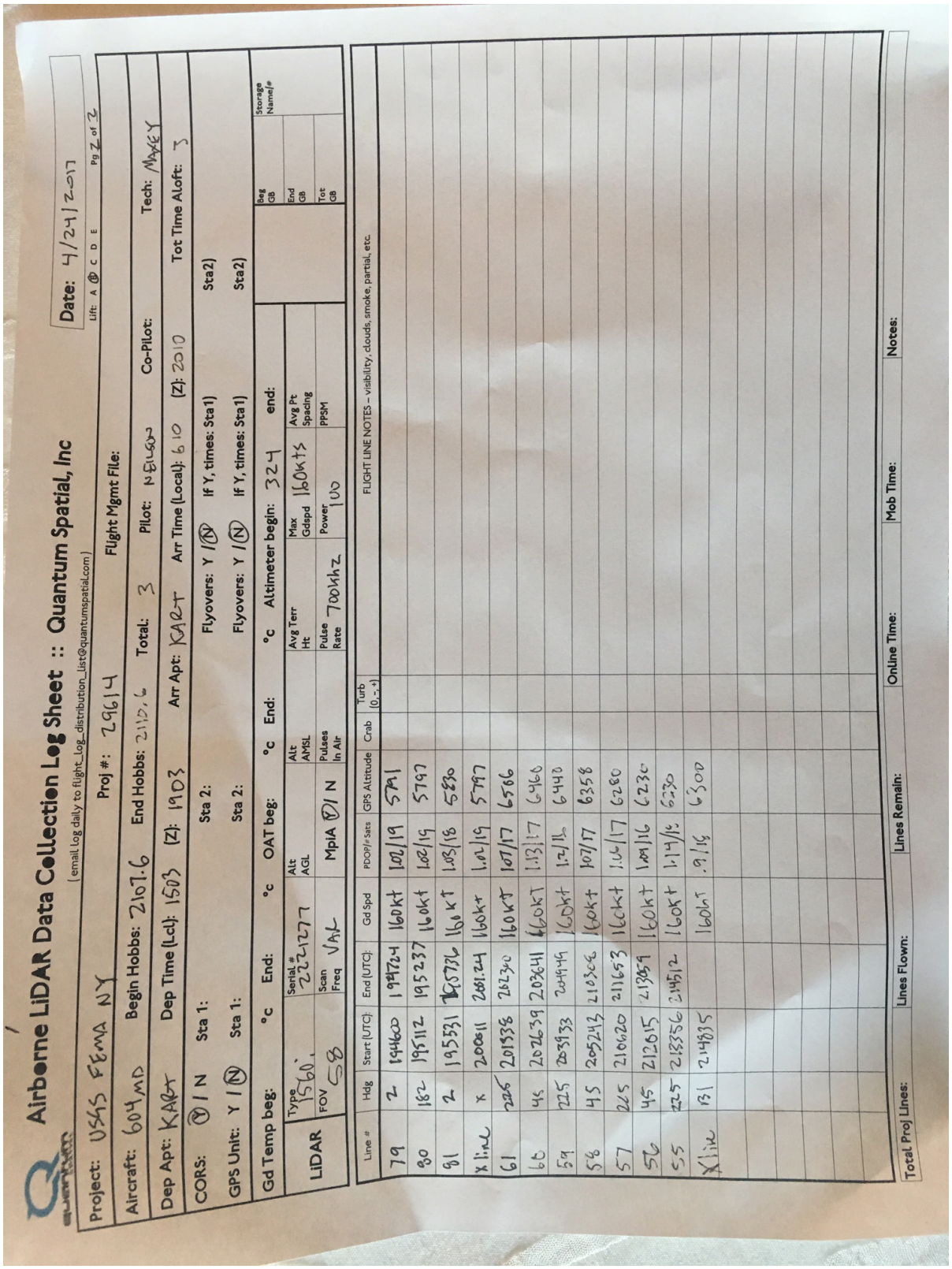

Ready
Display - GW_04-24-17B_1560i_PP_RTX - Smoothed Performance Metrics, Reference Frame
File Edit Tools View Help
Cut
Time (sec)
North Position Error RMS (m)
East Position Error RMS (m)
Down Position Error RMS (m)
Cut the selection and put it on the Clipboard


GW_04-24-17B_1560i_PP_RTX - POSPac MMS
Plan View [My Filter - Copy]
Post-processed (SBET)
Start
PP-RTX
20000m


Display - GW_04-24-17B_1560i_PP_RTX - Smoothed Performance Metrics, Reference Frame
Processing mode
Time (sec)
0 = Fixed NL, 1 = Fixed WL, 2 = Float, 3 = DGNSS, 4 = RTCM, 5 = IAPPP, 6 = C/A, 7 = GNSS Nav, 8 = DR
Ready


Display - GW_04-24-17B_1560i_PP_RTX - Real Time Trajectory, Vehicle Frame
File Edit Tools View Help
360
350
340
330
320
310
300
290
280
270
260
250
240
230
220
210
200
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
-10
-20
155,000
156,000
157,000
158,000
159,000
160,000
161,000
162,000
163,000
164,000
165,000
166,000
Time (sec)
Roll (deg)
Pitch (deg)
True Heading (deg)
Ready

Flight Log



Airborne LiDAR Data Collection Log Sheet :: Quantum Spatial, Inc

(email Log daily to flight_Log_distribution_List@quantumspatial.com)

Date: 4/24/2017

Lift: A B C D E Pg 2 of 2

Project: USGS FEMA NY Proj #: 29614 Flight Mgmt File:

Aircraft: 604MD Begin Hobbs: 2107.6 End Hobbs: 2112.6 Total: 3 Pilot: Nelson Co-Pilot: Tech: MAKEY

Dep Apt: KART Dep Time (Lcl): 1503 (Z): 1903 Arr Apt: KART Arr Time (Local): 610 (Z): 2010 Tot Time Aloft: 3

CORS: (Y) / N Sta 1: Sta 2: Flyovers: Y /(N) If Y, times: Sta1) Sta2)

GPS Unit: Y / (N) Sta 1: Sta 2: Flyovers: Y /(N) If Y, times: Sta1) Sta2)

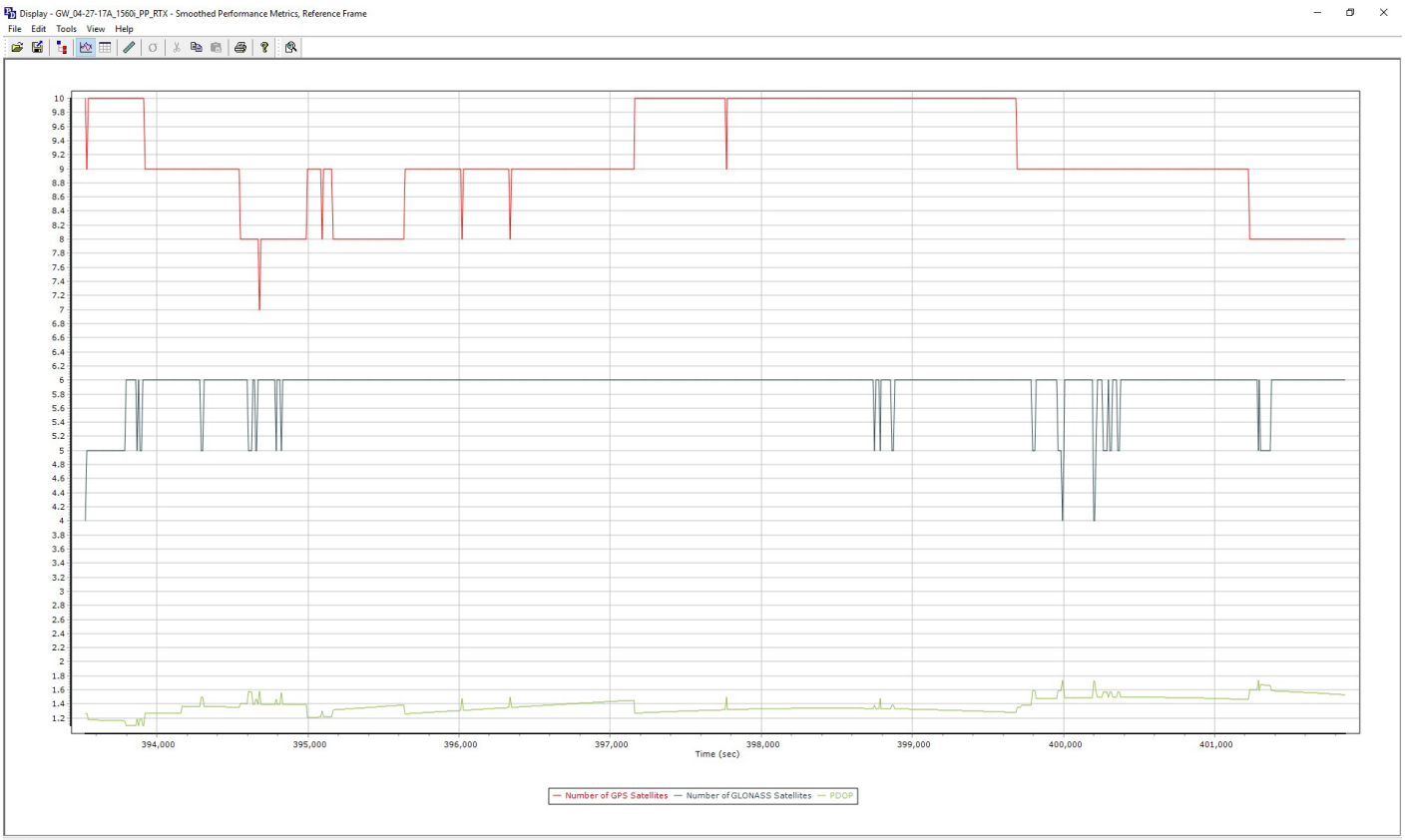
Gd Temp beg: °c End: °c OAT beg: °c End: °c Altimeter begin: 324 end:

LiDAR	Type	1560'	Serial #	22267677	Alt AGL	Alt AMSL	Avg Terr Ht	Max Gdspd	160kts	Avg Pt Spacing		Beg GB		Storage Name/#
	FOV	58	Scan Freq	VAR	MpiA (F) / N	Pulses In Air	Pulse Rate	700khz	Power	100	PPSM		Tot GB	

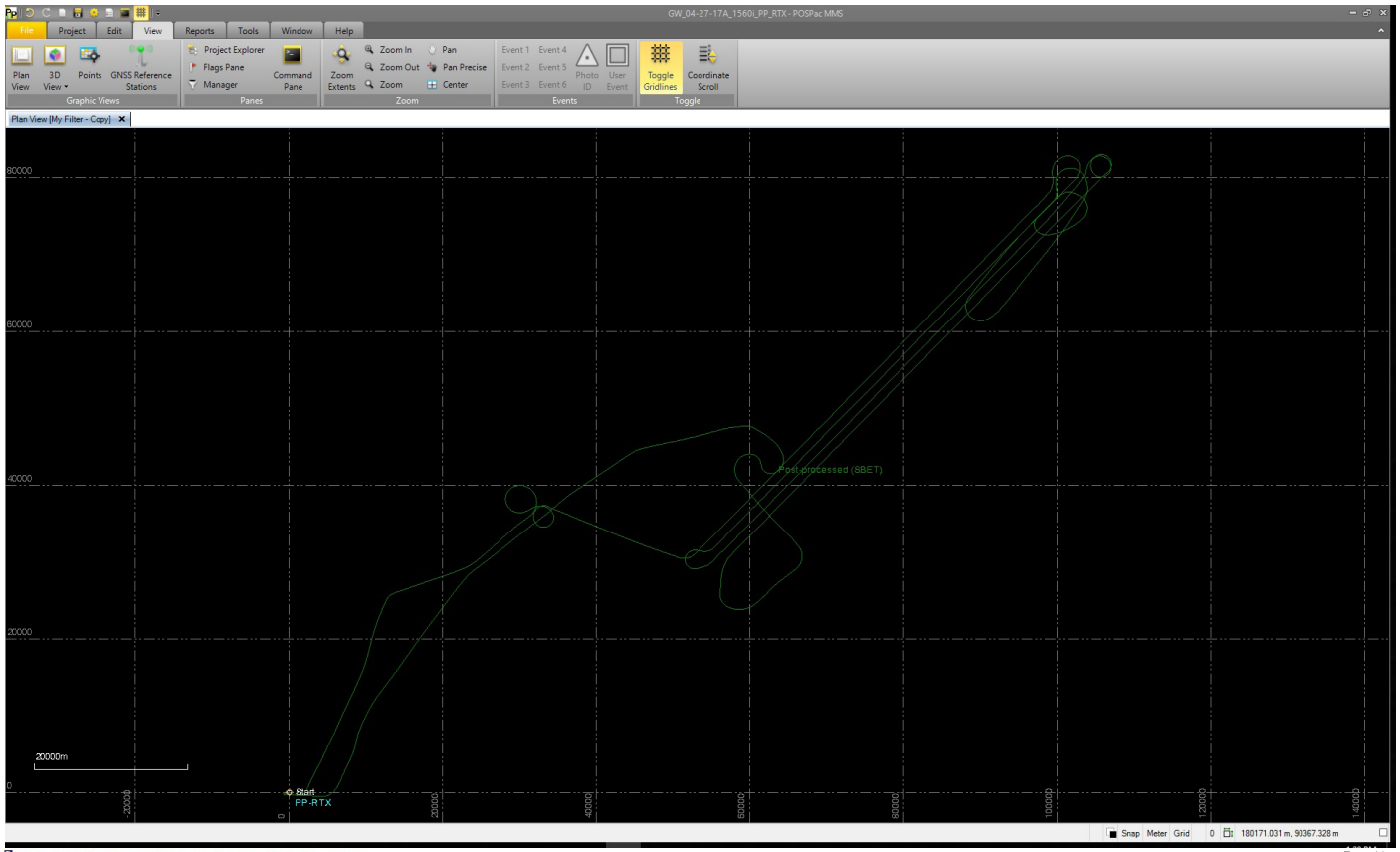
Line #	Hdg	Start (UTC):	End (UTC):	Gd Spd	PDOP/# Sats	GPS Altitude	Crab	Turb (0,+)	FLIGHT LINE NOTES – visibility, clouds, smoke, partial, etc.
79	2	194600	195124	160kt	1.0/19	5791			
80	182	195112	195237	160kt	1.0/19	5797			
81	2	195531	195736	160kt	1.0/18	5830			
X line	X	200811	201124	160kt	1.0/19	5797			
61	225	201938	202300	160kt	1.0/17	6566			
60	45	202639	203041	160kt	1.1/17	6960			
59	225	203933	204149	160kt	1.2/18	6640			
58	45	205242	210306	160kt	1.0/17	6358			
57	225	210620	211653	160kt	1.0/17	6280			
56	45	212015	213059	160kt	1.0/16	6230			
55	225	213556	214512	160kt	1.1/16	6230			
X line	181	214835		160kt	.9/16	6300			

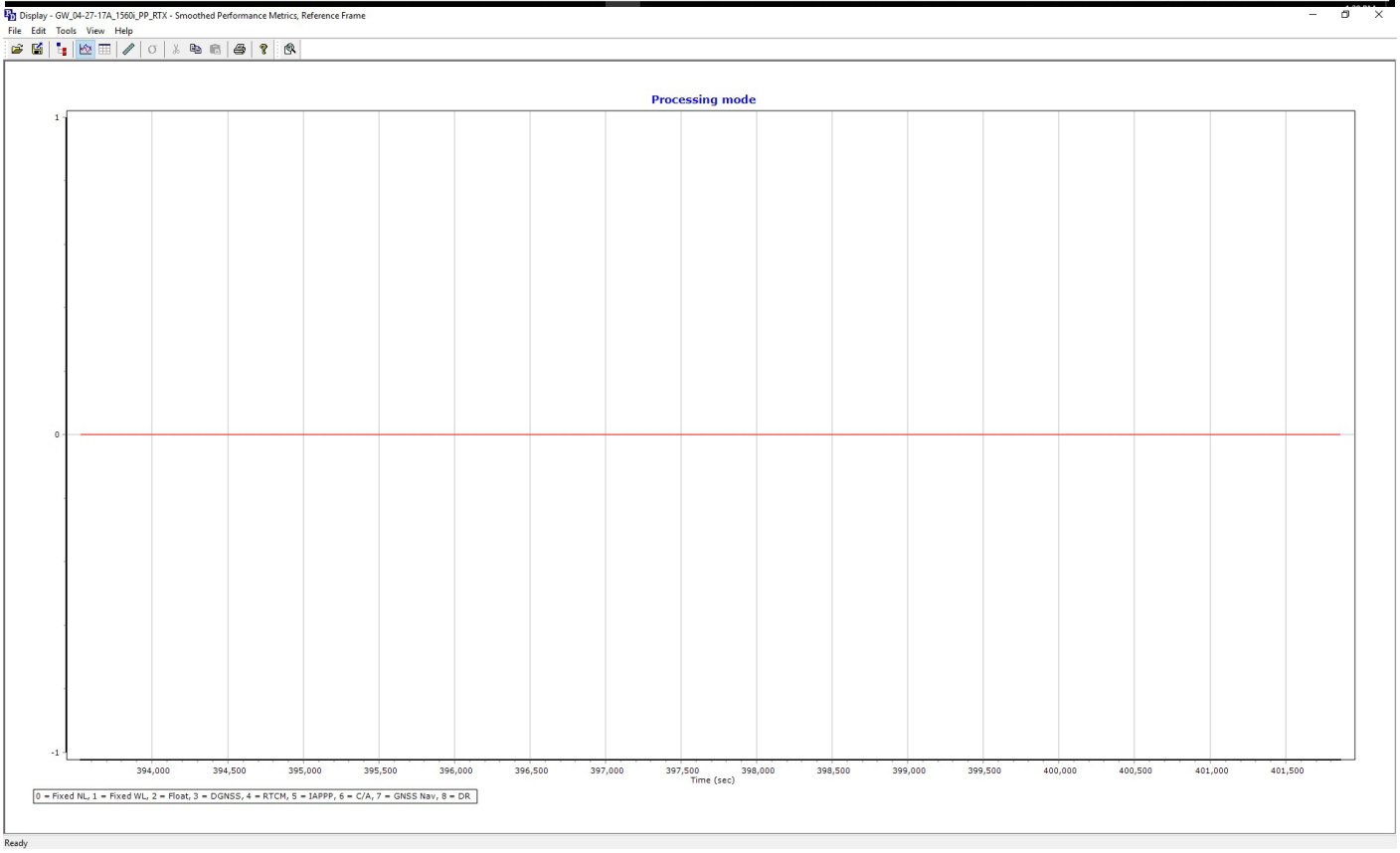
Total Proj Lines: Lines Flown: Lines Remain: Online Time: Mob Time: Notes:

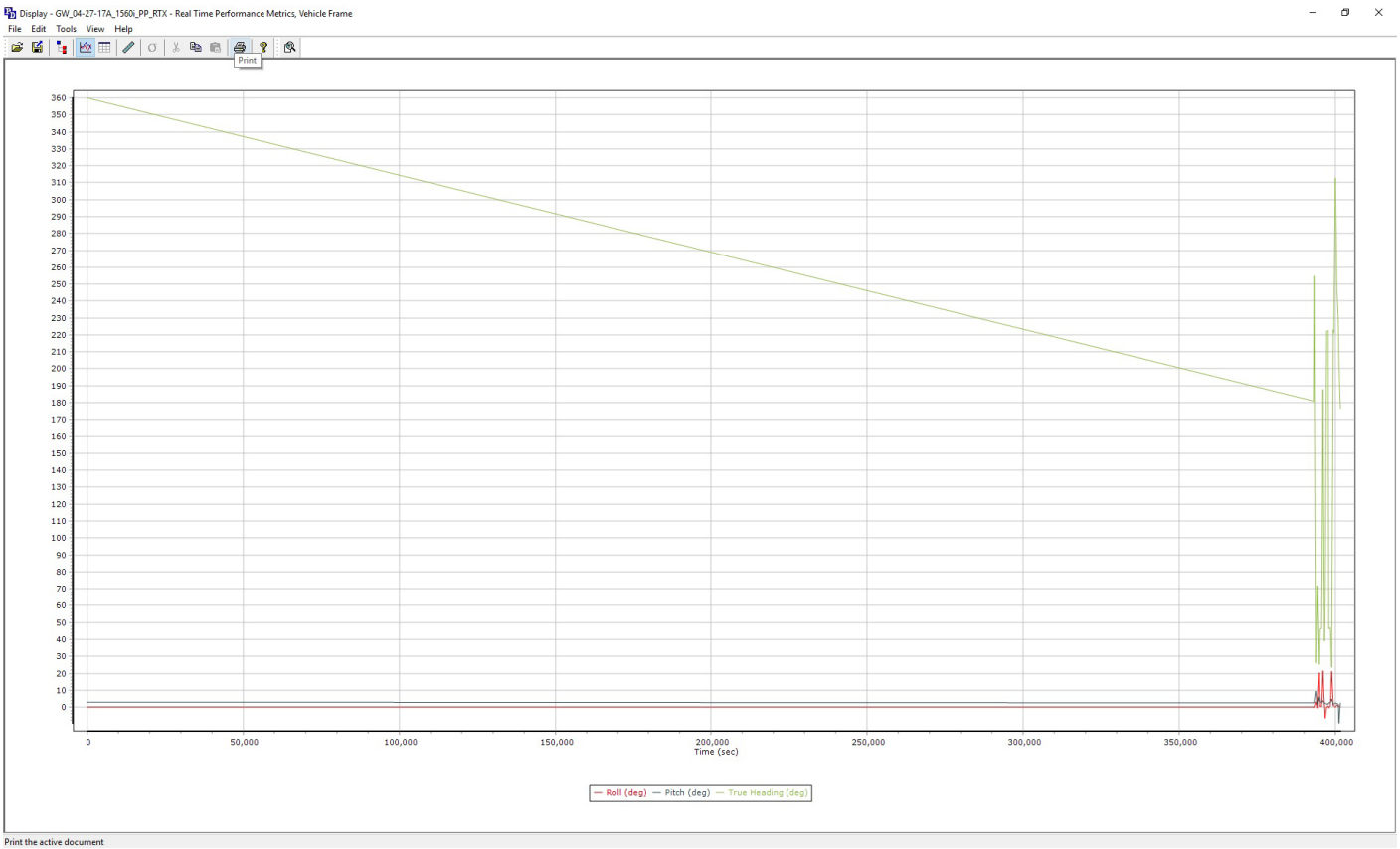
Apr 27, 2017-A (N604MD, SN2221277)


Display - GW_04-27-17A_1560i_PP_RTX - Smoothed Performance Metrics, Reference Frame
File Edit Tools View Help
Time (sec)
394,000
395,000
396,000
397,000
398,000
399,000
400,000
401,000
Number of GPS Satellites
Number of GLONASS Satellites
PDOP
Ready

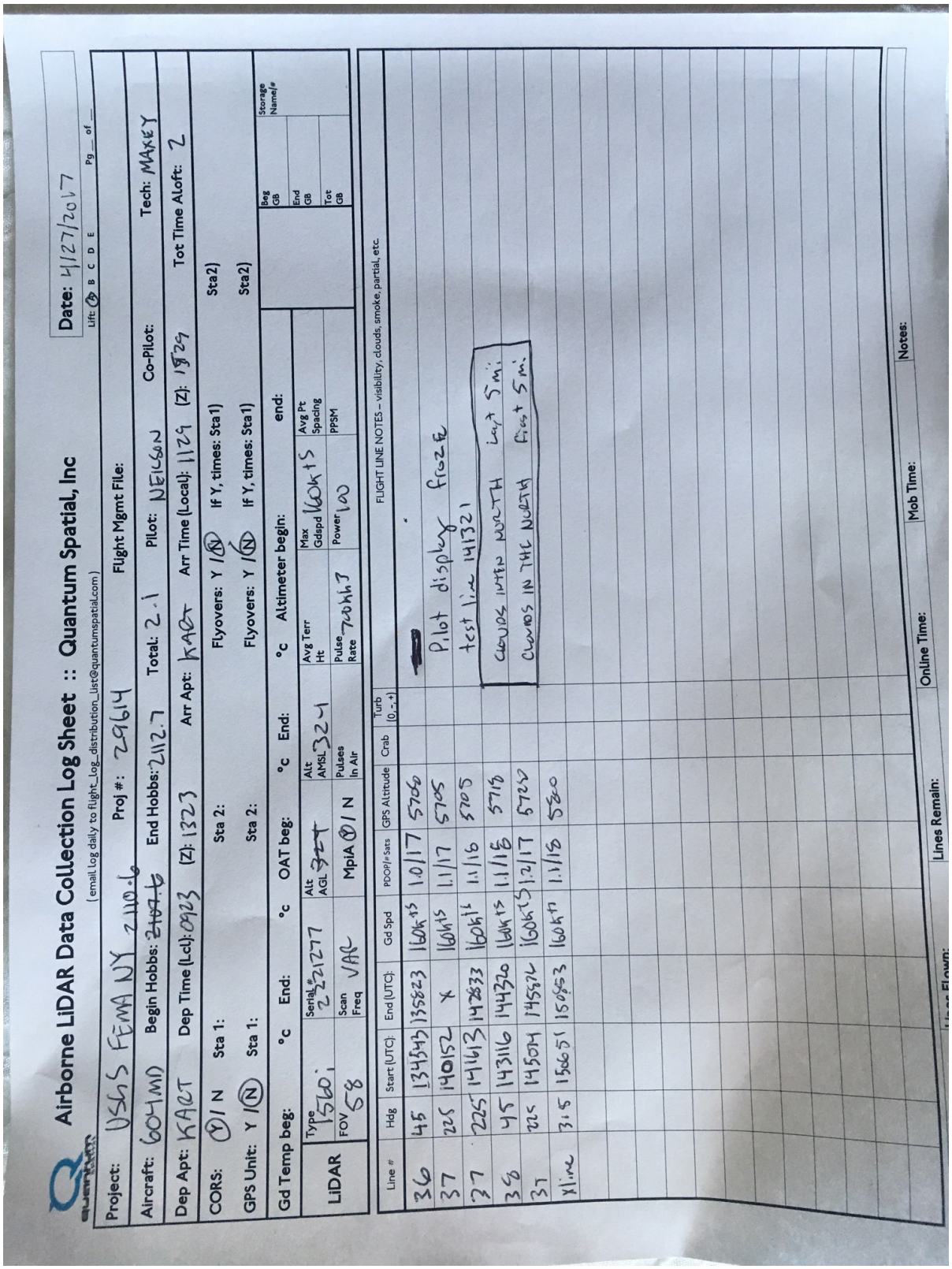

Display - GW_04-27-17A_1560i_PP_RTX - Smoothed Performance Metrics, Reference Frame
File Edit Tools View Help
Time (sec)
394,000
395,000
396,000
397,000
398,000
399,000
400,000
401,000
North Position Error RMS (m)
East Position Error RMS (m)
Down Position Error RMS (m)
Ready


GW_04-27-17A_1560i_PP_RTX - POSPac MMS
File
Project
Edit
View
Reports
Tools
Window
Help
Plan View
3D View
Points
GNSS Reference Stations
Graphic Views
Project Explorer
Flags Pane
Manager
Command Pane
Panes
Zoom Extents
Zoom In
Zoom Out
Zoom
Pan
Pan Precise
Center
Zoom
Event 1
Event 2
Event 3
Event 4
Event 5
Event 6
Photo ID
User Event
Events
Toggle Gridlines
Coordinate Scroll
Toggle
Plan View [My Filter - Copy]
80000
60000
40000
20000
Post-processed (SBET)
20000m
Start
PP-RTX
Snap
Meter
Grid
180171.031 m, 90367.328 m


Display - GW_04-27-17A_1560i_PP_RTX - Smoothed Performance Metrics, Reference Frame
File
Edit
Tools
View
Help
Processing mode
1
0
-1
394,000
394,500
395,000
395,500
396,000
396,500
397,000
397,500
398,000
398,500
399,000
399,500
400,000
400,500
401,000
401,500
Time (sec)
0 = Fixed NL, 1 = Fixed WL, 2 = Float, 3 = DGNSS, 4 = RTCM, 5 = IAPPP, 6 = C/A, 7 = GNSS Nav, 8 = DR
Ready


Display - GW_04-27-17A_1560i_PP_RTX - Real Time Performance Metrics, Vehicle Frame
File Edit Tools View Help
Print
360 350 340 330 320 310 300 290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0
0 50,000 100,000 150,000 200,000 250,000 300,000 350,000 400,000
Time (sec)
Roll (deg) Pitch (deg) True Heading (deg)
Print the active document

Flight Log



Airborne LiDAR Data Collection Log Sheet :: Quantum Spatial, Inc

(email Log daily to flight_Log_distribution_List@quantumspatial.com)

Date: 4/27/2017

Lift: A B C D E Pg__ of__

Project: USGS FEMA NY 2016 Proj #: 29614 Flight Mgmt File:

Aircraft: 60YMD Begin Hobbs: 2107.6 End Hobbs: 2112.7 Total: 2.1 Pilot: NELSON Co-Pilot: Tech: MAXEY

Dep Apt: KACY Dep Time (Lcl): 0923 (Z): 1323 Arr Apt: KACY Arr Time (Local): 1129 (Z): 1729 Tot Time Aloft: 2

CORS: (Y) / N Sta 1: Sta 2: Flyovers: Y / (N) If Y, times: Sta1) Sta2)

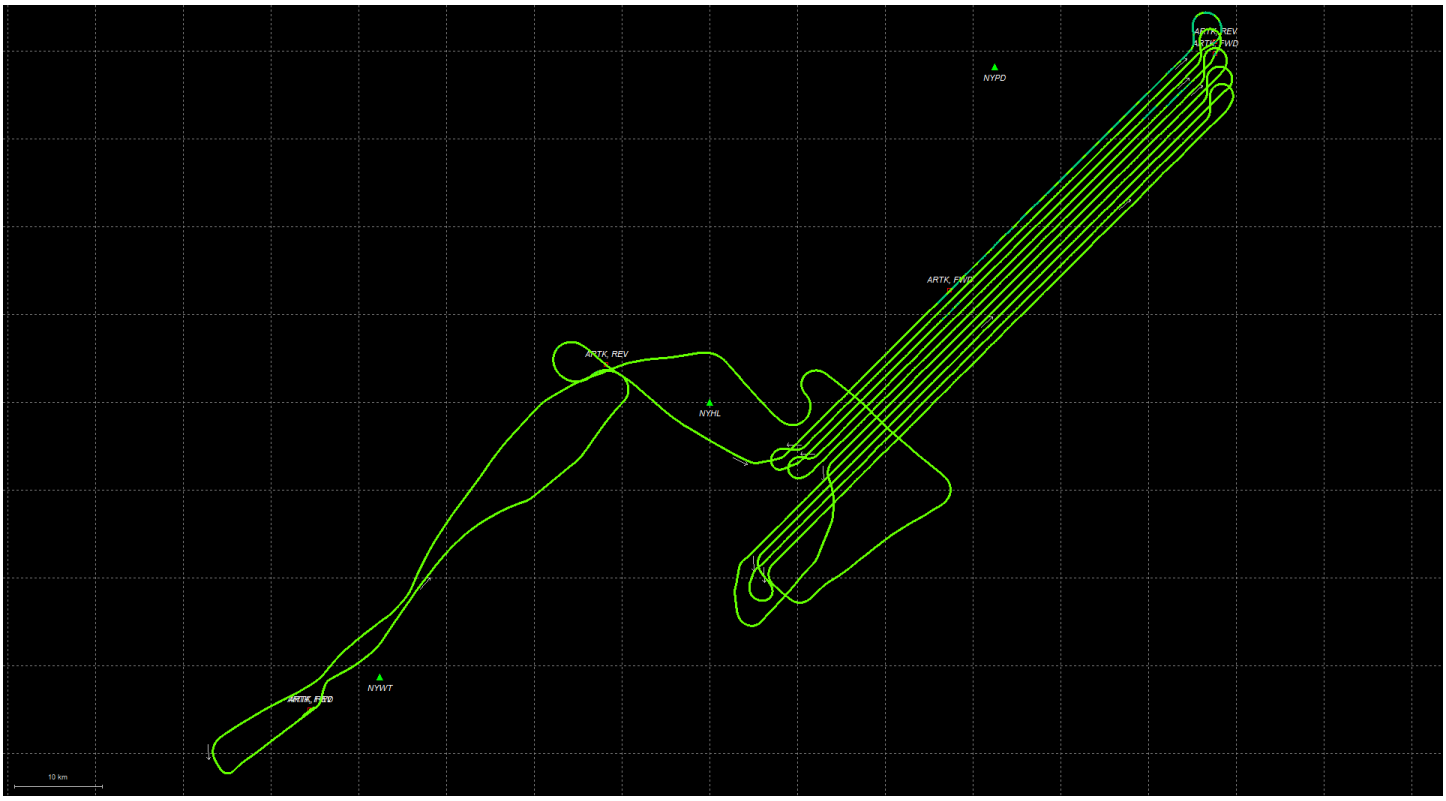
GPS Unit: Y / (N) Sta 1: Sta 2: Flyovers: Y / (N) If Y, times: Sta1) Sta2)

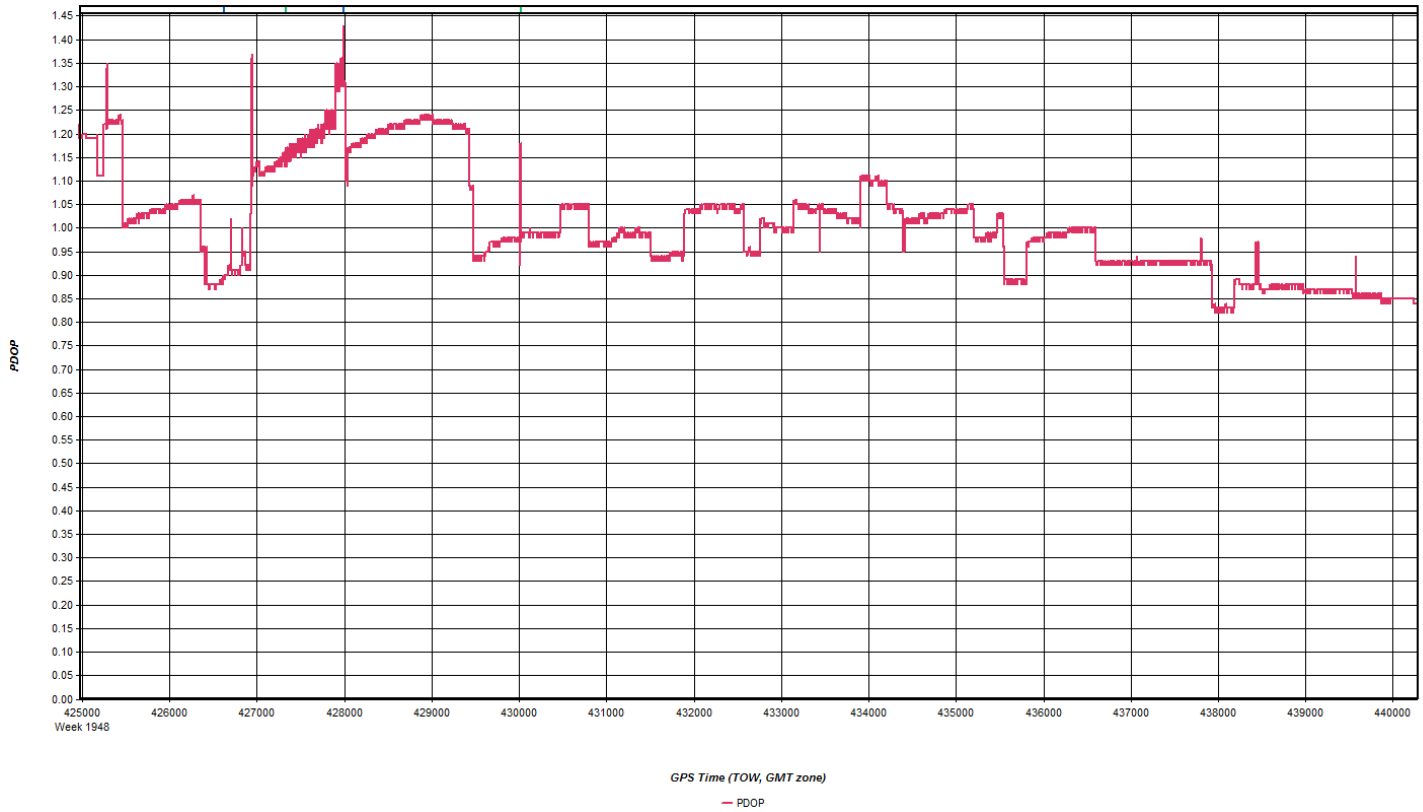
Gd Temp beg:	°c	End:	°c	OAT beg:	°c	End:	°c	Altimeter begin:	end:							
LiDAR	Type 1560i	Serial# 22221277	Alt AGL 3200	Alt AMSL 3324	Avg Terr Ht	Max Gdspd 160kts	Avg Pt Spacing					Beg GB	End GB	Tot GB	Storage Name/#
	FOV 58	Scan Freq VAR	MpiA (Y) / N	Pulses In Air	Pulse Rate 200kHz	Power 100	PPSM								

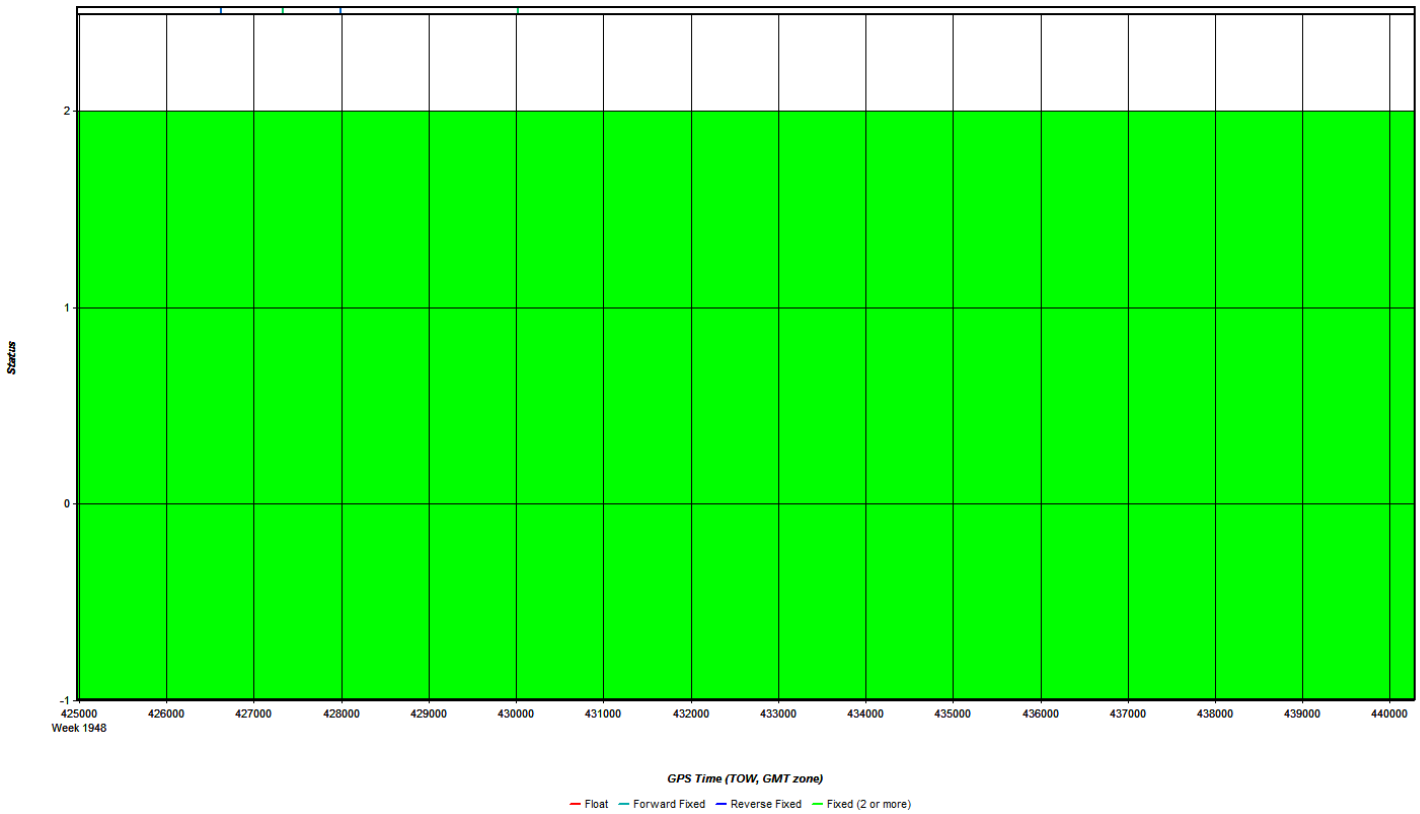
Line #	Hdg	Start (UTC):	End (UTC):	Gd Spd	PDOP/#Sats	GPS Altitude	Crab	Turb (0,-,+)	FLIGHT LINE NOTES – visibility, clouds, smoke, partial, etc.
36	45	134543	135823	160kts	1.0/17	5706			
37	225	140152	X	160kts	1.1/17	5705			Pilot display froze
37	225	141613	142833	160kts	1.1/16	5705			test line 141321
38	45	143116	144320	160kts	1.1/16	5718			clouds north light 5 mi.
39	225	145014	145936	160kts	1.2/17	5727			clouds in the north first 5 mi.
Xline	315	156651	150953	160kts	1.1/15	5320			

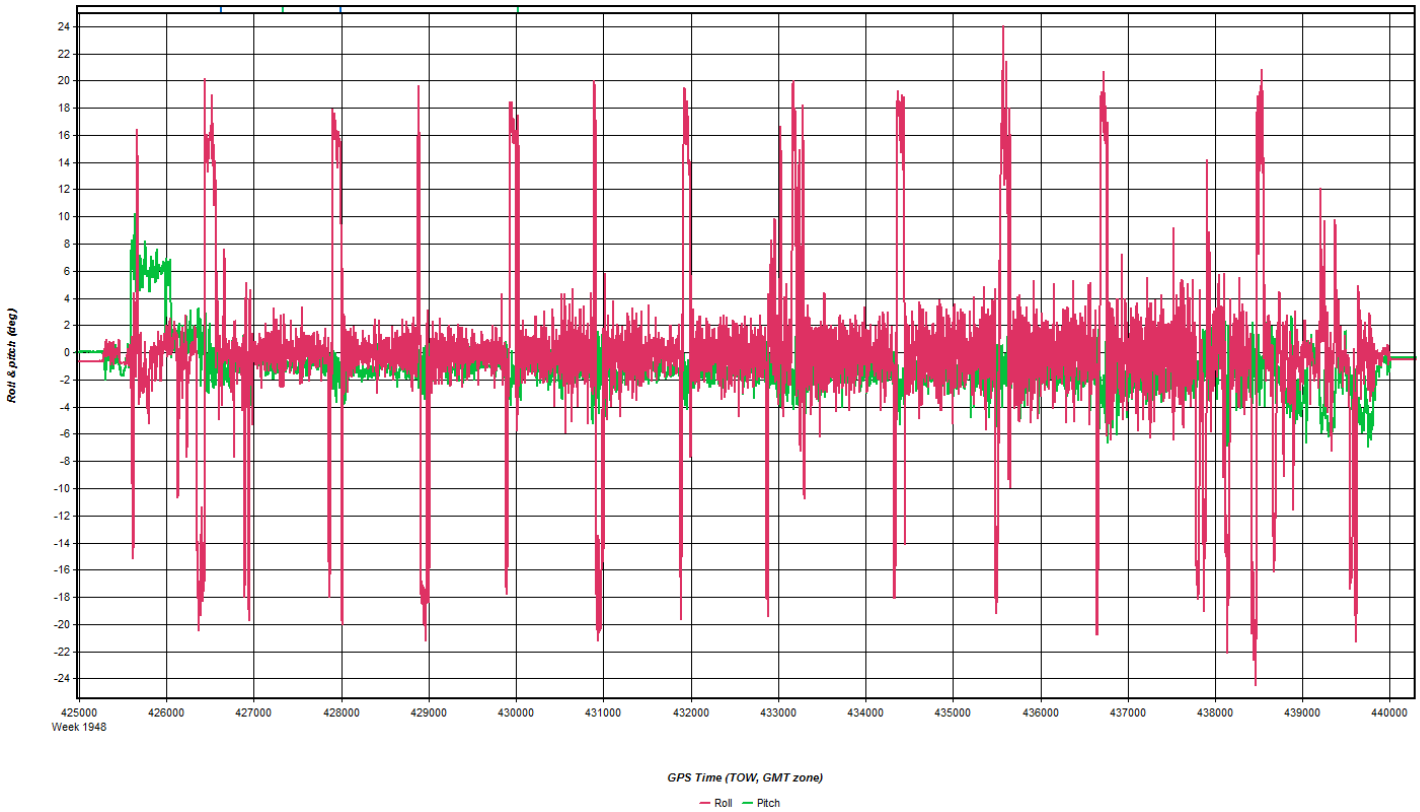
Lines Flown: Lines Remain: Online Time: Mob Time: Notes:

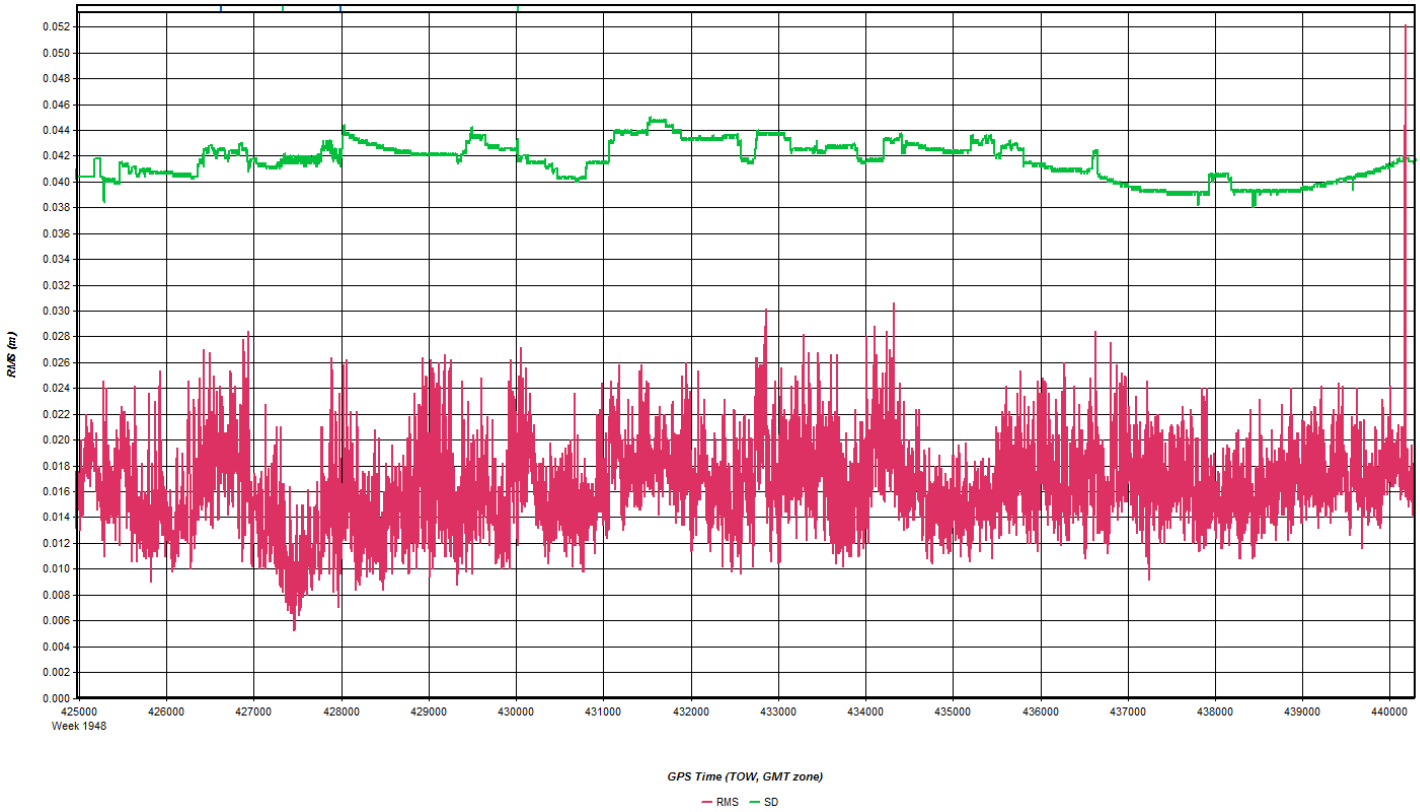
May 11, 2017-A (N262AS, SN7161)

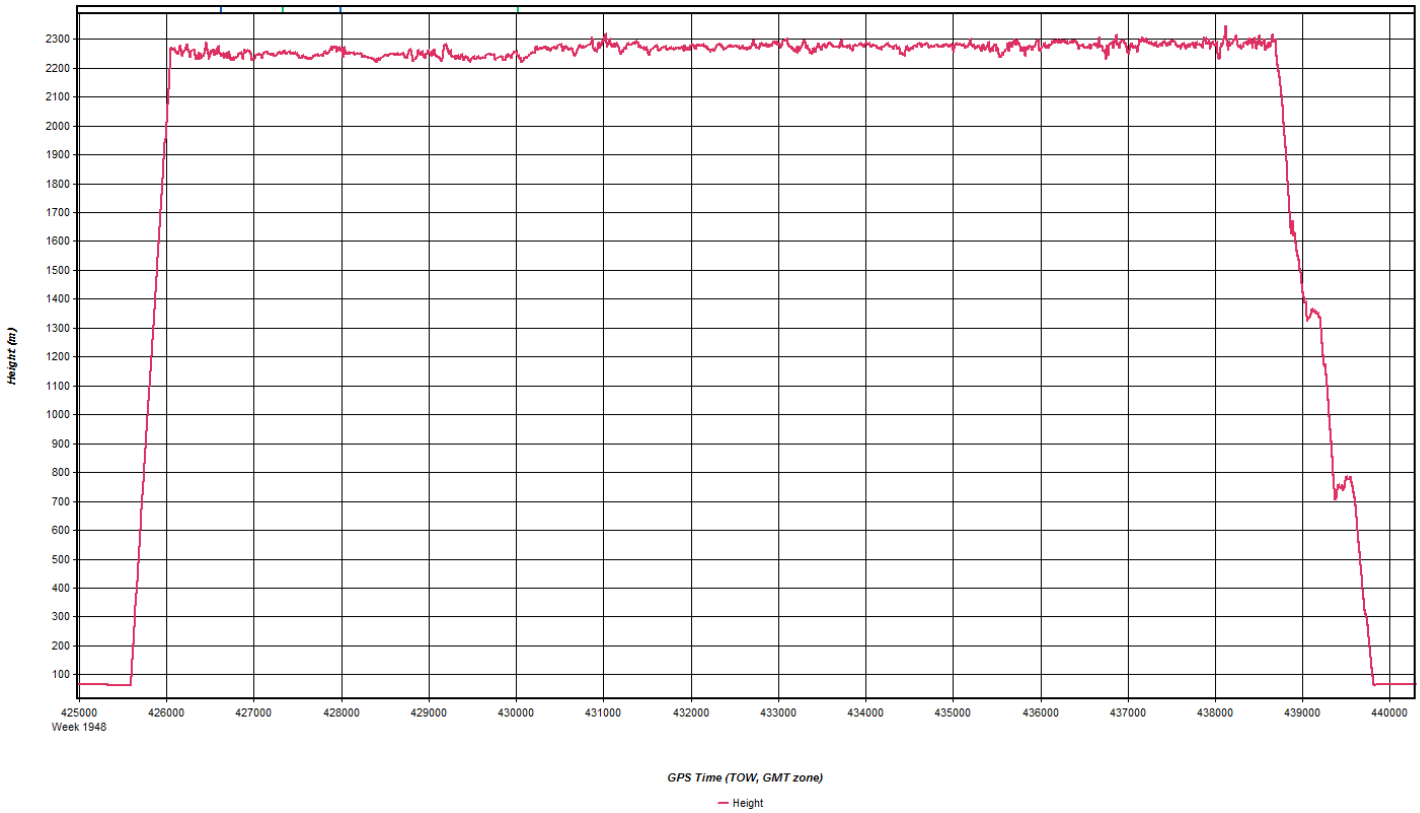

ARTK_REV
ARTK_FWD
NYPD
ARTK_FWD
ARTK_REV
NYHL
NYWT
ARTK_FWD
10 km

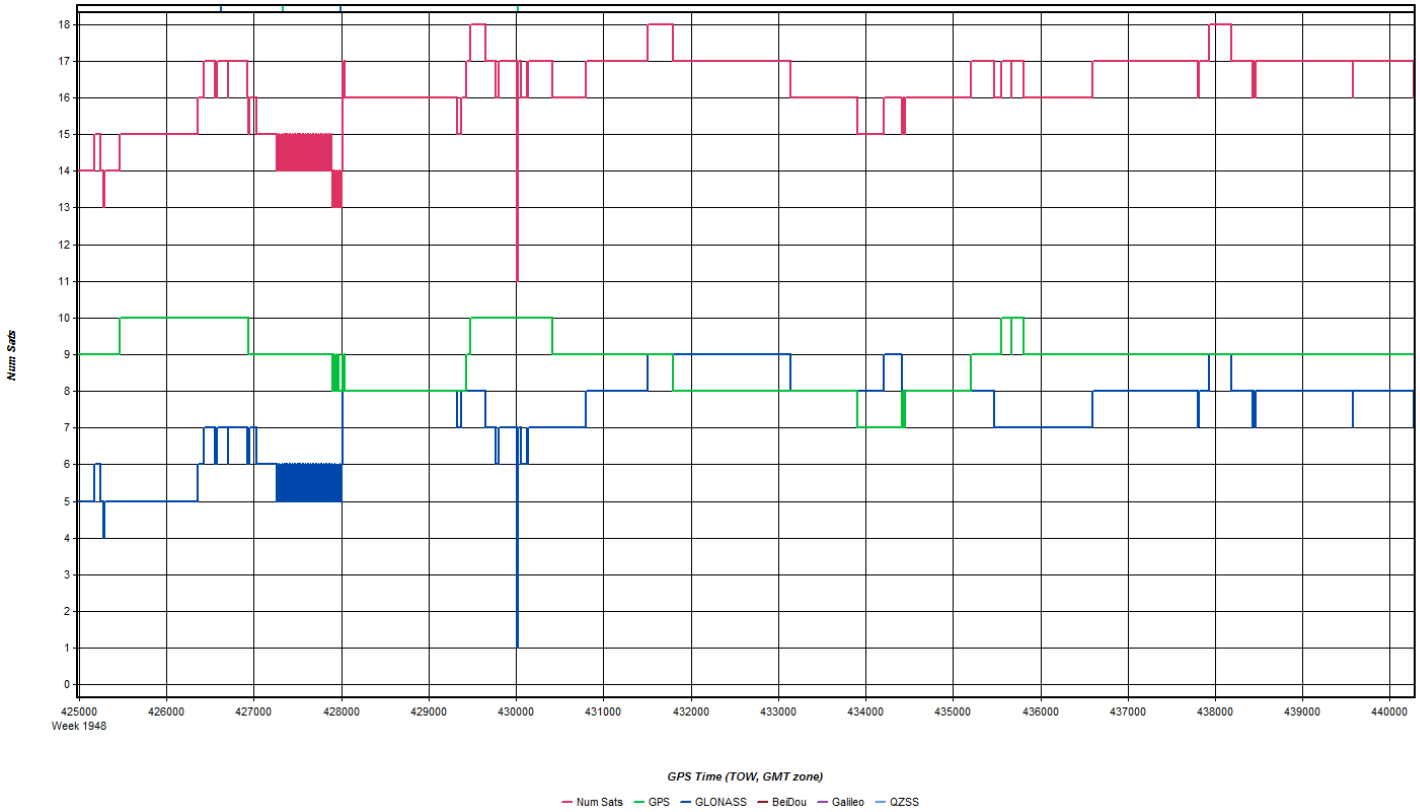

PDOP
1.45
1.40
1.35
1.30
1.25
1.20
1.15
1.10
1.05
1.00
0.95
0.90
0.85
0.80
0.75
0.70
0.65
0.60
0.55
0.50
0.45
0.40
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.00
425000
Week 1948
426000
427000
428000
429000
430000
431000
432000
433000
434000
435000
436000
437000
438000
439000
440000
GPS Time (TOW, GMT zone)
PDOP

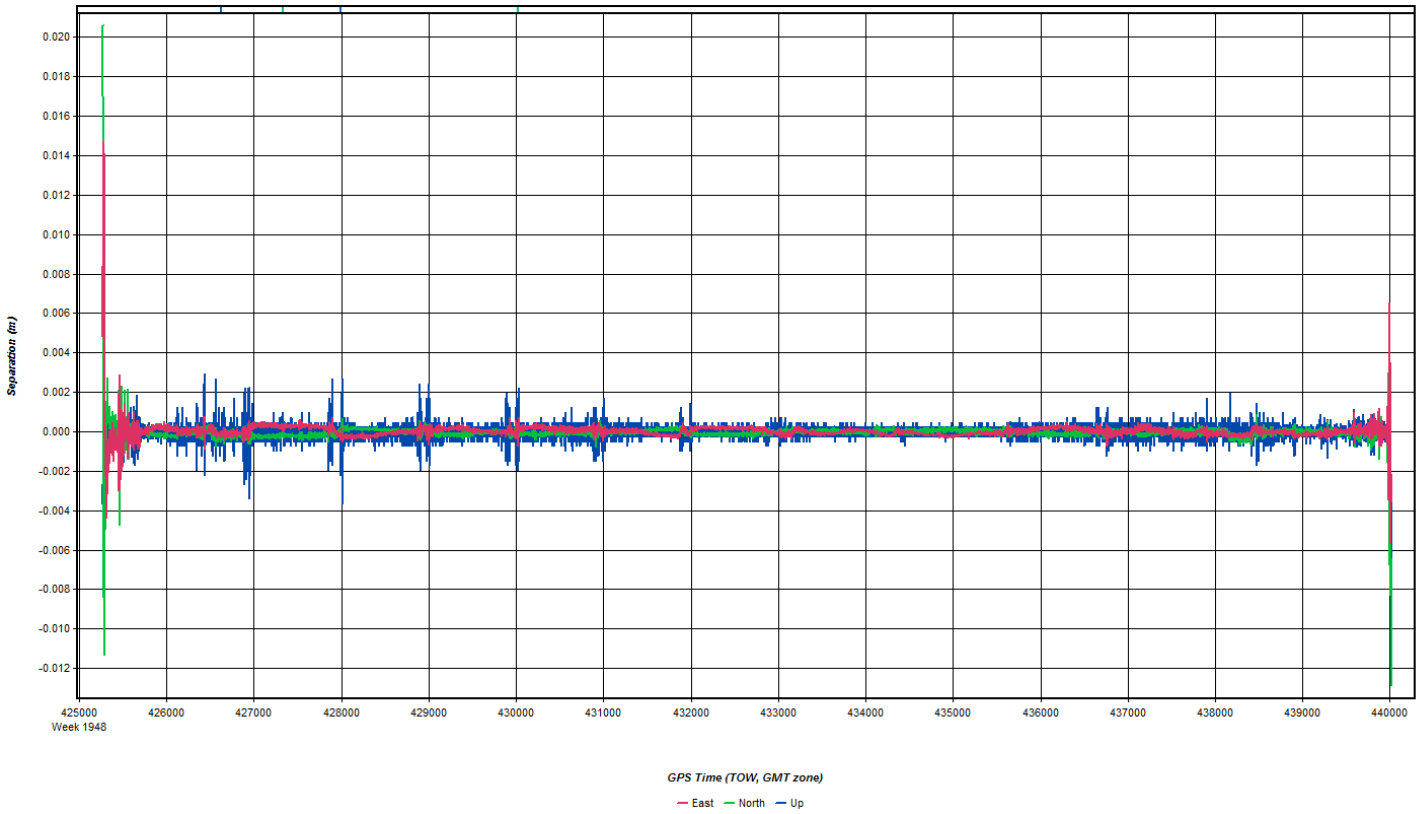

Status
2
1
0
-1
425000
Week 1948
426000
427000
428000
429000
430000
431000
432000
433000
434000
435000
436000
437000
438000
439000
440000
GPS Time (TOW, GMT zone)
Float
Forward Fixed
Reverse Fixed
Fixed (2 or more)

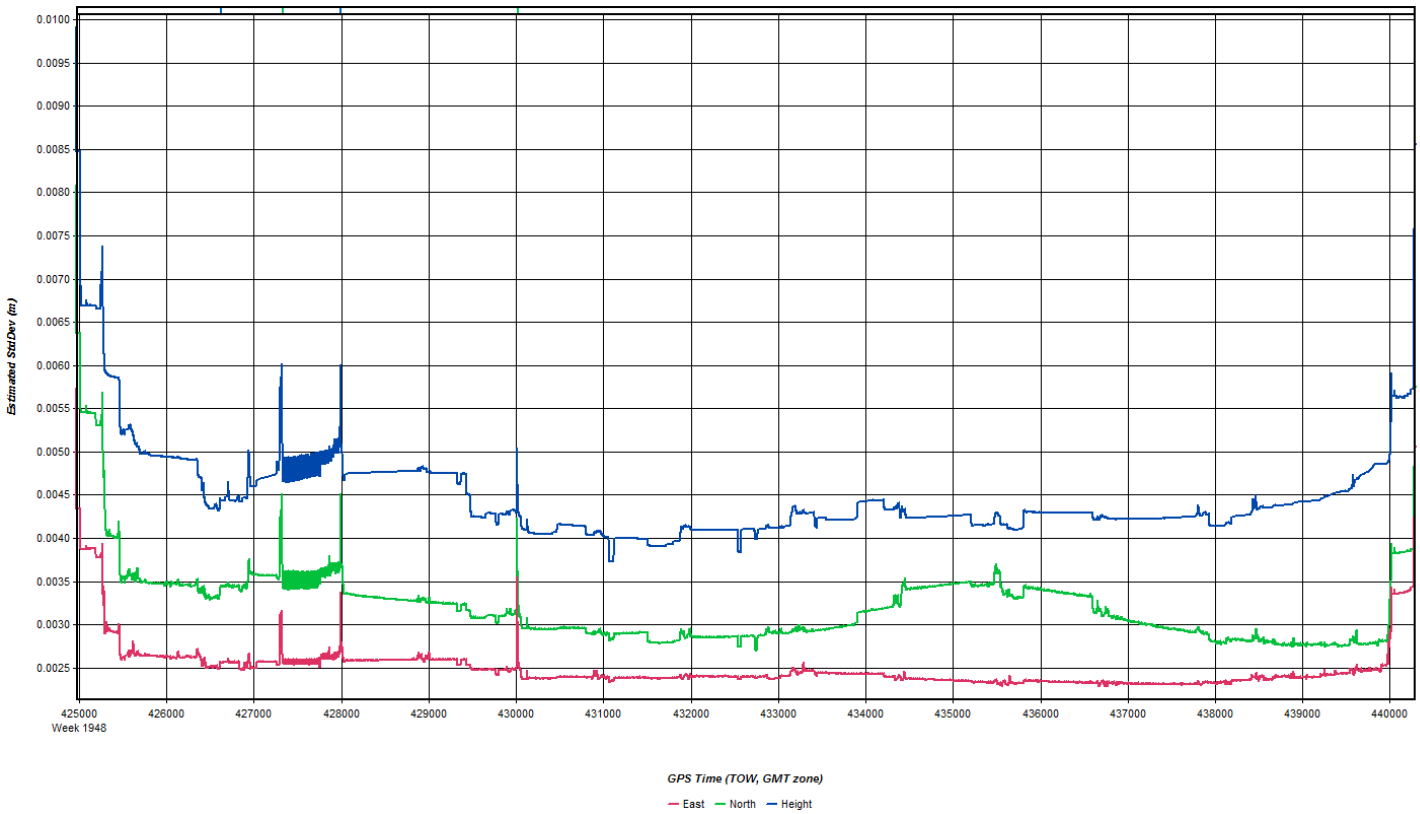

Roll & pitch (deg)
24
22
20
18
16
14
12
10
8
6
4
2
0
-2
-4
-6
-8
-10
-12
-14
-16
-18
-20
-22
-24
425000
Week 1948
426000
427000
428000
429000
430000
431000
432000
433000
434000
435000
436000
437000
438000
439000
440000
GPS Time (TOW, GMT zone)
Roll
Pitch

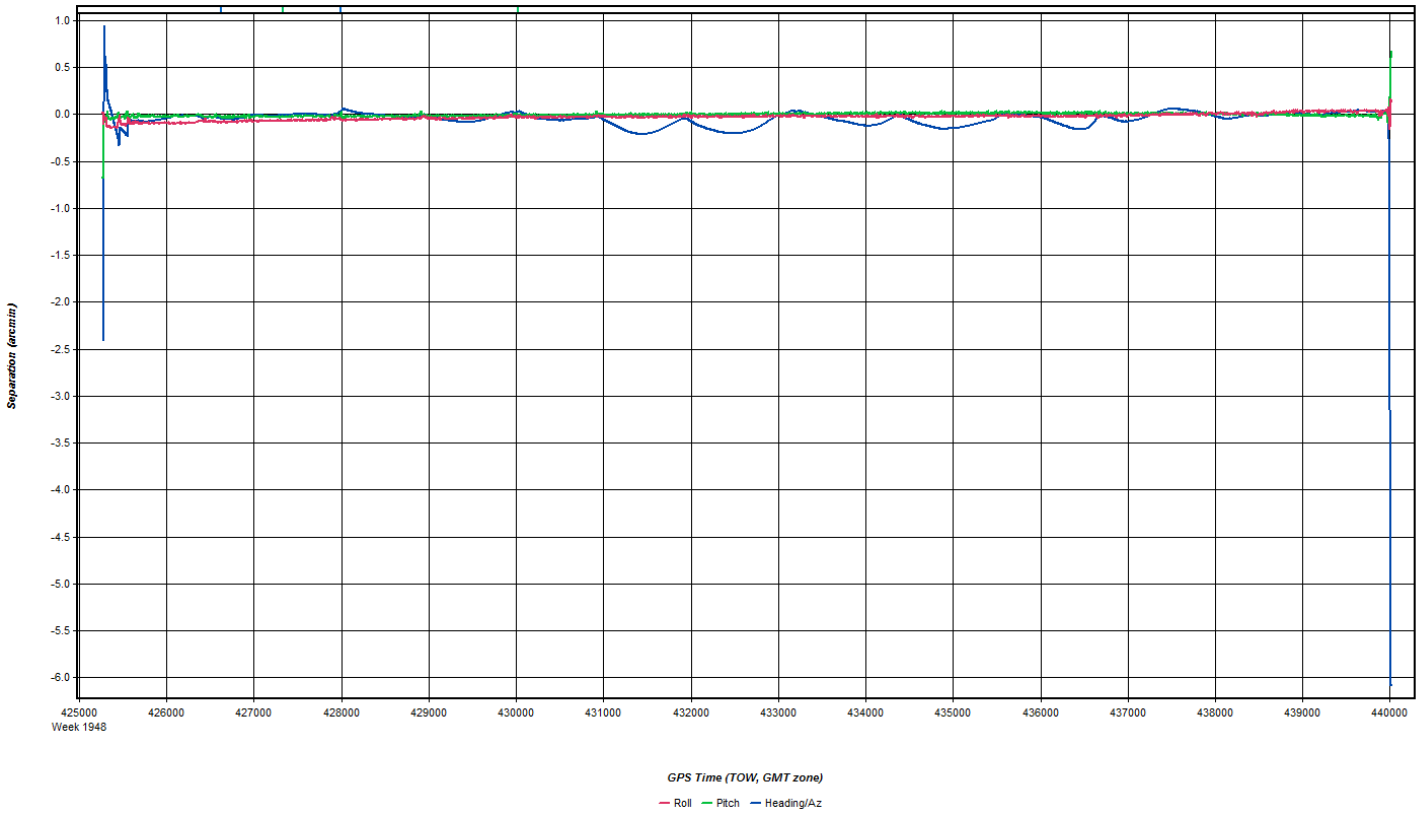

RMS (m)
0.052
0.050
0.048
0.046
0.044
0.042
0.040
0.038
0.036
0.034
0.032
0.030
0.028
0.026
0.024
0.022
0.020
0.018
0.016
0.014
0.012
0.010
0.008
0.006
0.004
0.002
0.000
425000
Week 1948
426000
427000
428000
429000
430000
431000
432000
433000
434000
435000
436000
437000
438000
439000
440000
GPS Time (TOW, GMT zone)
RMS
SD

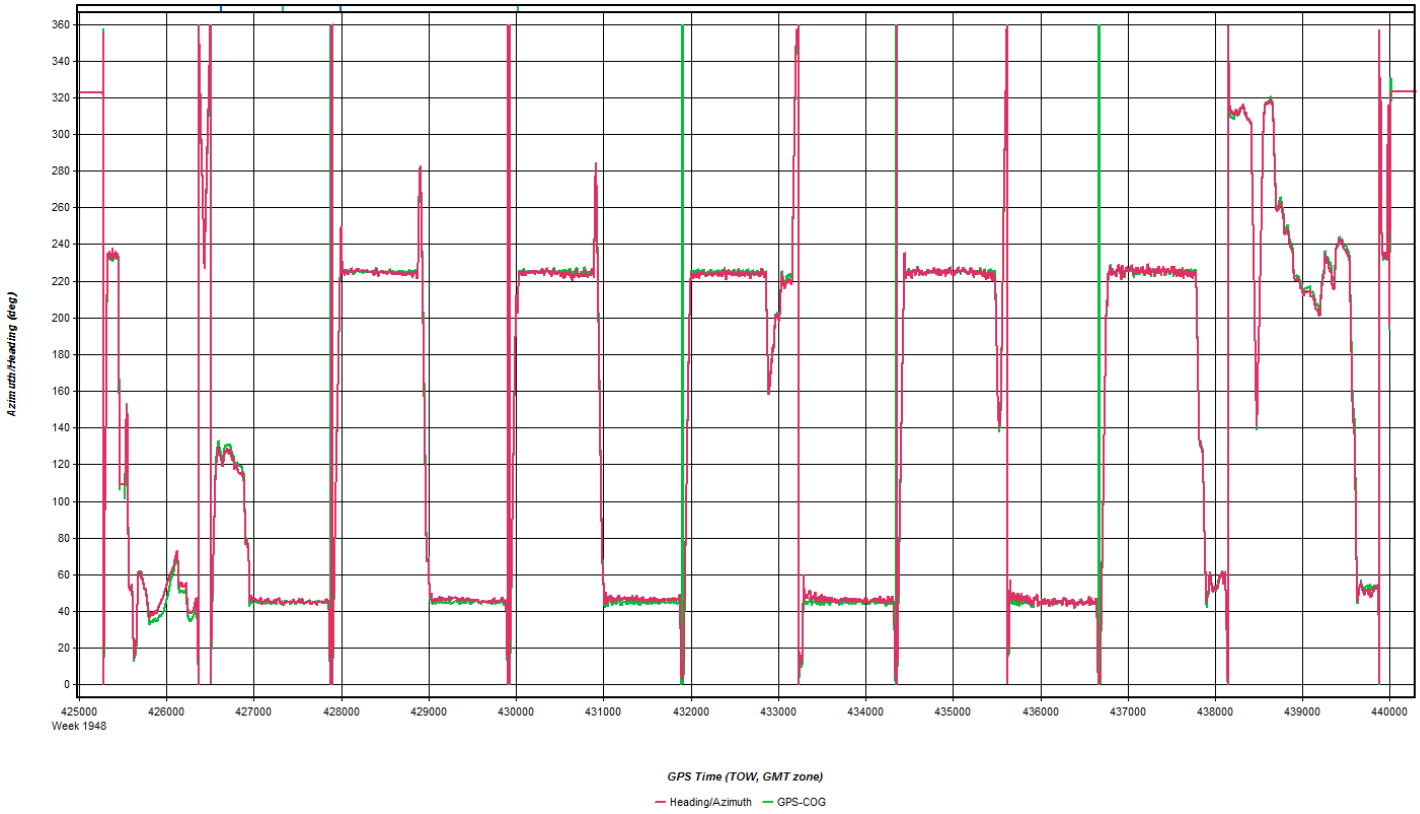

Height (m)
2300
2200
2100
2000
1900
1800
1700
1600
1500
1400
1300
1200
1100
1000
900
800
700
600
500
400
300
200
100
425000
Week 1948
426000
427000
428000
429000
430000
431000
432000
433000
434000
435000
436000
437000
438000
439000
440000
GPS Time (TOW, GMT zone)
Height

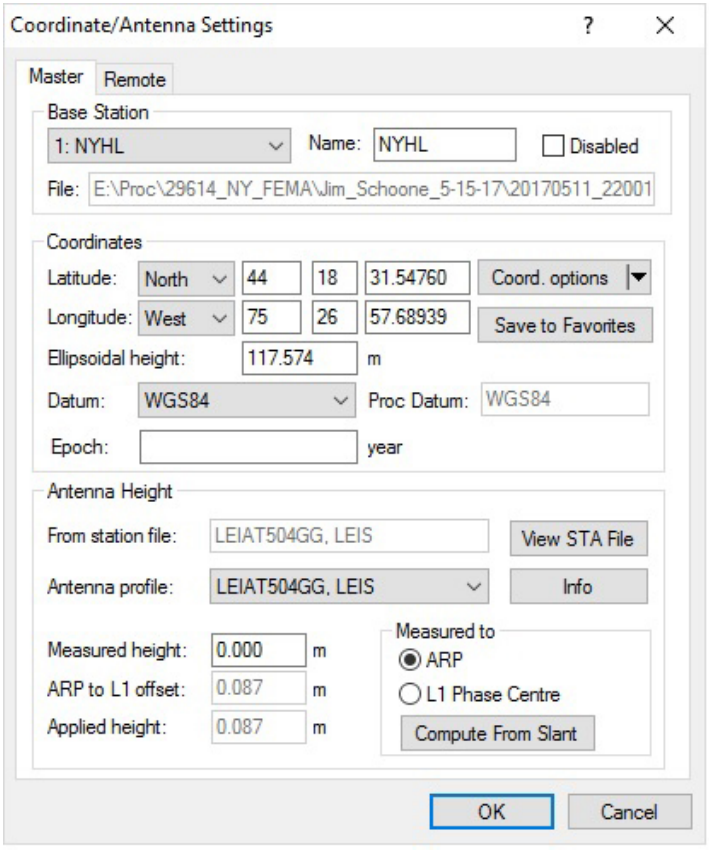

Num Sats
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
425000
Week 1948
426000
427000
428000
429000
430000
431000
432000
433000
434000
435000
436000
437000
438000
439000
440000
GPS Time (TOW, GMT zone)
Num Sats
GPS
GLONASS
BeiDou
Galileo
QZSS

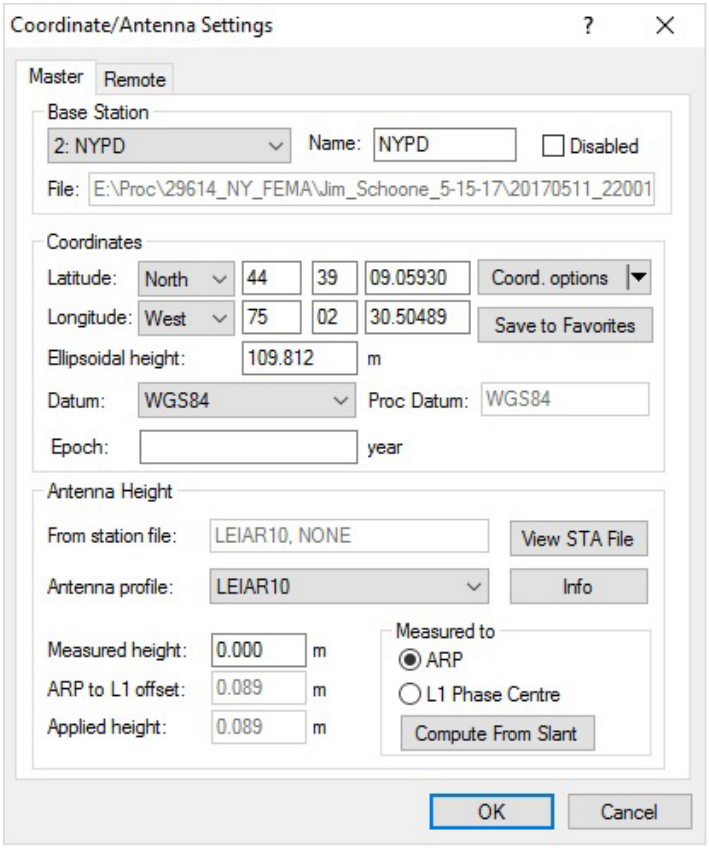

Separation (m)
0.020
0.018
0.016
0.014
0.012
0.010
0.008
0.006
0.004
0.002
0.000
-0.002
-0.004
-0.006
-0.008
-0.010
-0.012
425000
Week 1948
426000
427000
428000
429000
430000
431000
432000
433000
434000
435000
436000
437000
438000
439000
440000
GPS Time (TOW, GMT zone)
East
North
Up

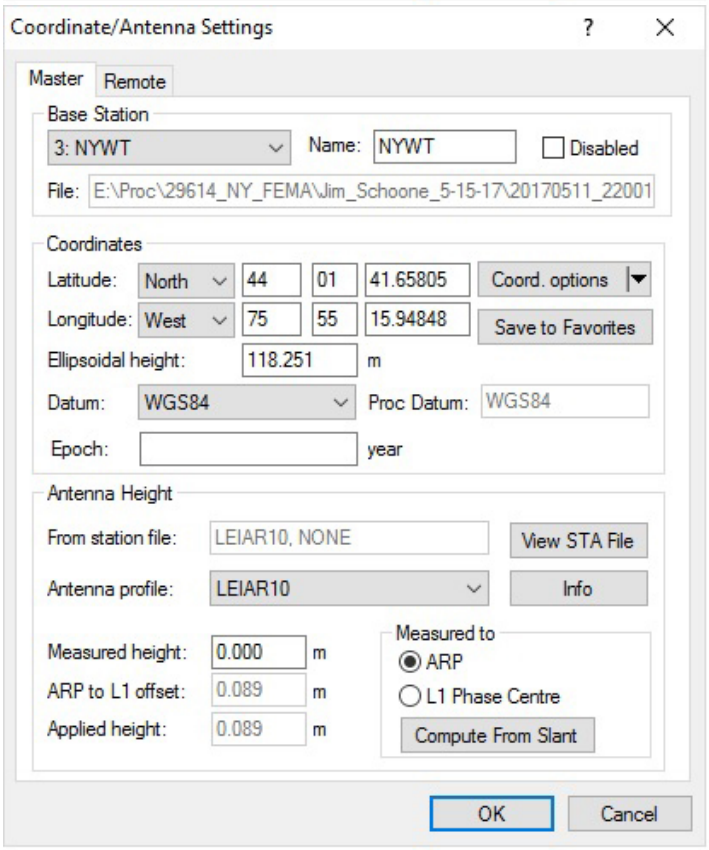

Estimated StdDev (m)
0.0100
0.0095
0.0090
0.0085
0.0080
0.0075
0.0070
0.0065
0.0060
0.0055
0.0050
0.0045
0.0040
0.0035
0.0030
0.0025
425000
Week 1948
426000
427000
428000
429000
430000
431000
432000
433000
434000
435000
436000
437000
438000
439000
440000
GPS Time (TOW, GMT zone)
East
North
Height


Separation (arcmin)
1.0
0.5
0.0
-0.5
-1.0
-1.5
-2.0
-2.5
-3.0
-3.5
-4.0
-4.5
-5.0
-5.5
-6.0
425000
Week 1948
426000
427000
428000
429000
430000
431000
432000
433000
434000
435000
436000
437000
438000
439000
440000
GPS Time (TOW, GMT zone)
Roll
Pitch
Heading/Az


Azimuth/Heading (deg)
360
340
320
300
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
425000
Week 1948
426000
427000
428000
429000
430000
431000
432000
433000
434000
435000
436000
437000
438000
439000
440000
GPS Time (TOW, GMT zone)
Heading/Azimuth
GPS-COG

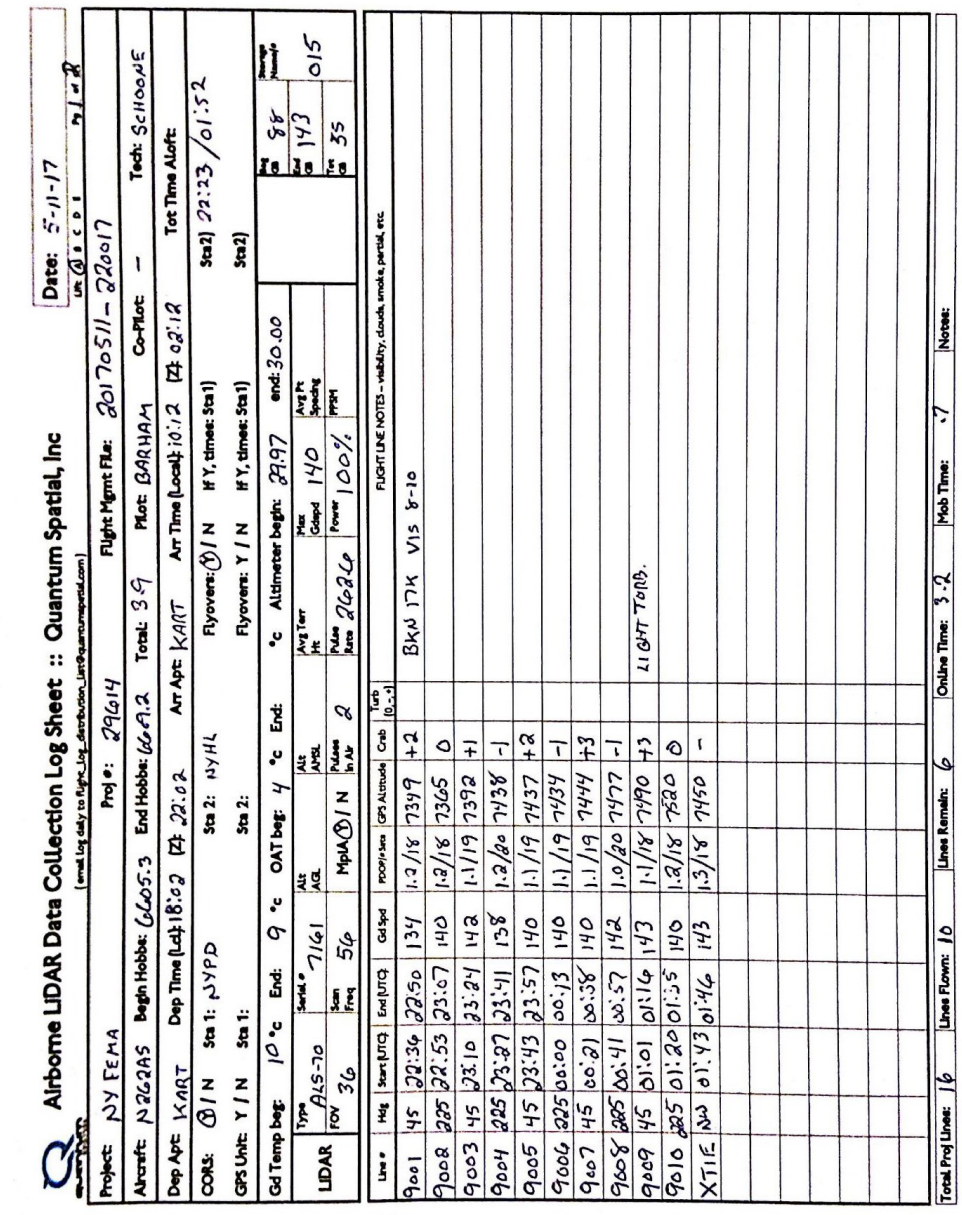

Coordinate/Antenna Settings
Master
Remote
Base Station
1: NYHL
Name: NYHL
Disabled
File: E:\Proc\29614_NY_FEMA\Jim_Schoone_5-15-17\20170511_22001
Coordinates
Latitude: North 44 18 31.54760
Coord. options
Longitude: West 75 26 57.68939
Save to Favorites
Ellipsoidal height: 117.574 m
Datum: WGS84
Proc Datum: WGS84
Epoch:
year
Antenna Height
From station file: LEIAT504GG, LEIS
View STA File
Antenna profile: LEIAT504GG, LEIS
Info
Measured height: 0.000 m
ARP to L1 offset: 0.087 m
Applied height: 0.087 m
Measured to
ARP
L1 Phase Centre
Compute From Slant
OK
Cancel


Coordinate/Antenna Settings
Master
Remote
Base Station
2: NYPD
Name: NYPD
Disabled
File: E:\Proc\29614_NY_FEMA\Jim_Schoone_5-15-17\20170511_22001
Coordinates
Latitude: North 44 39 09.05930
Coord. options
Longitude: West 75 02 30.50489
Save to Favorites
Ellipsoidal height: 109.812 m
Datum: WGS84
Proc Datum: WGS84
Epoch:
year
Antenna Height
From station file: LEIAR10, NONE
View STA File
Antenna profile: LEIAR10
Info
Measured height: 0.000 m
ARP to L1 offset: 0.089 m
Applied height: 0.089 m
Measured to
ARP
L1 Phase Centre
Compute From Slant
OK
Cancel


Coordinate/Antenna Settings
Master
Remote
Base Station
3: NYWT
Name: NYWT
Disabled
File: E:\Proc\29614_NY_FEMA\Jim_Schoone_5-15-17\20170511_22001
Coordinates
Latitude: North 44 01 41.65805
Coord. options
Longitude: West 75 55 15.94848
Save to Favorites
Ellipsoidal height: 118.251 m
Datum: WGS84
Proc Datum: WGS84
Epoch:
year
Antenna Height
From station file: LEIAR10, NONE
View STA File
Antenna profile: LEIAR10
Info
Measured height: 0.000 m
ARP to L1 offset: 0.089 m
Applied height: 0.089 m
Measured to
ARP
L1 Phase Centre
Compute From Slant
OK
Cancel

Flight Log

Scanned by CamScanner



Airborne LiDAR Data Collection Log Sheet :: Quantum Spatial, Inc

(email Log daily to Flight Log distribution List@quantumspatial.com)

Date: 5-11-17

Page 1 of 2

Project: NY FEMA | Proj #: 29614 | Flight Mgmt File: 20170511 – 220017

Aircraft: N262AS | Begin Hobbs: 6605.3 | End Hobbs: 6691.2 | Total: 3.9 | Pilot: BARHAM | Co-Pilot: – | Tech: SCHOONE

Dep Apt: KART | Dep Time (Lcl): 18:02 (Z): 22:02 | Arr Apt: KART | Arr Time (Local): 10:12 (Z): 02:12 | Tot Time Aloft:

CORS: Y / N | Sta 1: JYPD | Sta 2: NYHL | Flyovers: Y / N | If Y, times: Sta 1) | Sta 2) 22:23 / 01:52

GPS Units: Y / N | Sta 1: | Sta 2: | Flyovers: Y / N | If Y, times: Sta 1) | Sta 2)

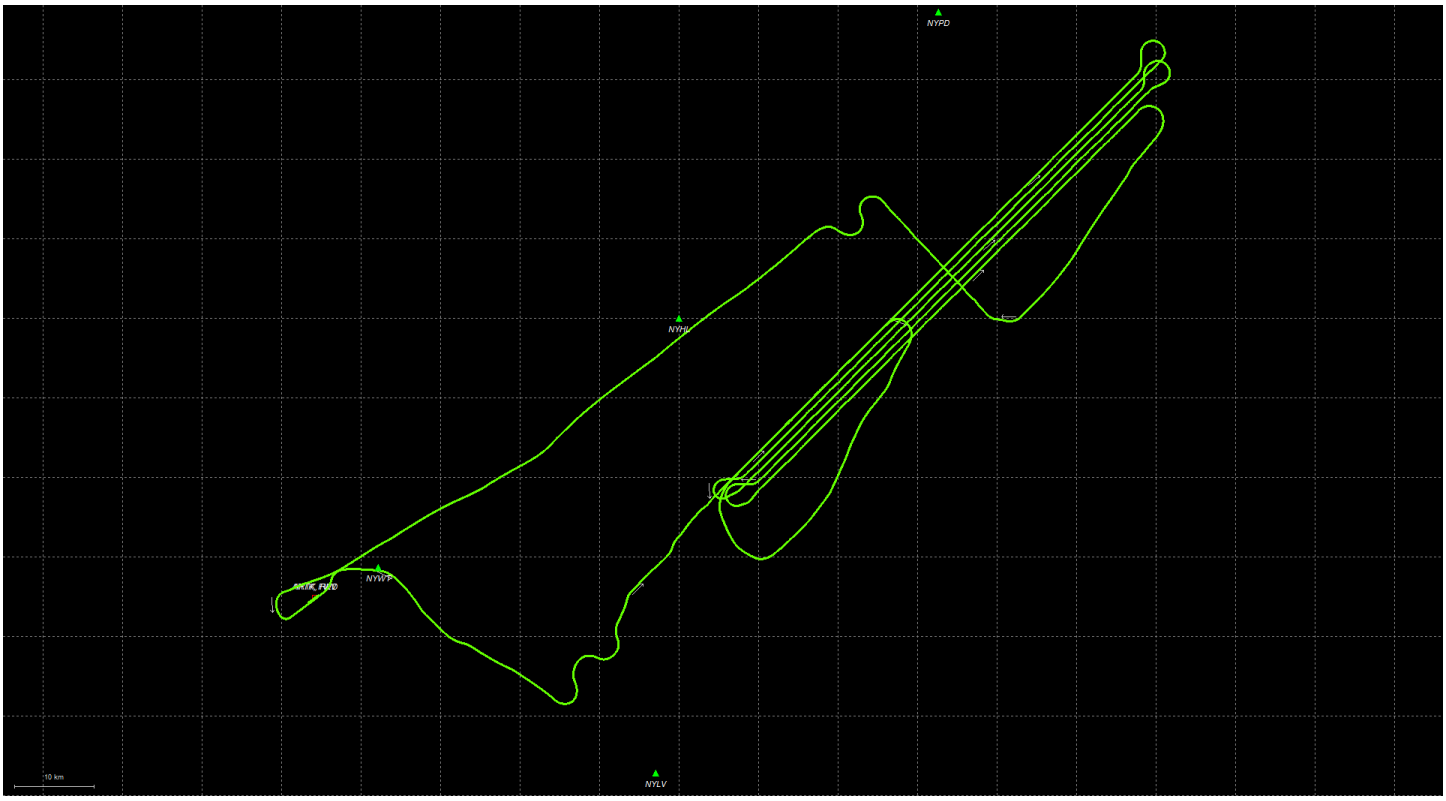
Gd Temp beg: 10 °c | End: 9 °c | OAT beg: 4 °c | End: °c | Altimeter begin: 29.97 end: 30.00

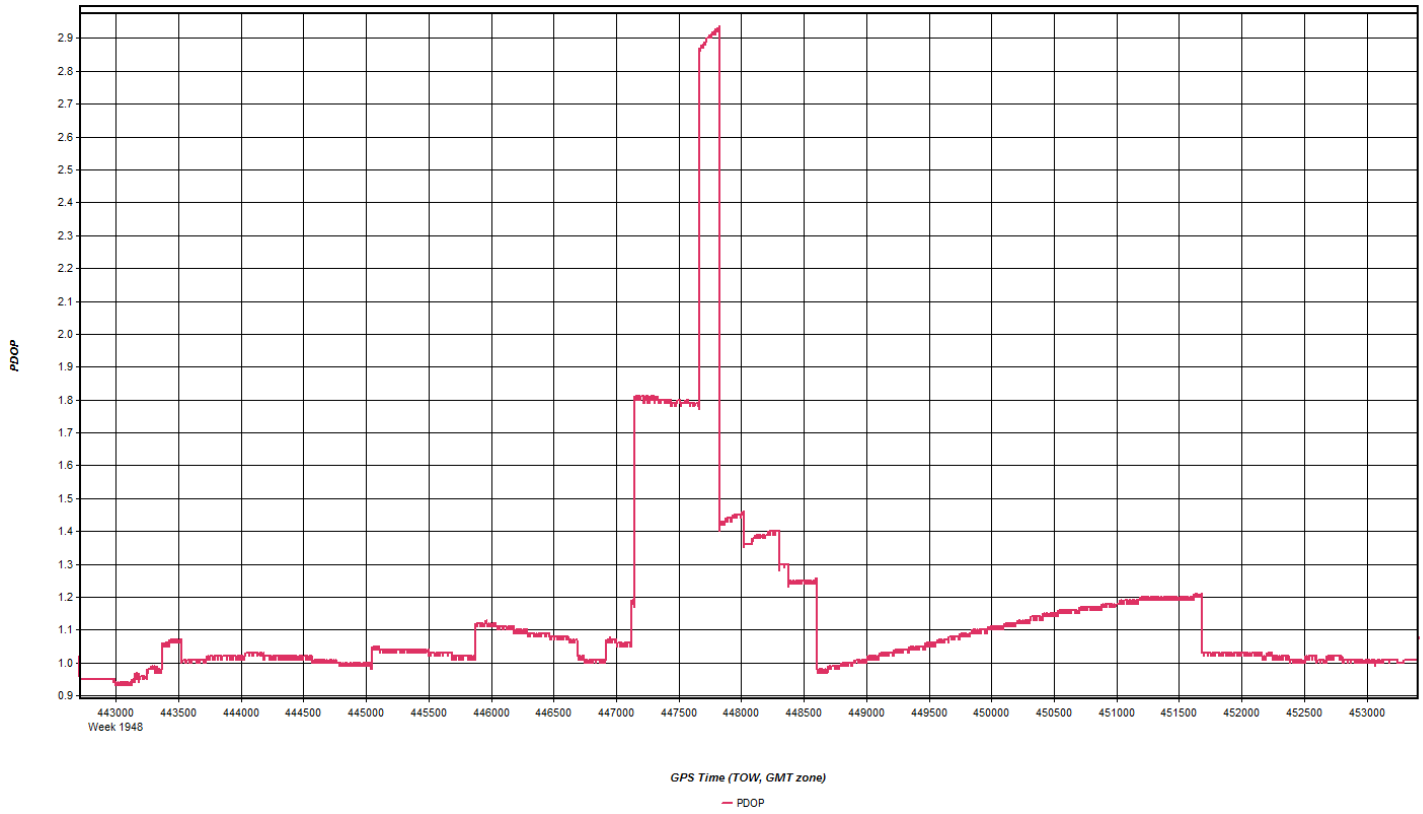
	Type	Serial #	Alt AGL	Alt AMSL	Avg Terr Ht	Max Gdspd	Avg Pt Spacing	Beg Cs	68	Storage Number
LIDAR	ALS-70	7161						End Cs	143	015
	FOV 36	Scan Freq 56	MpiA Y / N	Pulses In Air 2	Pulse Rate 262kHz	Power 100%	PRR	Tot Cs	35	

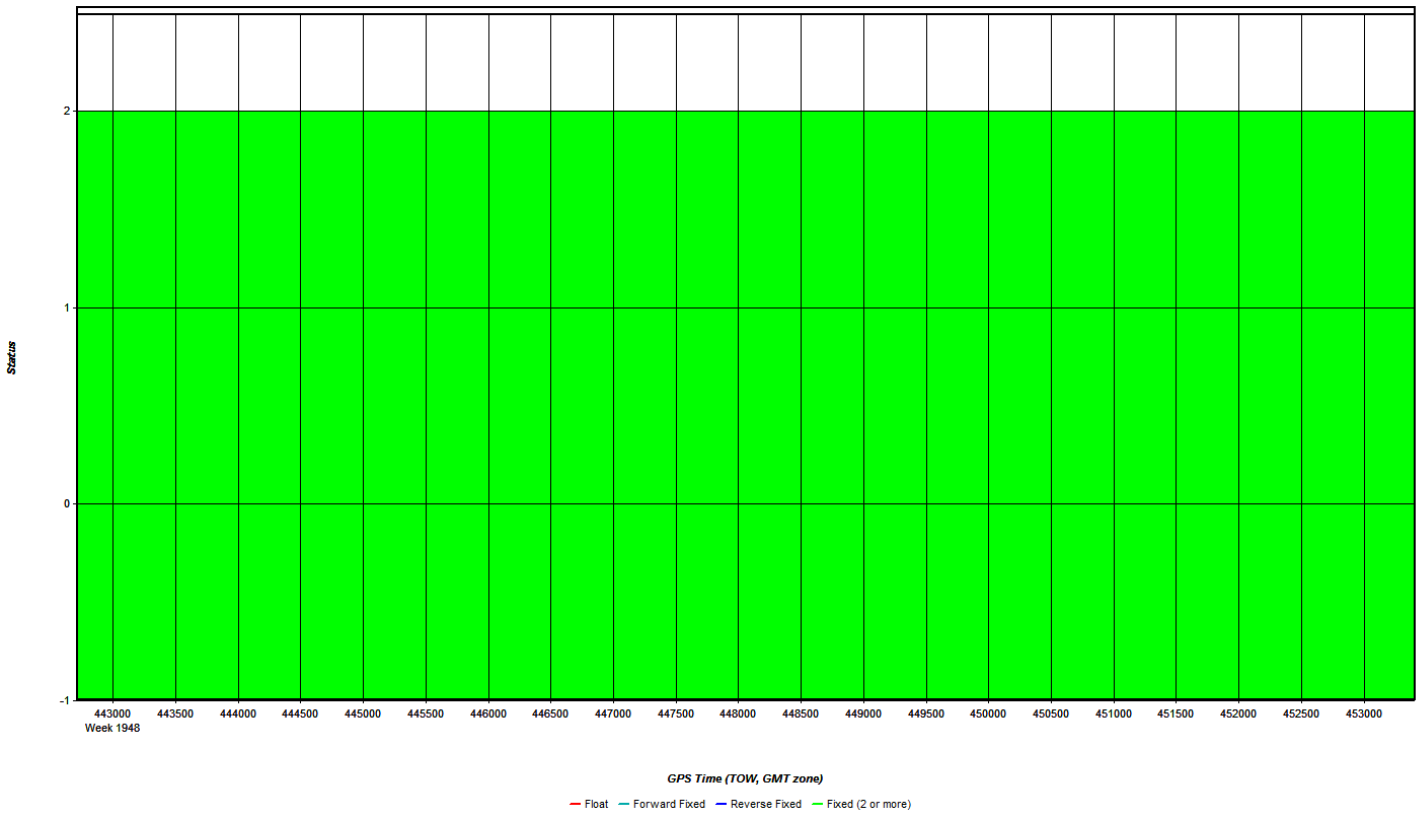
Line #	Hdg	Start (UTC)	End (UTC)	Gd Spd	PDOP's Sats	GPS Altitude	Crab	Turb (0-5)	FLIGHT LINE NOTES – visibility, clouds, smoke, partial, etc.
9001	45	22:36	22:50	134	1.2/18	7399	+2		BKN 17K VIS 8-10
9008	225	22:53	23:07	140	1.2/18	7365	0		
9003	45	23:10	23:24	142	1.1/19	7392	+1		
9004	225	23:27	23:41	138	1.2/20	7438	-1		
9005	45	23:43	23:57	140	1.1/19	7437	+2		
9006	225	00:00	00:13	140	1.1/19	7434	-1		
9007	45	00:21	00:38	140	1.1/19	7444	+3		
9008	225	00:41	00:57	142	1.0/20	7477	-1		
9009	45	01:01	01:16	143	1.1/18	7490	+3		LIGHT TURB.
9010	225	01:20	01:35	140	1.2/18	7520	0		
XTIE	NW	01:43	01:46	143	1.3/18	7450	-		

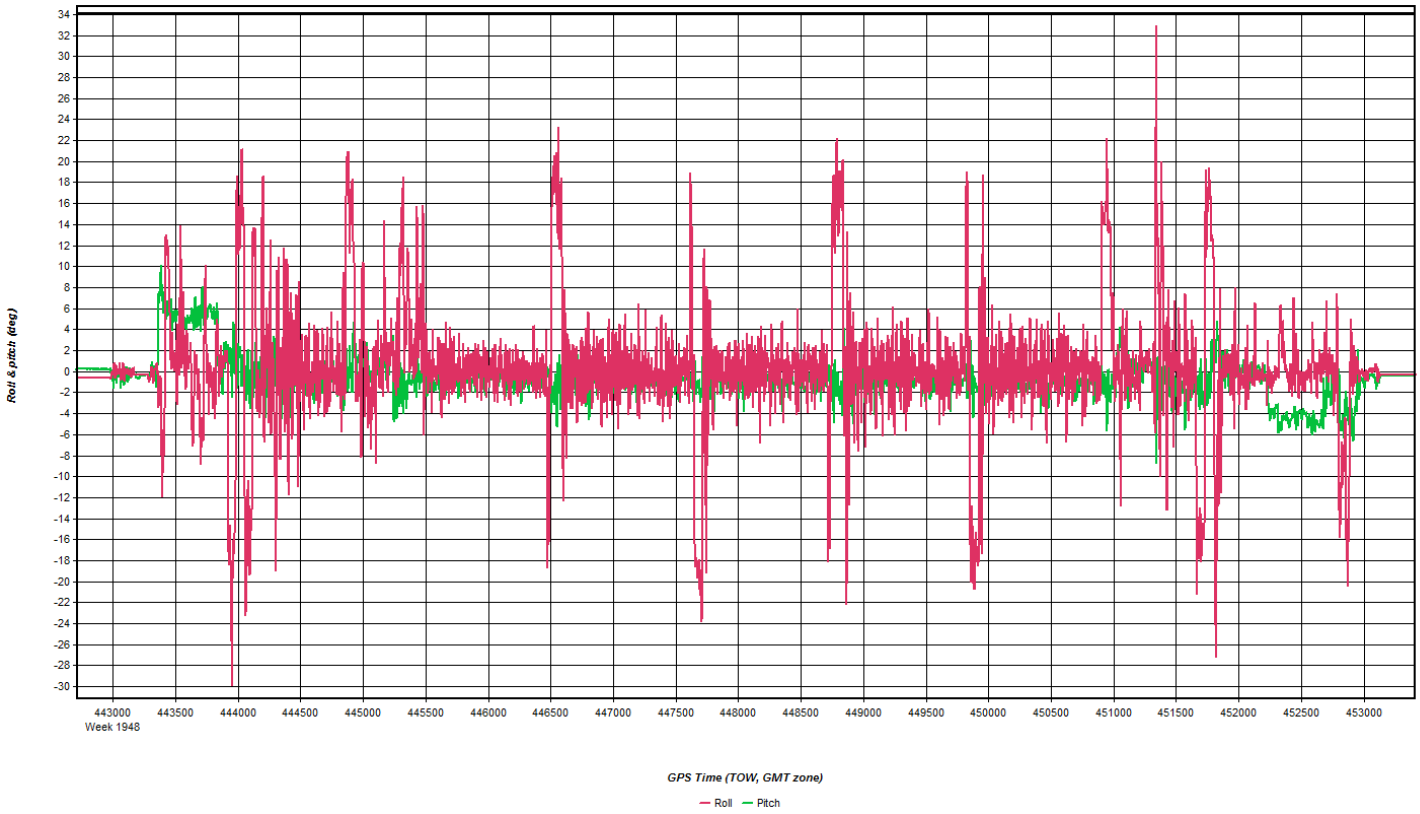
Total Proj Lines: 16 | Lines Flown: 10 | Lines Remain: 6 | Online Time: 3.2 | Mob Time: .7 | Notes:

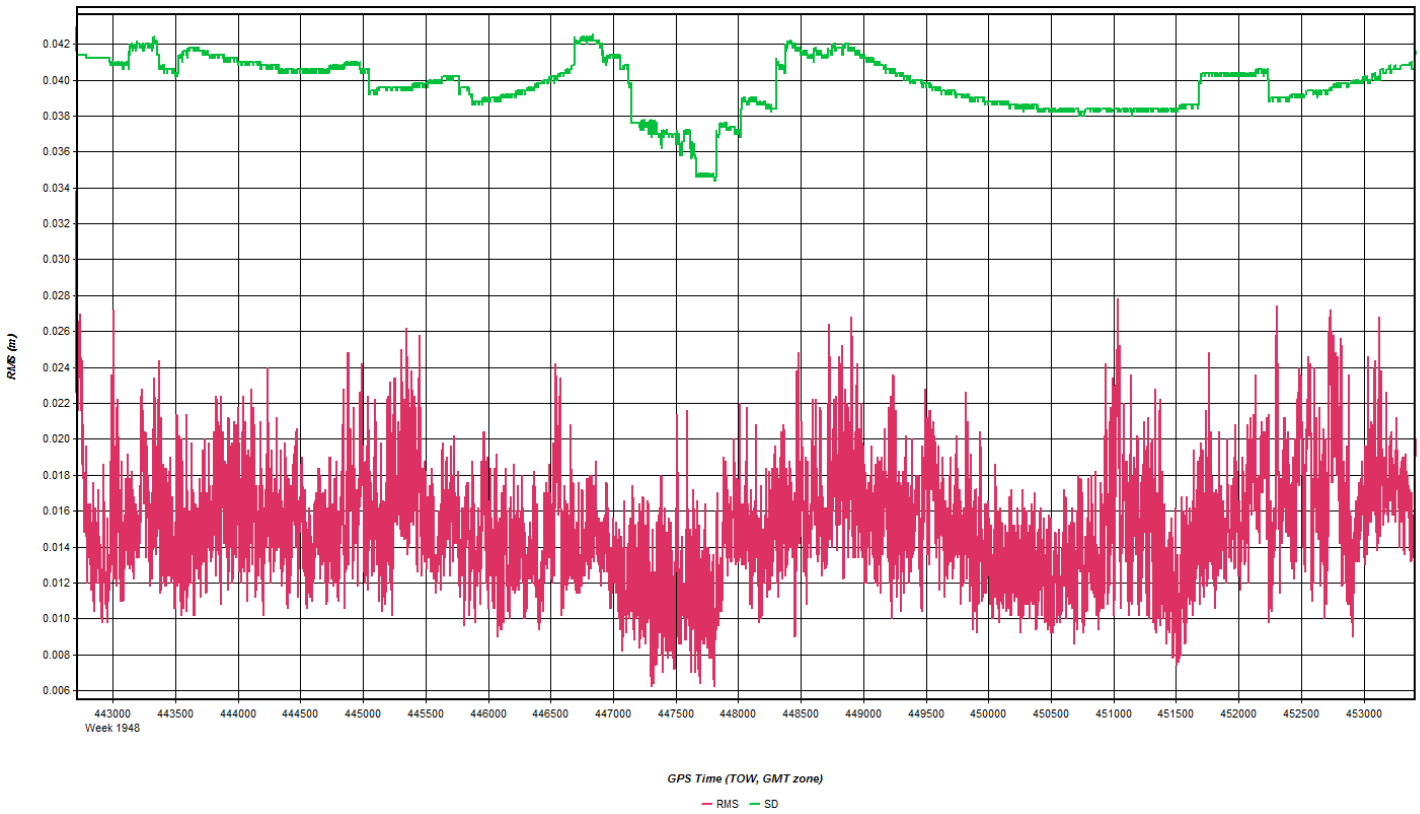
May 11, 2017-B (N262AS, SN7161)

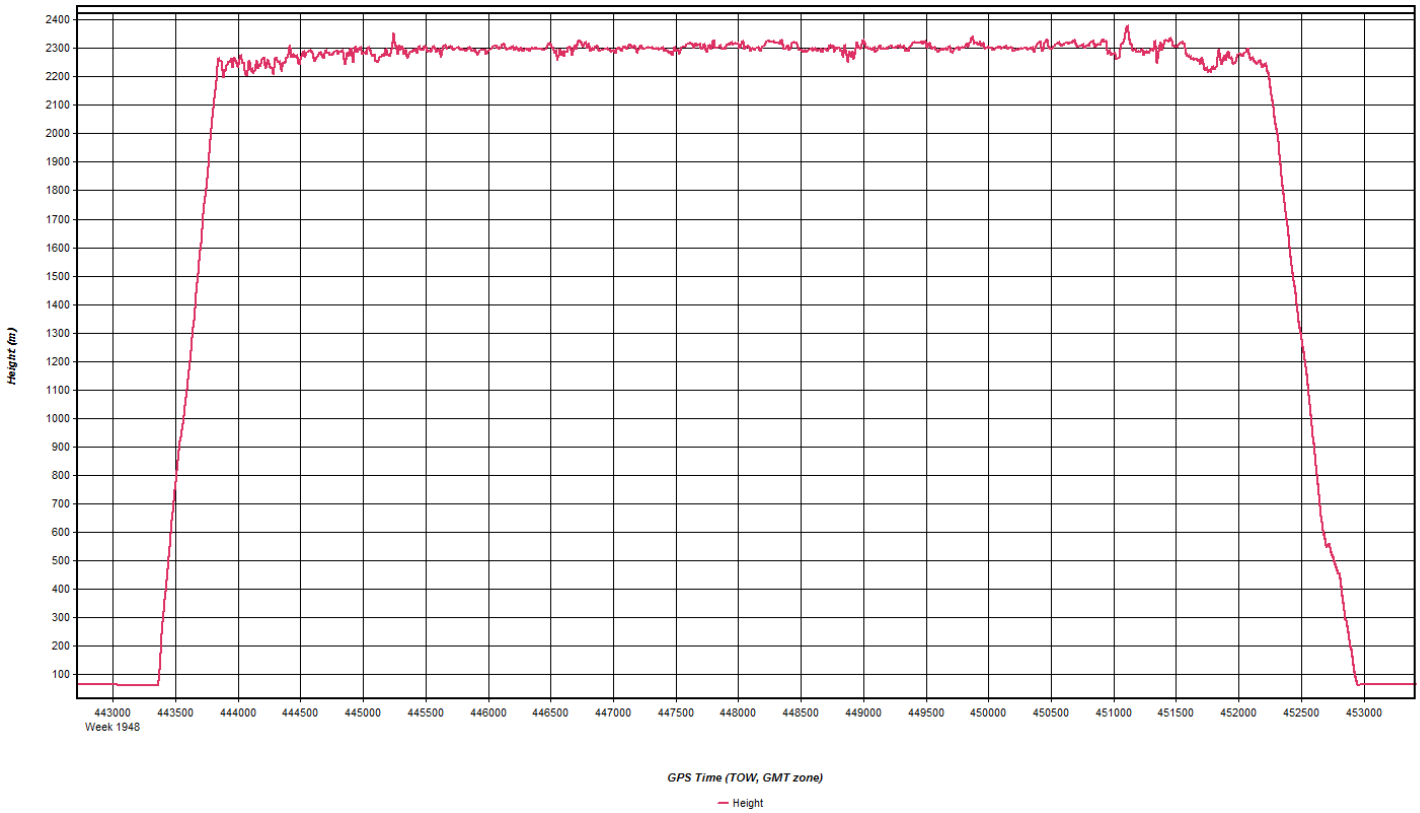

NYPD
NYHL
NYVP
NYLV
10 km

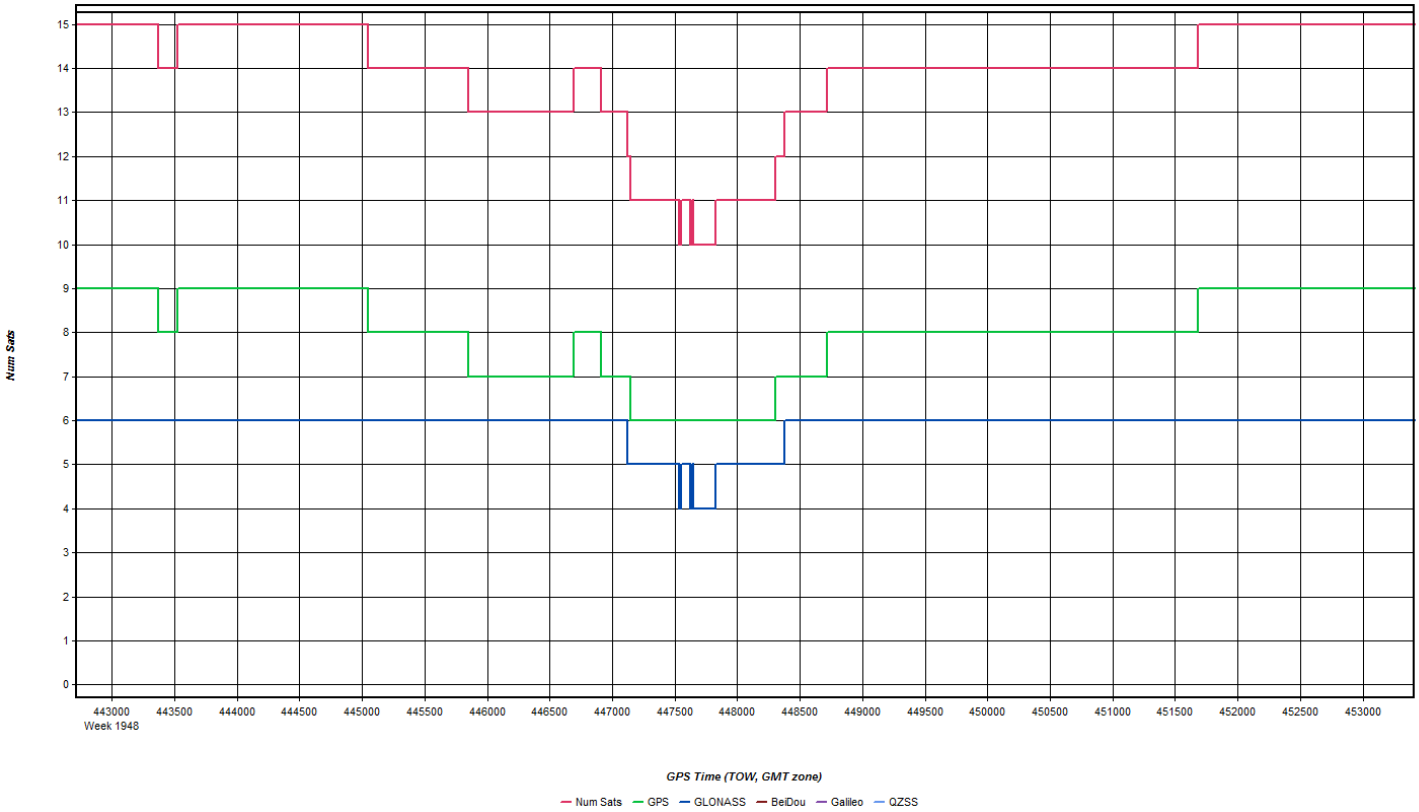

PDOP
2.9
2.8
2.7
2.6
2.5
2.4
2.3
2.2
2.1
2.0
1.9
1.8
1.7
1.6
1.5
1.4
1.3
1.2
1.1
1.0
0.9
443000
Week 1948
443500
444000
444500
445000
445500
446000
446500
447000
447500
448000
448500
449000
449500
450000
450500
451000
451500
452000
452500
453000
GPS Time (TOW, GMT zone)
PDOP

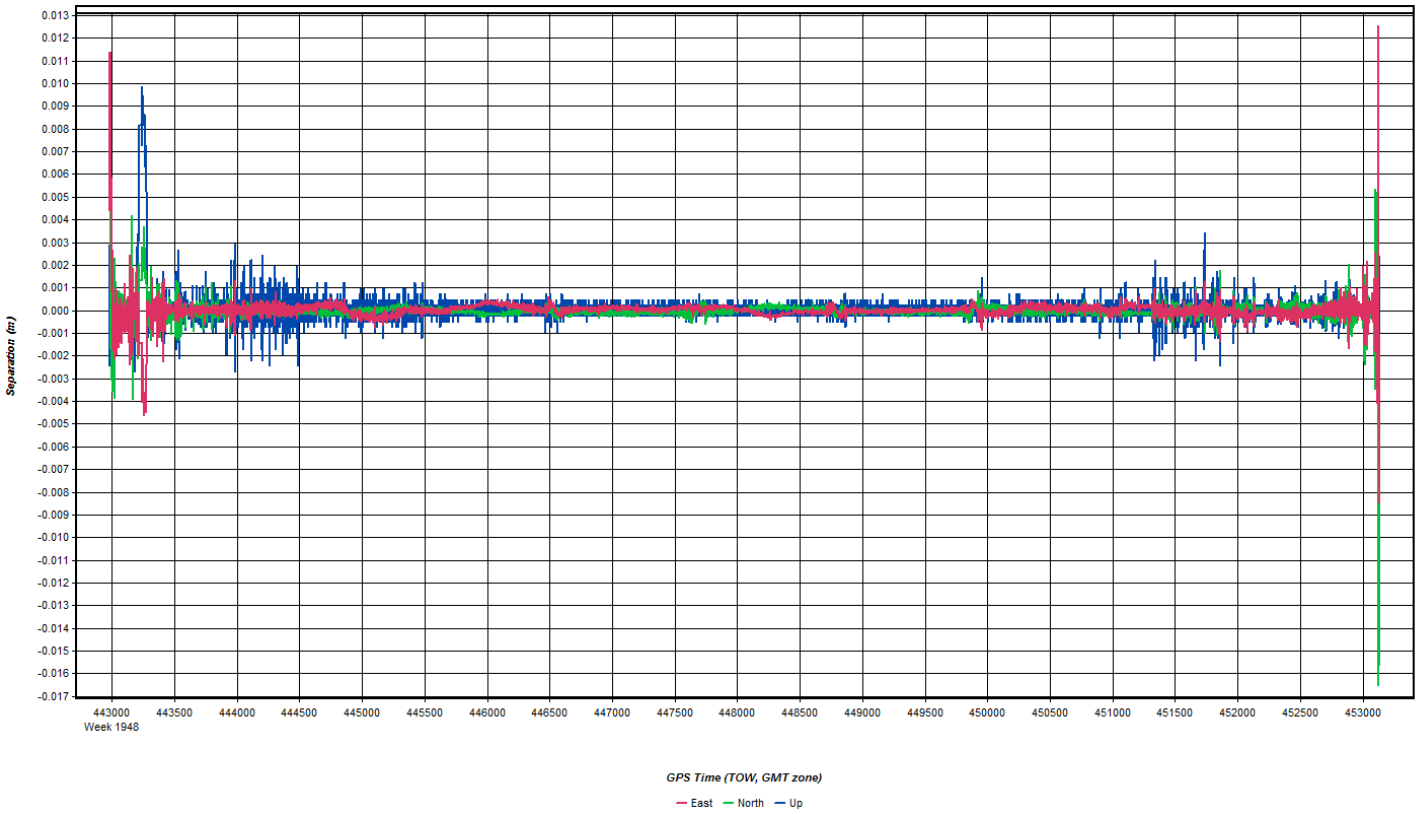

Status
2
1
0
-1
443000
Week 1948
443500
444000
444500
445000
445500
446000
446500
447000
447500
448000
448500
449000
449500
450000
450500
451000
451500
452000
452500
453000
GPS Time (TOW, GMT zone)
Float
Forward Fixed
Reverse Fixed
Fixed (2 or more)

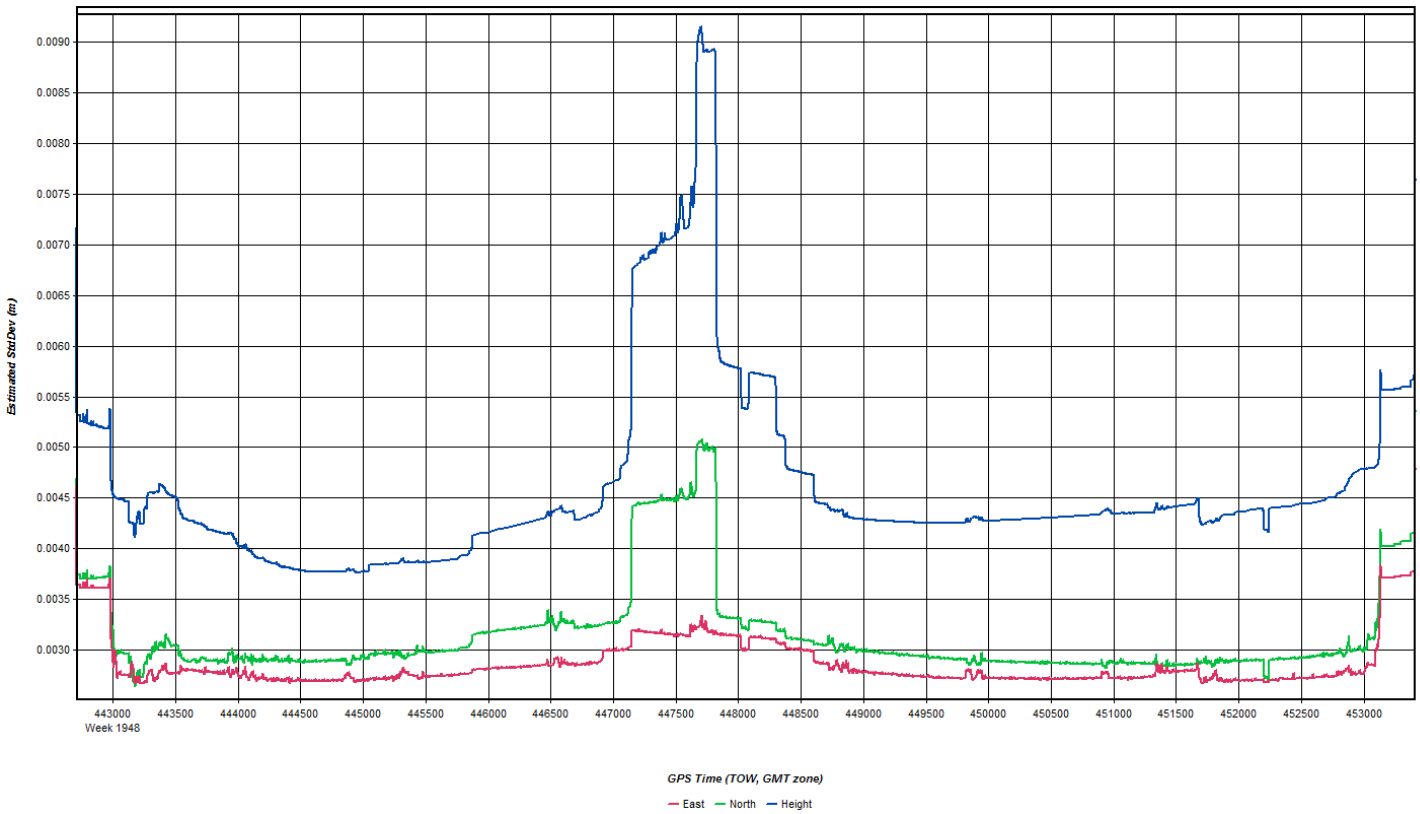

Roll & pitch (deg)
34
32
30
28
26
24
22
20
18
16
14
12
10
8
6
4
2
0
-2
-4
-6
-8
-10
-12
-14
-16
-18
-20
-22
-24
-26
-28
-30
443000
Week 1948
443500
444000
444500
445000
445500
446000
446500
447000
447500
448000
448500
449000
449500
450000
450500
451000
451500
452000
452500
453000
GPS Time (TOW, GMT zone)
Roll
Pitch

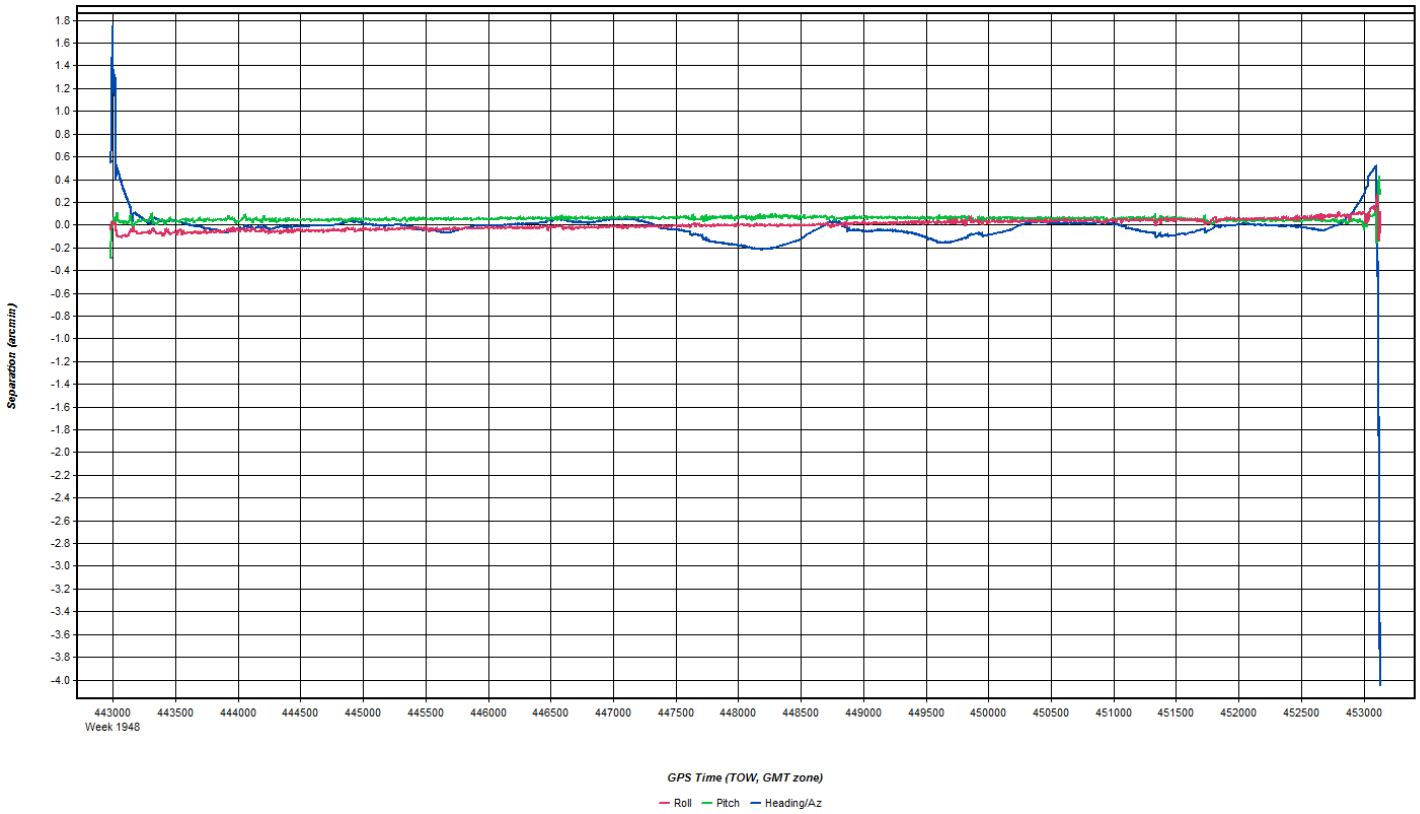

RMS (m)
0.042
0.040
0.038
0.036
0.034
0.032
0.030
0.028
0.026
0.024
0.022
0.020
0.018
0.016
0.014
0.012
0.010
0.008
0.006
443000
Week 1948
443500
444000
444500
445000
445500
446000
446500
447000
447500
448000
448500
449000
449500
450000
450500
451000
451500
452000
452500
453000
GPS Time (TOW, GMT zone)
RMS
SD

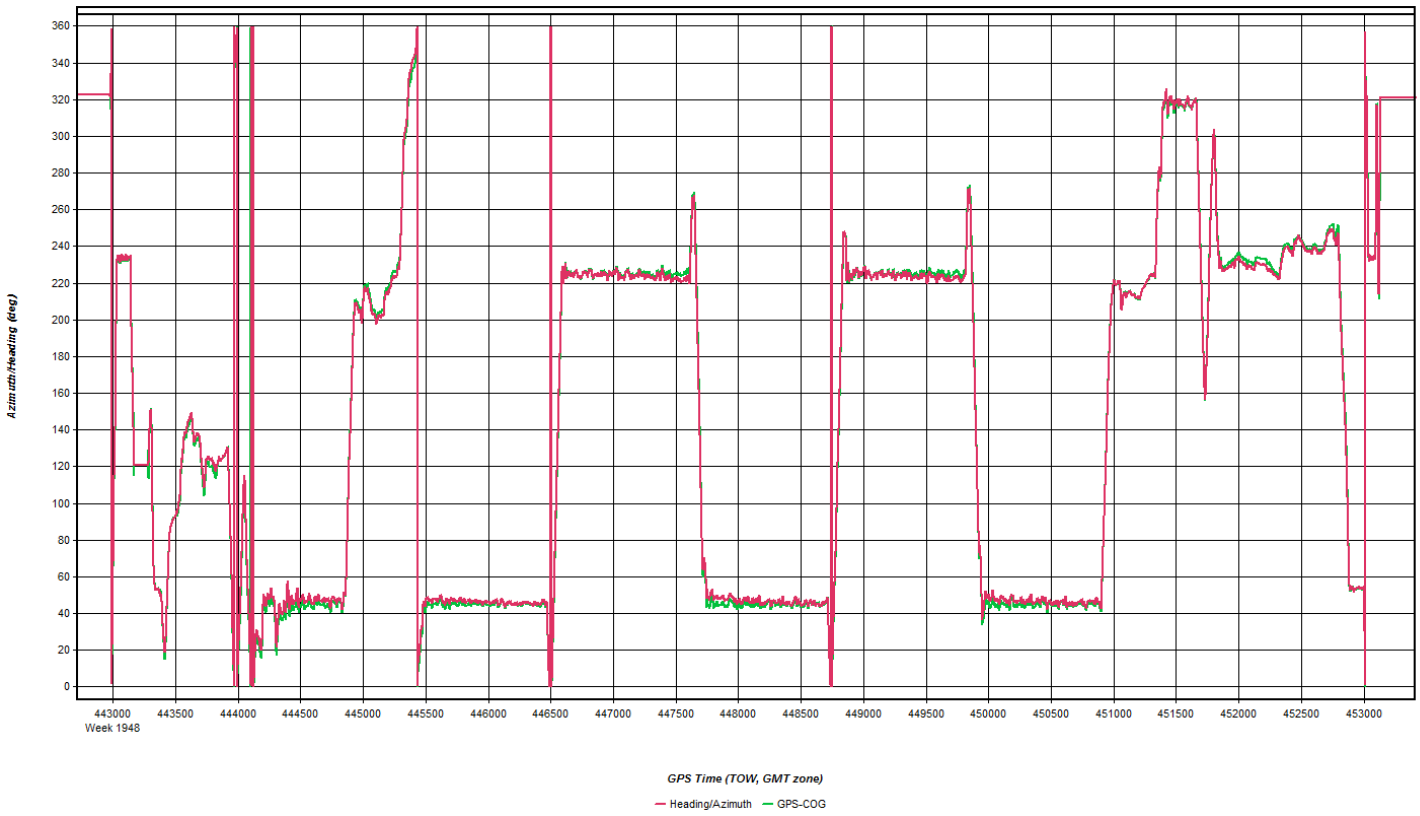

Height (m)
2400
2300
2200
2100
2000
1900
1800
1700
1600
1500
1400
1300
1200
1100
1000
900
800
700
600
500
400
300
200
100
443000
Week 1948
443500
444000
444500
445000
445500
446000
446500
447000
447500
448000
448500
449000
449500
450000
450500
451000
451500
452000
452500
453000
GPS Time (TOW, GMT zone)
Height

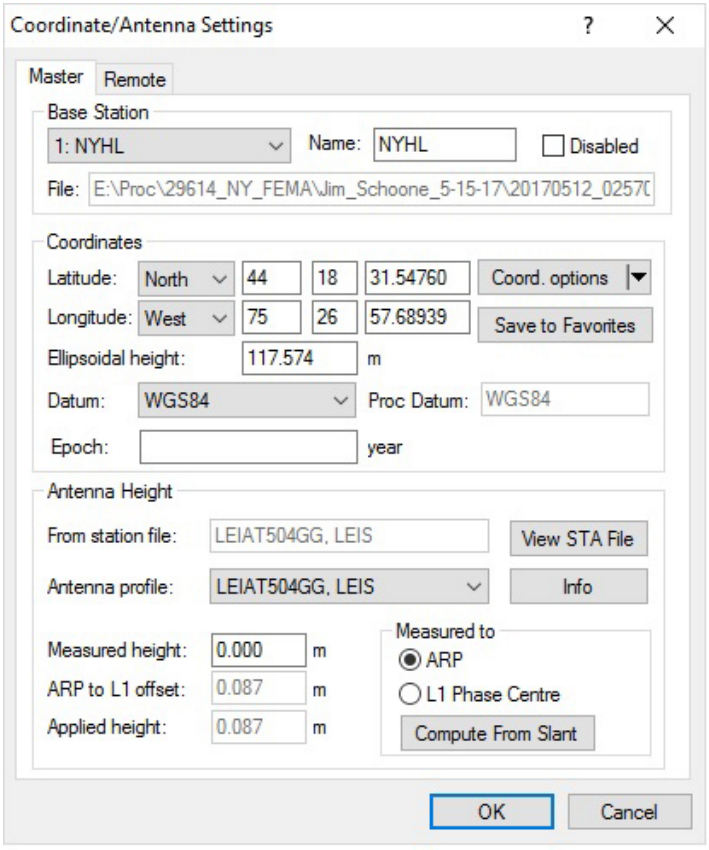

Num Sats
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
443000
Week 1948
443500
444000
444500
445000
445500
446000
446500
447000
447500
448000
448500
449000
449500
450000
450500
451000
451500
452000
452500
453000
GPS Time (TOW, GMT zone)
Num Sats
GPS
GLONASS
BeiDou
Galileo
QZSS

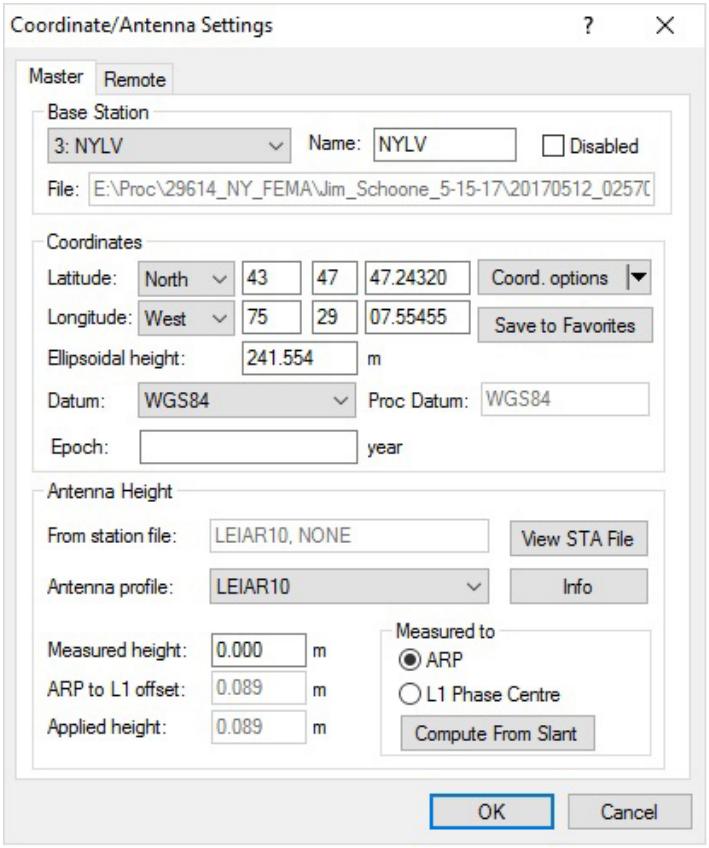

Separation (m)
0.013
0.012
0.011
0.010
0.009
0.008
0.007
0.006
0.005
0.004
0.003
0.002
0.001
0.000
-0.001
-0.002
-0.003
-0.004
-0.005
-0.006
-0.007
-0.008
-0.009
-0.010
-0.011
-0.012
-0.013
-0.014
-0.015
-0.016
-0.017
443000
Week 1948
443500
444000
444500
445000
445500
446000
446500
447000
447500
448000
448500
449000
449500
450000
450500
451000
451500
452000
452500
453000
GPS Time (TOW, GMT zone)
East
North
Up

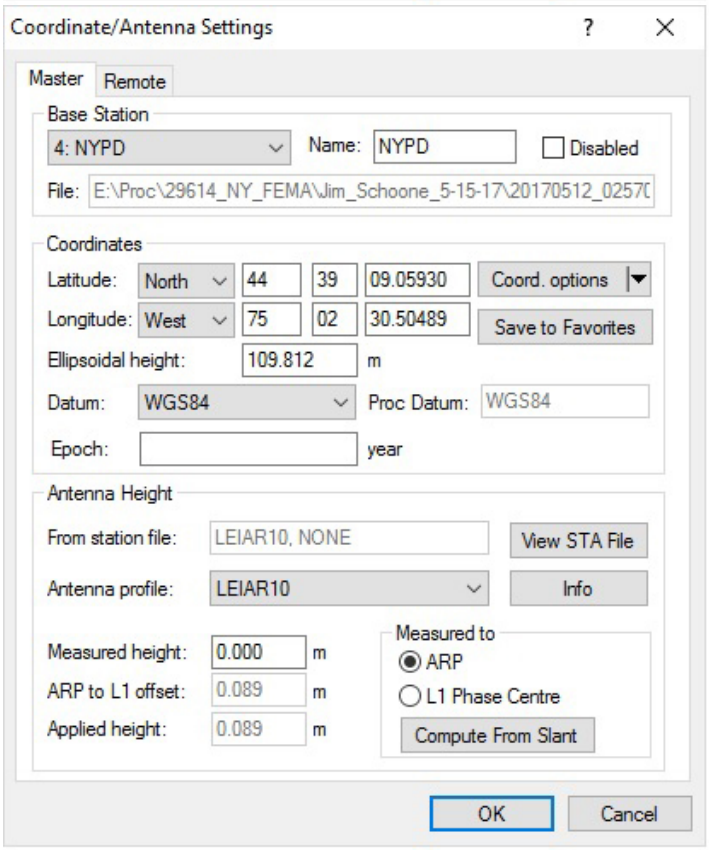

Estimated StdDev (m)
0.0090
0.0085
0.0080
0.0075
0.0070
0.0065
0.0060
0.0055
0.0050
0.0045
0.0040
0.0035
0.0030
443000
Week 1948
443500
444000
444500
445000
445500
446000
446500
447000
447500
448000
448500
449000
449500
450000
450500
451000
451500
452000
452500
453000
GPS Time (TOW, GMT zone)
East
North
Height

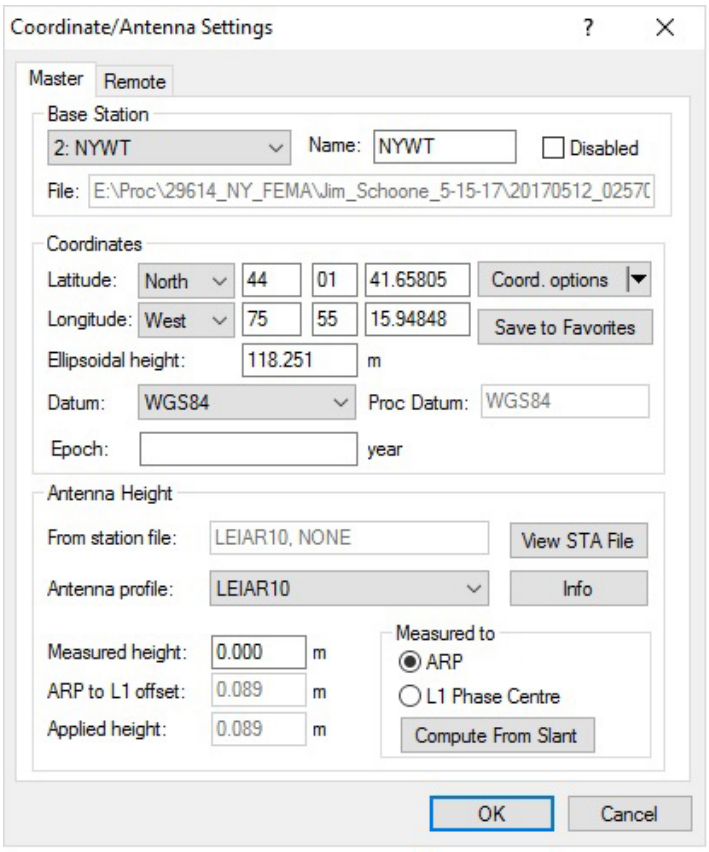

Separation (arcmin)
1.8
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
-0.2
-0.4
-0.6
-0.8
-1.0
-1.2
-1.4
-1.6
-1.8
-2.0
-2.2
-2.4
-2.6
-2.8
-3.0
-3.2
-3.4
-3.6
-3.8
-4.0
443000
Week 1948
443500
444000
444500
445000
445500
446000
446500
447000
447500
448000
448500
449000
449500
450000
450500
451000
451500
452000
452500
453000
GPS Time (TOW, GMT zone)
Roll
Pitch
Heading/Az


Azimuth/Heading (deg)
360
340
320
300
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
443000
Week 1948
443500
444000
444500
445000
445500
446000
446500
447000
447500
448000
448500
449000
449500
450000
450500
451000
451500
452000
452500
453000
GPS Time (TOW, GMT zone)
Heading/Azimuth
GPS-COG


Coordinate/Antenna Settings
?
Master
Remote
Base Station
1: NYHL
Name: NYHL
Disabled
File: E:\Proc\29614_NY_FEMA\Jim_Schoone_5-15-17\20170512_0257(
Coordinates
Latitude: North 44 18 31.54760
Coord. options
Longitude: West 75 26 57.68939
Save to Favorites
Ellipsoidal height: 117.574 m
Datum: WGS84
Proc Datum: WGS84
Epoch:
year
Antenna Height
From station file: LEIAT504GG, LEIS
View STA File
Antenna profile: LEIAT504GG, LEIS
Info
Measured height: 0.000 m
ARP to L1 offset: 0.087 m
Applied height: 0.087 m
Measured to
ARP
L1 Phase Centre
Compute From Slant
OK
Cancel

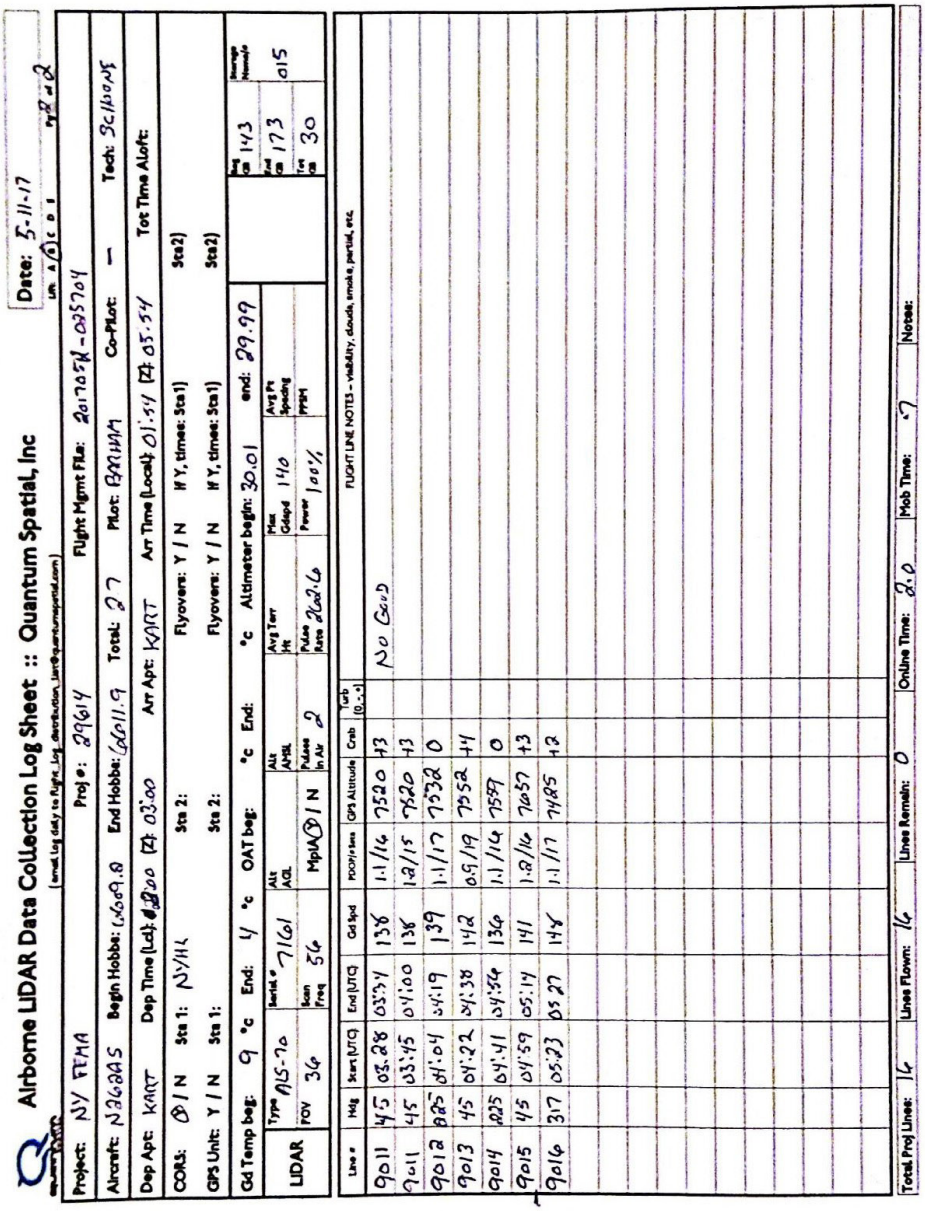

Coordinate/Antenna Settings
Master
Remote
Base Station
3: NYLV
Name: NYLV
Disabled
File: E:\Proc\29614_NY_FEMA\Jim_Schoone_5-15-17\20170512_0257(
Coordinates
Latitude: North 43 47 47.24320
Coord. options
Longitude: West 75 29 07.55455
Save to Favorites
Ellipsoidal height: 241.554 m
Datum: WGS84
Proc Datum: WGS84
Epoch:
year
Antenna Height
From station file: LEIAR10, NONE
View STA File
Antenna profile: LEIAR10
Info
Measured height: 0.000 m
ARP to L1 offset: 0.089 m
Applied height: 0.089 m
Measured to
ARP
L1 Phase Centre
Compute From Slant
OK
Cancel


Coordinate/Antenna Settings
Master
Remote
Base Station
4: NYPD
Name: NYPD
Disabled
File: E:\Proc\29614_NY_FEMA\Jim_Schoone_5-15-17\20170512_0257(
Coordinates
Latitude: North 44 39 09.05930
Coord. options
Longitude: West 75 02 30.50489
Save to Favorites
Ellipsoidal height: 109.812 m
Datum: WGS84
Proc Datum: WGS84
Epoch:
year
Antenna Height
From station file: LEIAR10, NONE
View STA File
Antenna profile: LEIAR10
Info
Measured height: 0.000 m
ARP to L1 offset: 0.089 m
Applied height: 0.089 m
Measured to
ARP
L1 Phase Centre
Compute From Slant
OK
Cancel


Coordinate/Antenna Settings
Master
Remote
Base Station
2: NYWT
Name: NYWT
Disabled
File: E:\Proc\29614_NY_FEMA\Jim_Schoone_5-15-17\20170512_0257(
Coordinates
Latitude: North 44 01 41.65805
Coord. options
Longitude: West 75 55 15.94848
Save to Favorites
Ellipsoidal height: 118.251 m
Datum: WGS84
Proc Datum: WGS84
Epoch: year
Antenna Height
From station file: LEIAR10, NONE
View STA File
Antenna profile: LEIAR10
Info
Measured height: 0.000 m
ARP to L1 offset: 0.089 m
Applied height: 0.089 m
Measured to
ARP
L1 Phase Centre
Compute From Slant
OK
Cancel

Flight Log

Scanned by CamScanner



Airborne LIDAR Data Collection Log Sheet :: Quantum Spatial, Inc

Date: 5-11-17

Project: NY FEMA | Proj #: 29614 | Flight Mgmt File: 20170514-085704

Aircraft: N3608AS | Begin Hobbs: 6609.8 | End Hobbs: 6611.9 | Total: 2.1 | Pilot: BARMAN | Co-Pilot: — | Tech: Selbonk

Dep Apt: KART | Dep Time (Lcl): 0700 (Z 0300) | Arr Apt: KART | Arr Time (Local): 0151 (Z 0551) | Tot Time Aloft:

CORS: Y / N | Sta 1: NYHK | Sta 2: | Flyovers: Y / N | If Y, times: Sta1) | Sta2)

GPS Unit: Y / N | Sta 1: | Sta 2: | Flyovers: Y / N | If Y, times: Sta1) | Sta2)

Gd Temp beg: 9 °c | End: 4 °c | OAT beg: °c | End: °c | Altimeter begin: 30.01 | end: 29.99

LIDAR: Type ALS-70 | Serial # 7161 | Alt AGL | Alt ASL | Avg Terr Ht | Max Cdgrd | Avg Pt Spacing

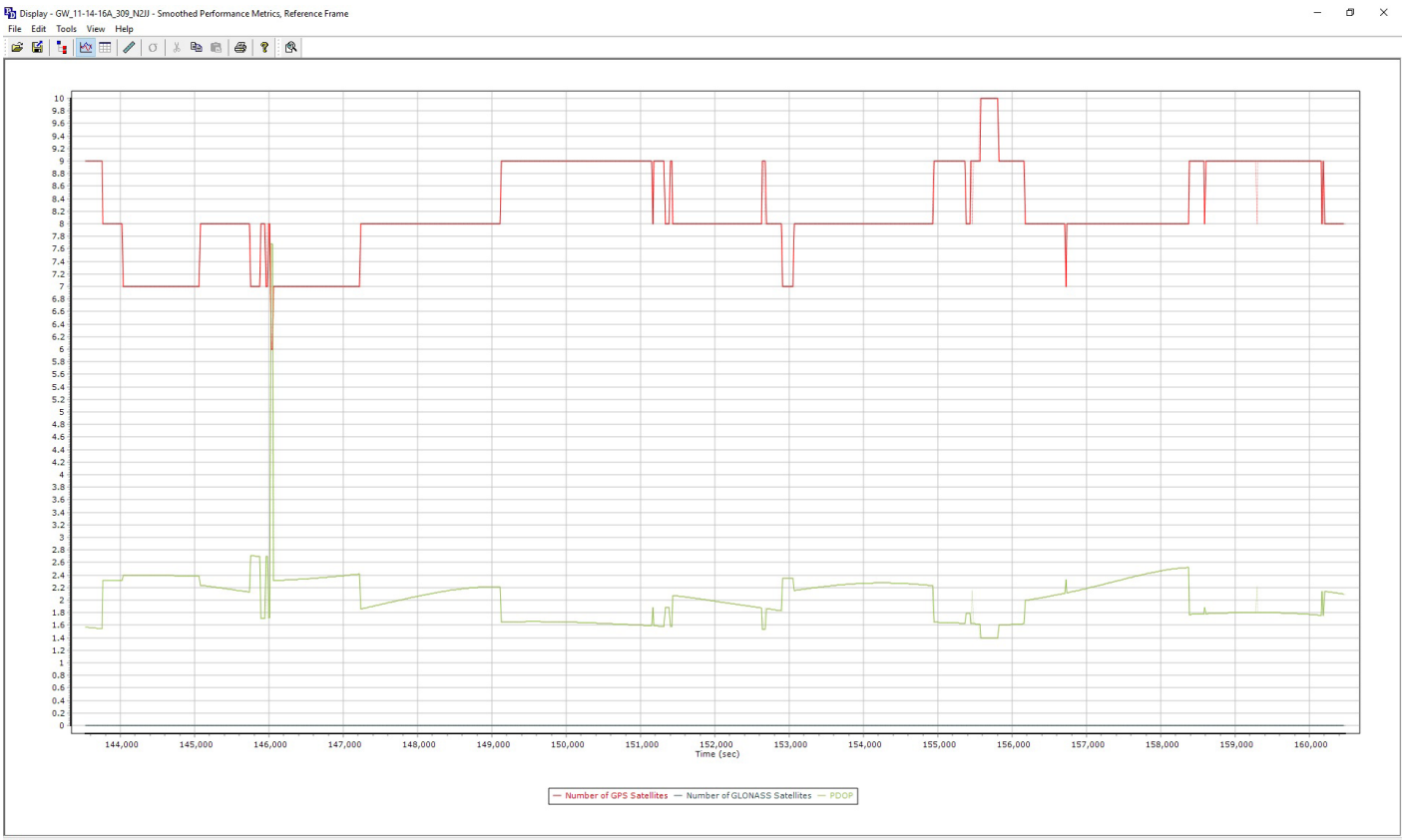
FOV 36 | Scan Freq 56 | MpIA Y / N | Pulses In Air 2 | Pulse Rate 200.6 | Power 100% | PRR

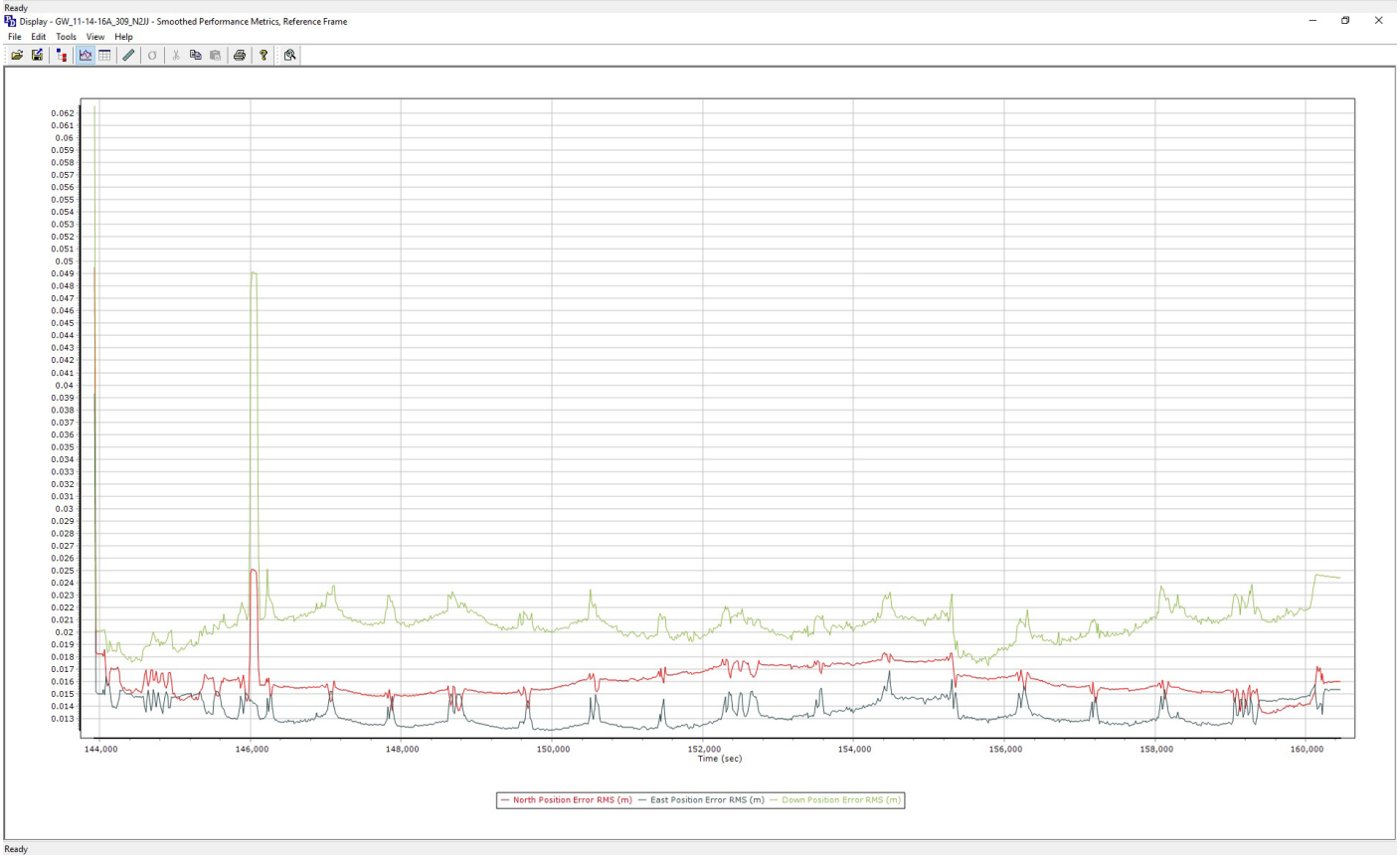
Beg cs 143 | End cs 173 | Tot cs 30 | 015

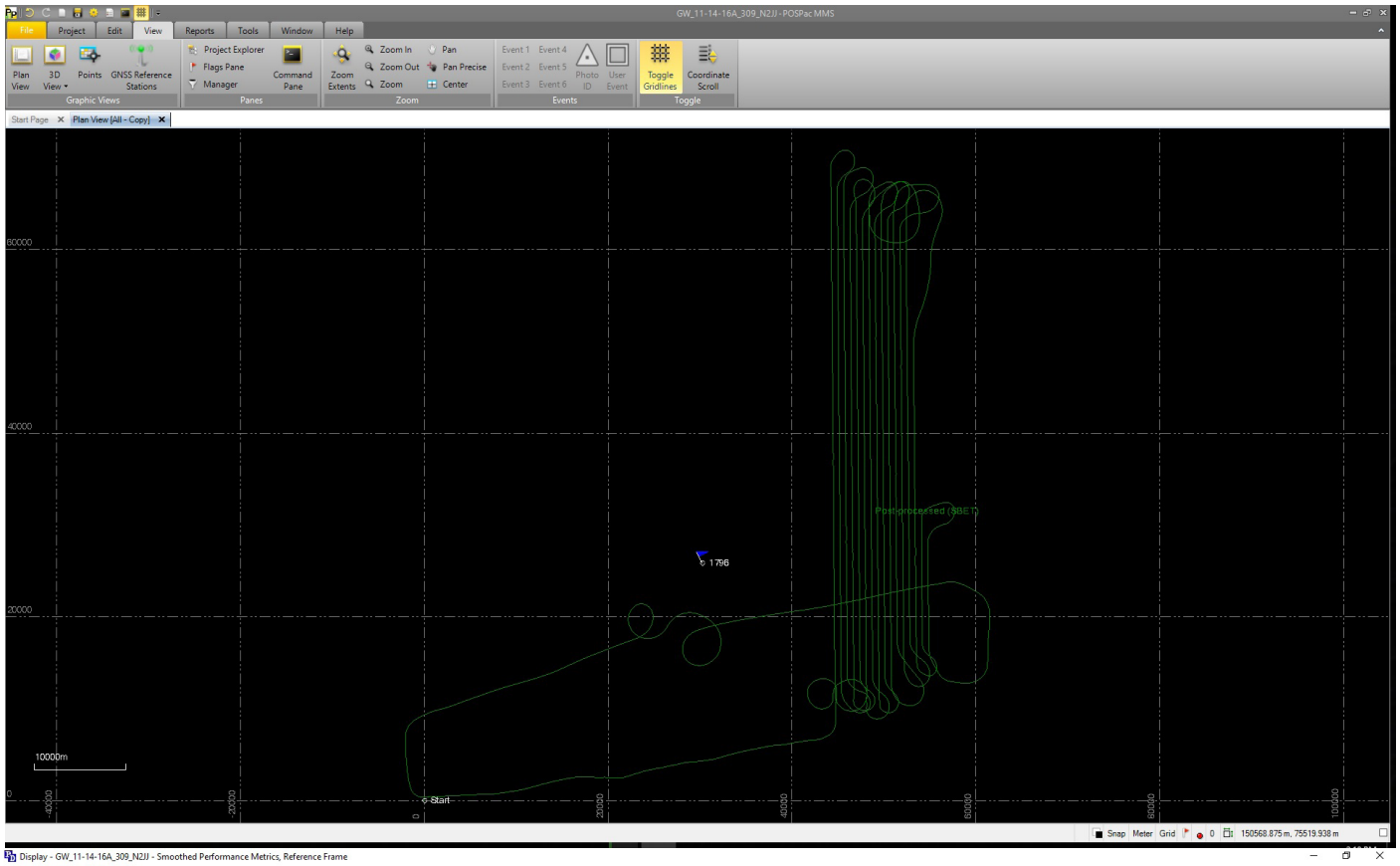
Line #	Hdg	Start (UTC)	End (UTC)	Gd Spd	AGL POCP/Elev	GPS Altitude	Crab	Yaw (0,-,+)	FLIGHT LINE NOTES - visibility, clouds, smoke, partial, etc.
9011	45	03:28	03:37	138	1.1/16	7520	+3		No Good
9011	45	03:45	04:00	138	1.2/15	7520	+3		
9012	225	04:04	04:19	139	1.1/17	7538	0		
9013	45	04:22	04:38	142	0.9/19	7552	+4		
9014	225	04:41	04:56	136	1.1/14	7559	0		
9015	45	04:59	05:14	141	1.8/16	7557	+3		
9016	317	05:23	05:27	145	1.1/17	7485	+2		

Total Proj Lines: 16 | Lines Flown: 16 | Lines Remain: 0 | Online Time: 2.0 | Mob Time: 47 | Notes:

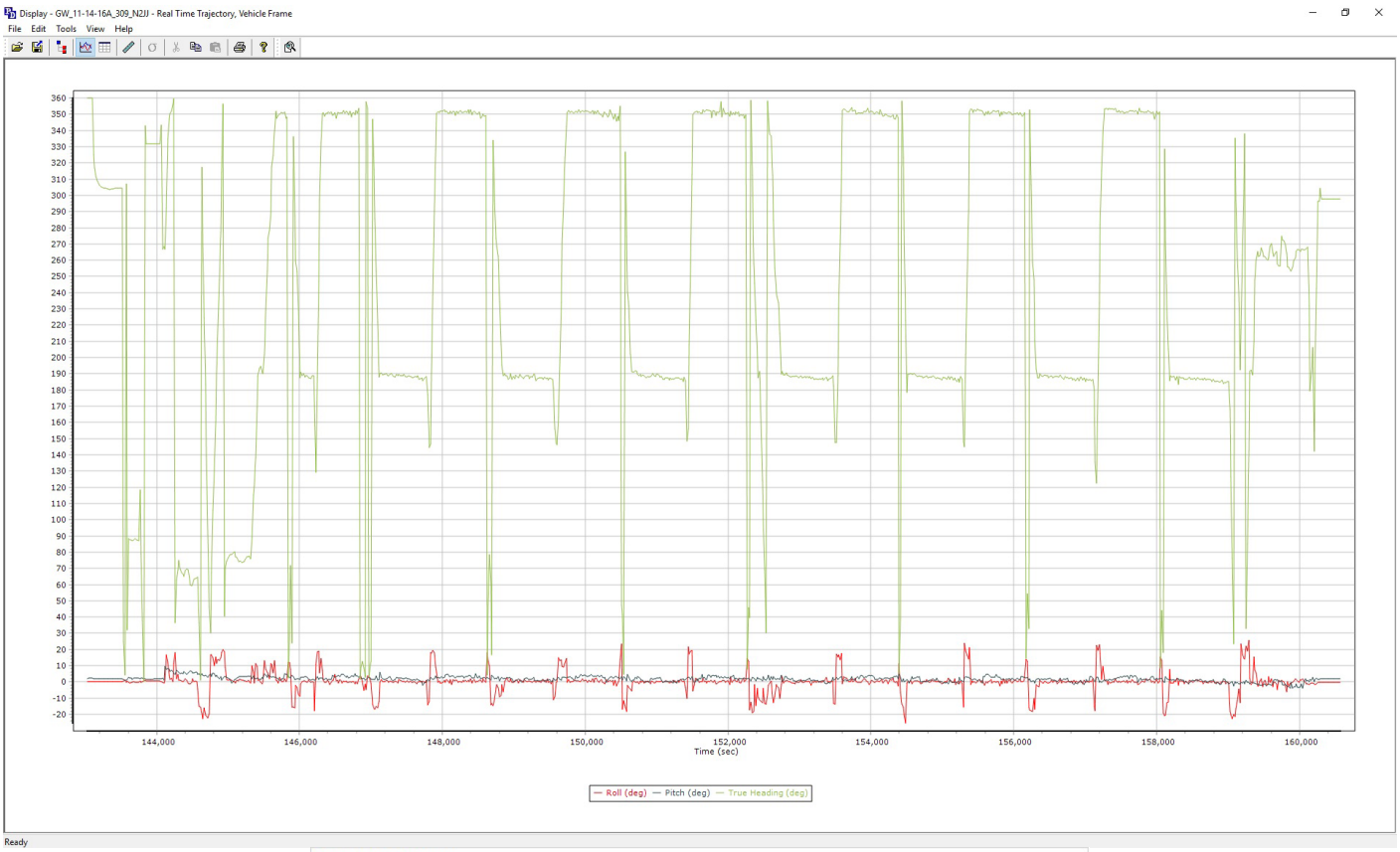
Nov 14, 2016-A (N2JJ, SN309)

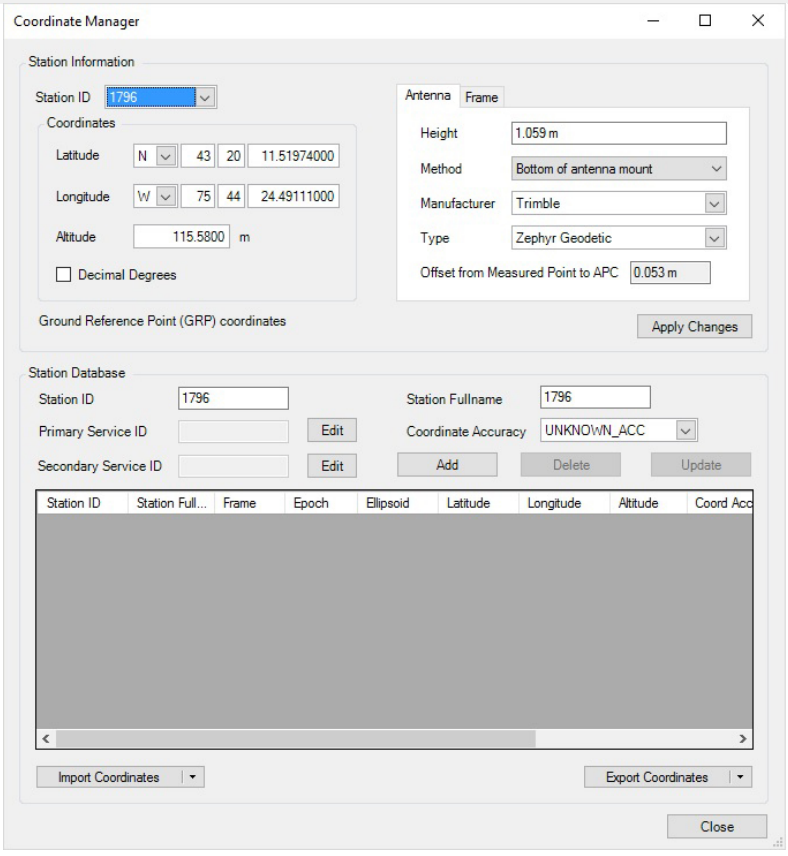

Display - GW_11-14-16A_309_N2JJ - Smoothed Performance Metrics, Reference Frame
File Edit Tools View Help
Time (sec)
Number of GPS Satellites
Number of GLONASS Satellites
PDOP
Ready


Display - GW_11-14-16A_309_N2JJ - Smoothed Performance Metrics, Reference Frame
File Edit Tools View Help
Time (sec)
North Position Error RMS (m)
East Position Error RMS (m)
Down Position Error RMS (m)
Ready

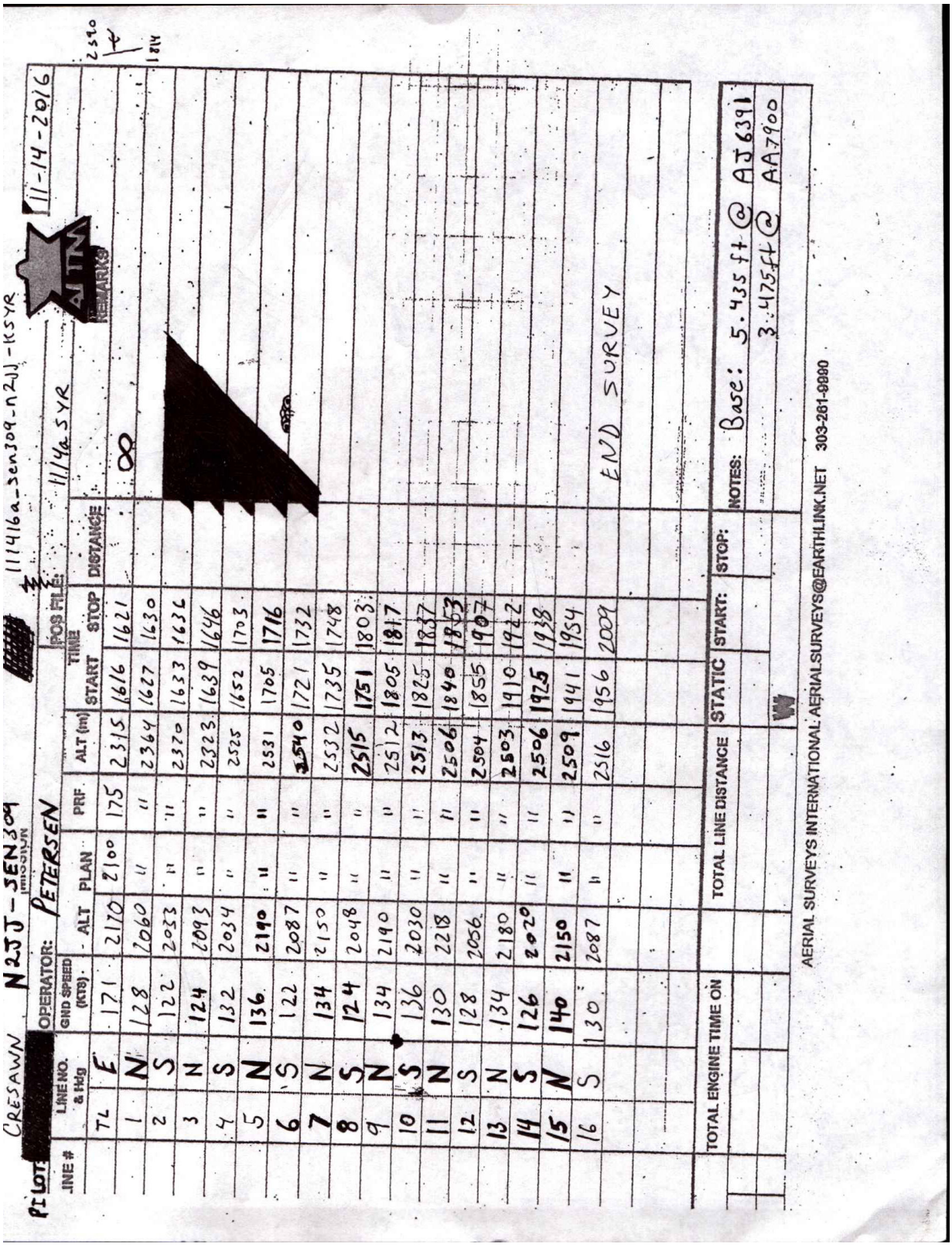

GW_11-14-16A_309_N2JJ - POSPac MMS
File
Project
Edit
View
Reports
Tools
Window
Help
Plan View
3D View
Points
GNSS Reference Stations
Graphic Views
Project Explorer
Flags Pane
Manager
Command Pane
Panes
Zoom Extents
Zoom In
Zoom Out
Zoom
Pan
Pan Precise
Center
Zoom
Event 1
Event 2
Event 3
Event 4
Event 5
Event 6
Photo ID
User Event
Events
Toggle Gridlines
Coordinate Scroll
Toggle
Start Page
Plan View [All - Copy]
60000
40000
20000
Postprocessed (SBET)
1756
10000m
Start
Snap
Meter
Grid
150568.875 m, 75519.938 m


Display - GW_11-14-16A_309_N2JJ - Smoothed Performance Metrics, Reference Frame
File
Edit
Tools
View
Help
Processing mode
1
0
144,000
145,000
146,000
147,000
148,000
149,000
150,000
151,000
152,000
153,000
154,000
155,000
156,000
157,000
158,000
159,000
160,000
Time (sec)
Forward
Reverse
0 = Fixed NL, 1 = Fixed WL, 2 = Float, 3 = DGNSS, 4 = RTCM, 5 = IAPPP, 6 = C/A, 7 = GNSS Nav, 8 = DR
Ready


Display - GW_11-14-16A_309_N2JJ - Real Time Trajectory, Vehicle Frame
File Edit Tools View Help
Time (sec)
Roll (deg) Pitch (deg) True Heading (deg)
Ready


Coordinate Manager
Station Information
Station ID 1796
Coordinates
Latitude N 43 20 11.51974000
Longitude W 75 44 24.49111000
Altitude 115.5800 m
Decimal Degrees
Ground Reference Point (GRP) coordinates
Antenna Frame
Height 1.059 m
Method Bottom of antenna mount
Manufacturer Trimble
Type Zephyr Geodetic
Offset from Measured Point to APC 0.053 m
Apply Changes
Station Database
Station ID 1796
Station Fullname 1796
Primary Service ID Edit
Secondary Service ID Edit
Coordinate Accuracy UNKNOWN_ACC
Add Delete Update
Station ID Station Full... Frame Epoch Ellipsoid Latitude Longitude Altitude Coord Acc
Import Coordinates
Export Coordinates
Close

Flight Log



PILOT: CRESAWN N23J-SEN309 OPERATOR: PETERSEN 111416a_sen309_n23j-KSYR.pos 11-14-2016

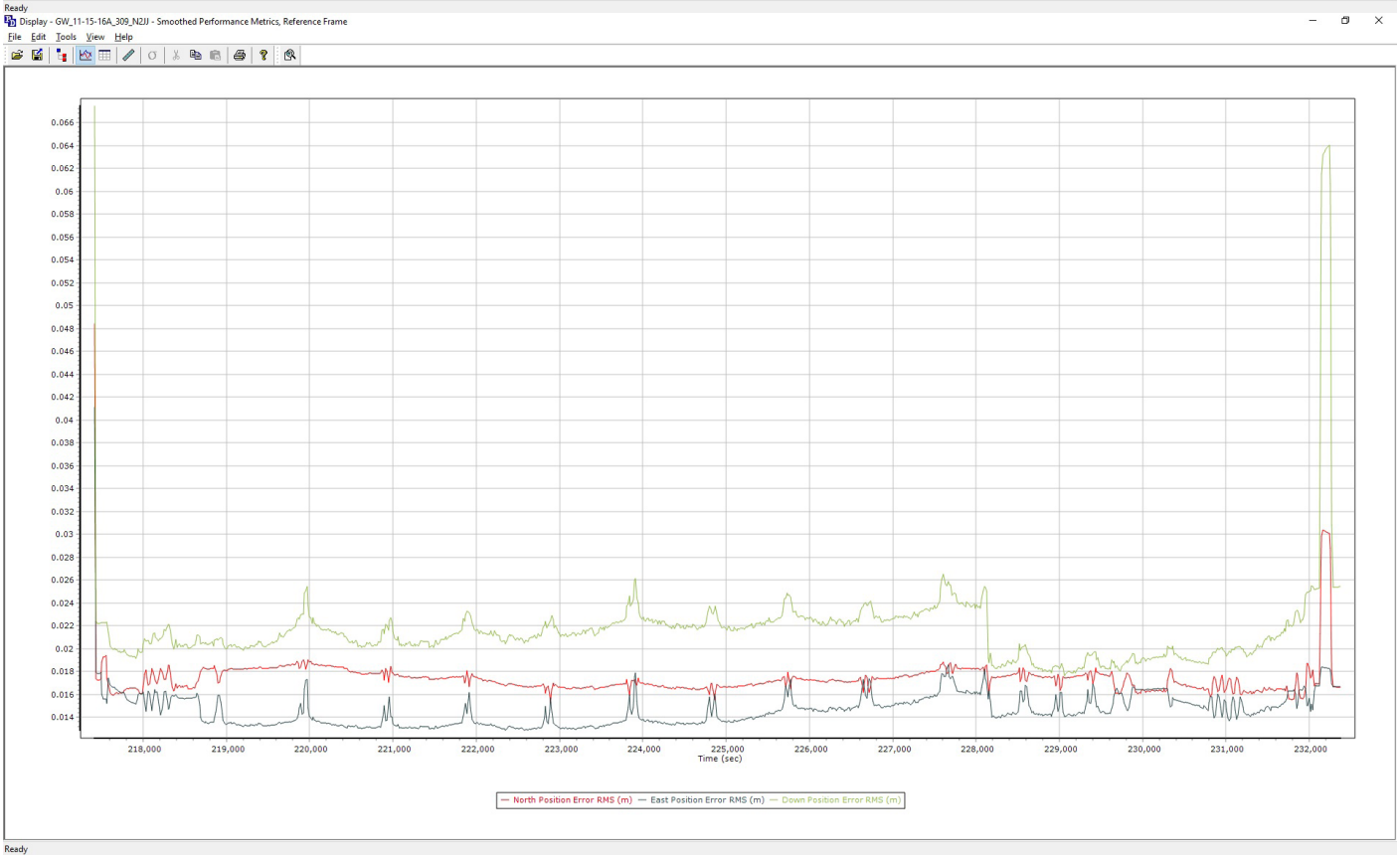
LINE #	LINE NO. & Hdg	GND SPEED (KTS)	ALT	PLAN	PRF	ALT (m)	TIME START	TIME STOP	DISTANCE	REMARKS
TL	E	171	2170	2100	175	2315	1616	1621		11/4a SYR
1	N	128	2060	"	"	2364	1627	1630	∞	
2	S	122	2053	"	"	2370	1633	1636		
3	N	124	2093	"	"	2323	1639	1646		
4	S	132	2034	"	"	2525	1652	1703		
5	N	136	2190	"	"	2531	1705	1716		
6	S	122	2087	"	"	2540	1721	1732		
7	N	134	2150	"	"	2532	1735	1748		
8	S	124	2048	"	"	2515	1751	1803		
9	N	134	2190	"	"	2512	1805	1817		
10	S	136	2030	"	"	2513	1825	1837		
11	N	130	2218	"	"	2506	1840	1853		
12	S	128	2056	"	"	2504	1855	1907		
13	N	134	2180	"	"	2503	1910	1922		
14	S	126	2020	"	"	2506	1925	1938		
15	N	140	2150	"	"	2509	1941	1954		
16	S	130	2087	"	"	2516	1956	2009		END SURVEY

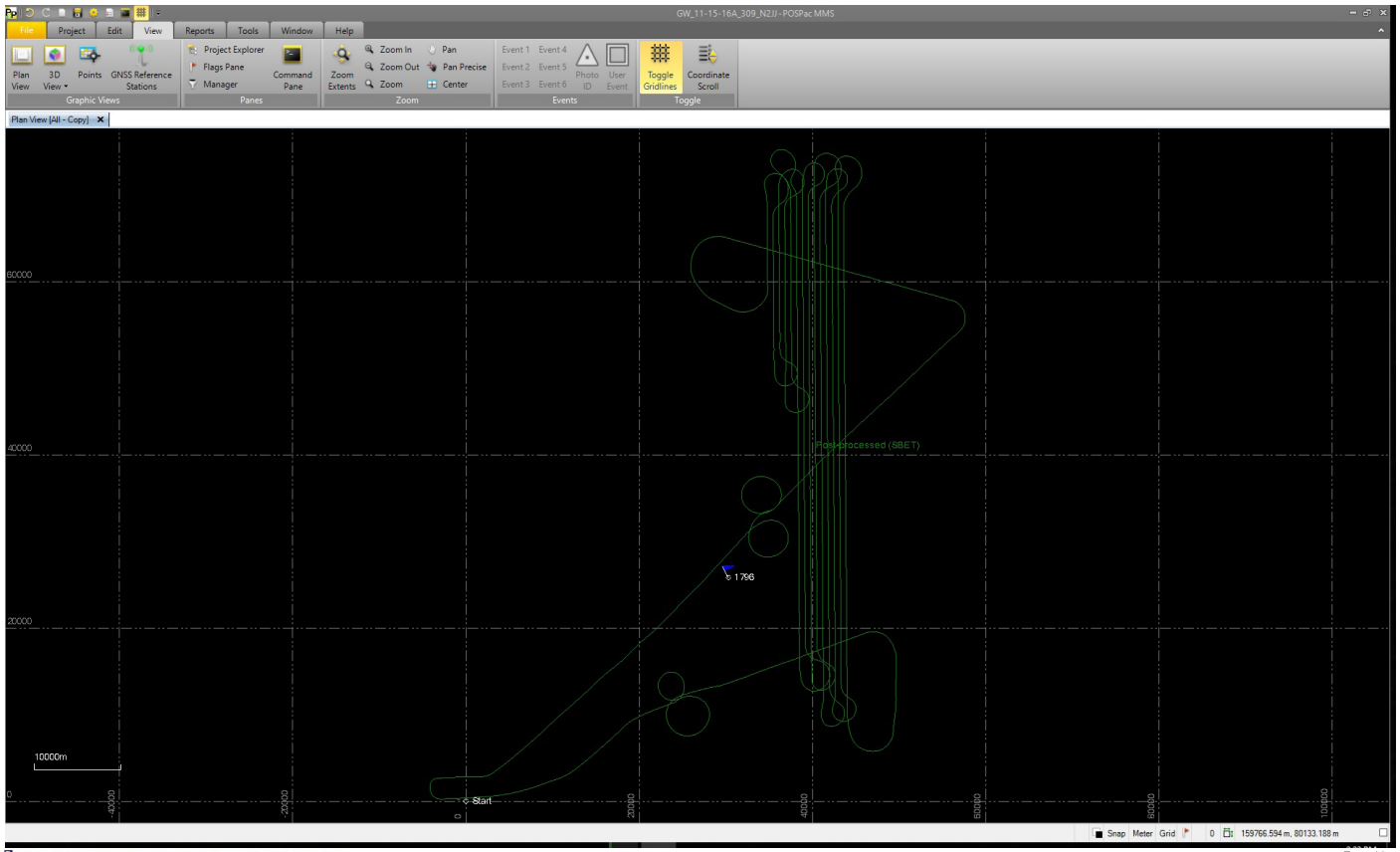
TOTAL ENGINE TIME ON | TOTAL LINE DISTANCE | STATIC START: | STOP: | NOTES: Base: 5.435 ft @ AJ6391 3:47544 @ AA7900

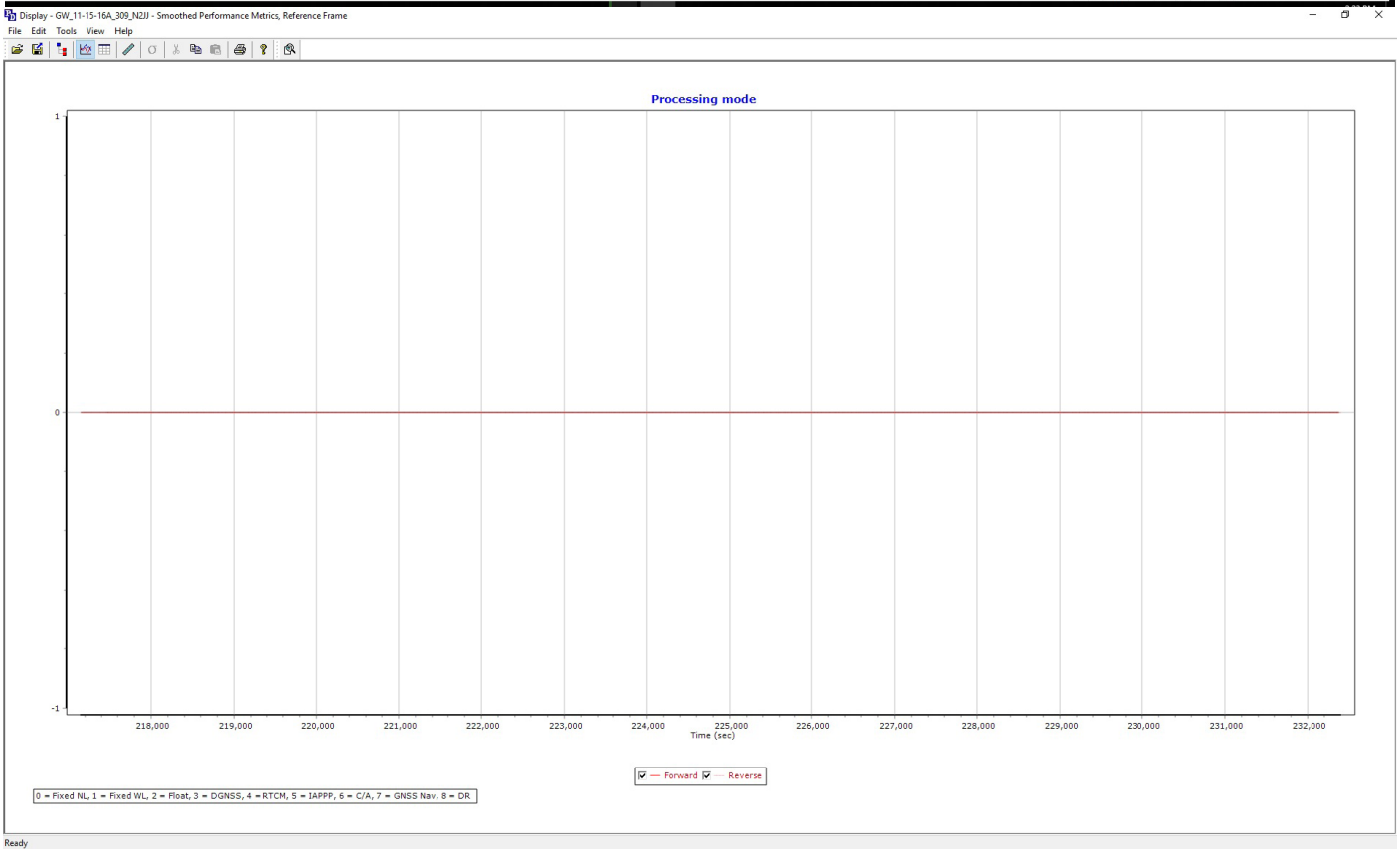
AERIAL SURVEYS INTERNATIONAL: AERIALSURVEYS@EARTHLINK.NET 303-261-9880

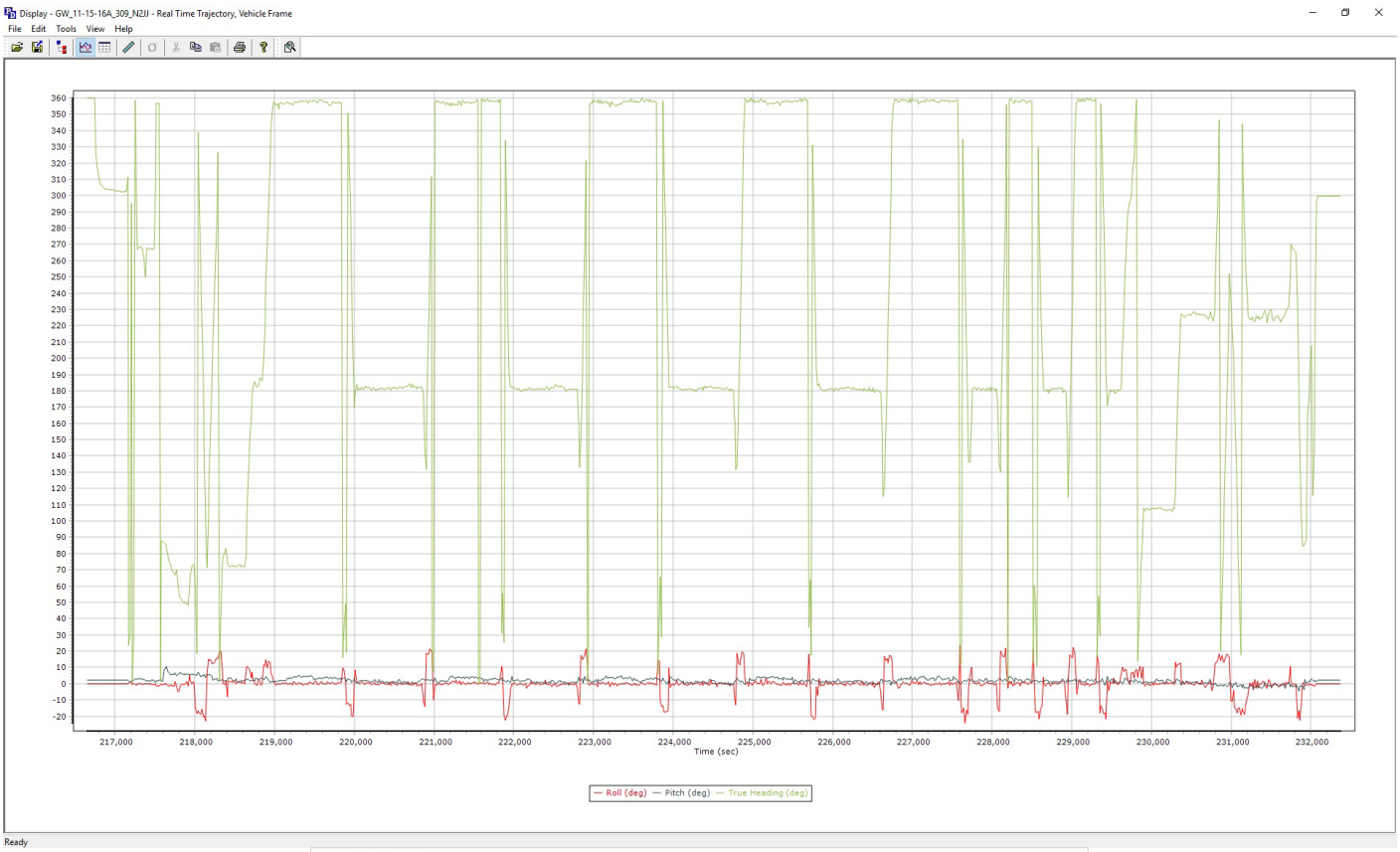
Nov 15, 2016-A (N2JJ, SN309)

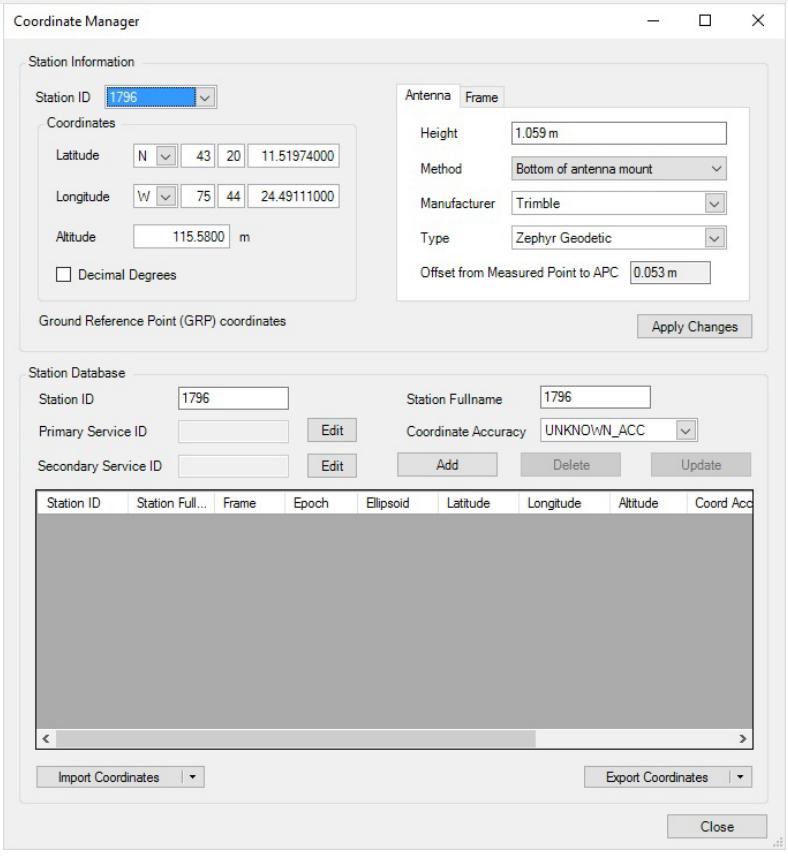

Display - GW_11-15-16A_309_N2JJ - Smoothed Performance Metrics, Reference Frame
File Edit Tools View Help
Time (sec)
Number of GPS Satellites
Number of GLONASS Satellites
PDOP
Ready


Display - GW_11-15-16A_309_N2JJ - Smoothed Performance Metrics, Reference Frame
File Edit Tools View Help
Time (sec)
North Position Error RMS (m)
East Position Error RMS (m)
Down Position Error RMS (m)
Ready

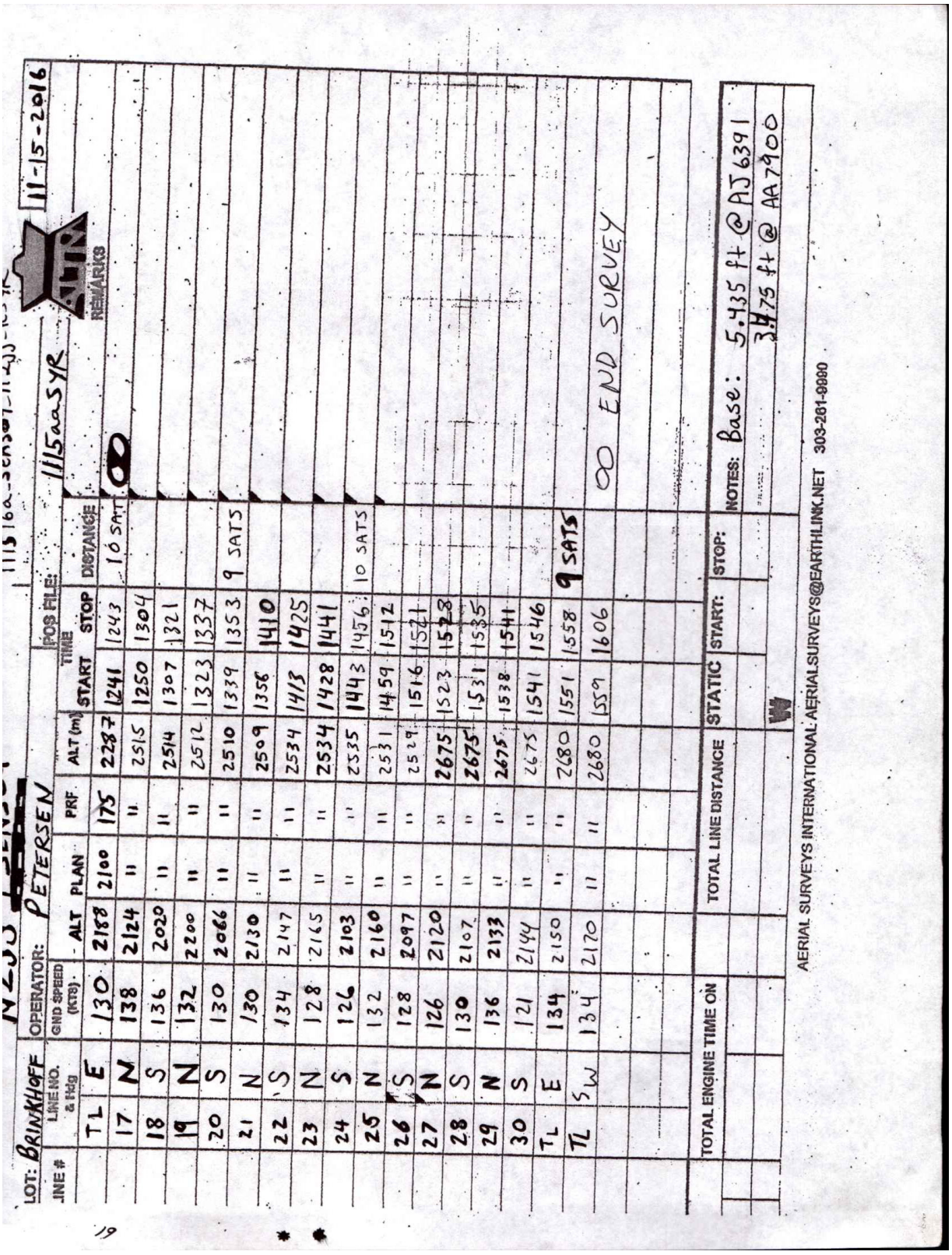

GW_11-15-16A_309_N2JJ - POSPac MMS
File
Project
Edit
View
Reports
Tools
Window
Help
Plan View
3D View
Points
GNSS Reference Stations
Graphic Views
Project Explorer
Flags Pane
Manager
Command Pane
Panes
Zoom Extents
Zoom In
Zoom Out
Zoom
Pan
Pan Precise
Center
Zoom
Event 1
Event 2
Event 3
Event 4
Event 5
Event 6
Photo ID
User Event
Events
Toggle Gridlines
Coordinate Scroll
Toggle
Plan View [All - Copy]
Post-processed (SBET)
1796
Start
10000m
Snap
Meter
Grid
159766.594 m, 80133.188 m


Display - GW_11-15-16A_309_N2JJ - Smoothed Performance Metrics, Reference Frame
File
Edit
Tools
View
Help
Processing mode
Time (sec)
Forward
Reverse
0 = Fixed NL, 1 = Fixed WL, 2 = Float, 3 = DGNSS, 4 = RTCM, 5 = IAPPP, 6 = C/A, 7 = GNSS Nav, 8 = DR
Ready


Display - GW_11-15-16A_309_N2JJ - Real Time Trajectory, Vehicle Frame
File Edit Tools View Help
Time (sec)
Roll (deg) Pitch (deg) True Heading (deg)
Ready


Coordinate Manager
Station Information
Station ID 1796
Coordinates
Latitude N 43 20 11.51974000
Longitude W 75 44 24.49111000
Altitude 115.5800 m
Decimal Degrees
Ground Reference Point (GRP) coordinates
Antenna Frame
Height 1.059 m
Method Bottom of antenna mount
Manufacturer Trimble
Type Zephyr Geodetic
Offset from Measured Point to APC 0.053 m
Apply Changes
Station Database
Station ID 1796
Station Fullname 1796
Primary Service ID Edit
Secondary Service ID Edit
Coordinate Accuracy UNKNOWN_ACC
Add Delete Update
Station ID Station Full... Frame Epoch Ellipsoid Latitude Longitude Altitude Coord Acc
Import Coordinates
Export Coordinates
Close

Flight Log



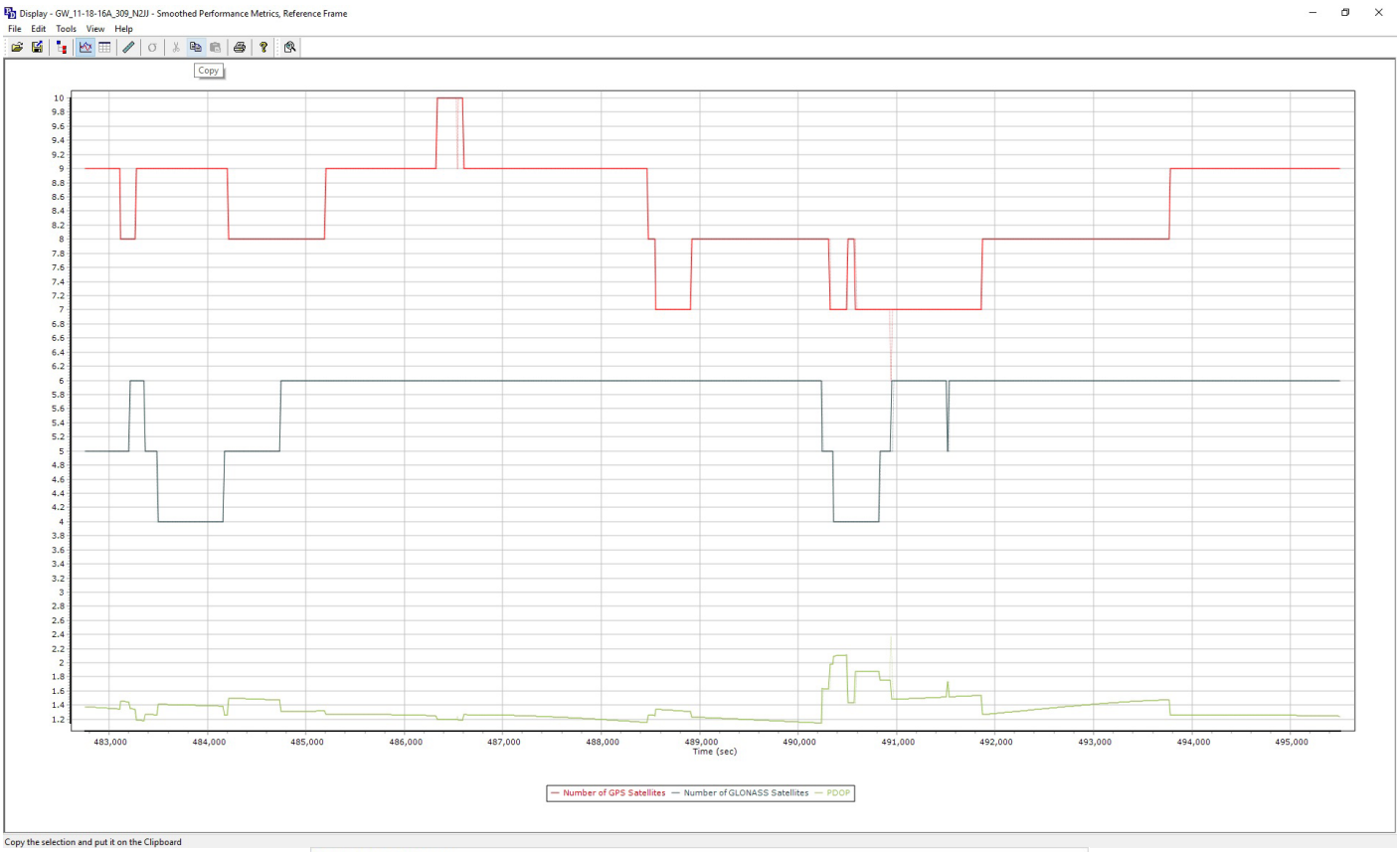
LOT: BRINKHOFF | OPERATOR: PETERSEN | POS FILE: 1115aasyr | 11-15-2016

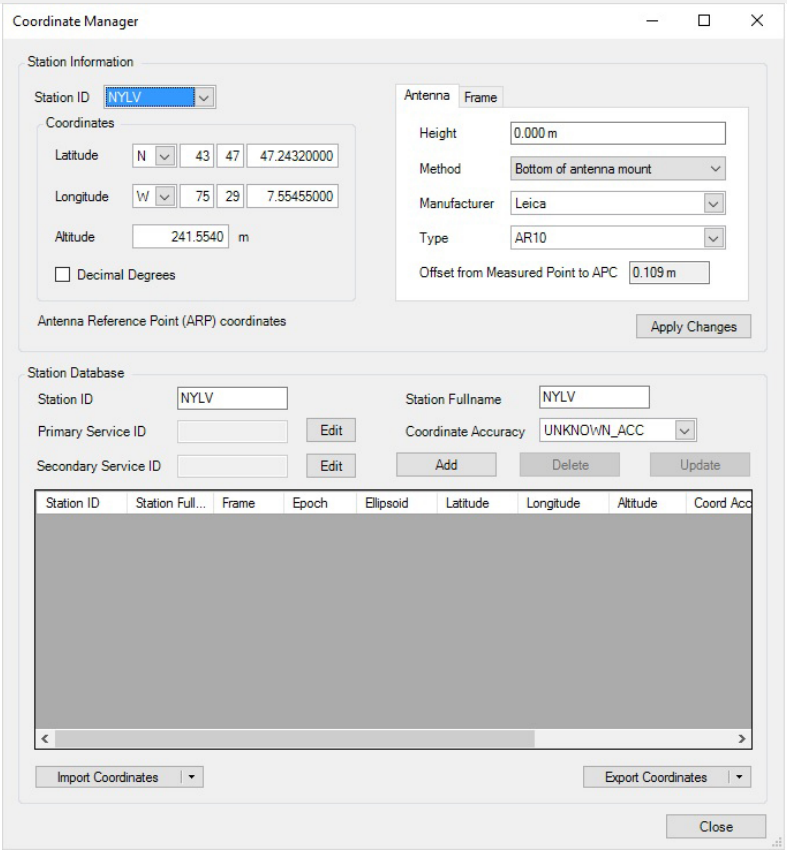
LINE #	LINE NO. & Hdg	GND SPEED (KTS)	ALT PLAN	PRF	ALT (m)	TIME START	TIME STOP	DISTANCE	REMARKS
TL	E	130	2188 2100	175	2287	1241	1243	16 SAT	
17	N	138	2124 "	"	2515	1250	1304		
18	S	136	2020 "	"	2514	1307	1321		
19	N	132	2200 "	"	2512	1323	1337		
20	S	130	2066 "	"	2510	1339	1353	9 SATS	
21	N	130	2130 "	"	2509	1358	1410		
22	S	134	2147 "	"	2534	1413	1425		
23	N	128	2165 "	"	2534	1428	1441		
24	S	126	2103 "	"	2535	1443	1456	10 SATS	
25	N	132	2160 "	"	2531	1459	1512		
26	S	128	2097 "	"	2529	1516	1521		
27	N	126	2120 "	"	2675	1523	1528		
28	S	130	2107 "	"	2675	1531	1535		
29	N	136	2133 "	"	2675	1538	1541		
30	S	121	2144 "	"	2675	1541	1546		
TL	E	134	2150 "	"	2680	1551	1558	9 SATS	
TL	SW	134	2170 "	"	2680	1559	1606		
									END SURVEY

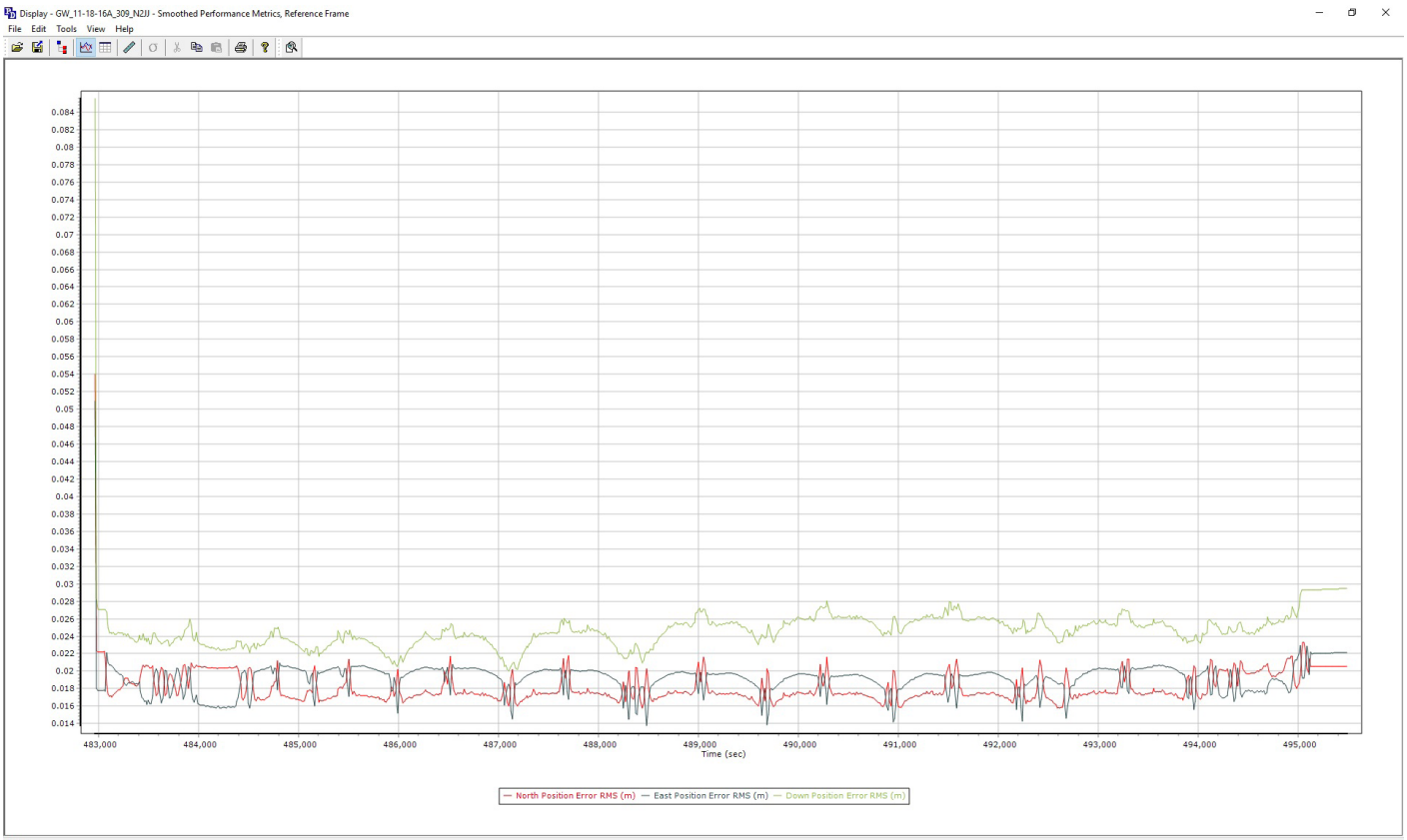
TOTAL ENGINE TIME ON | TOTAL LINE DISTANCE | STATIC START: | STOP: | NOTES: Base: 5.435 ft @ AJ6391; 3.475 ft @ AA7900

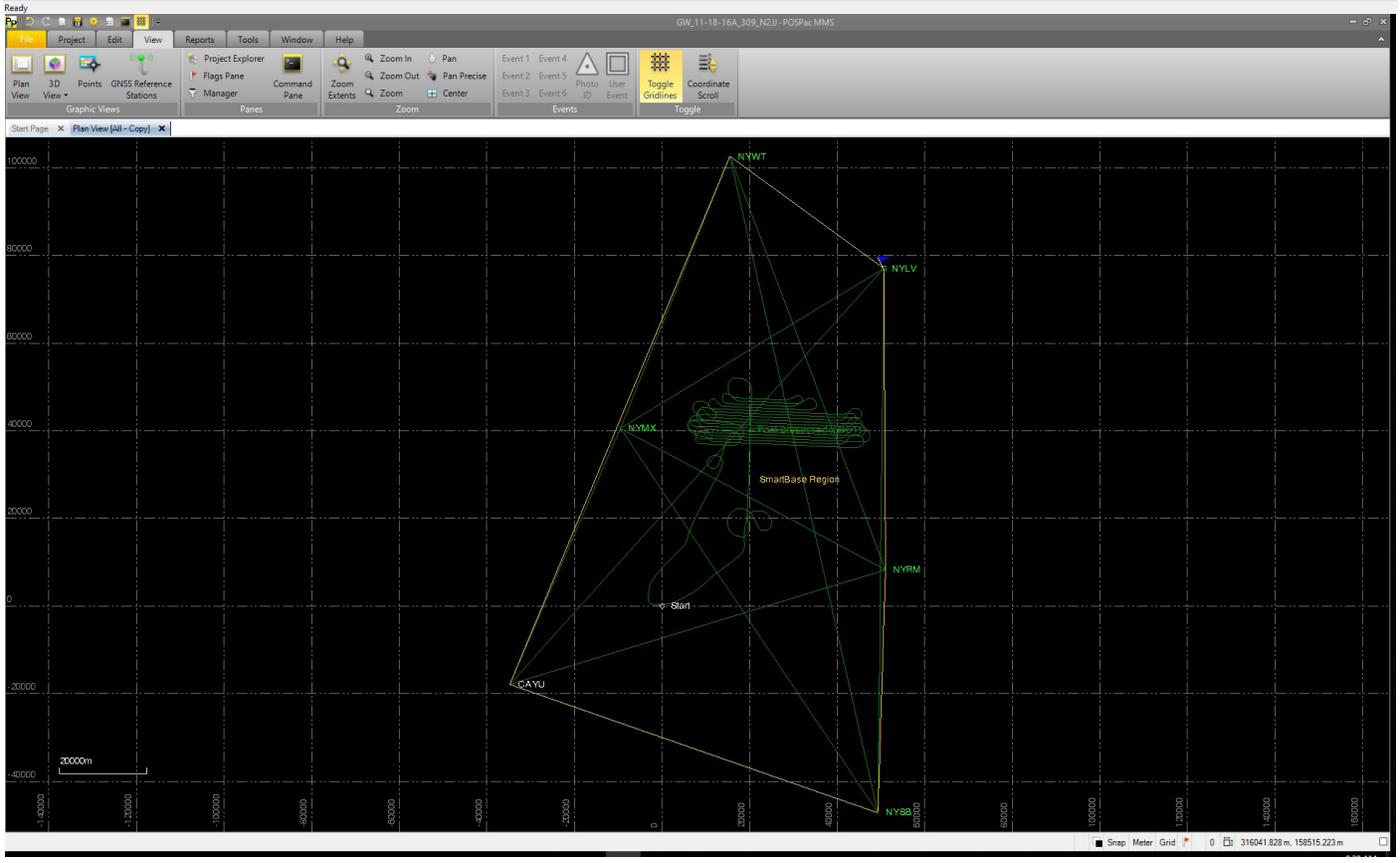
AERIAL SURVEYS INTERNATIONAL: AERIALSURVEYS@EARTHLINK.NET 303-261-9880

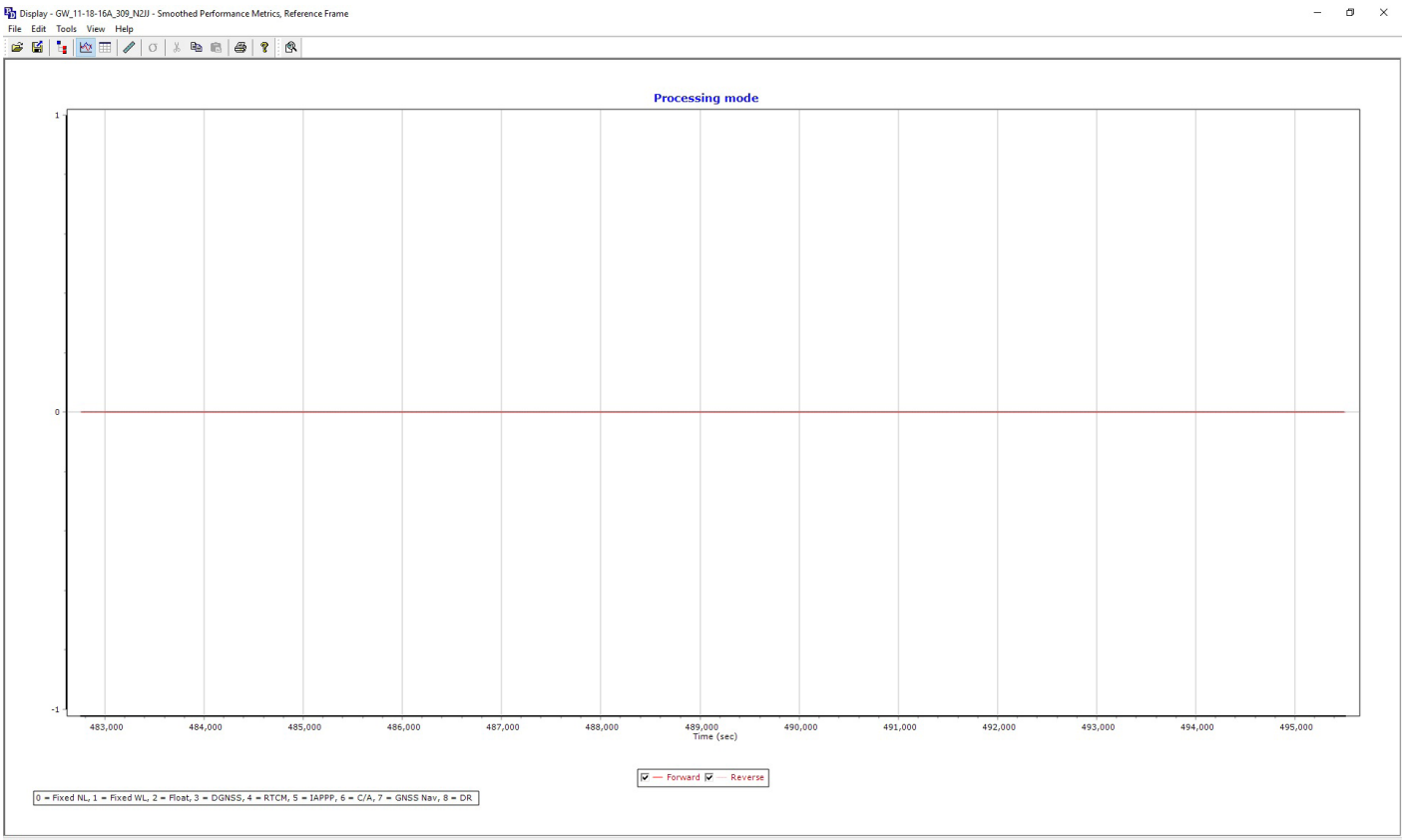
Nov 18, 2016-A (N2JJ, SN309)

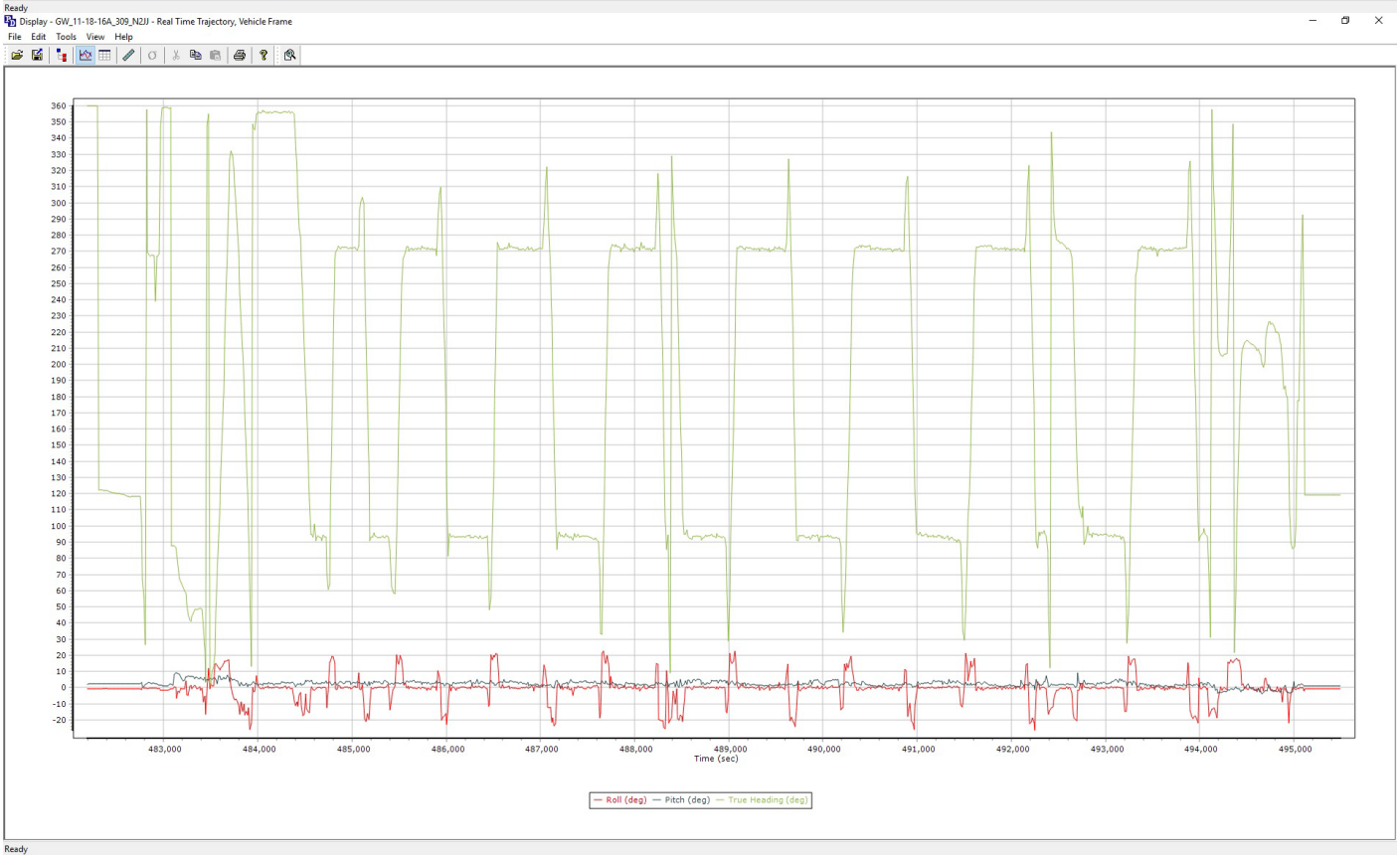

Display - GW_11-18-16A_309_N2JJ - Smoothed Performance Metrics, Reference Frame
File Edit Tools View Help
Copy
Time (sec)
Number of GPS Satellites
Number of GLONASS Satellites
PDOP
Copy the selection and put it on the Clipboard


Coordinate Manager
Station Information
Station ID
NYLV
Coordinates
Latitude
N
43
47
47.24320000
Longitude
W
75
29
7.55455000
Altitude
241.5540
m
Decimal Degrees
Antenna Reference Point (ARP) coordinates
Antenna
Frame
Height
0.000 m
Method
Bottom of antenna mount
Manufacturer
Leica
Type
AR10
Offset from Measured Point to APC
0.109 m
Apply Changes
Station Database
Station ID
NYLV
Station Fullname
NYLV
Primary Service ID
Edit
Coordinate Accuracy
UNKNOWN_ACC
Secondary Service ID
Edit
Add
Delete
Update
Station ID
Station Full...
Frame
Epoch
Ellipsoid
Latitude
Longitude
Altitude
Coord Acc
Import Coordinates
Export Coordinates
Close

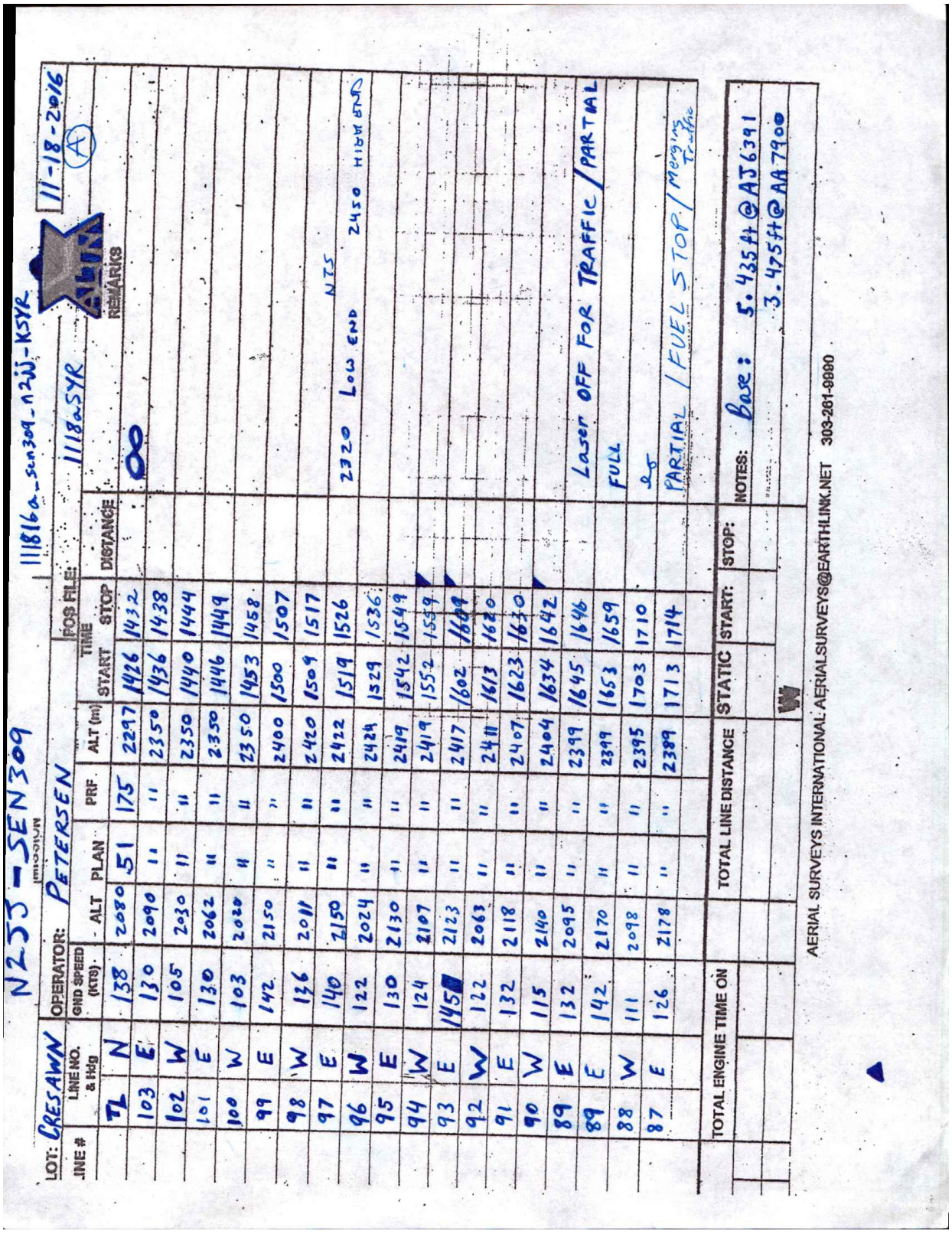

Display - GW_11-18-16A_309_N2JJ - Smoothed Performance Metrics, Reference Frame
File Edit Tools View Help
0.084
0.082
0.08
0.078
0.076
0.074
0.072
0.07
0.068
0.066
0.064
0.062
0.06
0.058
0.056
0.054
0.052
0.05
0.048
0.046
0.044
0.042
0.04
0.038
0.036
0.034
0.032
0.03
0.028
0.026
0.024
0.022
0.02
0.018
0.016
0.014
483,000
484,000
485,000
486,000
487,000
488,000
489,000
490,000
491,000
492,000
493,000
494,000
495,000
Time (sec)
North Position Error RMS (m)
East Position Error RMS (m)
Down Position Error RMS (m)


Ready
GW_11-18-16A_309_N2JJ - POSPac MMS
File Project Edit View Reports Tools Window Help
Plan View
3D View
Points
GNSS Reference Stations
Graphic Views
Project Explorer
Flags Pane
Manager
Command Pane
Panes
Zoom Extents
Zoom In
Zoom Out
Zoom
Pan
Pan Precise
Center
Zoom
Event 1 Event 2 Event 3 Event 4 Event 5 Event 6
Photo ID
User Event
Events
Toggle Gridlines
Coordinate Scroll
Toggle
Start Page
Plan View (All - Copy)
NYWT
NYLV
NYMX
SmartBase Region
NYRM
Start
CAYU
NYSB
20000m
Snap Meter Grid
316041.828 m, 158515.223 m


Display - GW_11-18-16A_309_N2JJ - Smoothed Performance Metrics, Reference Frame
File Edit Tools View Help
Processing mode
1
0
-1
483,000
484,000
485,000
486,000
487,000
488,000
489,000
490,000
491,000
492,000
493,000
494,000
495,000
Time (sec)
Forward
Reverse
0 = Fixed NL, 1 = Fixed WL, 2 = Float, 3 = DGNSS, 4 = RTCM, 5 = IAPPP, 6 = C/A, 7 = GNSS Nav, 8 = DR
Ready


Display - GW_11-18-16A_309_N2JJ - Real Time Trajectory, Vehicle Frame
File Edit Tools View Help
360
350
340
330
320
310
300
290
280
270
260
250
240
230
220
210
200
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
-10
-20
483,000
484,000
485,000
486,000
487,000
488,000
489,000
490,000
491,000
492,000
493,000
494,000
495,000
Time (sec)
Roll (deg)
Pitch (deg)
True Heading (deg)
Ready

Flight Log



N255-SEN309
MISSION
111816a_sen309_n255-KSYR
POS FILE:
LOT: CRESAWN
OPERATOR: PETERSEN
11-18-2016
111816aSYR
KSYR
REMARKS

LINE #	LINE NO. & Hdg	GND SPEED (KTS)	ALT PLAN	PRF	ALT (ft)	TIME START	TIME STOP	DISTANCE	REMARKS
TL	N	138	2080	51	175	2297	1426	1432	∞
103	E	130	2090	"	"	2350	1436	1438	
102	W	105	2030	"	"	2350	1440	1444	
101	E	130	2062	"	"	2350	1446	1449	
100	W	103	2020	"	"	2350	1453	1458	
99	E	142	2150	"	"	2400	1500	1507	
98	W	136	2011	"	"	2420	1509	1517	
97	E	140	2150	"	"	2422	1519	1526	
96	W	122	2024	"	"	2424	1529	1536	
95	E	130	2130	"	"	2419	1542	1549	
94	W	124	2107	"	"	2419	1552	1559	
93	E	145	2123	"	"	2417	1602	1609	
92	W	122	2063	"	"	2411	1613	1620	
91	E	132	2118	"	"	2407	1623	1630	
90	W	115	2140	"	"	2404	1634	1642	
89	E	132	2095	"	"	2399	1645	1646	
89	E	142	2170	"	"	2399	1653	1659	
88	W	111	2098	"	"	2395	1703	1710	
87	E	126	2178	"	"	2389	1713	1714	

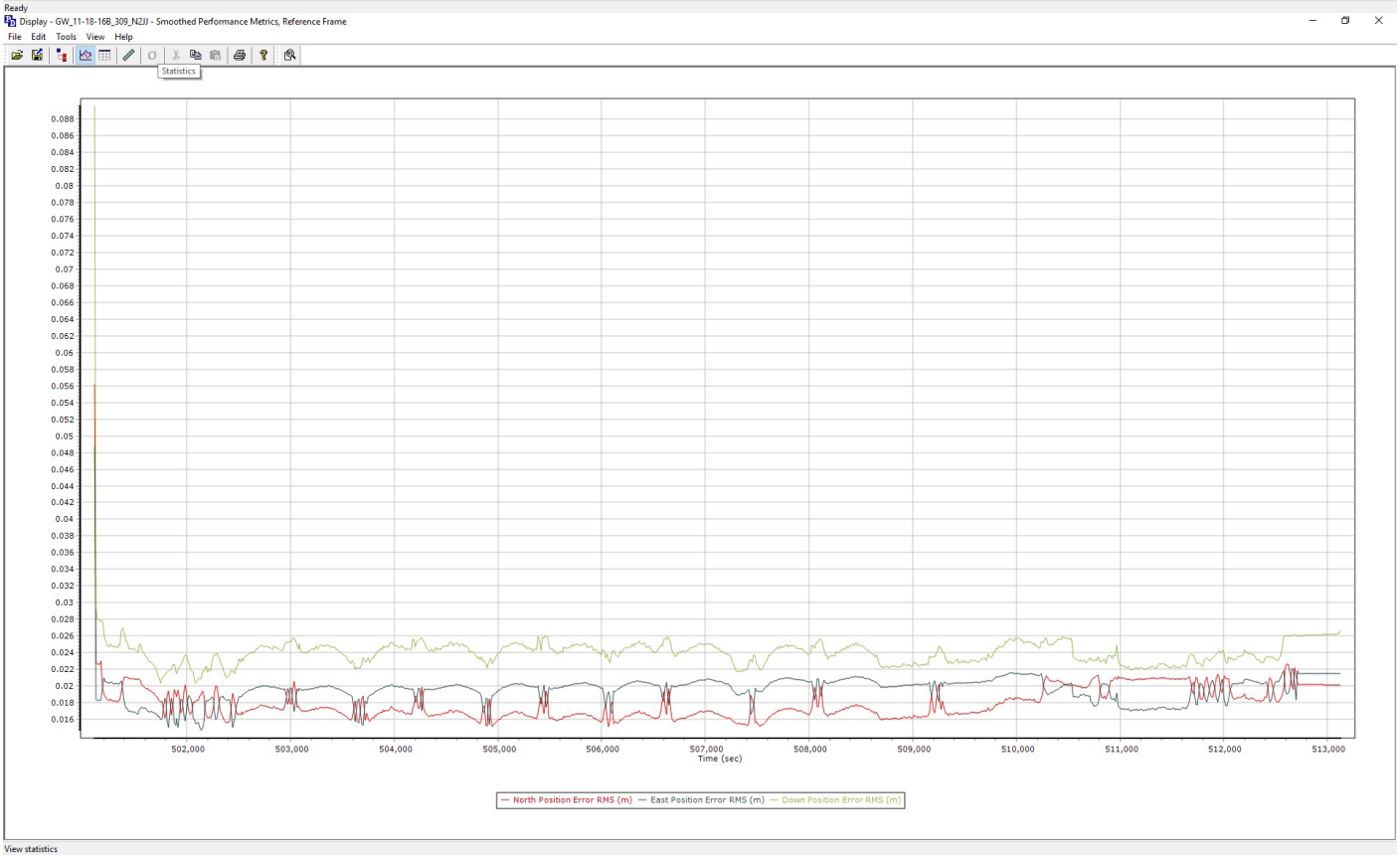
NTS
2320 Low end 2450 High end
Laser OFF FOR TRAFFIC / PARTIAL
FULL
do
PARTIAL / FUEL STOP / Merging Traffic

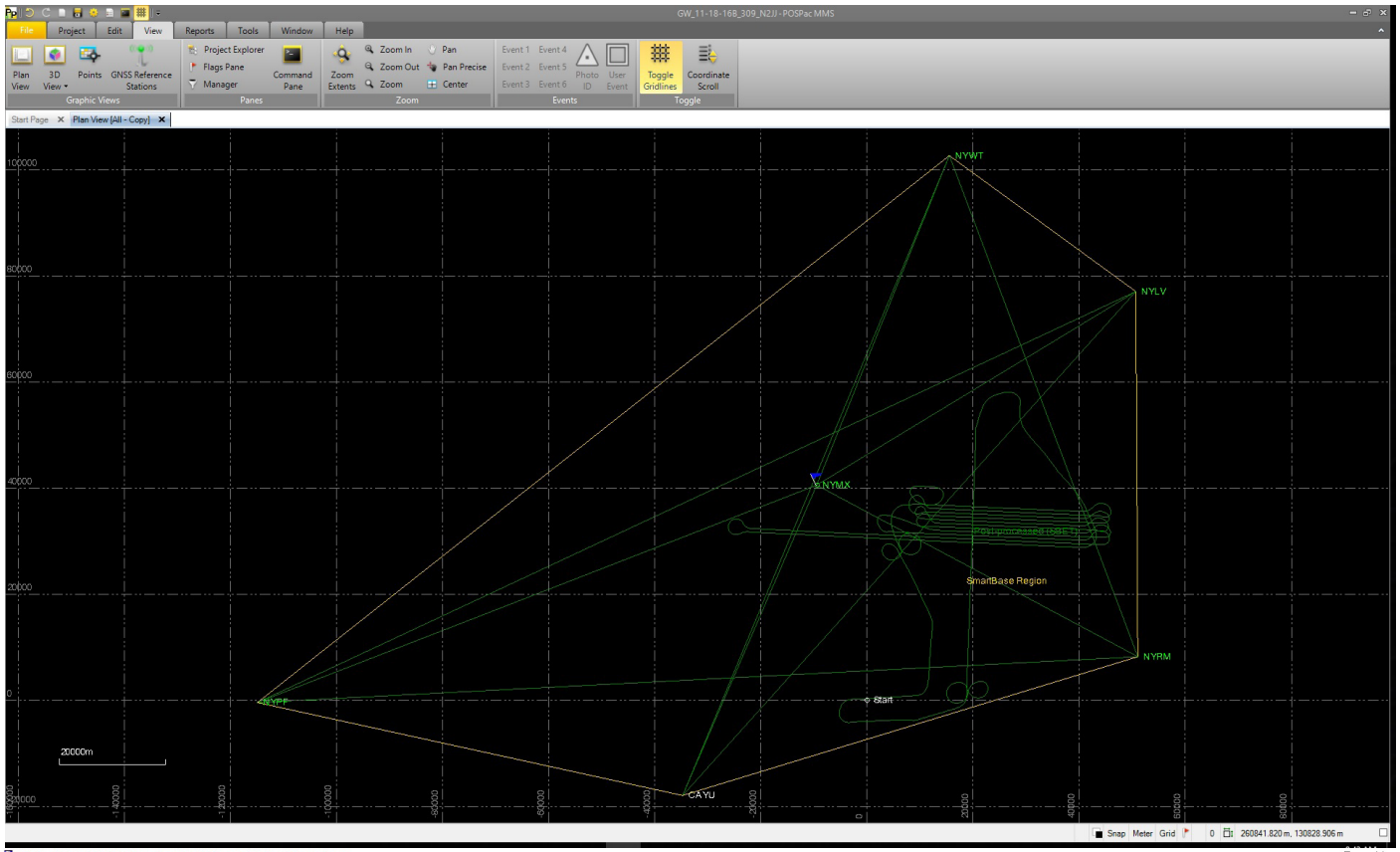
TOTAL ENGINE TIME ON	TOTAL LINE DISTANCE	STATIC	START:	STOP:	NOTES: Base: 5.435ft@AJ6391 3.475ft@AA7900

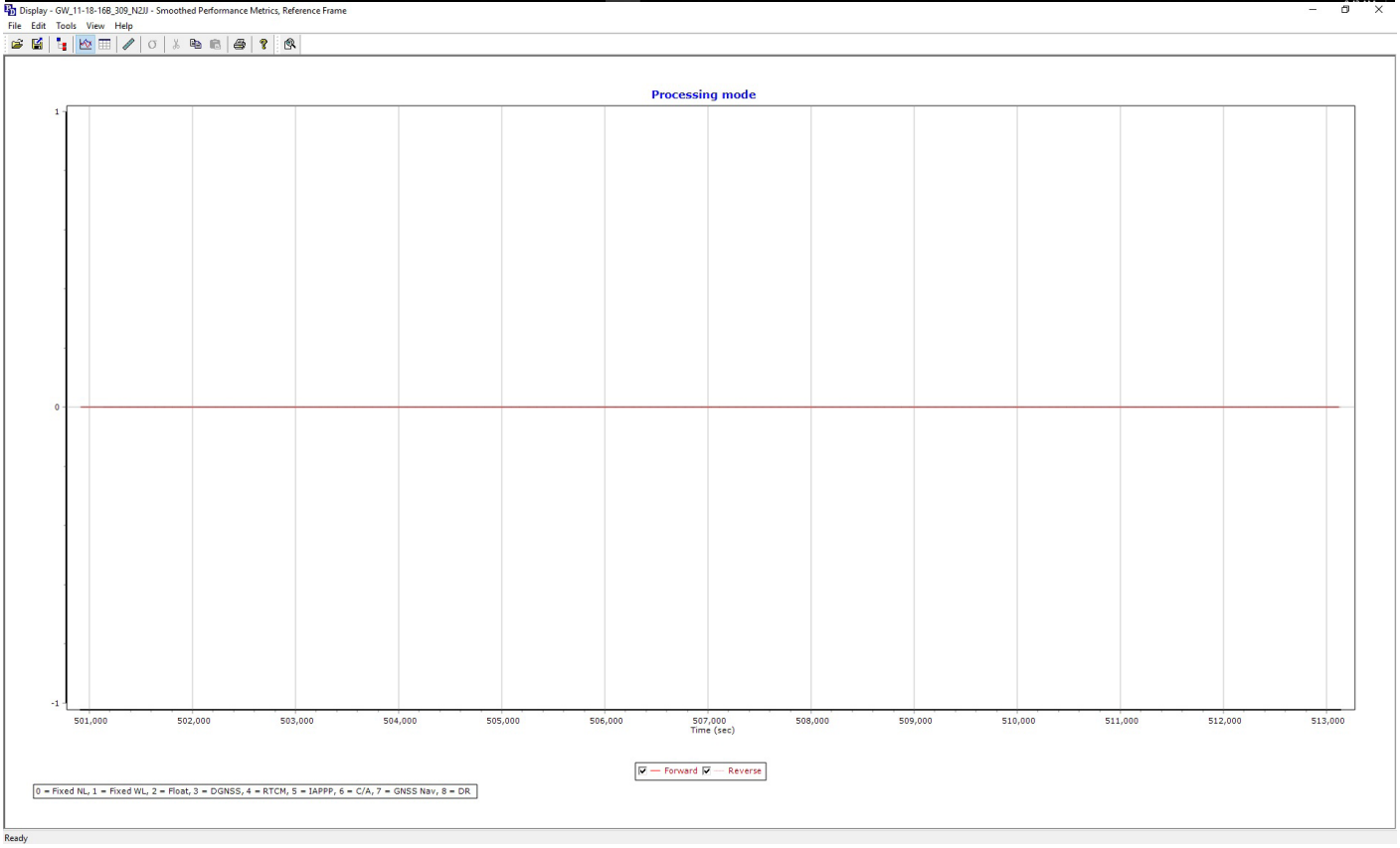
AERIAL SURVEYS INTERNATIONAL: AERIALSURVEYS@EARTHLINK.NET 303-261-8880

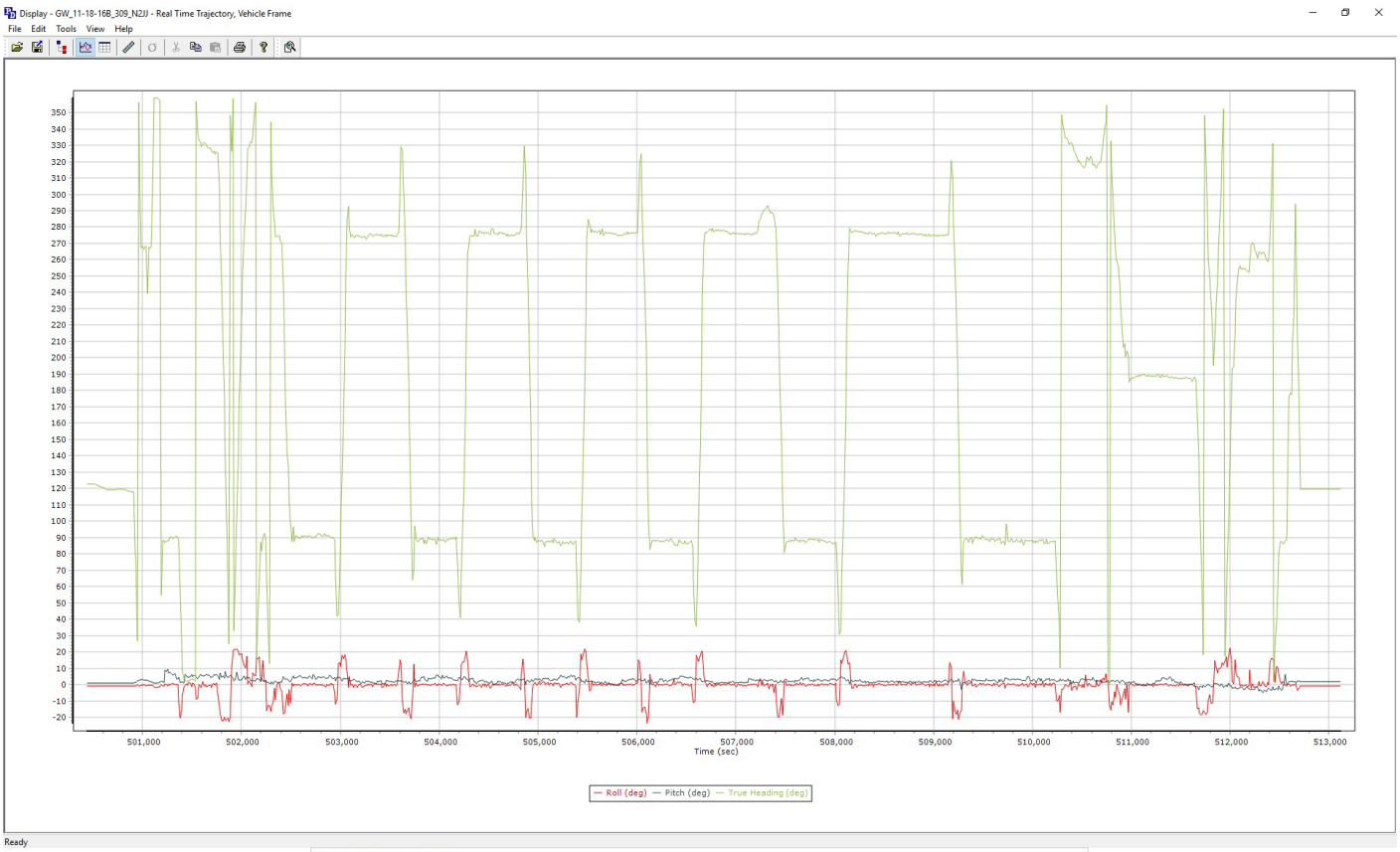
Nov 18, 2016-B (N2JJ, SN309)

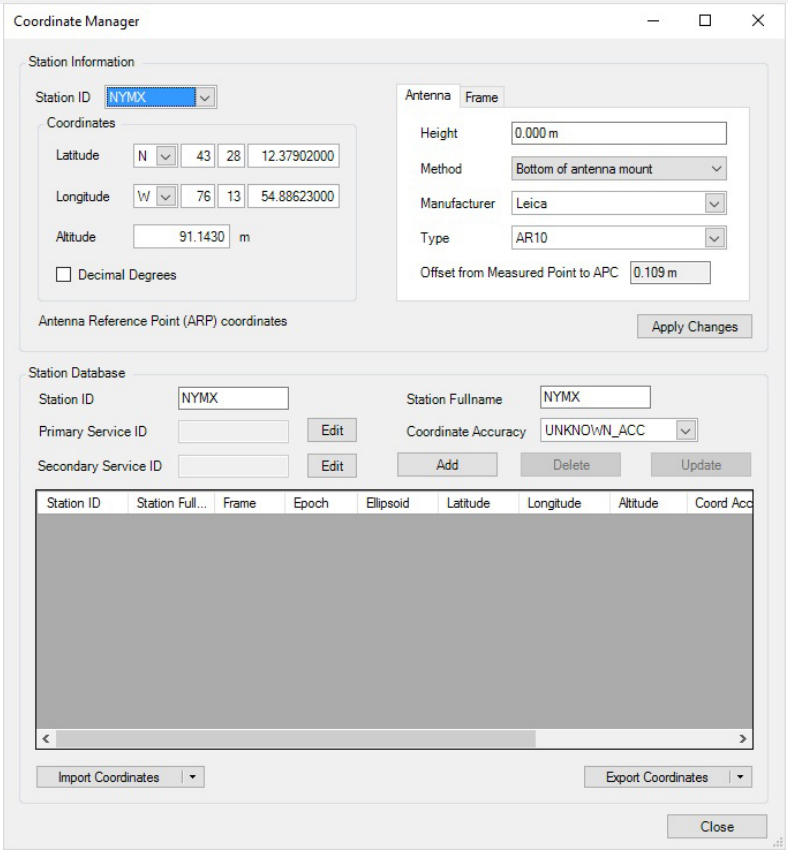

Display - GW_11-18-16B_309_N2JJ - Smoothed Performance Metrics, Reference Frame
File Edit Tools View Help
Time (sec)
Number of GPS Satellites
Number of GLONASS Satellites
PDOP


Ready
Display - GW_11-18-16B_309_N2JJ - Smoothed Performance Metrics, Reference Frame
File Edit Tools View Help
Statistics
Time (sec)
North Position Error RMS (m)
East Position Error RMS (m)
Down Position Error RMS (m)
View statistics

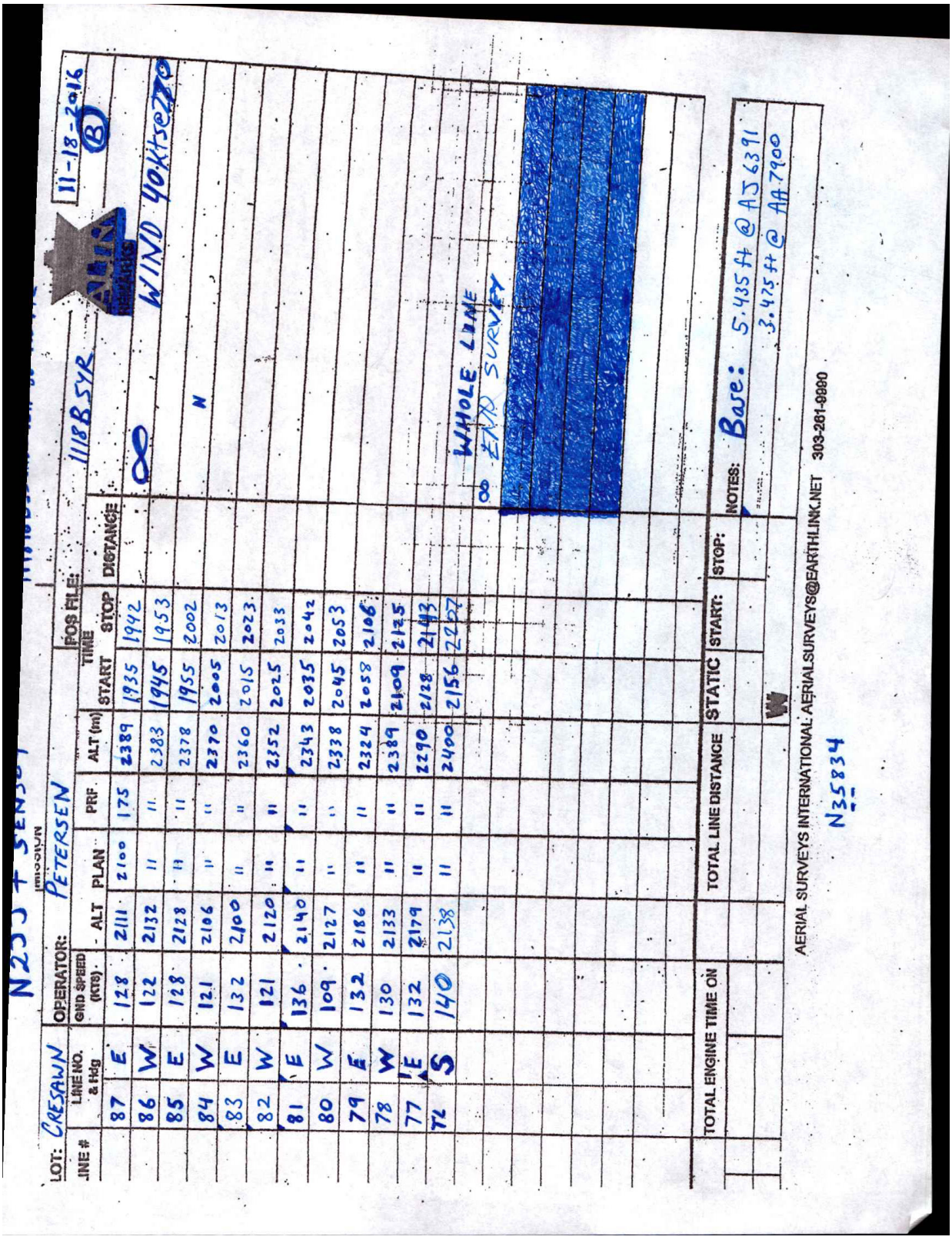

GW_11-18-16B_309_N2JJ - POSPac MMS
File
Project
Edit
View
Reports
Tools
Window
Help
Plan View
3D View
Points
GNSS Reference Stations
Graphic Views
Project Explorer
Flags Pane
Manager
Command Pane
Panes
Zoom Extents
Zoom In
Zoom Out
Zoom
Pan
Pan Precise
Center
Zoom
Event 1
Event 2
Event 3
Event 4
Event 5
Event 6
Photo ID
User Event
Events
Toggle Gridlines
Coordinate Scroll
Toggle
Start Page
Plan View [All - Copy]
NYWT
NYLV
NYMX
SmartBase Region
NYRM
NYPF
start
CAYU
20000m
Snap
Meter
Grid
260841.820 m, 130828.906 m


Display - GW_11-18-16B_309_N2JJ - Smoothed Performance Metrics, Reference Frame
File
Edit
Tools
View
Help
Processing mode
1
0
-1
501,000
502,000
503,000
504,000
505,000
506,000
507,000
508,000
509,000
510,000
511,000
512,000
513,000
Time (sec)
Forward
Reverse
0 = Fixed NL, 1 = Fixed WL, 2 = Float, 3 = DGNSS, 4 = RTCM, 5 = IAPPP, 6 = C/A, 7 = GNSS Nav, 8 = DR
Ready


Display - GW_11-18-16B_309_N2JJ - Real Time Trajectory, Vehicle Frame
File Edit Tools View Help
Time (sec)
Roll (deg) Pitch (deg) True Heading (deg)
Ready

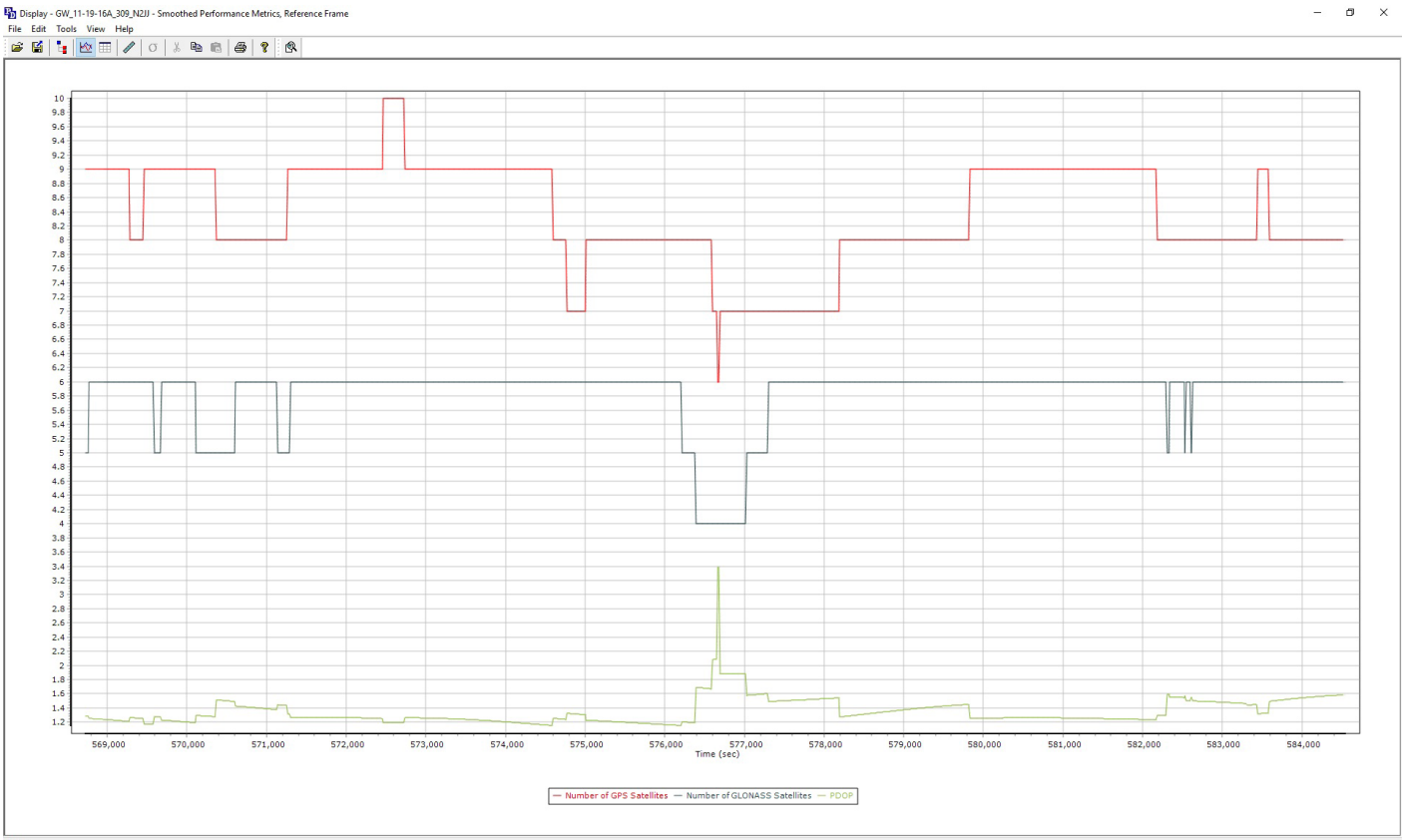

Coordinate Manager
Station Information
Station ID NYMX
Coordinates
Latitude N 43 28 12.37902000
Longitude W 76 13 54.88623000
Altitude 91.1430 m
Decimal Degrees
Antenna Reference Point (ARP) coordinates
Antenna Frame
Height 0.000 m
Method Bottom of antenna mount
Manufacturer Leica
Type AR10
Offset from Measured Point to APC 0.109 m
Apply Changes
Station Database
Station ID NYMX
Station Fullname NYMX
Primary Service ID Edit
Secondary Service ID Edit
Coordinate Accuracy UNKNOWN_ACC
Add Delete Update
Station ID Station Full... Frame Epoch Ellipsoid Latitude Longitude Altitude Coord Acc
Import Coordinates
Export Coordinates
Close

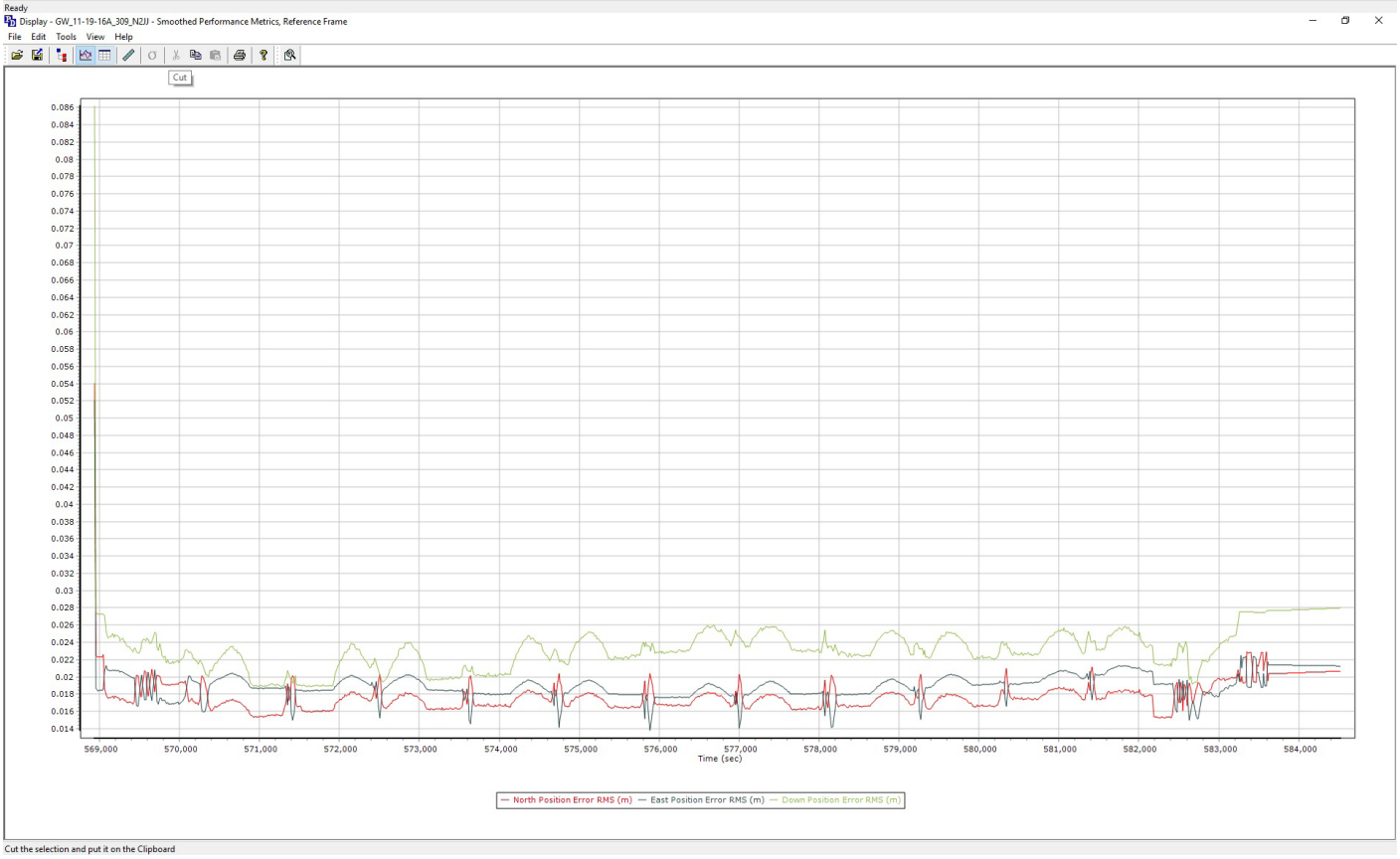
Flight Log

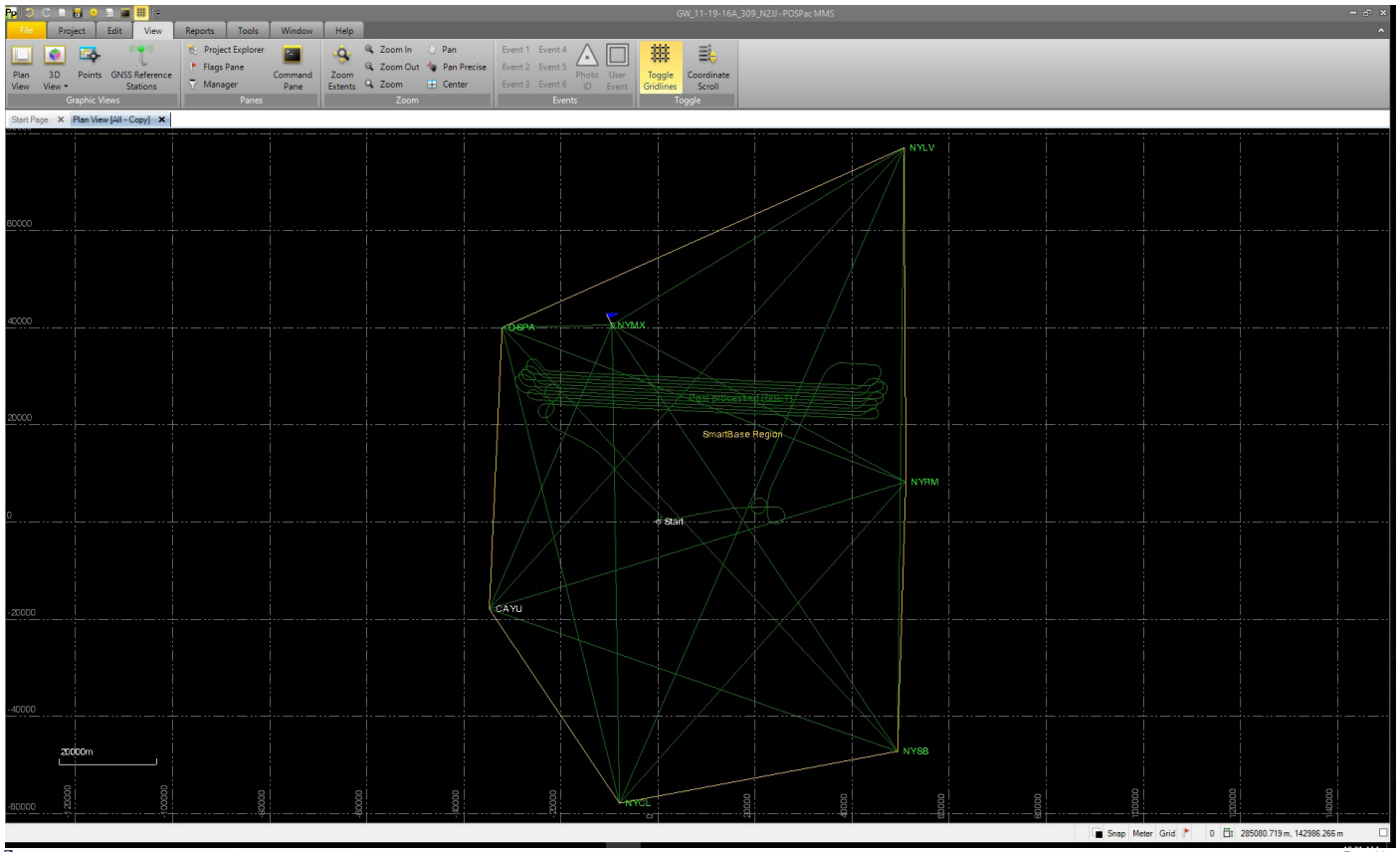


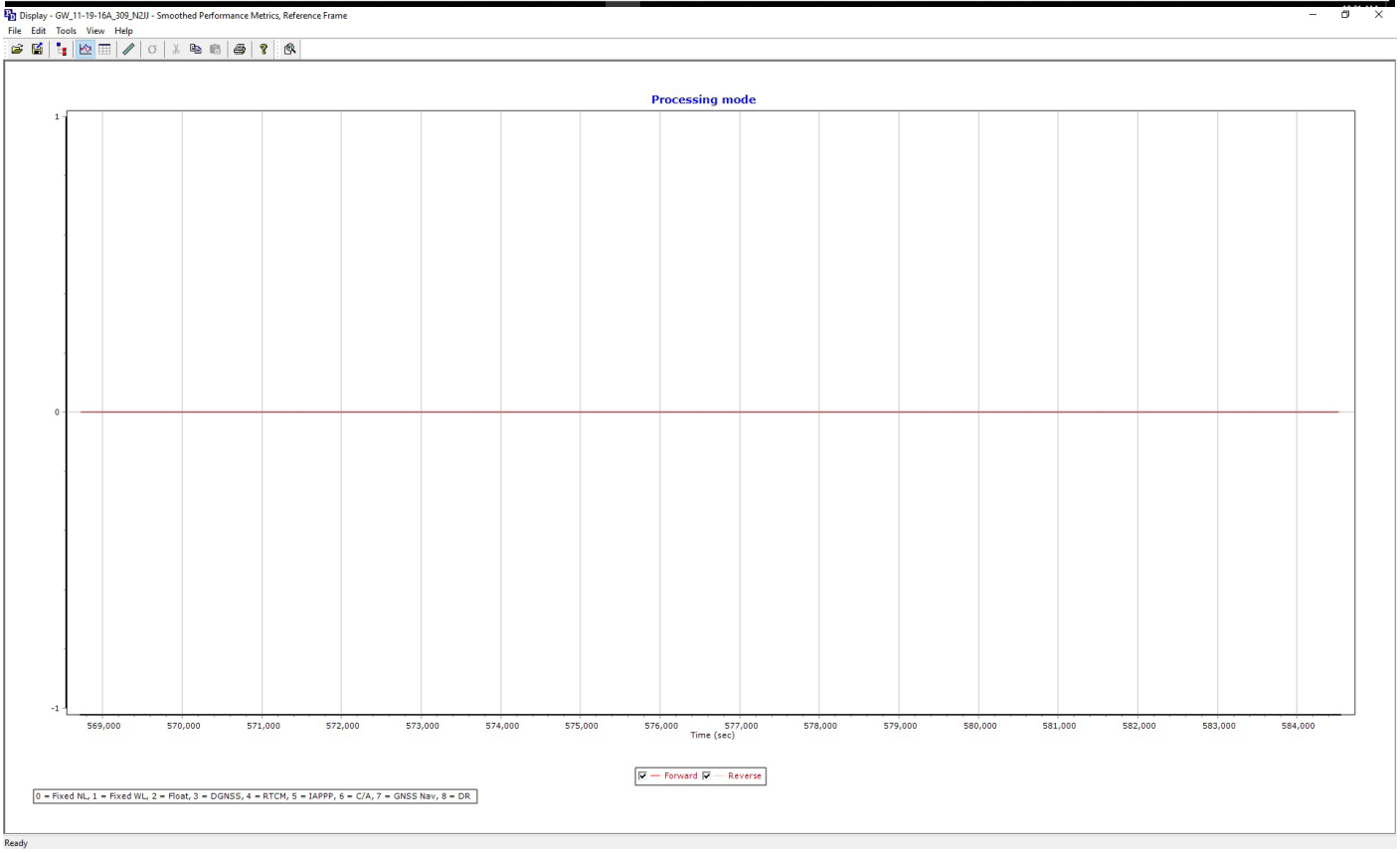
LINE #	LINE NO. & Hdg	GND SPEED (KTS)	ALT	PLAN	PRF.	ALT (m)	TIME START	TIME STOP	DISTANCE
	87 E	128	2111	2100	175	2389	1935	1942	
	86 W	122	2132	11	11	2383	1945	1953	
	85 E	128	2128	11	11	2378	1955	2002	
	84 W	121	2106	11	11	2370	2005	2013	
	83 E	132	2100	11	11	2360	2015	2023	
	82 W	121	2120	11	11	2352	2025	2033	
	81 E	136	2140	11	11	2343	2035	2042	
	80 W	109	2127	11	11	2338	2045	2053	
	79 E	132	2186	11	11	2324	2058	2106	
	78 W	130	2133	11	11	2389	2109	2125	
	77 E	132	2179	11	11	2290	2128	2143	
	76 S	140	2138	11	11	2400	2156	2207	

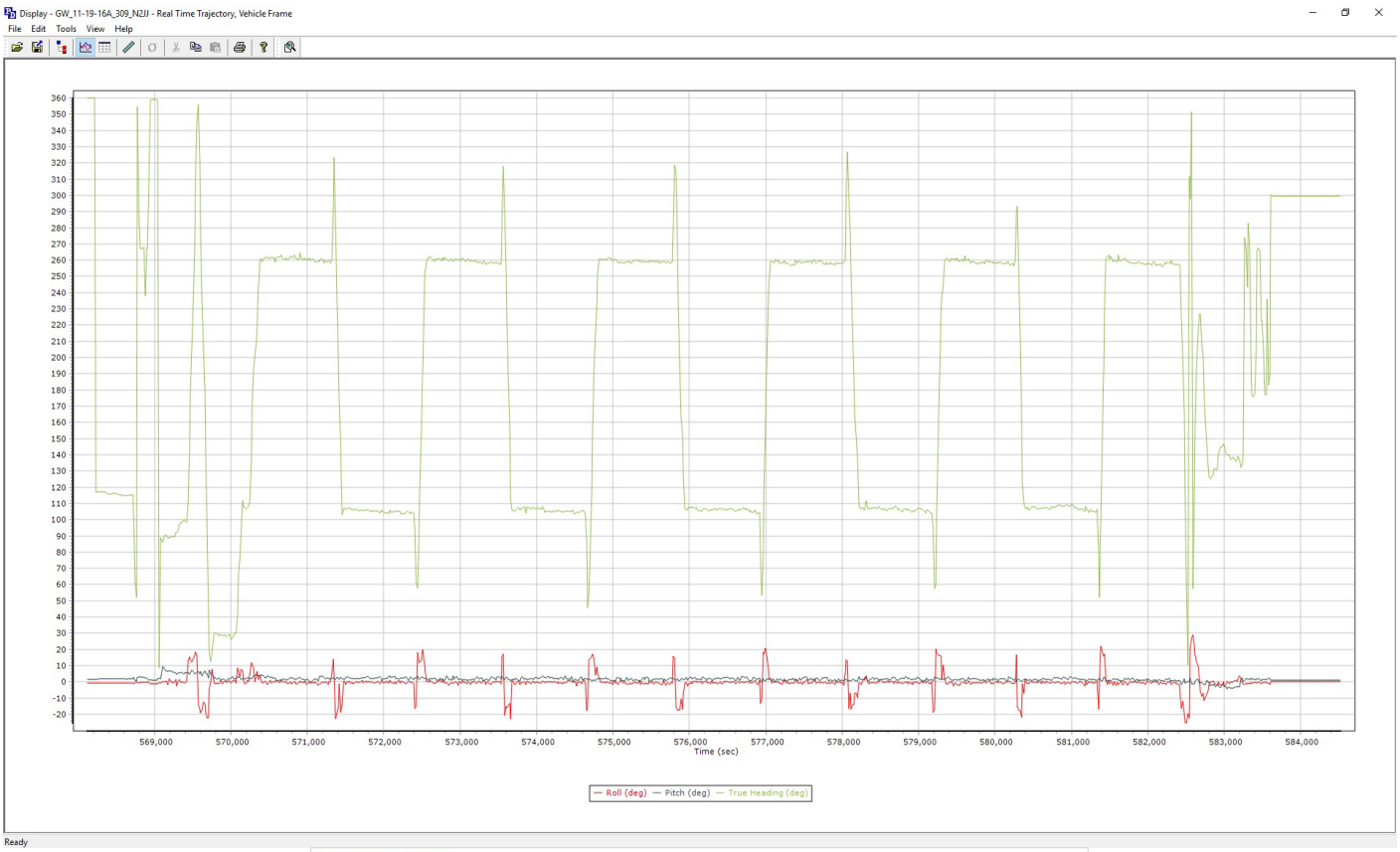
Nov 19, 2016-A (N2JJ, SN309)

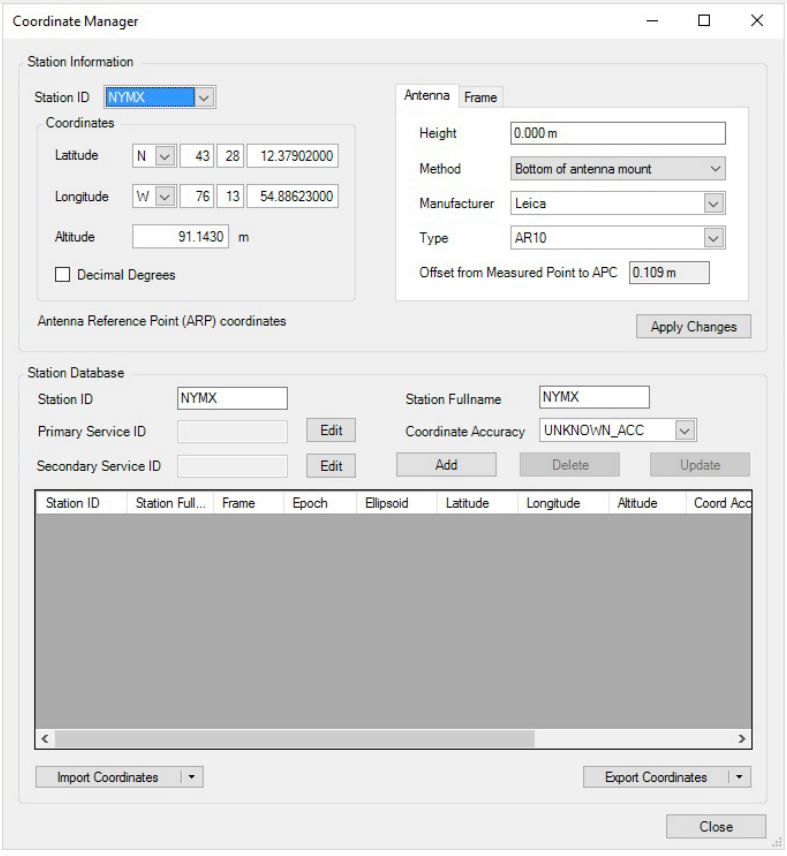

Display - GW_11-19-16A_309_N2JJ - Smoothed Performance Metrics, Reference Frame
File Edit Tools View Help
Time (sec)
Number of GPS Satellites
Number of GLONASS Satellites
PDOP


Ready
Display - GW_11-19-16A_309_N2JJ - Smoothed Performance Metrics, Reference Frame
File Edit Tools View Help
Cut
Time (sec)
North Position Error RMS (m)
East Position Error RMS (m)
Down Position Error RMS (m)
Cut the selection and put it on the Clipboard

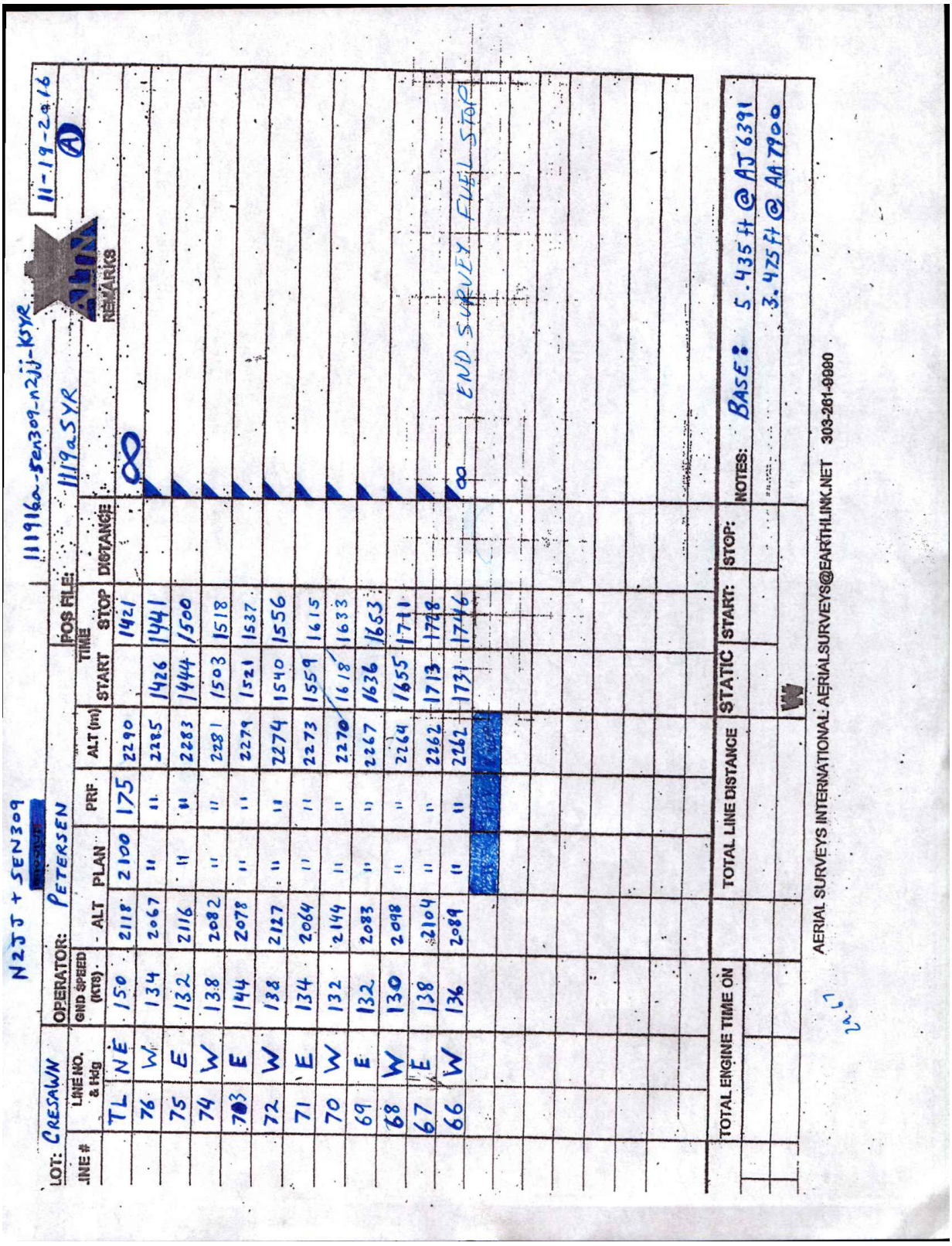

GW_11-19-16A_309_N2JJ - POSPac MMS
File
Project
Edit
View
Reports
Tools
Window
Help
Plan View
3D View
Points
GNSS Reference Stations
Project Explorer
Flags Pane
Manager
Command Pane
Zoom Extents
Zoom In
Zoom Out
Zoom
Pan
Pan Precise
Center
Toggle Gridlines
Coordinate Scroll
Graphic Views
Panes
Zoom
Events
Toggle
Start Page
Plan View [All - Copy]
NYLV
NYMX
CSPA
SmartBase Region
NYRM
Start
CAYU
NYSB
NYCL
20000m
60000
40000
20000
0
-20000
-40000
-60000
Snap
Meter
Grid


Display - GW_11-19-16A_309_N2JJ - Smoothed Performance Metrics, Reference Frame
File
Edit
Tools
View
Help
Processing mode
1
0
-1
569,000
570,000
571,000
572,000
573,000
574,000
575,000
576,000
577,000
578,000
579,000
580,000
581,000
582,000
583,000
584,000
Time (sec)
Forward
Reverse
0 = Fixed NL, 1 = Fixed WL, 2 = Float, 3 = DGNSS, 4 = RTCM, 5 = IAPPP, 6 = C/A, 7 = GNSS Nav, 8 = DR
Ready


Display - GW_11-19-16A_309_N2JJ - Real Time Trajectory, Vehicle Frame
File Edit Tools View Help
Time (sec)
Roll (deg) Pitch (deg) True Heading (deg)
Ready


Coordinate Manager
Station Information
Station ID NYMX
Coordinates
Latitude N 43 28 12.37902000
Longitude W 76 13 54.88623000
Altitude 91.1430 m
Decimal Degrees
Antenna Reference Point (ARP) coordinates
Antenna Frame
Height 0.000 m
Method Bottom of antenna mount
Manufacturer Leica
Type AR10
Offset from Measured Point to APC 0.109 m
Apply Changes
Station Database
Station ID NYMX
Station Fullname NYMX
Primary Service ID Edit
Secondary Service ID Edit
Coordinate Accuracy UNKNOWN_ACC
Add Delete Update
Station ID Station Full... Frame Epoch Ellipsoid Latitude Longitude Altitude Coord Acc
Import Coordinates
Export Coordinates
Close

Flight Log



N23J + SEN309

111916a-sen309-n23j-kSYR

LOT: CRESAWN | OPERATOR: PETERSEN | POS FILE: 111916a-sen309-n23j-kSYR | 11-19-2016

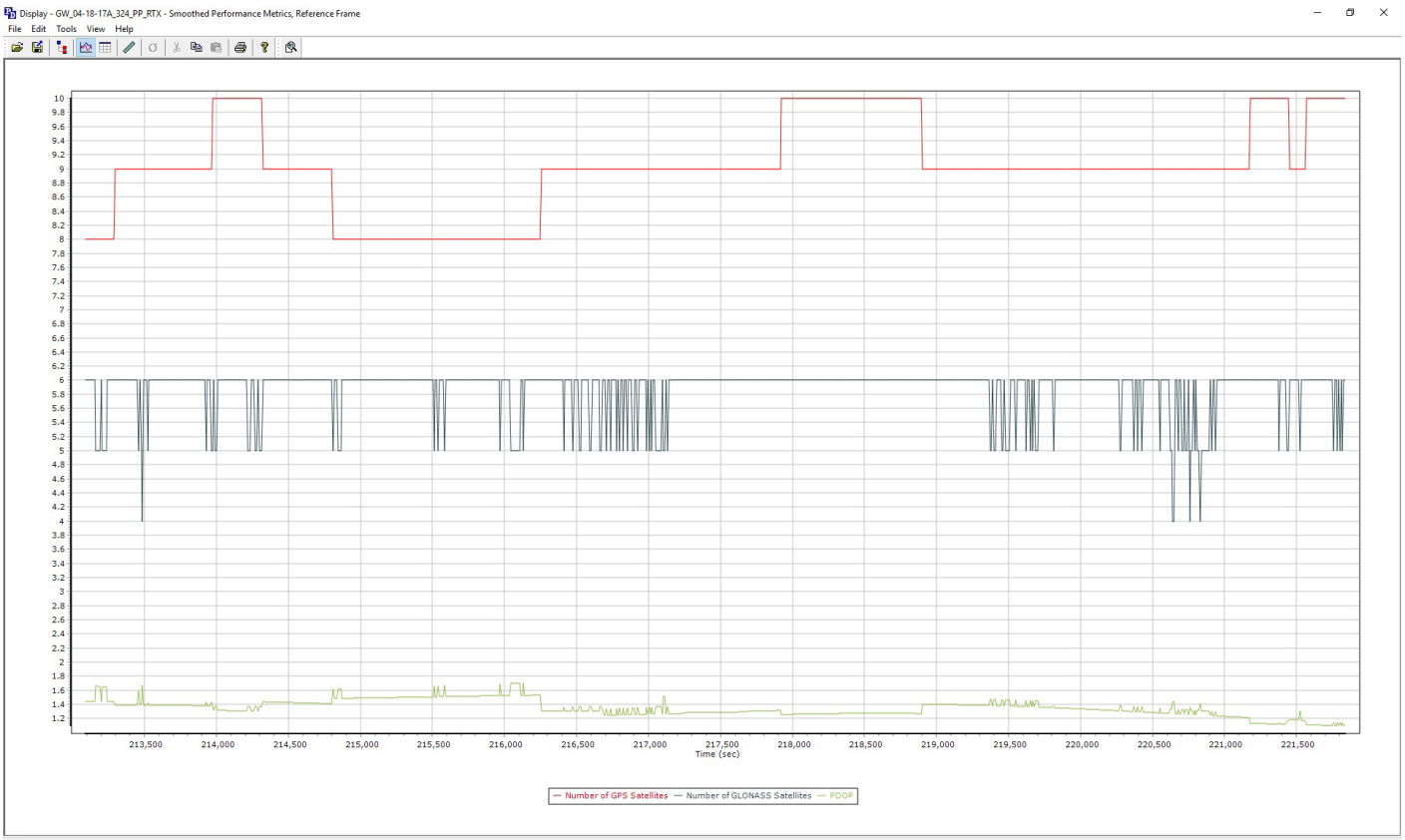
LINE #	LINE NO. & Hdg	GND SPEED (KTS)	- ALT	PLAN	PRF	ALT (m)	TIME START	TIME STOP	DISTANCE	REMARKS
TL	NE	150	2118	2100	175	2290		1421		111SYR (A)
76	W	134	2067	"	"	2285	1426	1441	∞	
75	E	132	2116	"	"	2283	1444	1500		
74	W	138	2082	"	"	2281	1503	1518		
703	E	144	2078	"	"	2279	1521	1537		
72	W	138	2127	"	"	2274	1540	1556		
71	E	134	2064	"	"	2273	1559	1615		
70	W	132	2144	"	"	2270	1618	1633		
69	E	132	2083	"	"	2267	1636	1653		
68	W	130	2098	"	"	2264	1655	1711		
67	E	138	2104	"	"	2262	1713	1728		
66	W	136	2089	"	"	2262	1731	1746	∞	END SURVEY FUEL STOP

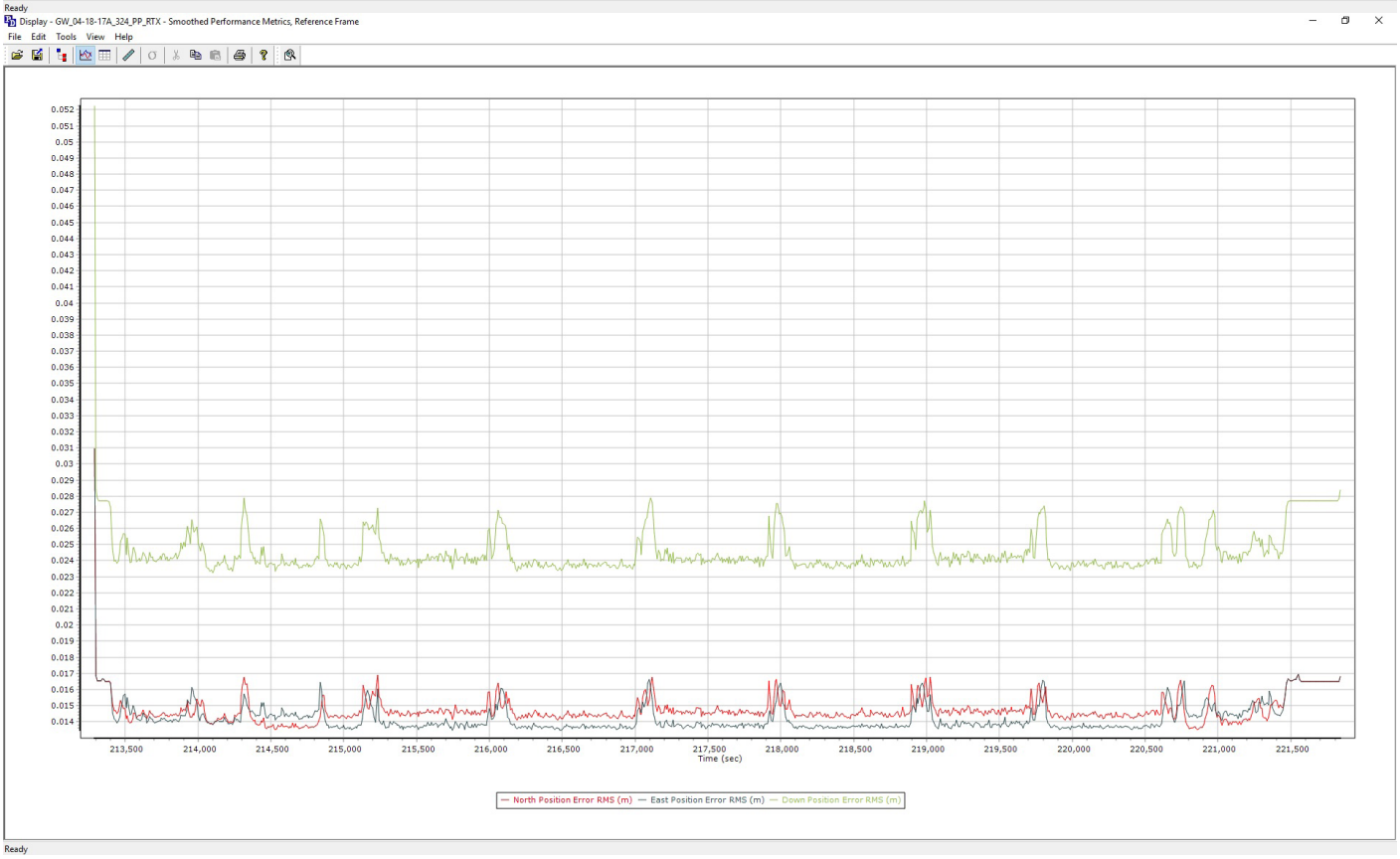
TOTAL ENGINE TIME ON | TOTAL LINE DISTANCE | STATIC | START: | STOP:

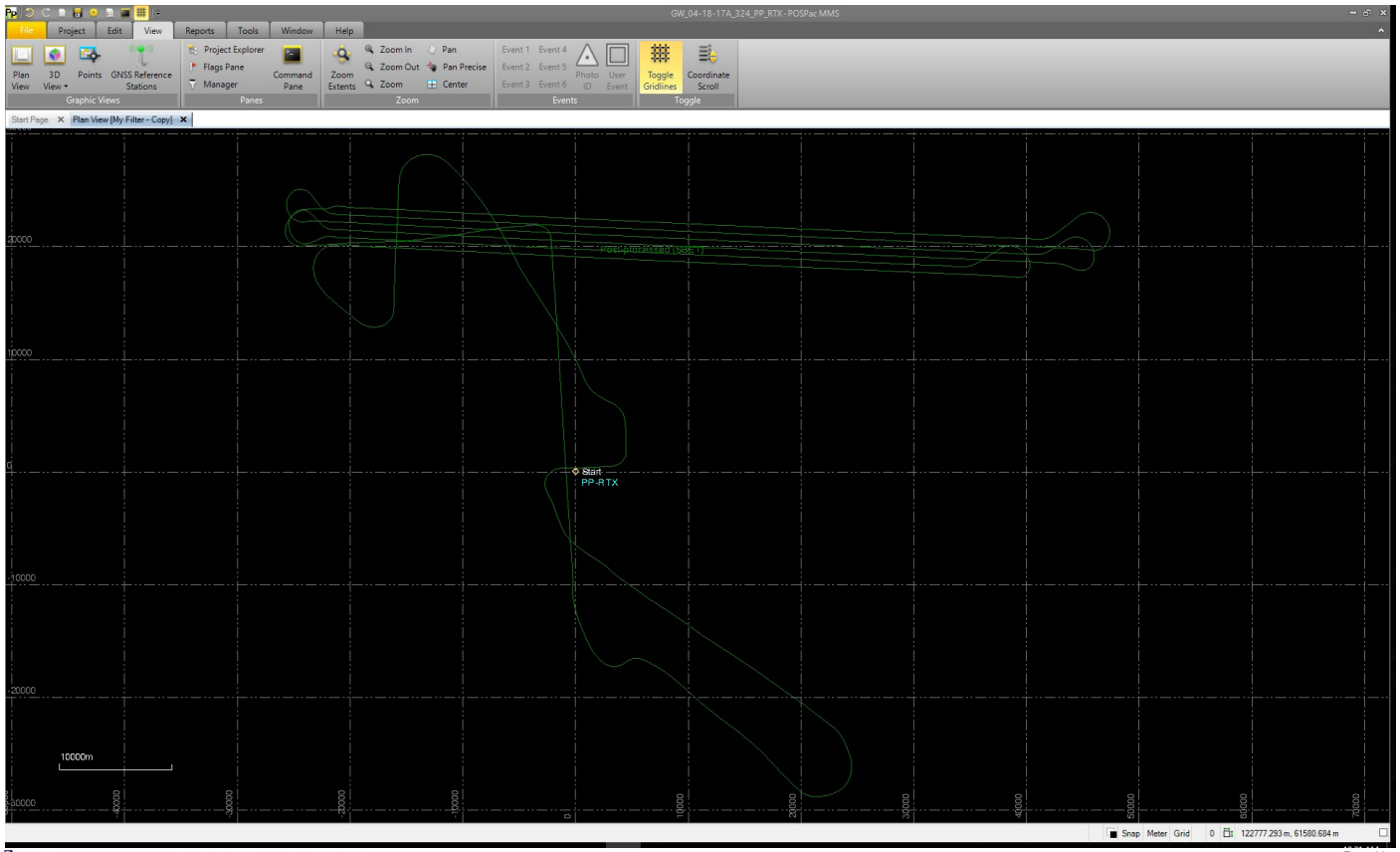
NOTES: BASE: 5.435 ft @ AJ 6391
3.425 ft @ AA 7900

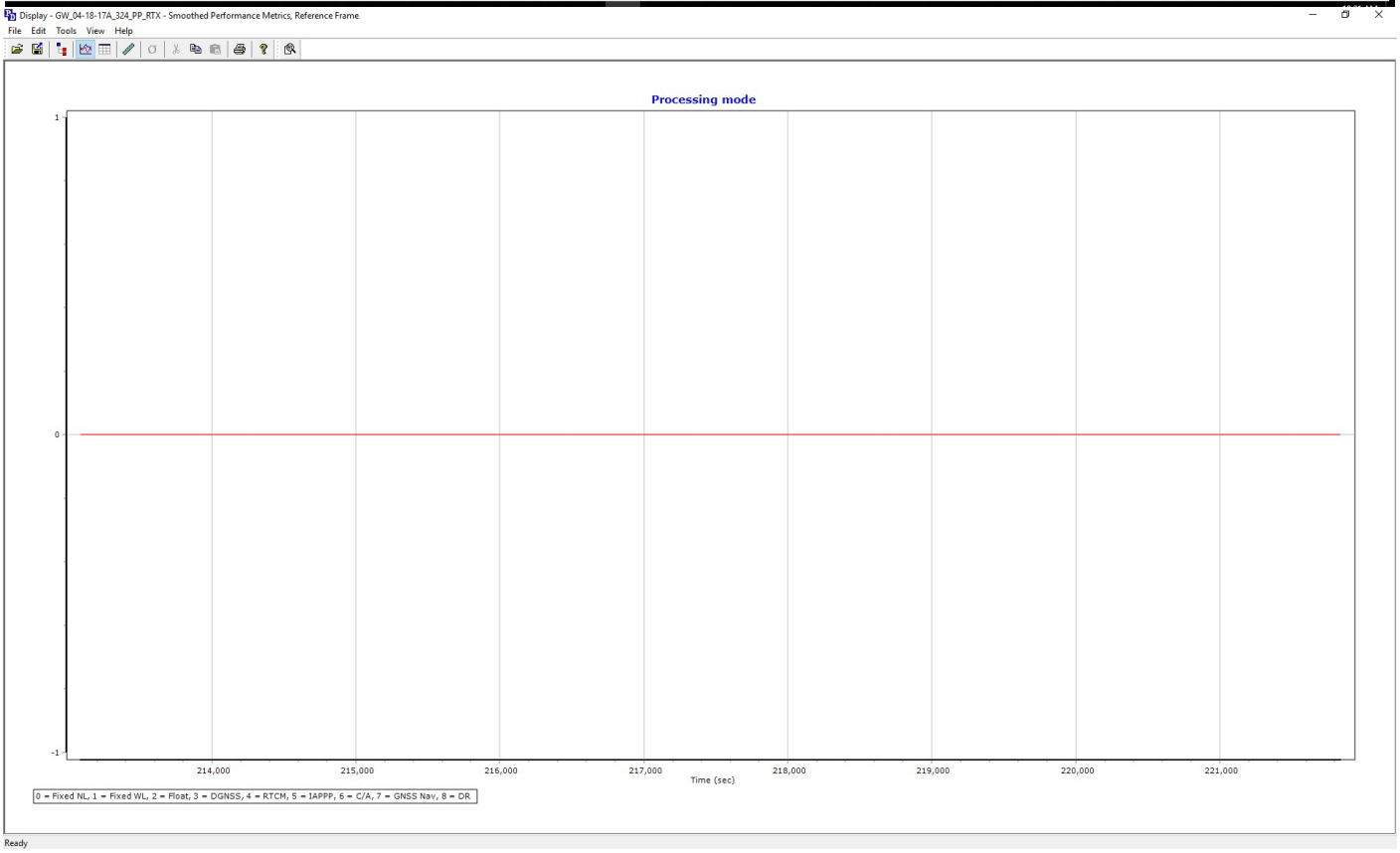
AERIAL SURVEYS INTERNATIONAL AERIALSURVEYS@EARTHLINK.NET 303-281-9990

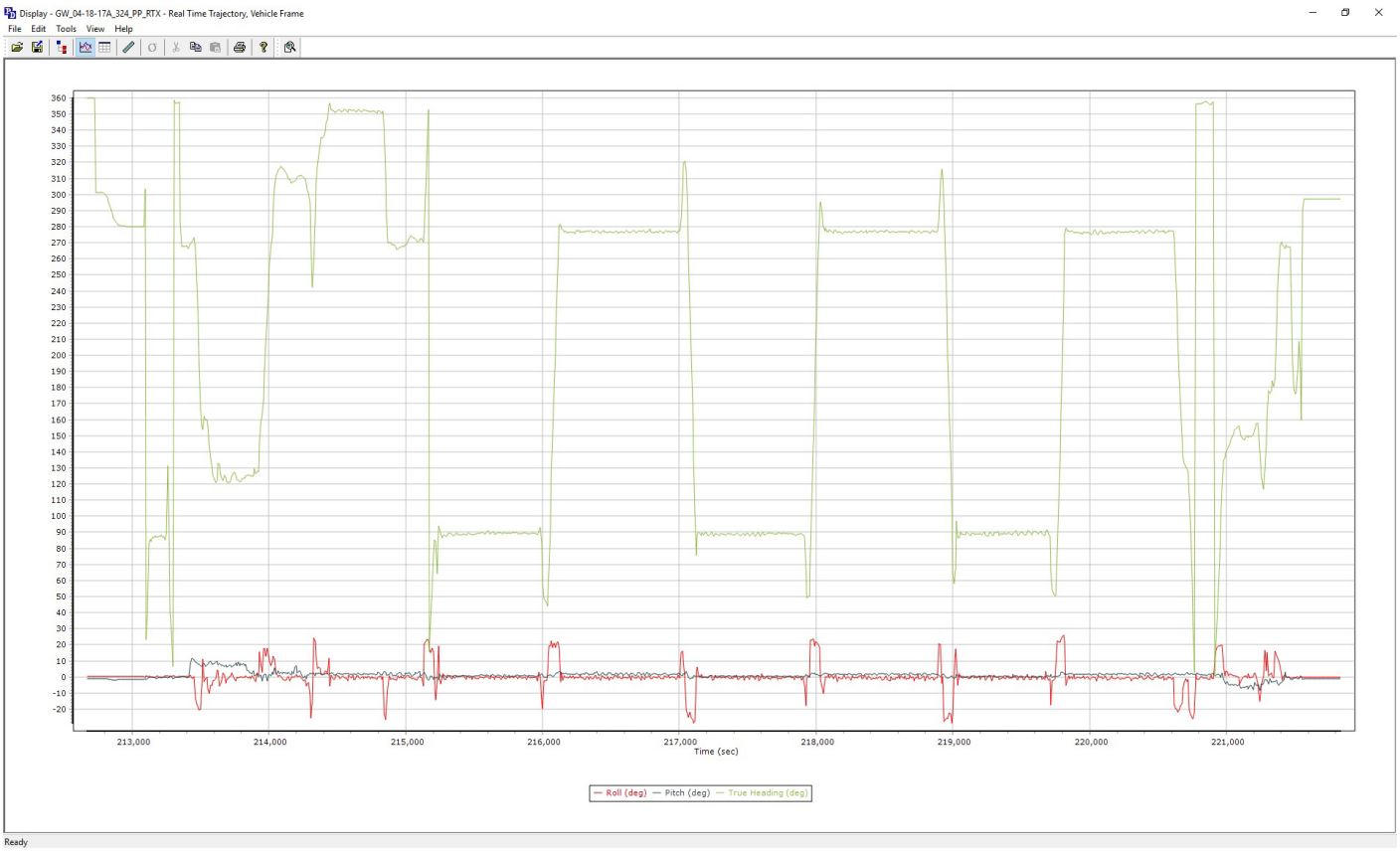
Apr 18, 2017-A (N812TB, SN324)


Display - GW_04-18-17A_324_PP_RTX - Smoothed Performance Metrics, Reference Frame
File Edit Tools View Help
Time (sec)
Number of GPS Satellites
Number of GLONASS Satellites
PDOP
Ready


Display - GW_04-18-17A_324_PP_RTX - Smoothed Performance Metrics, Reference Frame
File Edit Tools View Help
Time (sec)
North Position Error RMS (m)
East Position Error RMS (m)
Down Position Error RMS (m)
Ready

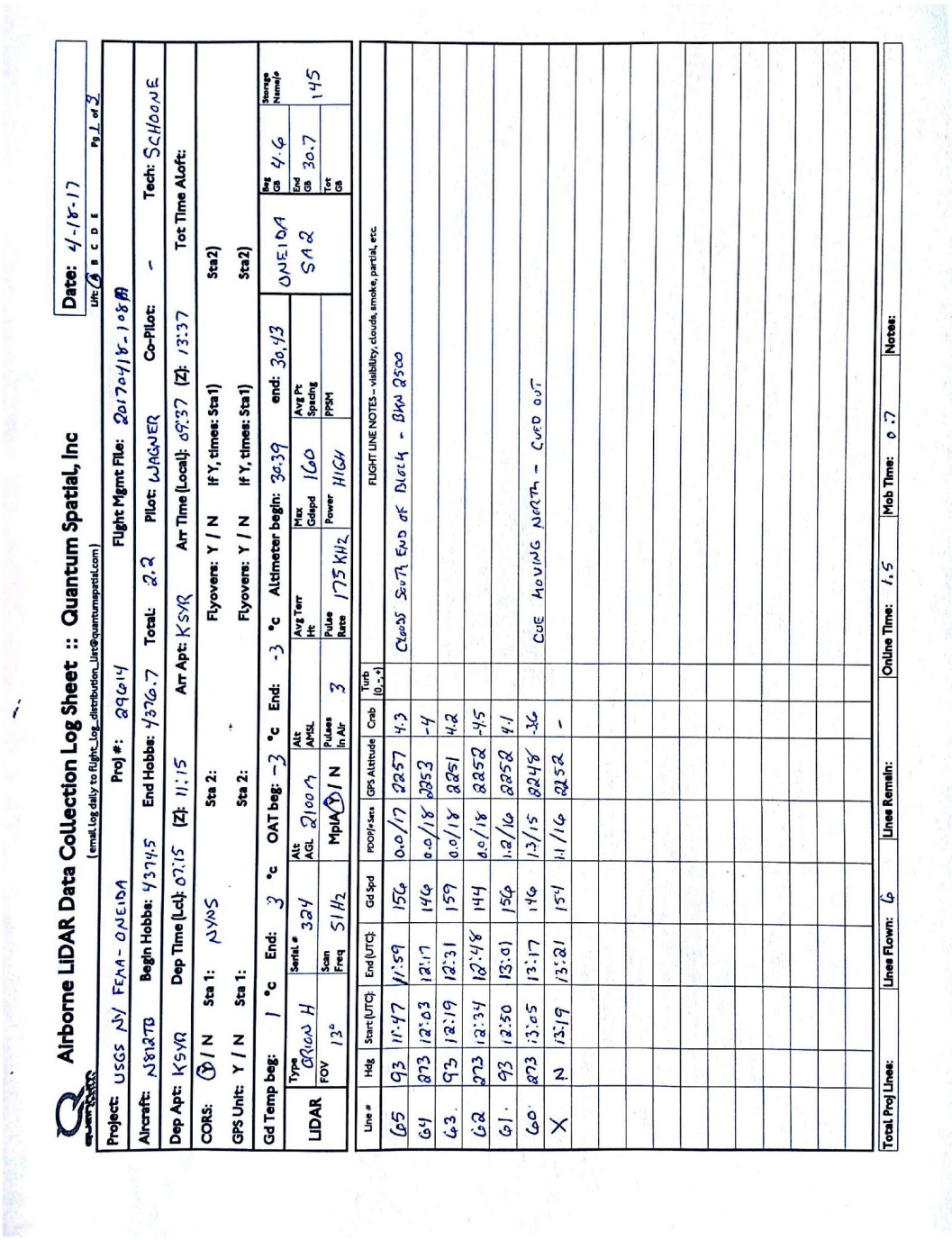

GW_04-18-17A_324_PP_RTX - POSPac MMS
File
Project
Edit
View
Reports
Tools
Window
Help
Plan View
3D View
Points
GNSS Reference Stations
Graphic Views
Project Explorer
Flags Pane
Manager
Command Pane
Panes
Zoom In
Zoom Out
Zoom
Pan
Pan Precise
Center
Zoom Extents
Zoom
Event 1
Event 2
Event 3
Event 4
Event 5
Event 6
Photo ID
User Event
Events
Toggle Gridlines
Coordinate Scroll
Toggle
Start Page
Plan View [My Filter - Copy]
Start
PP-RTX
10000m
Snap
Meter
Grid


Display - GW_04-18-17A_324_PP_RTX - Smoothed Performance Metrics, Reference Frame
File
Edit
Tools
View
Help
Processing mode
1
0
-1
214,000
215,000
216,000
217,000
218,000
219,000
220,000
221,000
Time (sec)
0 = Fixed NL, 1 = Fixed WL, 2 = Float, 3 = DGNSS, 4 = RTCM, 5 = IAPPP, 6 = C/A, 7 = GNSS Nav, 8 = DR
Ready


Display - GW_04-18-17A_324_PP_RTX - Real Time Trajectory, Vehicle Frame
File Edit Tools View Help
360
350
340
330
320
310
300
290
280
270
260
250
240
230
220
210
200
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
-10
-20
213,000
214,000
215,000
216,000
217,000
218,000
219,000
220,000
221,000
Time (sec)
Roll (deg)
Pitch (deg)
True Heading (deg)
Ready

Flight Log

Scanned by CamScanner



Airborne LiDAR Data Collection Log Sheet :: Quantum Spatial, Inc

(email Log daily to Flight_Log_distribution_List@quantumspatial.com)

Date: 4-18-17

Project: USGS NY FEMA - ONEIDA Proj #: 89614 Flight Mgmt File: 20170418_1088

Aircraft: N512TB Begin Hobbs: 4374.5 End Hobbs: 4376.7 Total: 2.2 Pilot: WAGNER Co-Pilot: - Tech: SCHOONE

Dep Apt: KSYR Dep Time (Lcl): 07:15 (Z): 11:15 Arr Apt: KSYR Arr Time (Local): 09:37 (Z): 13:37 Tot Time Aloft:

CORS: Y / N Sta 1: NYNS Sta 2: Flyovers: Y / N If Y, times: Sta1) Sta2)

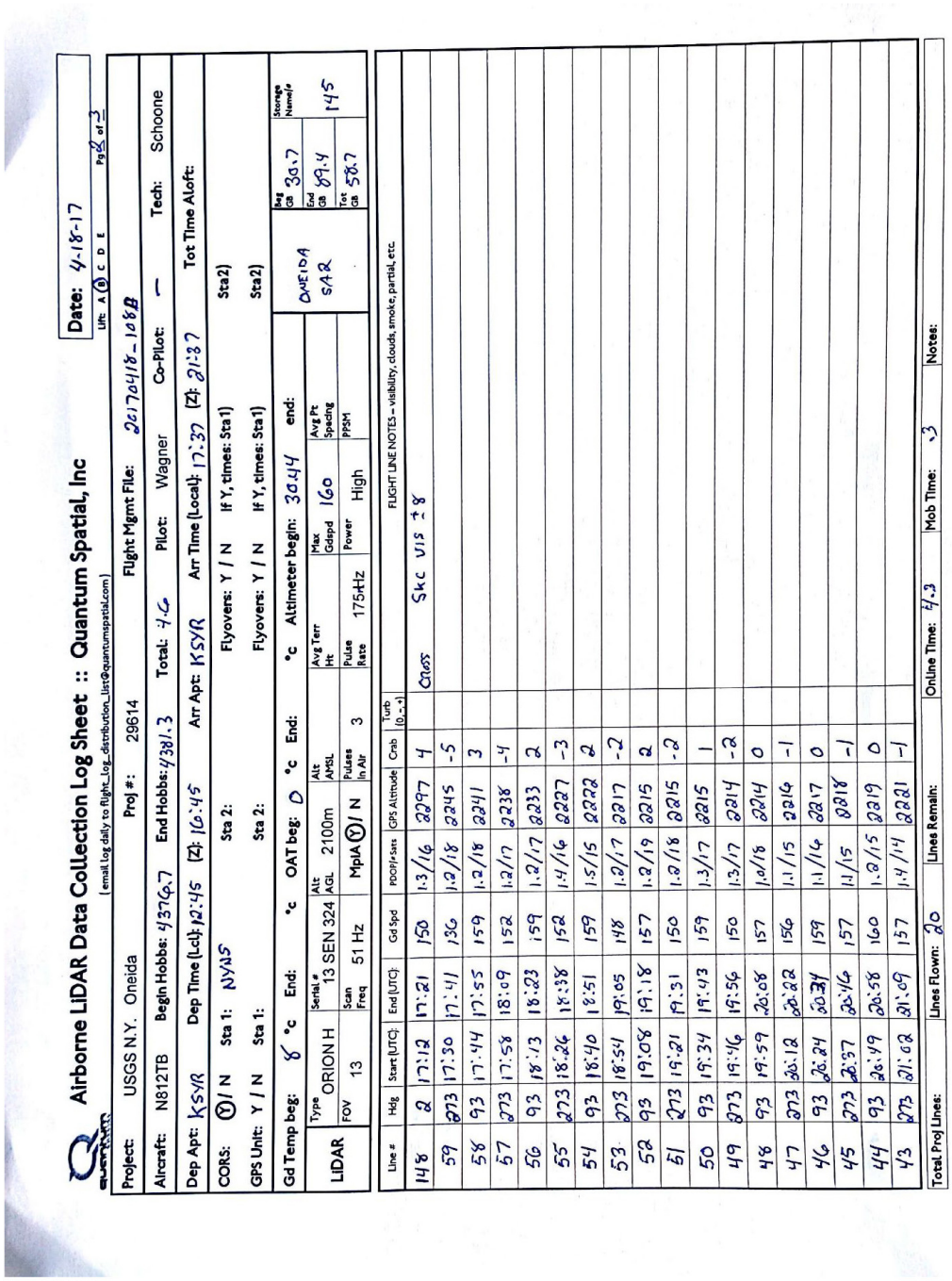
GPS Unit: Y / N Sta 1: Sta 2: Flyovers: Y / N If Y, times: Sta1) Sta2)

Gd Temp beg: 1 °c End: 3 °c OAT beg: -3 °c End: -3 °c Altimeter begin: 30.39 end: 30.43

	Type	Serial #	Alt AGL	Alt AMSL	Avg Terr Ht	Max Gdspd	Avg Pt Spacing		Bag GB	4.6	Storage Name/s
LIDAR	Orion H	324	2100 ft				160	ONEIDA SA2	End GB	30.7	145
	FOV 13°	Scan Freq 51 Hz	MpIA (Y) / N	Pulses In Air 3	Pulse Rate 175 kHz	Power HIGH	PPSM		Tot GB		

Line #	Hdg	Start (UTC)	End (UTC)	Gd Spd	POQ+/-5cm	GPS Altitude	Crab	Turb (0,+)	FLIGHT LINE NOTES - visibility, clouds, smoke, partial, etc.
L65	93	11:47	11:59	156	0.0/17	2257	4.3		Clouds South End of Block - BKN 2500
L64	273	12:03	12:17	146	0.0/18	2253	-4		
L63	93	12:19	12:31	159	0.0/18	2251	4.2		
L62	273	12:34	12:48	144	0.0/18	2252	-4.5		
L61	93	12:50	13:01	156	1.2/16	2252	4.1		
L60	273	13:05	13:17	146	1.3/15	2249	-36		Code Moving North - Cued out
X	N	13:19	13:21	154	1.1/16	2252	-		

Total Proj Lines: Lines Flown: 6 Lines Remain: Online Time: 1.5 Mob Time: 0.7 Notes:



Airborne LiDAR Data Collection Log Sheet :: Quantum Spatial, Inc

(email.log daily to flight_log_distribution_List@quantumspatial.com)

Date: 4-18-17

Lift: A B C D E Pg 2 of 3

Project: USGS N.Y. Oneida Proj #: 29614 Flight Mgmt File: 20170418_1058B

Aircraft: N812TB Begin Hobbs: 4376.7 End Hobbs: 4381.3 Total: 4.6 Pilot: Wagner Co-Pilot: — Tech: Schoone

Dep Apt: KSYR Dep Time (Lcl): 12:45 (Z): 16:45 Arr Apt: KSYR Arr Time (Local): 17:37 (Z): 21:37 Tot Time Aloft:

CORS: Y / N Sta 1: NYAS Sta 2: Flyovers: Y / N If Y, times: Sta1) Sta2)

GPS Unit: Y / N Sta 1: Sta 2: Flyovers: Y / N If Y, times: Sta1) Sta2)

Gd Temp beg: 8 °c End: °c OAT beg: 0 °c End: °c Altimeter begin: 30.44 end:

LiDAR	Type	ORION H	Serial#	13 SEN 324	Alt AGL	2100m	Alt AMSL		Avg Terr Ht		Max Gdspd	160	Avg Pt Spacing	
	FOV	13	Scan Freq	51 Hz	MpiA Y / N		Pulses In Air	3	Pulse Rate	175kHz	Power	High	PRM	

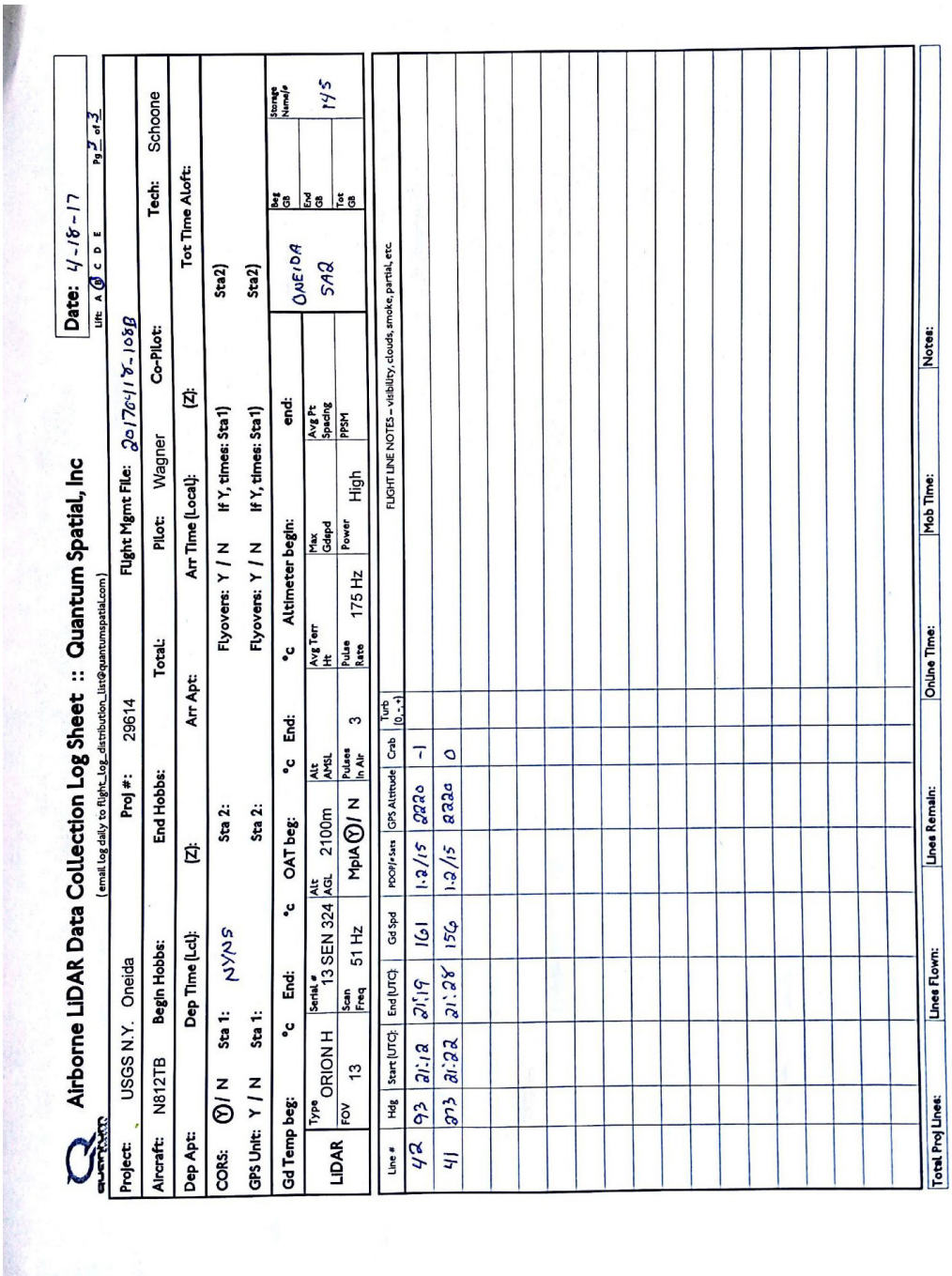
CAMERA SAR

Beg GB 30.7 End GB 89.4 Tot GB 58.7 Storage Name/# 145

Line #	Hdg	Start (UTC)	End (UTC)	Gd Spd	PODP/-sec	GPS Altitude	Crab	Turb (0,-,+)	FLIGHT LINE NOTES – visibility, clouds, smoke, partial, etc.
148	2	17:12	17:21	150	1.3/16	2097	4		Clear SKC VIS > 8
59	273	17:30	17:41	136	1.2/18	2245	-5		
58	93	17:44	17:55	159	1.2/18	2241	3		
57	273	17:58	18:09	152	1.2/17	2238	-4		
56	93	18:13	18:23	159	1.2/17	2233	2		
55	273	18:26	18:38	152	1.4/16	2227	-3		
54	93	18:40	18:51	159	1.5/15	2222	2		
53	273	18:54	19:05	148	1.2/17	2217	-2		
52	93	19:08	19:18	157	1.2/19	2215	2		
51	273	19:21	19:31	150	1.0/18	2215	-2		
50	93	19:34	19:43	159	1.3/17	2215	1		
49	273	19:46	19:56	150	1.3/17	2214	-2		
48	93	19:59	20:08	157	1.0/18	2214	0		
47	273	20:12	20:22	156	1.1/15	2214	-1		
46	93	20:24	20:34	159	1.1/14	2217	0		
45	273	20:37	20:46	157	1.1/15	2218	-1		
44	93	20:49	20:58	160	1.0/15	2219	0		
43	273	21:02	21:09	157	1.4/14	2221	-1		

Total Proj Lines: Lines Flown: 20 Lines Remain: OnLine Time: 4.3 Mob Time: 3 Notes:

Scanned by CamScanner



Airborne LiDAR Data Collection Log Sheet :: Quantum Spatial, Inc

(email Log daily to flight_Log_distribution_List@quantumspatial.com)

Date: 4-18-17

Lift: A B C D E Pg 2 of 3

Project: USGS N.Y. Oneida Proj #: 29614 Flight Mgmt File: 20176-17B-108B

Aircraft: N812TB Begin Hobbs: End Hobbs: Total: Pilot: Wagner Co-Pilot: Tech: Schoone

Dep Apt: Dep Time (Lcl): (Z): Arr Apt: Arr Time (Local): (Z): Tot Time Aloft:

CORS: Y / N Sta 1: NYNS Sta 2: Flyovers: Y / N If Y, times: Sta1) Sta2)

GPS Unit: Y / N Sta 1: Sta 2: Flyovers: Y / N If Y, times: Sta1) Sta2)

Gd Temp beg: °c End: °c OAT beg: °c End: °c Altimeter begin: end:

LiDAR	Type	ORION H	Serial #	13 SEN 324	Alt AGL	2100m	Alt AMSL		Avg Terr Ht		Max Gdspd		Avg Pt Spacing	
	FOV	13	Scan Freq	51 Hz	MpIA Y / N		Pulses In Air	3	Pulse Rate	175 Hz	Power	High	PPSM	

	Beg GB	End GB	Tot GB	Storage Name/#
OneIDA				145
SAR				

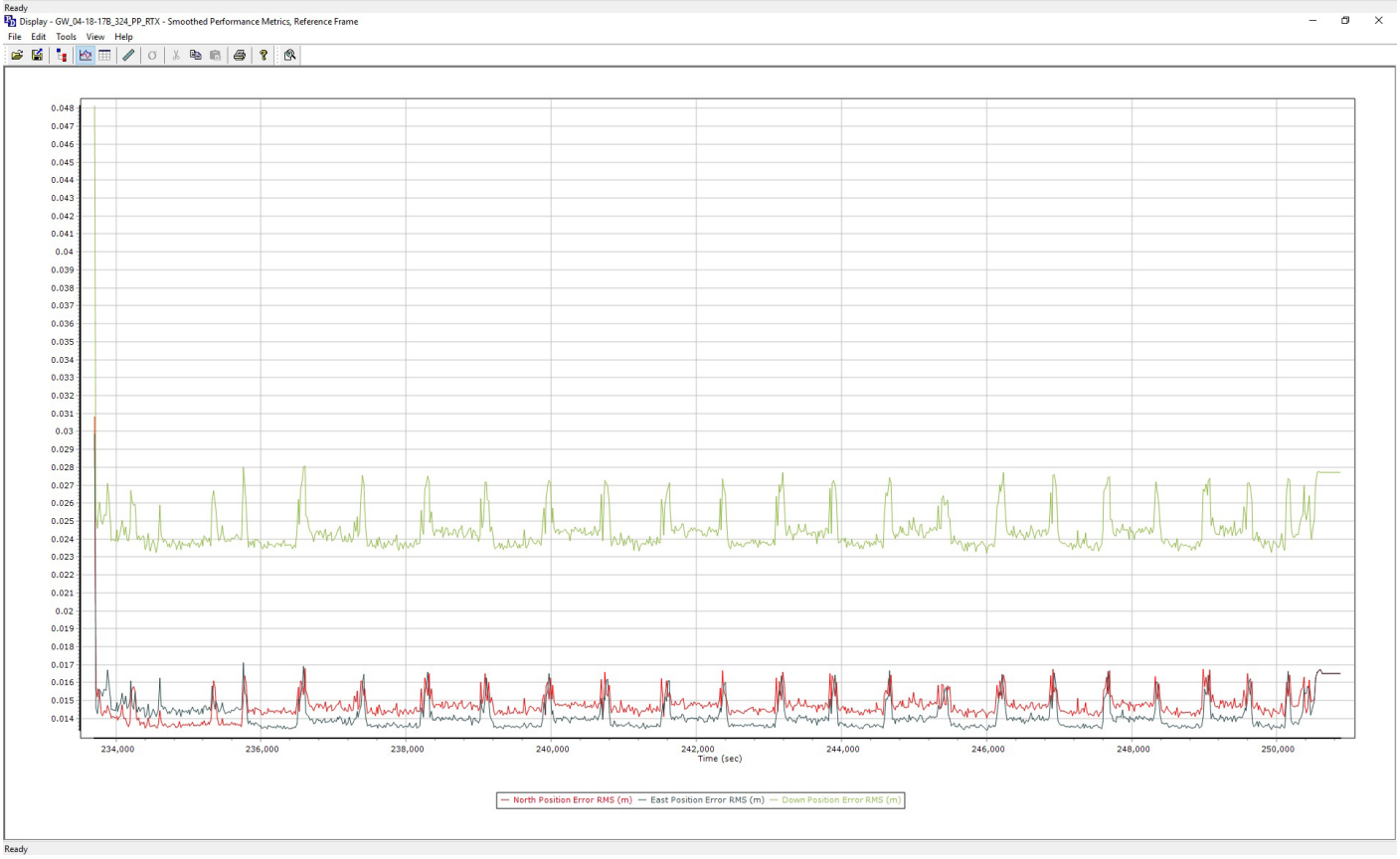
Line #	Hdg	Start (UTC):	End (UTC):	Gd Spd	AGL	MSL	GPS Altitude	Crab	Turb (0, -+)	FLIGHT LINE NOTES – visibility, clouds, smoke, partial, etc.
42	93	21:18	21:19	161	1.2/15	2220	2220	-1		
41	273	21:22	21:26	156	1.2/15	2220	2220	0		

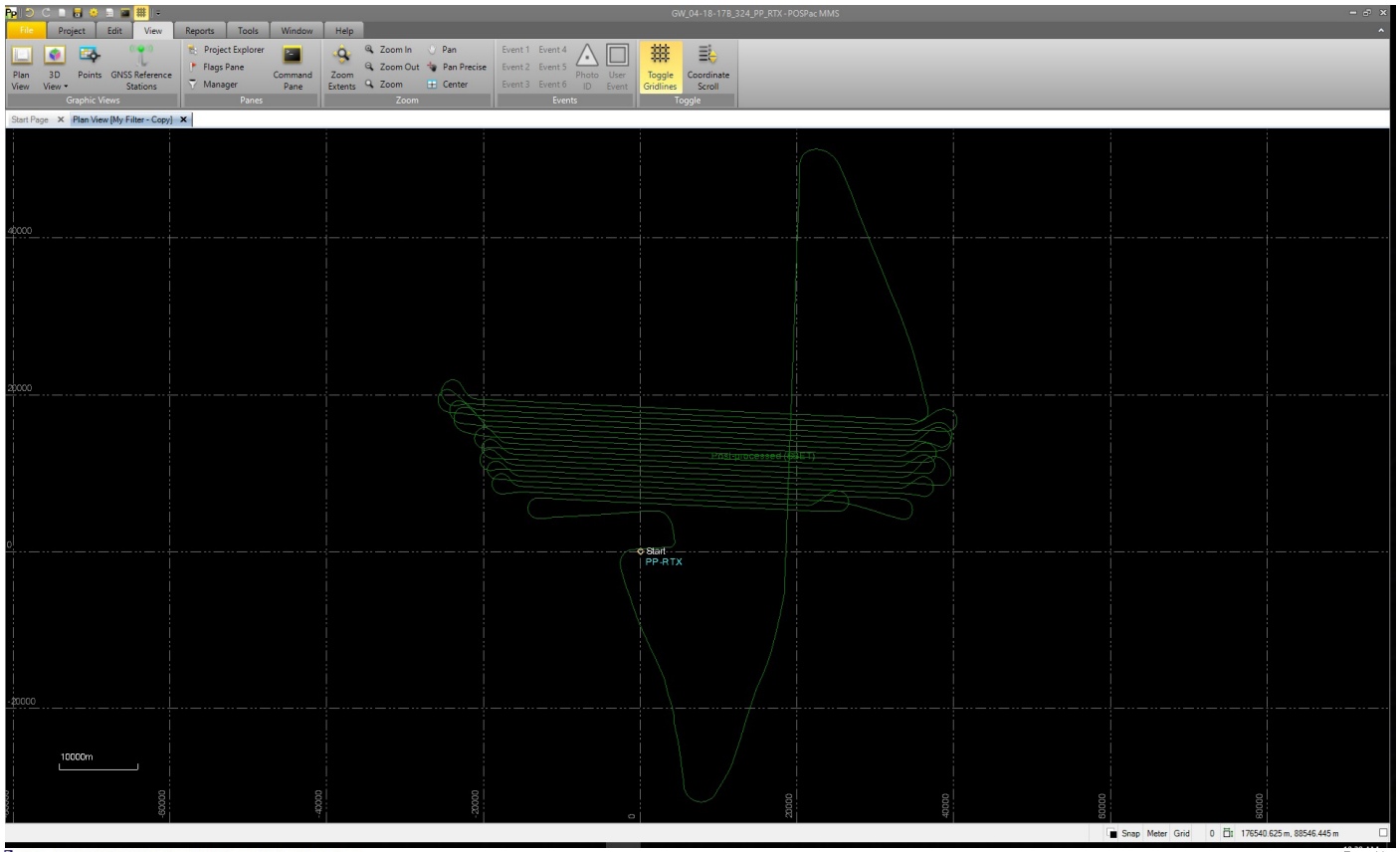
Total Proj Lines: Lines Flown: Lines Remain: OnLine Time: Mob Time: Notes:

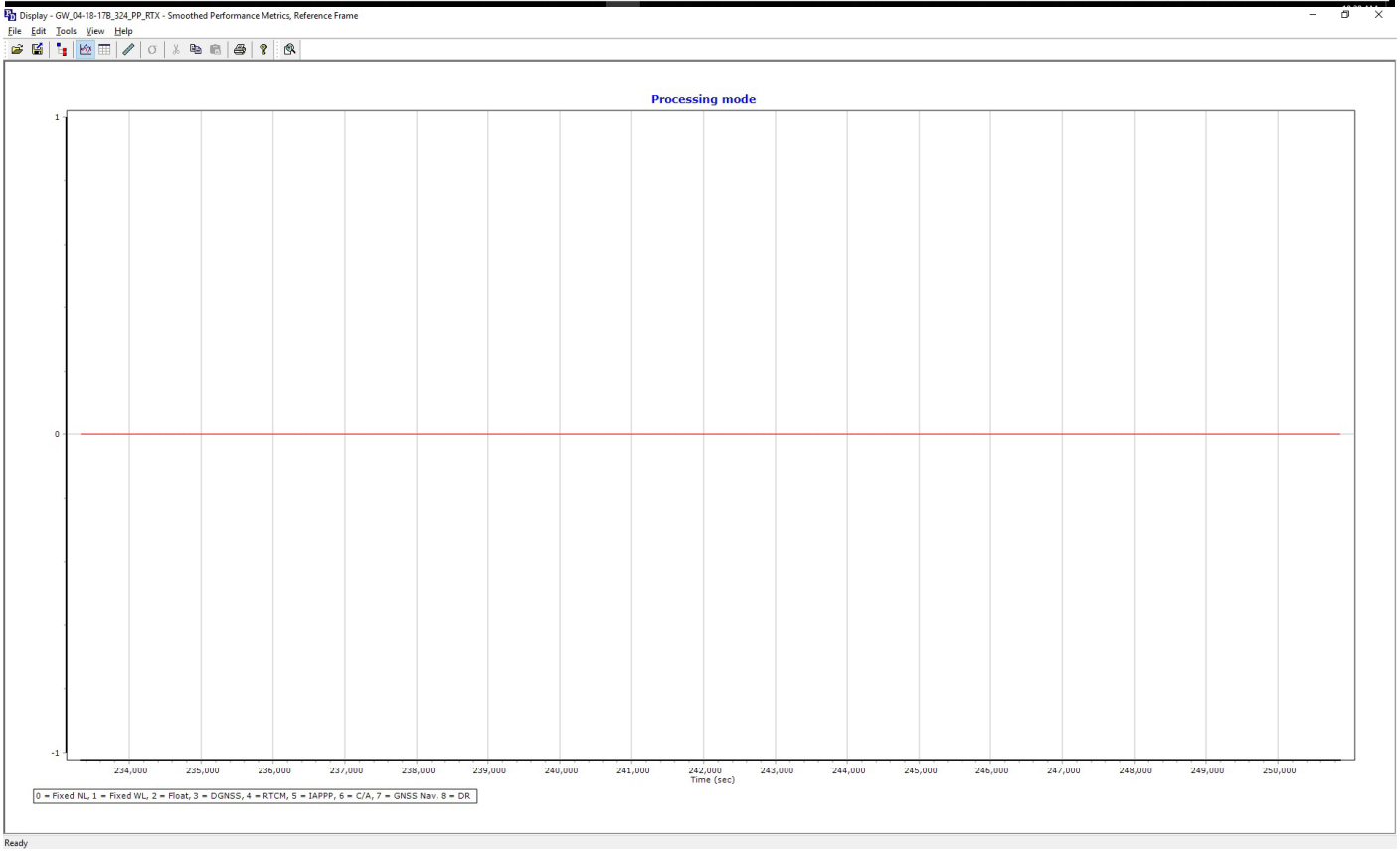
Scanned by CamScanner

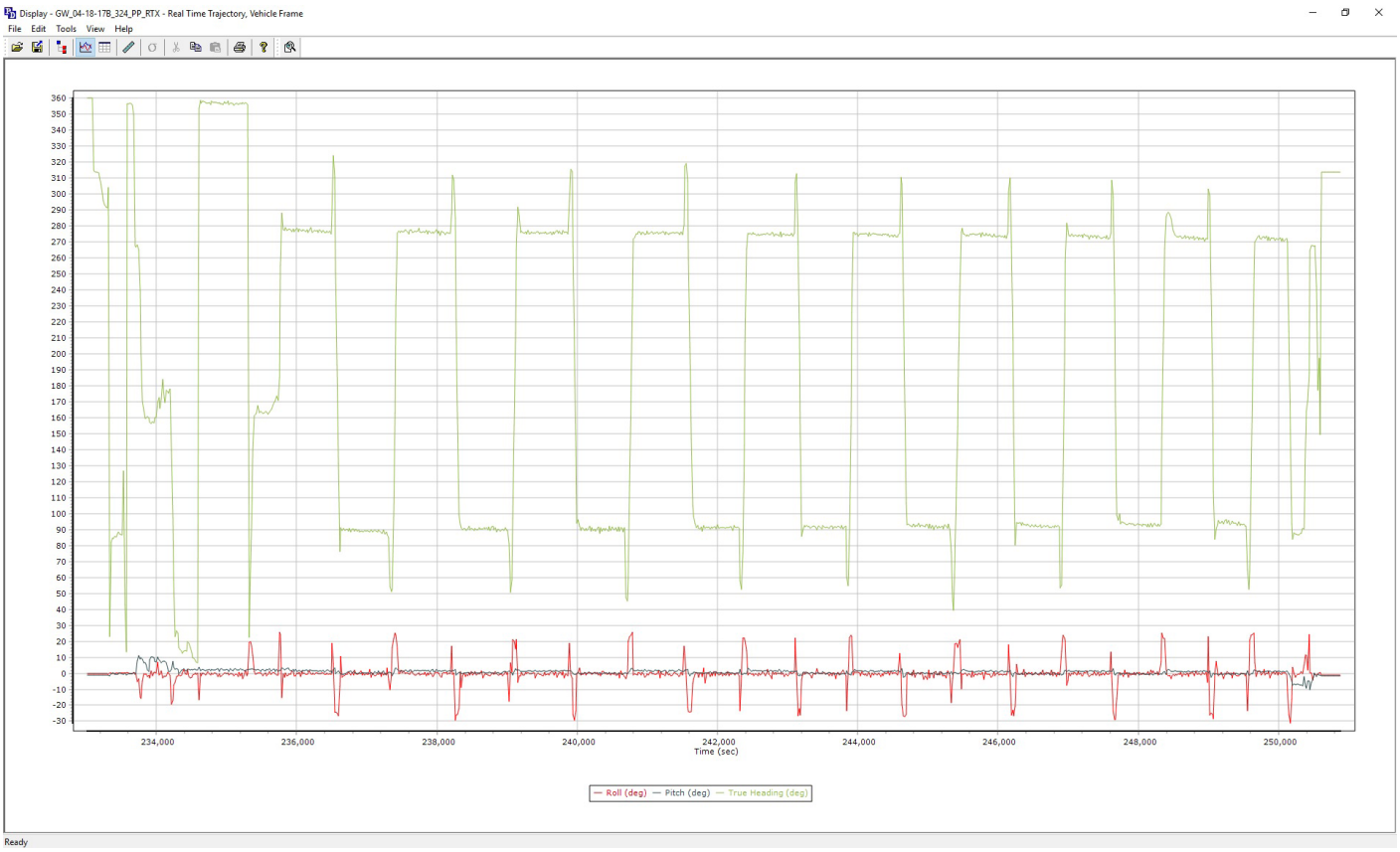
Apr 18, 2017-B (N812TB, SN324)


Display - GW_04-18-17B_324_PP_RTX - Smoothed Performance Metrics, Reference Frame
File Edit Tools View Help
Time (sec)
Number of GPS Satellites
Number of GLONASS Satellites
PDOP
Ready


Display - GW_04-18-17B_324_PP_RTX - Smoothed Performance Metrics, Reference Frame
File Edit Tools View Help
Time (sec)
North Position Error RMS (m)
East Position Error RMS (m)
Down Position Error RMS (m)
Ready

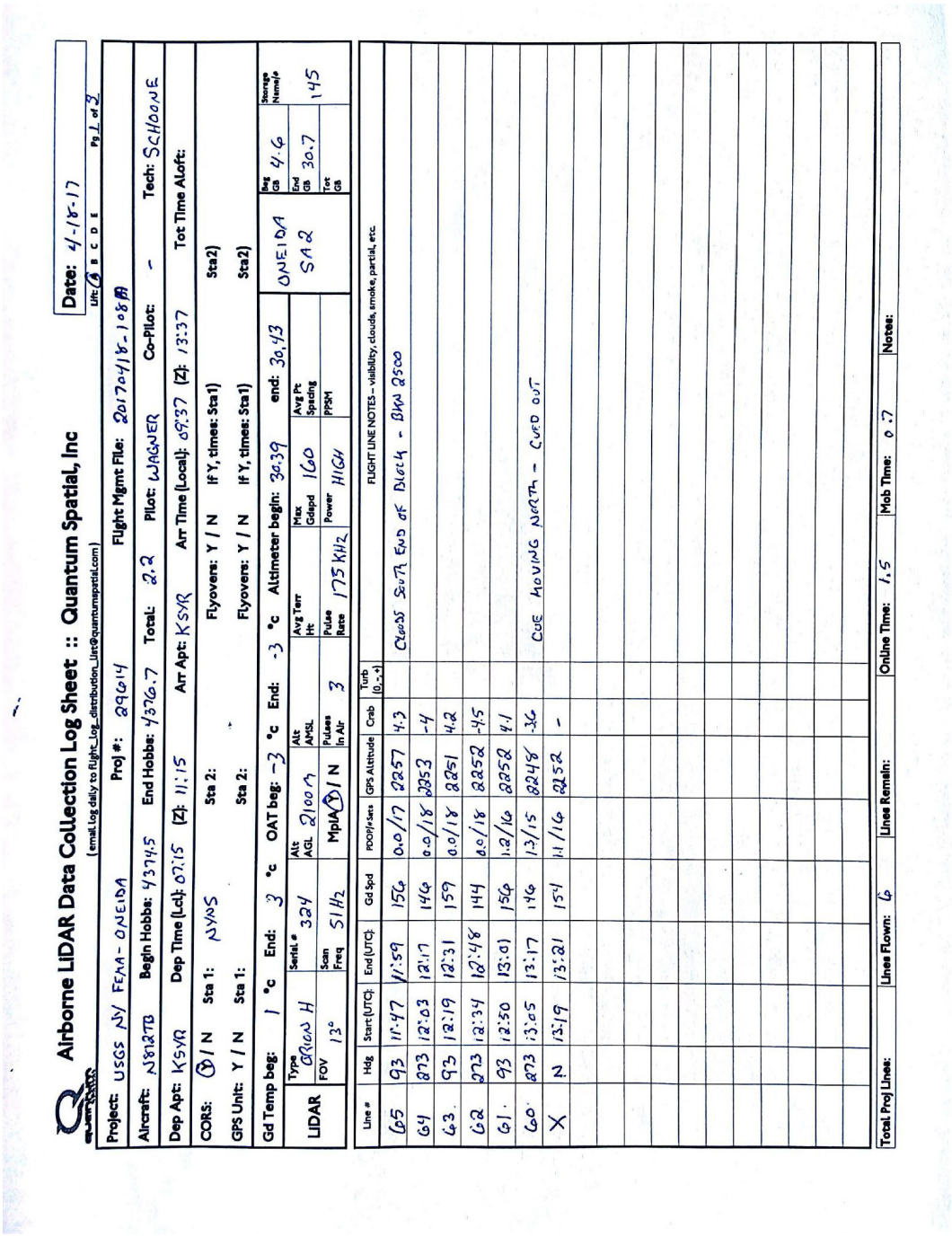

GW_04-18-17B_324_PP_RTX - POSPac MMS
File
Project
Edit
View
Reports
Tools
Window
Help
Plan View
3D View
Points
GNSS Reference Stations
Graphic Views
Project Explorer
Flags Pane
Manager
Command Pane
Panes
Zoom Extents
Zoom In
Zoom Out
Zoom
Pan
Pan Precise
Center
Zoom
Event 1
Event 2
Event 3
Event 4
Event 5
Event 6
Photo ID
User Event
Events
Toggle Gridlines
Coordinate Scroll
Toggle
Start Page
Plan View [My Filter - Copy]
40000
20000
0
-20000
Preliminary Processed (GNSS)
Start
PP_RTX
10000m
-60000
-40000
-20000
0
20000
40000
60000
80000
Snap
Meter
Grid
176540.625 m, 88546.445 m


Display - GW_04-18-17B_324_PP_RTX - Smoothed Performance Metrics, Reference Frame
File
Edit
Tools
View
Help
Processing mode
1
0
-1
234,000
235,000
236,000
237,000
238,000
239,000
240,000
241,000
242,000
243,000
244,000
245,000
246,000
247,000
248,000
249,000
250,000
Time (sec)
0 = Fixed NL, 1 = Fixed WL, 2 = Float, 3 = DGNSS, 4 = RTCM, 5 = IAPPP, 6 = C/A, 7 = GNSS Nav, 8 = DR
Ready


Display - GW_04-18-17B_324_PP_RTX - Real Time Trajectory, Vehicle Frame
File Edit Tools View Help
360
350
340
330
320
310
300
290
280
270
260
250
240
230
220
210
200
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
-10
-20
-30
234,000
236,000
238,000
240,000
242,000
244,000
246,000
248,000
250,000
Time (sec)
Roll (deg)
Pitch (deg)
True Heading (deg)
Ready

Flight Log

Scanned by CamScanner



Airborne LiDAR Data Collection Log Sheet :: Quantum Spatial, Inc

(email Log daily to Flight_Log_distribution_List@quantumspatial.com)

Date: 4-18-17 Life: A B C D E Pg 1 of 2

Project: USGS NY FEMA - ONEIDA Proj #: 89614 Flight Mgmt File: 20170418_1088

Aircraft: N812TB Begin Hobbs: 4374.5 End Hobbs: 4376.7 Total: 2.2 Pilot: WAGNER Co-Pilot: - Tech: SCHOONE

Dep Apt: KSYR Dep Time (Lcl): 07:15 (Z): 11:15 Arr Apt: KSYR Arr Time (Local): 09:37 (Z): 13:37 Tot Time Aloft:

CORS: Y / N Sta 1: NYNS Sta 2: Flyovers: Y / N If Y, times: Sta1) Sta2)

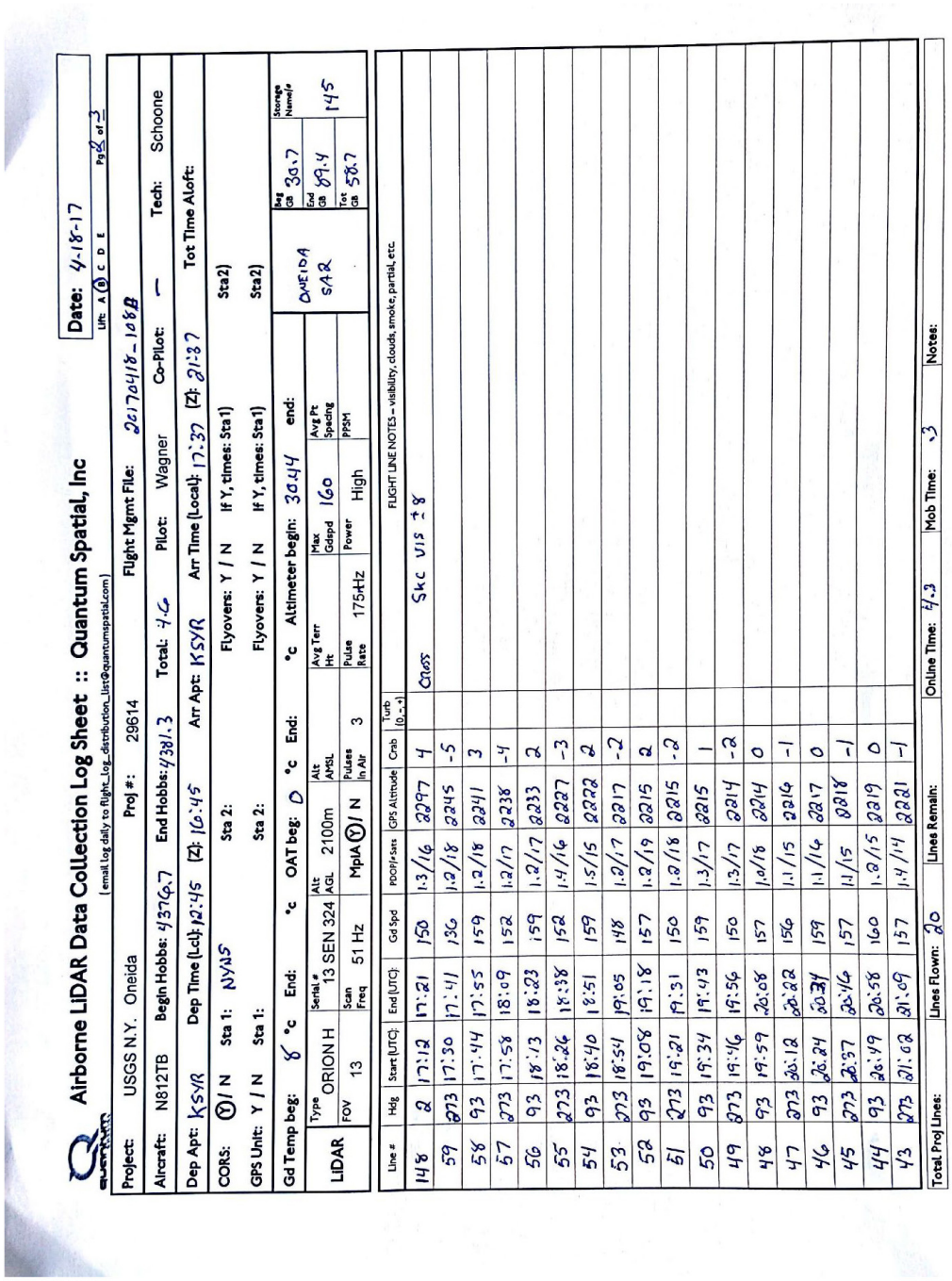
GPS Unit: Y / N Sta 1: Sta 2: Flyovers: Y / N If Y, times: Sta1) Sta2)

Gd Temp beg: 1 °c End: 3 °c OAT beg: -3 °c End: -3 °c Altimeter begin: 30.39 end: 30.43

LIDAR	Type	Serial #	Alt AGL	Alt AMSL	Avg Terr Ht	Max Gdspd	Avg Pt Spacing	ONEIDA SA2	Beg GB	4.6	Storage Name/s
	Orion H	324	2100 ft			160			End GB	30.7	145
	FOV 13°	Scan Freq 51 Hz	MplA Y / N	Pulses In Air 3	Pulse Rate 175 kHz	Power HIGH	PPSM		Tot GB		

Line #	Hdg	Start (UTC)	End (UTC)	Gd Spd	POQ+/-Sens	GPS Altitude	Crab	Turb (0,+)	FLIGHT LINE NOTES - visibility, clouds, smoke, partial, etc.
L65	93	11:47	11:59	156	0.0/17	2257	4.3		Clouds Start End of Block - BKW 2500
L64	273	12:03	12:17	146	0.0/18	2253	-4		
L63	93	12:19	12:31	159	0.0/18	2251	4.2		
L62	273	12:34	12:48	144	0.0/18	2252	-4.5		
L61	93	12:50	13:01	156	1.2/16	2252	4.1		
L60	273	13:05	13:17	146	1.3/15	2249	-3.6		CUE MOVING NORTH - CUED OUT
X	N	13:19	13:21	154	1.1/16	2252	-		

Total Proj Lines: Lines Flown: 6 Lines Remain: Online Time: 1.5 Mob Time: 0.7 Notes:



Airborne LiDAR Data Collection Log Sheet :: Quantum Spatial, Inc

(email.log daily to flight_log_distribution_List@quantumspatial.com)

Date: 4-18-17

Ufft: A B C D E Pg 2 of 3

Project: USGS N.Y. Oneida Proj #: 29614 Flight Mgmt File: 20170418_1058B

Aircraft: N812TB Begin Hobbs: 4376.7 End Hobbs: 4381.3 Total: 4.6 Pilot: Wagner Co-Pilot: — Tech: Schoone

Dep Apt: KSYR Dep Time (Lcl): 12:45 (Z): 16:45 Arr Apt: KSYR Arr Time (Local): 17:37 (Z): 21:37 Tot Time Aloft:

CORS: Y / N Sta 1: NYAS Sta 2: Flyovers: Y / N If Y, times: Sta1) Sta2)

GPS Unit: Y / N Sta 1: Sta 2: Flyovers: Y / N If Y, times: Sta1) Sta2)

Gd Temp beg: 8 °c End: °c OAT beg: 0 °c End: °c Altimeter begin: 30.44 end:

LiDAR	Type	ORION H	Serial #	13 SEN 324	Alt AGL	2100m	Alt AMSL		Avg Terr Ht		Max Gdspd	160	Avg Pt Spacing	
	FOV	13	Scan Freq	51 Hz	MpiA Y / N		Pulses In Air	3	Pulse Rate	175kHz	Power	High	PRM	

CMEIDA SAR

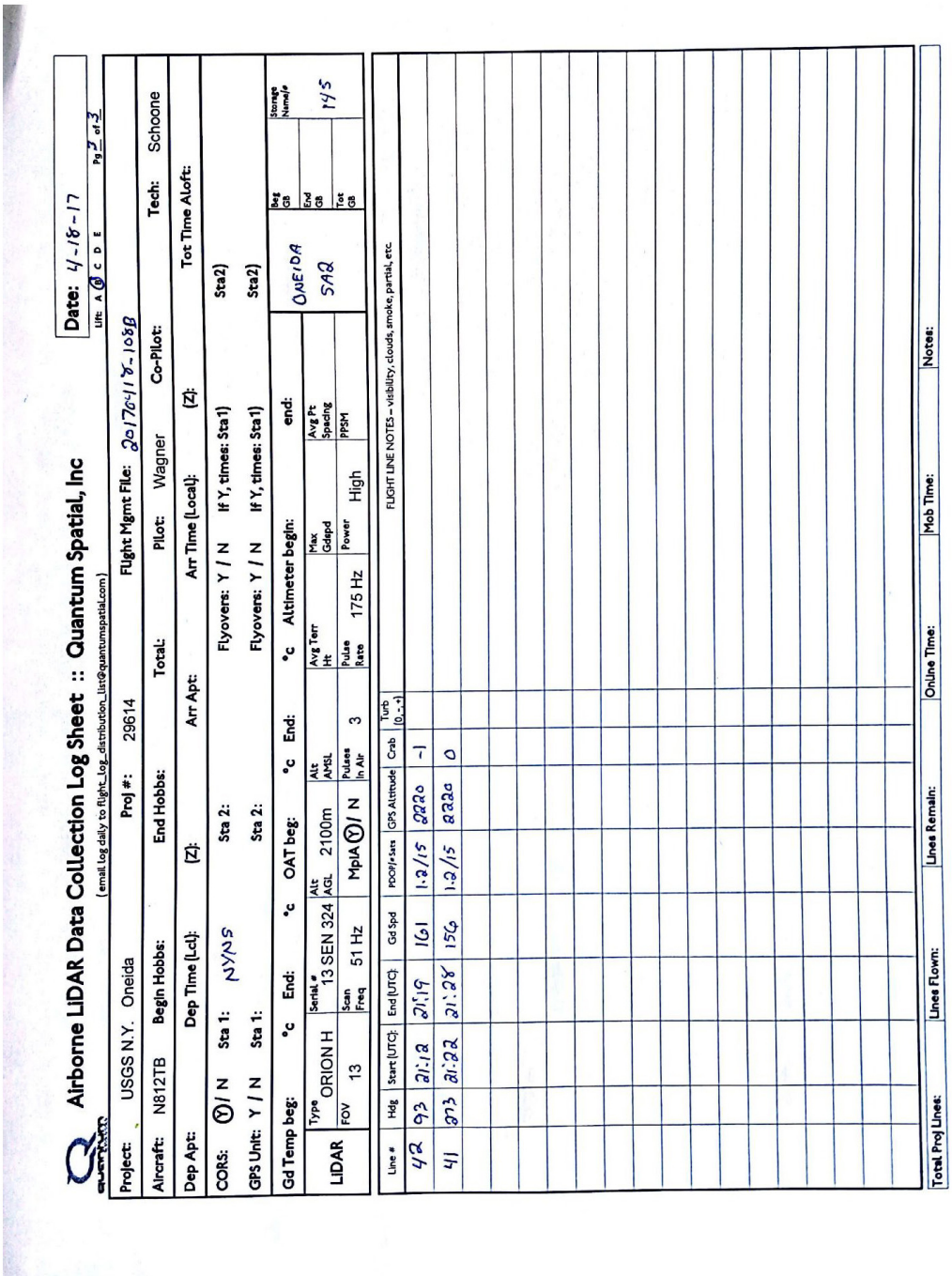
Beg GB 30.7 End GB 89.4 Tot GB 58.7 Storage Name/s 145

Line #	Hdg	Start (UTC)	End (UTC)	Gd Spd	POOP/-sats	GPS Altitude	Crab	Turb (0,-,+)	FLIGHT LINE NOTES – visibility, clouds, smoke, partial, etc.
148	2	17:12	17:21	150	13/16	2097	4		Clear SKC VIS > 8
59	273	17:30	17:41	136	12/18	2245	-5		
58	93	17:44	17:55	159	12/18	2241	3		
57	273	17:58	18:09	152	12/17	2238	-4		
56	93	18:13	18:23	159	12/17	2233	2		
55	273	18:26	18:38	152	14/16	2227	-3		
54	93	18:40	18:51	159	15/15	2222	2		
53	273	18:54	19:05	148	12/17	2217	-2		
52	93	19:08	19:18	157	12/19	2215	2		
51	273	19:21	19:31	150	10/18	2215	-2		
50	93	19:34	19:43	159	13/17	2215	1		
49	273	19:46	19:56	150	13/17	2214	-2		
48	93	19:59	20:08	157	10/18	2214	0		
47	273	20:12	20:22	156	11/15	2214	-1		
46	93	20:24	20:34	159	11/14	2217	0		
45	273	20:37	20:46	157	11/15	2218	-1		
44	93	20:49	20:58	160	10/15	2219	0		
43	273	21:02	21:09	157	14/14	2221	-1		

Total Proj Lines: Lines Flown: 20 Lines Remain: OnLine Time: 4.3 Mob Time: 3 Notes:

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Scanned by CamScanner



Airborne LiDAR Data Collection Log Sheet :: Quantum Spatial, Inc

(email Log daily to flight_Log_distribution_List@quantumspatial.com)

Date: 4-18-17

Life: A B C D E Pg 2 of 3

Project: USGS N.Y. Oneida Proj #: 29614 Flight Mgmt File: 20176-17B-108B

Aircraft: N812TB Begin Hobbs: End Hobbs: Total: Pilot: Wagner Co-Pilot: Tech: Schoone

Dep Apt: Dep Time (Lcl): (Z): Arr Apt: Arr Time (Local): (Z): Tot Time Aloft:

CORS: Y / N Sta 1: NYNS Sta 2: Flyovers: Y / N If Y, times: Sta1) Sta2)

GPS Unit: Y / N Sta 1: Sta 2: Flyovers: Y / N If Y, times: Sta1) Sta2)

Gd Temp beg: °c End: °c OAT beg: °c End: °c Altimeter begin: end:

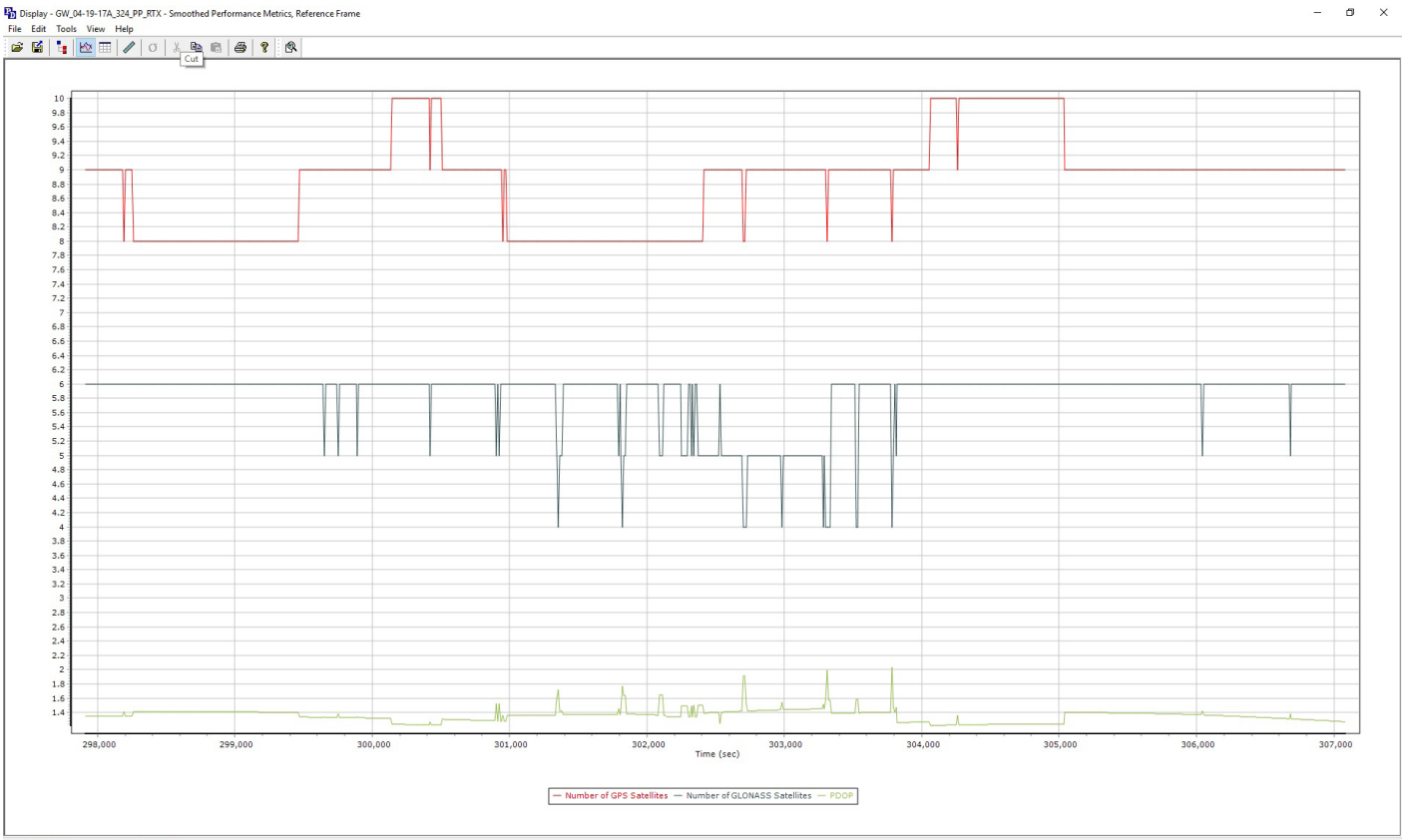
LiDAR	Type	ORION H	Serial #	13 SEN 324	Alt AGL	2100m	Alt AMSL		Avg Terr Ht		Max Gdspd		Avg Pt Spacing	
	FOV	13	Scan Freq	51 Hz	MpIA Y / N		Pulses In Air	3	Pulse Rate	175 Hz	Power	High	PPSM	

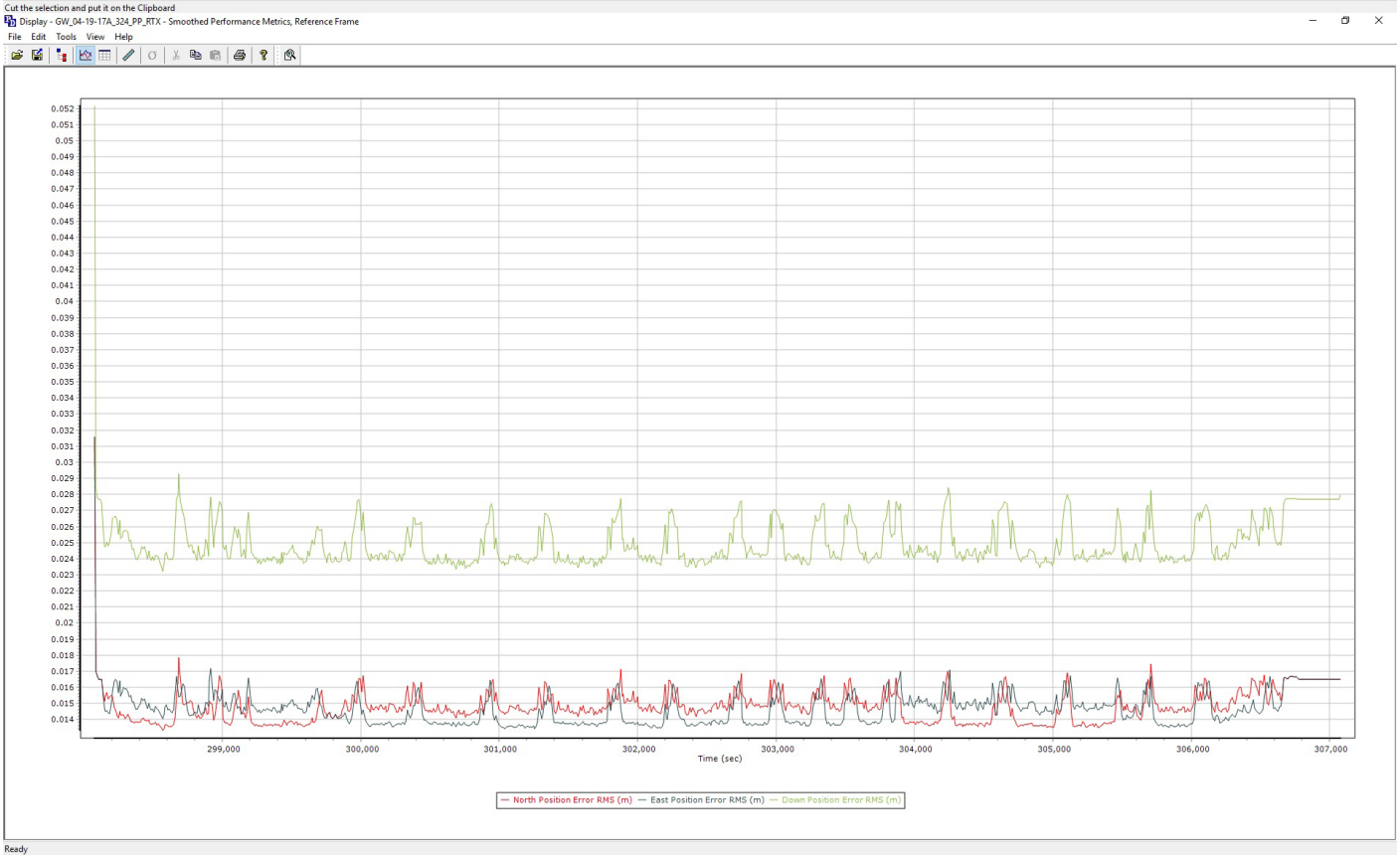
	Beg GB	End GB	Tot GB	Storage Name/#
OneIDA				145
SAR				

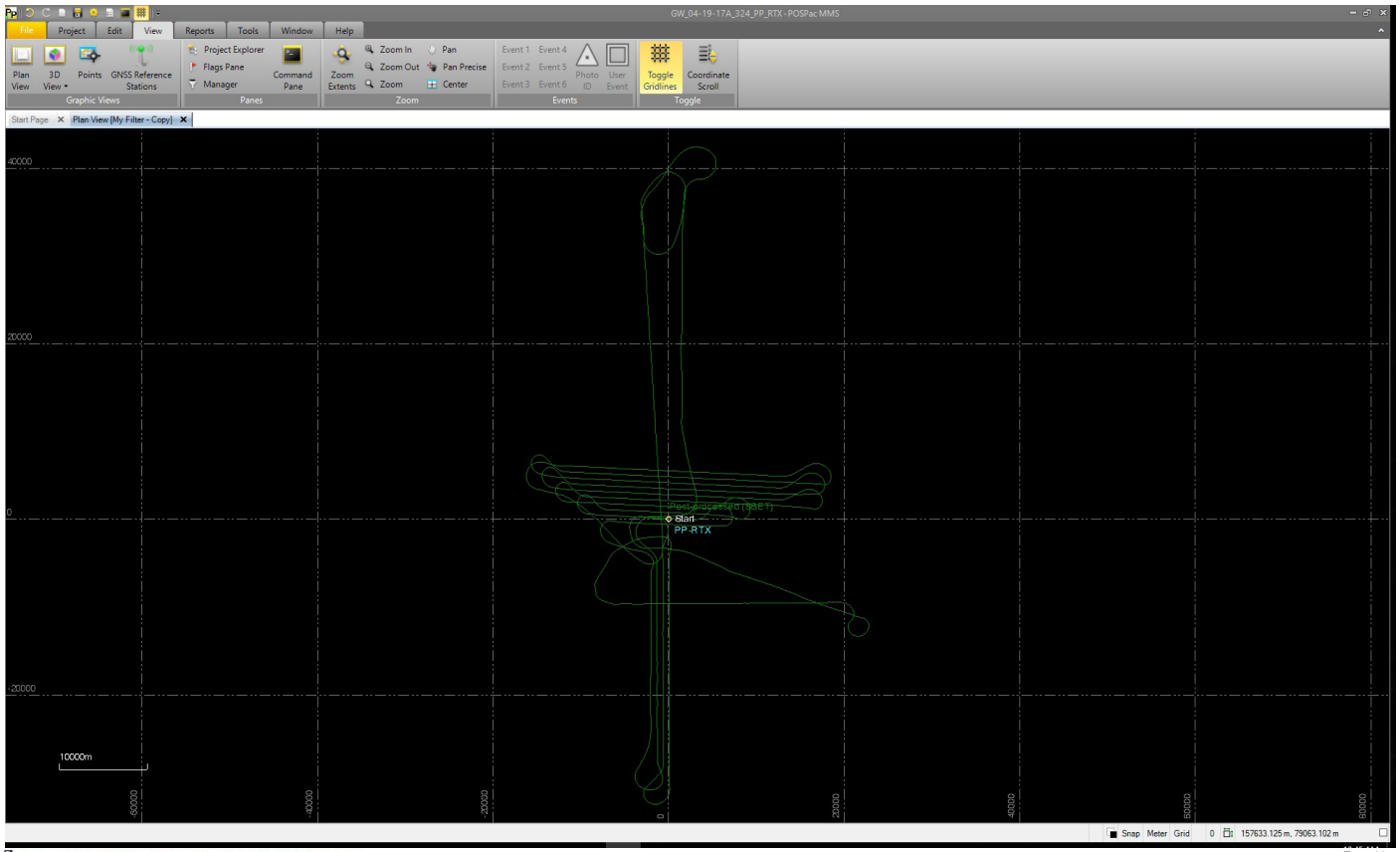
Line #	Hdg	Start (UTC)	End (UTC)	Gd Spd	POOP/Sens	GPS Altitude	Crab	Turb (0, -+)	FLIGHT LINE NOTES – visibility, clouds, smoke, partial, etc.
42	93	21:18	21:19	161	1.2/15	8220	-1		
41	273	21:22	21:26	156	1.2/15	8220	0		

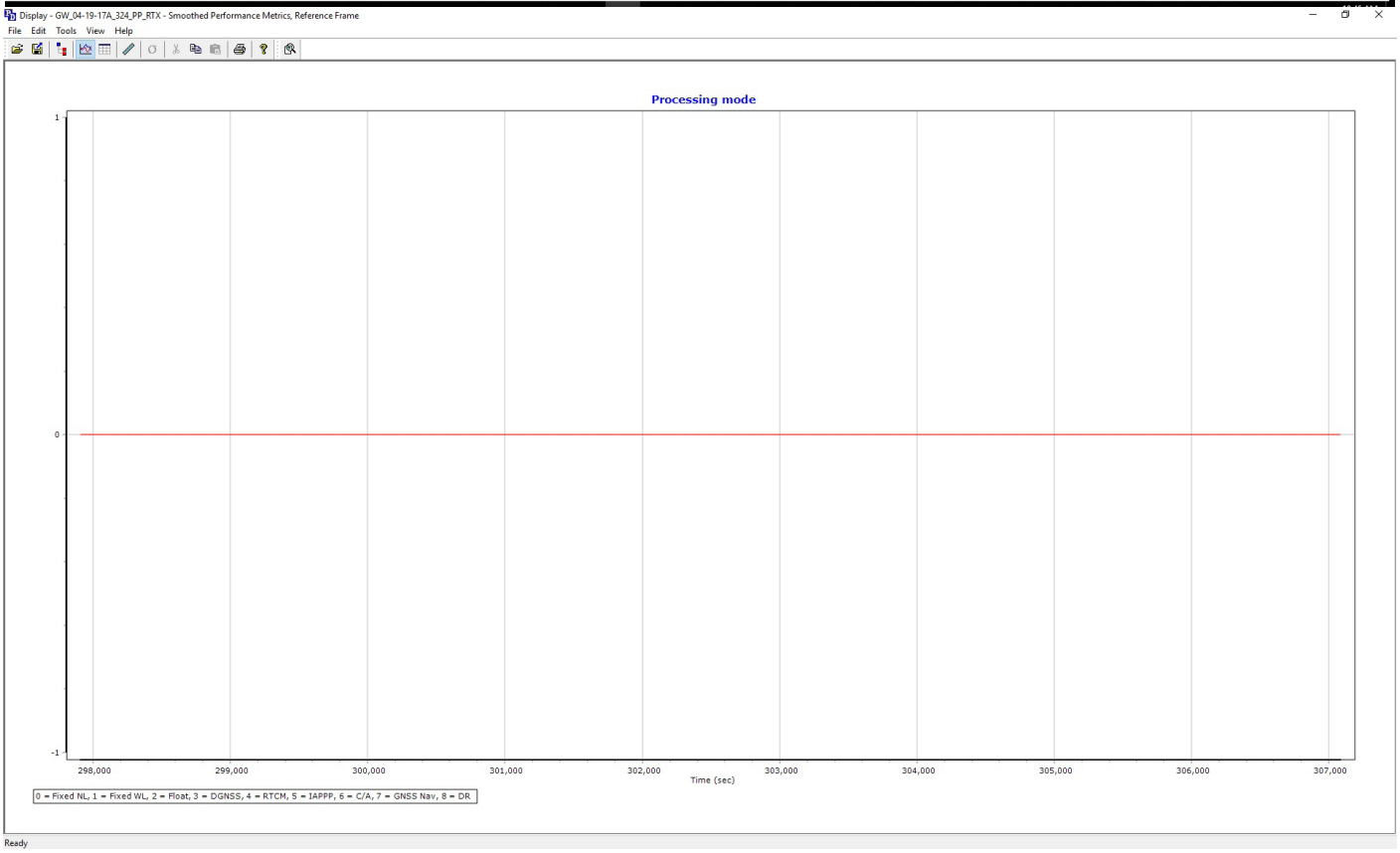
Total Proj Lines: Lines Flown: Lines Remain: OnLine Time: Mob Time: Notes:

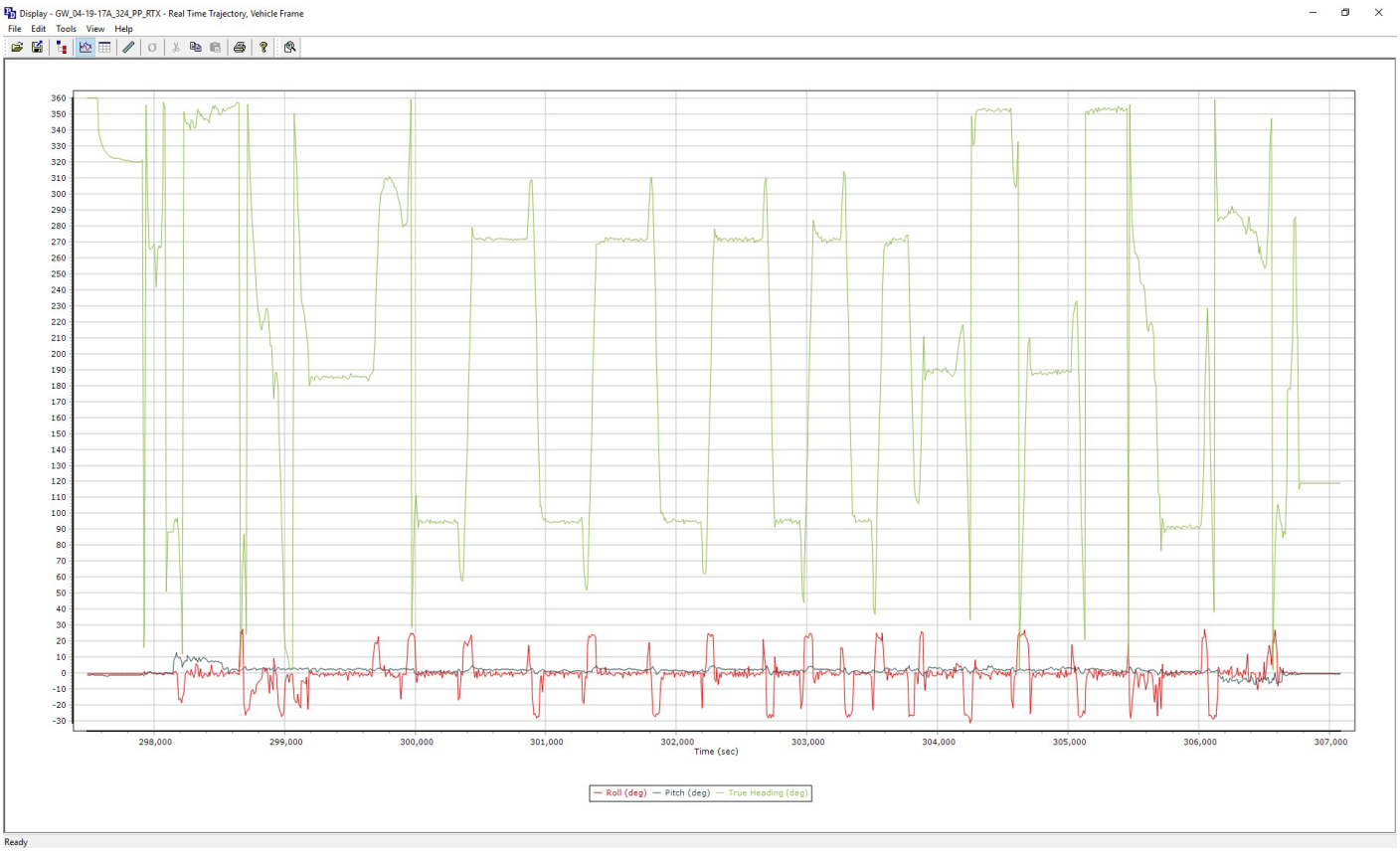
Apr 19, 2017-A (N812TB, SN324)


Display - GW_04-19-17A_324_PP_RTX - Smoothed Performance Metrics, Reference Frame
File Edit Tools View Help
Cut
Time (sec)
Number of GPS Satellites
Number of GLONASS Satellites
PDOP
Cut the selection and put it on the Clipboard


Display - GW_04-19-17A_324_PP_RTX - Smoothed Performance Metrics, Reference Frame
File Edit Tools View Help
Time (sec)
North Position Error RMS (m)
East Position Error RMS (m)
Down Position Error RMS (m)
Ready

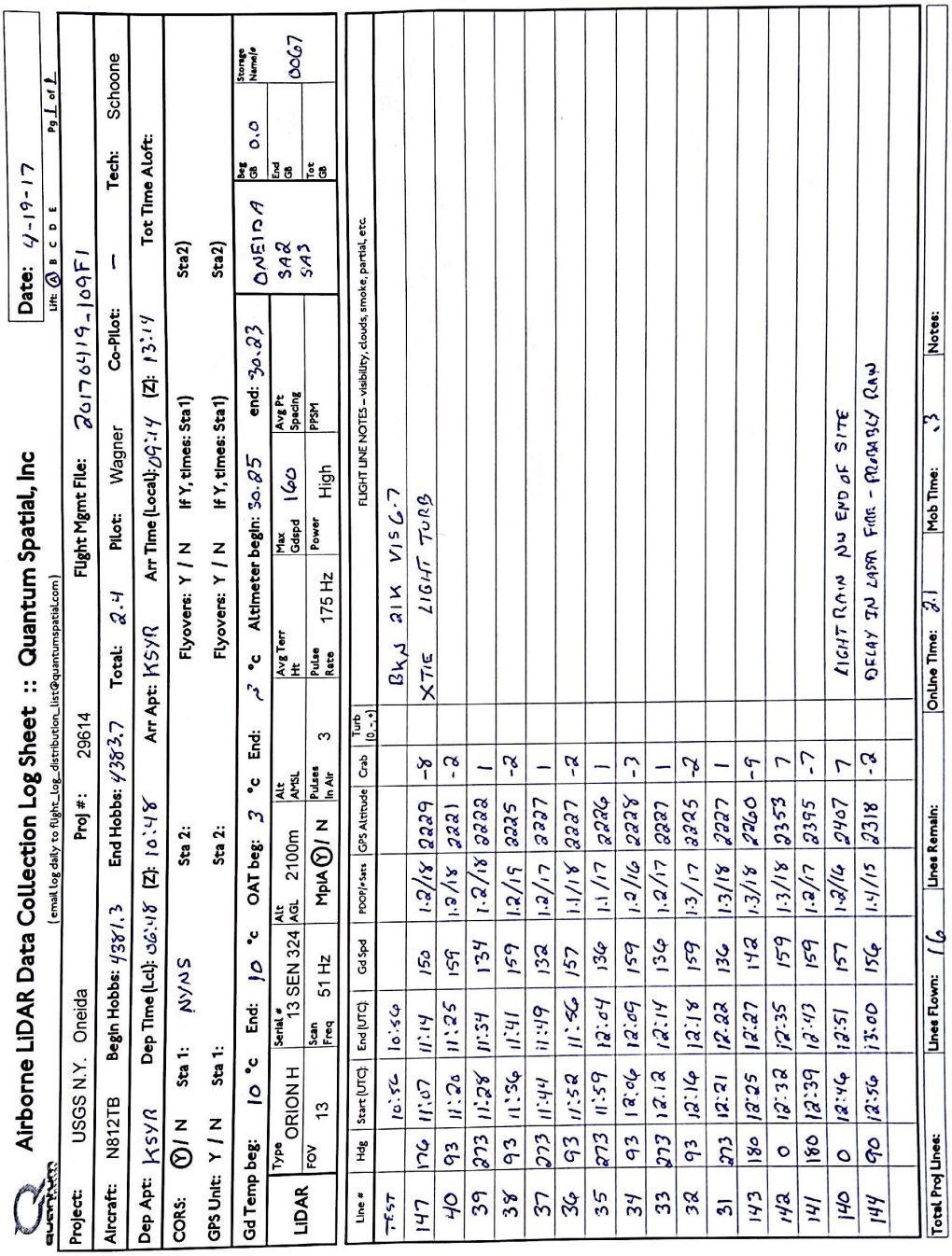

GW_04-19-17A_324_PP_RTX - POSPac MMS
File
Project
Edit
View
Reports
Tools
Window
Help
Plan View
3D View
Points
GNSS Reference Stations
Graphic Views
Project Explorer
Flags Pane
Manager
Command Pane
Panes
Zoom In
Zoom Out
Zoom
Pan
Pan Precise
Center
Zoom Extents
Zoom
Event 1
Event 2
Event 3
Event 4
Event 5
Event 6
Photo ID
User Event
Events
Toggle Gridlines
Coordinate Scroll
Toggle
Start Page
Plan View [My Filter - Copy]
40000
20000
0
-20000
Start
PP-RTX
10000m
-60000
-40000
-20000
0
20000
40000
60000
80000
Snap
Meter
Grid
157633.125 m, 79063.102 m


Display - GW_04-19-17A_324_PP_RTX - Smoothed Performance Metrics, Reference Frame
File
Edit
Tools
View
Help
Processing mode
1
0
-1
298,000
299,000
300,000
301,000
302,000
303,000
304,000
305,000
306,000
307,000
Time (sec)
0 = Fixed NL, 1 = Fixed WL, 2 = Float, 3 = DGNSS, 4 = RTCM, 5 = IAPPP, 6 = C/A, 7 = GNSS Nav, 8 = DR
Ready


Display - GW_04-19-17A_324_PP_RTX - Real Time Trajectory, Vehicle Frame
File Edit Tools View Help
360 350 340 330 320 310 300 290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 -10 -20 -30
298,000 299,000 300,000 301,000 302,000 303,000 304,000 305,000 306,000 307,000
Time (sec)
Roll (deg) Pitch (deg) True Heading (deg)
Ready

Flight Log

Scanned by CamScanner



Airborne LiDAR Data Collection Log Sheet :: Quantum Spatial, Inc

(email Log daily to Flight_Log_distribution_list@quantumspatial.com)

Date: 4-19-17

Lift: A B C D E Pg 1 of 1

Project: USGS N.Y. Oneida Proj #: 29614 Flight Mgmt File: 20170419-1009F1

Aircraft: N812TB Begin Hobbs: 4381.3 End Hobbs: 4383.7 Total: 2.4 Pilot: Wagner Co-Pilot: — Tech: Schoone

Dep Apt: KSYR Dep Time (Lcl): 06:48 (Z): 10:48 Arr Apt: KSYR Arr Time (Local): 09:14 (Z): 13:14 Tot Time Aloft:

CORS: Y / N Sta 1: NYNS Sta 2: Flyovers: Y / N If Y, times: Sta1) Sta2)

GPS Unit: Y / N Sta 1: Sta 2: Flyovers: Y / N If Y, times: Sta1) Sta2)

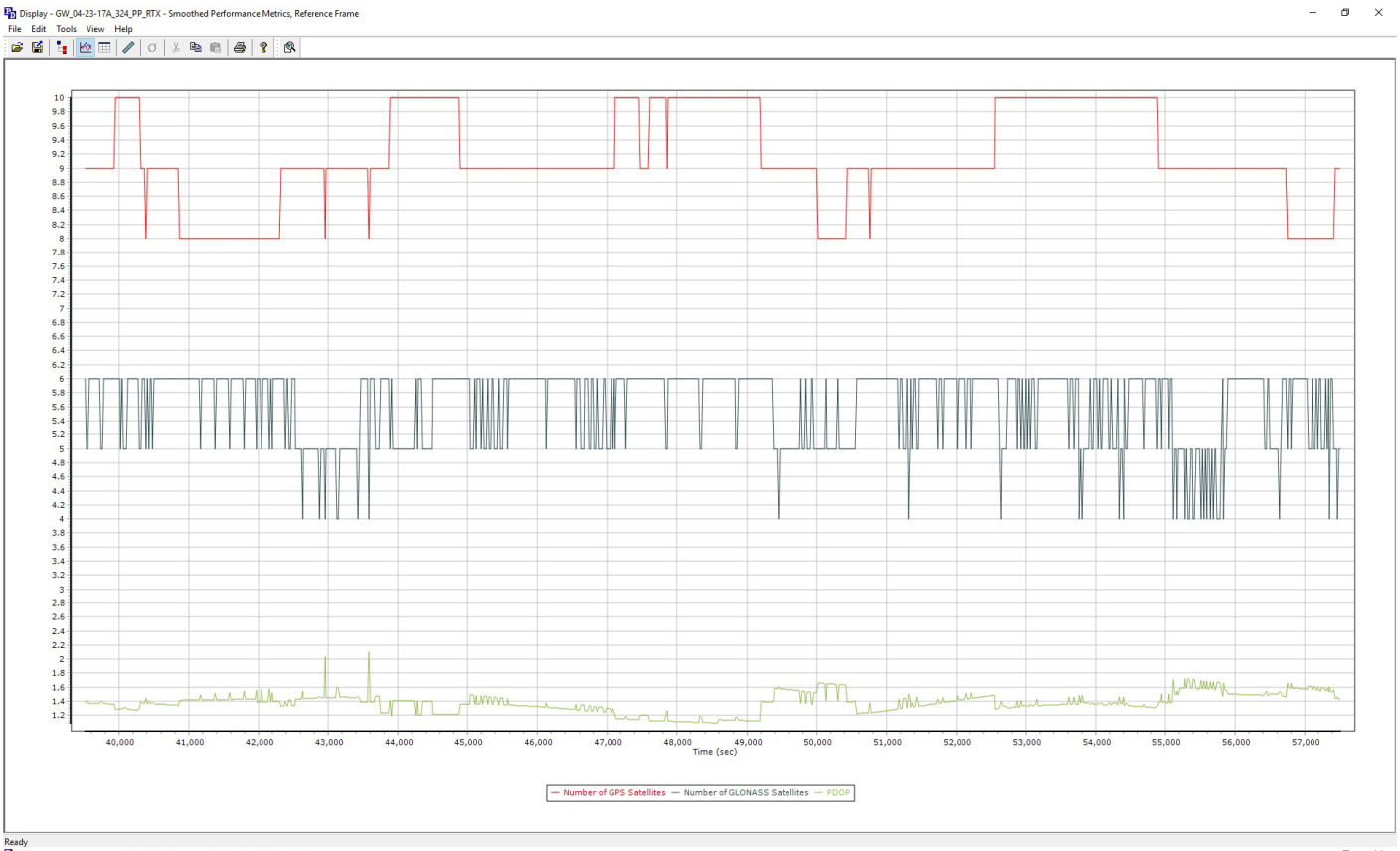
Gd Temp beg: 10 °c End: 10 °c OAT beg: 3 °c End: 2 °c Altimeter begin: 30.05 end: 30.03

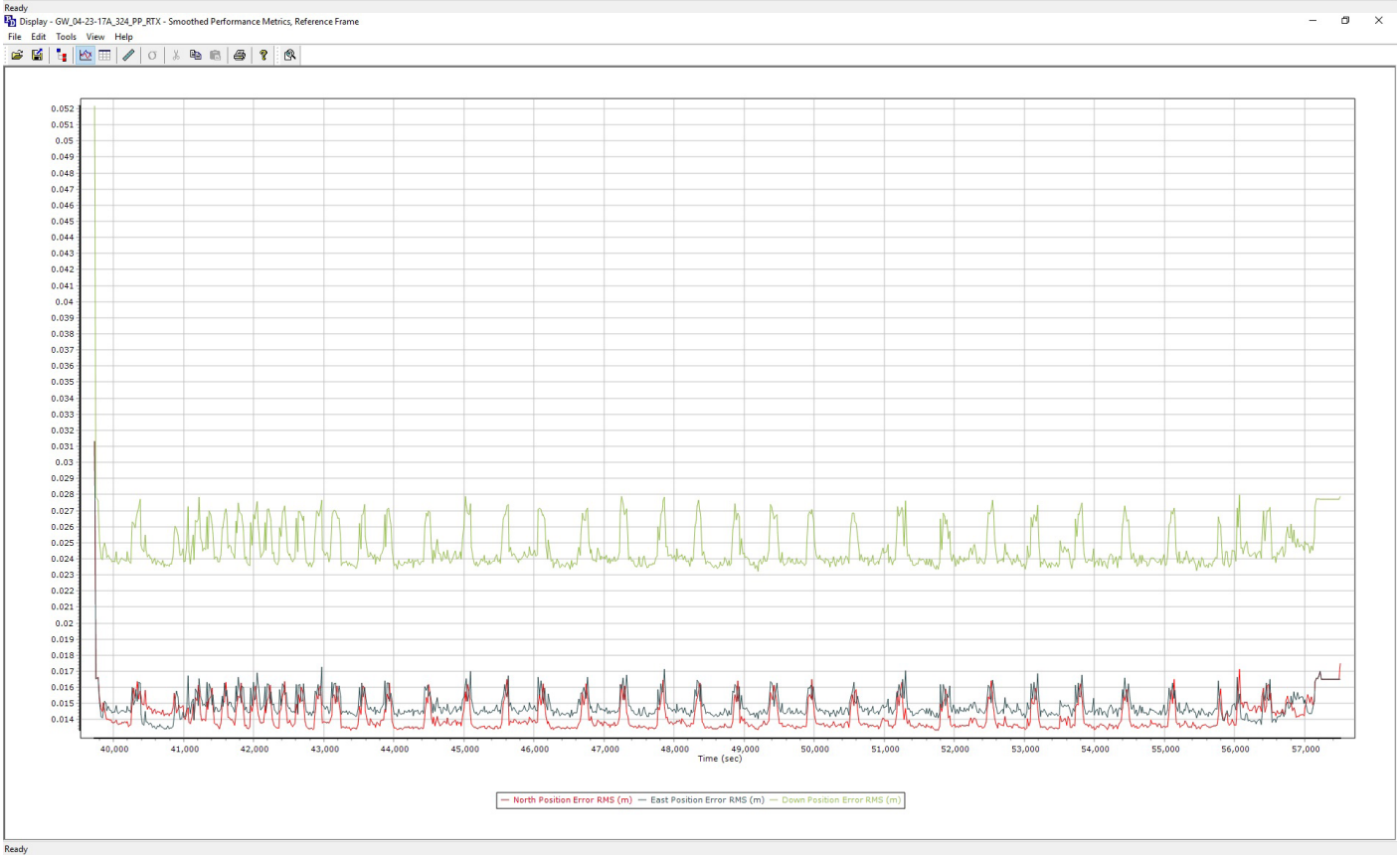
LiDAR	Type	ORION H	Serial #	13 SEN 324	Alt AGL	2100m	Alt AMSL		Avg Terr Ht		Max Gdspd	160	Avg Pt Spacing		Beg GB	0.0	Storage Name/s
	FOV	13	Scan Freq	51 Hz	MpiA Y / N		Pulses In Air	3	Pulse Rate	175 Hz	Power	High	PPSM		End GB		0067
															Tot GB		

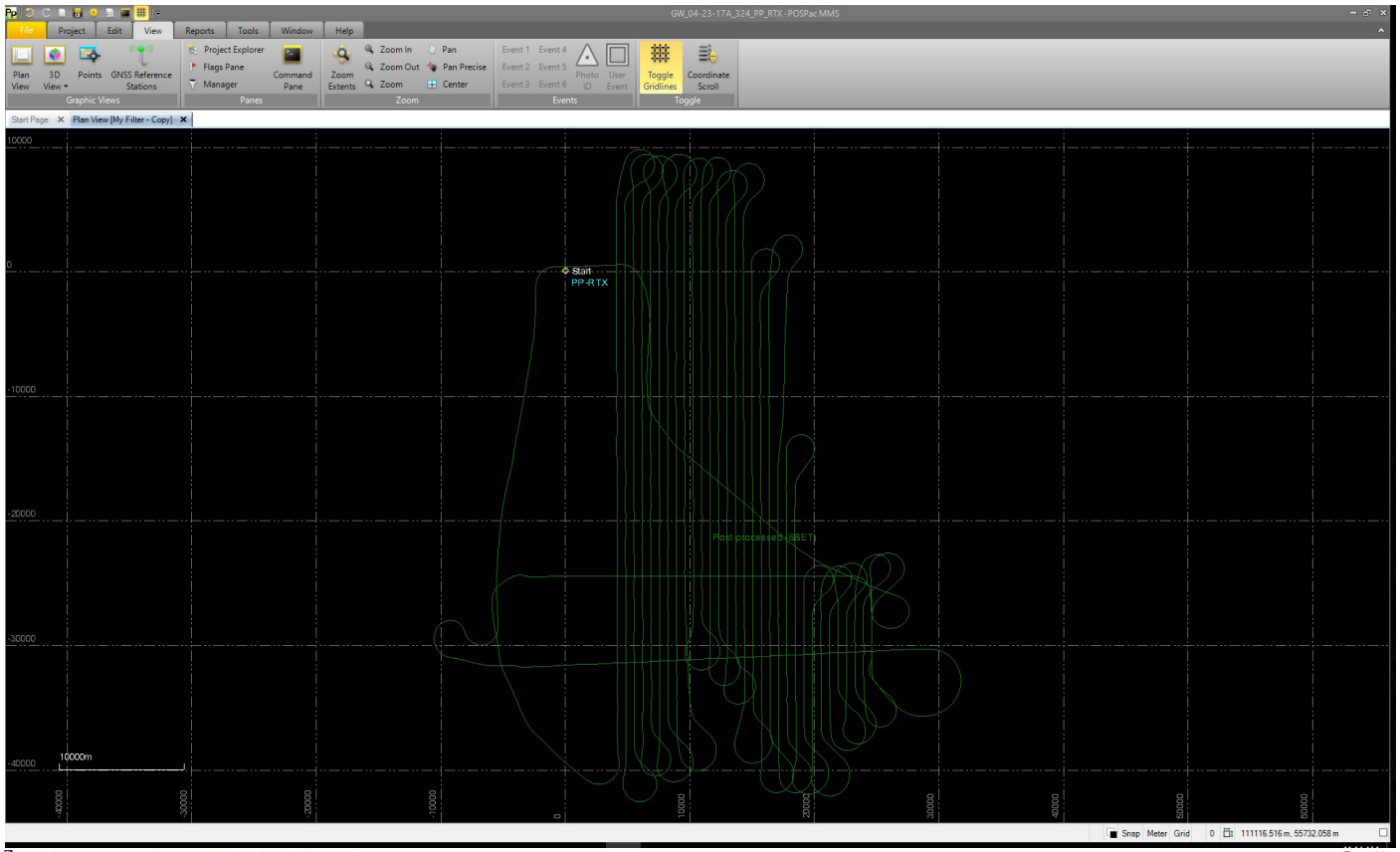
Line #	Hdg	Start (UTC)	End (UTC)	Gd Spd	PDOP/#sats	GPS Altitude	Crab	Turb (0,-,+)	FLIGHT LINE NOTES – visibility, clouds, smoke, partial, etc.
TEST		10:56	10:56						BKN 21K VIS 6-7
147	176	11:07	11:14	150	1.2/18	2229	-8		XTIE LIGHT TURB
40	93	11:26	11:25	159	1.9/18	2221	-2		
39	273	11:28	11:34	134	1.2/18	2222	1		
38	93	11:36	11:41	159	1.2/19	2225	-2		
37	273	11:44	11:49	132	1.2/17	2227	1		
36	93	11:52	11:56	157	1.1/18	2227	-2		
35	273	11:59	12:04	136	1.1/17	2226	1		
34	93	12:06	12:09	159	1.2/16	2228	-3		
33	273	12:12	12:14	136	1.2/17	2227	1		
32	93	12:16	12:18	159	1.3/17	2225	-2		
31	273	12:21	12:22	136	1.3/18	2227	1		
143	180	12:25	12:27	142	1.3/18	2260	-9		
142	0	12:32	12:35	159	1.3/18	2353	7		
141	180	12:39	12:43	159	1.2/17	2395	-7		
140	0	12:46	12:51	157	1.2/16	2407	7		LIGHT RAIN NW END OF SITE
144	90	12:56	13:00	156	1.1/15	2318	-2		DELAY IN LASR FIRE - PROPERLY RAN

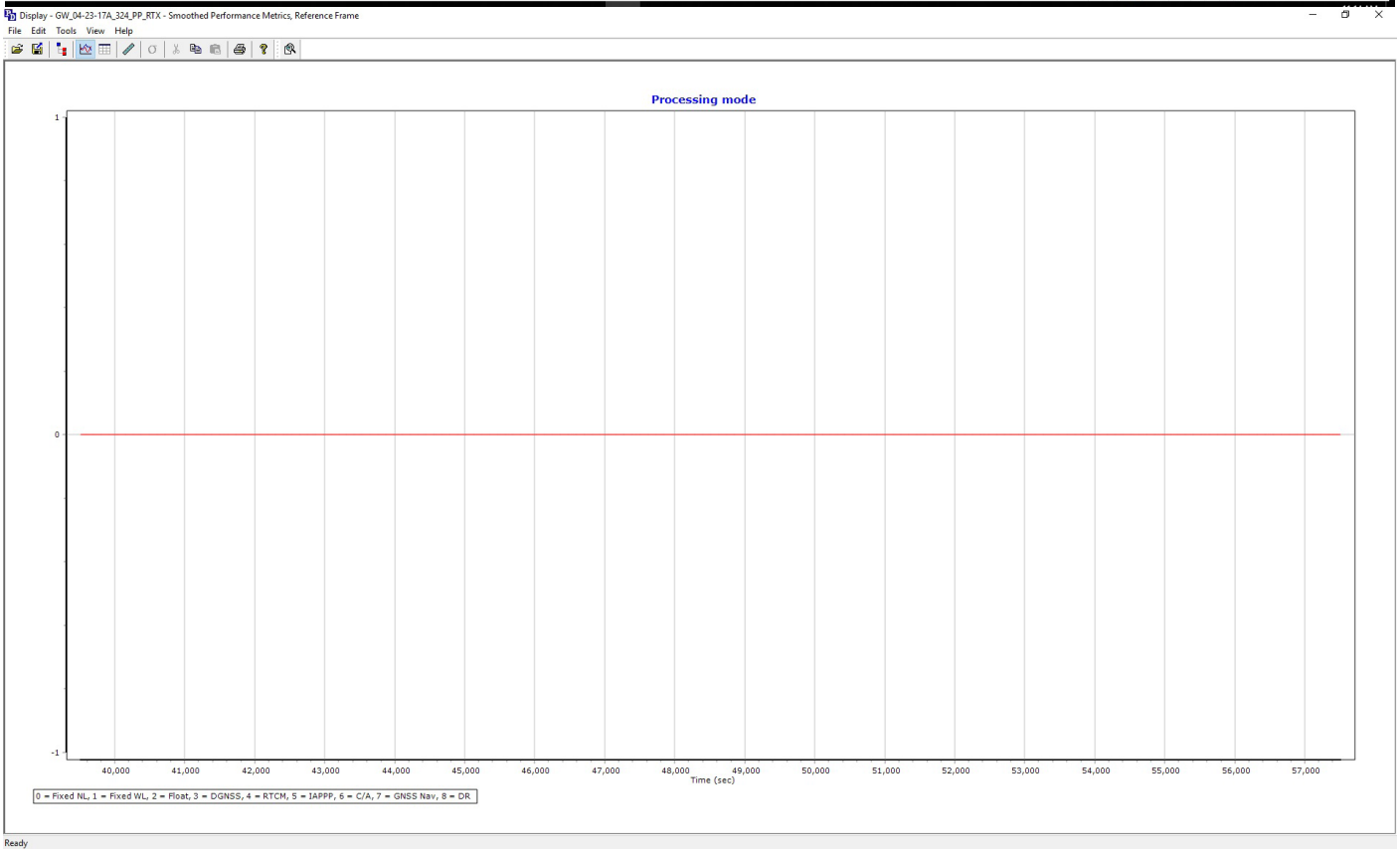
Total Proj Lines: Lines Flown: 16 Lines Remain: Online Time: 2.1 Mob Time: 1.3 Notes:

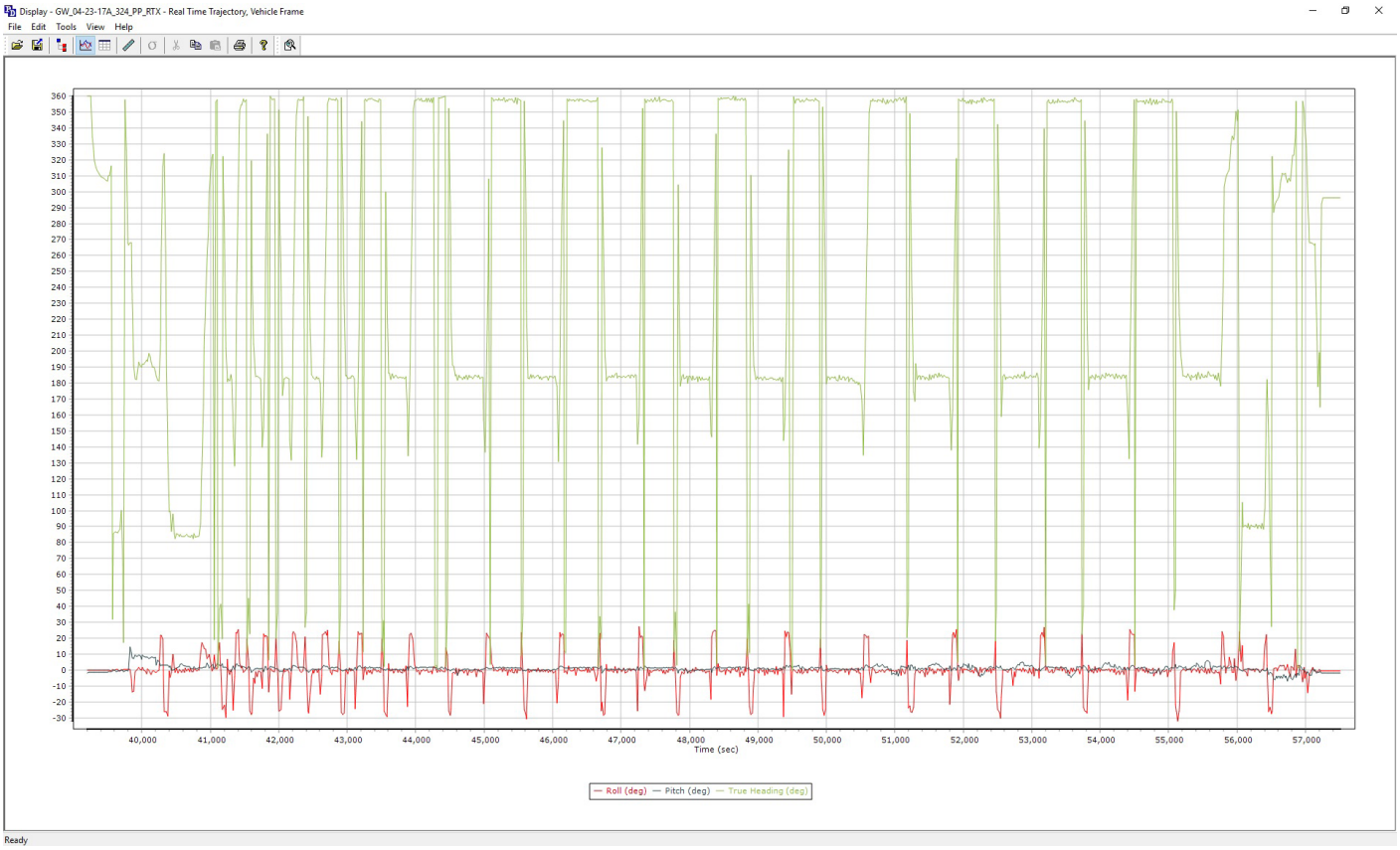
Apr 23, 2017-A (N812TB, SN234)


Display - GW_04-23-17A_324_PP_RTX - Smoothed Performance Metrics, Reference Frame
File Edit Tools View Help
Time (sec)
Number of GPS Satellites
Number of GLONASS Satellites
PDOP
Ready


Display - GW_04-23-17A_324_PP_RTX - Smoothed Performance Metrics, Reference Frame
File Edit Tools View Help
Time (sec)
North Position Error RMS (m)
East Position Error RMS (m)
Down Position Error RMS (m)
Ready

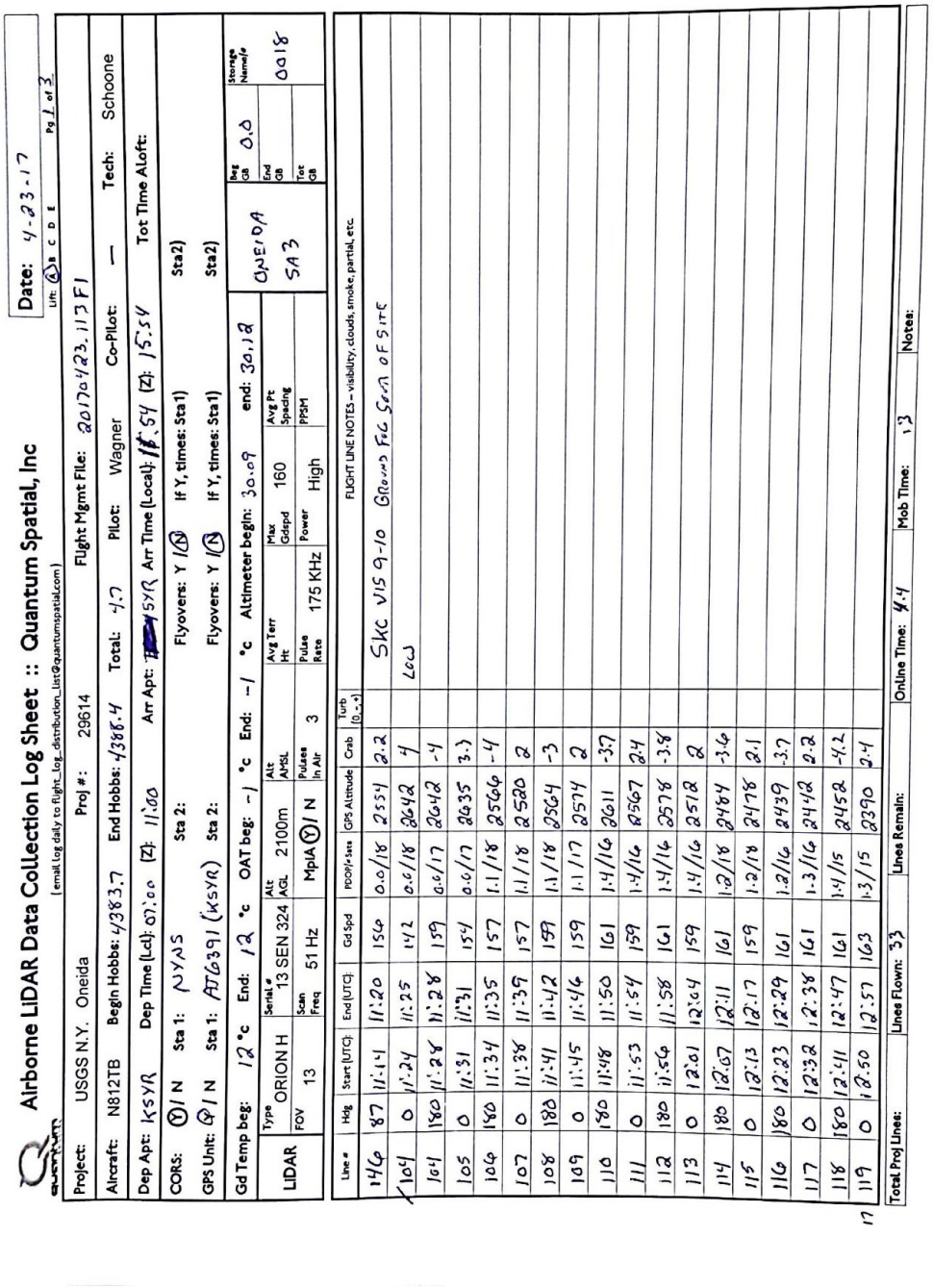

GW_04-23-17A_324_PP_RTX - POSPac MMS
File
Project
Edit
View
Reports
Tools
Window
Help
Plan View
3D View
Points
GNSS Reference Stations
Graphic Views
Project Explorer
Flags Pane
Manager
Command Pane
Panes
Zoom Extents
Zoom In
Zoom Out
Zoom
Pan
Pan Precise
Center
Zoom
Event 1
Event 2
Event 3
Event 4
Event 5
Event 6
Photo ID
User Event
Events
Toggle Gridlines
Coordinate Scroll
Toggle
Start Page
Plan View [My Filter - Copy]
Start
PP-RTX
Post-processed (SBET)
10000m
Snap
Meter
Grid


Display - GW_04-23-17A_324_PP_RTX - Smoothed Performance Metrics, Reference Frame
File
Edit
Tools
View
Help
Processing mode
Time (sec)
0 = Fixed NL, 1 = Fixed WL, 2 = Float, 3 = DGNSS, 4 = RTCM, 5 = IAPPP, 6 = C/A, 7 = GNSS Nav, 8 = DR
Ready


Display - GW_04-23-17A_324_PP_RTX - Real Time Trajectory, Vehicle Frame
File Edit Tools View Help
360 350 340 330 320 310 300 290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 -10 -20 -30
40,000 41,000 42,000 43,000 44,000 45,000 46,000 47,000 48,000 49,000 50,000 51,000 52,000 53,000 54,000 55,000 56,000 57,000
Time (sec)
Roll (deg) Pitch (deg) True Heading (deg)
Ready

Flight Log

Scanned by CamScanner



Airborne LiDAR Data Collection Log Sheet :: Quantum Spatial, Inc

(email Log daily to flight_log_distribution_List@quantumspatial.com)

Date: 4-23-17

Unit: A B C D E Pg 1 of 3

Project: USGS N.Y. Oneida Proj #: 29614 Flight Mgmt File: 20170423.113FI

Aircraft: N812TB Begin Hobbs: 4383.7 End Hobbs: 4386.4 Total: 4.7 Pilot: Wagner Co-Pilot: — Tech: Schoone

Dep Apt: KSYR Dep Time (Lcl): 07:00 (Z): 11:00 Arr Apt: KSYR Arr Time (Local): 15:54 (Z): 15:54 Tot Time Aloft:

CORS: Y / N Sta 1: NYAS Sta 2: Flyovers: Y / N If Y, times: Sta1) Sta2)

GPS Unit: Y / N Sta 1: AT6391 (KSYR) Sta 2: Flyovers: Y / N If Y, times: Sta1) Sta2)

Gd Temp beg: 12 °c End: 12 °c OAT beg: -1 °c End: -1 °c Altimeter begin: 30.09 end: 30.18

LiDAR: Type ORION H, Serial # 13 SEN 324, Alt AGL 2100m, Alt AMSL, Avg Terr Ht, Max Gdspd 160, Avg Pt Spacing; FOV 13, Scan Freq 51 Hz, MpiA Y / N, Pulses In Air 3, Pulse Rate 175 KHz, Power High, PPSM

ONE/OA SA 3

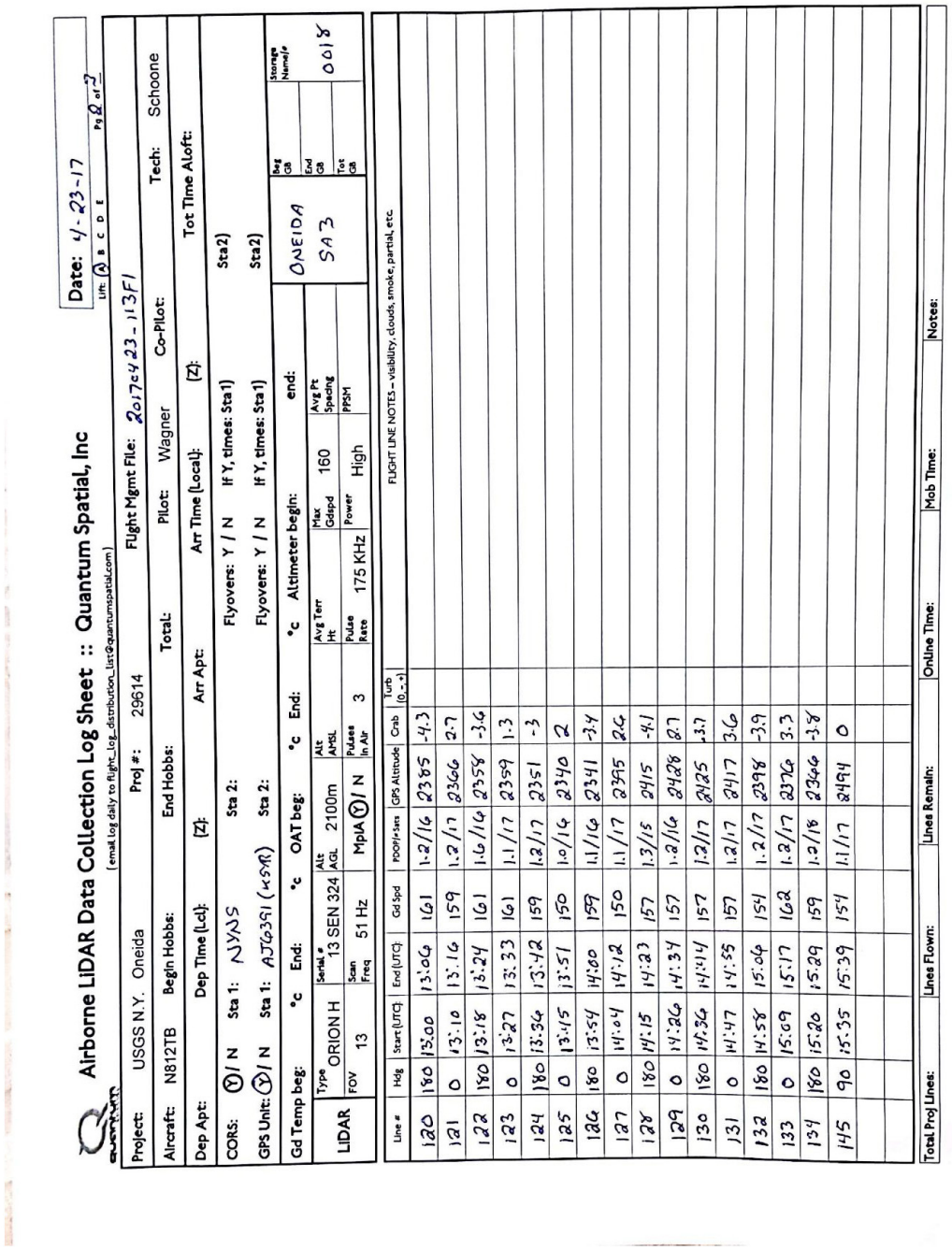
Beg CB 0.0, End CB, Tot CB, Storage Name/#: 0018

Line #	Hdg	Start (UTC)	End (UTC)	Gd Spd	RPOM/Sats	GPS Altitude	Crab	Turb [0-5]	FLIGHT LINE NOTES – visibility, clouds, smoke, partial, etc.
1146	87	11:14	11:20	156	0.0/18	2551	2.2		SKC VIS 9-10 Ground Fog Sort of Strt
1104	0	11:24	11:25	142	0.0/18	2642	4		Lev
1041	180	11:24	11:28	159	0.0/17	2642	-4		
1105	0	11:31	11:31	154	0.0/17	2635	3.3		
1106	180	11:34	11:35	157	1.1/18	2564	-4		
1107	0	11:38	11:39	157	1.1/18	2580	2		
1108	180	11:41	11:42	159	1.1/18	2564	-3		
1109	0	11:45	11:46	159	1.1/17	2574	2		
1110	180	11:48	11:50	161	1.4/16	2611	-3.7		
1111	0	11:53	11:54	159	1.4/16	2567	2.4		
1112	180	11:56	11:58	161	1.4/16	2578	-3.8		
1113	0	12:01	12:04	159	1.4/16	2518	2		
1114	180	12:07	12:11	161	1.2/18	2484	-3.6		
1115	0	12:13	12:17	159	1.2/18	2478	2.1		
1116	180	12:23	12:29	161	1.2/16	2439	-3.7		
1117	0	12:32	12:38	161	1.3/16	2442	2.2		
1118	180	12:41	12:47	161	1.4/15	2452	-4.2		
1119	0	12:50	12:57	163	1.3/15	2390	2.4		

Total Proj Lines: Lines Flown: 33 Lines Remain: On-Line Time: 4.4 Mob Time: 1.3 Notes:

17

Scanned by CamScanner



Airborne LiDAR Data Collection Log Sheet :: Quantum Spatial, Inc

(email log daily to flight_log_distribution_list@quantumspatial.com)

Date: 4-23-17 Page 1 of 2

Unit: A B C D E

Project: USGS N.Y. Oneida Proj #: 29614 Flight Mgmt File: 20176423 - 113F1

Aircraft: N812TB Begin Hobbs: End Hobbs: Total: Pilot: Wagner Co-Pilot: Tech: Schoone

Dep Apt: Dep Time (Lcl): (Z): Arr Apt: Arr Time (Local): (Z): Tot Time Aloft:

CORS: Y / N Sta 1: NYAS Sta 2: Flyovers: Y / N If Y, times: Sta1) Sta2)

GPS Unit: Y / N Sta 1: AJT6391 (xSYR) Sta 2: Flyovers: Y / N If Y, times: Sta1) Sta2)

Gd Temp beg: °c End: °c OAT beg: °c End: °c Altimeter begin: end:

LiDAR	Type	ORION H	Serial #	13 SEN 324	Alt AGL	2100m	Alt AMSL		Avg Terr Ht		Max Gdspd	160	Avg Pt Spacing	
	FOV	13	Scan Freq	51 Hz	MpiA Y / N		PulAes In Air	3	Pulse Rate	175 KHz	Power	High	PPSM	

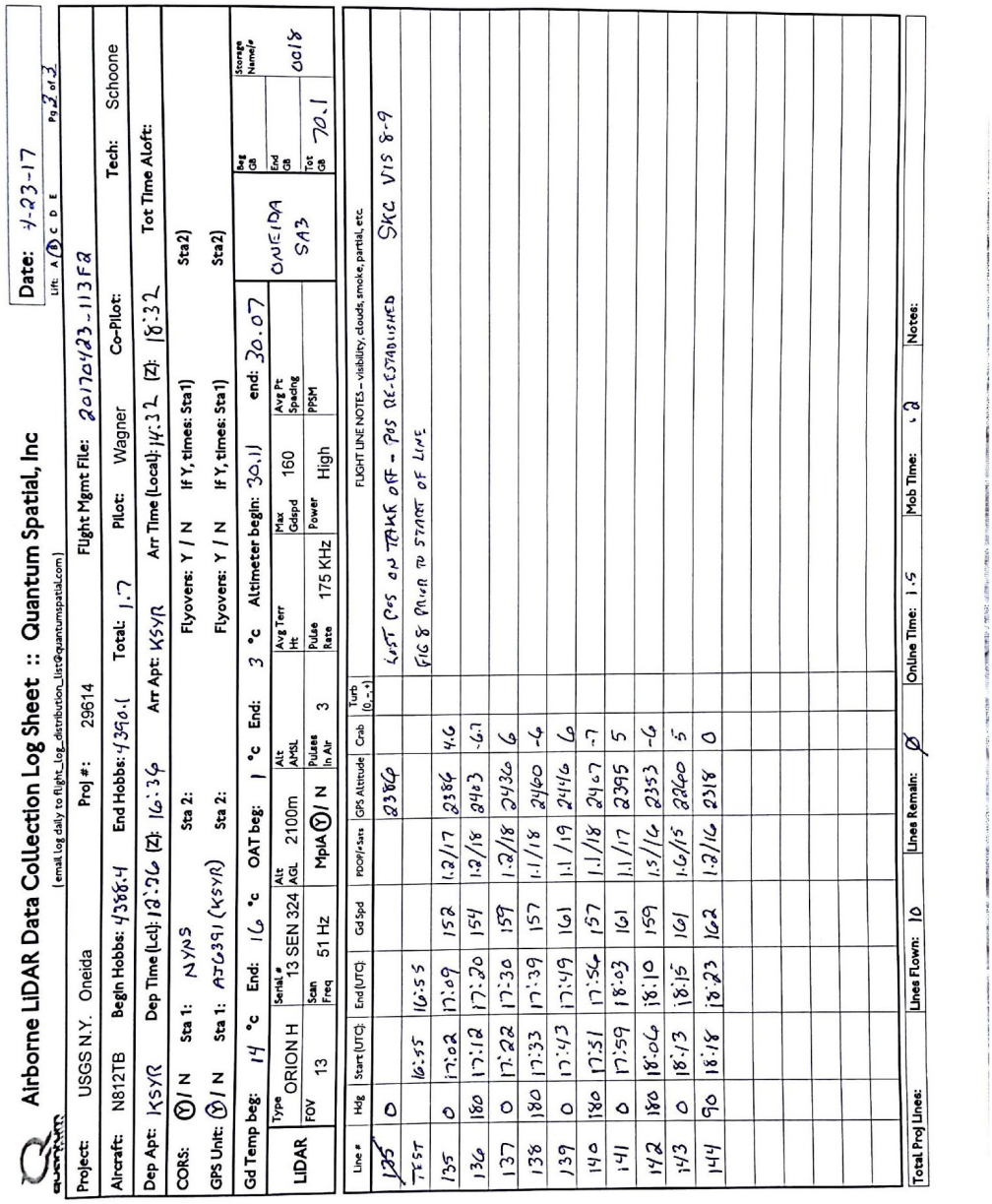
ONEIDA SA3

Bag GB: End GB: Tot GB: Storage Name/#: 001 of

Line #	Hdg	Start (UTC)	End (UTC)	Gd Spd	PDOP/sats	GPS Altitude	Crab	Turb (0,-,+)	FLIGHT LINE NOTES – visibility, clouds, smoke, partial, etc.
120	180	13:00	13:06	161	1.2/16	2385	-4.3		
121	0	13:16	13:16	159	1.2/17	2366	2.7		
122	180	13:18	13:24	161	1.6/16	2358	-3.6		
123	0	13:27	13:33	161	1.1/17	2359	1.3		
124	180	13:34	13:42	159	1.2/17	2351	-3		
125	0	13:45	13:51	150	1.0/16	2340	2		
126	180	13:54	14:00	159	1.1/16	2341	-3.4		
127	0	14:04	14:12	150	1.1/17	2345	2.6		
128	180	14:15	14:23	157	1.3/15	2415	-4.1		
129	0	14:26	14:34	157	1.2/16	2428	2.7		
130	180	14:36	14:44	157	1.2/17	2425	-3.1		
131	0	14:47	14:55	157	1.2/17	2417	3.6		
132	180	14:58	15:06	154	1.2/17	2398	-3.9		
133	0	15:09	15:17	162	1.2/17	2376	3.3		
134	180	15:20	15:29	159	1.2/18	2366	-3.8		
145	90	15:35	15:39	154	1.1/17	2494	0		

Total Proj Lines: Lines Flown: Lines Remain: Online Time: Mob Time: Notes:

Scanned by CamScanner



Airborne LiDAR Data Collection Log Sheet :: Quantum Spatial, Inc

(email Log daily to flight_log_distribution_list@quantumspatial.com)

Date: 4-23-17 Lift: A / B C D E Pg 2 of 3

Project: USGS N.Y. Oneida Proj #: 29614 Flight Mgmt File: 20170423-113FA

Aircraft: N812TB Begin Hobbs: 4366.4 End Hobbs: 4370.1 Total: 1.7 Pilot: Wagner Co-Pilot: Tech: Schoone

Dep Apt: KSYR Dep Time (Lcl): 13:26 (Z): 16:36 Arr Apt: KSYR Arr Time (Local): 14:32 (Z): 18:32 Tot Time Aloft:

CORS: Y / N Sta 1: NYNS Sta 2: Flyovers: Y / N If Y, times: Sta1) Sta2)

GPS Unit: Y / N Sta 1: AT6391 (KSYR) Sta 2: Flyovers: Y / N If Y, times: Sta1) Sta2)

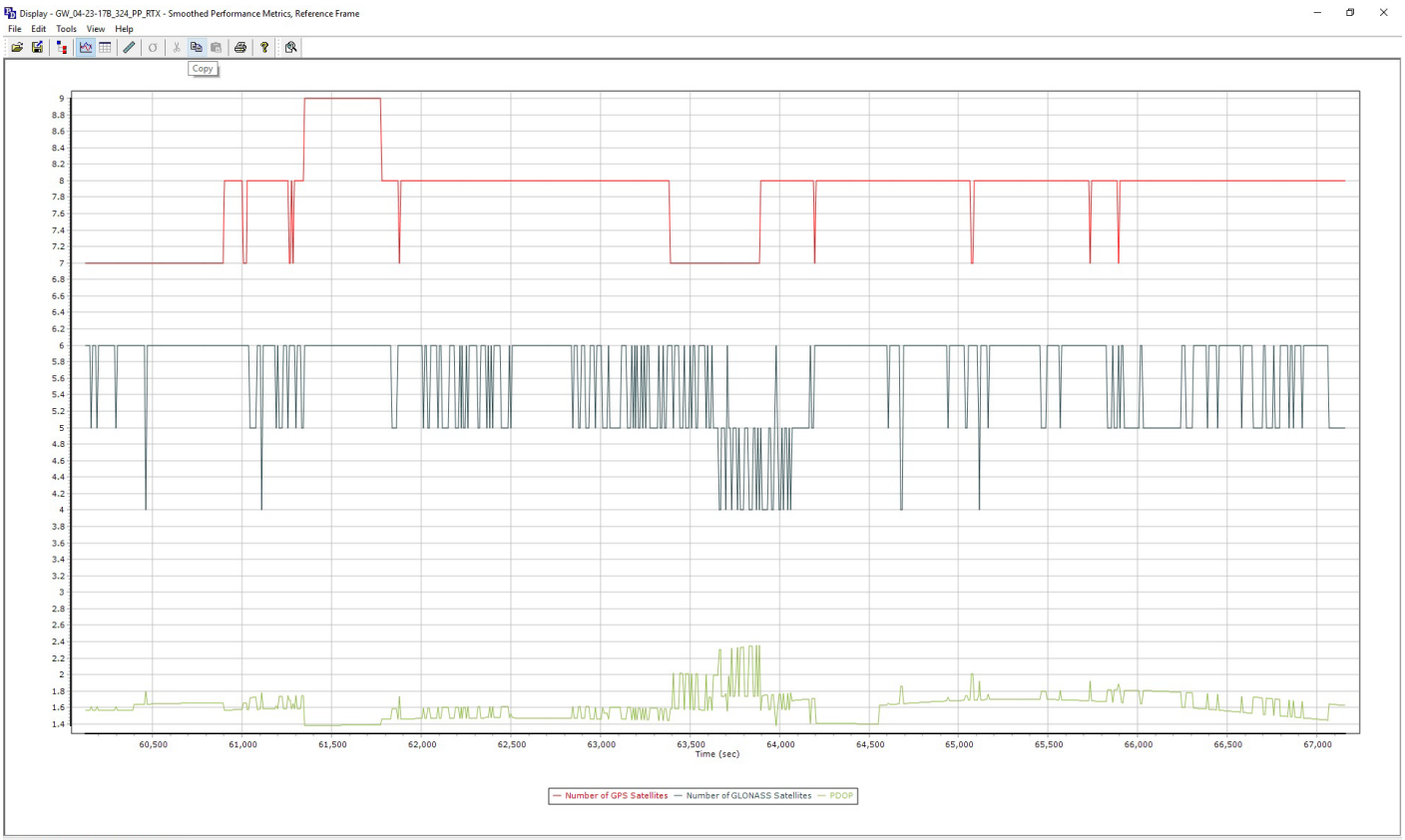
Gd Temp beg: 14 °c End: 16 °c OAT beg: 1 °c End: 3 °c Altimeter begin: 30.11 end: 30.07

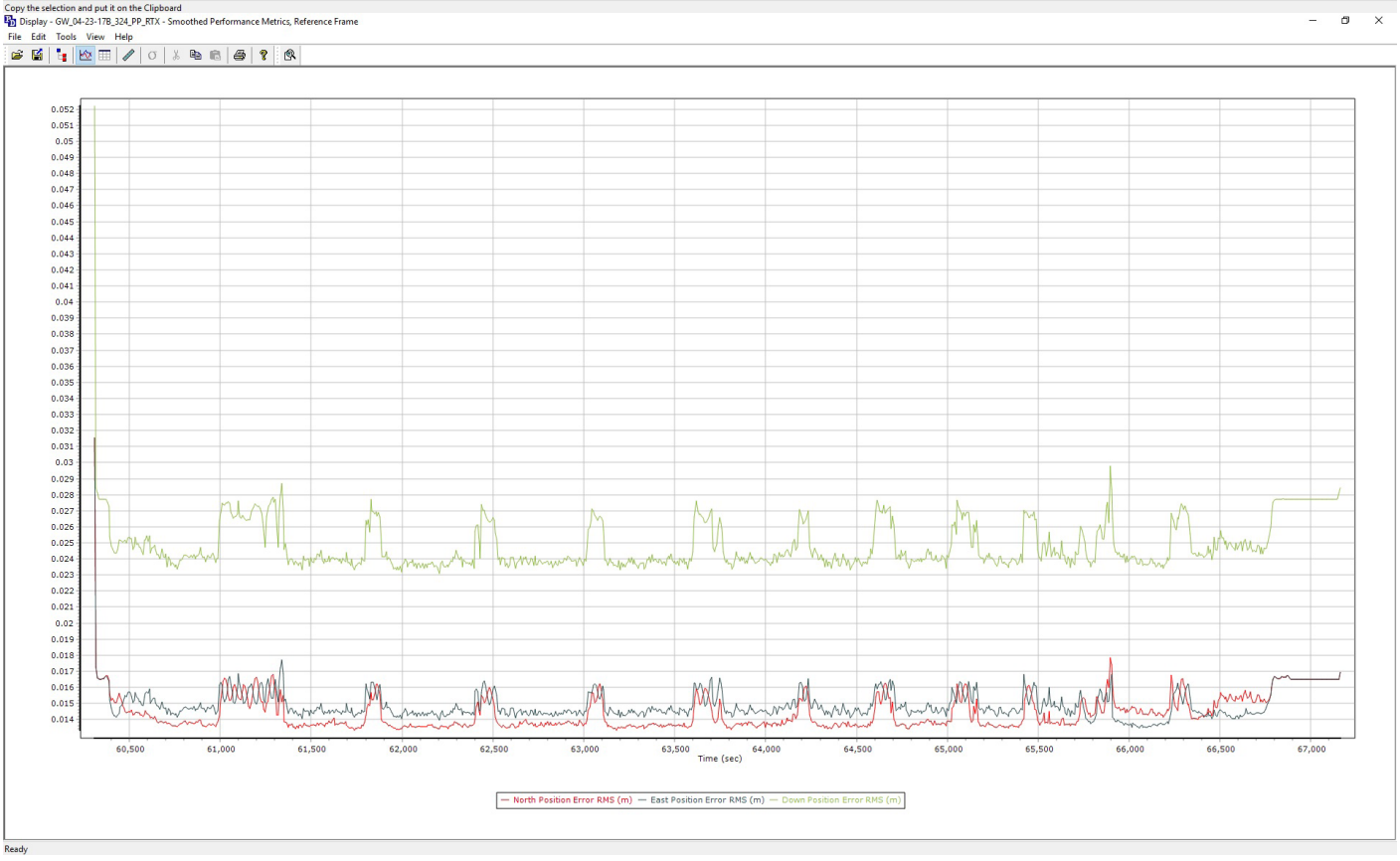
LiDAR	Type	ORION H	Serial #	13 SEN 324	Alt AGL	2100m	Alt AMSL	Avg Terr Ht	Max Gdspd	160	Avg Pt Spacing	ONEIDA	Beg Gb	Storage Name/#
	FOV	13	Scan Freq	51 Hz	MpIA Y / N		Pulses In Air	3	Pulse Rate	175 KHz	Power	High	PPSM	SA3	End Gb	0018
													Tot Gb	70.1

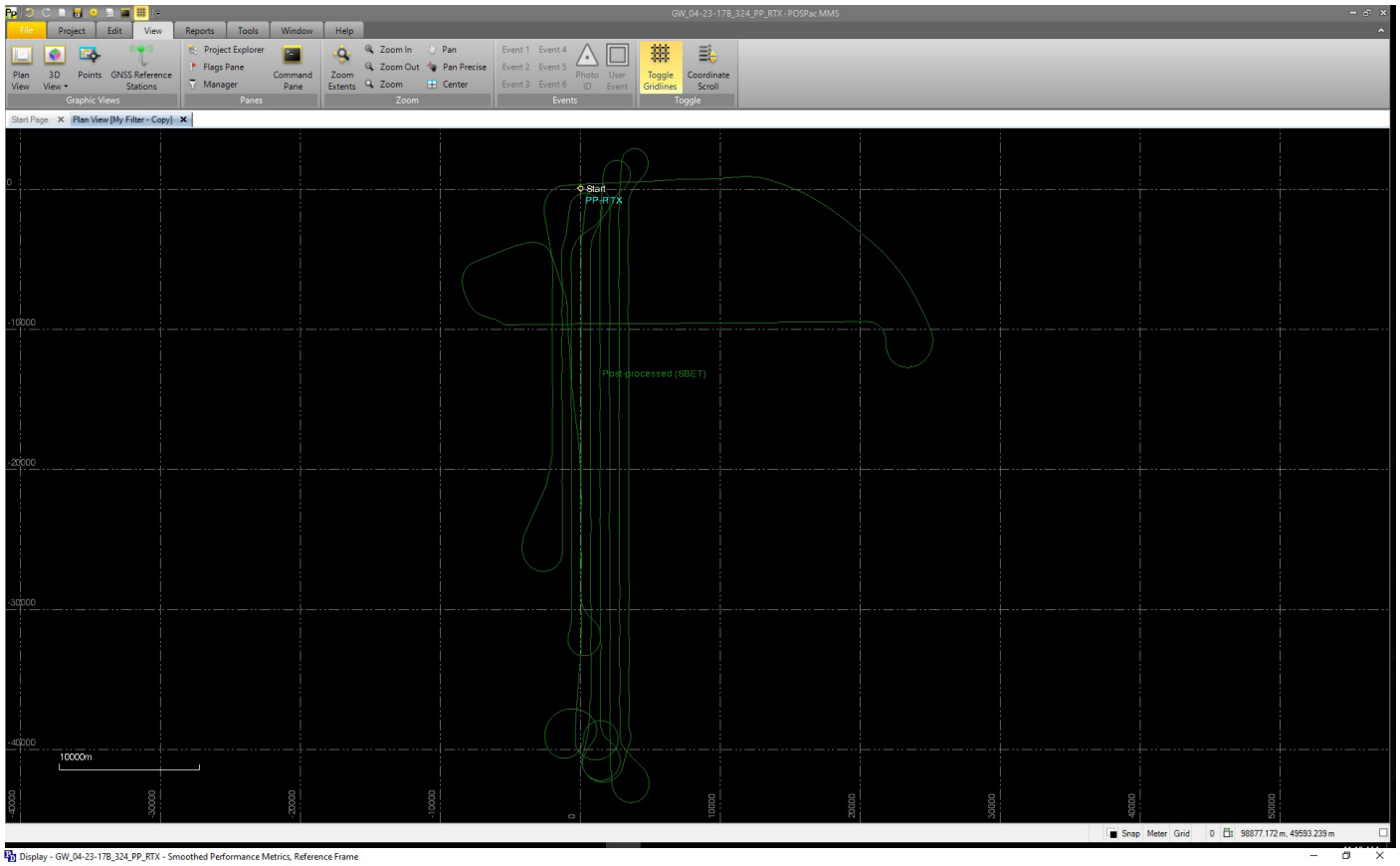
Line #	Hdg	Start (UTC)	End (UTC)	Gd Spd	POO/#Sats	GPS Altitude	Crab	Turb (0 - +)	FLIGHT LINE NOTES -- visibility, clouds, smoke, partial, etc.
~~135~~	0					23860			LOST POS ON TAKE OFF - POS RE-ESTABLISHED SKC VIS 8-9
TEST		16:55	16:55						FIG 8 PRIOR TO START OF LINE
135	0	17:02	17:09	158	12/17	23864	4.6		
136	180	17:12	17:20	154	12/18	24143	-6.7		
137	0	17:22	17:30	159	12/18	24326	6		
138	180	17:33	17:39	157	11/18	24160	-6		
139	0	17:43	17:49	161	11/19	24446	6		
140	180	17:51	17:56	157	11/18	24167	-7		
141	0	17:59	18:03	161	11/17	23995	5		
142	180	18:06	18:10	159	15/16	23253	-6		
143	0	18:13	18:15	161	16/15	22600	5		
144	90	18:18	18:23	162	12/16	23184	0		

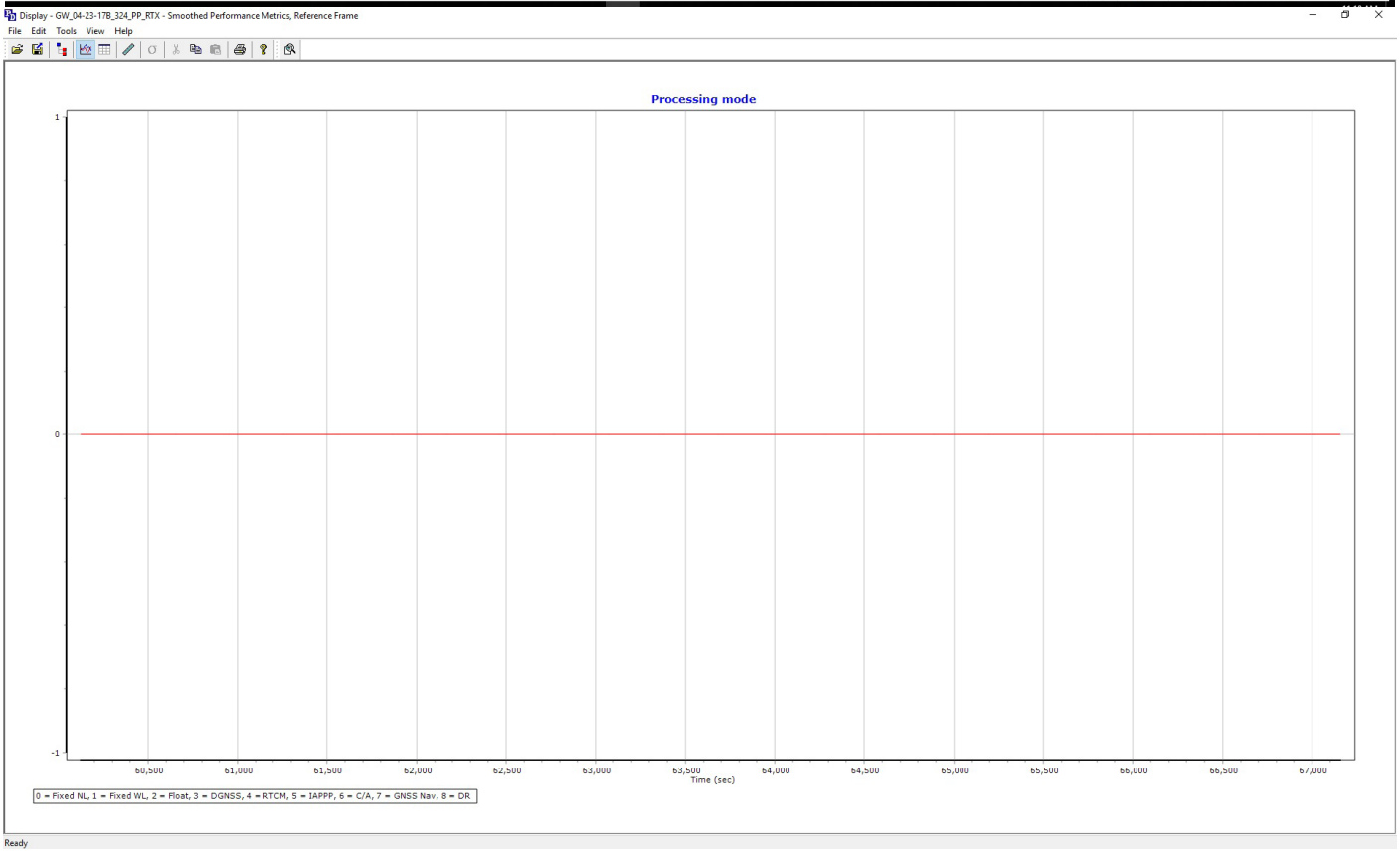
Total Proj Lines: Lines Flown: 10 Lines Remain: 0 OnLine Time: 1.5 Mob Time: .2 Notes:

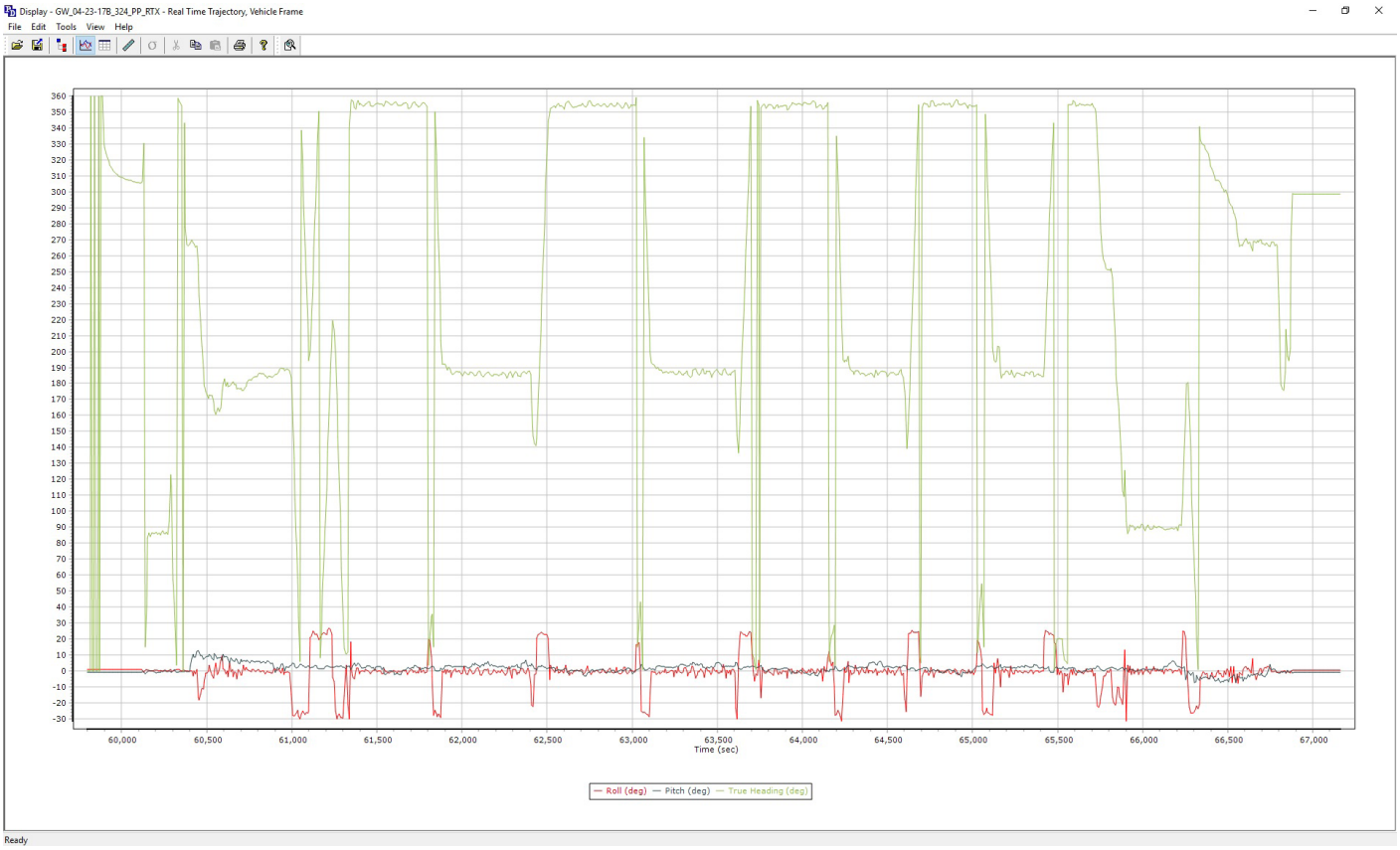
Apr 23, 2017-B (N812TB, SN234)


Display - GW_04-23-17B_324_PP_RTX - Smoothed Performance Metrics, Reference Frame
File Edit Tools View Help
Copy
Time (sec)
Number of GPS Satellites
Number of GLONASS Satellites
PDOP


Copy the selection and put it on the Clipboard
Display - GW_04-23-17B_324_PP_RTX - Smoothed Performance Metrics, Reference Frame
File Edit Tools View Help
Time (sec)
North Position Error RMS (m)
East Position Error RMS (m)
Down Position Error RMS (m)
Ready


GW_04-23-17B_324_PP_RTX - POSPac MMS
File
Project
Edit
View
Reports
Tools
Window
Help
Plan View
3D View
Points
GNSS Reference Stations
Graphic Views
Project Explorer
Flags Pane
Manager
Command Pane
Panes
Zoom Extents
Zoom In
Zoom Out
Zoom
Pan
Pan Precise
Center
Zoom
Event 1
Event 2
Event 3
Event 4
Event 5
Event 6
Photo ID
User Event
Events
Toggle Gridlines
Coordinate Scroll
Toggle
Start Page
Plan View [My Filter - Copy]
Start
PP-RTX
Post-processed (SBET)
10000m
Snap
Meter
Grid


Display - GW_04-23-17B_324_PP_RTX - Smoothed Performance Metrics, Reference Frame
File
Edit
Tools
View
Help
Processing mode
Time (sec)
0 = Fixed NL, 1 = Fixed WL, 2 = Float, 3 = DGNSS, 4 = RTCM, 5 = IAPPP, 6 = C/A, 7 = GNSS Nav, 8 = DR
Ready


Display - GW_04-23-17B_324_PP_RTX - Real Time Trajectory, Vehicle Frame
File Edit Tools View Help
360 350 340 330 320 310 300 290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 -10 -20 -30
60,000 60,500 61,000 61,500 62,000 62,500 63,000 63,500 64,000 64,500 65,000 65,500 66,000 66,500 67,000
Time (sec)
Roll (deg) Pitch (deg) True Heading (deg)
Ready

Flight Log

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Airborne LiDAR Data Collection Log Sheet :: Quantum Spatial, Inc

(email Log daily to flight_log_distribution_list@quantumspatial.com)

Date: 4-23-17

Ufc: A B C D E Pg 1 of 3

Project: USGS N.Y. Oneida Proj #: 29614 Flight Mgmt File: 20170423.113FI

Aircraft: N812TB Begin Hobbs: 4383.7 End Hobbs: 4386.4 Total: 4.7 Pilot: Wagner Co-Pilot: — Tech: Schoone

Dep Apt: KSYR Dep Time (Lcl): 07:00 (Z): 11:00 Arr Apt: KSYR Arr Time (Local): 15:54 (Z): 15:54 Tot Time Aloft:

CORS: ⓨ / N Sta 1: NYAS Sta 2: Flyovers: Y / ⓝ If Y, times: Sta1) Sta2)

GPS Unit: ⓨ / N Sta 1: AT6391 (KSYR) Sta 2: Flyovers: Y / ⓝ If Y, times: Sta1) Sta2)

Gd Temp beg: 12 °c End: 12 °c OAT beg: -1 °c End: -1 °c Altimeter begin: 30.09 end: 30.18

LiDAR	Type	ORION H	Serial #	13 SEN 324	Alt AGL	2100m	Alt AMSL		Avg Terr Ht		Max Gdspd	160	Avg Pt Spacing	
	FOV	13	Scan Freq	51 Hz	MpiA ⓨ / N		Pulses In Air	3	Pulse Rate	175 KHz	Power	High	PPSM	

ONE/OA
SA 3

Beg GB 0.0 | End GB | Tot GB | Storage Name/# 0018

Line #	Hdg	Start (UTC)	End (UTC)	Gd Spd	ROOP/Sec	GPS Altitude	Crab	Turb [0..3]	FLIGHT LINE NOTES – visibility, clouds, smoke, partial, etc.
1146	87	11:14	11:20	150	0.0/18	2551	2.2		SKC VIS 9-10 Ground Fog Sort of Strt
104	0	11:24	11:25	142	0.0/18	2642	4		Low
104	180	11:24	11:28	159	0.0/17	2642	-4		
105	0	11:31	11:31	154	0.0/17	2635	3.3		
106	180	11:34	11:35	157	1.1/18	2564	-4		
107	0	11:38	11:39	157	1.1/18	2580	2		
108	180	11:41	11:42	159	1.1/18	2564	-3		
109	0	11:45	11:46	159	1.1/17	2574	2		
110	180	11:48	11:50	161	1.4/16	2611	-3.7		
111	0	11:53	11:54	159	1.4/16	2567	2.4		
112	180	11:56	11:58	161	1.4/16	2578	-3.8		
113	0	12:01	12:04	159	1.4/16	2578	2		
114	180	12:07	12:11	161	1.2/18	2484	-3.6		
115	0	12:13	12:17	159	1.2/18	2478	2.1		
116	180	12:23	12:29	161	1.2/16	2439	-3.7		
117	0	12:32	12:38	161	1.3/16	2442	2.2		
118	180	12:41	12:47	161	1.4/15	2452	-4.2		
119	0	12:50	12:57	163	1.3/15	2390	2.4		

Total Proj Lines: Lines Flown: 33 Lines Remain: OnLine Time: 4.4 Mob Time: 1.3 Notes:

17

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Airborne LiDAR Data Collection Log Sheet :: Quantum Spatial, Inc

(email log daily to flight_log_distribution_list@quantumspatial.com)

Date: 4-23-17

Unit: A B C D E

Pg 2 of 2

Project: USGS N.Y. Oneida | Proj #: 29614 | Flight Mgmt File: 20176423 - 113F1

Aircraft: N812TB | Begin Hobbs: | End Hobbs: | Total: | Pilot: Wagner | Co-Pilot: | Tech: Schoone

Dep Apt: | Dep Time (Lcl): (Z): | Arr Apt: | Arr Time (Local): (Z): | Tot Time Aloft:

CORS: Y / N Sta 1: NYAS Sta 2: | Flyovers: Y / N If Y, times: Sta1) Sta2)

GPS Unit: Y / N Sta 1: AJT6391 (xSW) Sta 2: | Flyovers: Y / N If Y, times: Sta1) Sta2)

Gd Temp beg: °c End: °c OAT beg: °c End: °c Altimeter beg: end:

LiDAR	Type	ORION H	Serial #	13 SEN 324	Alt AGL	2100m	Alt AMSL		Avg Terr Ht		Max Gdspd	160	Avg Pt Spacing	
	FOV	13	Scan Freq	51 Hz	MpiA Y / N		PulAes In Air	3	Pulse Rate	175 KHz	Power	High	PPSM	

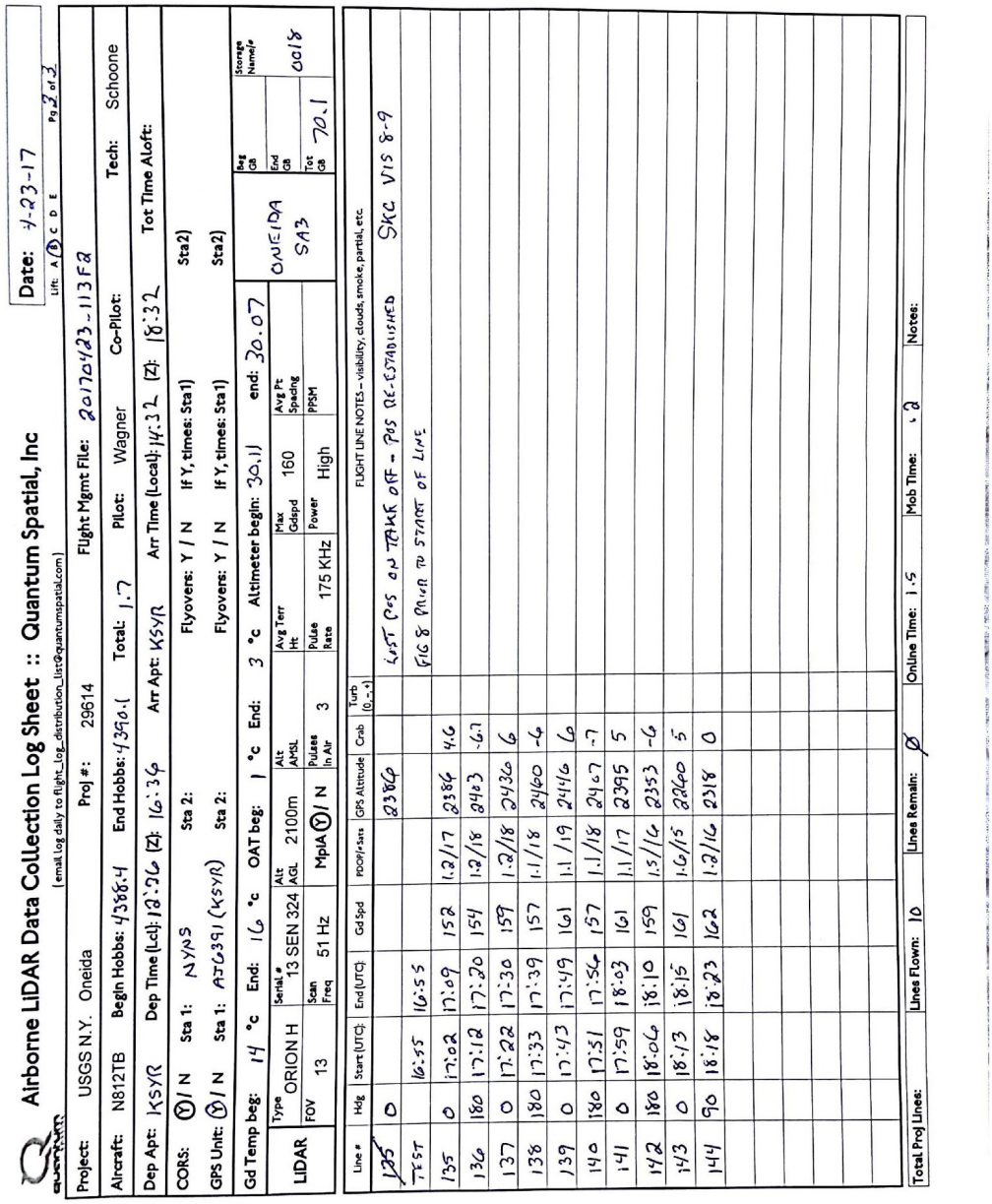
ONEIDA SA3

Beg GB		Storage Number
End GB		001 &
Tot GB		

Line #	Hdg	Start (UTC)	End (UTC)	Gd Spd	PDOP/sats	GPS Altitude	Crab	Turb (0,-,+)	FLIGHT LINE NOTES – visibility, clouds, smoke, partial, etc.
120	180	13:00	13:06	161	1.2/16	2385	-4.3		
121	0	13:16	13:16	159	1.2/17	2366	2.7		
122	180	13:18	13:24	161	1.6/16	2358	-3.6		
123	0	13:27	13:33	161	1.1/17	2359	1.3		
124	180	13:34	13:42	159	1.2/17	2351	-3		
125	0	13:45	13:51	150	1.0/16	2340	2		
126	180	13:54	14:00	159	1.1/16	2341	-3.4		
127	0	14:04	14:12	150	1.1/17	2345	2.6		
128	180	14:15	14:23	157	1.3/15	2415	-4.1		
129	0	14:26	14:34	157	1.2/16	2428	2.7		
130	180	14:36	14:44	157	1.2/17	2425	-3.1		
131	0	14:47	14:55	157	1.2/17	2417	3.6		
132	180	14:58	15:06	154	1.2/17	2398	-3.9		
133	0	15:09	15:17	162	1.2/17	2376	3.3		
134	180	15:20	15:29	159	1.2/18	2366	-3.8		
145	90	15:35	15:39	154	1.1/17	2494	0		

Total Proj Lines: | Lines Flown: | Lines Remain: | Online Time: | Mob Time: | Notes:

Scanned by CamScanner



Airborne LiDAR Data Collection Log Sheet :: Quantum Spatial, Inc

(email Log daily to flight_log_distribution_list@quantumspatial.com)

Date: 4-23-17

Lift: A / B C D E Pg 2 of 3

Project: USGS N.Y. Oneida Proj #: 29614 Flight Mgmt File: 20170423-113FA

Aircraft: N812TB Begin Hobbs: 4366.4 End Hobbs: 4370.1 Total: 1.7 Pilot: Wagner Co-Pilot: Tech: Schoone

Dep Apt: KSYR Dep Time (Lcl): 13:26 (Z): 16:36 Arr Apt: KSYR Arr Time (Local): 14:32 (Z): 18:32 Tot Time Aloft:

CORS: Y / N Sta 1: NYNS Sta 2: Flyovers: Y / N If Y, times: Sta1) Sta2)

GPS Unit: Y / N Sta 1: AT6391 (KSYR) Sta 2: Flyovers: Y / N If Y, times: Sta1) Sta2)

Gd Temp beg: 14 °c End: 16 °c OAT beg: 1 °c End: 3 °c Altimeter begin: 30.11 end: 30.07

LiDAR	Type	ORION H	Serial #	13 SEN 324	Alt AGL	2100m	Alt AMSL		Avg Terr Ht		Max Gdspd	160	Avg Pt Spacing	
	FOV	13	Scan Freq	51 Hz	MpIA Y / N		Pulses In Air	3	Pulse Rate	175 KHz	Power	High	PPSM	

ONEIDA SA3

Bag GB: End GB: Tot GB: 70.1

Storage Name/# 0018

Line #	Hdg	Start (UTC)	End (UTC)	Gd Spd	POOP/Sats	GPS Altitude	Crab	Turb (0,-,+)	FLIGHT LINE NOTES -- visibility, clouds, smoke, partial, etc.
135	0					23860			LOST POS AS TANK OFF - POS RE-ESTABLISHED SKC VIS 8-9
TEST		16:55	16:55						FIG 8 PRIOR TO START OF LINE
135	0	17:02	17:09	158	12/17	23864	4.6		
136	180	17:12	17:20	154	12/18	24143	-6.1		
137	0	17:22	17:30	159	12/18	24326	6		
138	180	17:33	17:39	157	11/18	24160	-6		
139	0	17:43	17:49	161	11/19	24446	6		
140	180	17:51	17:56	157	11/18	24167	-7		
141	0	17:59	18:03	161	11/17	23995	5		
142	180	18:06	18:10	159	15/16	23153	-6		
143	0	18:13	18:15	161	16/15	22600	5		
144	90	18:18	18:23	162	12/16	23184	0		

Total Proj Lines: Lines Flown: 10 Lines Remain: 0 Online Time: 1.5 Mob Time: 2 Notes:

Appendix B

Survey Report

July 12, 2017

Survey Report of
LiDAR Calibration & Quality Control Points

USGS Contract: G16PC00016

NY_FEMA R2 LiDAR_2016_D17

USGS Task Order: G17PD00039

Presented to:

Presented By:

Contents of Report

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Area of Interest & Point Location Maps.....5

- Calibration Points.....6
- NVA – Bare Earth Points.....7
- NVA - Urban Area Points.....8
- VVA - Tall Weed Points.....9
- VVA - Forest Points.....10
- VVA – Brushland Points.....11

Final Point Coordinates – NY East.....12

- Calibration Points.....13
- NVA – Bare Earth Points.....16
- NVA - Urban Area Points.....18
- VVA - Tall Weed Points.....19
- VVA - Forest Points.....20

- VVA – Brushland Points.....22

Final Point Coordinates – NY Central.....23

- Calibration Points.....24
- NVA – Bare Earth Points.....26
- NVA – Urban Area Points.....27
- VVA – Tall Weed Points.....28
- VVA – Forest Points.....29
- VVA – Brushland Points.....30

Point Location & Accuracy Data Sheets.....31

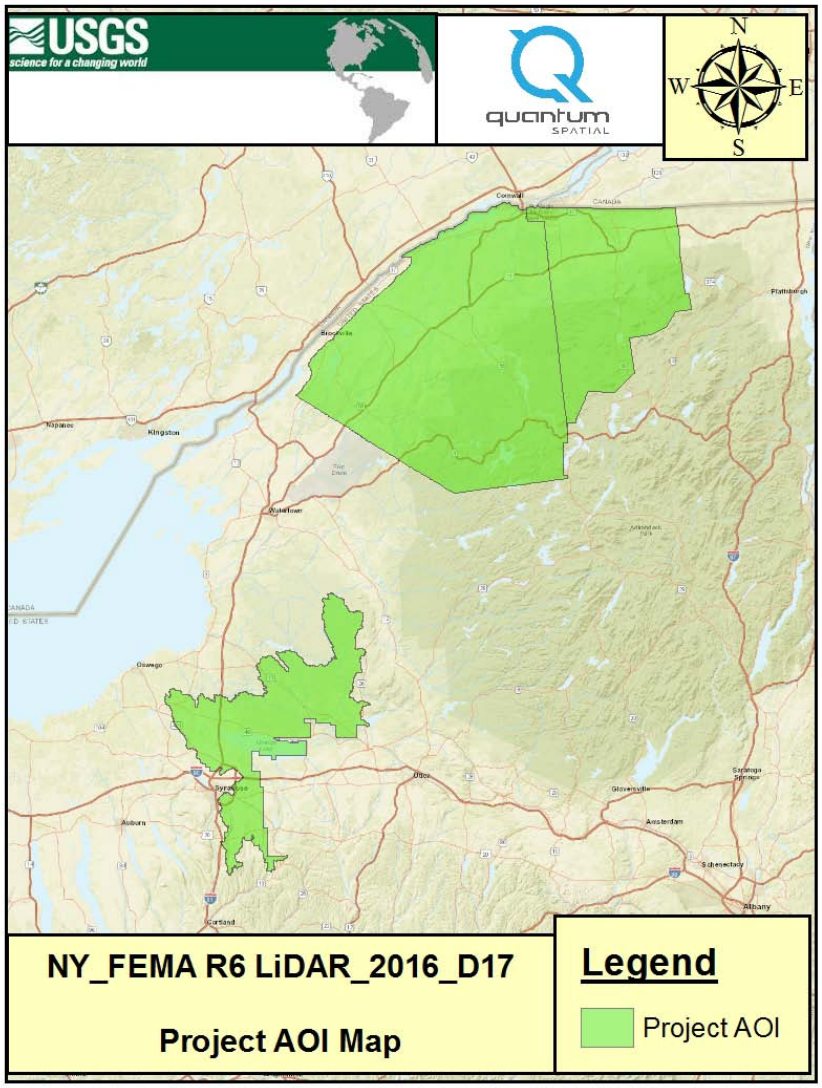
- Calibration Points.....32
- NVA – Bare Earth Points.....141
- NVA – Urban Area Points.....219
- VVA – Tall Weed Points.....262
- VVA – Forest Points.....270
- VVA – Brushland Points.....336

Introduction

Quantum Spatial, Inc. was contracted by USGS under task order G17PD00039 to survey LiDAR calibration and quality control points in support of NY_FEMA R2 LiDAR_2016_D17. This is the report of the technical approach used and detail of each point surveyed.

Project Area

The Project Areas, shown in the figure below, consists of approximately 4,774 square miles.



Technical Approach to Land Cover Validation Point Selection

Referencing ASPRS Positional Accuracy Standards for Digital Geospatial Data (Edition 1, Version 1.0, - November, 2014) table C.1 Recommended Number of Checkpoints based on Area, Quantum Spatial calculated that 114 Non-Vegetated Vertical Assessment (NVA) and 84 Vegetated Vertical Assessment (VVA) points are required for this project area.

To ensure that checkpoints were distributed generally proportionate among the various vegetated land cover types, Quantum Spatial used existing USGS Land Cover data to divide both the NVA and VVA categories among the various types, calculating the approximate number of required points in each representative type proportionate to the total project area. The resulting point classes are detailed below:

NVA Class	# of Points
Bare Earth	73
Urban Area	41

VVA Class	# of Points
Forested	59
Tall Weeds/Crops	7
Brushland/Trees	18

Quantum Spatial has adopted the philosophy that each vegetative class must be well distributed throughout the project area. While points in varying classes may be near to one another, points of a single vegetative class may not. Proposed point locations are selected with this distribution methodology in mind.

Survey Accuracy Requirements

Given that the survey accuracy of calibration and quality control check points should be 3 times more accurate than the required accuracy of the data set, Quantum Spatial requires that calibration and NVA points are better than 3 centimeters RMSE, both horizontally and vertically, and that VVA points be better than 5 centimeters RMSE, both horizontally and vertically. The surveyed accuracy of each point must be determined through redundant measurements and/or network adjustment using procedures and methodologies that reliably and consistently result in the aforementioned accuracies.

Due to variances in reference control accuracy and adjustment, Quantum Spatial requires that the survey methodology used be explained, so that it can be repeated if necessary.

Field Survey Methodology

Date Range: May 10, 2017 – June 9, 2017; July 7, 2017 – July 10, 2017

Equipment Used:

Field crews used Trimble R8 dual frequency GNSS receivers as base stations and rovers.

GNSS Methodology:

A combination of RTN GPS, fast static GPS, and traditional surveying methods were used during this project. RTN surveys using the New York State Spatial Reference Network (NYSNet) was used as the primary method of data collection. In weak cell phone areas, the fast static GPS method consisting of collecting a minimum 30 minutes of static data was used. The data was downloaded and baselines processed to NGS CORS base stations.

In areas under the tree canopy, traditional surveying methods were used. Pairs of points were collected in open areas using GPS methods. The points were occupied using a total station to survey the forested check points. Multiple observations were collected at each check point and the coordinates were compared and averaged.

All of the GPS information was downloaded, processed and analyzed using Trimble Business Center processing software. Two separate networks were formed according to the New York State Plane – East and Central zone delivery areas.

After reviewing the locations of the surveyed points, it was decided that 12 additional checkpoints should be acquired to better represent the AOI. The field crew performed this survey in July.

Overall Project Accuracy Statement

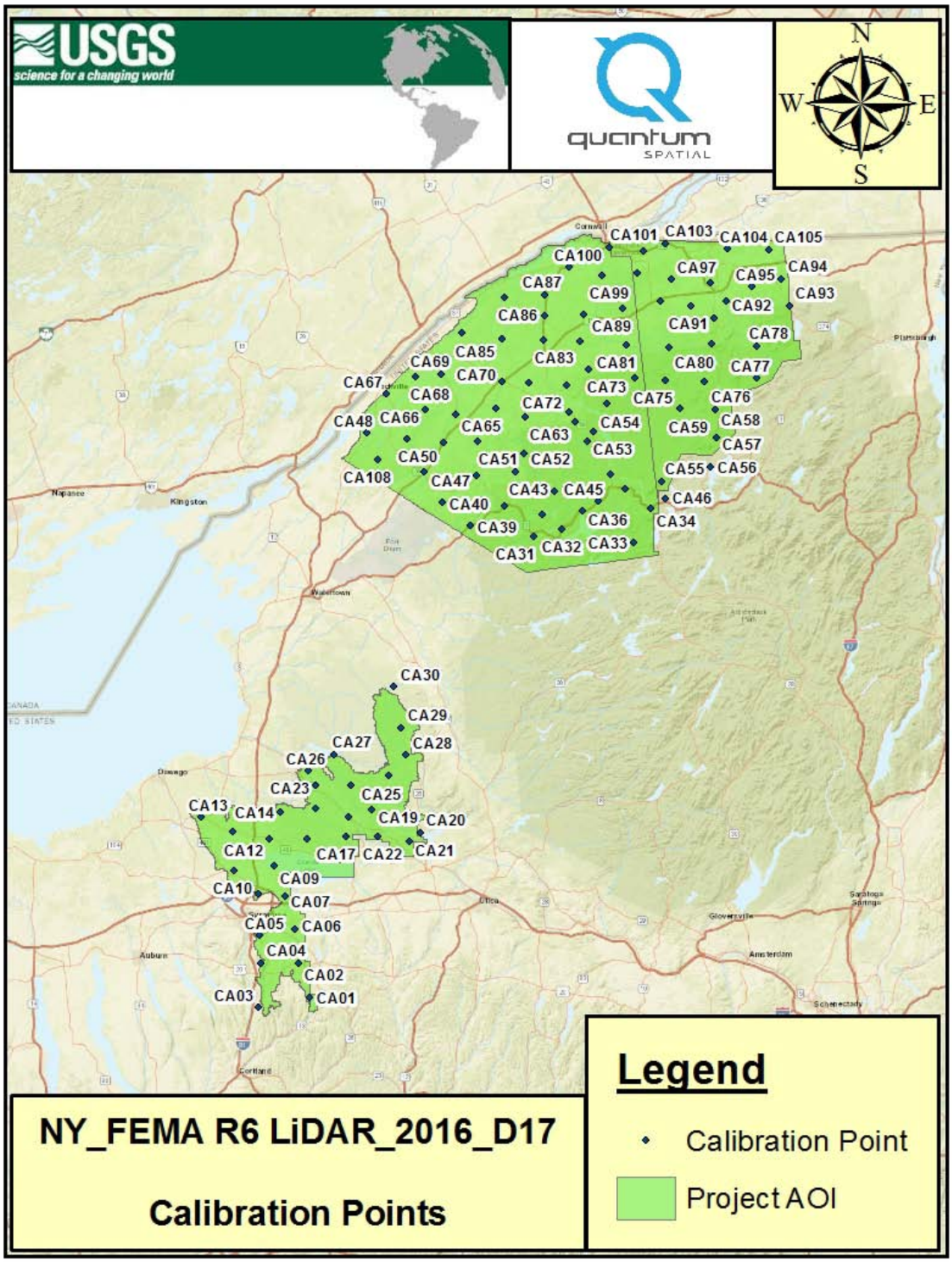
All point coordinates have been reported in the North American Datum of 1983 (NAD83 2011). Points are projected in New York State Plane coordinates – East zone in meters for points in Franklin and Saint Lawrence Counties and in New York State Plane coordinates – Central zone in meters for points in the Oneida HUC8 Watershed. All elevations are relative to the North American Vertical Datum of 1988 (NAVD 88) which were derived using the Geoid 12B model and are reported in meters.

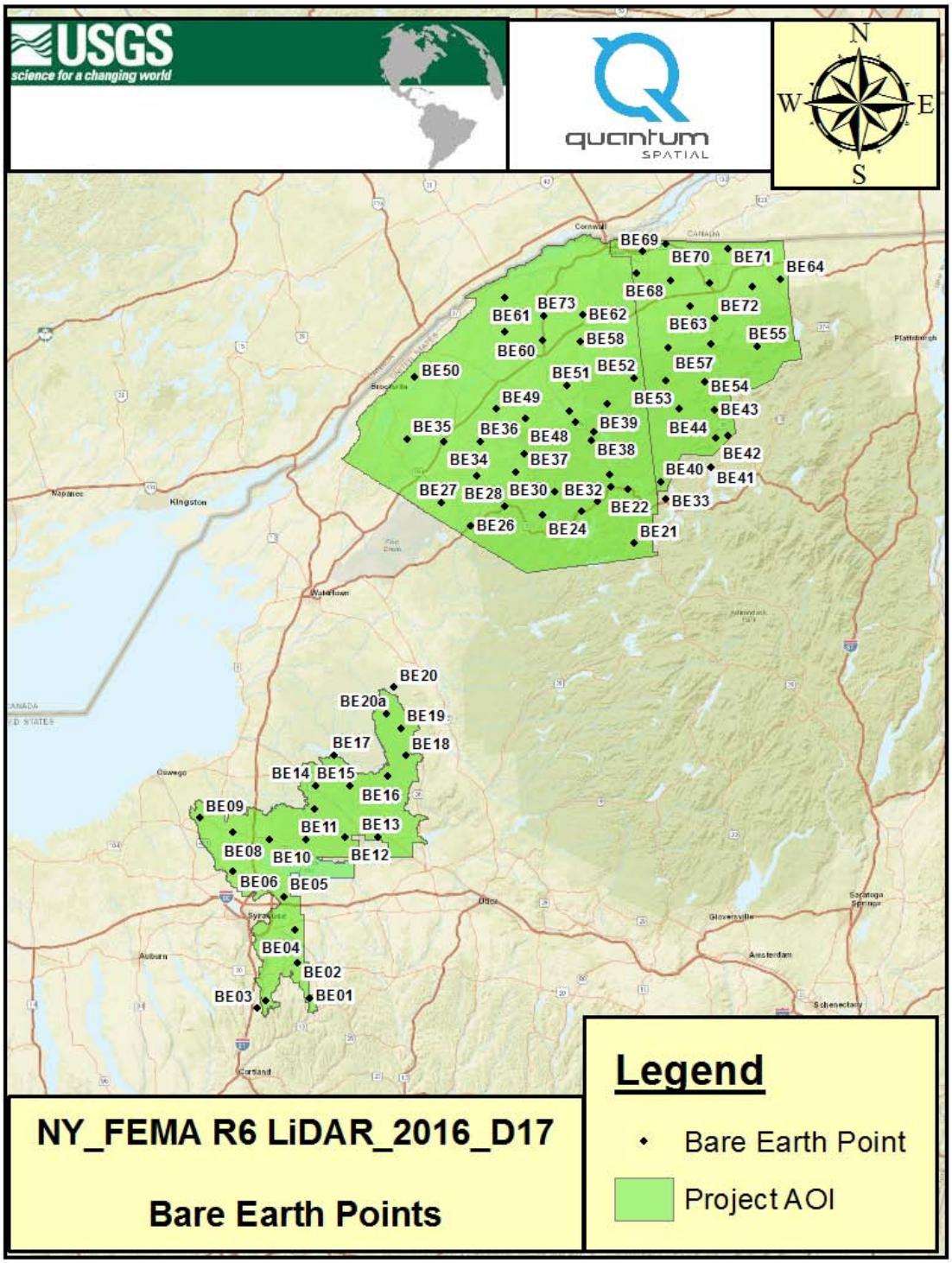
Calibration Points
Average Horizontal RMSE is 0.008 meter.
Average Elevation RMSE is 0.010 meter.
Average 3 dimensional RMSE is 0.013 meter.

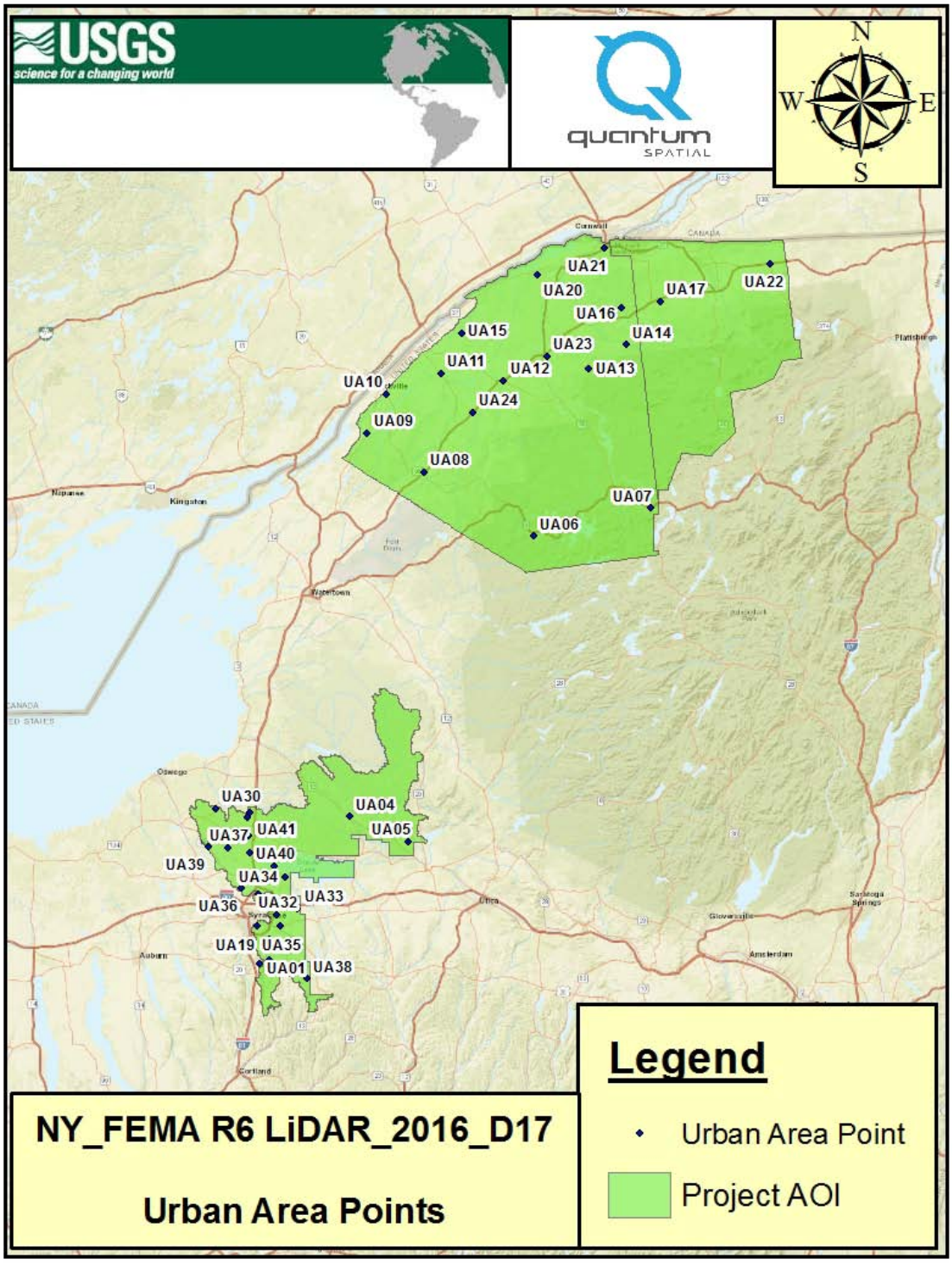
NVA Points
Average Horizontal RMSE is 0.008 meter.
Average Elevation RMSE is 0.009 meter.
Average 3 dimensional RMSE is 0.012 meter.

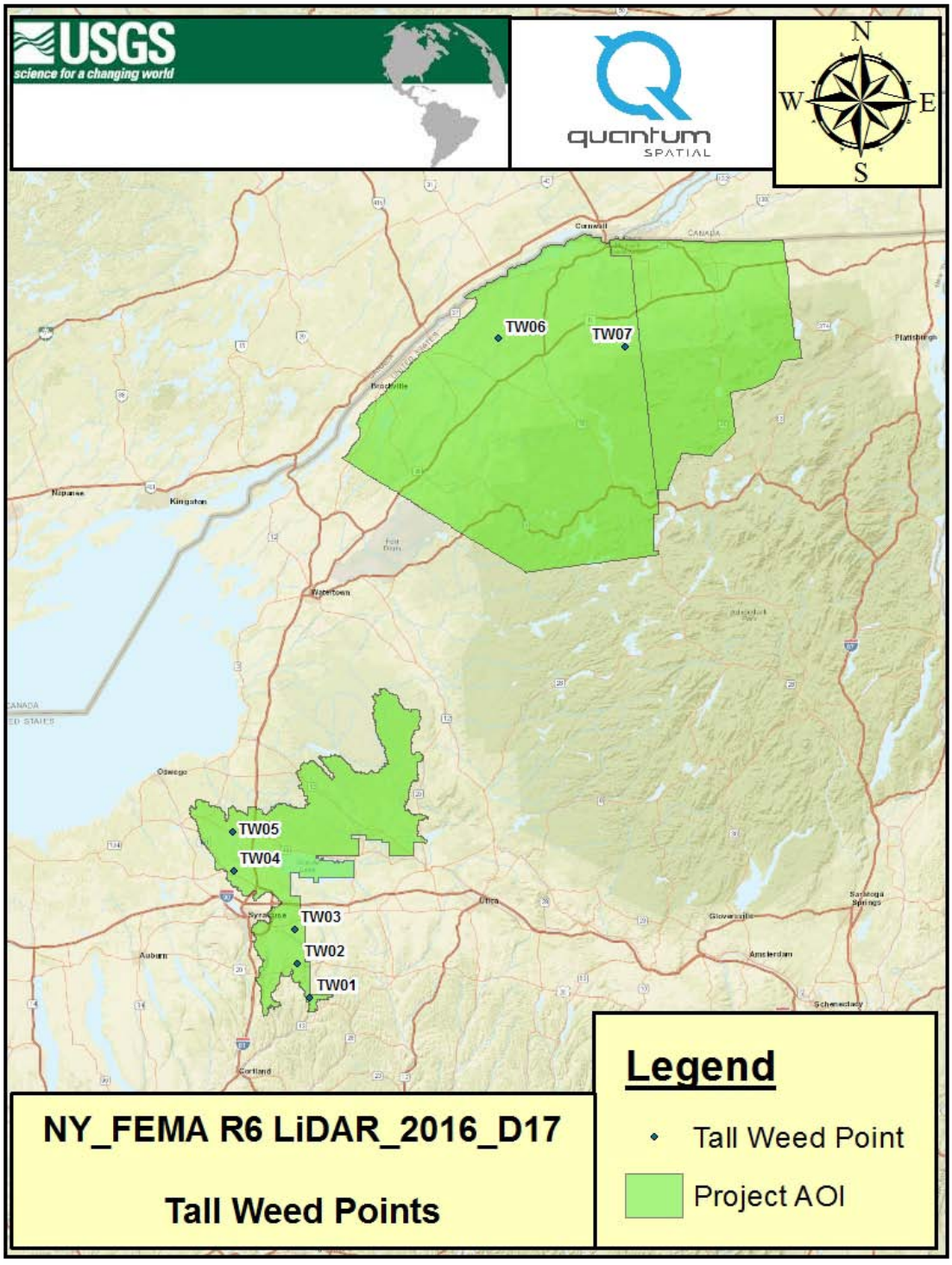
VVA Points
Average Horizontal RMSE is 0.014 meter.
Average Elevation RMSE is 0.013 meter.
Average 3 dimensional RMSE is 0.019 meter.

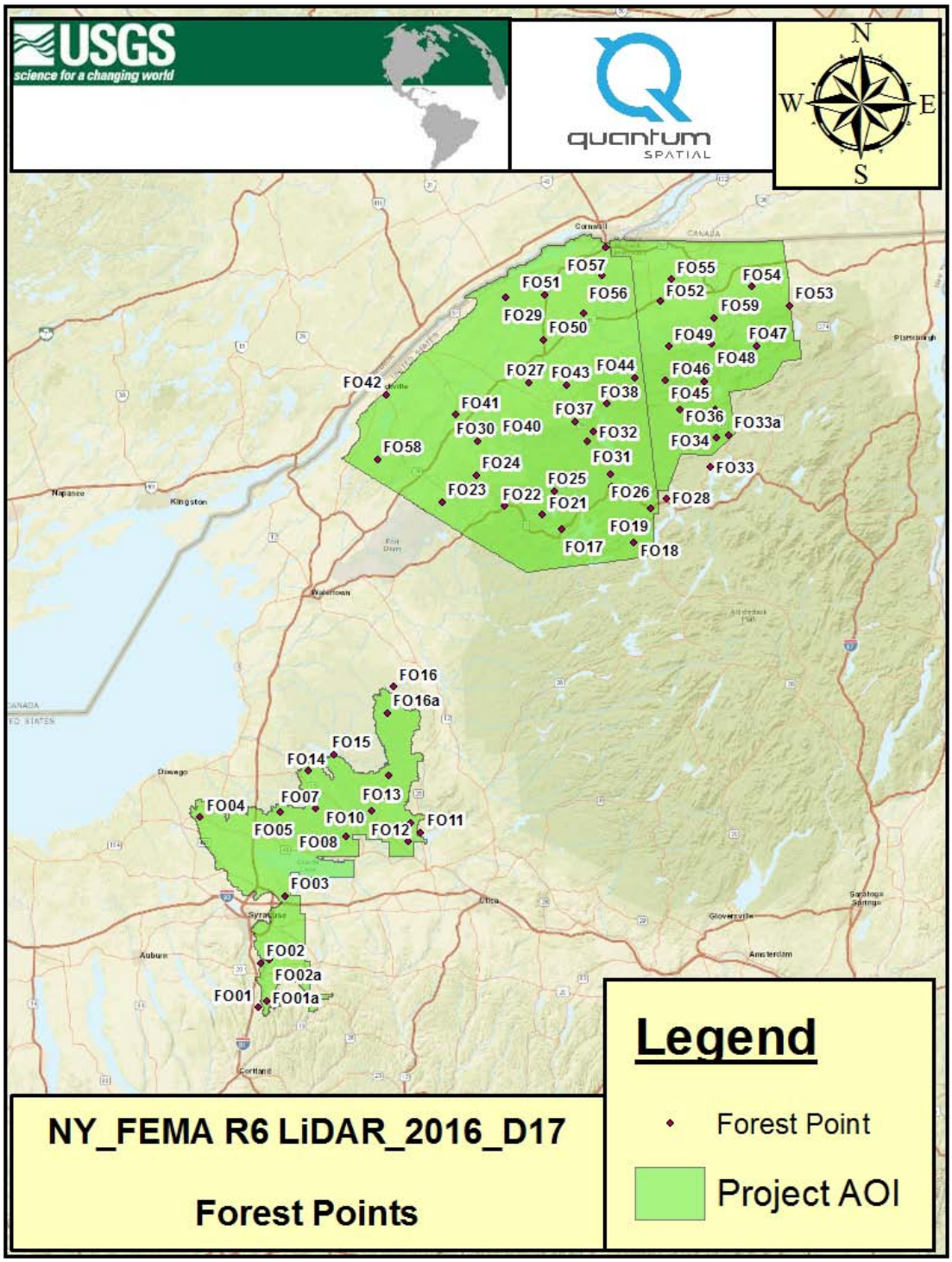
Project AOI & Point Location Maps

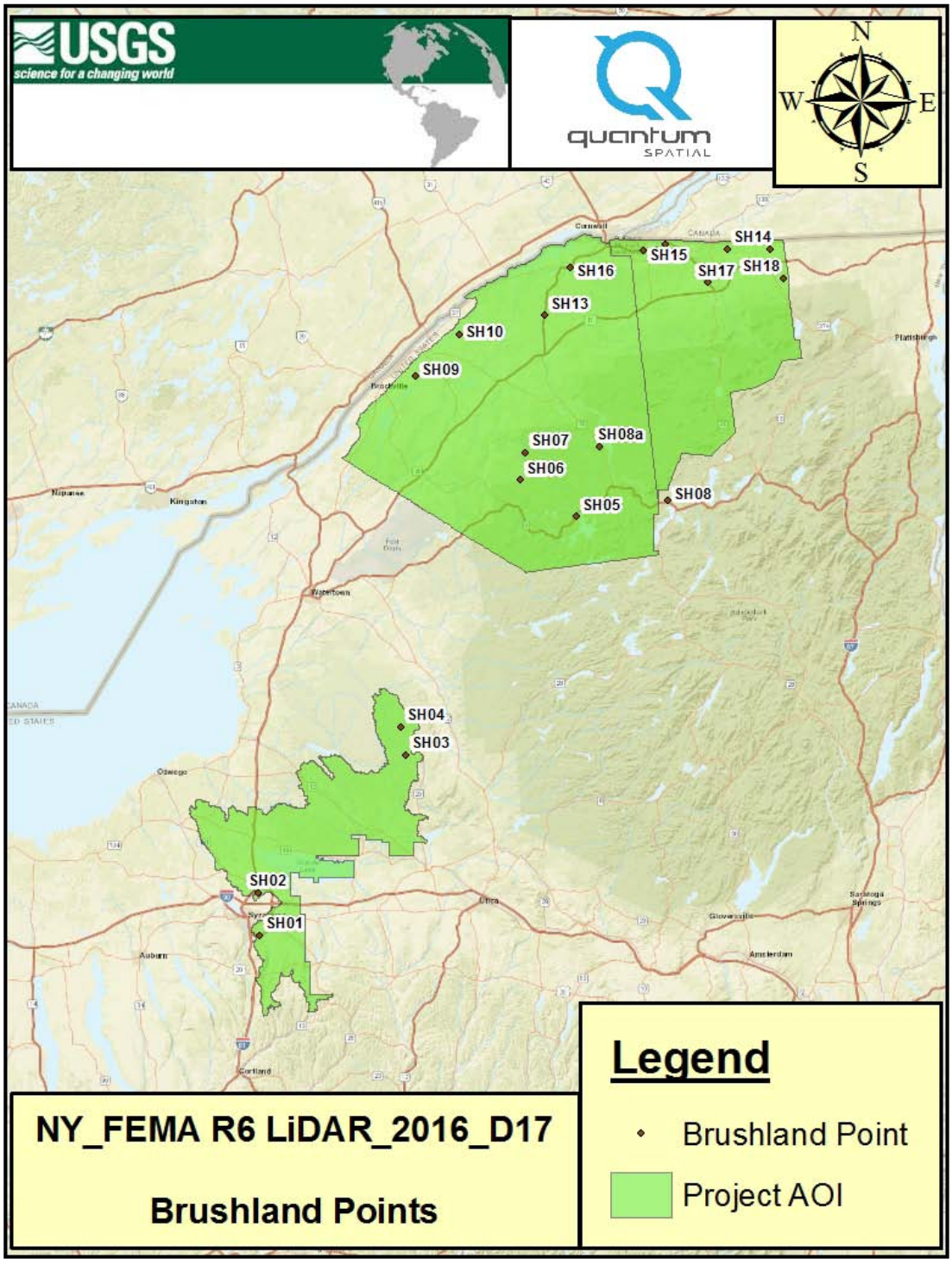

USGS
science for a changing world
quantum SPATIAL
N
W
E
S
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CA100
CA97 CA95 CA94
CA87
CA99 CA92 CA93
CA86
CA89 CA91 CA78
CA85
CA69 CA83 CA81 CA80 CA77
CA70
CA67 CA73 CA75 CA76
CA68
CA72
CA48 CA66 CA54 CA59 CA58
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CA63 CA57
CA53
CA50 CA51 CA52 CA55 CA56
CA108
CA47 CA43 CA45 CA46
CA40
CA39 CA36 CA34
CA31 CA32 CA33
CA30
CA29
CA27 CA28
CA26
CA23 CA25
CA13 CA14 CA19 CA20
CA12 CA17 CA22 CA21
CA09
CA10 CA07
CA05 CA06
CA04
CA02
CA03 CA01
NY_FEMA R6 LiDAR_2016_D17
Calibration Points
Legend
Calibration Point
Project AOI


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BE70
BE71
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Legend
Bare Earth Point
Project AOI
NY_FEMA R6 LiDAR_2016_D17
Bare Earth Points


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NY_FEMA R6 LiDAR_2016_D17
Urban Area Points
Legend
Urban Area Point
Project AOI


USGS
science for a changing world
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NY_FEMA R6 LiDAR_2016_D17
Tall Weed Points
Legend
Tall Weed Point
Project AOI


USGS
science for a changing world
quantum SPATIAL
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NY_FEMA R6 LiDAR_2016_D17
Forest Points
Legend
Forest Point
Project AOI


USGS
science for a changing world
quantum SPATIAL
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NY_FEMA R6 LiDAR_2016_D17
Brushland Points
Legend
Brushland Point
Project AOI

Final Point Coordinates
New York State Plane - East Zone

Calibration Point Coordinates

Horizontal Datum - NAD83(2011)
NEW YORK STATE PLANE - EAST ZONE
Vertical Datum - NAVD 88
Geoid - GEOID12B
Units – Meters

Point ID	Northing (m)	Easting (m)	Elev. (m)
CA31	590746.174	107489.411	453.857
CA32	593034.875	116410.029	442.346
CA33	588647.876	139585.214	528.821
CA34	599423.795	144770.929	479.760
CA35	605550.381	136730.665	480.127
CA36	598566.722	123063.237	456.196
CA37	597524.059	110523.033	420.941
CA38	600248.436	98340.573	304.334
CA39	594281.495	87476.115	240.462
CA40	601795.142	78562.253	209.815
CA41	610342.270	89543.660	200.340
CA42	611208.775	101897.697	268.564
CA43	605114.724	114446.498	429.064
CA44	610301.761	132044.210	436.101
CA45	601630.553	128193.877	453.822
CA46	602547.440	149776.965	483.159
CA47	611343.060	72822.368	133.487
CA48	623870.097	54598.133	118.115
CA49	620924.908	79193.481	124.072
CA50	622019.551	67425.981	115.442
CA51	621186.152	89752.055	167.878
CA52	617033.426	104783.755	247.782
CA53	620840.268	124743.133	435.825
CA54	623932.139	126822.141	398.289
CA55	608071.347	148349.935	464.440
CA56	612423.324	164154.859	496.708
CA57	621775.563	165934.594	493.239
CA58	630702.948	165548.729	504.698

CA59	630968.220	154302.009	474.820
CA60	627197.672	121117.087	365.038
CA61	632761.411	131168.798	394.933
CA62	630266.990	119100.995	282.128
CA63	628608.001	105179.848	233.667
CA64	631371.999	95950.378	159.573
CA65	629502.881	82967.898	102.397
CA66	631242.039	73343.105	101.963
CA67	636183.989	60945.027	90.498
CA68	641941.415	70218.015	113.645
CA69	642590.229	78400.972	90.308
CA70	640164.253	97913.154	115.946
CA71	639704.441	106420.538	147.334
CA72	638695.906	118418.764	270.022
CA73	643844.642	125392.020	271.731
CA74	641040.148	140023.058	432.523
CA75	639968.728	149912.072	437.187
CA76	639707.213	162270.620	444.695
CA77	640545.892	178944.451	511.902
CA78	650952.857	179169.484	461.236
CA79	651498.916	164530.879	463.959
CA80	650743.290	151018.423	423.295
CA81	651370.940	137414.321	236.560
CA82	652811.141	122837.808	127.218
CA83	653185.848	111006.638	111.952
CA84	653678.305	97842.773	97.225
CA85	655484.624	85083.447	98.704
CA86	666677.269	98928.054	86.219
CA87	667495.957	111548.278	72.467
CA88	661404.519	123776.573	112.145
CA89	663227.920	136212.091	103.917
CA90	665198.064	148312.314	136.175
CA91	663846.121	158077.128	237.219
CA92	665301.381	169316.425	304.326
CA93	663707.955	189449.368	406.392
CA94	672141.441	186996.120	406.142
CA95	669630.567	177676.929	363.203
CA96	671105.443	164297.802	195.440
CA97	672136.356	151820.117	91.786
CA98	674435.431	141069.763	65.745
CA99	673593.498	129741.388	65.565

CA100	676222.137	119337.907	72.046
CA101	682689.699	132131.430	59.159
CA102	681267.323	142991.996	67.104
CA103	683508.052	150196.364	52.345
CA104	681779.415	169909.081	94.512
CA105	681385.359	182882.379	184.032
CA106	659896.912	165581.492	386.133
CA107	660872.141	111431.376	100.781
CA108	615454.543	58173.133	94.526

Bare Earth Point Coordinates

Horizontal Datum - NAD83(2011)
NEW YORK STATE PLANE - EAST ZONE
Vertical Datum - NAVD 88
Geoid - GEOID12B
Units – Meters

Point ID	Northing (m)	Easting (m)	Elev. (m)
BE21	588661.543	139604.273	528.496
BE22	605681.970	137843.837	522.877
BE23	598709.411	123156.092	456.752
BE24	597553.520	110547.906	420.853
BE25	600285.325	98363.998	304.778
BE26	594309.849	87510.196	239.895
BE27	601831.944	78479.808	209.347
BE28	610299.997	89514.041	200.554
BE29	611226.873	101955.103	270.006
BE30	605069.130	114410.857	427.247
BE31	610266.804	132012.047	435.390
BE32	601641.829	128206.119	454.481
BE33	602556.015	149760.801	483.920
BE33a	606299.621	132347.685	466.933
BE34	620959.447	79203.435	122.652
BE35	621975.930	67514.518	118.017
BE36	621194.483	91062.044	213.000
BE37	617035.378	104927.281	247.786
BE38	621373.516	126229.449	404.486
BE39	623885.228	126837.050	398.052
BE40	608048.730	148360.798	464.142
BE41	612465.521	164164.918	497.184
BE41a	622498.515	169716.178	507.840
BE42	621778.543	165987.191	494.652
BE43	630706.099	165573.570	504.364
BE44	630967.476	154288.911	474.719
BE45	627249.537	121153.542	365.225
BE46	632740.842	131187.997	394.785
BE47	630438.727	119200.821	282.397

BE48	628503.785	105287.308	230.324
BE49	631377.641	95919.715	159.176
BE50	641733.183	70222.540	118.661
BE51	638721.038	118378.545	267.995
BE52	641048.822	139996.291	432.576
BE53	639982.977	149885.687	437.235
BE54	639679.705	162260.997	444.377
BE55	650915.285	179170.941	461.434
BE56	651514.559	164518.697	463.068
BE57	650763.960	151016.334	422.815
BE58	652840.760	122841.468	127.240
BE59	653177.788	110960.768	111.719
BE60	655795.510	98877.406	89.658
BE61	666735.557	98906.915	84.596
BE62	661412.083	123832.239	110.710
BE63	663860.832	158103.436	236.980
BE64	672105.792	186717.656	408.753
BE65	669667.872	177668.832	362.994
BE66	671062.138	164338.966	195.947
BE67	672105.426	151772.318	90.808
BE68	674446.679	141068.748	65.546
BE69	681146.813	143004.853	67.008
BE70	683506.291	150213.812	51.930
BE71	681769.791	169921.491	94.574
BE72	659807.138	165617.814	389.446
BE73	660901.736	111371.201	103.255

Urban Area Point Coordinates

Horizontal Datum - NAD83(2011)
NEW YORK STATE PLANE - EAST ZONE
Vertical Datum - NAVD 88
Geoid - GEOID12B
Units – Meters

Point ID	Northing (m)	Easting (m)	Elev. (m)
UA06	590703.324	107495.379	453.705
UA07	599455.557	144806.710	480.149
UA08	611345.452	72739.455	132.693
UA09	623802.957	54675.209	118.651
UA10	636161.616	60873.841	91.764
UA11	642585.076	78307.878	90.003
UA12	640235.276	98315.682	115.814
UA13	643847.616	125368.943	272.383
UA14	651357.395	137401.902	237.362
UA15	655443.771	85031.777	98.240
UA16	663201.046	135973.113	102.199
UA17	665207.351	148336.864	136.975
UA18	676213.574	119296.708	70.682
UA20	673713.152	109217.380	60.053
UA21	682171.957	130601.811	58.176
UA22	677004.503	183280.663	281.779
UA23	647826.593	112077.310	131.471
UA24	630090.734	88390.197	135.468

Tall Weed Point Coordinates

Horizontal Datum - NAD83(2011)
NEW YORK STATE PLANE - EAST ZONE
Vertical Datum - NAVD 88
Geoid - GEOID12B
Units – Meters

Point ID	Northing (m)	Easting (m)	Elev. (m)
TW06	653645.443	96857.416	98.617
TW07	650859.119	137025.705	247.540

Forest Point Coordinates

Horizontal Datum - NAD83(2011)
NEW YORK STATE PLANE - EAST ZONE
Vertical Datum - NAVD 88
Geoid - GEOID12B
Units – Meters

Point ID	Northing (m)	Easting (m)	Elev. (m)
FO17	593015.082	116459.411	446.394
FO18	588632.834	139594.874	528.609
FO19	599423.062	144721.167	479.875
FO20	605593.503	136712.712	479.628
FO21	597483.017	110491.981	422.779
FO22	600282.464	98304.202	304.768
FO23	601877.138	78493.583	211.519
FO24	610347.554	89513.478	199.876
FO25	605094.552	114399.213	429.377
FO26	610266.690	132108.605	436.878
FO27	639730.843	106408.765	147.945
FO28	602526.251	149782.806	484.006
FO28a	606343.443	132425.547	470.368
FO29	666682.964	98969.078	86.087
FO30	621210.266	89775.140	167.735
FO31	620812.333	124758.795	437.922
FO32	623919.991	126784.867	398.519
FO33	612431.928	164111.386	496.578
FO33a	622525.675	169720.200	509.539
FO34	621809.562	165959.368	492.983
FO35	630753.766	165543.799	504.408
FO36	630947.095	154288.095	473.954
FO37	627225.275	121097.672	365.020
FO38	632774.072	131187.874	395.732
FO39	661427.054	123827.891	110.379
FO40	631335.731	95940.897	159.539
FO41	629498.406	83000.600	104.030

FO42	636149.378	60855.890	91.392
FO43	638699.584	118385.170	267.904
FO44	641003.278	139998.772	435.697
FO45	639977.172	149871.750	436.012
FO46	639657.392	162261.103	443.761
FO47	650889.927	179146.595	462.058
FO48	651516.409	164499.539	463.318
FO49	650769.361	150997.124	422.407
FO50	653118.956	110964.462	111.495
FO51	667553.464	111502.518	72.384
FO52	665178.035	148364.574	138.370
FO53	663708.182	189478.682	406.914
FO54	669653.276	177639.667	362.704
FO55	672174.370	151799.390	90.746
FO56	673617.657	129701.885	66.251
FO57	682448.771	131144.238	56.494
FO58	615432.912	58152.007	93.521
FO59	659911.933	165593.997	386.148

Brushland Point Coordinates

Horizontal Datum - NAD83(2011)
NEW YORK STATE PLANE - EAST ZONE
Vertical Datum - NAVD 88
Geoid - GEOID12B
Units – Meters

Point ID	Northing (m)	Easting (m)	Elev. (m)
SH05	596821.483	121036.879	450.755
SH06	608564.432	103248.065	282.591
SH07	617186.953	104994.733	247.547
SH08	601783.256	150343.292	485.151
SH08a	619134.075	128672.037	460.175
SH09	641954.440	70211.401	113.238
SH10	654950.379	84267.858	99.156
SH11	683365.017	150029.042	51.612
SH12	681449.715	183401.312	187.419
SH13	660850.304	111415.811	100.769
SH14	681751.529	169889.365	94.187
SH15	681254.239	142964.172	66.866
SH16	675926.603	119680.174	57.779
SH17	670995.251	163542.892	199.221
SH18	672201.682	187560.403	404.779

Final Point Coordinates
New York State Plane - Central Zone

Calibration Point Coordinates

Horizontal Datum - NAD83(2011)
NEW YORK STATE PLANE - CENTRAL ZONE
Vertical Datum - NAVD 88
Geoid - GEOID12B
Units – Meters

Point ID	Northing (m)	Easting (m)	Elev. (m)
CA01	314199.831	305820.698	393.870
CA02	324823.601	301779.834	379.558
CA03	310644.498	289229.235	375.944
CA04	324696.184	289786.682	398.919
CA05	333539.815	289487.121	169.394
CA06	335753.884	300709.254	256.898
CA07	346191.749	297133.788	127.660
CA08	346931.476	288896.141	125.015
CA09	355714.819	293551.185	121.271
CA10	353977.147	280844.215	121.946
CA11	364446.536	291955.606	120.244
CA12	366337.140	280216.255	129.801
CA13	370798.224	269834.368	148.121
CA14	373134.872	295252.492	182.308
CA15	364593.655	303859.227	181.810
CA16	374233.167	306365.256	223.569
CA17	365513.692	316180.084	154.894
CA18	371911.523	317150.873	161.579
CA19	374121.514	324428.897	275.076
CA20	367163.564	339921.104	192.497
CA21	364360.536	336335.247	146.922
CA22	365791.180	326487.299	136.875
CA23	381650.493	306322.470	182.864
CA24	381925.736	317600.106	293.842
CA25	385101.564	329398.495	402.701
CA26	386237.174	303746.733	199.734
CA27	391573.112	311996.400	286.507
CA28	391798.091	334950.096	495.043

CA29	400658.506	333132.884	541.087
CA30	413510.704	330641.587	580.519

Bare Earth Point Coordinates

Horizontal Datum - NAD83(2011)
NEW YORK STATE PLANE - CENTRAL ZONE
Vertical Datum - NAVD 88
Geoid - GEOID12B
Units – Meters

Point ID	Northing (m)	Easting (m)	Elev. (m)
BE01	314161.790	305666.377	402.498
BE02	325314.694	301622.484	399.395
BE03	310557.177	289219.568	376.701
BE03a	313104.205	291753.806	378.456
BE04	335799.462	300786.513	257.636
BE05	346186.666	297153.709	127.932
BE06	353996.161	280786.170	121.669
BE07	364430.528	291978.082	121.154
BE08	366324.841	280204.992	128.945
BE09	370828.629	269841.877	148.358
BE10	364561.551	303843.580	181.278
BE11	374242.046	306402.608	223.487
BE12	365549.777	316088.825	154.408
BE13	365820.458	326481.484	136.956
BE14	381668.338	306325.197	183.065
BE15	382027.569	317525.975	294.579
BE16	385093.777	329383.003	402.738
BE17	391597.159	312078.213	286.872
BE18	391783.653	335003.395	496.544
BE19	400637.457	333139.755	540.784
BE20	413529.707	330639.215	580.193
BE20a	405181.141	328678.459	569.400

Urban Area Point Coordinates

Horizontal Datum - NAD83(2011)
NEW YORK STATE PLANE - CENTRAL ZONE
Vertical Datum - NAVD 88
Geoid - GEOID12B
Units – Meters

Point ID	Northing (m)	Easting (m)	Elev. (m)
UA01	324682.813	289739.766	396.686
UA01a	325992.717	292523.466	221.452
UA02	346916.253	288769.376	125.176
UA03	355670.304	293565.718	121.492
UA04	372013.008	317236.314	161.365
UA05	364331.415	336297.505	146.921
UA19	336453.640	288467.579	174.659
UA25	332285.626	292427.695	232.404
UA26	332382.570	301048.626	235.754
UA27	359672.702	285949.078	119.351
UA28	353265.936	288046.770	131.235
UA29	371003.143	284971.016	147.153
UA30	373787.949	274582.229	142.759
UA31	364289.805	275348.926	127.595
UA32	340284.041	294686.599	130.735
UA33	342247.994	301358.029	128.305
UA34	352150.151	297149.262	120.148
UA35	336594.721	295917.184	131.387
UA36	348556.151	283412.049	136.411
UA37	361212.394	278836.468	130.911
UA38	320121.178	304782.170	280.545
UA39	361500.084	272517.309	118.184
UA40	365172.824	285365.841	138.838
UA41	372465.222	285656.841	144.859

Tall Weed Point Coordinates

Horizontal Datum - NAD83(2011)
NEW YORK STATE PLANE - CENTRAL ZONE
Vertical Datum - NAVD 88
Geoid - GEOID12B
Units – Meters

Point ID	Northing (m)	Easting (m)	Elev. (m)
TW01	314213.472	305822.582	393.789
TW02	324830.199	301801.577	379.811
TW03	335702.217	300692.564	256.641
TW04	353969.951	280716.098	120.066
TW05	366351.435	280214.800	129.846

Forest Point Coordinates

Horizontal Datum - NAD83(2011)
NEW YORK STATE PLANE - CENTRAL ZONE
Vertical Datum - NAVD 88
Geoid - GEOID12B
Units – Meters

Point ID	Northing (m)	Easting (m)	Elev. (m)
FO01	310554.354	289249.485	375.762
FO01a	312883.350	291978.262	377.930
FO02	324670.442	289778.461	399.457
FO02a	326013.473	292515.531	220.857
FO03	346209.657	297115.066	127.444
FO04	370820.558	269816.964	147.674
FO05	373097.959	295266.813	184.049
FO06	364583.934	303898.005	180.848
FO07	374210.796	306441.254	219.445
FO08	365502.237	316155.877	154.347
FO09	372082.402	317233.154	158.964
FO10	374097.933	324422.206	272.415
FO11	367193.863	339886.178	194.276
FO11a	370129.069	336932.705	300.374
FO12	364269.872	336306.012	146.390
FO13	385081.969	329417.355	402.077
FO14	386247.673	303720.652	199.722
FO15	391539.413	312019.918	285.612
FO16	413485.782	330660.553	580.046
FO16a	405200.061	328674.382	569.911

Brushland Point Coordinates

Horizontal Datum - NAD83(2011)
NEW YORK STATE PLANE - CENTRAL ZONE
Vertical Datum - NAVD 88
Geoid - GEOID12B
Units – Meters

Point ID	Northing (m)	Easting (m)	Elev. (m)
SH01	333534.696	289509.840	169.067
SH02	347167.958	288808.532	124.454
SH03	391778.984	334908.573	493.982
SH04	400647.822	333125.092	541.012

Point Data and Accuracy Log Sheets

Calibration Point Log Sheets

Point ID	CA01
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Onondaga
Quad	Deruyter

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
314199.831	305820.698	393.870

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-8-17
RMSE Hz	0.007
RMSE Z	0.012
GPS Method	NYSNET

PHOTOS:









Point ID	CA02
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Onondaga
Quad	Oran

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
324823.601	301779.834	379.558

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-8-17
RMSE Hz	0.006
RMSE Z	0.011
GPS Method	NYSNET

PHOTOS:



Point ID	CA03
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Onondaga
Quad	Tully

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
310644.498	289229.235	375.944

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-4-17
RMSE Hz	0.006
RMSE Z	0.010
GPS Method	NYSNET

PHOTOS:









Point ID	CA04
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Onondaga
Quad	Jamesville

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
324696.184	289786.682	398.919

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-7-17
RMSE Hz	0.008
RMSE Z	0.014
GPS Method	NYSNET

PHOTOS:



Point ID	CA05
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Onondaga
Quad	Syracuse East

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
333539.815	289487.121	169.394

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-8-17
RMSE Hz	0.010
RMSE Z	0.015
GPS Method	NYSNET

PHOTOS:



Point ID	CA06
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Onondaga
Quad	Manlius

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
335753.884	300709.254	256.898

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-8-17
RMSE Hz	0.007
RMSE Z	0.009
GPS Method	NYSNET

PHOTOS:



Point ID	CA07
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Onondaga
Quad	Syracuse East

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
346191.749	297133.788	127.660

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-7-17
RMSE Hz	0.009
RMSE Z	0.016
GPS Method	NYSNET

PHOTOS:



Point ID	CA08
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Onondaga
Quad	Syracuse East

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
346931.476	288896.141	125.015

Operator	Derek Griggs
Receiver Model	Trimble R8 3
Receiver S/N	5152479795
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-8-17
RMSE Hz	0.005
RMSE Z	0.009
GPS Method	NYSNET

PHOTOS:



Point ID	CA09
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Onondaga
Quad	Cicero

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
355714.819	293551.185	121.271

Operator	Derek Griggs
Receiver Model	Trimble R8 3
Receiver S/N	5152479795
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-9-17
RMSE Hz	0.007
RMSE Z	0.011
GPS Method	NYSNET

PHOTOS:









Point ID	CA10
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Onondaga
Quad	Brewerton

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
353977.147	280844.215	121.946

Operator	Derek Griggs
Receiver Model	Trimble R8 3
Receiver S/N	5152479795
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-8-17
RMSE Hz	0.007
RMSE Z	0.011
GPS Method	NYSNET

PHOTOS:



Point ID	CA11
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Oswego
Quad	Mallory

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
364446.536	291955.606	120.244

Operator	Derek Griggs
Receiver Model	Trimble R8 3
Receiver S/N	5152479795
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-8-17
RMSE Hz	0.006
RMSE Z	0.009
GPS Method	NYSNET

PHOTOS:



Point ID	CA12
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Oswego
Quad	Central Square

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

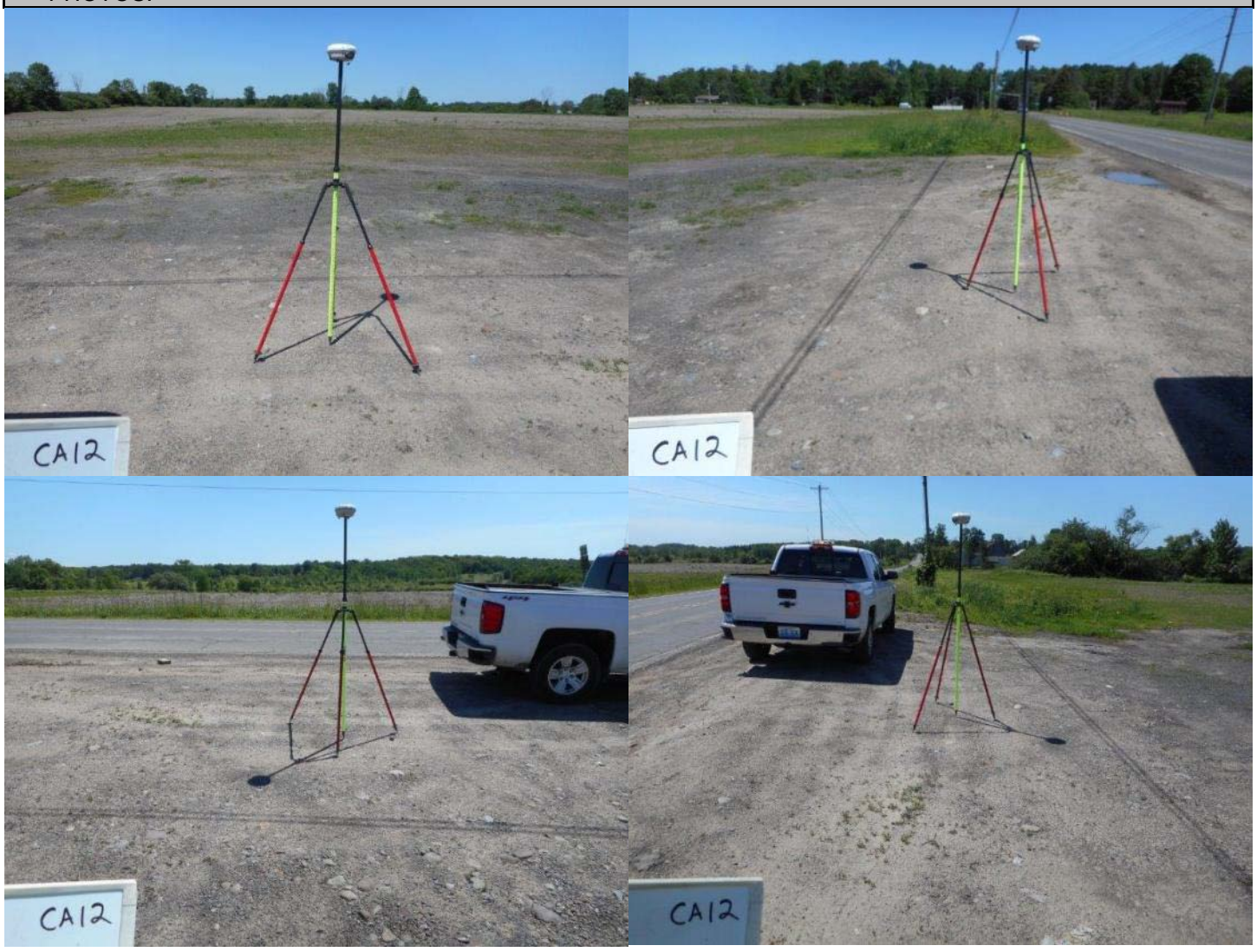
Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
366337.140	280216.255	129.801

Operator	Derek Griggs
Receiver Model	Trimble R8 3
Receiver S/N	5152479795
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-8-17
RMSE Hz	0.007
RMSE Z	0.011
GPS Method	NYSNET

PHOTOS:



Point ID	CA13
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Oswego
Quad	Pennellville

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

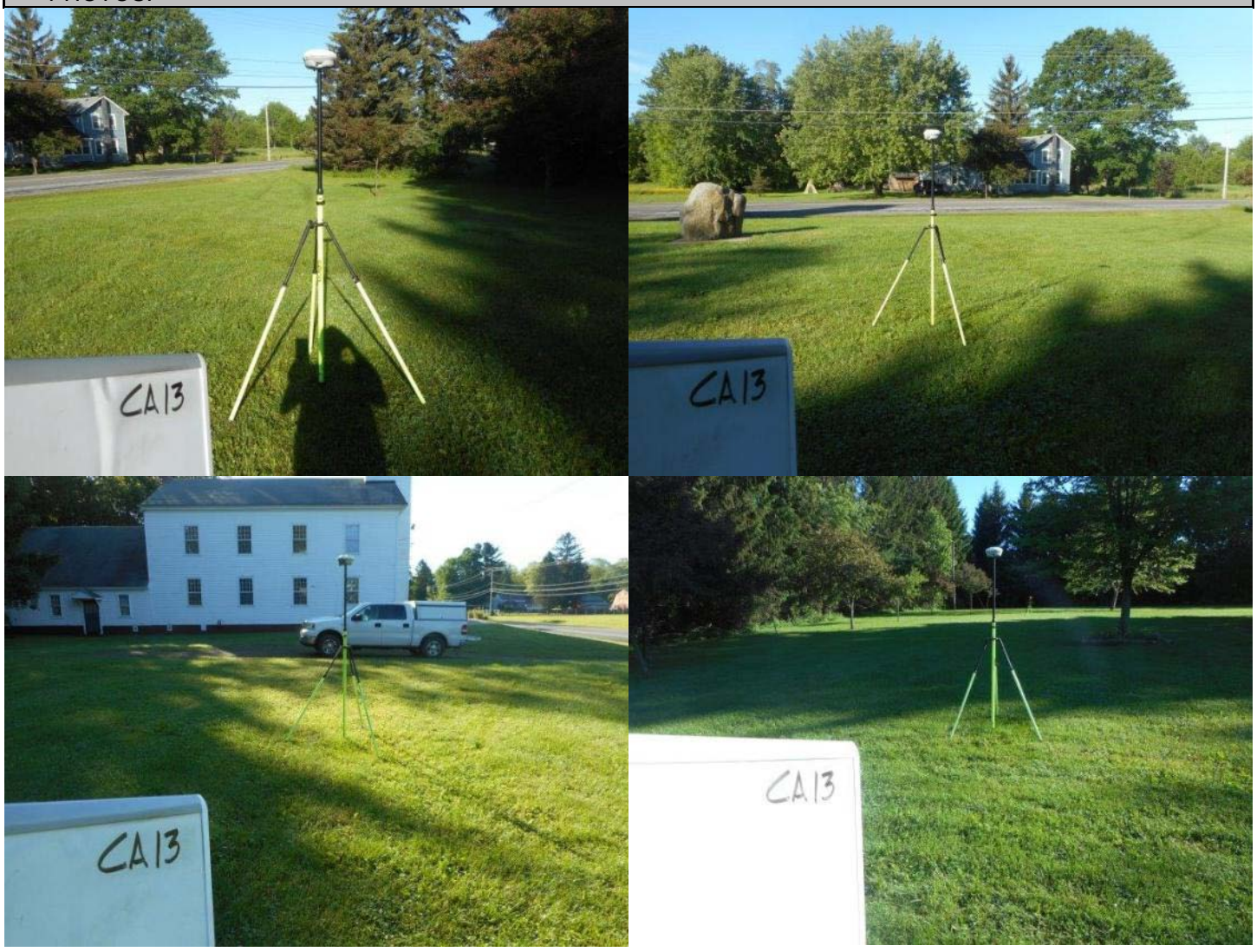
Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
370798.224	269834.368	148.121

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-7-17
RMSE Hz	0.010
RMSE Z	0.017
GPS Method	NYSNET

PHOTOS:



Point ID	CA14
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Oswego
Quad	Mallory

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
373134.872	295252.492	182.308

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-3-17
RMSE Hz	0.011
RMSE Z	0.017
GPS Method	NYSNET

PHOTOS:









Point ID	CA15
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Oswego
Quad	Panther Lake

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
364593.655	303859.227	181.810

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-7-17
RMSE Hz	0.006
RMSE Z	0.012
GPS Method	NYSNET

PHOTOS:



Point ID	CA16
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Oswego
Quad	Panther Lake

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

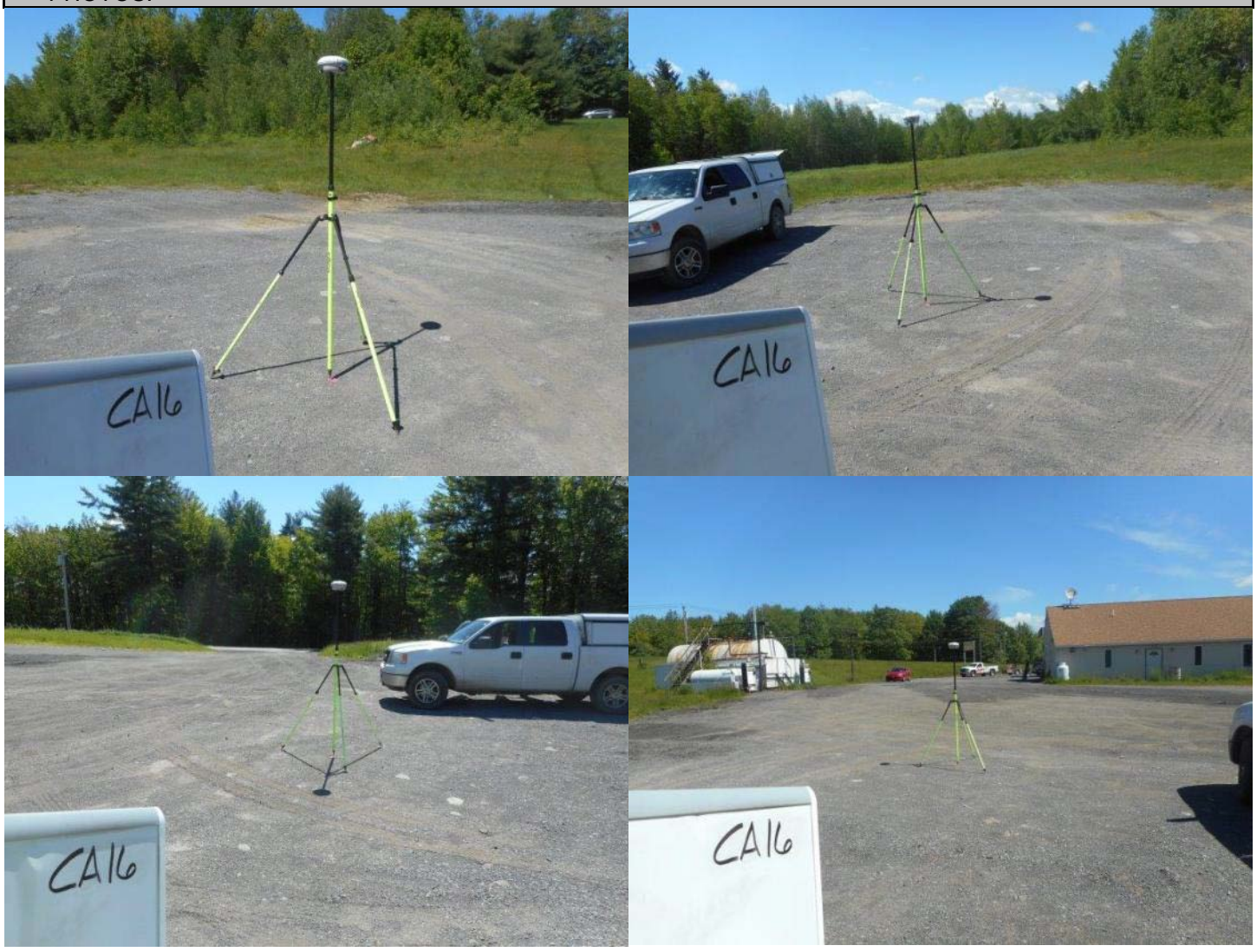
Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
374233.167	306365.256	223.569

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-3-17
RMSE Hz	0.006
RMSE Z	0.011
GPS Method	NYSNET

PHOTOS:



Point ID	CA17
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Oneida
Quad	Camden West

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
365513.692	316180.084	154.894

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-7-17
RMSE Hz	0.008
RMSE Z	0.015
GPS Method	NYSNET

PHOTOS:









Point ID	CA18
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Oneida
Quad	Camden West

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
371911.523	317150.873	161.579

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-3-17
RMSE Hz	0.007
RMSE Z	0.011
GPS Method	NYSNET

PHOTOS:



Point ID	CA19
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Oneida
Quad	Camden East

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

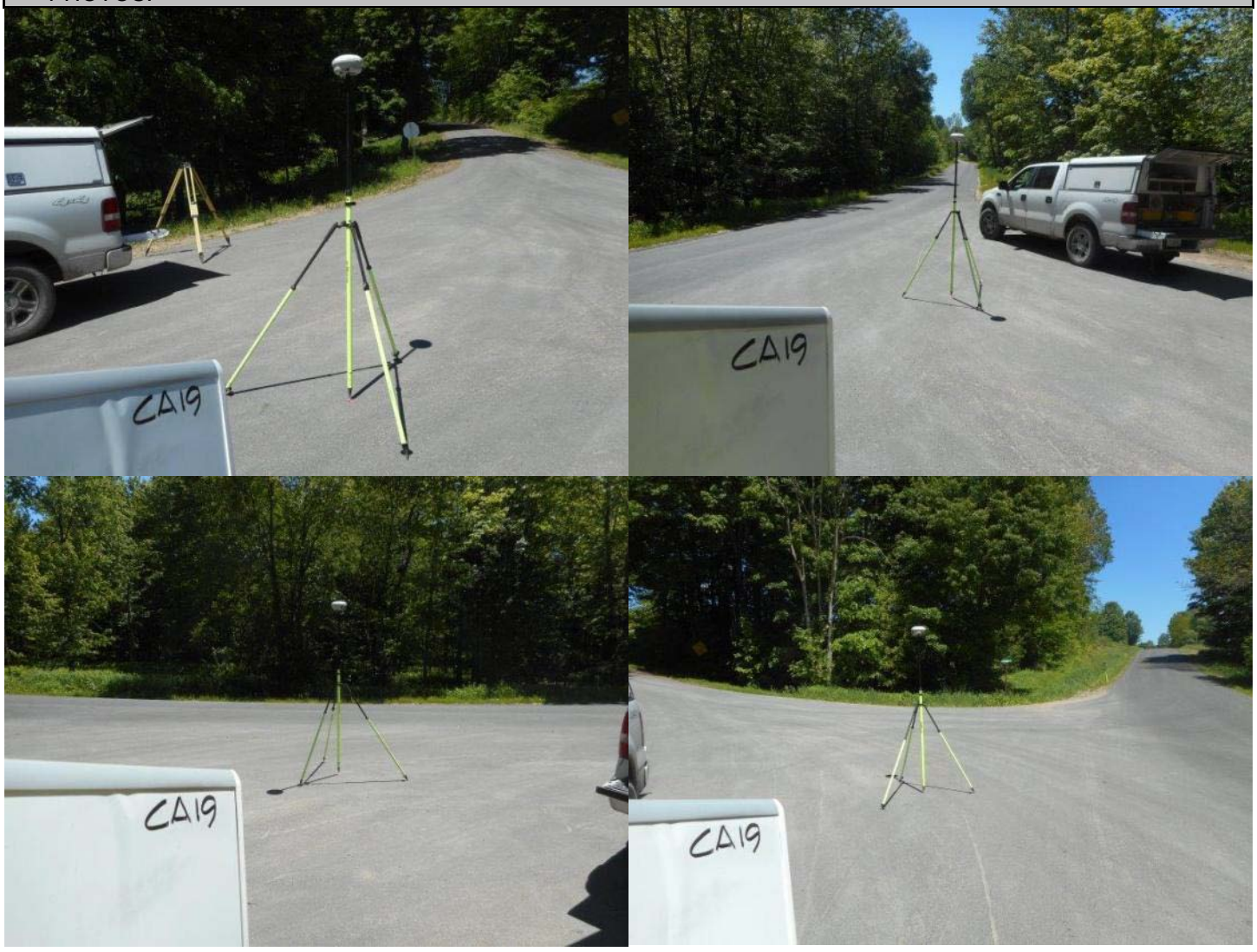
Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
374121.514	324428.897	275.076

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-3-17
RMSE Hz	0.016
RMSE Z	0.027
GPS Method	NYSNET

PHOTOS:



Point ID	CA20
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Oneida
Quad	Westernville

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

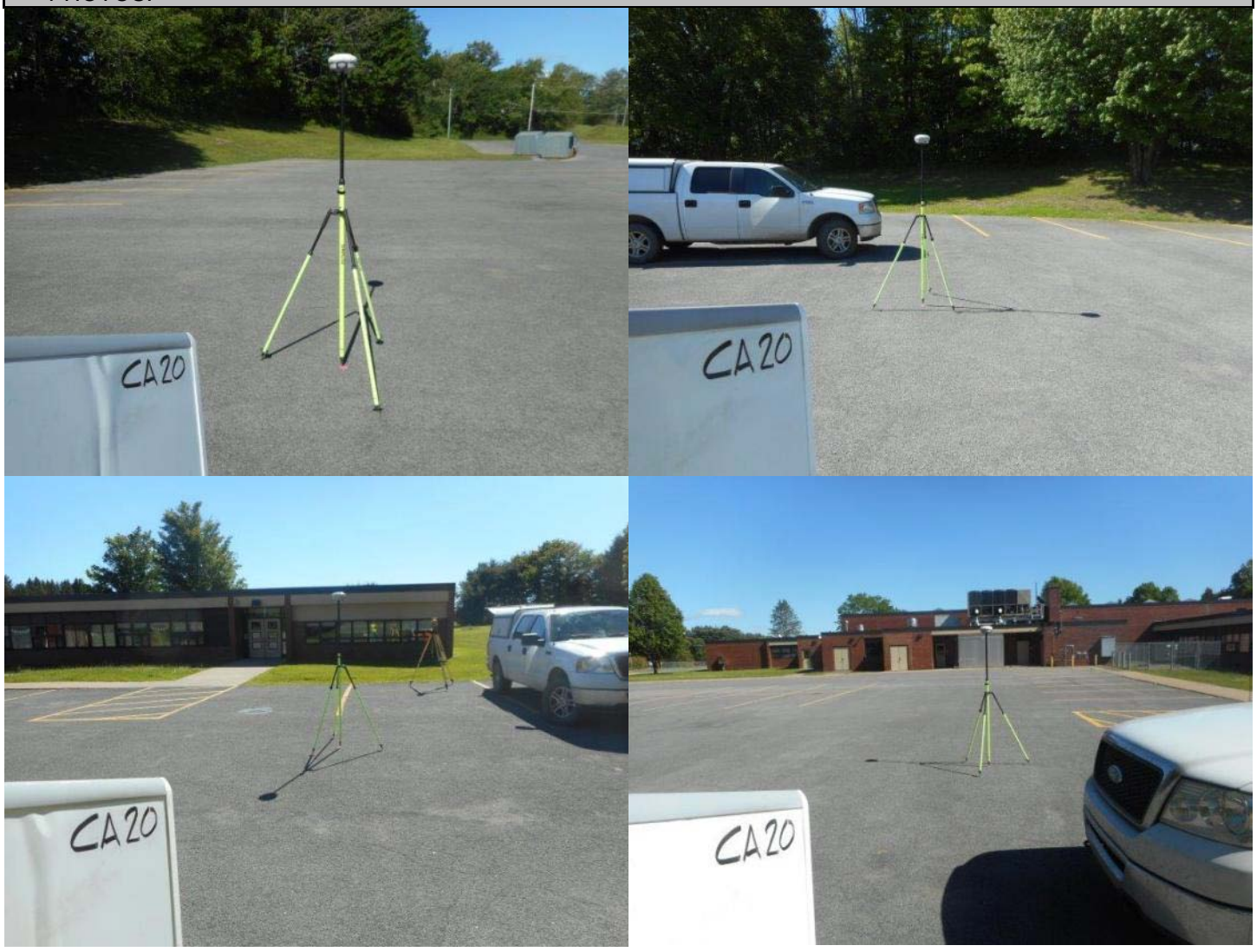
Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
367163.564	339921.104	192.497

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-3-17
RMSE Hz	0.010
RMSE Z	0.017
GPS Method	NYSNET

PHOTOS:



Point ID	CA21
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Oneida
Quad	Lee Center

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
364360.536	336335.247	146.922

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-7-17
RMSE Hz	0.009
RMSE Z	0.013
GPS Method	NYSNET

PHOTOS:



Point ID	CA22
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Oneida
Quad	Camden East

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
365791.180	326487.299	136.875

Operator	Derek Griggs
Receiver Model	Trimble R8 3
Receiver S/N	5152479795
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-8-17
RMSE Hz	0.008
RMSE Z	0.015
GPS Method	NYSNET

PHOTOS:



Point ID	CA23
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Oswego
Quad	Williamstown

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
381650.493	306322.470	182.864

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-6-17
RMSE Hz	0.006
RMSE Z	0.012
GPS Method	NYSNET

PHOTOS:



Point ID	CA24
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Oneida
Quad	Florence

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
381925.736	317600.106	293.842

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-5-17
RMSE Hz	0.010
RMSE Z	0.018
GPS Method	NYSNET

PHOTOS:









Point ID	CA25
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Lewis
Quad	Point Rock

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
385101.564	329398.495	402.701

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-5-17
RMSE Hz	0.012
RMSE Z	0.014
GPS Method	Static

PHOTOS:



Point ID	CA26
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Oswego
Quad	Williamstown

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
386237.174	303746.733	199.734

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-3-17
RMSE Hz	0.015
RMSE Z	0.026
GPS Method	NYSNET

PHOTOS:



Point ID	CA27
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Oswego
Quad	Redfield

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
391573.112	311996.400	286.507

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-2-17
RMSE Hz	0.008
RMSE Z	0.012
GPS Method	NYSNET

PHOTOS:









Point ID	CA28
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Lewis
Quad	High Market

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
391798.091	334950.096	495.043

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5106461161
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-5-17
RMSE Hz	0.006
RMSE Z	0.011
GPS Method	Static

PHOTOS:









Point ID	CA29
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Lewis
Quad	High Market

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
400658.506	333132.884	541.087

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-2-17
RMSE Hz	0.007
RMSE Z	0.011
GPS Method	NYSNET

PHOTOS:



Point ID	CA30
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Lewis
Quad	Paige

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
413510.704	330641.587	580.519

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-2-17
RMSE Hz	0.008
RMSE Z	0.015
GPS Method	NYSNET

PHOTOS:



Point ID	CA31
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Oswegatchie

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
590746.174	107489.411	453.857

Operator	Derek Griggs
Receiver Model	Trimble R8 3
Receiver S/N	5152479795
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-20-17
RMSE Hz	0.009
RMSE Z	0.009
GPS Method	NYSNET

PHOTOS:



Point ID	CA32
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Newton Falls

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
593034.875	116410.029	442.346

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-17-17
RMSE Hz	0.018
RMSE Z	0.018
GPS Method	NYSNET

PHOTOS:









Point ID	CA33
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Long Tom Mountain

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
588647.876	139585.214	528.821

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-16-17
RMSE Hz	0.008
RMSE Z	0.008
GPS Method	NYSNET

PHOTOS:



Point ID	CA34
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Piercefield

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
599423.795	144770.929	479.760

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-16-17
RMSE Hz	0.008
RMSE Z	0.008
GPS Method	NYSNET

PHOTOS:



Point ID	CA35
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Childwold

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
605550.381	136730.665	480.127

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-17-17
RMSE Hz	0.022
RMSE Z	0.022
GPS Method	NYSNET

PHOTOS:



Point ID	CA36
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Cranberry Lake

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
598566.722	123063.237	456.196

Operator	Derek Griggs
Receiver Model	Trimble R8 3
Receiver S/N	5152479795
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-20-17
RMSE Hz	0.012
RMSE Z	0.012
GPS Method	NYSNET

PHOTOS:



Point ID	CA37
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Newton Falls

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
597524.059	110523.033	420.941

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-17-17
RMSE Hz	0.008
RMSE Z	0.008
GPS Method	NYSNET

PHOTOS:



Point ID	CA38
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Fine

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
600248.436	98340.573	304.334

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-19-17
RMSE Hz	0.010
RMSE Z	0.010
GPS Method	NYSNET

PHOTOS:









Point ID	CA39
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Harisville

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
594281.495	87476.115	240.462

Operator	Derek Griggs
Receiver Model	Trimble R8 3
Receiver S/N	5152479795
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-21-17
RMSE Hz	0.007
RMSE Z	0.007
GPS Method	NYSNET

PHOTOS:



Point ID	CA40
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Lake Bonaparte

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
601795.142	78562.253	209.815

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-19-17
RMSE Hz	0.008
RMSE Z	0.008
GPS Method	NYSNET

PHOTOS:









Point ID	CA41
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Edwards

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
610342.270	89543.660	200.340

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-19-17
RMSE Hz	0.008
RMSE Z	0.008
GPS Method	NYSNET

PHOTOS:



Point ID	CA42
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Degrasse

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
611208.775	101897.697	268.564

Operator	Derek Griggs
Receiver Model	Trimble R8 3
Receiver S/N	5152479795
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-21-17
RMSE Hz	0.005
RMSE Z	0.005
GPS Method	NYSNET

PHOTOS:



Point ID	CA43
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Tooley Pond

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
605114.724	114446.498	429.064

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-17-17
RMSE Hz	0.009
RMSE Z	0.009
GPS Method	NYSNET

PHOTOS:









Point ID	CA44
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Childwold

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
610301.761	132044.210	436.101

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-17-17
RMSE Hz	0.009
RMSE Z	0.009
GPS Method	NYSNET

PHOTOS:



Point ID	CA45
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Brother Ponds

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
601630.553	128193.877	453.822

Operator	Derek Griggs
Receiver Model	Trimble R8 3
Receiver S/N	5152479795
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-20-17
RMSE Hz	0.010
RMSE Z	0.010
GPS Method	NYSNET

PHOTOS:



Point ID	CA46
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	Mount Matumbia

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
602547.440	149776.965	483.159

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-16-17
RMSE Hz	0.010
RMSE Z	0.010
GPS Method	NYSNET

PHOTOS:



Point ID	CA47
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Gouverneur

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
611343.060	72822.368	133.487

Operator	Derek Griggs
Receiver Model	Trimble R8 3
Receiver S/N	5152479795
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-21-17
RMSE Hz	0.006
RMSE Z	0.006
GPS Method	NYSNET

PHOTOS:



Point ID	CA48
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Hammond

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
623870.097	54598.133	118.115

Operator	Derek Griggs
Receiver Model	Trimble R8 3
Receiver S/N	5152479795
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-22-17
RMSE Hz	0.006
RMSE Z	0.006
GPS Method	NYSNET

PHOTOS:



Point ID	CA49
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Richville

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
620924.908	79193.481	124.072

Operator	Derek Griggs
Receiver Model	Trimble R8 3
Receiver S/N	5152479795
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-21-17
RMSE Hz	0.007
RMSE Z	0.007
GPS Method	NYSNET

PHOTOS:



Point ID	CA50
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Pope Mills

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
622019.551	67425.981	115.442

Operator	Derek Griggs
Receiver Model	Trimble R8 3
Receiver S/N	5152479795
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-22-17
RMSE Hz	0.007
RMSE Z	0.007
GPS Method	NYSNET

PHOTOS:









Point ID	CA51
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Bigelow

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
621186.152	89752.055	167.878

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-19-17
RMSE Hz	0.007
RMSE Z	0.007
GPS Method	NYSNET

PHOTOS:



Point ID	CA52
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	West Pierrepont

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

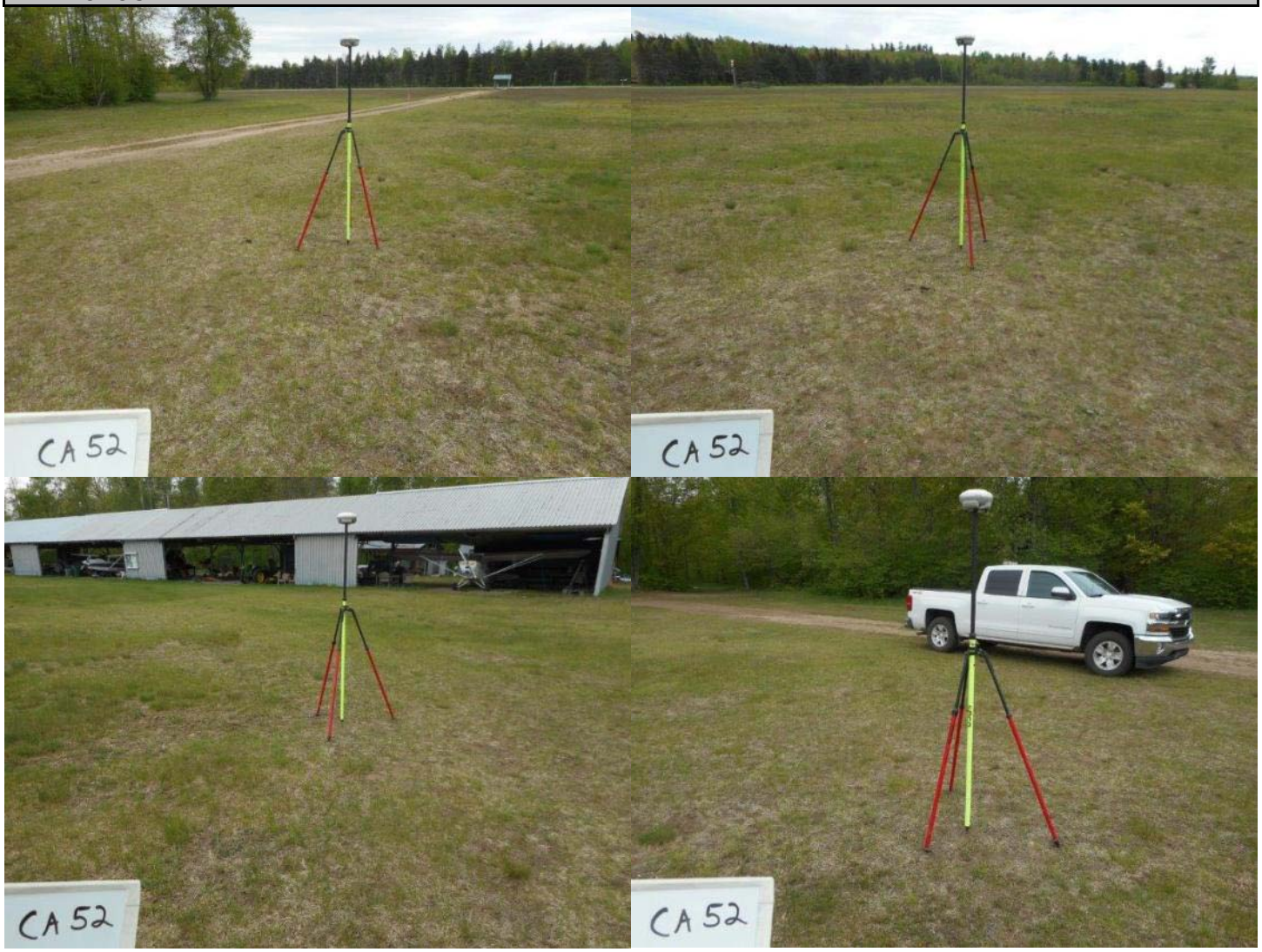
Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
617033.426	104783.755	247.782

Operator	Derek Griggs
Receiver Model	Trimble R8 3
Receiver S/N	5152479795
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-21-17
RMSE Hz	0.006
RMSE Z	0.006
GPS Method	NYSNET

PHOTOS:



Point ID	CA53
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Stark

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
620840.268	124743.133	435.825

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-18-17
RMSE Hz	0.007
RMSE Z	0.007
GPS Method	NYSNET

PHOTOS:



Point ID	CA54
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Stark

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
623932.139	126822.141	398.289

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-15-17
RMSE Hz	0.010
RMSE Z	0.010
GPS Method	NYSNET

PHOTOS:









Point ID	CA55
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	Mount Matumbla

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
608071.347	148349.935	464.440

Operator	Derek Griggs
Receiver Model	Trimble R8 3
Receiver S/N	5153480435
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-20-17
RMSE Hz	0.009
RMSE Z	0.009
GPS Method	NYSNET

PHOTOS:



Point ID	CA56
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	Upper Saranac Lake

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
612423.324	164154.859	496.708

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-16-17
RMSE Hz	0.008
RMSE Z	0.008
GPS Method	NYSNET

PHOTOS:



Point ID	CA57
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	Saint Regis Mountain

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

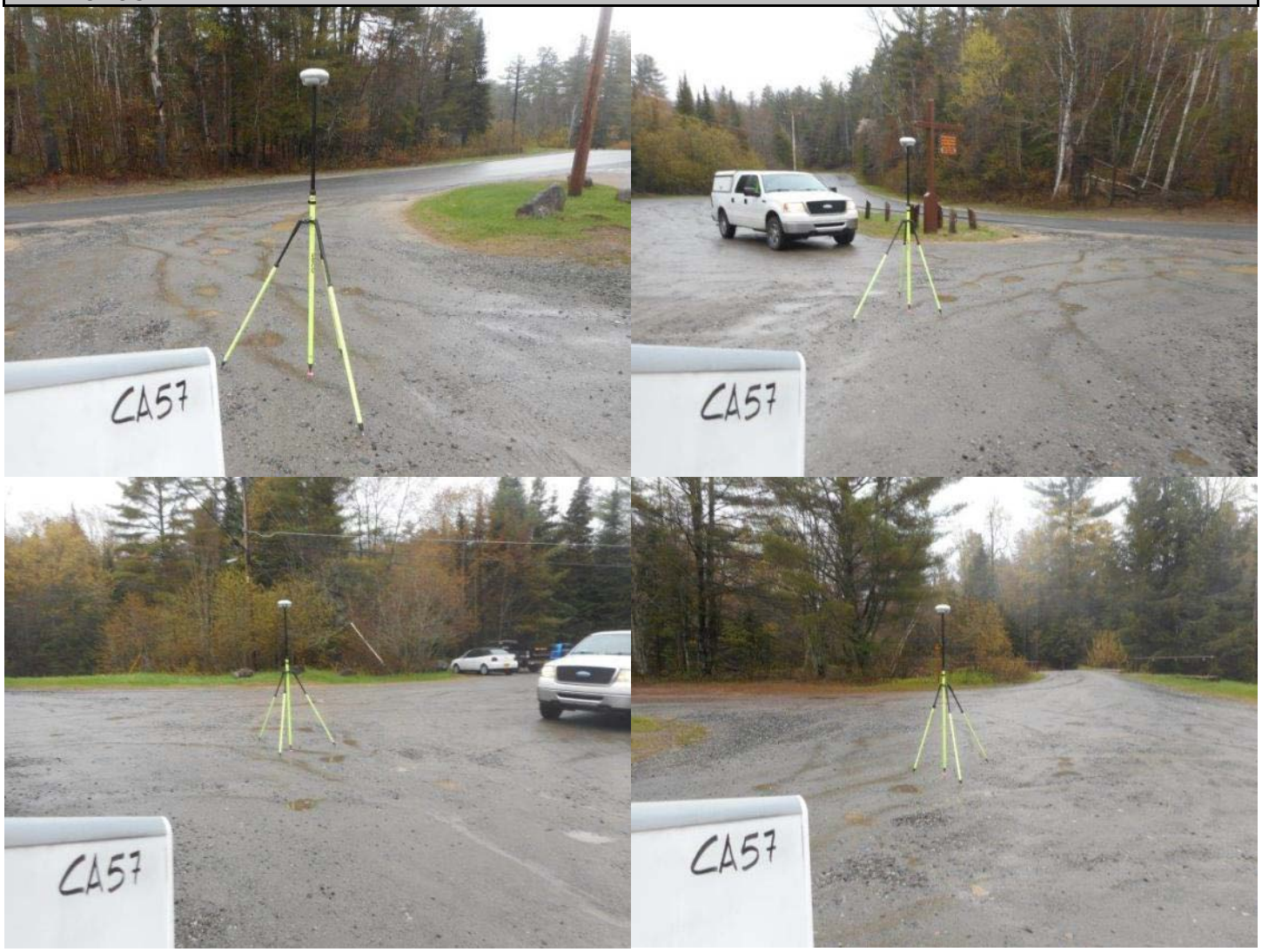
Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
621775.563	165934.594	493.239

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-15-17
RMSE Hz	0.007
RMSE Z	0.007
GPS Method	NYSNET

PHOTOS:



Point ID	CA58
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	Meacham Lake

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
630702.948	165548.729	504.698

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-13-17
RMSE Hz	0.006
RMSE Z	0.006
GPS Method	Static

PHOTOS:









Point ID	CA59
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	Meno

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
630968.220	154302.009	474.820

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-15-17
RMSE Hz	0.005
RMSE Z	0.005
GPS Method	NYSNET

PHOTOS:









Point ID	CA60
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Stark

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
627197.672	121117.087	365.038

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-18-17
RMSE Hz	0.008
RMSE Z	0.008
GPS Method	NYSNET

PHOTOS:



Point ID	CA61
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Rainbow Falls

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

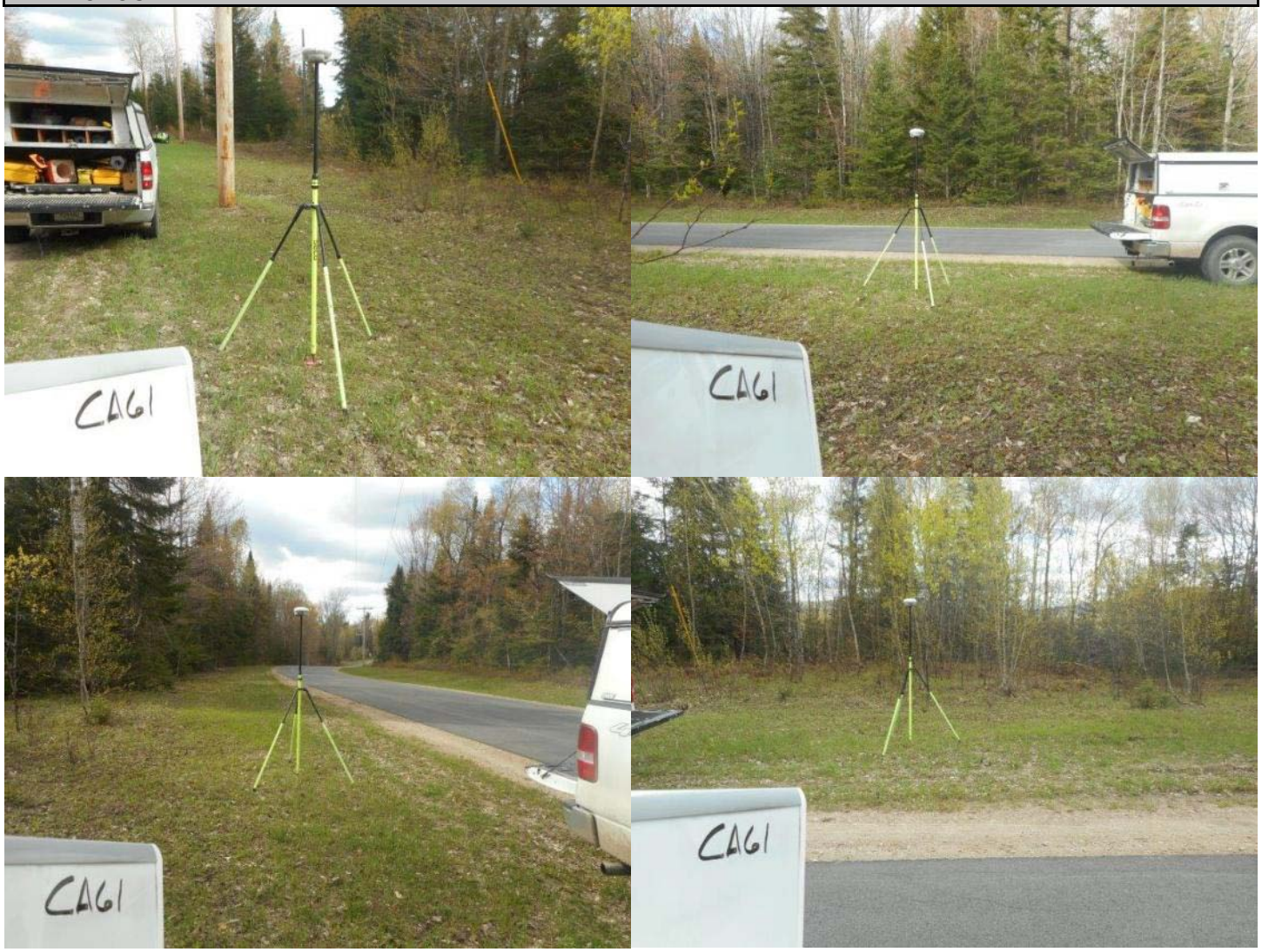
Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
632761.411	131168.798	394.933

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-15-17
RMSE Hz	0.009
RMSE Z	0.009
GPS Method	NYSNET

PHOTOS:



Point ID	CA62
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Colton

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
630266.990	119100.995	282.128

Operator	Derek Griggs
Receiver Model	Trimble R8 3
Receiver S/N	5153480435
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-21-17
RMSE Hz	0.006
RMSE Z	0.006
GPS Method	NYSNET

PHOTOS:



Point ID	CA63
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	West Pierrepont

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

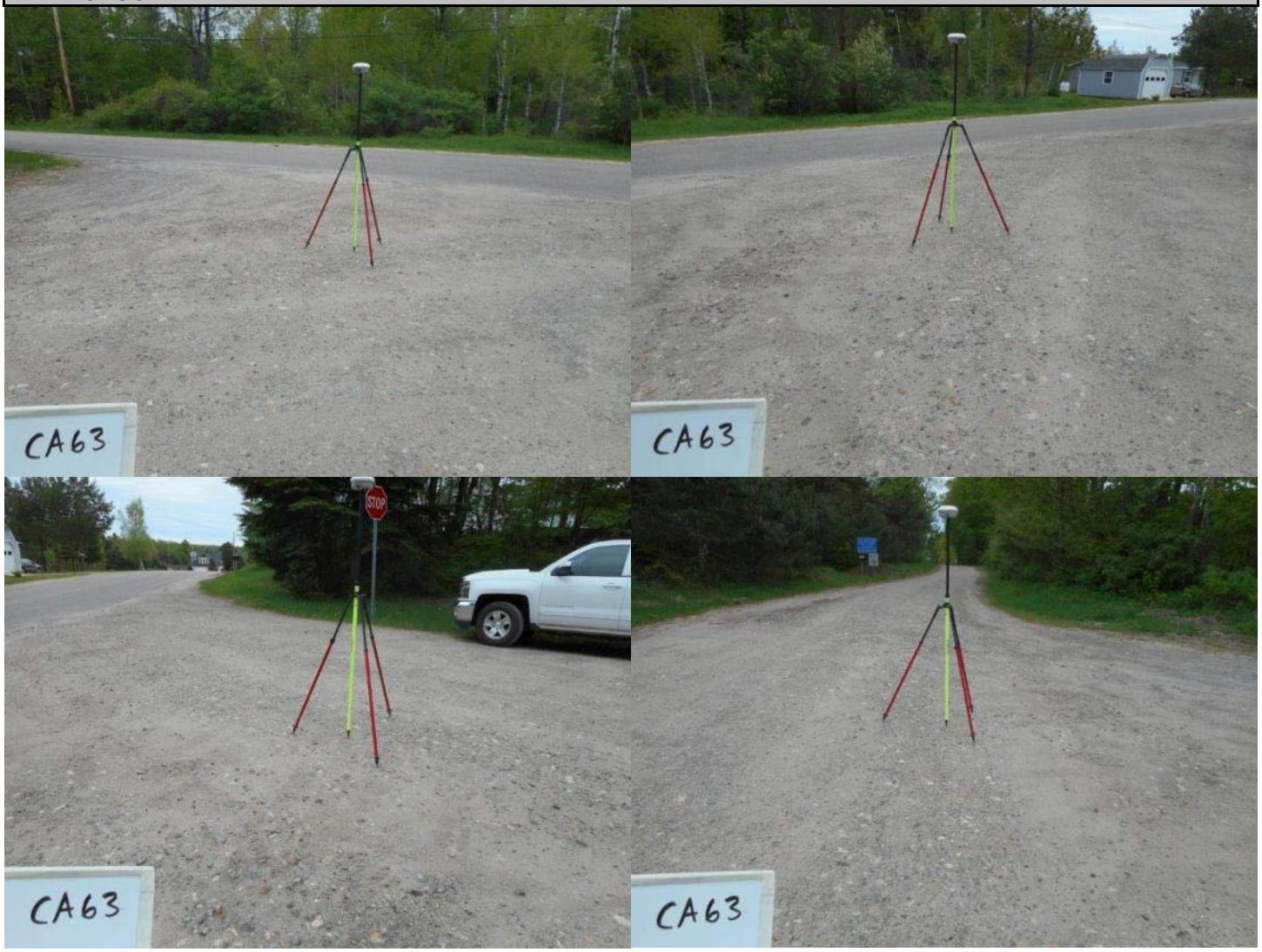
Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
628608.001	105179.848	233.667

Operator	Derek Griggs
Receiver Model	Trimble R8 3
Receiver S/N	5152479795
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-21-17
RMSE Hz	0.009
RMSE Z	0.009
GPS Method	NYSNET

PHOTOS:



Point ID	CA64
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Canton

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
631371.999	95950.378	159.573

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-18-17
RMSE Hz	0.010
RMSE Z	0.010
GPS Method	NYSNET

PHOTOS:



Point ID	CA65
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Bigelow

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
629502.881	82967.898	102.397

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-18-17
RMSE Hz	0.016
RMSE Z	0.016
GPS Method	NYSNET

PHOTOS:



Point ID	CA66
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Heuvelton

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
631242.039	73343.105	101.963

Operator	Derek Griggs
Receiver Model	Trimble R8 3
Receiver S/N	5152479795
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-22-17
RMSE Hz	0.006
RMSE Z	0.006
GPS Method	NYSNET

PHOTOS:



Point ID	CA67
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Edwardsville

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
636183.989	60945.027	90.498

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-19-17
RMSE Hz	0.008
RMSE Z	0.008
GPS Method	NYSNET

PHOTOS:









Point ID	CA68
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Edwardsville

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
641941.415	70218.015	113.645

Operator	Derek Griggs
Receiver Model	Trimble R8 3
Receiver S/N	5152479795
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-22-17
RMSE Hz	0.007
RMSE Z	0.007
GPS Method	NYSNET

PHOTOS:









Point ID	CA69
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Heuvelton

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

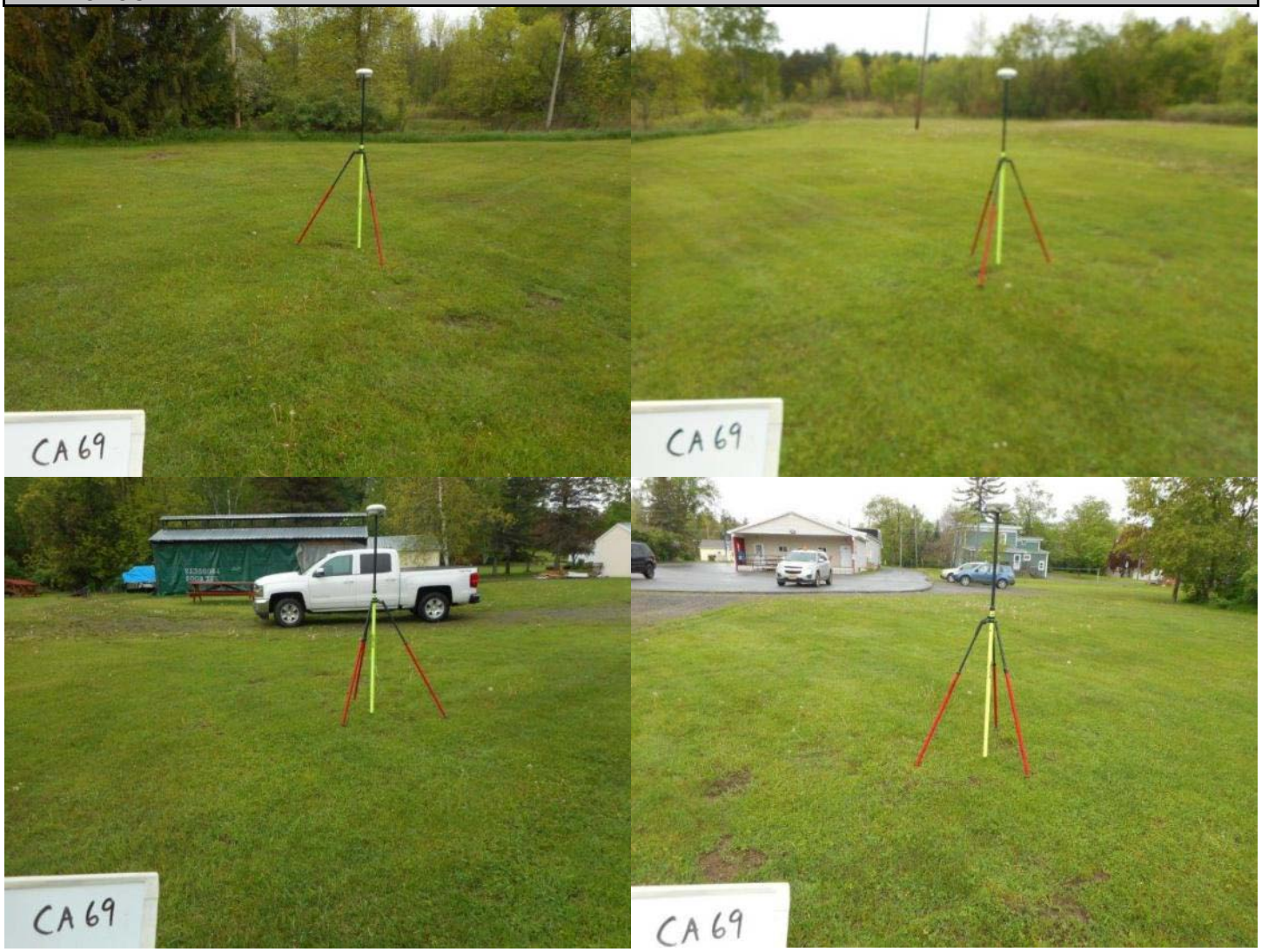
Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
642590.229	78400.972	90.308

Operator	Derek Griggs
Receiver Model	Trimble R8 3
Receiver S/N	5152479795
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-22-17
RMSE Hz	0.008
RMSE Z	0.008
GPS Method	NYSNET

PHOTOS:



Point ID	CA70
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Canton

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

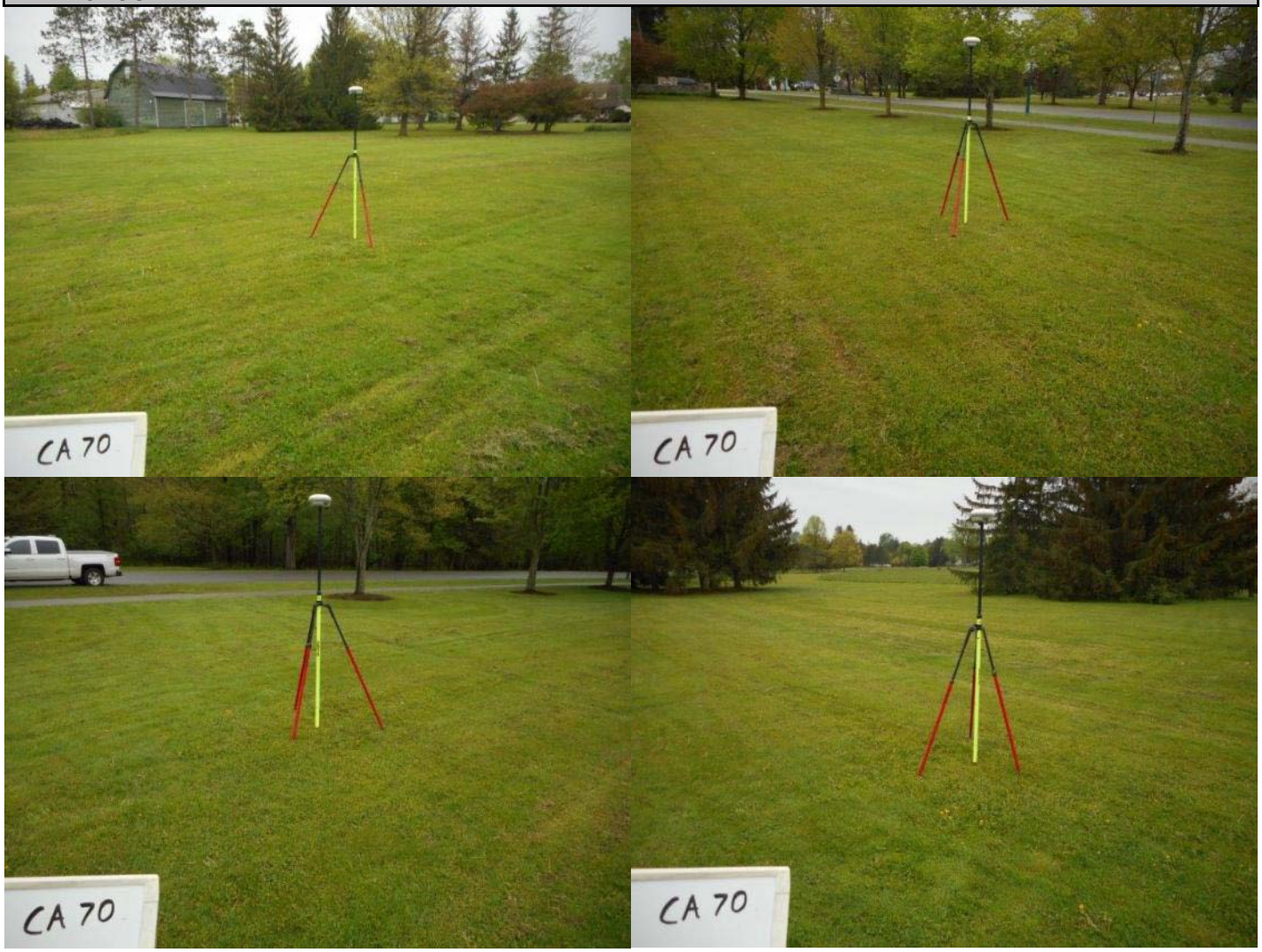
Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
640164.253	97913.154	115.946

Operator	Derek Griggs
Receiver Model	Trimble R8 3
Receiver S/N	5152479795
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-22-17
RMSE Hz	0.005
RMSE Z	0.005
GPS Method	NYSNET

PHOTOS:



Point ID	CA71
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Pierrepont

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
639704.441	106420.538	147.334

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-18-17
RMSE Hz	0.009
RMSE Z	0.009
GPS Method	NYSNET

PHOTOS:



Point ID	CA72
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Colton

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
638695.906	118418.764	270.022

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-15-17
RMSE Hz	0.009
RMSE Z	0.009
GPS Method	NYSNET

PHOTOS:



Point ID	CA73
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Parishville

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
643844.642	125392.020	271.731

Operator	Derek Griggs
Receiver Model	Trimble R8 3
Receiver S/N	5152479795
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-21-17
RMSE Hz	0.009
RMSE Z	0.009
GPS Method	NYSNET

PHOTOS:



Point ID	CA74
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Sylvan Falls

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
641040.148	140023.058	432.523

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-15-17
RMSE Hz	0.008
RMSE Z	0.008
GPS Method	NYSNET

PHOTOS:



Point ID	CA75
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	Lake Ozonia

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
639968.728	149912.072	437.187

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-12-17
RMSE Hz	0.014
RMSE Z	0.014
GPS Method	NYSNET

PHOTOS:



Point ID	CA76
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	Meacham Lake

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
639707.213	162270.620	444.695

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-13-17
RMSE Hz	0.007
RMSE Z	0.007
GPS Method	NYSNET

PHOTOS:



Point ID	CA77
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	Loon Lake

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
640545.892	178944.451	511.902

Operator	Derek Griggs
Receiver Model	Trimble R8 3
Receiver S/N	5153480435
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-20-17
RMSE Hz	0.004
RMSE Z	0.004
GPS Method	NYSNET

PHOTOS:



Point ID	CA78
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	Owl Head

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
650952.857	179169.484	461.236

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-12-17
RMSE Hz	0.009
RMSE Z	0.009
GPS Method	NYSNET

PHOTOS:



Point ID	CA79
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	Lake Titus

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
651498.916	164530.879	463.959

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-12-17
RMSE Hz	0.008
RMSE Z	0.008
GPS Method	NYSNET

PHOTOS:



Point ID	CA80
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	Santa Clara

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
650743.290	151018.423	423.295

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-12-17
RMSE Hz	0.010
RMSE Z	0.010
GPS Method	NYSNET

PHOTOS:



Point ID	CA89
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Nicholville

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
651370.940	137414.321	236.560

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-21-17
RMSE Hz	0.009
RMSE Z	0.009
GPS Method	NYSNET

PHOTOS:



Point ID	CA82
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Parishville

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
652811.141	122837.808	127.218

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-21-17
RMSE Hz	0.006
RMSE Z	0.006
GPS Method	NYSNET

PHOTOS:









Point ID	CA83
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Potsdam

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
653185.848	111006.638	111.952

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-10-17
RMSE Hz	0.008
RMSE Z	0.008
GPS Method	NYSNET

PHOTOS:



Point ID	CA84
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Morley

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
653678.305	97842.773	97.225

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-21-17
RMSE Hz	0.008
RMSE Z	0.008
GPS Method	NYSNET

PHOTOS:



Point ID	CA85
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Lisbon

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
655484.624	85083.447	98.704

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-21-17
RMSE Hz	0.009
RMSE Z	0.009
GPS Method	NYSNET

PHOTOS:



Point ID	CA86
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Waddington

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
666677.269	98928.054	86.219

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-10-17
RMSE Hz	0.006
RMSE Z	0.006
GPS Method	NYSNET

PHOTOS:



Point ID	CA87
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Norfolk

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
667495.957	111548.278	72.467

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-10-17
RMSE Hz	0.009
RMSE Z	0.009
GPS Method	NYSNET

PHOTOS:









Point ID	CA88
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Brashear Falls

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
661404.519	123776.573	112.145

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-10-17
RMSE Hz	0.005
RMSE Z	0.005
GPS Method	NYSNET

PHOTOS:









Point ID	CA89
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	North Lawrence

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
663227.920	136212.091	103.917

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-21-17
RMSE Hz	0.007
RMSE Z	0.007
GPS Method	NYSNET

PHOTOS:



Point ID	CA90
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	Brushton

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
665198.064	148312.314	136.175

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-11-17
RMSE Hz	0.007
RMSE Z	0.007
GPS Method	NYSNET

PHOTOS:









Point ID	CA91
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	Bangor

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
663846.121	158077.128	237.219

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-22-17
RMSE Hz	0.008
RMSE Z	0.008
GPS Method	NYSNET

PHOTOS:



Point ID	CA92
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	Malone

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
665301.381	169316.425	304.326

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-22-17
RMSE Hz	0.008
RMSE Z	0.008
GPS Method	NYSNET

PHOTOS:









Point ID	CA95
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	Brainardsville

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
663707.955	189449.368	406.392

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-11-17
RMSE Hz	0.006
RMSE Z	0.006
GPS Method	NYSNET

PHOTOS:









Point ID	CA94
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	Chateaugay

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
672141.441	186996.120	406.142

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-20-17
RMSE Hz	0.007
RMSE Z	0.007
GPS Method	NYSNET

PHOTOS:



Point ID	CA95
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	Chasm Falls

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
669630.567	177676.929	363.203

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-11-17
RMSE Hz	0.008
RMSE Z	0.008
GPS Method	NYSNET

PHOTOS:









Point ID	CA96
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	Malone

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
671105.443	164297.802	195.440

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-22-17
RMSE Hz	0.008
RMSE Z	0.008
GPS Method	NYSNET

PHOTOS:









Point ID	CA97
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	Fort Covington

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
672136.356	151820.117	91.786

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-11-17
RMSE Hz	0.007
RMSE Z	0.007
GPS Method	NYSNET

PHOTOS:









Point ID	CA98
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	Bombay

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
674435.431	141069.763	65.745

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-20-17
RMSE Hz	0.009
RMSE Z	0.009
GPS Method	NYSNET

PHOTOS:



Point ID	CA99
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Raquette River

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
673593.498	129741.388	65.565

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-10-17
RMSE Hz	0.009
RMSE Z	0.009
GPS Method	NYSNET

PHOTOS:



Point ID	CA100
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Massena

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
676222.137	119337.907	72.046

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-22-17
RMSE Hz	0.006
RMSE Z	0.006
GPS Method	Static

PHOTOS:



Point ID	CA101
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	Hogansburg

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
682689.699	132131.430	59.159

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-23-17
RMSE Hz	0.007
RMSE Z	0.007
GPS Method	NYSNET

PHOTOS:



Point ID	CA102
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	Fort Covington Port of Entry

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
681267.323	142991.996	67.104

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-20-17
RMSE Hz	0.009
RMSE Z	0.009
GPS Method	NYSNET

PHOTOS:



Point ID	CA103
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	East of Fort Covington Port of Entry

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
683508.052	150196.364	52.345

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-20-17
RMSE Hz	0.009
RMSE Z	0.009
GPS Method	NYSNET

PHOTOS:



Point ID	CA104
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	Jamiesons Line Station

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
681779.415	169909.081	94.512

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-20-17
RMSE Hz	0.008
RMSE Z	0.008
GPS Method	NYSNET

PHOTOS:



Point ID	CA105
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	Chateaugay Port of Entry

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
681385.359	182882.379	184.032

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-20-17
RMSE Hz	0.007
RMSE Z	0.007
GPS Method	NYSNET

PHOTOS:



Point ID	CA106
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	Malone

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
659896.912	165581.492	386.133

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-12-17
RMSE Hz	0.009
RMSE Z	0.009
GPS Method	NYSNET

PHOTOS:









Point ID	CA107
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Norfolk

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

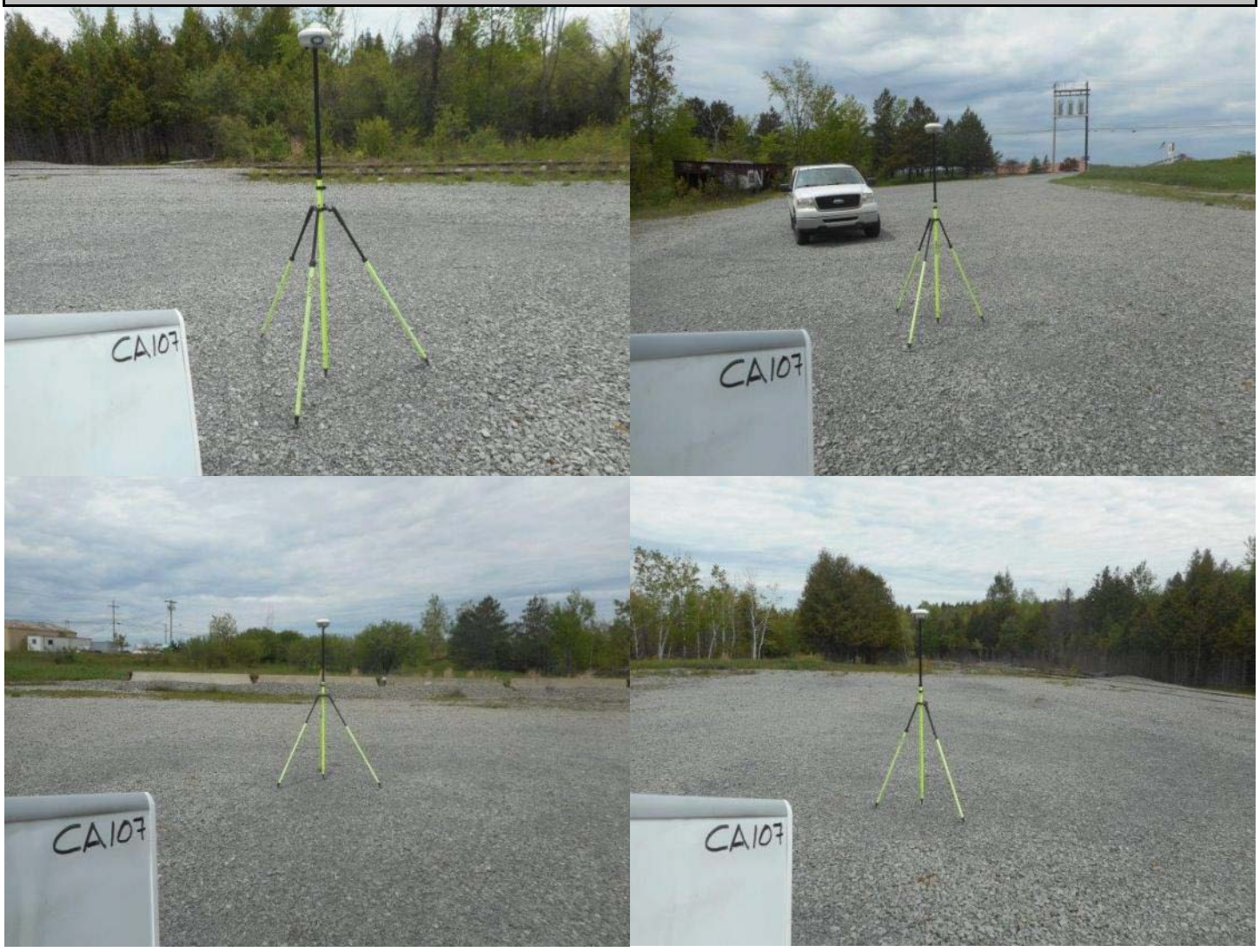
Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
660872.141	111431.376	100.781

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-21-17
RMSE Hz	0.007
RMSE Z	0.007
GPS Method	NYSNET

PHOTOS:



Point ID	CA108
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Muskellunge Lake

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
615454.543	58173.133	94.526

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-19-17
RMSE Hz	0.007
RMSE Z	0.007
GPS Method	NYSNET

PHOTOS:



Bare Earth Point Log Sheets

Point ID	BE01
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Onondaga
Quad	Deruyter

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
314161.790	305666.377	402.498

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-8-17
RMSE Hz	0.019
RMSE Z	0.031
GPS Method	NYSNET

PHOTOS:









Point ID	BE02
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Onondaga
Quad	Oran

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
325314.694	301622.484	399.395

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-8-17
RMSE Hz	0.008
RMSE Z	0.015
GPS Method	NYSNET

PHOTOS:



Point ID	BE03
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Onondaga
Quad	Tully

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
310557.177	289219.568	376.701

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-4-17
RMSE Hz	.0005
RMSE Z	0.008
GPS Method	NYSNET

PHOTOS:









Point ID	BE03a
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Onondaga
Quad	Tully

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
313104.205	291753.806	378.456

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	7-10-17
RMSE Hz	0.012
RMSE Z	0.008
GPS Method	NYSNET

PHOTOS:









Point ID	BE04
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Onondaga
Quad	Manlius

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
335799.462	300786.513	257.636

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-8-17
RMSE Hz	0.007
RMSE Z	0.012
GPS Method	NYSNET

PHOTOS:



Point ID	BE05
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Onondaga
Quad	Syracuse East

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
346186.666	297153.709	127.932

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-7-17
RMSE Hz	0.009
RMSE Z	0.014
GPS Method	NYSNET

PHOTOS:



Point ID	BE06
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Onoodaga
Quad	Brewerton

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
353996.161	280786.170	121.669

Operator	Derek Griggs
Receiver Model	Trimble R8 3
Receiver S/N	5152479795
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-8-17
RMSE Hz	0.009
RMSE Z	0.014
GPS Method	NYSNET

PHOTOS:



Point ID	BE07
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Oswego
Quad	Mallory

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
364430.528	291978.082	121.154

Operator	Derek Griggs
Receiver Model	Trimble R8 3
Receiver S/N	5152479795
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-8-17
RMSE Hz	0.007
RMSE Z	0.013
GPS Method	NYSNET

PHOTOS:



Point ID	BE08
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Oswego
Quad	Central Square

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
366324.841	280204.992	128.945

Operator	Derek Griggs
Receiver Model	Trimble R8 3
Receiver S/N	5152479795
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-8-17
RMSE Hz	0.006
RMSE Z	0.010
GPS Method	NYSNET

PHOTOS:



Point ID	BE09
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Oswego
Quad	Pennellville

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

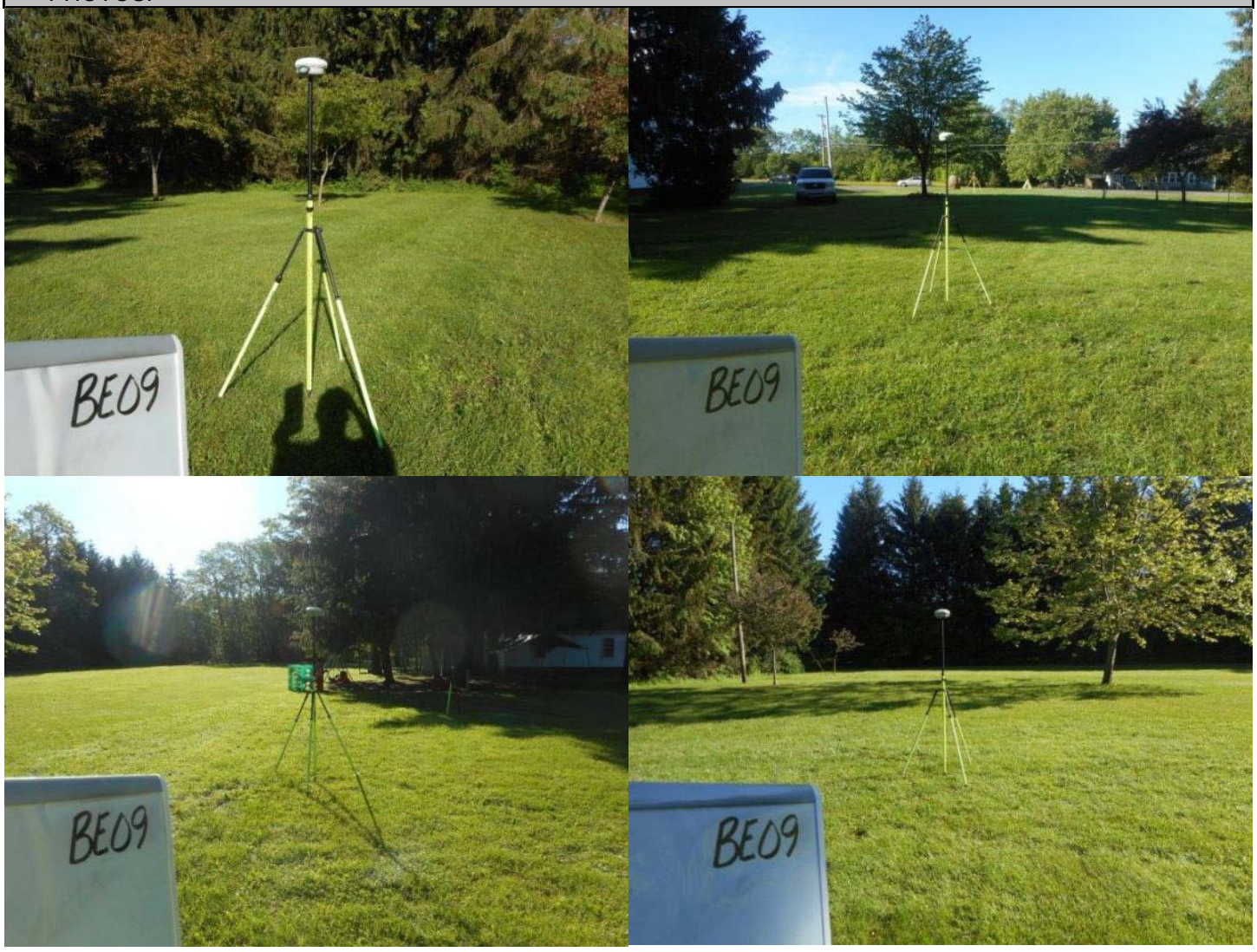
Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
370828.629	269841.877	148.358

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-7-17
RMSE Hz	0.008
RMSE Z	0.014
GPS Method	NYSNET

PHOTOS:



Point ID	BE10
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Oswego
Quad	Panther Lake

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

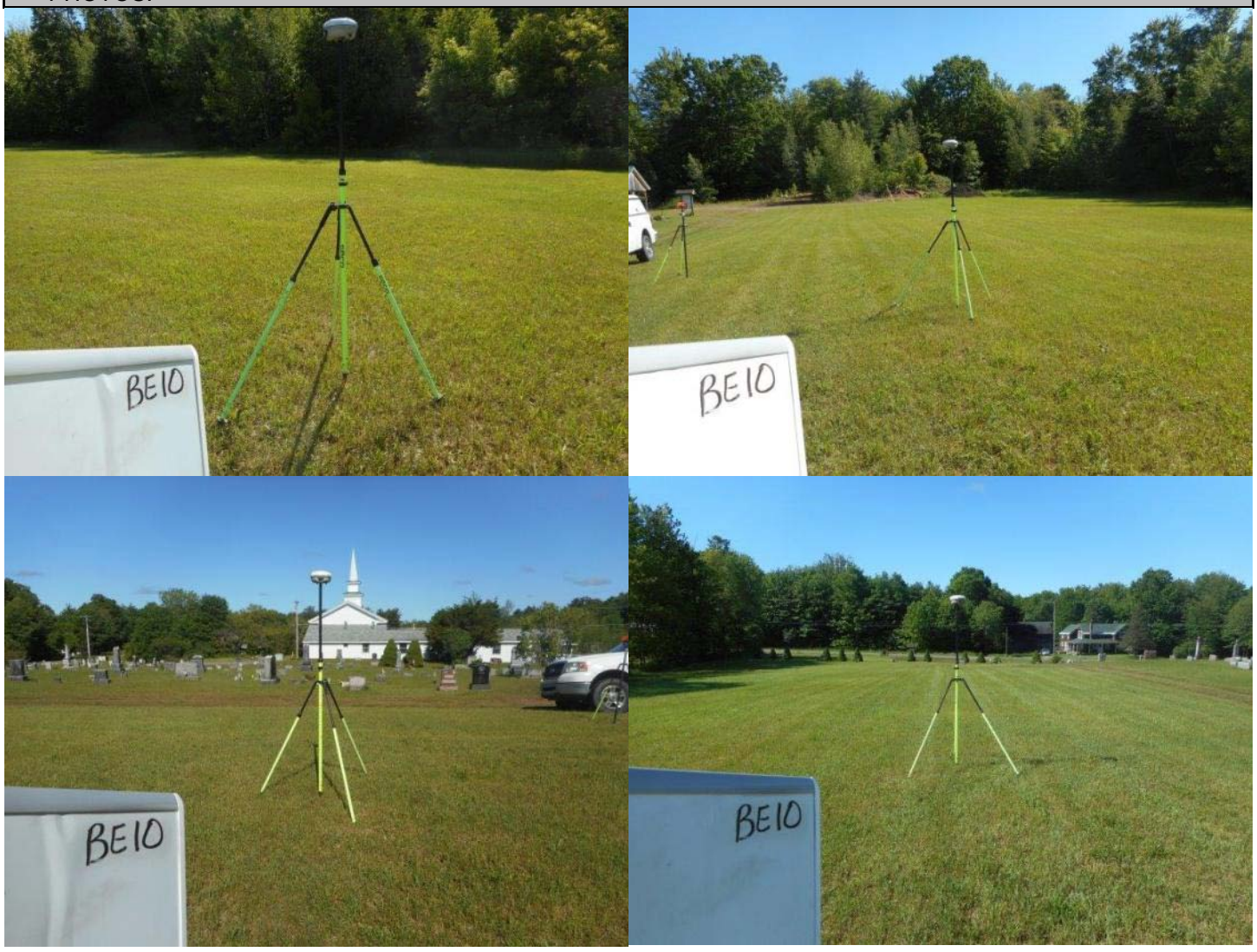
Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
364561.551	303843.580	181.278

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-7-17
RMSE Hz	0.006
RMSE Z	0.011
GPS Method	NYSNET

PHOTOS:



Point ID	BE11
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Oswego
Quad	Panther Lake

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
374242.046	306402.608	223.487

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-3-17
RMSE Hz	0.007
RMSE Z	0.012
GPS Method	NYSNET

PHOTOS:



Point ID	BE12
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Oneida
Quad	Camden West

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

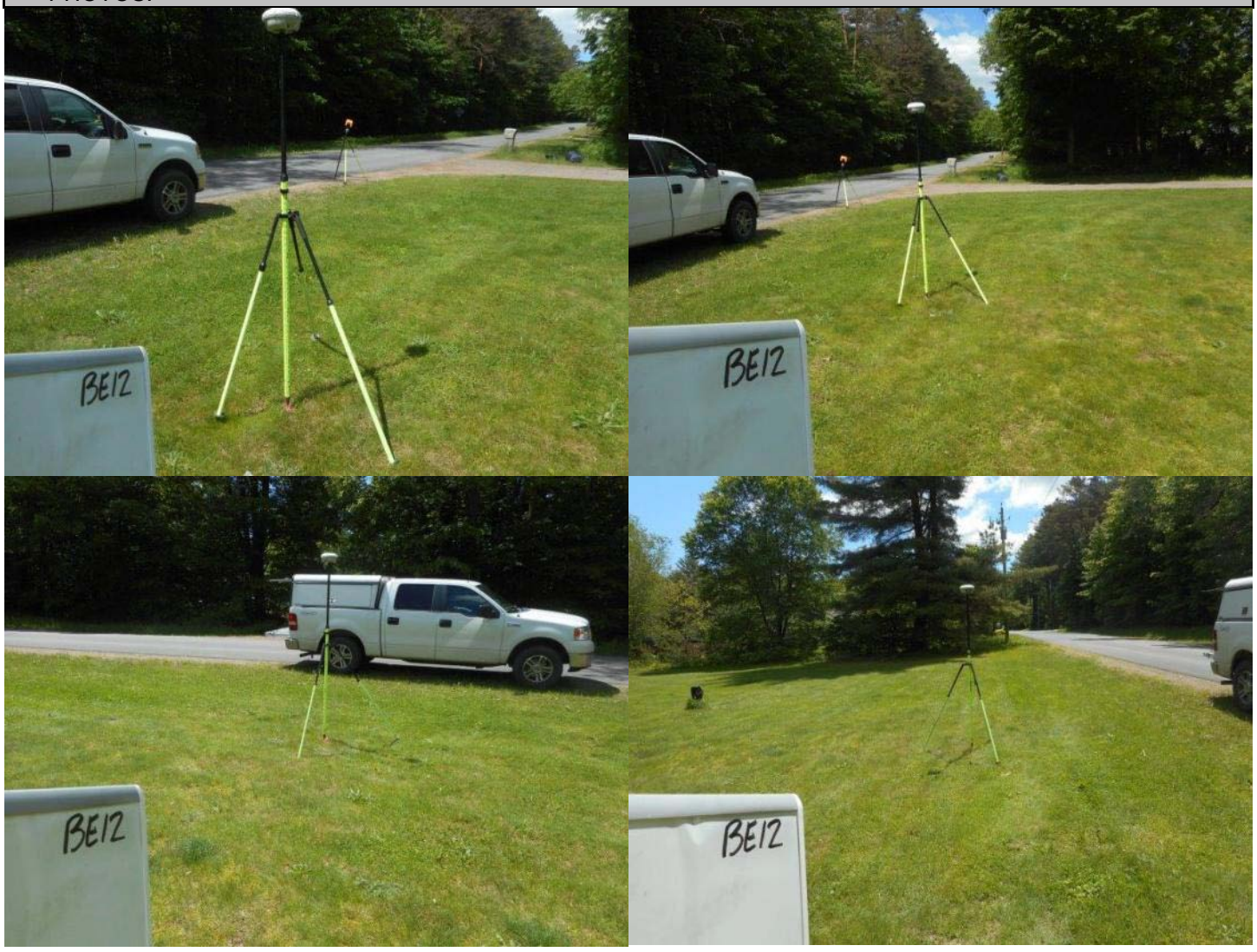
Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
365549.777	316088.825	154.408

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-7-17
RMSE Hz	0.011
RMSE Z	0.018
GPS Method	NYSNET

PHOTOS:



Point ID	BE13
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Oneida
Quad	Camden East

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
365820.458	326481.484	136.956

Operator	Derek Griggs
Receiver Model	Trimble R8 3
Receiver S/N	5152479795
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-8-17
RMSE Hz	0.007
RMSE Z	0.012
GPS Method	NYSNET

PHOTOS:









Point ID	BE14
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Oswego
Quad	Williamstown

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
381668.338	306325.197	183.065

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-6-17
RMSE Hz	0.006
RMSE Z	0.011
GPS Method	NYSNET

PHOTOS:









Point ID	BE15
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Oneida
Quad	Florence

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

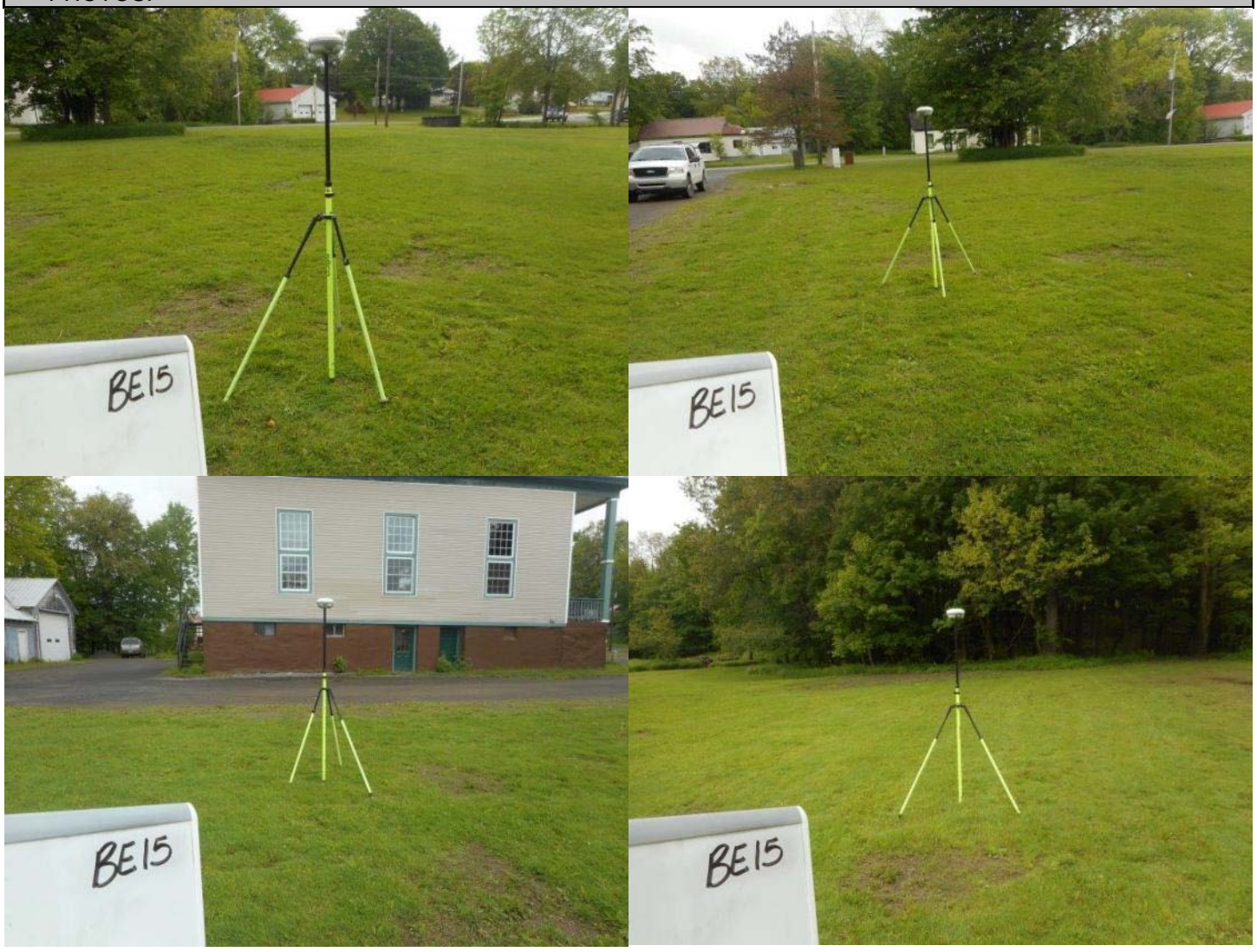
Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
382027.569	317525.975	294.579

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-5-17
RMSE Hz	0.010
RMSE Z	0.018
GPS Method	NYSNET

PHOTOS:



Point ID	BE16
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Lewis
Quad	Point Rock

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
385093.777	329383.003	402.738

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-5-17
RMSE Hz	0.013
RMSE Z	0.018
GPS Method	NYSNET

PHOTOS:









Point ID	BE17
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Oswego
Quad	Redfield

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
391597.159	312078.213	286.872

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-2-17
RMSE Hz	0.008
RMSE Z	0.013
GPS Method	NYSNET

PHOTOS:



Point ID	BE18
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Lewis
Quad	High Market

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
391783.653	335003.395	496.544

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-5-17
RMSE Hz	0.003
RMSE Z	0.007
GPS Method	Static

PHOTOS:



Point ID	BE19
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Lewis
Quad	High Market

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
400637.457	333139.755	540.784

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-2-17
RMSE Hz	0.007
RMSE Z	0.010
GPS Method	NYSNET

PHOTOS:



Point ID	BE20
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Lewis
Quad	Paige

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
413529.707	330639.215	580.193

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-2-17
RMSE Hz	0.006
RMSE Z	0.011
GPS Method	NYSNET

PHOTOS:



Point ID	BE20a
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Lewis
Quad	Page

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

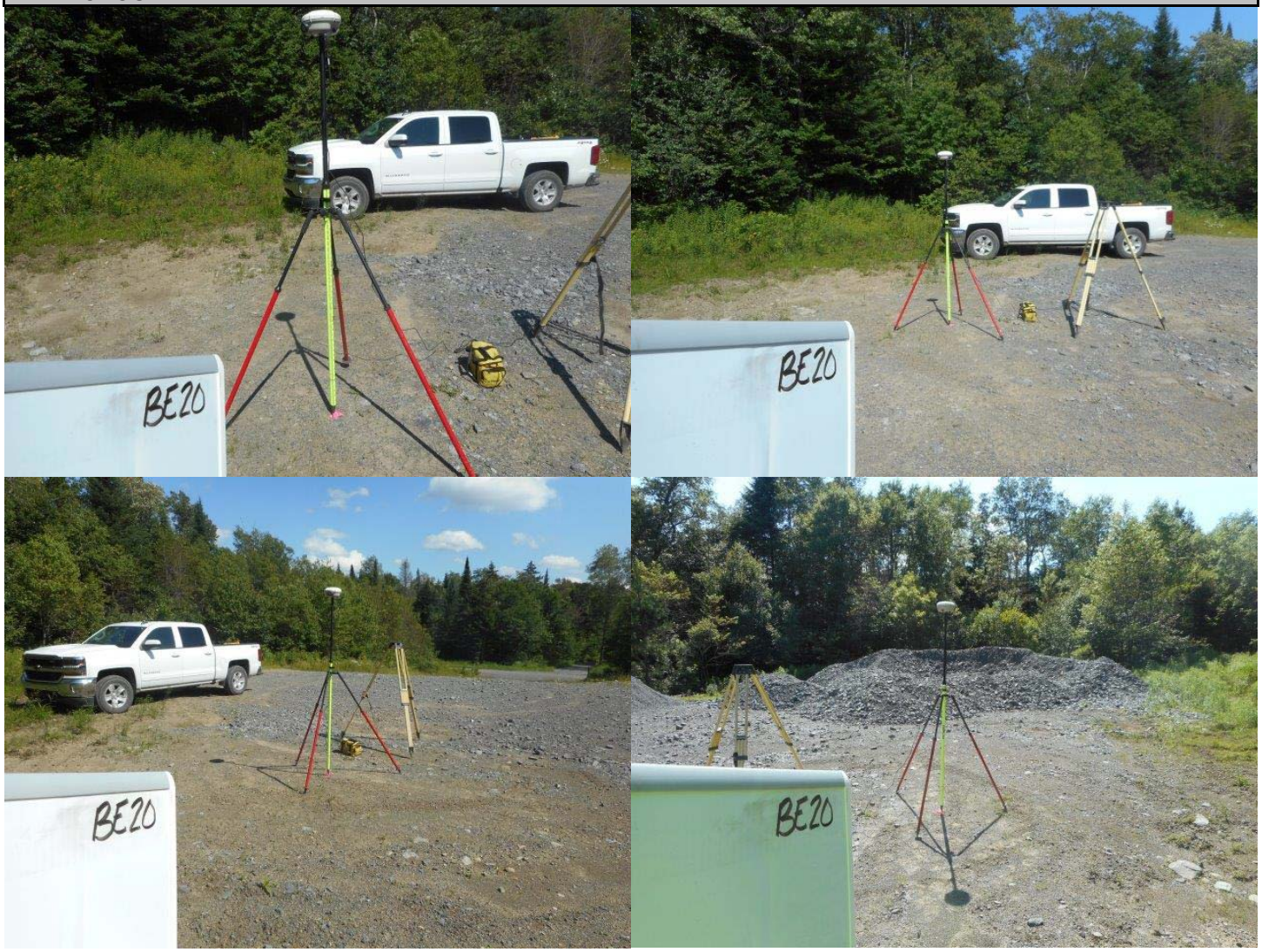
Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
405181.141	328678.459	569.400

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	7-9-17
RMSE Hz	0.018
RMSE Z	0.011
GPS Method	NYSNET

PHOTOS:



Point ID	BE21
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Long Tom Mountain

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
588661.543	139604.273	528.496

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-16-17
RMSE Hz	0.008
RMSE Z	0.008
GPS Method	NYSNET

PHOTOS:



Point ID	BE22
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Childwold

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
605681.970	137843.837	522.877

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-17-17
RMSE Hz	0.009
RMSE Z	0.009
GPS Method	NYSNET

PHOTOS:



Point ID	BE23
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Cranberry Lake

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
598709.411	123156.092	456.752

Operator	Derek Griggs
Receiver Model	Trimble R8 3
Receiver S/N	5152479795
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-20-17
RMSE Hz	0.008
RMSE Z	0.008
GPS Method	NYSNET

PHOTOS:



Point ID	BE24
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Newton Falls

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
597553.520	110547.906	420.853

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-17-17
RMSE Hz	0.007
RMSE Z	0.007
GPS Method	NYSNET

PHOTOS:



Point ID	BE25
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Fine

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
600285.325	98363.998	304.778

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-19-17
RMSE Hz	0.008
RMSE Z	0.008
GPS Method	NYSNET

PHOTOS:



Point ID	BE26
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Harisville

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
594309.849	87510.196	239.895

Operator	Derek Griggs
Receiver Model	Trimble R8 3
Receiver S/N	5152479795
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-21-17
RMSE Hz	0.009
RMSE Z	0.009
GPS Method	NYSNET

PHOTOS:



Point ID	BE27
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Lake Bonaparte

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
601831.944	78479.808	209.347

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-19-17
RMSE Hz	0.007
RMSE Z	0.007
GPS Method	NYSNET

PHOTOS:



Point ID	BE28
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Edwards

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
610299.997	89514.041	200.554

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-19-17
RMSE Hz	0.006
RMSE Z	0.006
GPS Method	NYSNET

PHOTOS:



Point ID	BE29
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Degrasse

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
611226.873	101955.103	270.006

Operator	Derek Griggs
Receiver Model	Trimble R8 3
Receiver S/N	5152479795
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-21-17
RMSE Hz	0.006
RMSE Z	0.006
GPS Method	NYSNET

PHOTOS:



Point ID	BE30
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Tooley Pond

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
605069.130	114410.857	427.247

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-17-17
RMSE Hz	0.009
RMSE Z	0.009
GPS Method	NYSNET

PHOTOS:



Point ID	BE31
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Childwold

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

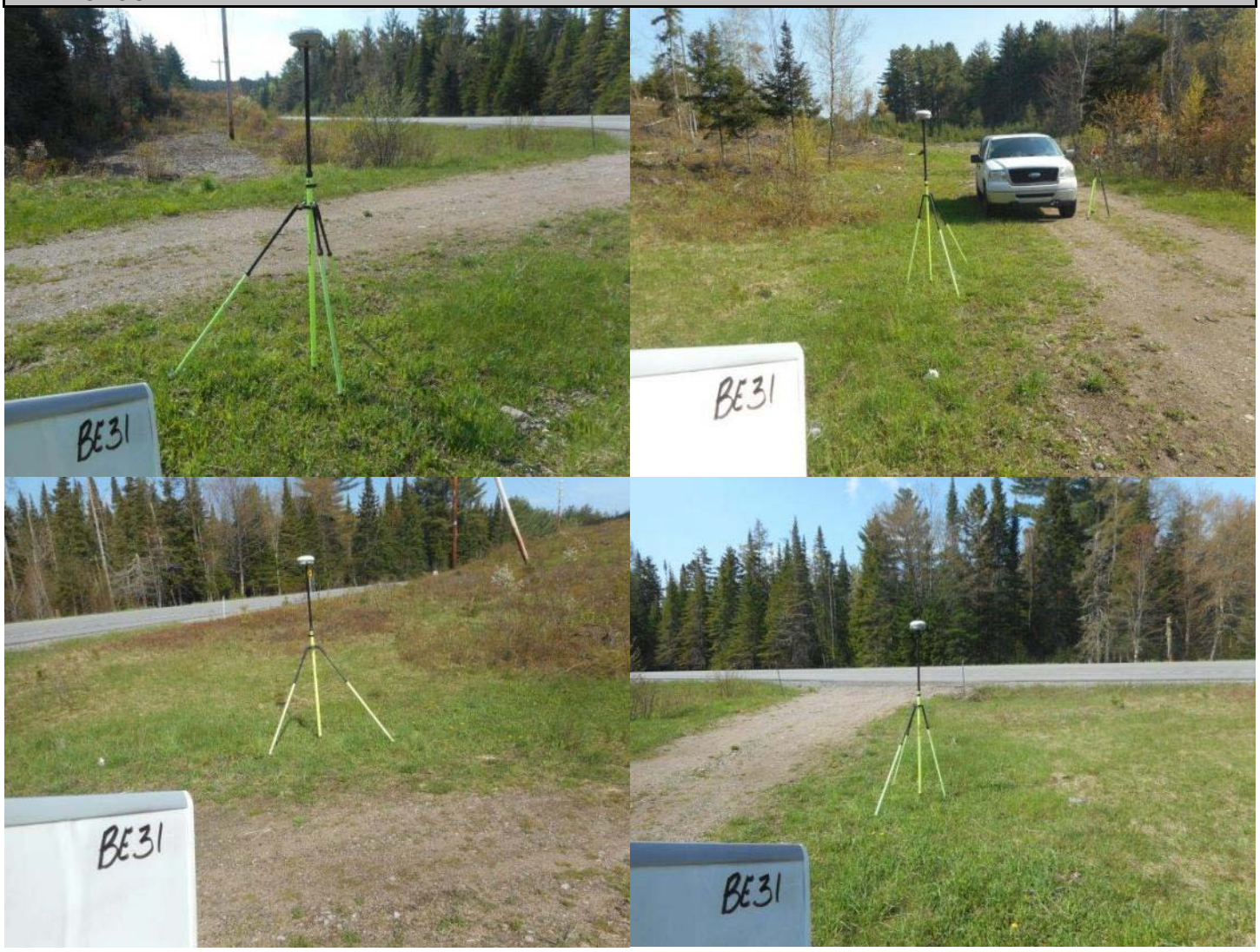
Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
610266.804	132012.047	435.390

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-17-17
RMSE Hz	0.007
RMSE Z	0.007
GPS Method	NYSNET

PHOTOS:



Point ID	BE32
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Brother Ponds

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

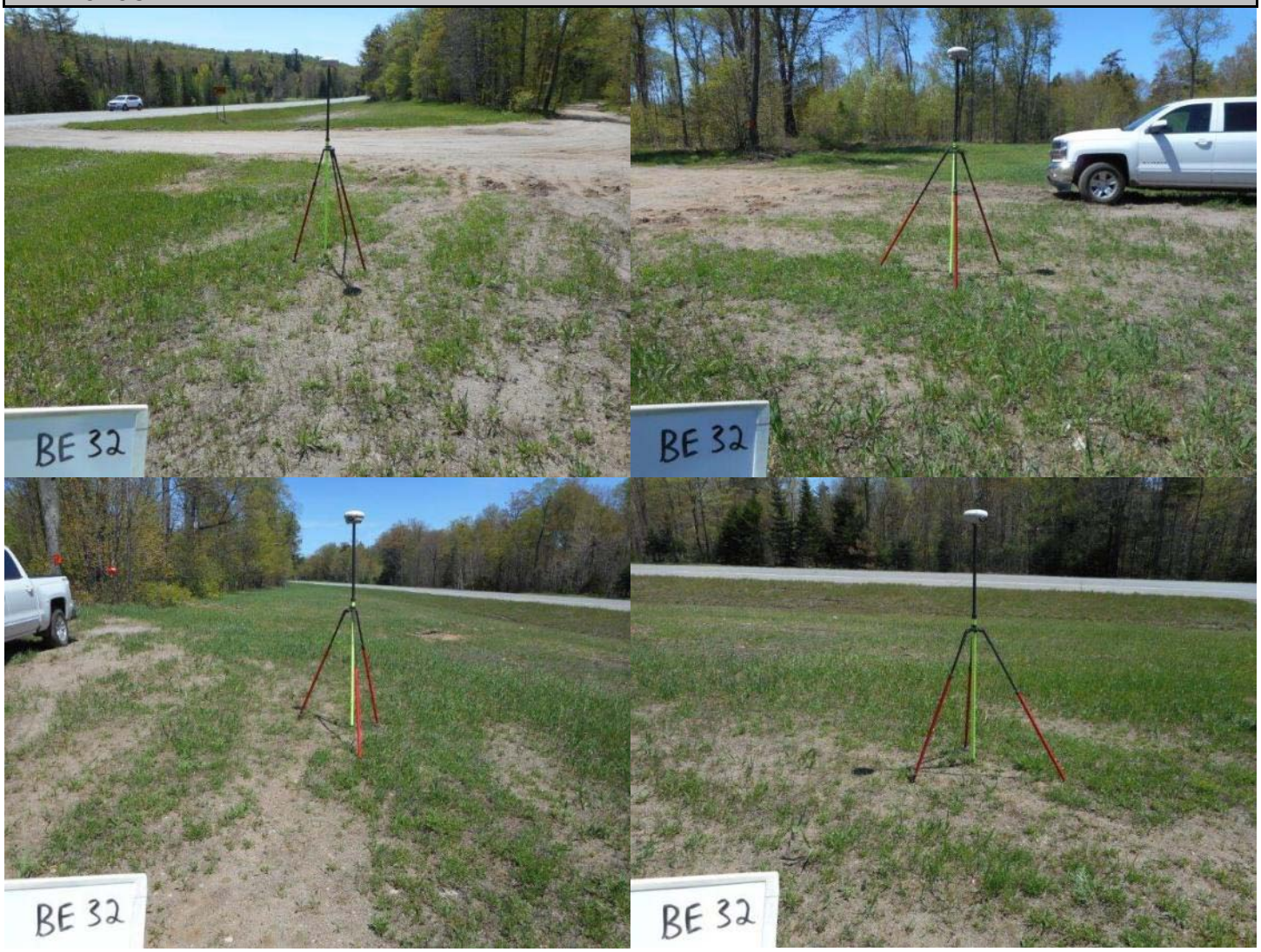
Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
601641.829	128206.119	454.481

Operator	Derek Griggs
Receiver Model	Trimble R8 3
Receiver S/N	5152479795
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-20-17
RMSE Hz	0.026
RMSE Z	0.026
GPS Method	NYSNET

PHOTOS:



Point ID	BE33
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	Mount Matumbia

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
602556.015	149760.801	483.920

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-16-17
RMSE Hz	0.008
RMSE Z	0.008
GPS Method	NYSNET

PHOTOS:



Point ID	BE33a
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Childwold

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

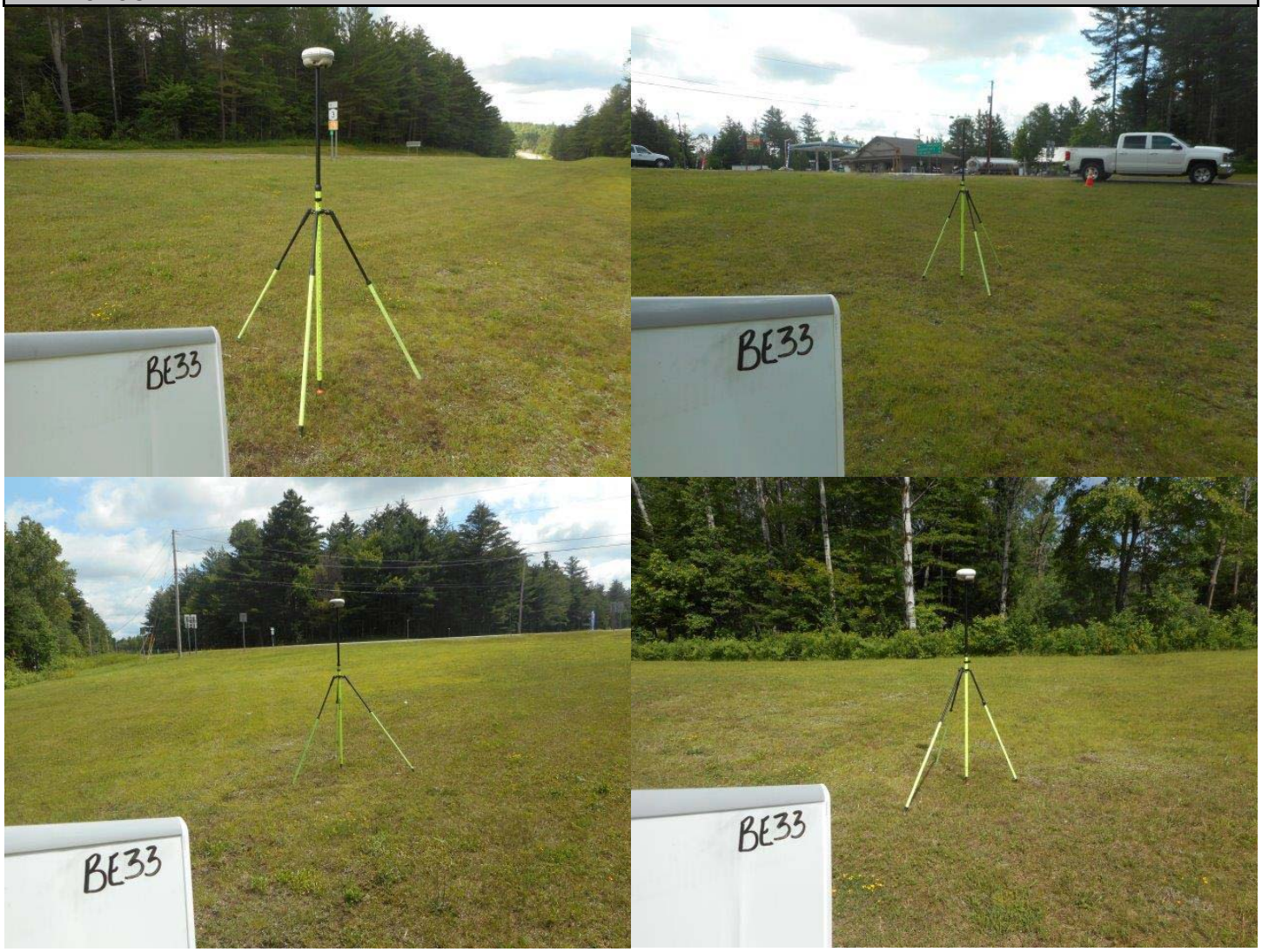
Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
132347.685	606299.621	466.933

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	7-9-17
RMSE Hz	0.009
RMSE Z	0.015
GPS Method	NYSNET

PHOTOS:



Point ID	BE34
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Richville

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

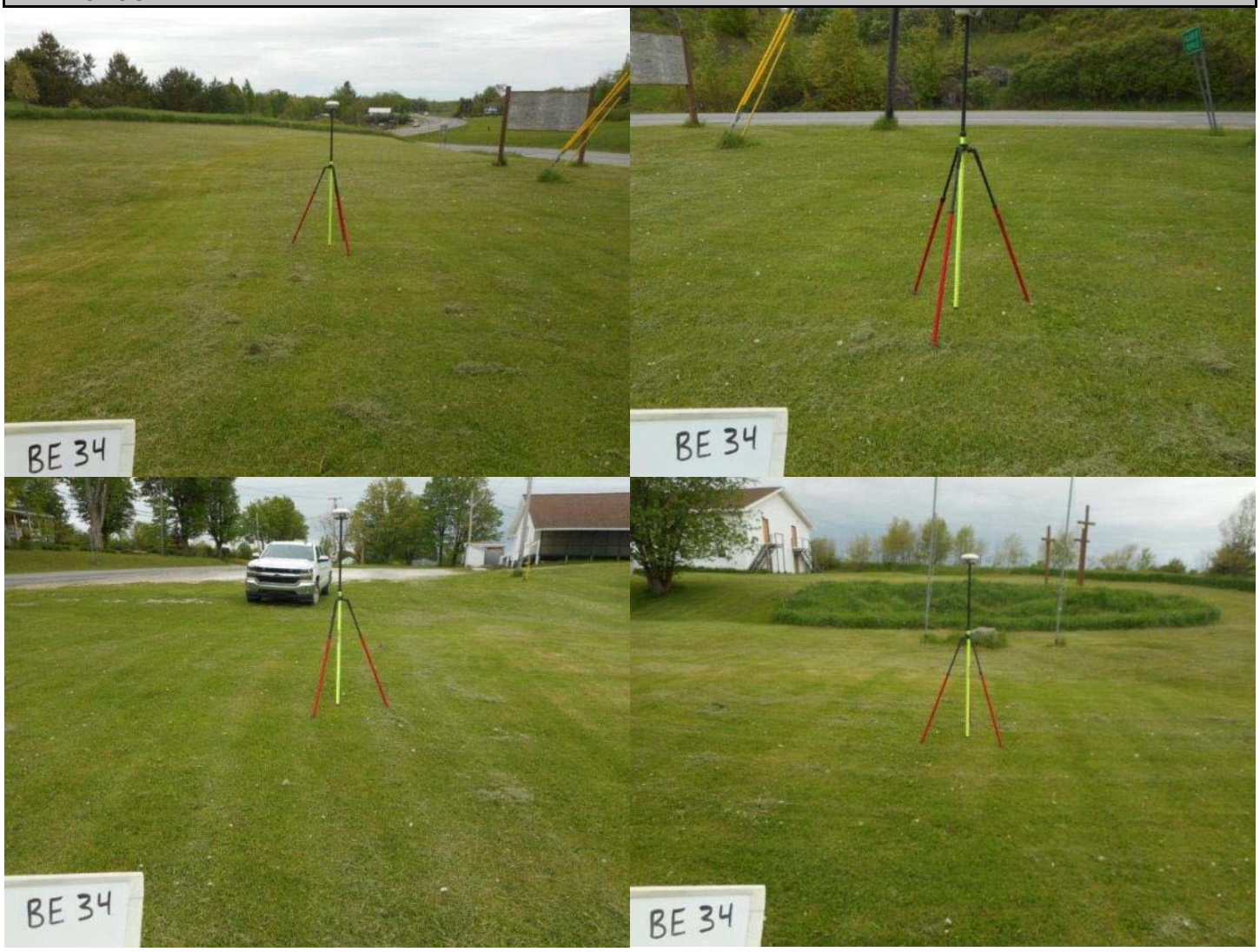
Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
620959.447	79203.435	122.652

Operator	Derek Griggs
Receiver Model	Trimble R8 3
Receiver S/N	5152479795
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-21-17
RMSE Hz	0.009
RMSE Z	0.009
GPS Method	NYSNET

PHOTOS:



Point ID	BE35
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Pope Mills

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

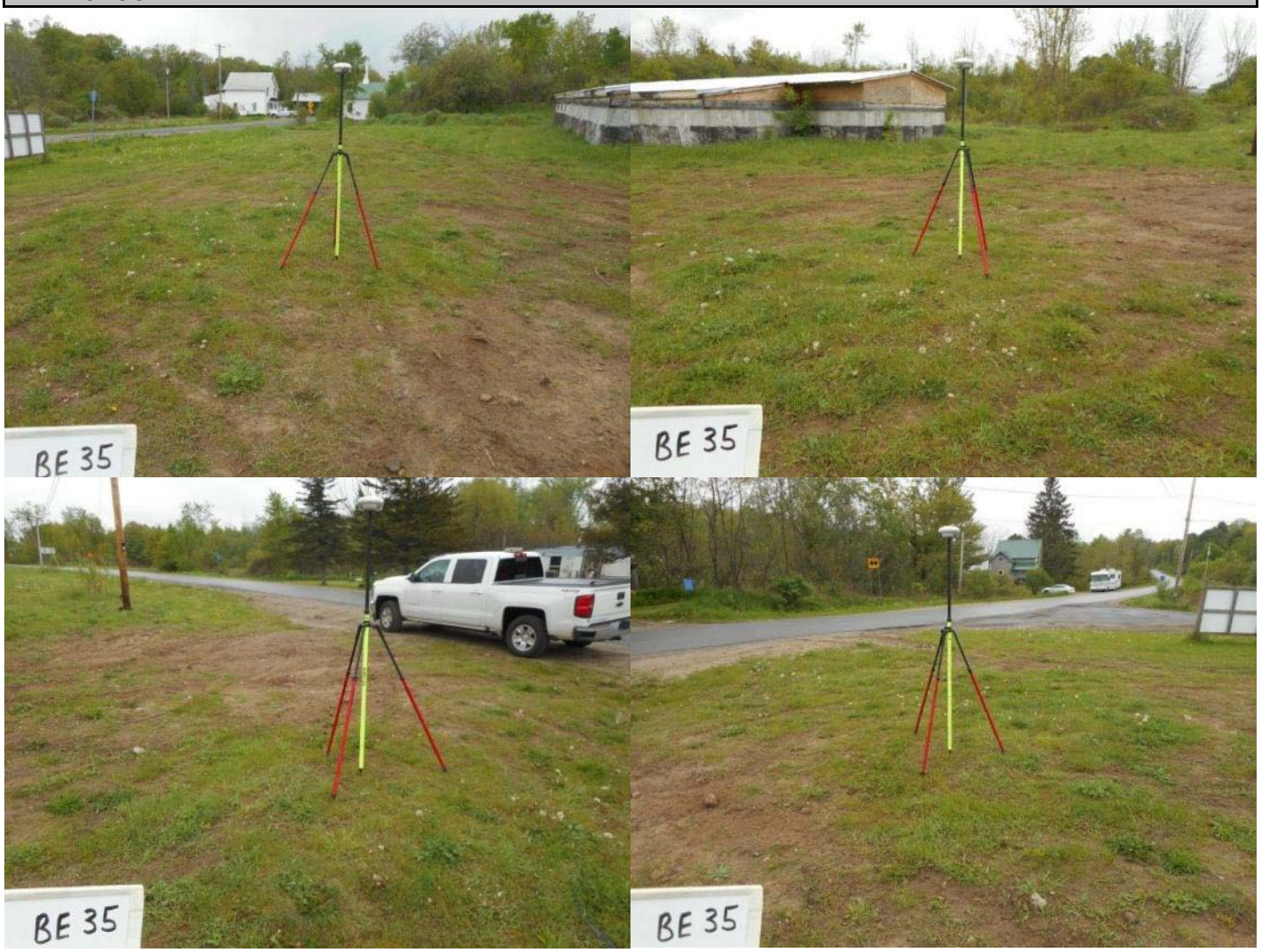
Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
621975.930	67514.518	118.017

Operator	Derek Griggs
Receiver Model	Trimble R8 3
Receiver S/N	5152479795
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-22-17
RMSE Hz	0.008
RMSE Z	0.008
GPS Method	NYSNET

PHOTOS:



Point ID	BE36
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Hermon

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
621194.483	91062.044	213.000

Operator	Derek Griggs
Receiver Model	Trimble R8 3
Receiver S/N	5153480435
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-23-17
RMSE Hz	0.003
RMSE Z	0.003
GPS Method	NYSNET

PHOTOS:



Point ID	BE37
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	West Pierrepont

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

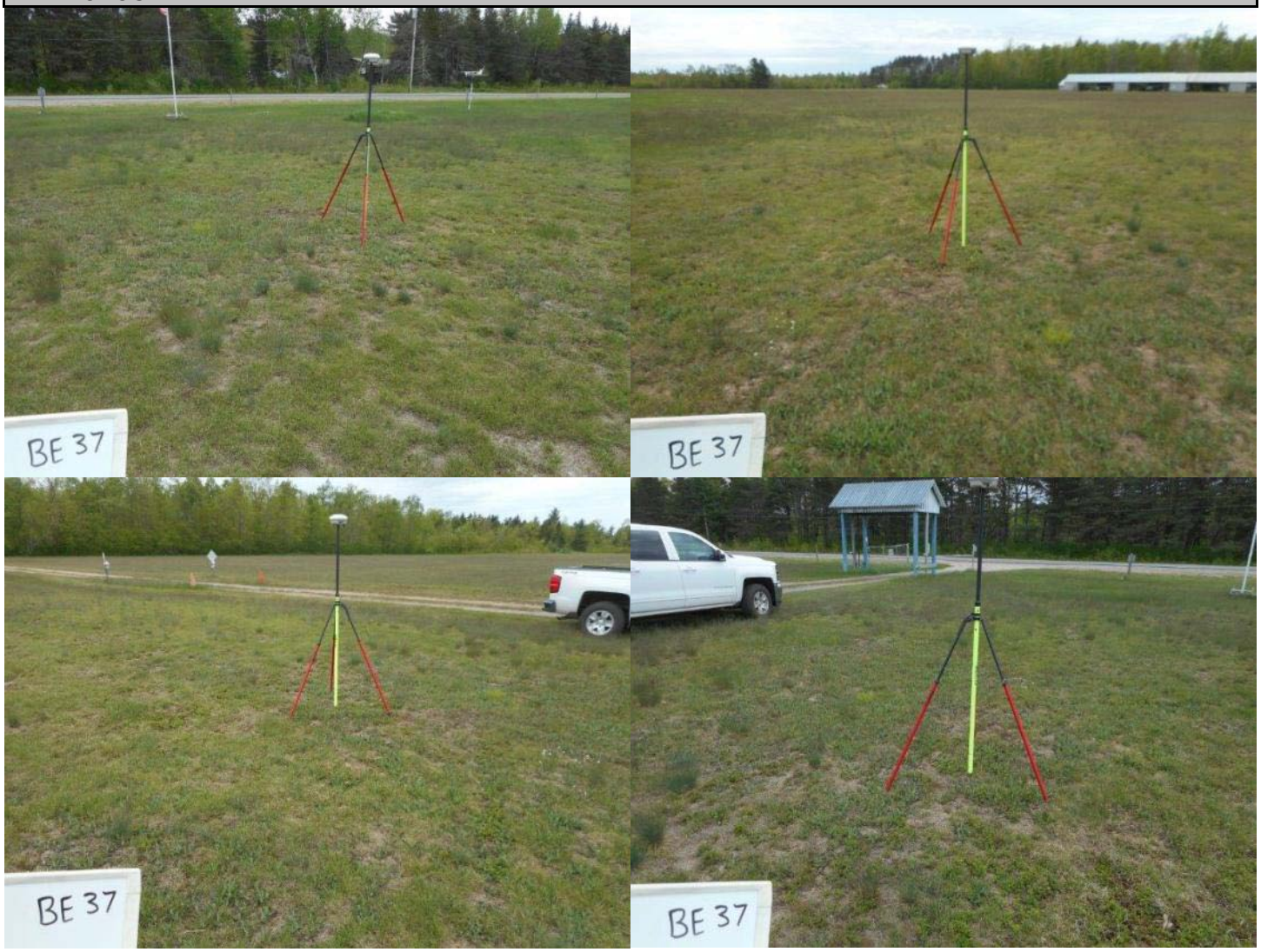
Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
617035.378	104927.281	247.786

Operator	Derek Griggs
Receiver Model	Trimble R8 3
Receiver S/N	5152479795
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-21-17
RMSE Hz	0.008
RMSE Z	0.008
GPS Method	NYSNET

PHOTOS:



Point ID	BE38
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Stark

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

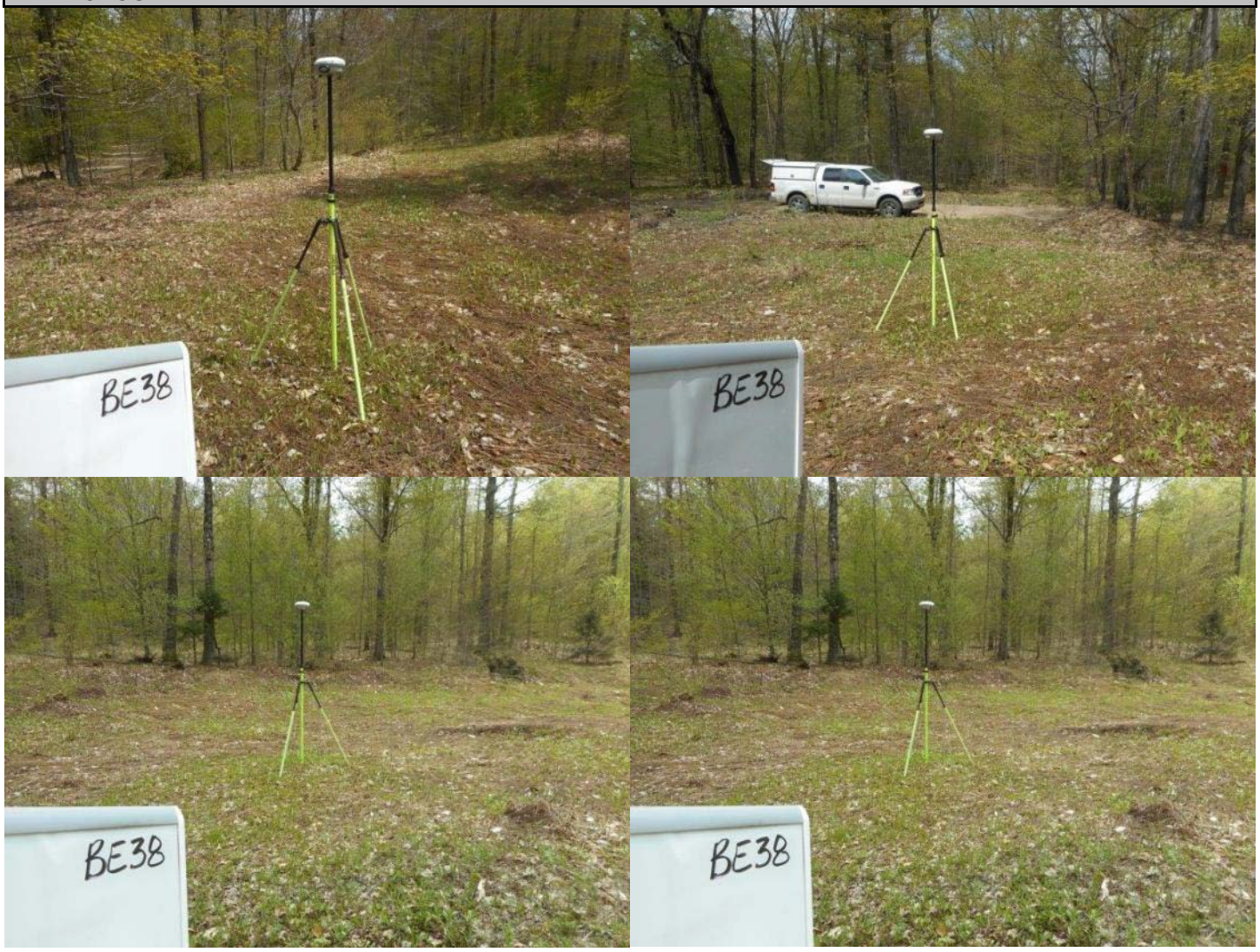
Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
621373.516	126229.449	404.486

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-18-17
RMSE Hz	0.010
RMSE Z	0.010
GPS Method	NYSNET

PHOTOS:



Point ID	BE39
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Stark

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
623885.228	126837.050	398.052

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-15-17
RMSE Hz	0.009
RMSE Z	0.009
GPS Method	NYSNET

PHOTOS:



Point ID	BE40
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	Mount Matumbla

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
608048.730	148360.798	464.142

Operator	Derek Griggs
Receiver Model	Trimble R8 3
Receiver S/N	5153480435
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-23-17
RMSE Hz	0.004
RMSE Z	0.004
GPS Method	NYSNET

PHOTOS:



Point ID	BE41
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	Upper Saranac Lake

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
612465.521	164164.918	497.184

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-16-17
RMSE Hz	.0007
RMSE Z	0.007
GPS Method	NYSNET

PHOTOS:



Point ID	BE41a
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	St Regis Mountain

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
169716.178	622498.515	507.840

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	7-9-17
RMSE Hz	0.009
RMSE Z	0.022
GPS Method	NYSNET

PHOTOS:









Point ID	BE42
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	Saint Regis Mountain

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
621778.543	165987.191	494.652

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-15-17
RMSE Hz	0.008
RMSE Z	0.008
GPS Method	NYSNET

PHOTOS:



Point ID	BE43
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	Meacham Lake

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
630706.099	165573.570	504.364

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-13-17
RMSE Hz	0.006
RMSE Z	0.006
GPS Method	Static

PHOTOS:



Point ID	BE44
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	Meno

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
630967.476	154288.911	474.719

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5106461161
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-15-17
RMSE Hz	0.004
RMSE Z	0.004
GPS Method	NYSNET

PHOTOS:



Point ID	BE45
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Stark

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
627249.537	121153.542	365.225

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-18-17
RMSE Hz	0.007
RMSE Z	0.007
GPS Method	NYSNET

PHOTOS:



Point ID	BE46
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Rainbow Falls

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
632740.842	131187.997	394.785

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-15-17
RMSE Hz	0.012
RMSE Z	0.012
GPS Method	NYSNET

PHOTOS:



Point ID	BE47
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Colton

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
630438.727	119200.821	282.397

Operator	Derek Griggs
Receiver Model	Trimble R8 3
Receiver S/N	5152479795
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-21-17
RMSE Hz	0.006
RMSE Z	0.006
GPS Method	NYSNET

PHOTOS:









Point ID	BE48
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	West Pierrepont

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
628503.785	105287.308	230.324

Operator	Derek Griggs
Receiver Model	Trimble R8 3
Receiver S/N	5152479795
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-21-17
RMSE Hz	0.006
RMSE Z	0.006
GPS Method	NYSNET

PHOTOS:



Point ID	BE49
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Canton

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
631377.641	95919.715	159.176

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-18-17
RMSE Hz	0.011
RMSE Z	0.011
GPS Method	NYSNET

PHOTOS:



Point ID	BE50
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Edwardsville

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

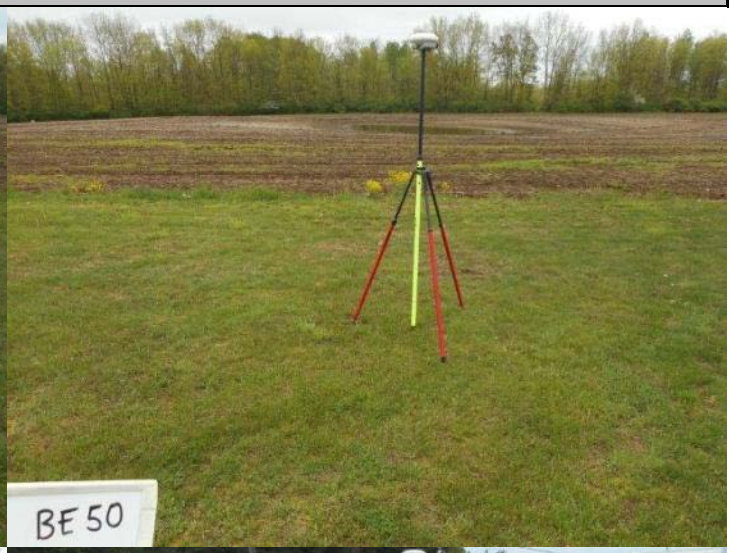
Northing	Easting	Elevation
641733.183	70222.540	118.661

Operator	Derek Griggs
Receiver Model	Trimble R8 3
Receiver S/N	5152479795
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-22-17
RMSE Hz	0.006
RMSE Z	0.006
GPS Method	NYSNET

PHOTOS:









Point ID	BE51
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Colton

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
638721.038	118378.545	267.995

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-15-17
RMSE Hz	0.010
RMSE Z	0.010
GPS Method	NYSNET

PHOTOS:









Point ID	BE52
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Sylvan Falls

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
641048.822	139996.291	432.576

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-15-17
RMSE Hz	0.007
RMSE Z	0.007
GPS Method	NYSNET

PHOTOS:



Point ID	BE53
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	Lake Ozonia

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
639982.977	149885.687	437.235

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-12-17
RMSE Hz	0.008
RMSE Z	0.008
GPS Method	NYSNET

PHOTOS:



Point ID	BE54
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	Meacham Lake

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
639679.705	162260.997	444.377

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-13-17
RMSE Hz	0.008
RMSE Z	0.008
GPS Method	NYSNET

PHOTOS:



Point ID	BE55
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	Owl Head

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
650915.285	179170.941	461.434

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-12-17
RMSE Hz	0.009
RMSE Z	0.009
GPS Method	NYSNET

PHOTOS:



Point ID	BE56
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	Lake Titus

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
651514.559	164518.697	463.068

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-12-17
RMSE Hz	0.009
RMSE Z	0.009
GPS Method	NYSNET

PHOTOS:



Point ID	BE57
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	Santa Clara

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
650763.960	151016.334	422.815

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-12-17
RMSE Hz	0.007
RMSE Z	0.007
GPS Method	NYSNET

PHOTOS:



Point ID	BE58
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Parishville

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
652840.760	122841.468	127.240

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-21-17
RMSE Hz	0.008
RMSE Z	0.008
GPS Method	NYSNET

PHOTOS:



Point ID	BE59
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Potsdam

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
653177.788	110960.768	111.719

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-10-17
RMSE Hz	.0008
RMSE Z	0.008
GPS Method	NYSNET

PHOTOS:



Point ID	BE60
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Morley

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

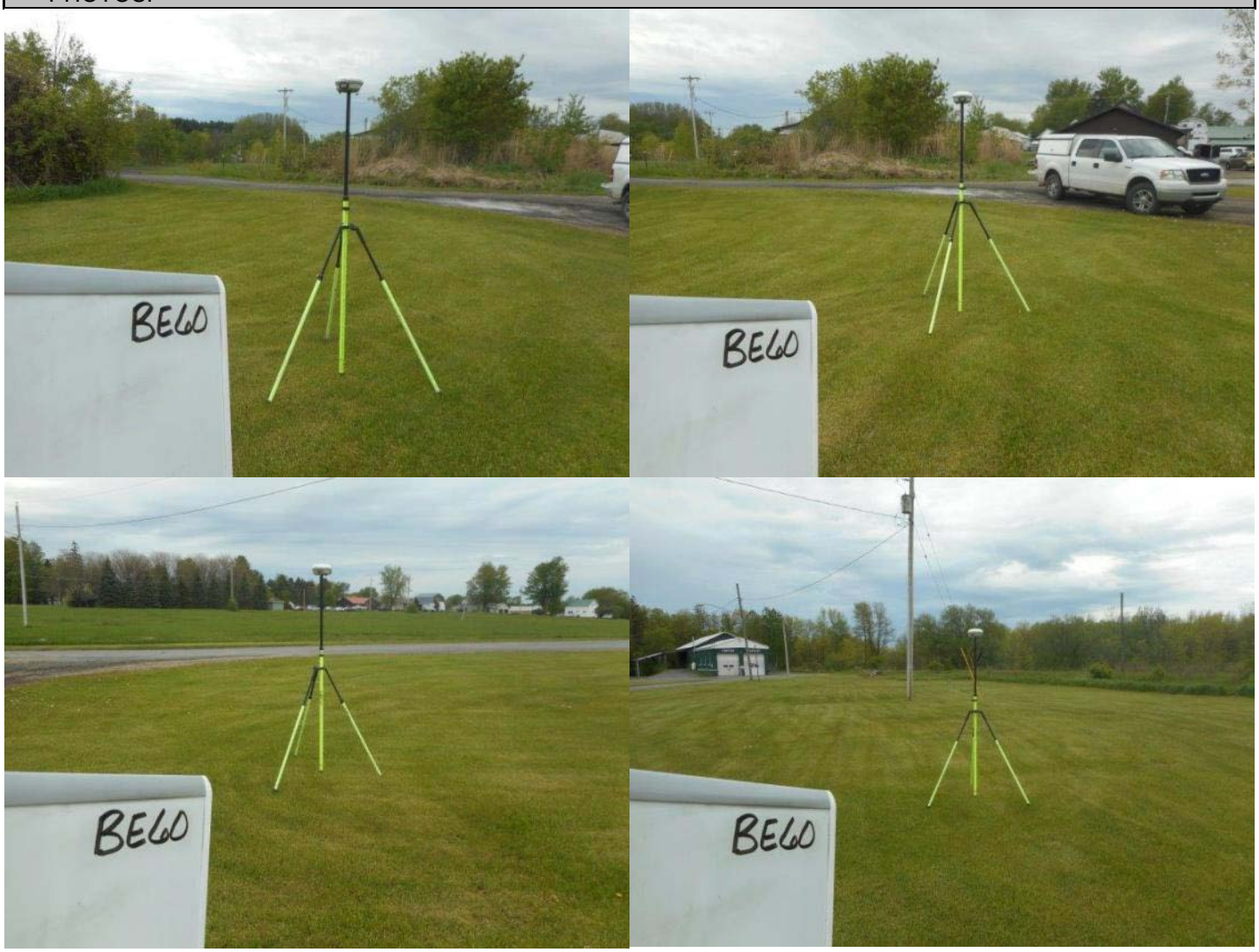
Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
655795.510	98877.406	89.658

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-21-17
RMSE Hz	0.007
RMSE Z	0.007
GPS Method	NYSNET

PHOTOS:



Point ID	BE61
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Waddington

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
666735.557	98906.915	84.596

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-10-17
RMSE Hz	0.007
RMSE Z	0.007
GPS Method	NYSNET

PHOTOS:



Point ID	BE62
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Brashear Falls

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
661412.083	123832.239	110.710

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-10-17
RMSE Hz	0.007
RMSE Z	0.007
GPS Method	NYSNET

PHOTOS:



Point ID	BE63
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	Bangor

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
663860.832	158103.436	236.980

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-22-17
RMSE Hz	0.007
RMSE Z	0.007
GPS Method	NYSNET

PHOTOS:



Point ID	BE64
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	Chateaugay

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
672105.792	186717.656	408.753

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-20-17
RMSE Hz	0.007
RMSE Z	0.007
GPS Method	NYSNET

PHOTOS:



Point ID	BE65
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	Chasm Falls

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
669667.872	177668.832	362.994

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-11-17
RMSE Hz	0.008
RMSE Z	0.008
GPS Method	NYSNET

PHOTOS:



Point ID	BE66
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	Malone

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
671062.138	164338.966	195.947

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-22-17
RMSE Hz	0.008
RMSE Z	0.008
GPS Method	NYSNET

PHOTOS:



Point ID	BE67
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	Fort Covington

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

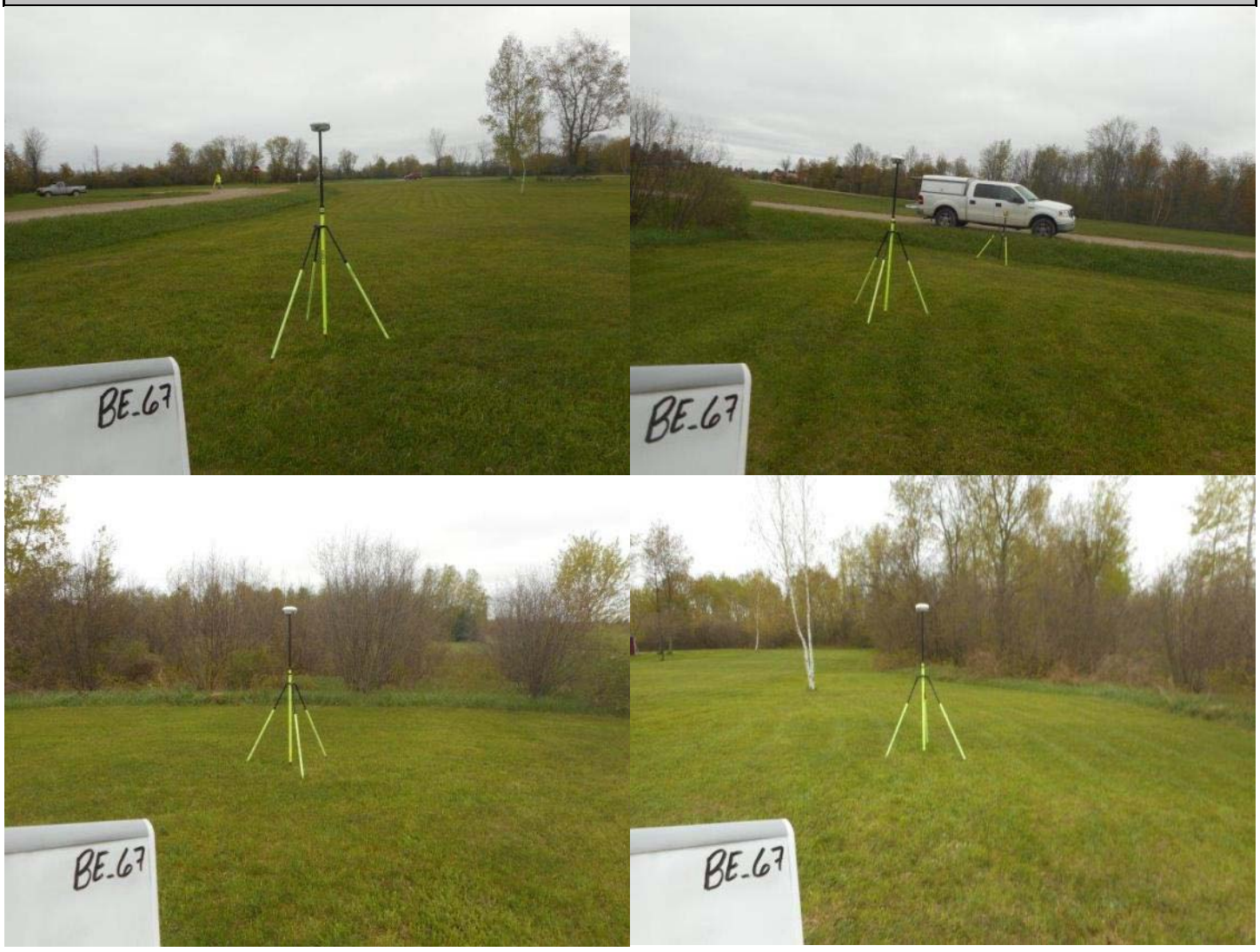
Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
672105.426	151772.318	90.808

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-11-17
RMSE Hz	0.009
RMSE Z	0.009
GPS Method	NYSNET

PHOTOS:



Point ID	BE68
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	Bombay

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
674446.679	141068.748	65.546

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-20-17
RMSE Hz	0.006
RMSE Z	0.006
GPS Method	NYSNET

PHOTOS:



Point ID	BE69
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	Bombay

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
681146.813	143004.853	67.008

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-20-17
RMSE Hz	0.010
RMSE Z	0.010
GPS Method	NYSNET

PHOTOS:



Point ID	BE70
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	Fort Covington

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
683506.291	150213.812	51.930

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-20-17
RMSE Hz	0.007
RMSE Z	0.007
GPS Method	NYSNET

PHOTOS:



Point ID	BE71
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	Burke

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
681769.791	169921.491	94.574

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-20-17
RMSE Hz	0.007
RMSE Z	0.007
GPS Method	NYSNET

PHOTOS:



Point ID	BE72
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	Malone

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
659807.138	165617.814	389.446

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-12-17
RMSE Hz	0.009
RMSE Z	0.009
GPS Method	NYSNET

PHOTOS:



Point ID	BE73
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Norfolk

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
660901.736	111371.201	103.255

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-21-17
RMSE Hz	0.008
RMSE Z	0.008
GPS Method	NYSNET

PHOTOS:



Urban Area Point Log Sheets

Point ID	UA01
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Onondaga
Quad	Jamesville

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
324682.813	289739.766	396.686

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-7-17
RMSE Hz	0.007
RMSE Z	0.014
GPS Method	NYSNET

PHOTOS:









Point ID	UA01a
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Onondaga
Quad	Jamesville

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
325992.717	292523.466	221.452

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	7-10-17
RMSE Hz	0.013
RMSE Z	0.009
GPS Method	NYSNET

PHOTOS:



Point ID	UA02
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Onondaga
Quad	Syracuse East

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
346916.253	288769.376	125.176

Operator	Derek Griggs
Receiver Model	Trimble R8 3
Receiver S/N	5152479795
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-8-17
RMSE Hz	0.006
RMSE Z	0.010
GPS Method	NYSNET

PHOTOS:



Point ID	UA03
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Onondaga
Quad	Cicero

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
355670.304	293565.718	121.492

Operator	Derek Griggs
Receiver Model	Trimble R8 3
Receiver S/N	5152479795
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-9-17
RMSE Hz	0.007
RMSE Z	0.011
GPS Method	NYSNET

PHOTOS:



Point ID	UA04
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Oneida
Quad	Camden West

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
372013.008	317236.314	161.365

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-3-17
RMSE Hz	0.007
RMSE Z	0.010
GPS Method	NYSNET

PHOTOS:



Point ID	UA05
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Oneida
Quad	Lee Center

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
364331.415	336297.505	146.921

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-7-17
RMSE Hz	0.007
RMSE Z	0.010
GPS Method	NYSNET

PHOTOS:



Point ID	UA06
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Oswegatchie

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

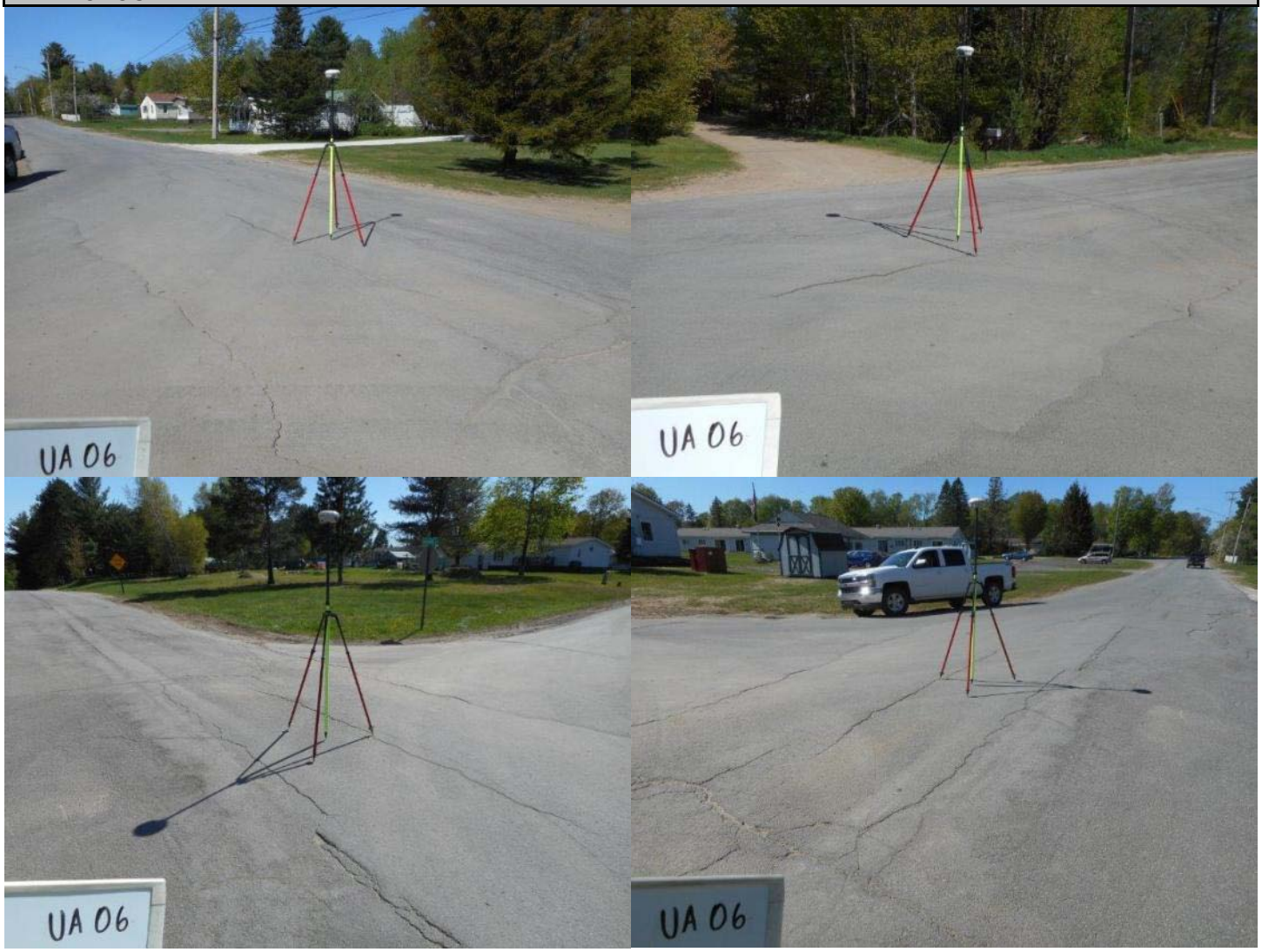
Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
590703.324	107495.379	453.705

Operator	Derek Griggs
Receiver Model	Trimble R8 3
Receiver S/N	5152479795
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-20-17
RMSE Hz	0.008
RMSE Z	0.008
GPS Method	NYSNET

PHOTOS:



Point ID	UA07
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Piercefield

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
599455.557	144806.710	480.149

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-16-17
RMSE Hz	0.011
RMSE Z	0.011
GPS Method	NYSNET

PHOTOS:



Point ID	UA08
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Gouverneur

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

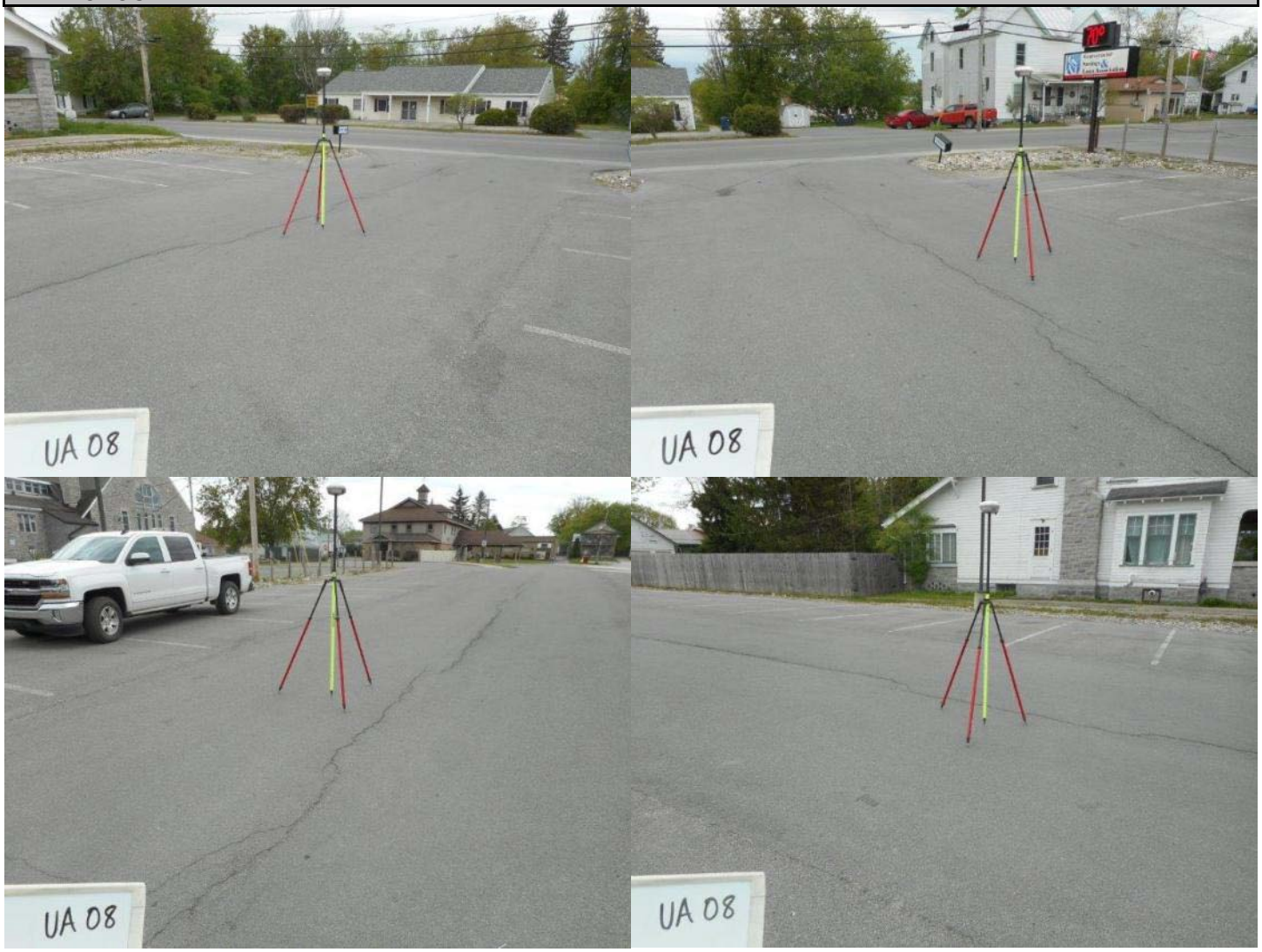
Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
611345.452	72739.455	132.693

Operator	Derek Griggs
Receiver Model	Trimble R8 3
Receiver S/N	5152479795
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-21-17
RMSE Hz	0.006
RMSE Z	0.006
GPS Method	NYSNET

PHOTOS:



Point ID	UA09
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Hammond

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
623802.957	54675.209	118.651

Operator	Derek Griggs
Receiver Model	Trimble R8 3
Receiver S/N	5152479795
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-22-17
RMSE Hz	0.006
RMSE Z	0.006
GPS Method	NYSNET

PHOTOS:









Point ID	UA10
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Edwardsville

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
636161.616	60873.841	91.764

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-19-17
RMSE Hz	0.008
RMSE Z	0.008
GPS Method	NYSNET

PHOTOS:









Point ID	UA11
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Heuvelton

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

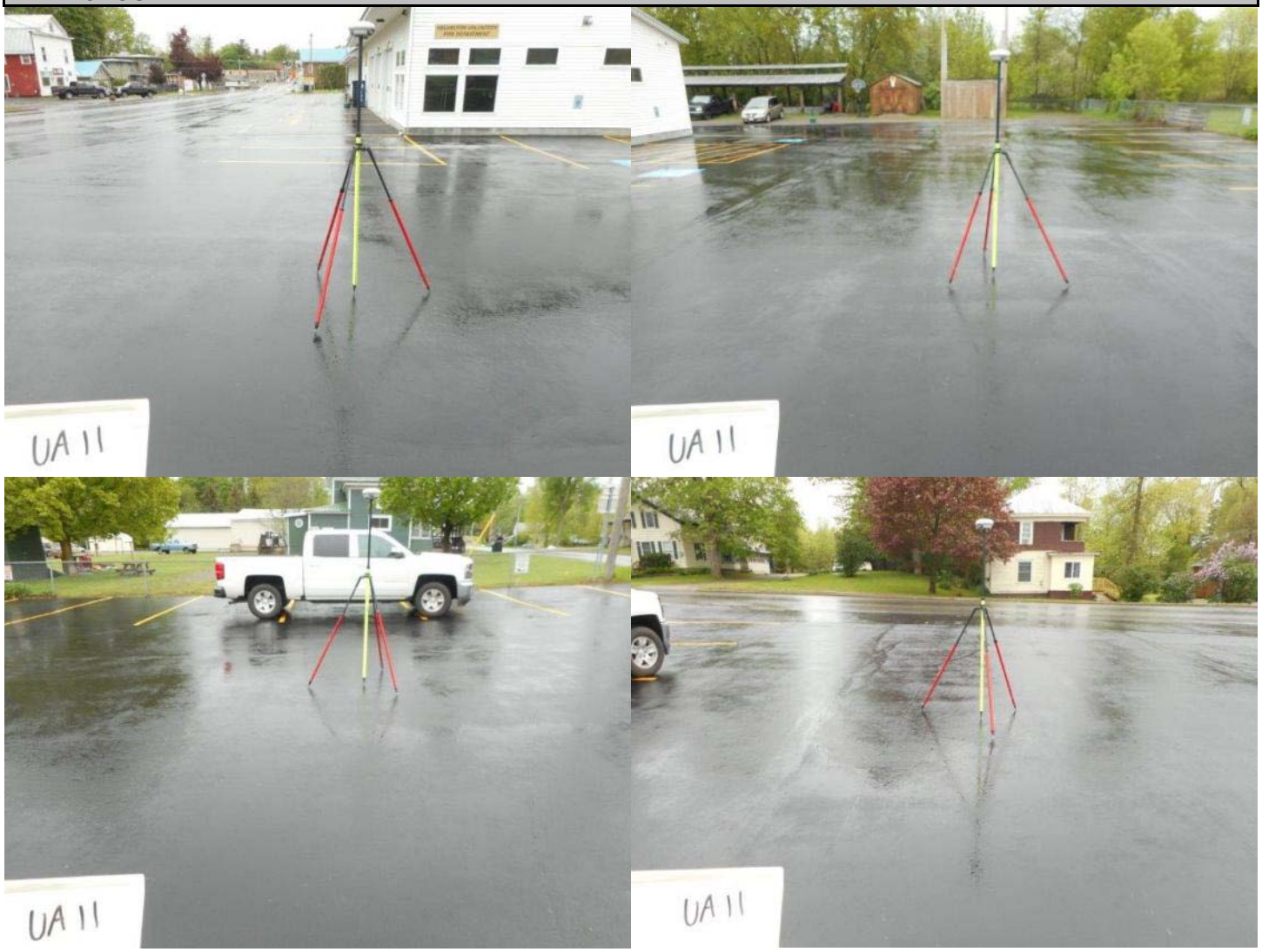
Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
642585.076	78307.878	90.003

Operator	Derek Griggs
Receiver Model	Trimble R8 3
Receiver S/N	5152479795
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-22-17
RMSE Hz	0.007
RMSE Z	0.007
GPS Method	NYSNET

PHOTOS:



Point ID	UA12
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Canton

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
640235.276	98315.682	115.814

Operator	Derek Griggs
Receiver Model	Trimble R8 3
Receiver S/N	5152479795
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-22-17
RMSE Hz	0.006
RMSE Z	0.006
GPS Method	NYSNET

PHOTOS:









Point ID	UA13
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Parishville

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

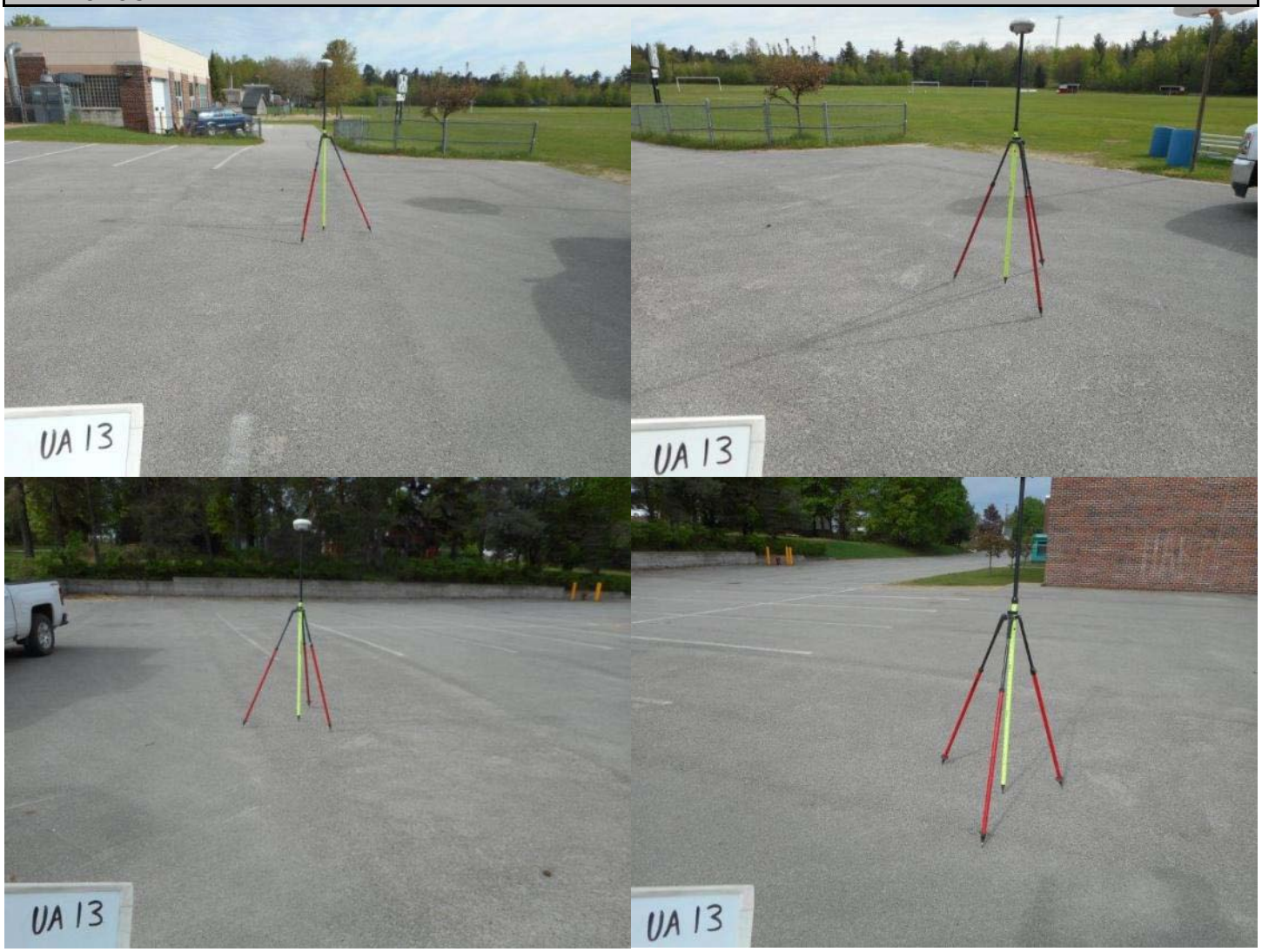
Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
643847.616	125368.943	272.383

Operator	Derek Griggs
Receiver Model	Trimble R8 3
Receiver S/N	5152479795
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-21-17
RMSE Hz	0.008
RMSE Z	0.008
GPS Method	NYSNET

PHOTOS:



Point ID	UA14
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Nicholville

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
651357.395	137401.902	237.362

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-21-17
RMSE Hz	0.006
RMSE Z	0.006
GPS Method	NYSNET

PHOTOS:









Point ID	UA15
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Lisbon

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
655443.771	85031.777	98.240

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-21-17
RMSE Hz	0.006
RMSE Z	0.006
GPS Method	NYSNET

PHOTOS:



Point ID	UA16
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	North Lawrence

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
663201.046	135973.113	102.199

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-21-17
RMSE Hz	0.008
RMSE Z	0.008
GPS Method	NYSNET

PHOTOS:



Point ID	UA17
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	Brushton

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
665207.351	148336.864	136.975

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-11-17
RMSE Hz	0.007
RMSE Z	0.007
GPS Method	NYSNET

PHOTOS:



Point ID	UA18
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Massena

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

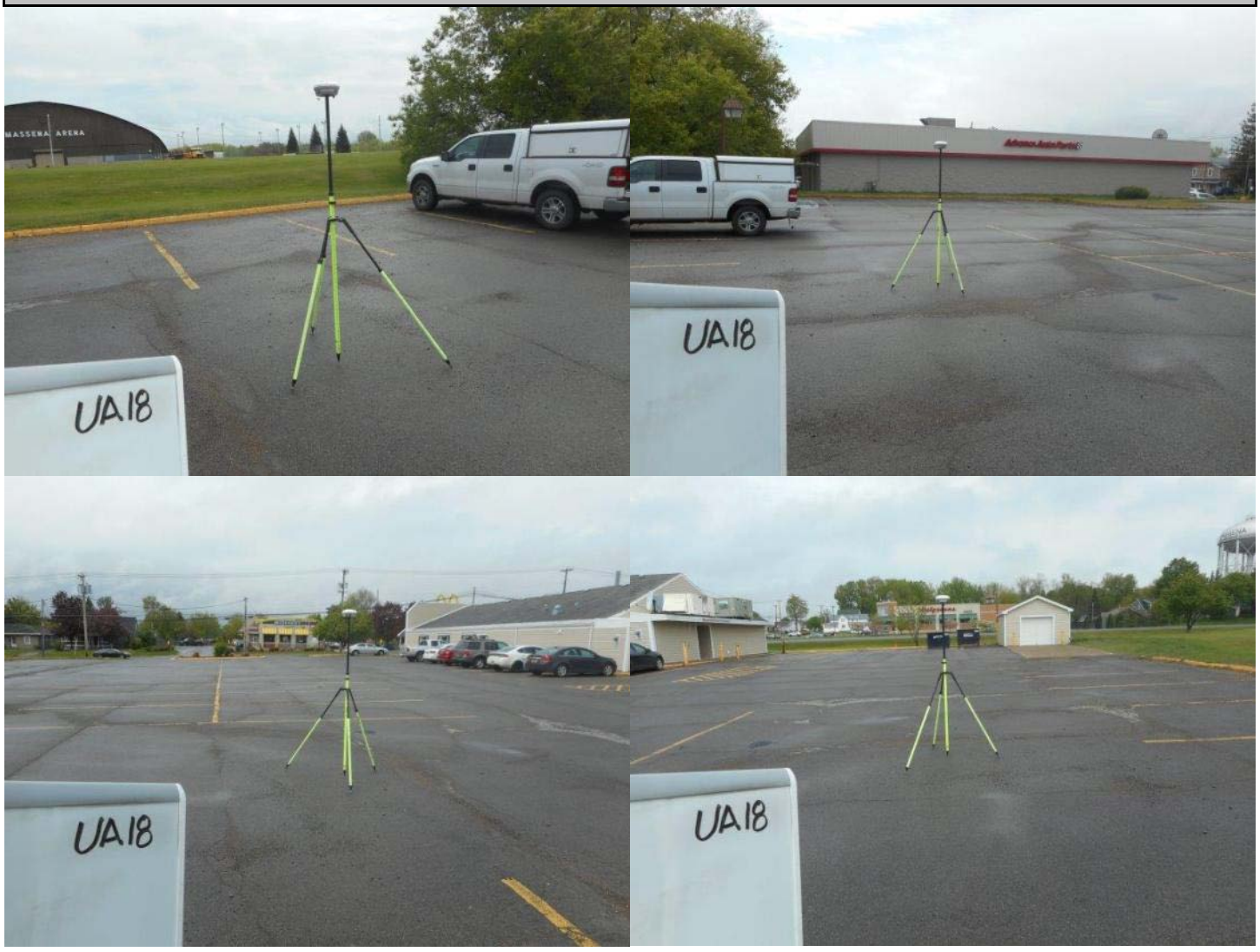
Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
676213.574	119296.708	70.682

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-22-17
RMSE Hz	0.010
RMSE Z	0.010
GPS Method	NYSNET

PHOTOS:



Point ID	UA19
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Onondaga
Quad	Syracuse East

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
336453.640	288467.579	174.659

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-8-17
RMSE Hz	0.007
RMSE Z	0.011
GPS Method	NYSNET

PHOTOS:









Point ID	UA20
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Louisville

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
673713.152	109217.380	60.053

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-22-17
RMSE Hz	0.008
RMSE Z	0.008
GPS Method	NYSNET

PHOTOS:









Point ID	UA21
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	Hogansburg

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
682171.957	130601.811	58.176

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-23-17
RMSE Hz	0.011
RMSE Z	0.011
GPS Method	NYSNET

PHOTOS:



Point ID	UA22
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	Chateaugay

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
677004.503	183280.663	281.779

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-20-17
RMSE Hz	0.006
RMSE Z	0.006
GPS Method	NYSNET

PHOTOS:



Point ID	UA23
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Potsdam

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

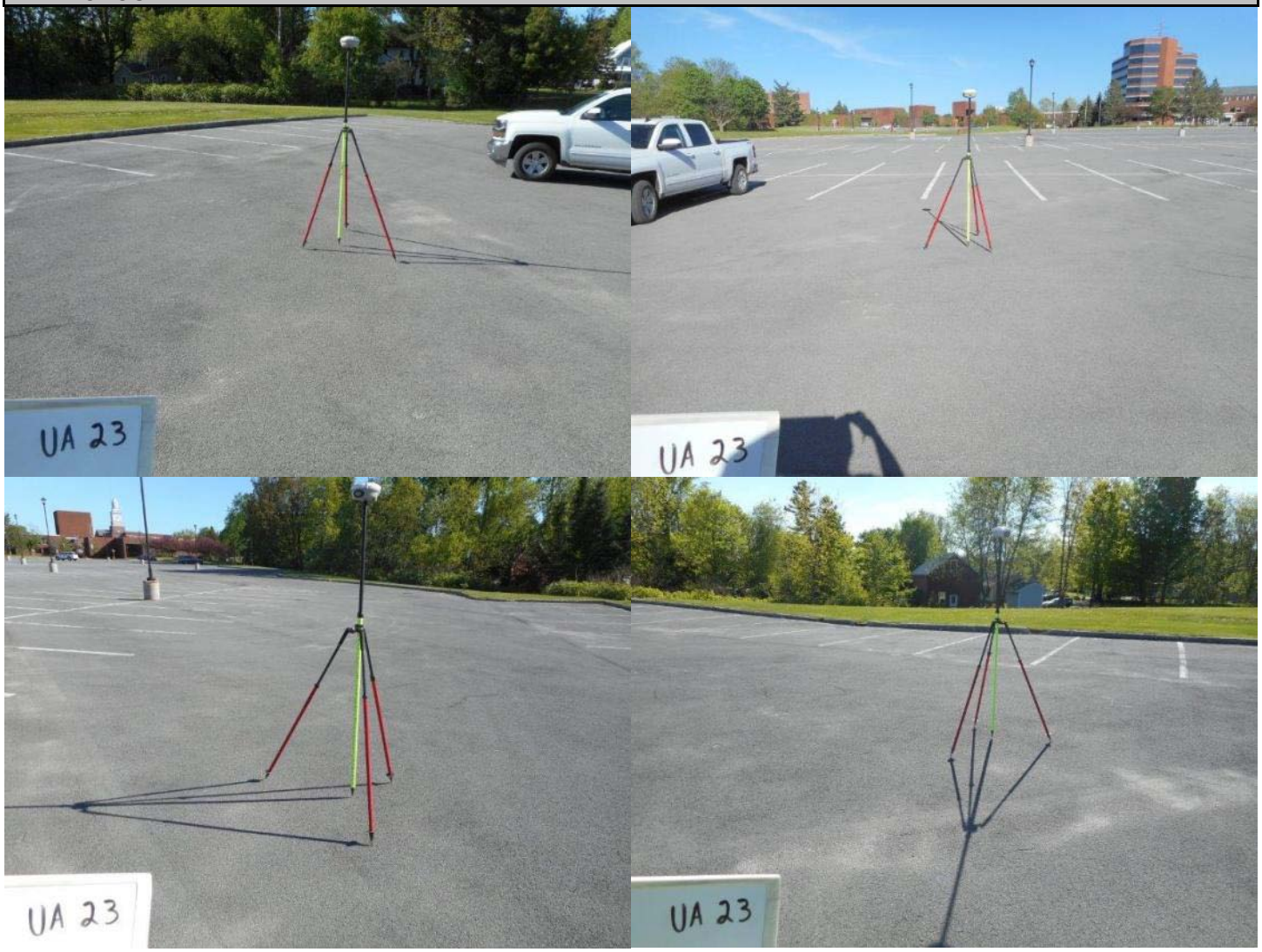
Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
647826.593	112077.310	131.471

Operator	Derek Griggs
Receiver Model	Trimble R8 3
Receiver S/N	5152479795
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-20-17
RMSE Hz	0.007
RMSE Z	0.007
GPS Method	NYSNET

PHOTOS:



Point ID	UA24
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Rensselaer Falls

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
630090.734	88390.197	135.468

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-23-17
RMSE Hz	0.008
RMSE Z	0.008
GPS Method	NYSNET

PHOTOS:



Point ID	UA25
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Onondaga
Quad	Jamesville

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

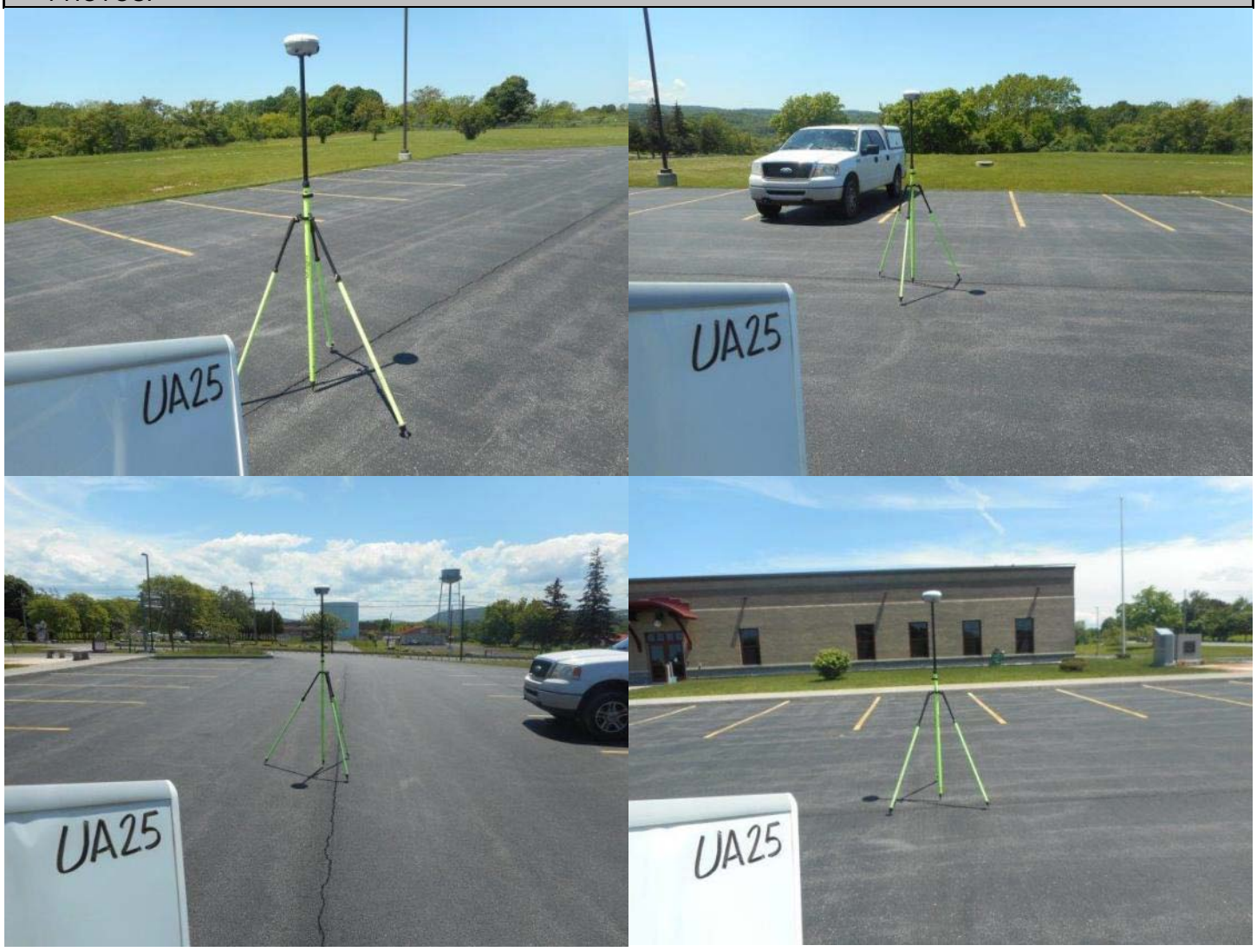
Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
332285.626	292427.695	232.404

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-8-17
RMSE Hz	0.008
RMSE Z	0.013
GPS Method	NYSNET

PHOTOS:



Point ID	UA26
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Onondaga
Quad	Oran

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
332382.570	301048.626	235.754

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-8-17
RMSE Hz	0.007
RMSE Z	0.011
GPS Method	NYSNET

PHOTOS:



Point ID	UA27
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Onondoga
Quad	Brewerton

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
359672.702	285949.078	119.351

Operator	Derek Griggs
Receiver Model	Trimble R8 3
Receiver S/N	5152479795
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-8-17
RMSE Hz	0.005
RMSE Z	0.010
GPS Method	NYSNET

PHOTOS:



Point ID	UA28
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Onondaga
Quad	Cicero

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
353265.936	288046.770	131.235

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-9-17
RMSE Hz	0.007
RMSE Z	0.010
GPS Method	NYSNET

PHOTOS:









Point ID	UA29
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Oswego
Quad	Central Square

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
371003.143	284971.016	147.153

Operator	Derek Griggs
Receiver Model	Trimble R8 3
Receiver S/N	5152479795
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-8-17
RMSE Hz	0.007
RMSE Z	0.009
GPS Method	NYSNET

PHOTOS:



Point ID	UA30
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Oswego
Quad	Pennellville

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

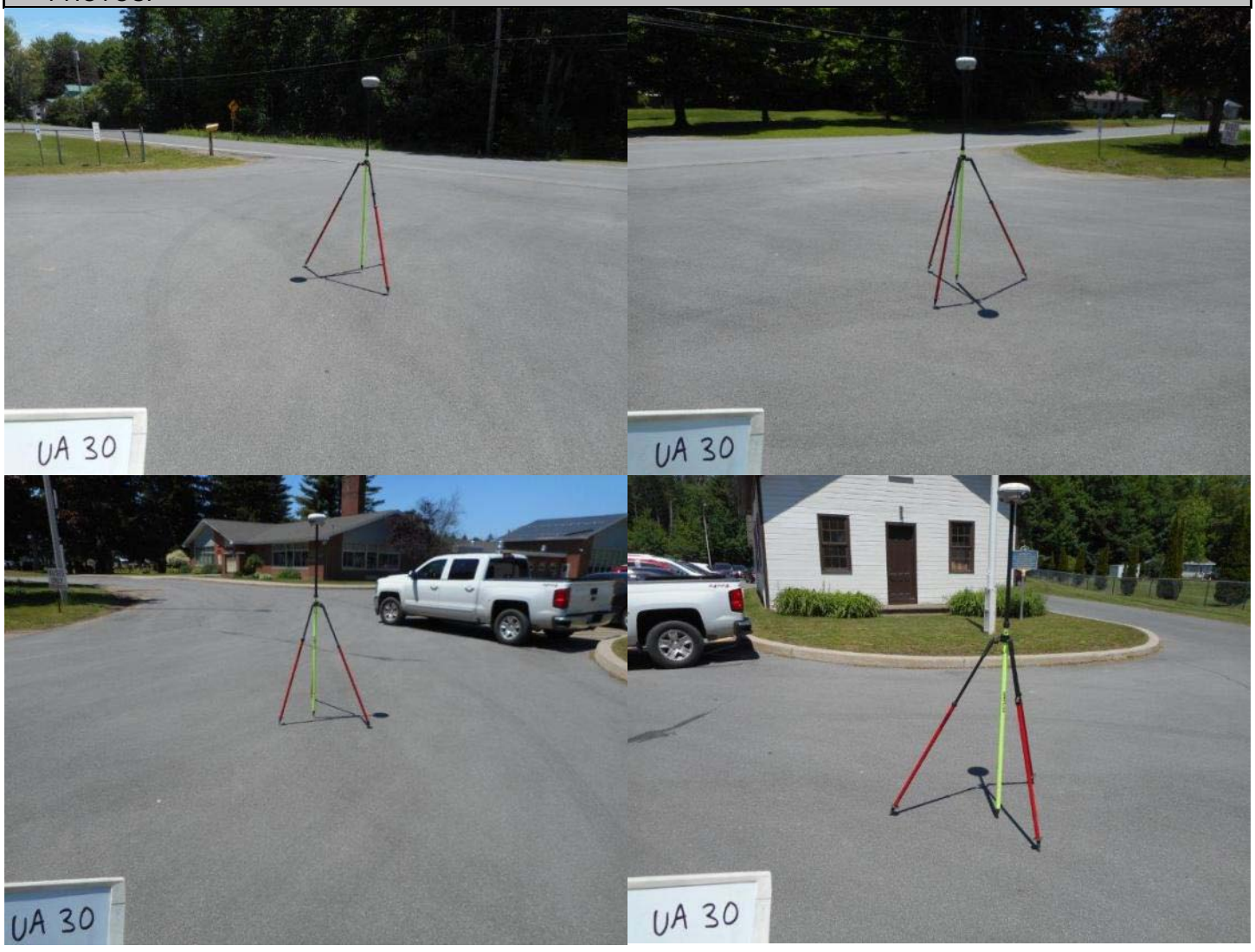
Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
373787.949	274582.229	142.759

Operator	Derek Griggs
Receiver Model	Trimble R8 3
Receiver S/N	5152479795
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-8-17
RMSE Hz	0.006
RMSE Z	0.009
GPS Method	NYSNET

PHOTOS:



Point ID	UA31
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Oswego
Quad	Pennellville

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

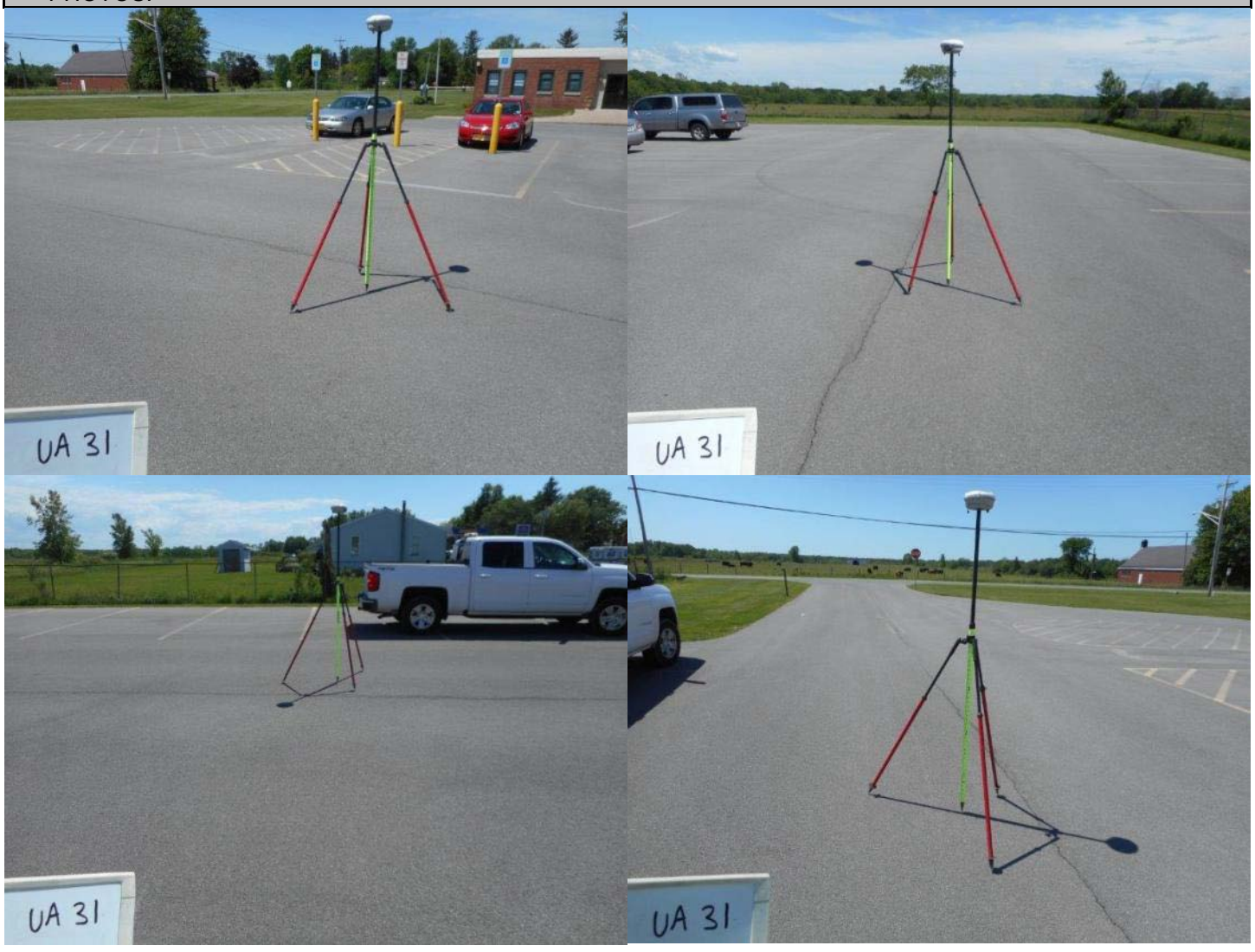
Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
364289.805	275348.926	127.595

Operator	Derek Griggs
Receiver Model	Trimble R8 3
Receiver S/N	5152479795
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-8-17
RMSE Hz	0.013
RMSE Z	0.018
GPS Method	NYSNET

PHOTOS:



Point ID	UA32
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Onondaga
Quad	Syracuse East

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
340284.041	294686.599	130.735

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-8-17
RMSE Hz	0.006
RMSE Z	0.009
GPS Method	NYSNET

PHOTOS:



Point ID	UA33
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Onondaga
Quad	Manilus

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
342247.994	301358.029	128.305

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-8-17
RMSE Hz	0.007
RMSE Z	0.012
GPS Method	NYSNET

PHOTOS:









Point ID	UA34
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Onondaga
Quad	Cicero

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
352150.151	297149.262	120.148

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-9-17
RMSE Hz	0.006
RMSE Z	0.010
GPS Method	NYSNET

PHOTOS:



Point ID	UA35
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Onondaga
Quad	Syracuse East

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
336594.721	295917.184	131.387

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-8-17
RMSE Hz	0.008
RMSE Z	0.012
GPS Method	NYSNET

PHOTOS:









Point ID	UA36
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Onondaga
Quad	Brewerton

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

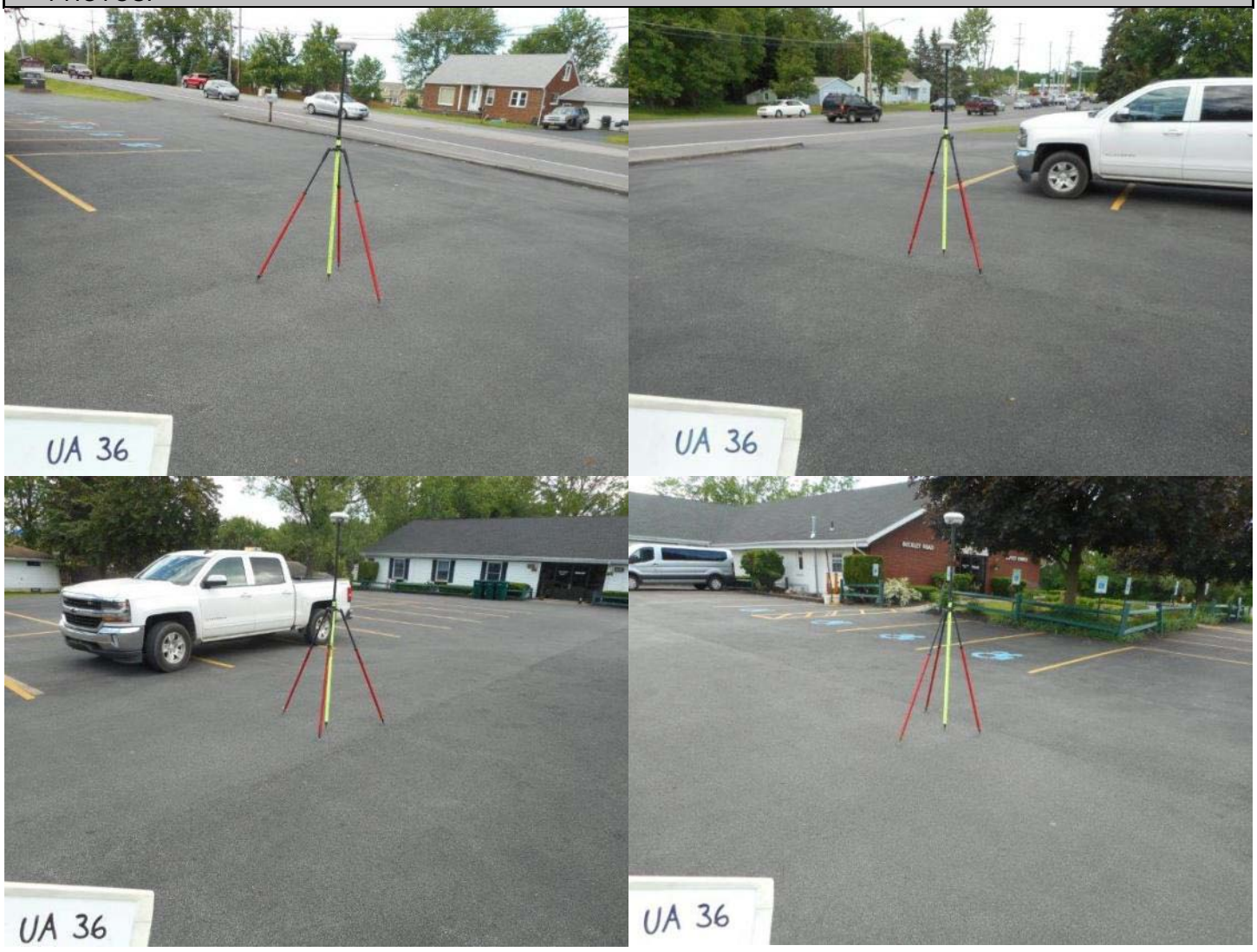
Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
348556.151	283412.049	136.411

Operator	Derek Griggs
Receiver Model	Trimble R8 3
Receiver S/N	5152479795
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-8-17
RMSE Hz	0.007
RMSE Z	0.012
GPS Method	NYSNET

PHOTOS:



Point ID	UA37
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Oswego
Quad	Central Square

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

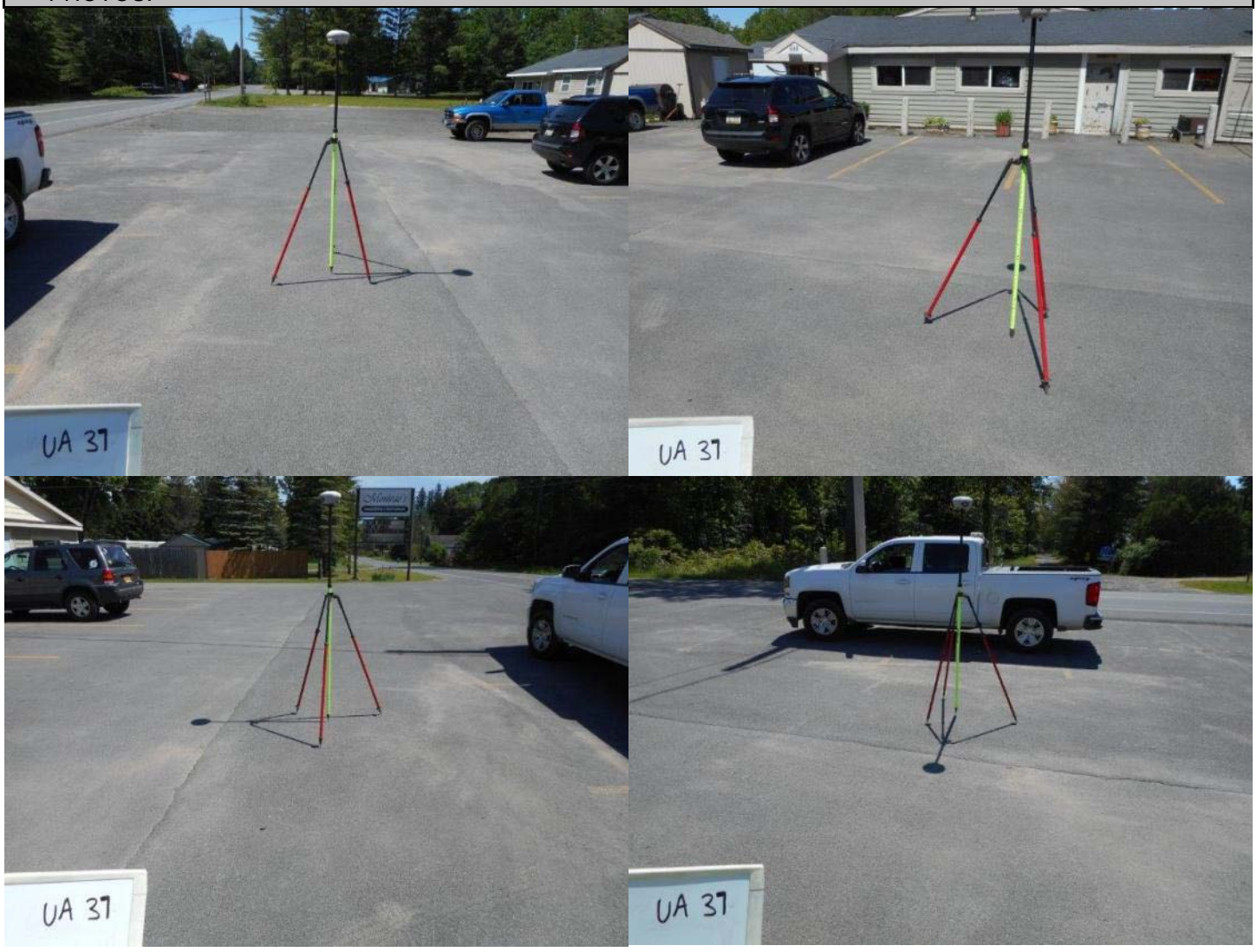
Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
361212.394	278836.468	130.911

Operator	Derek Griggs
Receiver Model	Trimble R8 3
Receiver S/N	5152479795
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-8-17
RMSE Hz	0.011
RMSE Z	0.015
GPS Method	NYSNET

PHOTOS:



Point ID	UA38
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Onondaga
Quad	Oran

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
320121.178	304782.170	280.545

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-8-17
RMSE Hz	0.006
RMSE Z	0.011
GPS Method	NYSNET

PHOTOS:









Point ID	UA39
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Oswego
Quad	Pennellville

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
361500.084	272517.309	118.184

Operator	Derek Griggs
Receiver Model	Trimble R8 3
Receiver S/N	5152479795
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-8-17
RMSE Hz	0.015
RMSE Z	0.021
GPS Method	NYSNET

PHOTOS:



Point ID	UA40
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Oswego
Quad	Central Square

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

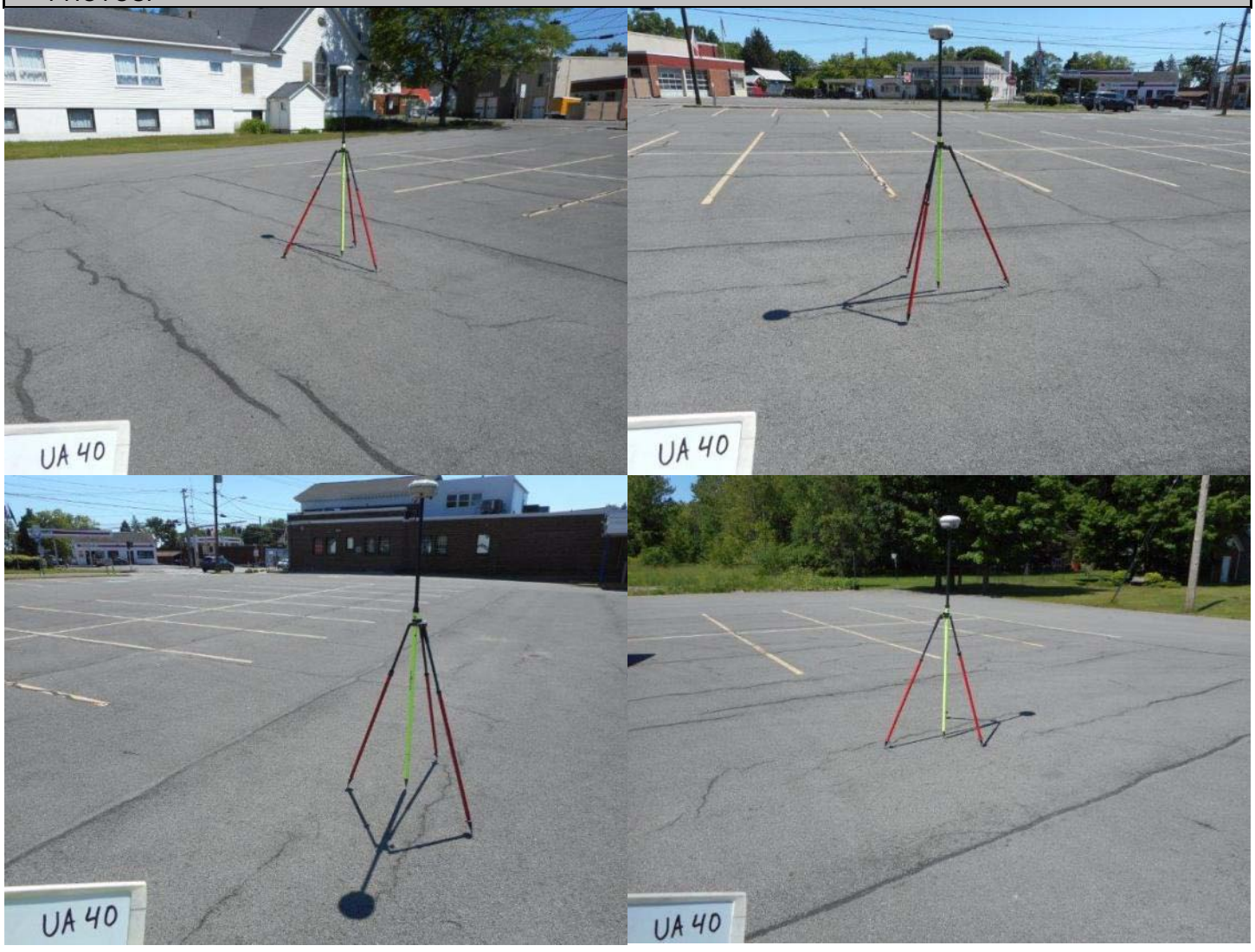
Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
365172.824	285365.841	138.838

Operator	Derek Griggs
Receiver Model	Trimble R8 3
Receiver S/N	5152479795
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-8-17
RMSE Hz	0.007
RMSE Z	0.013
GPS Method	NYSNET

PHOTOS:



Point ID	UA41
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Oswego
Quad	Central Square

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

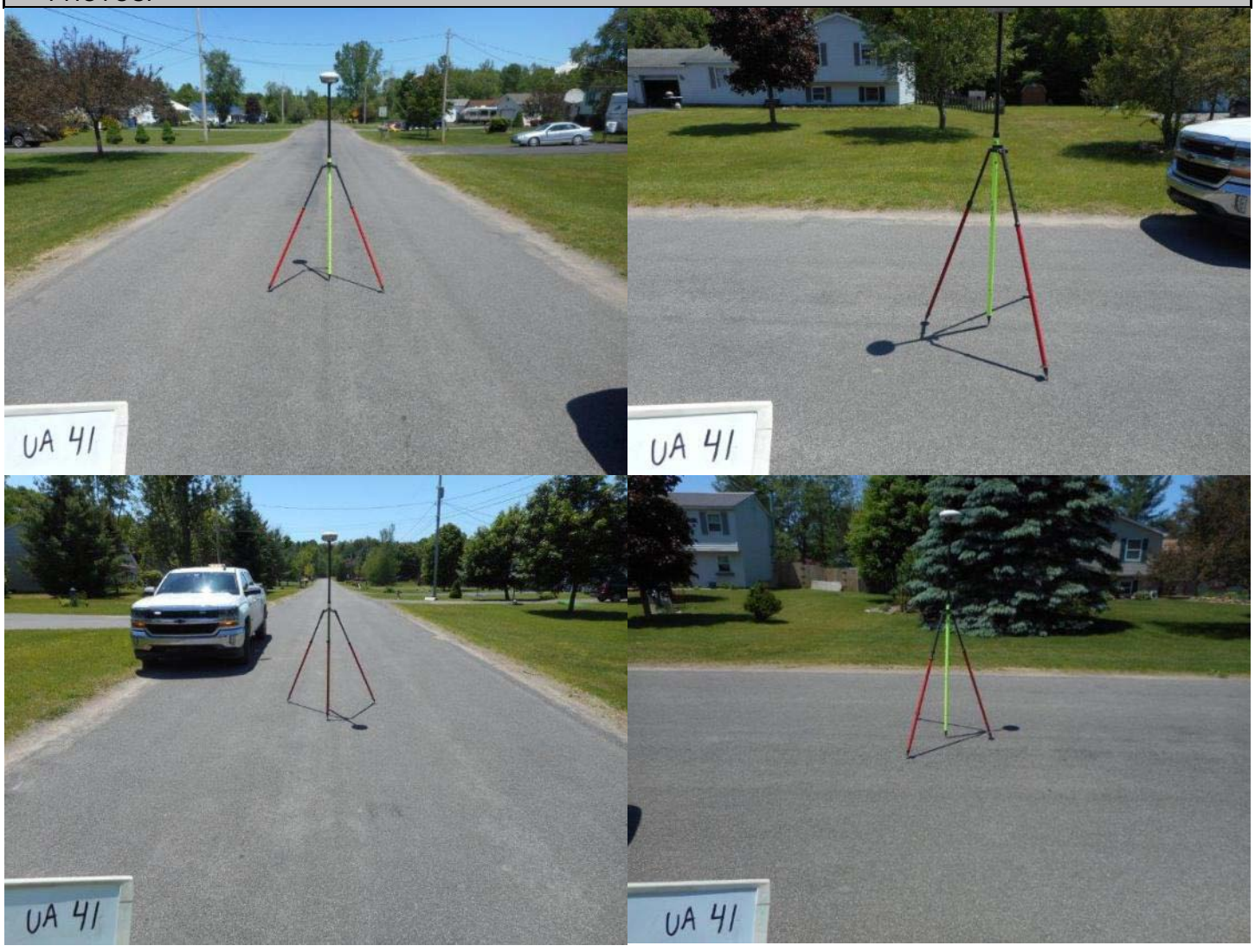
Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
372465.222	285656.841	144.859

Operator	Derek Griggs
Receiver Model	Trimble R8 3
Receiver S/N	5152479795
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-8-17
RMSE Hz	0.008
RMSE Z	0.011
GPS Method	NYSNET

PHOTOS:



Tall Weed Point Log Sheets

Point ID	TW01
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Onondaga
Quad	Deruyter

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
314213.472	305822.582	393.789

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-8-17
RMSE Hz	0.008
RMSE Z	0.013
GPS Method	NYSNET

PHOTOS:



Point ID	TW02
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Onondaga
Quad	Oran

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
324830.199	301801.577	379.811

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-8-17
RMSE Hz	0.006
RMSE Z	0.010
GPS Method	NYSNET

PHOTOS:









Point ID	TW03
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Onondaga
Quad	Manlius

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
335702.217	300692.564	256.641

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-8-17
RMSE Hz	0.008
RMSE Z	0.012
GPS Method	NYSNET

PHOTOS:



Point ID	TW04
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Onondaga
Quad	Brewerton

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
353969.951	280716.098	120.066

Operator	Derek Griggs
Receiver Model	Trimble R8 3
Receiver S/N	5152479795
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-8-17
RMSE Hz	0.008
RMSE Z	0.013
GPS Method	NYSNET

PHOTOS:



Point ID	TW05
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Oswego
Quad	Central Square

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
366351.435	280214.800	129.846

Operator	Derek Griggs
Receiver Model	Trimble R8 3
Receiver S/N	5152479795
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-8-17
RMSE Hz	0.007
RMSE Z	0.010
GPS Method	NYSNET

PHOTOS:



Point ID	TW06
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Morley

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
653645.443	96857.416	98.617

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-21-17
RMSE Hz	0.012
RMSE Z	0.012
GPS Method	NYSNET

PHOTOS:



Point ID	TW07
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Nicholville

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
650859.119	137025.705	247.540

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-21-17
RMSE Hz	0.006
RMSE Z	0.006
GPS Method	NYSNET

PHOTOS:









Forest Point Log Sheets

Point ID	FO01
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Onondaga
Quad	Tully

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

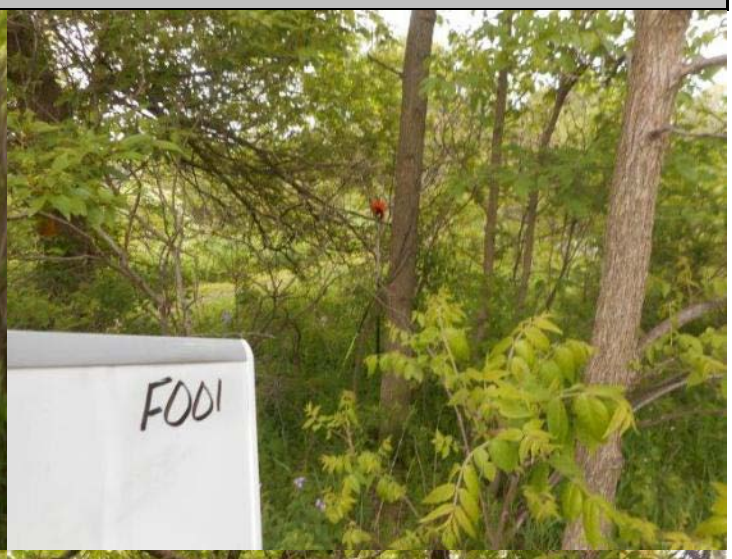
Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
310554.354	289249.485	375.762

Operator	Kenny Roberts
Instrument Model	Topcon GPT 3100
Date (MM-DD-YYYY)	6-4-17
Occupy PT	BE03
Back Sight PT	CA03

PHOTOS:









Point ID	FO01a
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Onondaga
Quad	Tully

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
312883.350	291978.262	377.930

Operator	Kenny Roberts
Instrument Model	Topcon GPT 3100
Date (MM-DD-YYYY)	7-10-17
Occupy PT	CP01
Back Sight PT	BS01

PHOTOS:



Point ID	FO02
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Onondaga
Quad	Jamesville

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

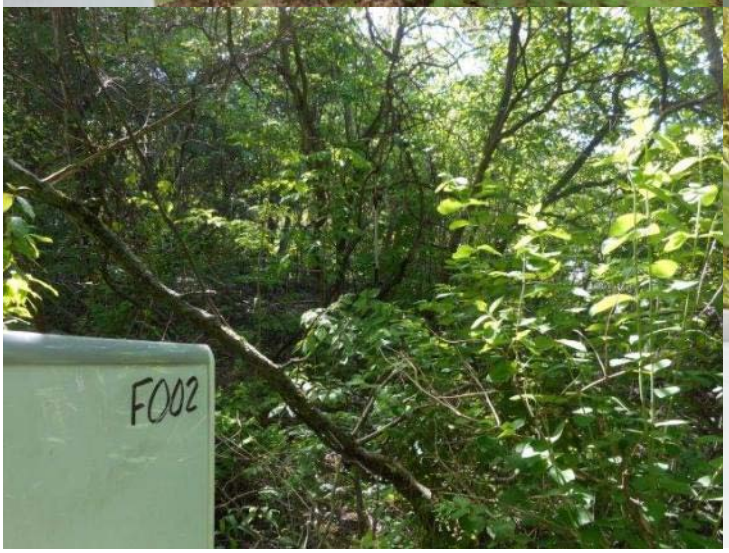
Northing	Easting	Elevation
324670.442	289778.461	399.457

Operator	Kenny Roberts
Instrument Model	Topcon GPT 3100
Date (MM-DD-YYYY)	6-7-17
Occupy PT	CA04
Back Sight PT	UA01

PHOTOS:









Point ID	FO02a
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Onondaga
Quad	Jamesville

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
326013.473	292515.531	220.857

Operator	Kenny Roberts
Instrument Model	Topcon GPT 3100
Date (MM-DD-YYYY)	7-10-17
Occupy PT	UA01
Back Sight PT	BS02

PHOTOS:



Point ID	FO03
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Onondaga
Quad	Syracuse East

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
346209.657	297115.066	127.444

Operator	Kenny Roberts
Instrument Model	Topcon GPT 3100
Date (MM-DD-YYYY)	6-7-17
Occupy PT	CA07
Back Sight PT	BE05

PHOTOS:



Point ID	FO04
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Oswego
Quad	Pennellville

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
370820.558	269816.964	147.674

Operator	Kenny Roberts
Instrument Model	Topcon GPT 3100
Date (MM-DD-YYYY)	6-7-17
Occupy PT	CA13
Back Sight PT	BE09

PHOTOS:



Point ID	FO05
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Oswego
Quad	Mallory

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
373097.959	295266.813	184.049

Operator	Kenny Roberts
Instrument Model	Topcon GPT 3100
Date (MM-DD-YYYY)	6-3-17
Occupy PT	CA14
Back Sight PT	B/S05

PHOTOS:



Point ID	FO06
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Oswego
Quad	Panther Lake

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
364583.934	303898.005	180.848

Operator	Kenny Roberts
Instrument Model	Topcon GPT 3100
Date (MM-DD-YYYY)	6-7-17
Occupy PT	CA15
Back Sight PT	BE10

PHOTOS:



Point ID	FO07
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Oswego
Quad	Panther Lake

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
374210.796	306441.254	219.445

Operator	Kenny Roberts
Instrument Model	Topcon GPT 3100
Date (MM-DD-YYYY)	6-3-17
Occupy PT	BE11
Back Sight PT	CA16

PHOTOS:



Point ID	FO08
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Oneida
Quad	Camden West

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
365502.237	316155.877	154.347

Operator	Kenny Roberts
Instrument Model	Topcon GPT 3100
Date (MM-DD-YYYY)	6-7-17
Occupy PT	CA17
Back Sight PT	BE12

PHOTOS:



Point ID	FO09
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Oneida
Quad	Camden West

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
372082.402	317233.154	158.964

Operator	Kenny Roberts
Instrument Model	Topcon GPT 3100
Date (MM-DD-YYYY)	6-3-17
Occupy PT	UA04
Back Sight PT	CA18

PHOTOS:



Point ID	FO10
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Oneida
Quad	Camden East

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
374097.933	324422.206	272.415

Operator	Kenny Roberts
Instrument Model	Topcon GPT 3100
Date (MM-DD-YYYY)	6-3-17
Occupy PT	CA19
Back Sight PT	B/S10

PHOTOS:



Point ID	FO11
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Oneida
Quad	Westernville

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
367193.863	339886.178	194.276

Operator	Kenny Roberts
Instrument Model	Topcon GPT 3100
Date (MM-DD-YYYY)	6-3-17
Occupy PT	CA20
Back Sight PT	B/S11

PHOTOS:



Point ID	FO11a
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Oneida
Quad	Lee Center

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
370129.069	336932.705	300.374

Operator	Kenny Roberts
Instrument Model	Topcon GPT 3100
Date (MM-DD-YYYY)	7-10-17
Occupy PT	CP11a
Back Sight PT	BS11a

PHOTOS:



Point ID	FO12
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Oneida
Quad	Lee Center

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
364269.872	336306.012	146.390

Operator	Kenny Roberts
Instrument Model	Topcon GPT 3100
Date (MM-DD-YYYY)	6-7-17
Occupy PT	UA05
Back Sight PT	CA21

PHOTOS:









Point ID	FO13
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Lewis
Quad	Point Rock

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
385081.969	329417.355	402.077

Operator	Kenny Roberts
Instrument Model	Topcon GPT 3100
Date (MM-DD-YYYY)	6-5-17
Occupy PT	CA25
Back Sight PT	BE16

PHOTOS:



Point ID	FO14
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Oswego
Quad	Williamstown

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
386247.673	303720.652	199.722

Operator	Kenny Roberts
Instrument Model	Topcon GPT 3100
Date (MM-DD-YYYY)	6-3-17
Occupy PT	CA26
Back Sight PT	B/S14

PHOTOS:



Point ID	FO15
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Oswego
Quad	Redfield

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
391539.413	312019.918	285.612

Operator	Kenny Roberts
Instrument Model	Topcon GPT 3100
Date (MM-DD-YYYY)	6-2-17
Occupy PT	CA27
Back Sight PT	BE15

PHOTOS:



Point ID	FO16
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Lewis
Quad	Paige

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
413485.782	330660.553	580.046

Operator	Kenny Roberts
Instrument Model	Topcon GPT 3100
Date (MM-DD-YYYY)	6-2-17
Occupy PT	CA30
Back Sight PT	BE20

PHOTOS:









Point ID	FO16a
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Lewis
Quad	Page

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
405200.061	328674.382	569.911

Operator	Kenny Roberts
Instrument Model	Topcon GPT 3100
Date (MM-DD-YYYY)	7-9-17
Occupy PT	BE20
Back Sight PT	BS16

PHOTOS:



Point ID	FO17
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Newton Falls

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
593015.082	116459.411	446.394

Operator	Kenny Roberts
Instrument Model	Topcon GPT 3100
Date (MM-DD-YYYY)	5-17-17
Occupy PT	CA32
Back Sight PT	B/S17

PHOTOS:









Point ID	FO18
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Long Tom Mountain

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
588632.834	139594.874	528.609

Operator	Kenny Roberts
Instrument Model	Topcon GPT 3100
Date (MM-DD-YYYY)	5-16-17
Occupy PT	BE21
Back Sight PT	CA33

PHOTOS:



Point ID	FO19
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Piercefield

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
599423.062	144721.167	479.875

Operator	Kenny Roberts
Instrument Model	Topcon GPT 3100
Date (MM-DD-YYYY)	5-16-17
Occupy PT	CA34
Back Sight PT	UA07

PHOTOS:



Point ID	FO20
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Childwold

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
605593.503	136712.712	479.628

Operator	Kenny Roberts
Instrument Model	Topcon GPT 3100
Date (MM-DD-YYYY)	5-17-17
Occupy PT	CA35
Back Sight PT	B/S20

PHOTOS:



Point ID	FO21
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Newton Falls

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
597483.017	110491.981	422.779

Operator	Kenny Roberts
Instrument Model	Topcon GPT 3100
Date (MM-DD-YYYY)	5-17-17
Occupy PT	CA37
Back Sight PT	BE24

PHOTOS:



Point ID	FO22
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Fine

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
600282.464	98304.202	304.768

Operator	Kenny Roberts
Instrument Model	Topcon GPT 3100
Date (MM-DD-YYYY)	5-19-17
Occupy PT	CA38
Back Sight PT	BE25

PHOTOS:



Point ID	FO23
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Lake Bonaparte

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
601877.138	78493.583	211.519

Operator	Kenny Roberts
Instrument Model	Topcon GPT 3100
Date (MM-DD-YYYY)	5-19-17
Occupy PT	CA40
Back Sight PT	BE27

PHOTOS:



Point ID	FO24
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Edwards

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
610347.554	89513.478	199.876

Operator	Kenny Roberts
Instrument Model	Topcon GPT 3100
Date (MM-DD-YYYY)	5-19-17
Occupy PT	CA41
Back Sight PT	BE28

PHOTOS:



Point ID	FO25
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Newton Falls

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
605094.552	114399.213	429.377

Operator	Kenny Roberts
Instrument Model	Topcon GPT 3100
Date (MM-DD-YYYY)	5-17-17
Occupy PT	BE30
Back Sight PT	CA43

PHOTOS:



Point ID	FO26
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Childwold

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
610266.690	132108.605	436.878

Operator	Kenny Roberts
Instrument Model	Topcon GPT 3100
Date (MM-DD-YYYY)	5-17-17
Occupy PT	CA44
Back Sight PT	BE31

PHOTOS:



Point ID	FO27
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Pierrepont

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
639730.843	106408.765	147.945

Operator	Kenny Roberts
Instrument Model	Topcon GPT 3100
Date (MM-DD-YYYY)	5-17-17
Occupy PT	CA71
Back Sight PT	B/S27

PHOTOS:



Point ID	FO28
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	Mount Matumbia

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
602526.251	149782.806	484.006

Operator	Kenny Roberts
Instrument Model	Topcon GPT 3100
Date (MM-DD-YYYY)	5-16-17
Occupy PT	CA46
Back Sight PT	BE33

PHOTOS:



Point ID	FO28a
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Childwold

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
132425.547	606343.443	470.368

Operator	Kenny Roberts
Instrument Model	Topcon GPT 3100
Date (MM-DD-YYYY)	7-9-17
Occupy PT	CP28
Back Sight PT	BE33

PHOTOS:









Point ID	FO29
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Waddington

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
666682.964	98969.078	86.087

Operator	Kenny Roberts
Instrument Model	Topcon GPT 3100
Date (MM-DD-YYYY)	5-10-17
Occupy PT	CA86
Back Sight PT	BE61

PHOTOS:



Point ID	FO30
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Edwards

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
621210.266	89775.140	167.735

Operator	Kenny Roberts
Instrument Model	Topcon GPT 3100
Date (MM-DD-YYYY)	5-19-17
Occupy PT	CA51
Back Sight PT	B/S30

PHOTOS:



Point ID	FO31
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Stark

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
620812.333	124758.795	437.922

Operator	Kenny Roberts
Instrument Model	Topcon GPT 3100
Date (MM-DD-YYYY)	5-17-17
Occupy PT	CA53
Back Sight PT	B/S31

PHOTOS:



Point ID	FO32
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Stark

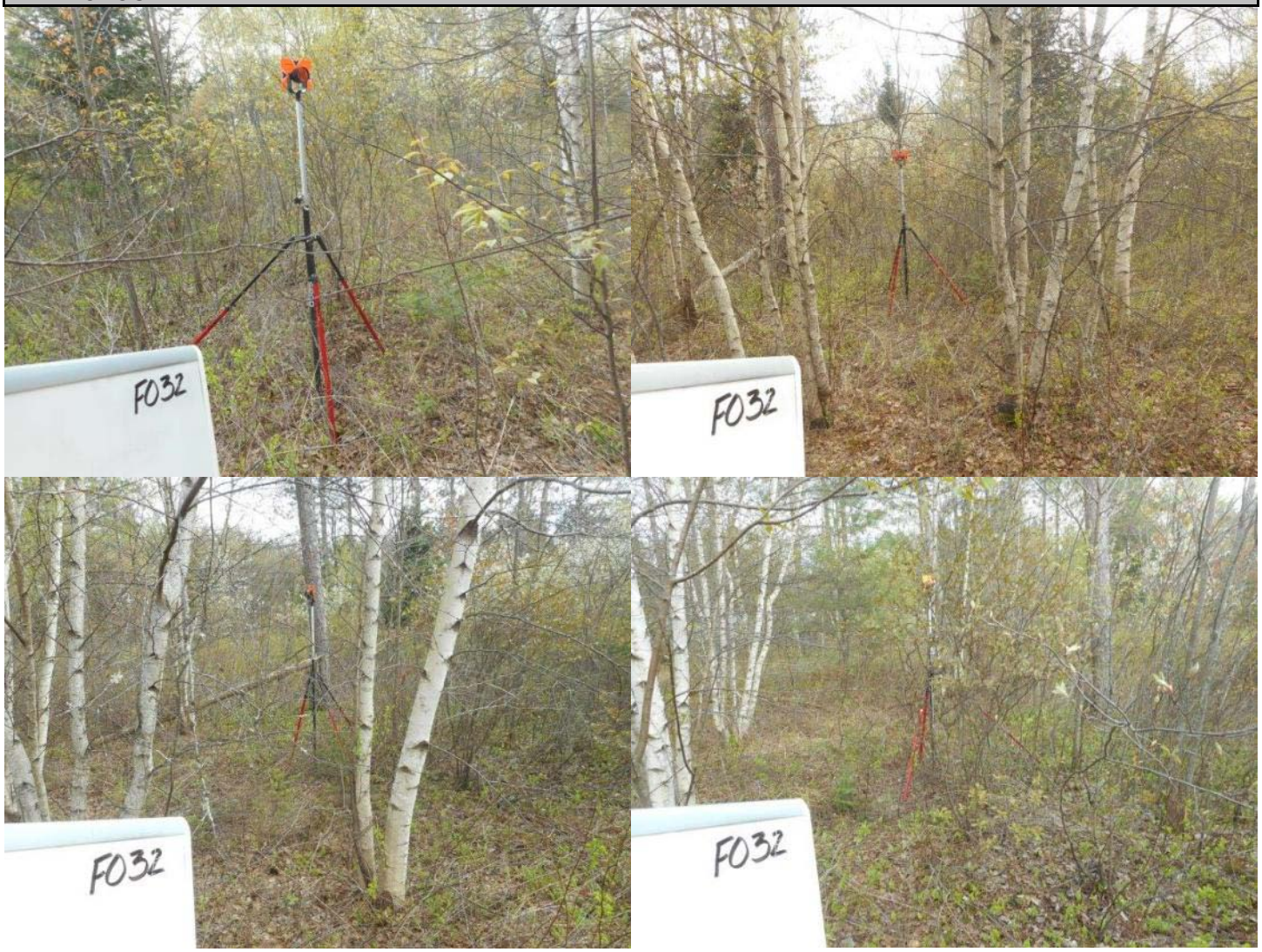
	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
623919.991	126784.867	398.519

Operator	Kenny Roberts
Instrument Model	Topcon GPT 3100
Date (MM-DD-YYYY)	5-15-17
Occupy PT	CA54
Back Sight PT	BE39

PHOTOS:



Point ID	FO33
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	Upper Saranac Lake

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
612431.928	164111.386	496.578

Operator	Kenny Roberts
Instrument Model	Topcon GPT 3100
Date (MM-DD-YYYY)	5-16-17
Occupy PT	CA56
Back Sight PT	BE41

PHOTOS:



Point ID	FO33a
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	St Regis Mountain

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
169720.200	622525.675	509.539

Operator	Kenny Roberts
Instrument Model	Topcon GPT 3100
Date (MM-DD-YYYY)	7-9-17
Occupy PT	BE41
Back Sight PT	BS33

PHOTOS:



Point ID	FO34
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	Saint Regis Mountain

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
621809.562	165959.368	492.983

Operator	Kenny Roberts
Instrument Model	Topcon GPT 3100
Date (MM-DD-YYYY)	5-15-17
Occupy PT	CA57
Back Sight PT	BE42

PHOTOS:



Point ID	FO35
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	Meacham Lake

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
630753.766	165543.799	504.408

Operator	Kenny Roberts
Instrument Model	Topcon GPT 3100
Date (MM-DD-YYYY)	5-13-17
Occupy PT	CA78
Back Sight PT	BE43

PHOTOS:



Point ID	FO36
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	Meno

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
630947.095	154288.095	473.954

Operator	Kenny Roberts
Instrument Model	Topcon GPT 3100
Date (MM-DD-YYYY)	5-15-17
Occupy PT	CA59
Back Sight PT	B/S36

PHOTOS:



Point ID	FO37
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Stark

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
627225.275	121097.672	365.020

Operator	Kenny Roberts
Instrument Model	Topcon GPT 3100
Date (MM-DD-YYYY)	5-17-17
Occupy PT	CA60
Back Sight PT	BE45

PHOTOS:









Point ID	FO38
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Stark

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
632774.072	131187.874	395.732

Operator	Kenny Roberts
Instrument Model	Topcon GPT 3100
Date (MM-DD-YYYY)	5-15-17
Occupy PT	CA61
Back Sight PT	BE46

PHOTOS:



Point ID	FO39
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Brashear Falls

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
661427.054	123827.891	110.379

Operator	Kenny Roberts
Instrument Model	Topcon GPT 3100
Date (MM-DD-YYYY)	5-10-17
Occupy PT	BE62
Back Sight PT	CA88

PHOTOS:









Point ID	FO40
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Canton

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
631335.731	95940.897	159.539

Operator	Kenny Roberts
Instrument Model	Topcon GPT 3100
Date (MM-DD-YYYY)	5-17-17
Occupy PT	CA64
Back Sight PT	BE49

PHOTOS:



Point ID	FO41
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Bigelow

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
629498.406	83000.600	104.030

Operator	Kenny Roberts
Instrument Model	Topcon GPT 3100
Date (MM-DD-YYYY)	5-17-17
Occupy PT	CA65
Back Sight PT	B/S41

PHOTOS:



Point ID	FO42
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Edwardsville

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
636149.378	60855.890	91.392

Operator	Kenny Roberts
Instrument Model	Topcon GPT 3100
Date (MM-DD-YYYY)	5-19-17
Occupy PT	UA10
Back Sight PT	CA67

PHOTOS:



Point ID	FO43
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Colton

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
638699.584	118385.170	267.904

Operator	Kenny Roberts
Instrument Model	Topcon GPT 3100
Date (MM-DD-YYYY)	5-15-17
Occupy PT	CA72
Back Sight PT	BE51

PHOTOS:



Point ID	FO44
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Sylvan Falls

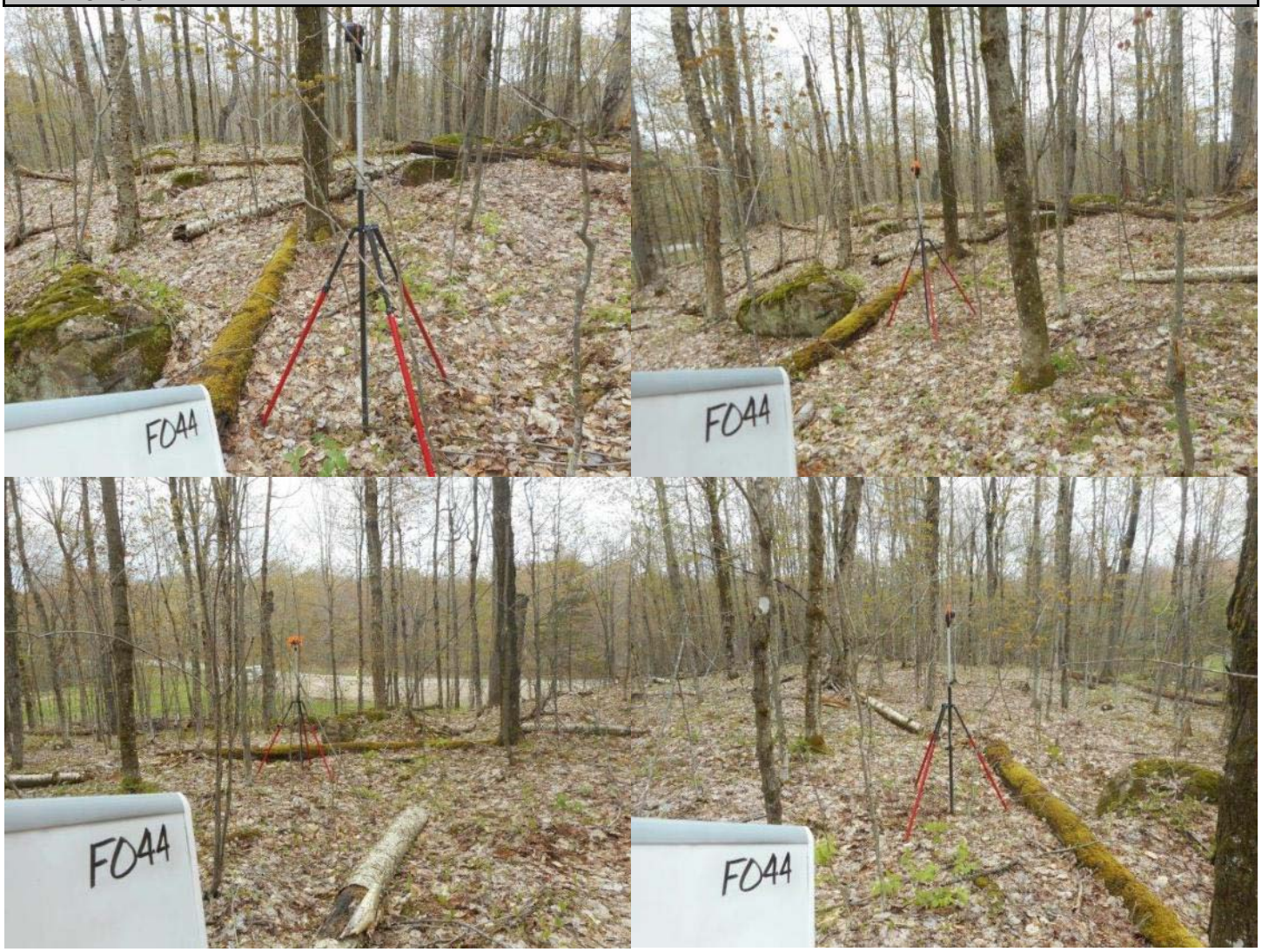
	Aerial Target
	LiDAR Ground Control
X	LiDAR QC Point
	New Control
	Photo ID
	Published Control

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
641003.278	139998.772	435.697

Operator	Kenny Roberts
Instrument Model	Topcon GPT 3100
Date (MM-DD-YYYY)	5-15-17
Occupy PT	CA74
Back Sight PT	BE52

PHOTOS:



Point ID	FO45
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	Lake Titus

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
639977.172	149871.750	436.012

Operator	Kenny Roberts
Instrument Model	Topcon GPT 3100
Date (MM-DD-YYYY)	5-12-17
Occupy PT	BE53
Back Sight PT	CA75

PHOTOS:



Point ID	FO46
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	Meacham Lake

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
639657.392	162261.103	443.761

Operator	Kenny Roberts
Instrument Model	Topcon GPT 3100
Date (MM-DD-YYYY)	5-13-17
Occupy PT	BE54
Back Sight PT	CA76

PHOTOS:



Point ID	FO47
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	Lake Titus

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
650889.927	179146.595	462.058

Operator	Kenny Roberts
Instrument Model	Topcon GPT 3100
Date (MM-DD-YYYY)	5-12-17
Occupy PT	BE55
Back Sight PT	CA78

PHOTOS:



Point ID	FO48
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	Lake Titus

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
651516.409	164499.539	463.318

Operator	Kenny Roberts
Instrument Model	Topcon GPT 3100
Date (MM-DD-YYYY)	5-12-17
Occupy PT	BE56
Back Sight PT	CA79

PHOTOS:



Point ID	FO49
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	Lake Titus

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
650769.361	150997.124	422.407

Operator	Kenny Roberts
Instrument Model	Topcon GPT 3100
Date (MM-DD-YYYY)	5-12-17
Occupy PT	BE57
Back Sight PT	CA80

PHOTOS:



Point ID	FO50
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Waddington

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
653118.956	110964.462	111.495

Operator	Kenny Roberts
Instrument Model	Topcon GPT 3100
Date (MM-DD-YYYY)	5-10-17
Occupy PT	BE59
Back Sight PT	CA83

PHOTOS:



Point ID	FO51
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Norfolk

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
667553.464	111502.518	72.384

Operator	Kenny Roberts
Instrument Model	Topcon GPT 3100
Date (MM-DD-YYYY)	5-10-17
Occupy PT	CA87
Back Sight PT	BS51

PHOTOS:



Point ID	FO52
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	Brushton

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
665178.035	148364.574	138.370

Operator	Kenny Roberts
Instrument Model	Topcon GPT 3100
Date (MM-DD-YYYY)	5-11-17
Occupy PT	UA17
Back Sight PT	CA90

PHOTOS:



Point ID	FO53
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	Brainrdsville

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
663708.182	189478.682	406.914

Operator	Kenny Roberts
Instrument Model	Topcon GPT 3100
Date (MM-DD-YYYY)	5-11-17
Occupy PT	CA93
Back Sight PT	BS53

PHOTOS:



Point ID	FO54
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	Chasm Falls

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
669653.276	177639.667	362.704

Operator	Kenny Roberts
Instrument Model	Topcon GPT 3100
Date (MM-DD-YYYY)	5-11-17
Occupy PT	BE65
Back Sight PT	CA95

PHOTOS:



Point ID	FO55
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	Fort Covington

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
672174.370	151799.390	90.746

Operator	Kenny Roberts
Instrument Model	Topcon GPT 3100
Date (MM-DD-YYYY)	5-11-17
Occupy PT	CA97
Back Sight PT	BE67

PHOTOS:



Point ID	FO56
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Raquette River

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
673617.657	129701.885	66.251

Operator	Kenny Roberts
Instrument Model	Topcon GPT 3100
Date (MM-DD-YYYY)	5-10-17
Occupy PT	CA99
Back Sight PT	BS56

PHOTOS:



Point ID	FO57
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Hogansburg

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
682448.771	131144.238	56.494

Operator	Kenny Roberts
Instrument Model	Topcon GPT 3100
Date (MM-DD-YYYY)	5-10-17
Occupy PT	CP57
Back Sight PT	BS57

PHOTOS:



Point ID	FO58
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Muskellunge Lake

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
615432.912	58152.007	93.521

Operator	Kenny Roberts
Instrument Model	Topcon GPT 3100
Date (MM-DD-YYYY)	5-19-17
Occupy PT	CA108
Back Sight PT	B/S58

PHOTOS:



Point ID	FO59
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	Malone

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
659911.933	165593.997	386.148

Operator	Kenny Roberts
Instrument Model	Topcon GPT 3100
Date (MM-DD-YYYY)	5-12-17
Occupy PT	CA106
Back Sight PT	BE72

PHOTOS:



Brushland Point Log Sheets

Point ID	SH01
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Onondaga
Quad	Syracuse East

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
333534.696	289509.840	169.067

Operator	Kenny Roberts
Instrument Model	Topcon GPT 3100
Date (MM-DD-YYYY)	6-8-17
Occupy PT	CA05
Back Sight PT	B/S01

PHOTOS:









Point ID	SH02
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Onondaga
Quad	Cicero

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
347167.958	288808.532	124.454

Operator	Derek Griggs
Receiver Model	Trimble R8 3
Receiver S/N	5152479795
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	6-8-17
RMSE Hz	0.006
RMSE Z	0.009
GPS Method	NYSNET

PHOTOS:



Point ID	SH03
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Lewis
Quad	High Market

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
391778.984	334908.573	493.982

Operator	Kenny Roberts
Instrument Model	Topcon GPT 3100
Date (MM-DD-YYYY)	6-5-17
Occupy PT	CA28
Back Sight PT	B/S03_SH

PHOTOS:



Point ID	SH04
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Lewis
Quad	High Market

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

Coordinate System
NAD83(2011)
NY SPCS – CENTRAL ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
400647.822	333125.092	541.012

Operator	Kenny Roberts
Instrument Model	Topcon GPT 3100
Date (MM-DD-YYYY)	6-2-17
Occupy PT	CA29
Back Sight PT	BE19

PHOTOS:



Point ID	SH05
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Cranberry Lake

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
596821.483	121036.879	450.755

Operator	Derek Griggs
Receiver Model	Trimble R8 3
Receiver S/N	5152479795
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-20-17
RMSE Hz	0.011
RMSE Z	0.011
GPS Method	NYSNET

PHOTOS:



Point ID	SH06
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Degrasse

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
608564.432	103248.065	282.591

Operator	Derek Griggs
Receiver Model	Trimble R8 3
Receiver S/N	5152479795
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-21-17
RMSE Hz	0.009
RMSE Z	0.009
GPS Method	NYSNET

PHOTOS:



Point ID	SH07
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	West Pierrepont

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

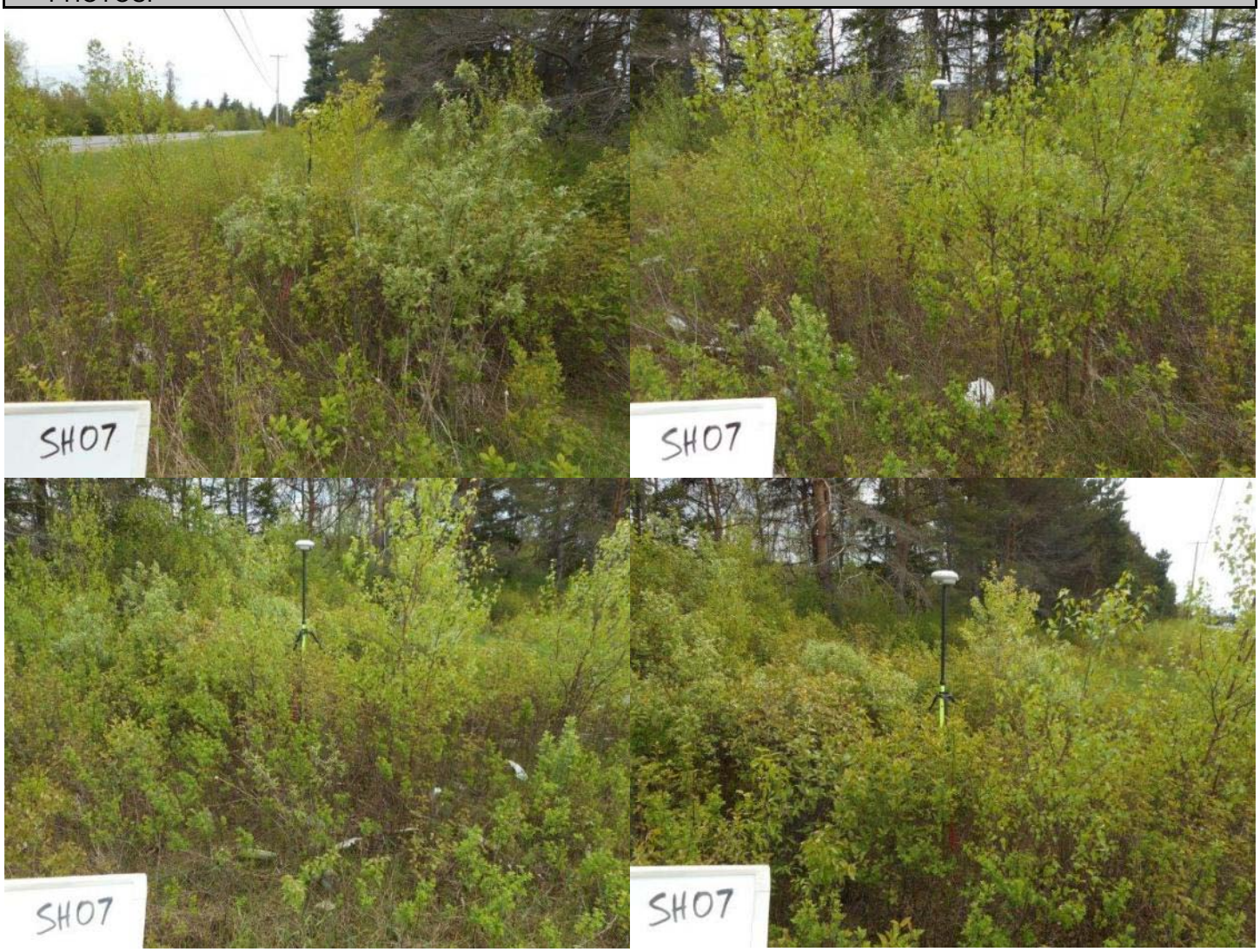
Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
617186.953	104994.733	247.547

Operator	Derek Griggs
Receiver Model	Trimble R8 3
Receiver S/N	5152479795
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-21-17
RMSE Hz	0.008
RMSE Z	0.008
GPS Method	NYSNET

PHOTOS:



Point ID	SH08
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	Mount Matumbla

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

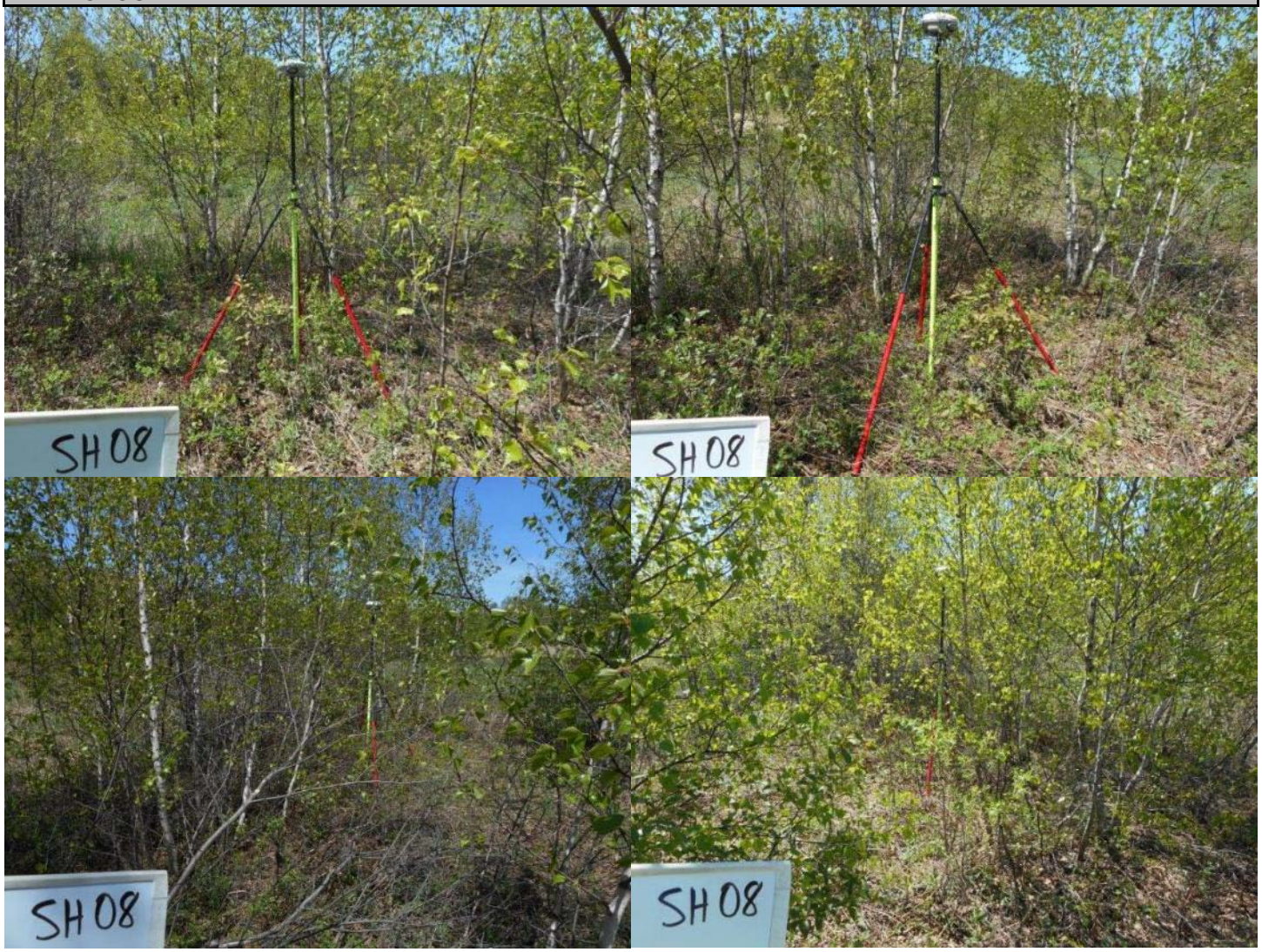
Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
601783.256	150343.292	485.151

Operator	Derek Griggs
Receiver Model	Trimble R8 3
Receiver S/N	5152479795
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-20-17
RMSE Hz	0.010
RMSE Z	0.010
GPS Method	NYSNET

PHOTOS:



Point ID	SH08a
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Stark

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

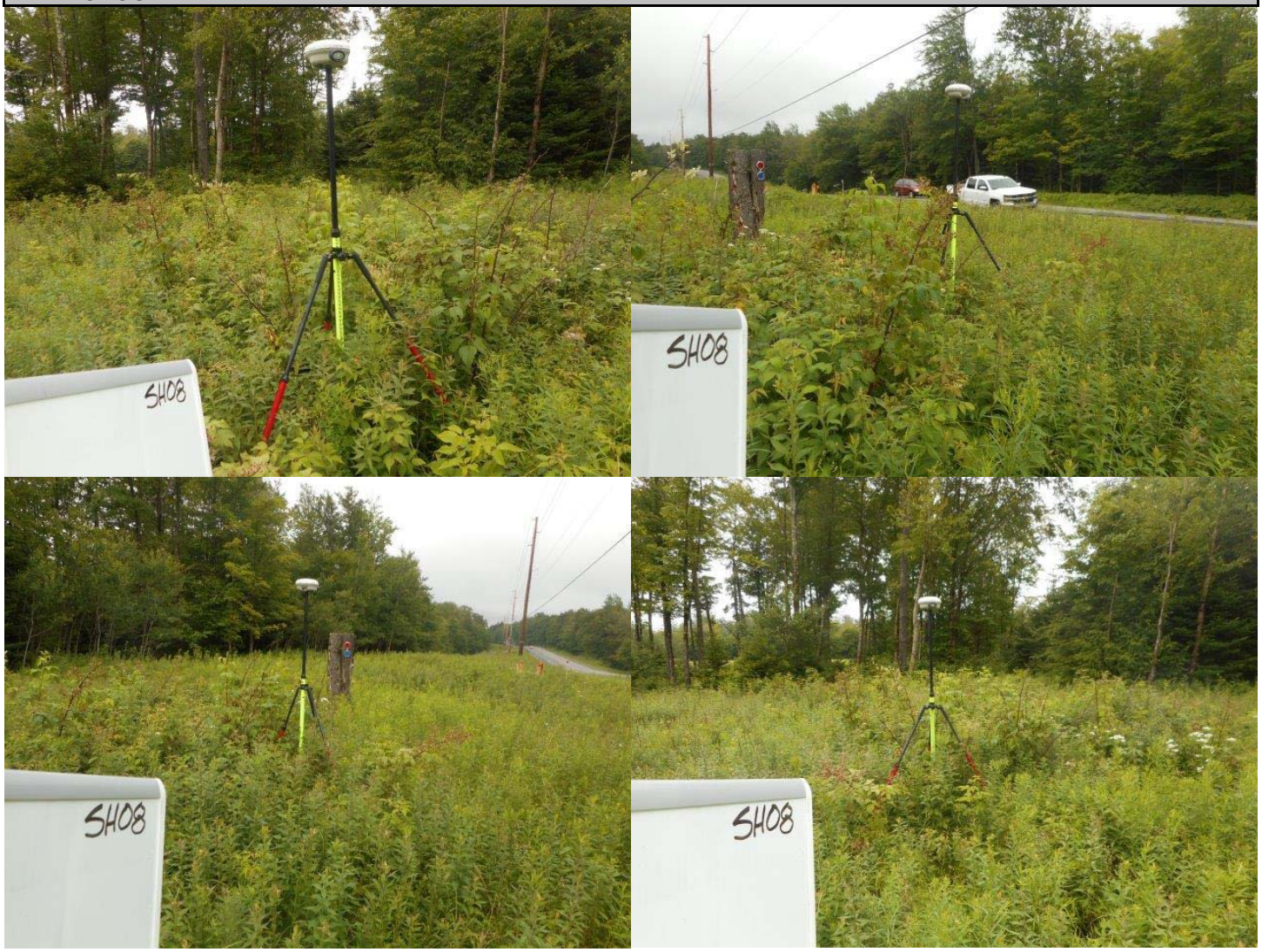
Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
128672.037	619134.075	460.175

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	7-8-17
RMSE Hz	0.009
RMSE Z	0.014
GPS Method	NYSNET

PHOTOS:



Point ID	SH09
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Edwardsville

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
641954.440	70211.401	113.238

Operator	Derek Griggs
Receiver Model	Trimble R8 3
Receiver S/N	5152479795
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-22-17
RMSE Hz	0.006
RMSE Z	0.006
GPS Method	NYSNET

PHOTOS:



Point ID	SH10
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Lisbon

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
654950.379	84267.858	99.156

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-21-17
RMSE Hz	0.009
RMSE Z	0.009
GPS Method	NYSNET

PHOTOS:



Point ID	SH11
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	Fort Covington

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
683365.017	150029.042	51.612

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-20-17
RMSE Hz	0.009
RMSE Z	0.009
GPS Method	NYSNET

PHOTOS:



Point ID	SH12
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	Chateaugay

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
681449.715	183401.312	187.419

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-20-17
RMSE Hz	0.007
RMSE Z	0.007
GPS Method	NYSNET

PHOTOS:



Point ID	SH13
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Norfolk

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
660850.304	111415.811	100.769

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-21-17
RMSE Hz	0.006
RMSE Z	0.006
GPS Method	NYSNET

PHOTOS:



Point ID	SH14
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	Jamiesons Line Station

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
681751.529	169889.365	94.187

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-20-17
RMSE Hz	0.007
RMSE Z	0.007
GPS Method	NYSNET

PHOTOS:



Point ID	SH15
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	Fort Covington Port of Entry

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
681254.239	142964.172	66.866

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-20-17
RMSE Hz	0.010
RMSE Z	0.010
GPS Method	NYSNET

PHOTOS:



Point ID	SH16
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	St Lawrence
Quad	Massena

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
675926.603	119680.174	57.779

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-22-17
RMSE Hz	0.011
RMSE Z	0.011
GPS Method	NYSNET

PHOTOS:



Point ID	SH17
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	Malone

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
670995.251	163542.892	199.221

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-22-17
RMSE Hz	0.010
RMSE Z	0.010
GPS Method	NYSNET

PHOTOS:



Point ID	SH18
Project No.	29614
Project Name	NY FEMA R2
State	New York
County	Franklin
Quad	Chateaugay

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

Coordinate System
NAD83(2011)
NY SPCS – EAST ZONE
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
672201.682	187560.403	404.779

Operator	Kenny Roberts
Receiver Model	Trimble R8 4
Receiver S/N	5407454087
Antenna Height	2.000 Meters

Date (MM-DD-YYYY)	5-20-17
RMSE Hz	0.006
RMSE Z	0.006
GPS Method	NYSNET

PHOTOS:

