

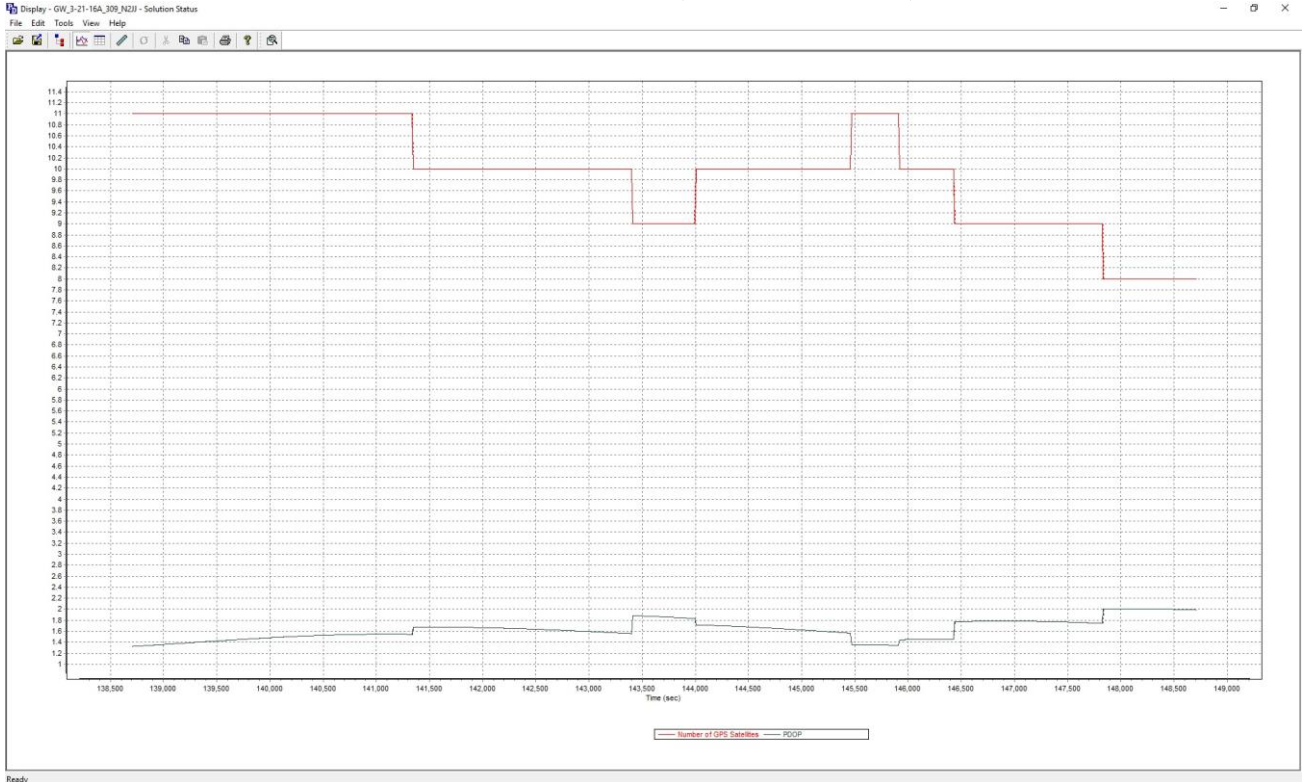
Appendix A:

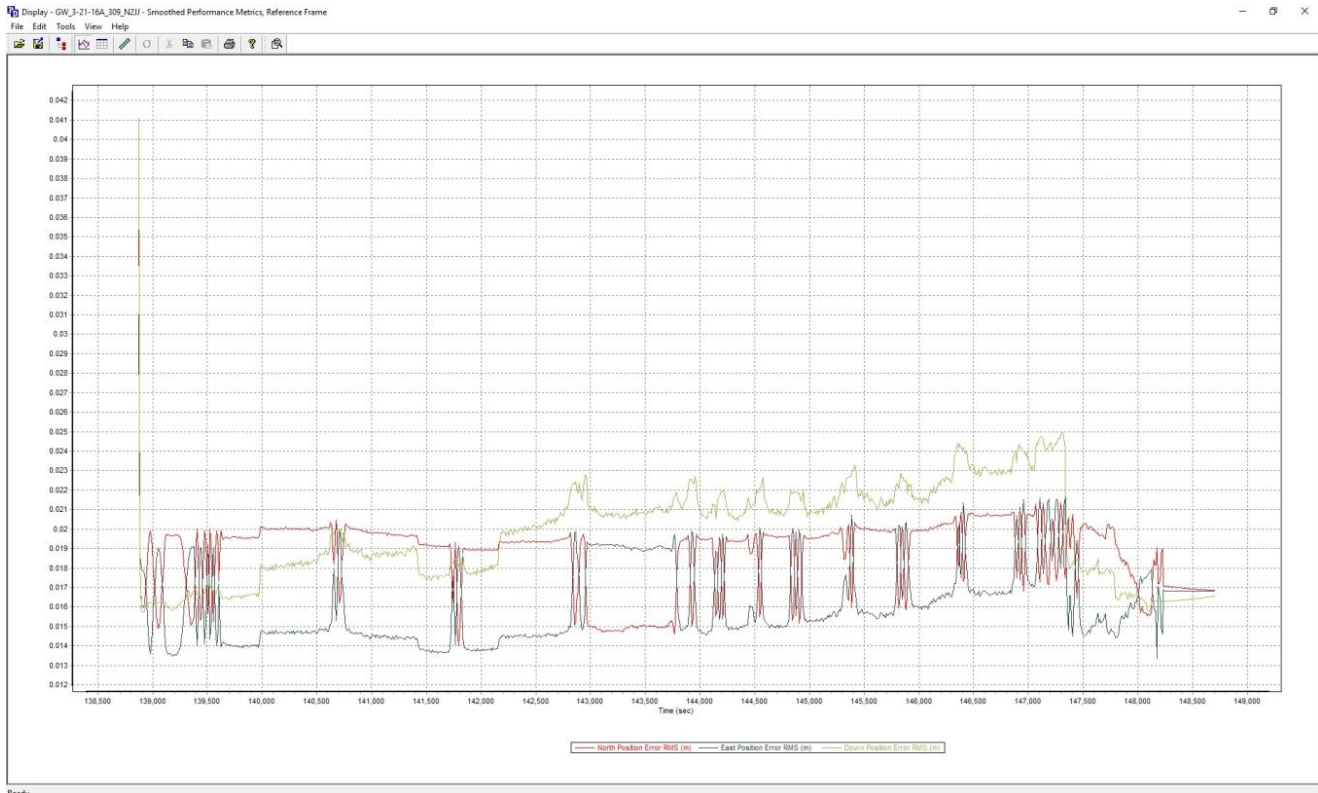
GPS/IMU Statistics, Flight Logs, and Base Station Logs

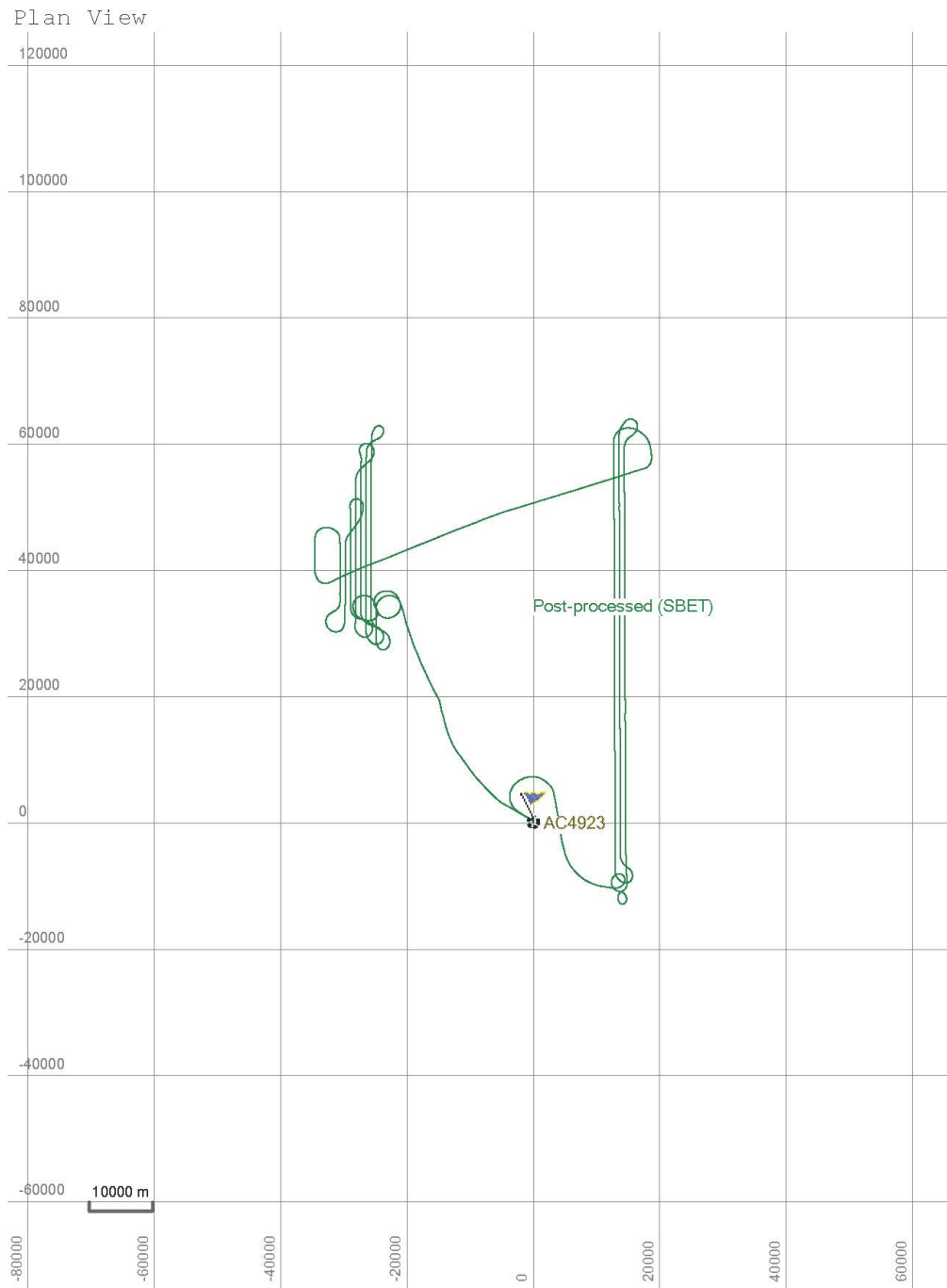
There were four total lifts. Graph reports generated from processing software, flight logs, and base station logs are found on the following pages.

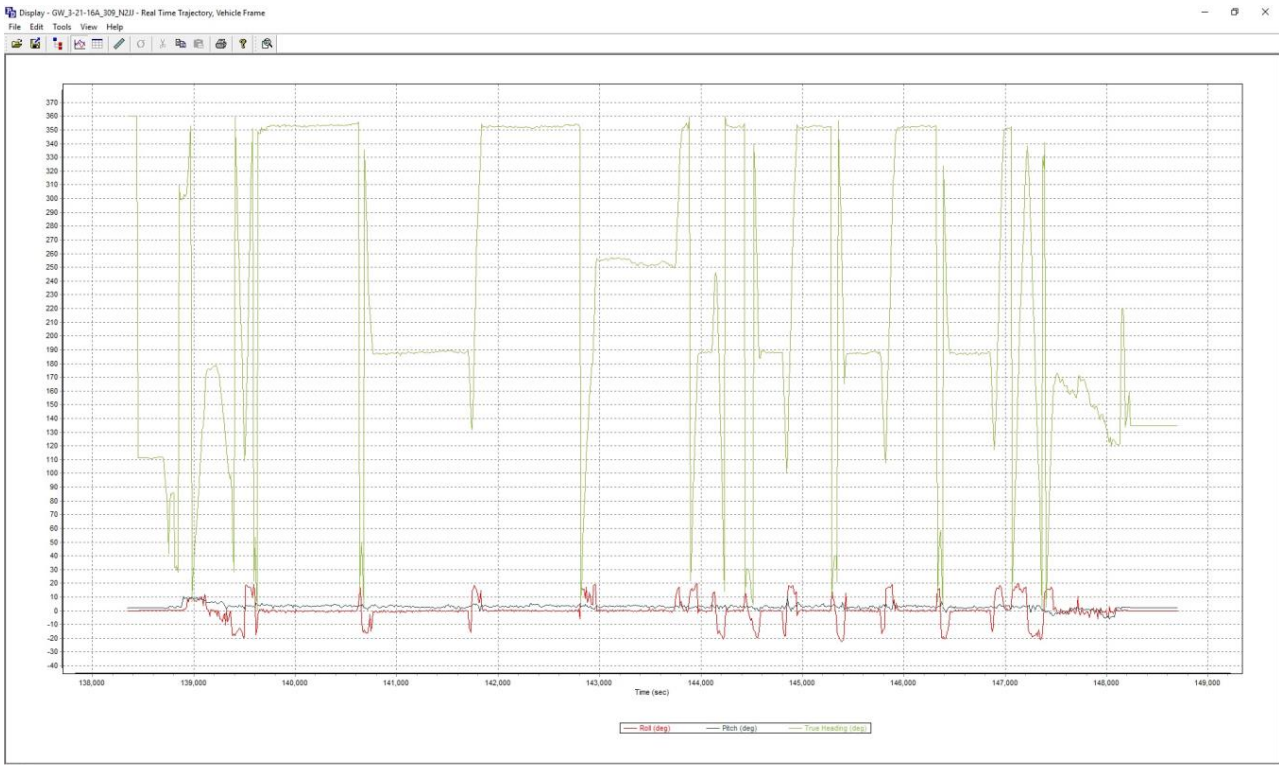
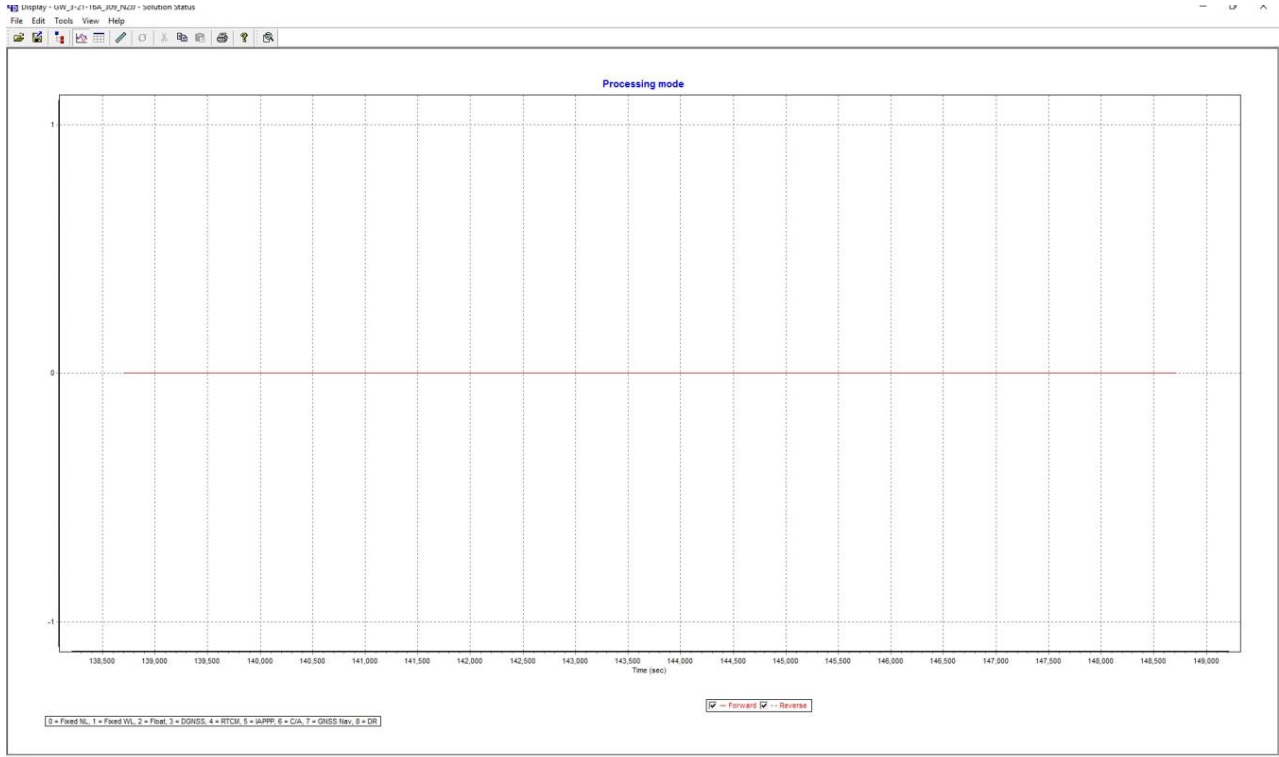
Mar 21, 2016-A (N2JJ, SN309).....	2
Mar 21, 2016-B (N2JJ, SN309).....	8
Mar 22, 2016-A (N2JJ, SN309).....	15
Mar 22, 2016-B (N2JJ, SN309).....	21

Mar 21, 2016-A (N2JJ, SN309)









Coordinate Manager

Station Information

Station ID:

Coordinates

Latitude:

Longitude:

Altitude: m

Decimal Degrees

Antenna Frame

Height: m

Method:

Manufacturer:

Type:

Offset from Measured Point to APC: m

Ground Reference Point (GRP) coordinates

Station Database

Station ID: Station Fullname:

Primary Service ID: Coordinate Accuracy:

Secondary Service ID:

Station ID	Station Full...	Frame	Epoch	Ellipsoid	Latitude	Longitude	Altitude	Coord Acc

173 Ground / Airborne LiDAR Data Collection Log Sheet :: Quantum Spatial, Inc

(email log daily to flight_log_distribution_list@quantumspatial.com)

Date: **3-21-2016** Pg. **A** of **1004**

Project: **KONA-Buffalo County** Flight Mgmt File: **20160321A-WROC-NIJJ-SEN 207-1004**

Aircraft: **KONA** Pilot: **Brinkhoff** Co-Pilot: **PETERSEN**

Dep Apt: **Y/N** Sta 1: **ONA-A** Sta 2: **Y/N** Total: **3579.4** Arr Apt: **(Z)** Air Time (Local): **(Z)** Tot Time Aloft: **(Z)**

CORS: **(Y) N** Sta 1: **5.1 FT AC492** Sta 2: **(Z)** Flyovers: **Y / N** If Y, times: **Sta1** Flyovers: **Y / N** If Y, times: **Sta2**

Gd Temp beg: **°C** End: **°C** OAT beg: **°C** End: **°C** Altimeter begin: **end:**

Line #	Type	Serial #	Scan Freq	Alt AGL	Alt AMSL	MplA Y / N	Pulse Rate	Max Gapd	Power	PPSM	Storage		
											Mag GB	End GB	Tot GB
1	N	14:08	15:03	132	11	1872	6	00					
2	S	15:06	15:21	136	11	1971	-6						
3	N	15:24	15:39	138	11	1913	6						
7L	SN	1543	1555	134	10	1954							
56	S	1559	1601	130	10	1915	-8						
55	N	1604	1606	130	10	1913	6						
54	S	1610	1613	140	10	1920	-7						
53	N	1625	1621	132	10	1921	6						
52	S	1624	1629	134	10	1933	-6						
51	N	1632	1638	136	11	1922	8						
50	S	1641	1647	138	11	1899	-8						

FLIGHT LINE NOTES - visibility, clouds, smoke, partial, etc

Possible cloud miles 19-15 From North END

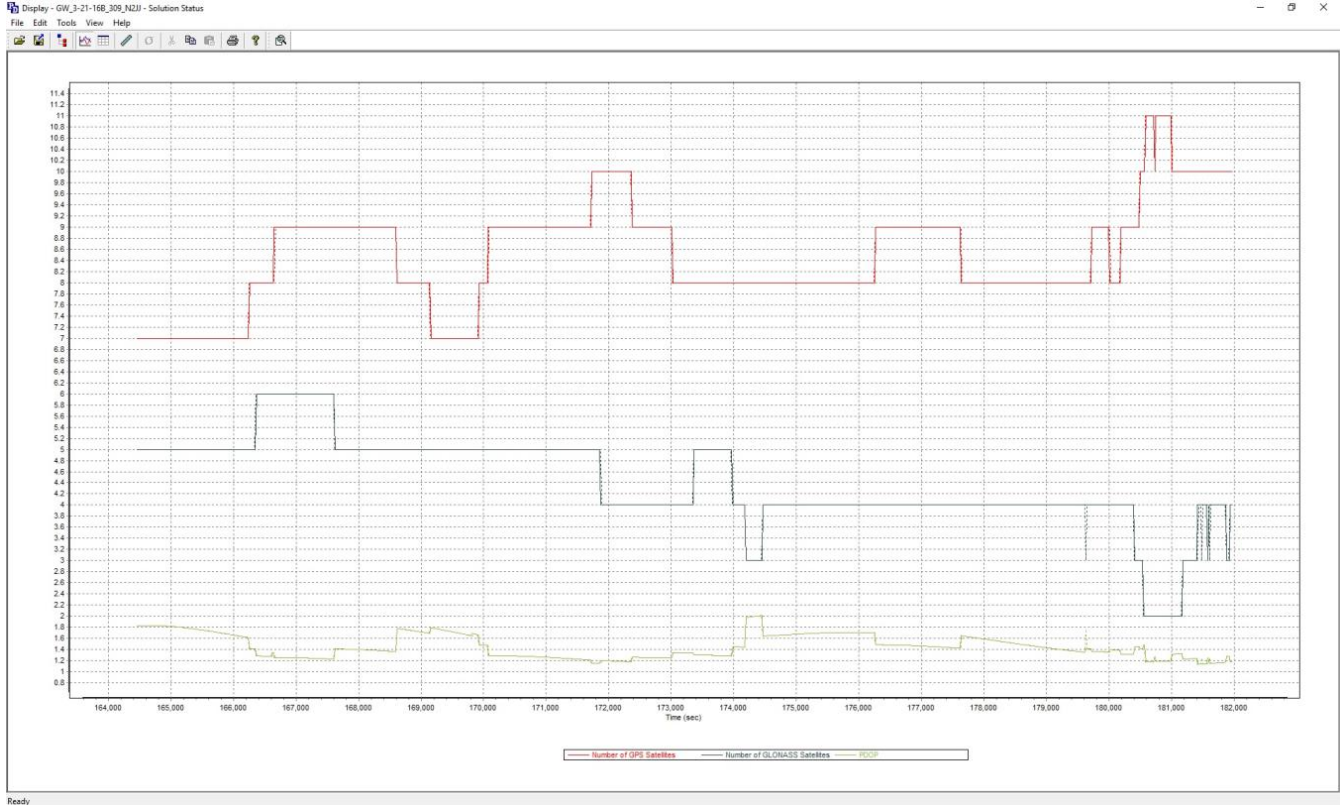
JUST INCREASE / Move to WEST SIDE CLOUDS EAST SIDE

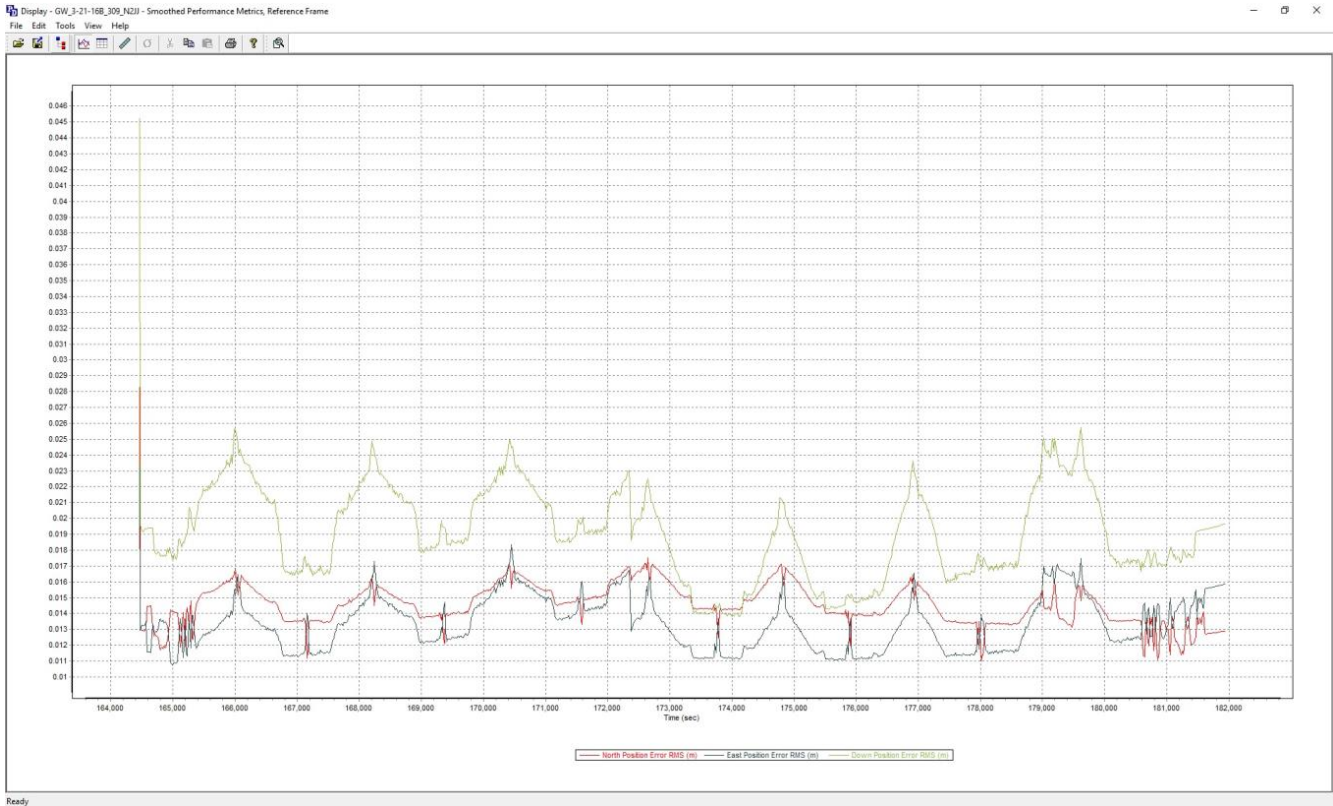
∞

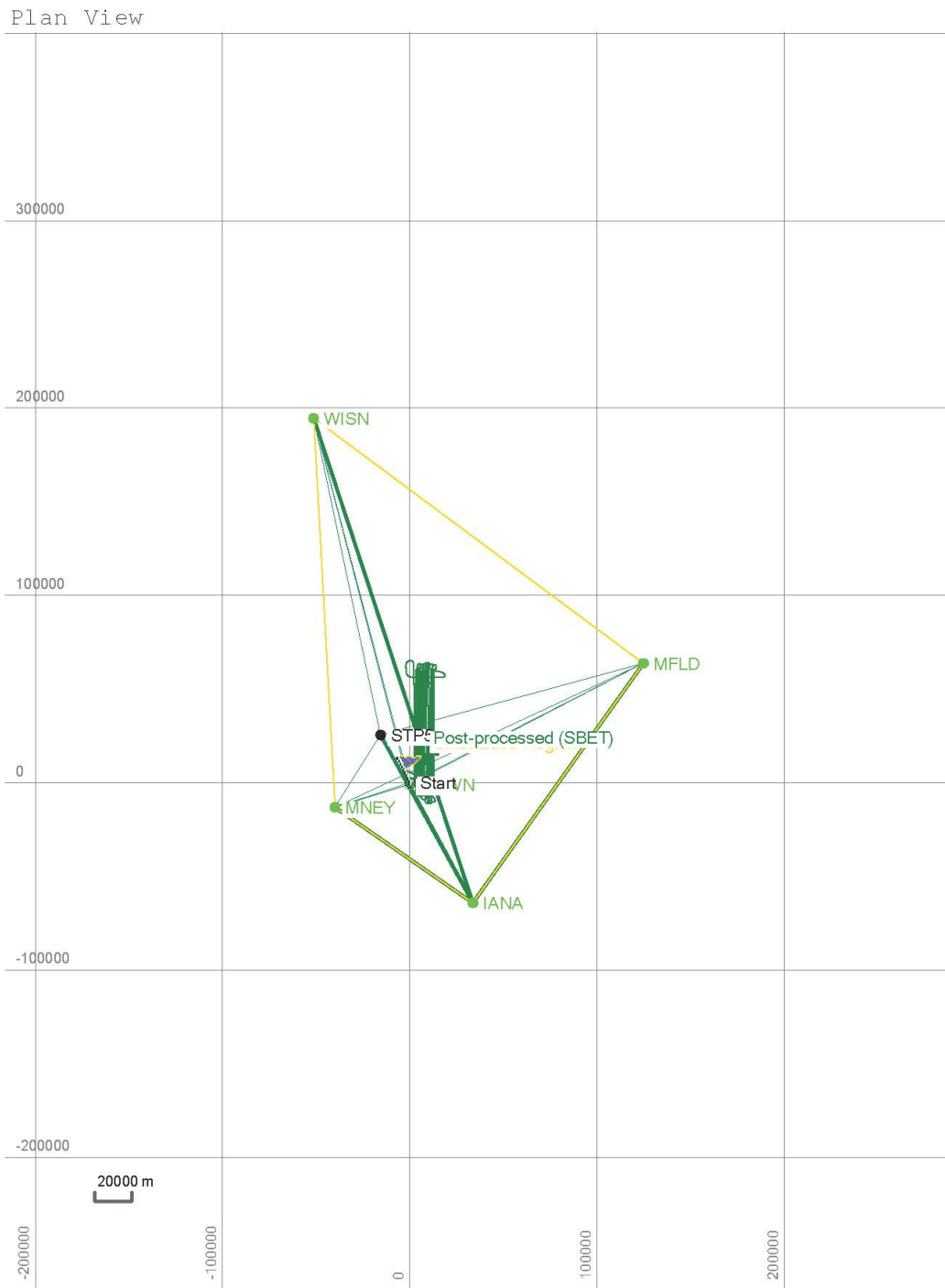
Clouds NEXT LINE AND TO EAST ENTIRE BLOCK COVERED.

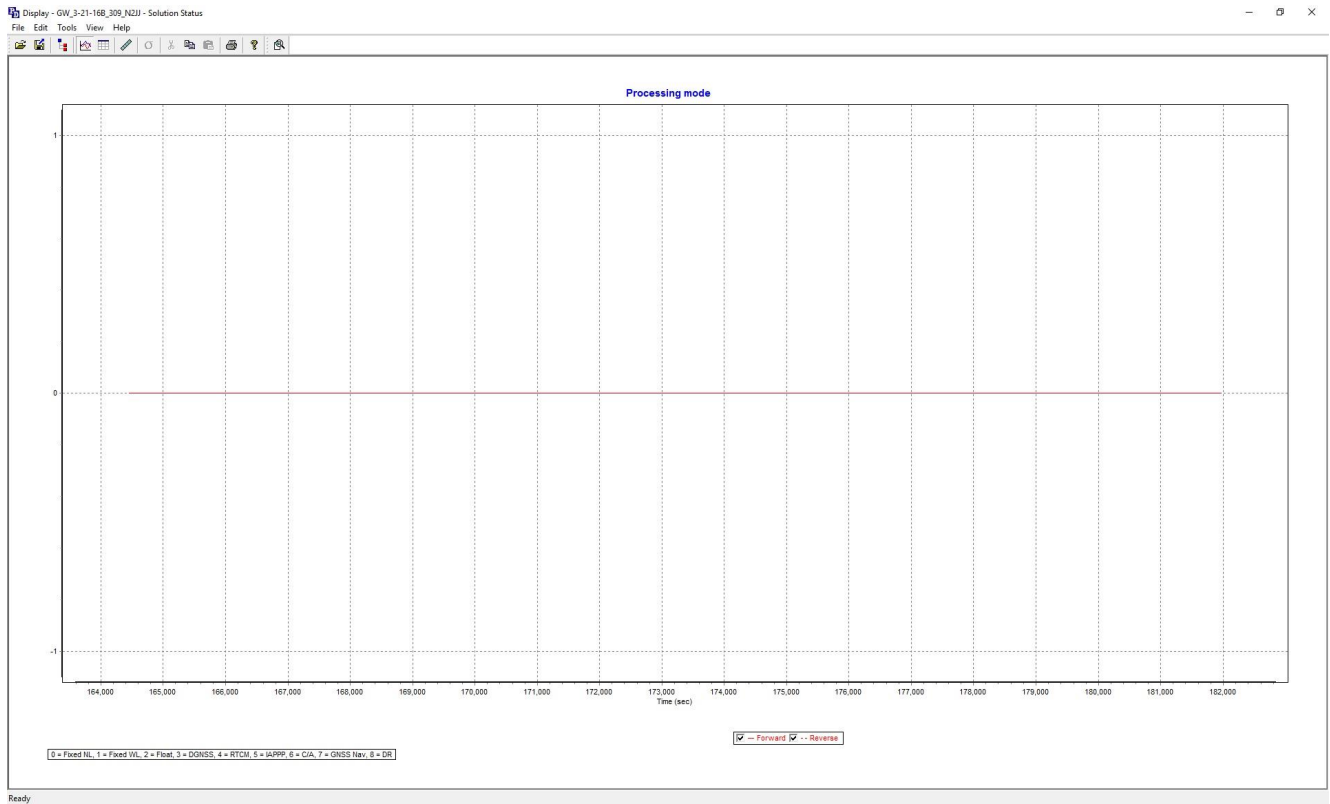
Total Proj Lines: _____ Lines Flown: _____ Lines Remain: _____ Online Time: _____ Mob Time: _____ Notes: _____

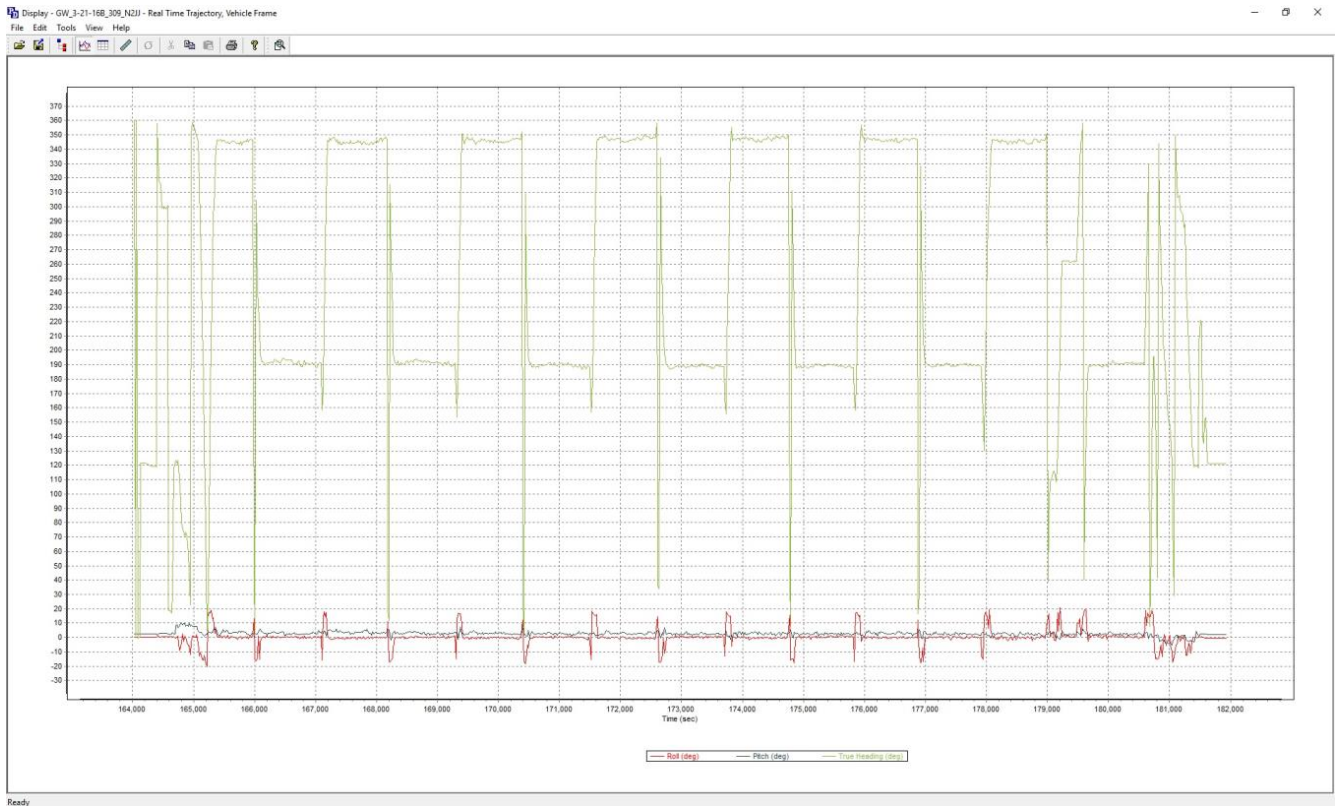
Mar 21, 2016-B (N2JJ, SN309)











Coordinate Manager

Station Information

Station ID:

Coordinates

Latitude:

Longitude:

Altitude: m

Decimal Degrees

Antenna Reference Point (ARP) coordinates Apply Changes

Antenna **Frame**

Height: m

Method:

Manufacturer:

Type:

Offset from Measured Point to APC: m

Station Database

Station ID: Station Fullname:

Primary Service ID: Coordinate Accuracy:

Secondary Service ID:

Station ID	Station Full...	Frame	Epoch	Ellipsoid	Latitude	Longitude	Altitude	Coord Acc

Date: 3-21-2016 (B)

START: 21:42 END:

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

(email log daily to flight_log_distribution_list@quantumspatial.com)

Project: **KONA - Buffalo County** Flight Mgmt File: **20160321-6-LIDAR-N2JJJ-ser309-KONA**

Ucraft: **N2JJJ** Begin Hobbs: **3581.9** End Hobbs: **3586.6** Total: **4.7** Pilot: **BRINKHOFF** Co-Pilot: **Petersen**

Proj #: **27131** Arr Apt: **(Z)** Air Time (Local): **(Z)** Tot Time Aloft: **(Z)**

Dep Apt: **(Z)** Flyovers: Y / N if Y, times: Sta 1) **(Z)** Sta 2) **(Z)**

Stations: **(Z)** N Sta 1: **A6-4923** Sta 2: **(Z)** Flyovers: Y / N if Y, times: Sta 1) **(Z)** Sta 2) **(Z)**

GPS Unit: **(Z)** N Sta 1: **5.1 ft** Sta 2: **(Z)** Altimeter begin: **(Z)** end: **(Z)**

3d Temp beg: **(Z)** °C End: **(Z)** OAT beg: **(Z)** °C End: **(Z)**

LIDAR: **OPTIK H200** Serial #: **309** Alt AGL: **1700** Max Gated: **140** Avg Pt Spacing: **(Z)**

FOV: **38** Scan Freq: **52** Pulse Rate: **225** Power: **H** PPSH: **2+**

* KONA *

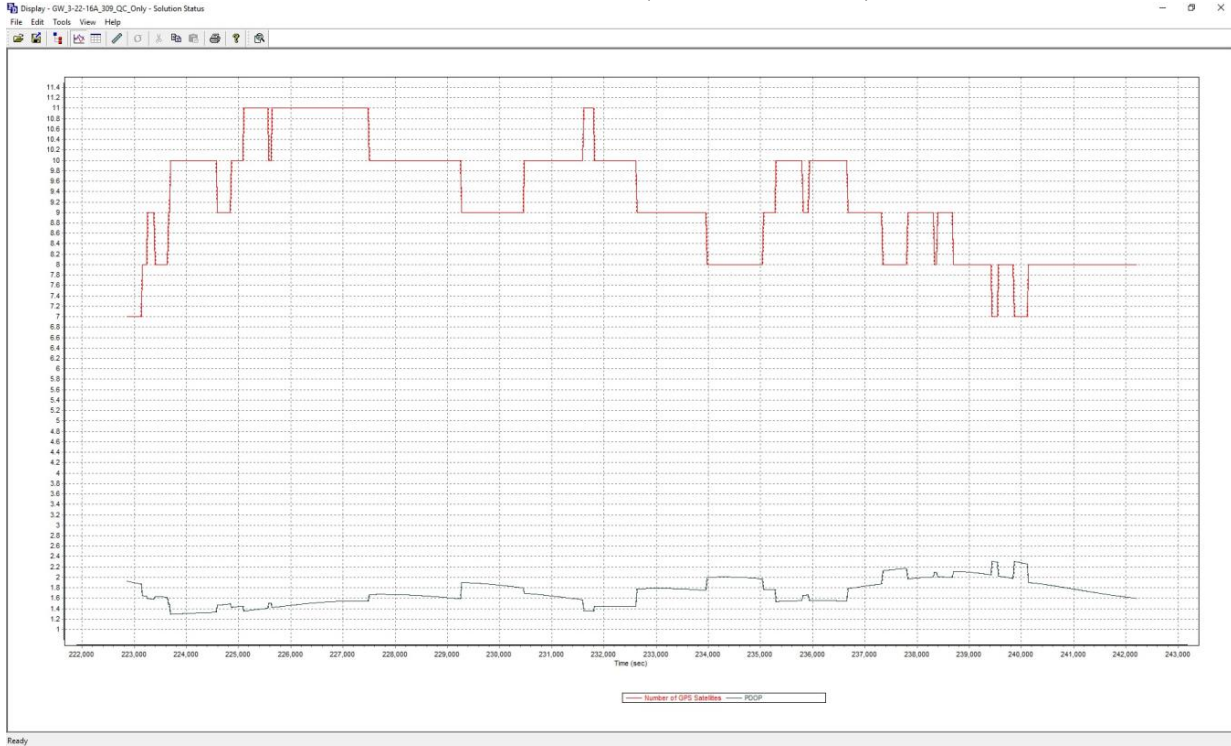
FLIGHT LINE NOTES - visibility, clouds, smoke, partial, etc.

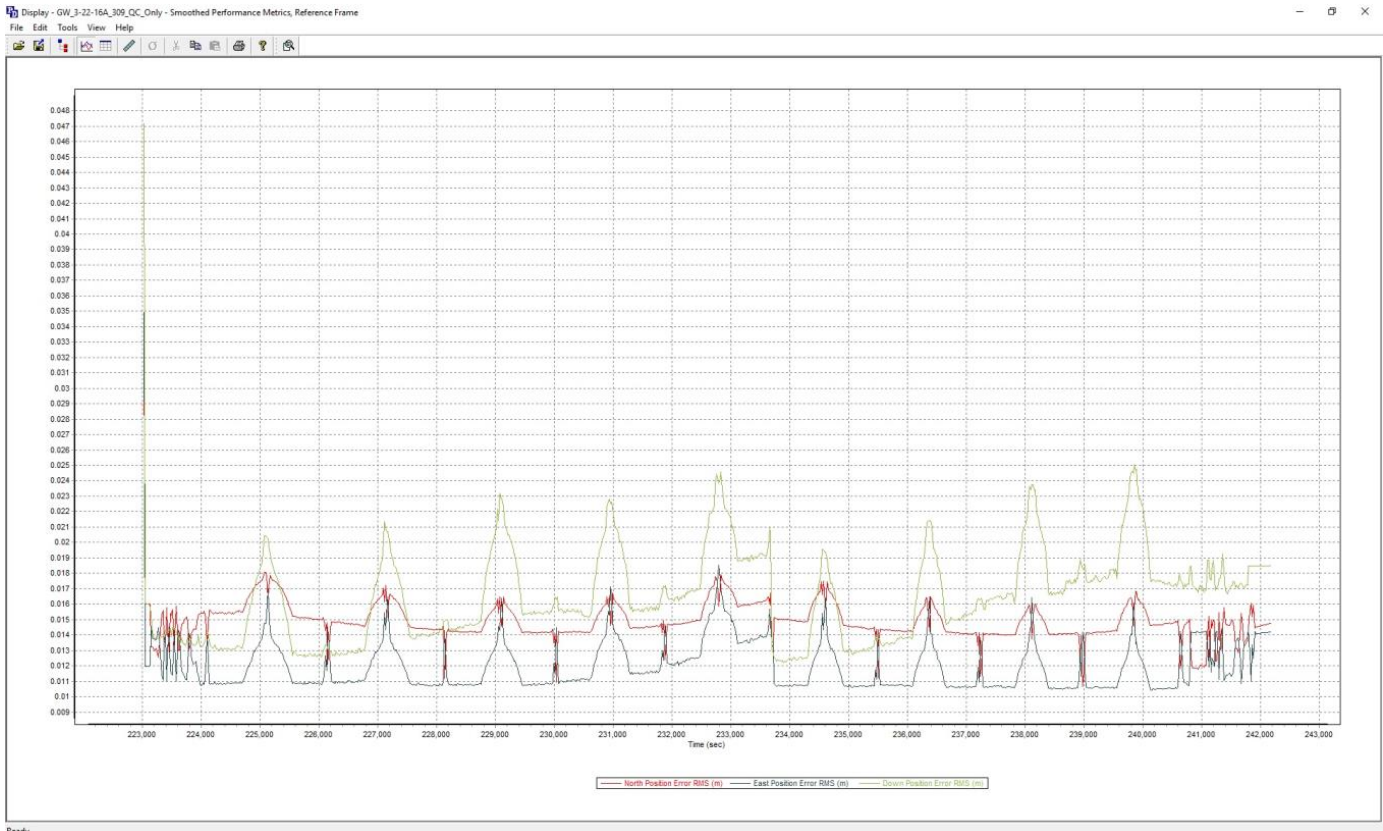
North portion 20 miles + for close on "A" mission!

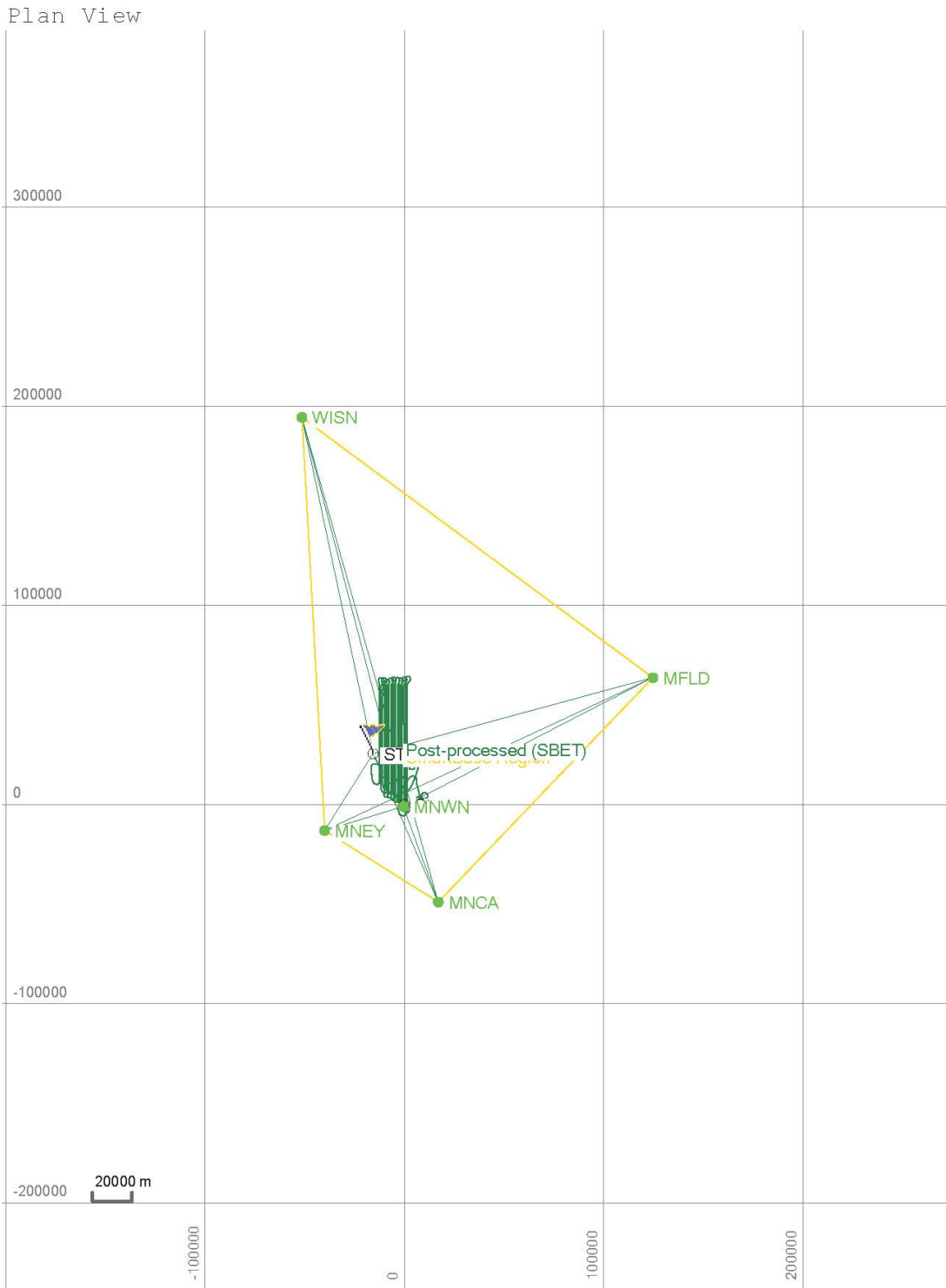
Line #	Hdg	Start (UTC)	End (UTC)	Alt Spd	FOO/Hess	GPS Altitude	Crab	Turn (0..-1)
3	N	21:56	22:06	138	8	1935	15	00
4	S	22:08	22:24	120	8	1970	-12	
5	N	22:27	22:42	134	8	1909	14	
6	S	22:45	23:01	134	9	1966	-10	
7	N	23:03	23:19	136	8	1910	14	
8	S	23:22	23:38	130	9	1962	-9	
9	N	23:40	23:56	140	10	1917	12	
10	S	23:59	00:14	130	10	1948	-9	
11	N	00:17	00:32	138	10	1941	14	
12	S	00:34	00:50	128	8	1960	-10	
13	N	00:52	01:07	140	10	1950	13	
14	S	01:10	01:25	134	10	1980	-12	
15	N	01:28	01:43	136	10	1927	12	
16	S	01:47	01:51	120	11	1960	8	
17	S	01:55	02:09	134	11	1970	-11	

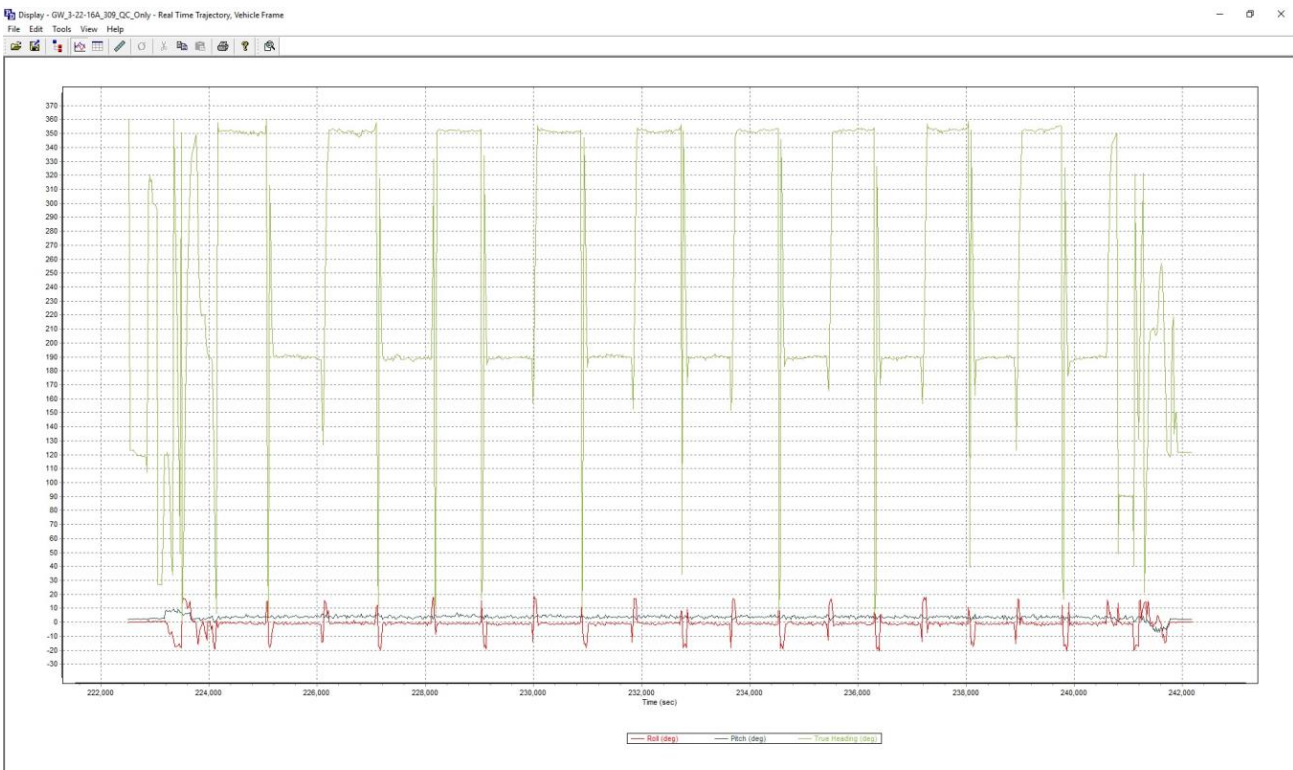
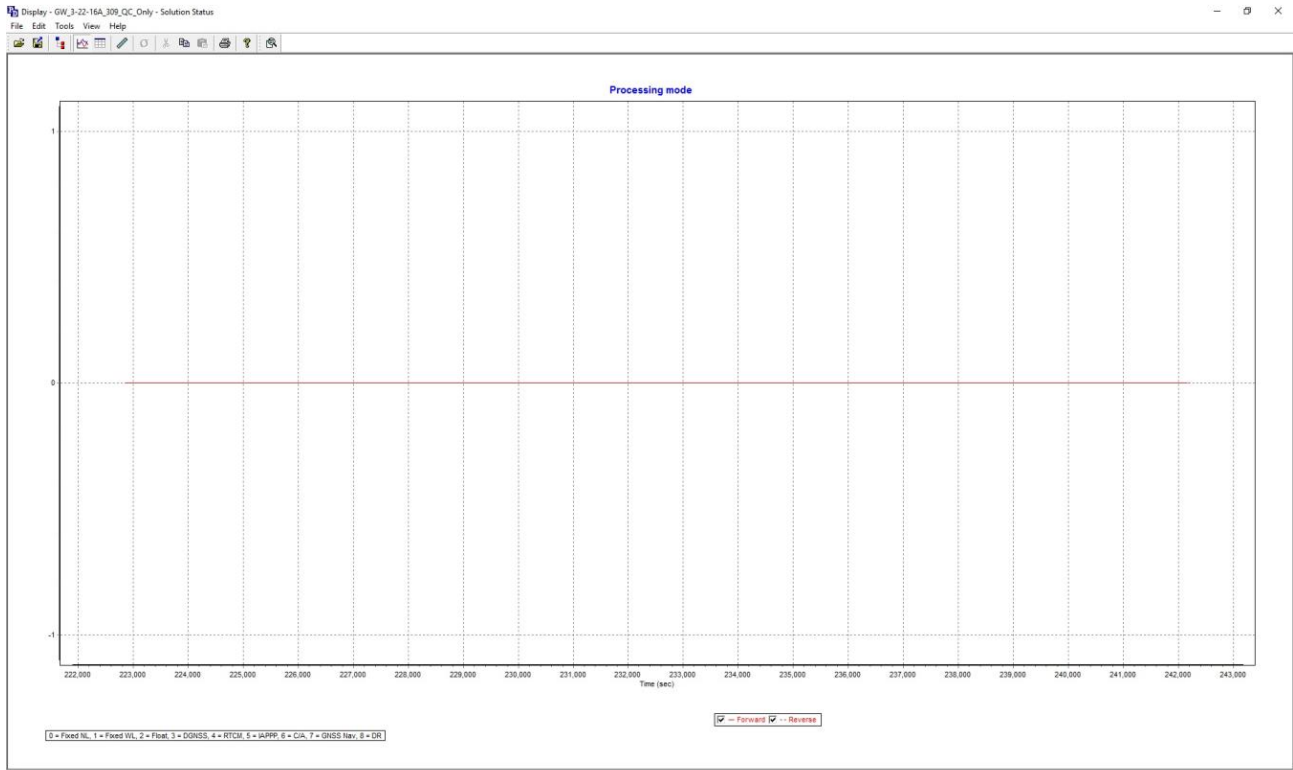
Notes:

Mar 22, 2016-A (N2JJ, SN309)









Coordinate Manager

Station Information

Station ID:

Coordinates

Latitude:

Longitude:

Altitude: m

Decimal Degrees

Antenna Reference Point (ARP) coordinates

Antenna Frame

Height: m

Method:

Manufacturer:

Type:

Offset from Measured Point to APC: m

Station Database

Station ID: Station Fullname:

Primary Service ID: Coordinate Accuracy:

Secondary Service ID:

Station ID	Station Full...	Frame	Epoch	Ellipsoid	Latitude	Longitude	Altitude	Coord Acc

Date: 3-22-2016 **A**
 UIC: A B C D E Pg. 1 of 1

Airborne LIDAR Data Collection Log Sheet :: Quantum Spatial, Inc
(email log daily to flight_log_distribution_list@quantumspatial.com)

Project: Buffalo County WI
 Flight Mgmt File: 20160322-A-WROC-SEP2016.W3JJ-KONA
 Tech: Peterren

Altcraft: N233
 Begin Hobbs: 3586.6 End Hobbs: 3591.7 Total: 5.1
 Pilot: Briakhoff Co-Pilot: []
 Dep Apt: [] Arr Apt: [] Arr Time (Local): [] Tot Time Aloft: []

Sta 1: AC4923
 Sta 2: []
 CORS: []
 GPS Unit: []

Alt: 1700
 OAT beg: [] End: []
 OAT end: [] End: []

Alt: 1870
 Avg Pt Spacing: 140
 Max Gliss: 173
 Pulse Rate: 225
 Power: H
 PFSM: 2+

Storage Name: KONA

Line #	Hgt	Start (UTC)	End (UTC)	Get Spd	GPS Altitude	Crab	Turb (0-3)
17	N	14:10	14:30	130	11	1913	8
18	S	14:33	14:47	130	11	1908	-7
19	N	14:50	15:04	132	10	1917	8
20	S	15:07	15:21	136	11	1960	-7
21	N	15:23	15:37	136	10	1943	8
22	S	15:39	15:52	138	11	1949	-8
23	N	15:55	16:08	136	11	1902	8
24	S	16:10	16:23	134	10	1955	-7
25	N	16:25	16:38	138	10	1900	8
26	S	16:41	16:53	138	11	1966	-8
27	N	16:56	17:08	136	9	1890	7
28	S	17:10	17:23	138	10	1969	-8
29	N	17:26	17:38	134	10	1947	8
30	S	17:40	17:52	134	10	1960	-7
31	N	17:55	18:07	138	10	1924	8
32	S	18:09	18:21	140	9	1948	-8
33	N	18:24	18:35	136	9	1910	8
34	S	18:38	18:49	140	9	1937	-7
TL	E	18:53	18:57	136	8	1905	0

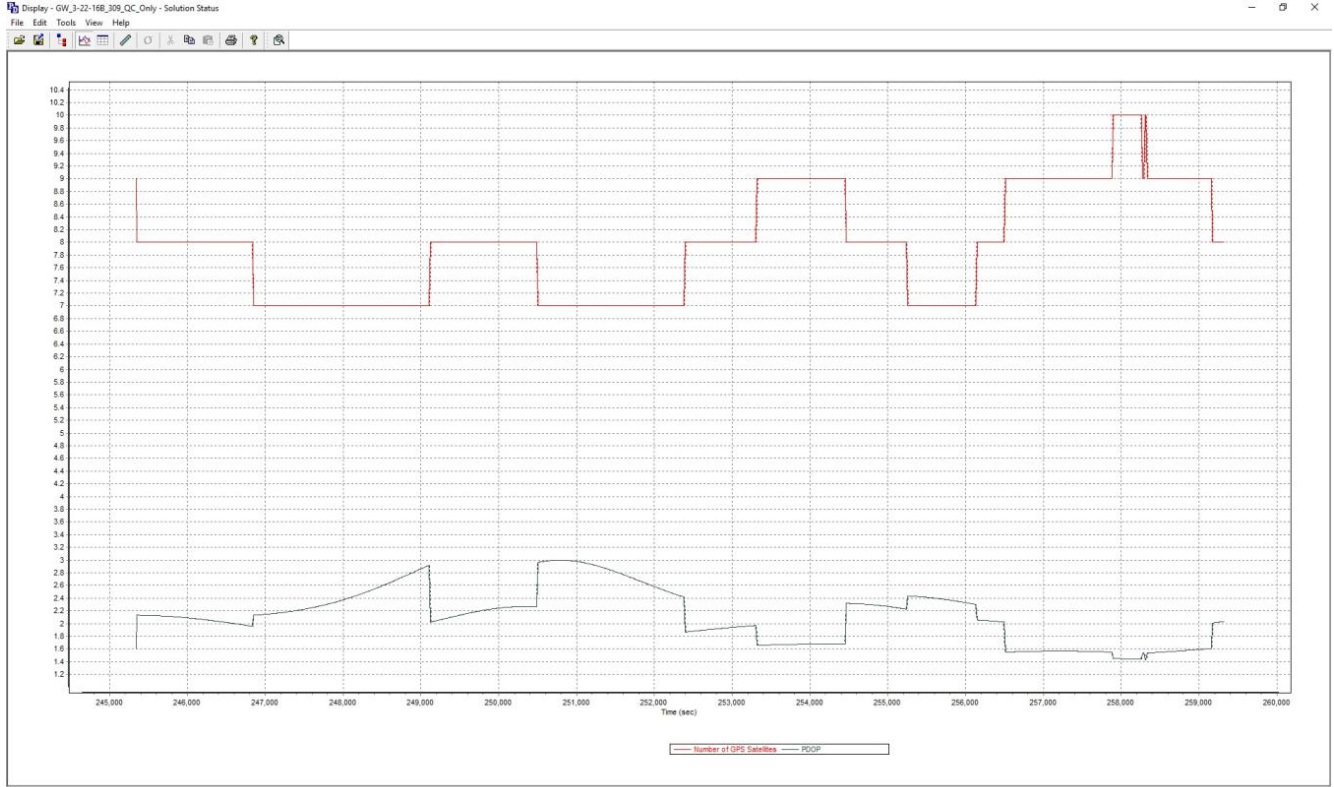
Bumpy!

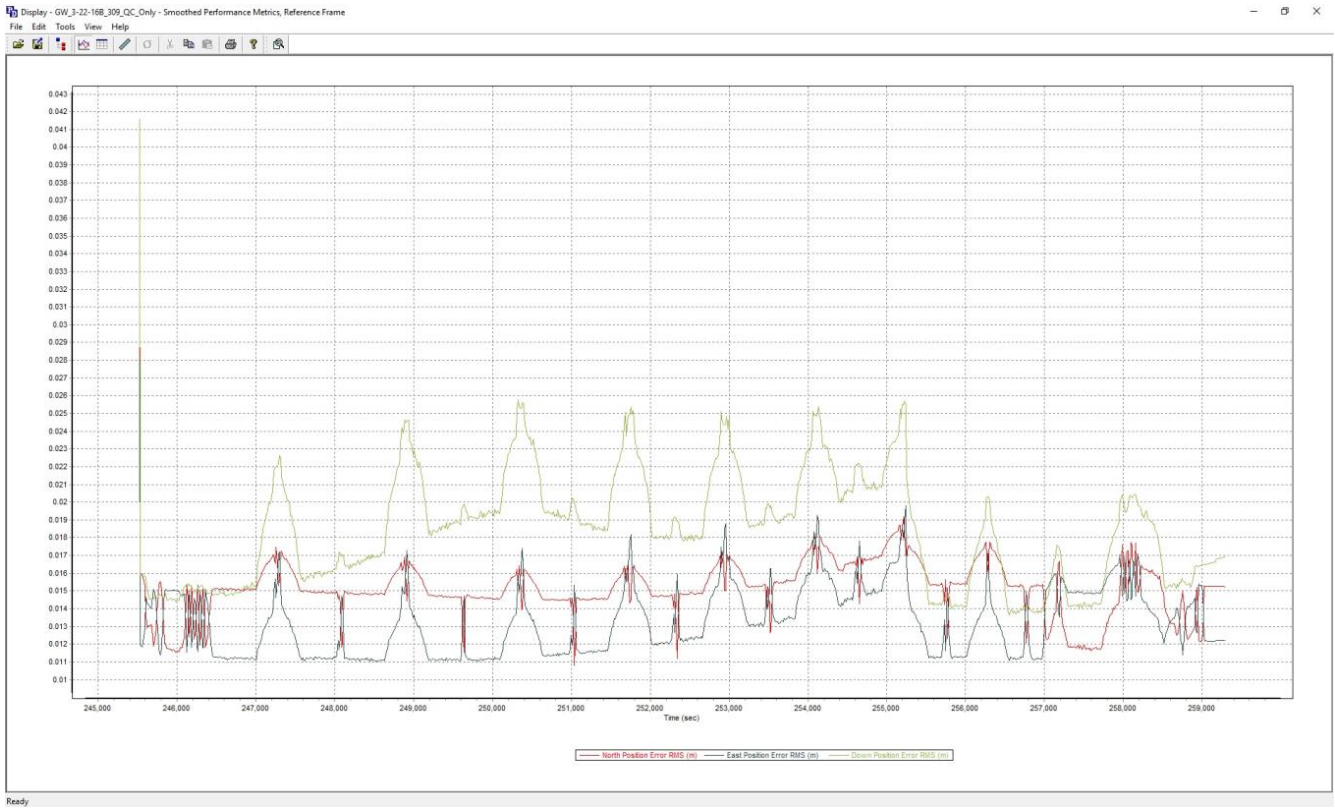
FLIGHT LINE NOTES - visibility, clouds, partial, etc.

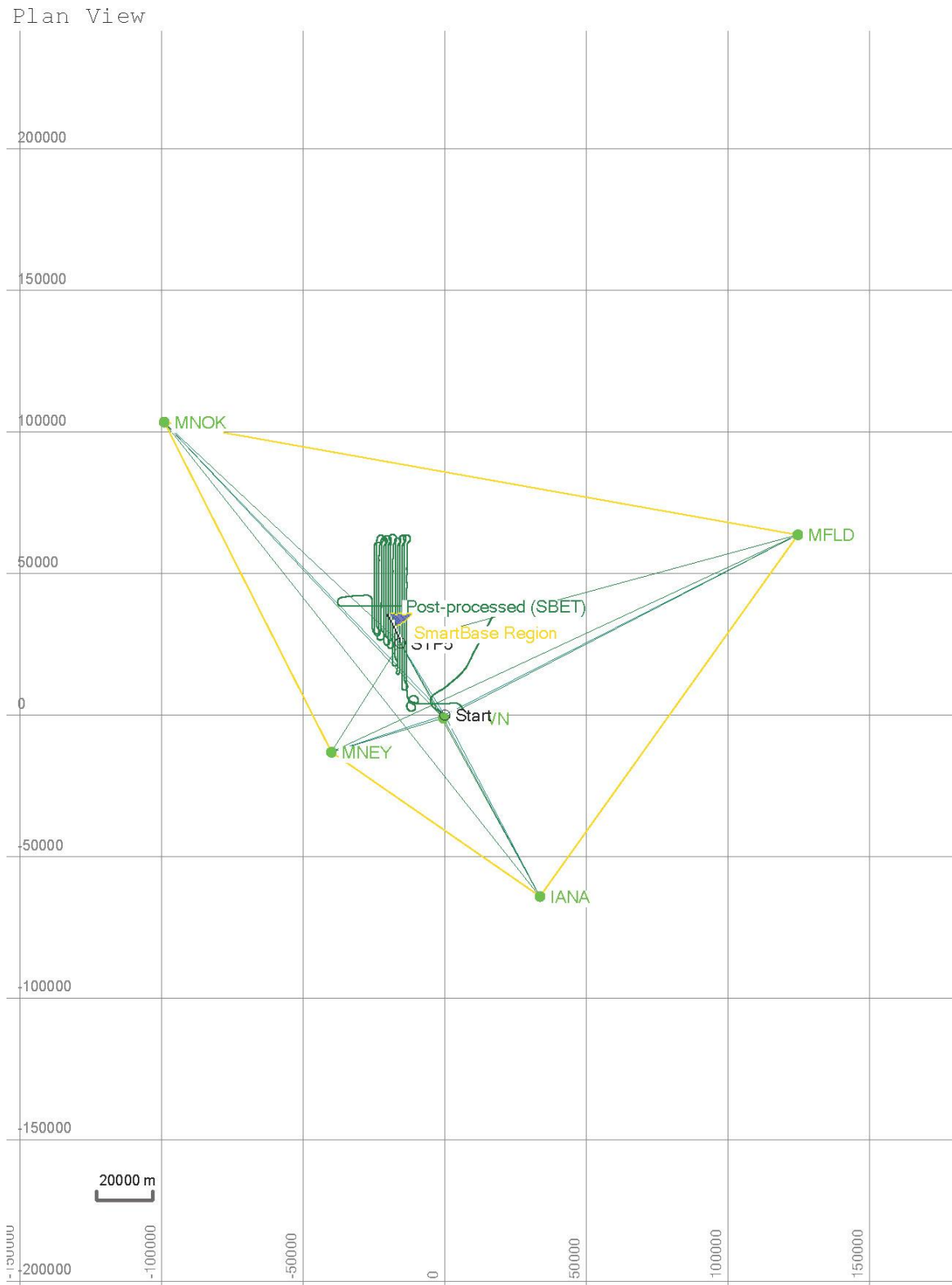
Total Proj Lines: 17-34 Lines Flown: 18 Lines Remain: 35-44 Online Time: [] Mob Time: [] Notes: []

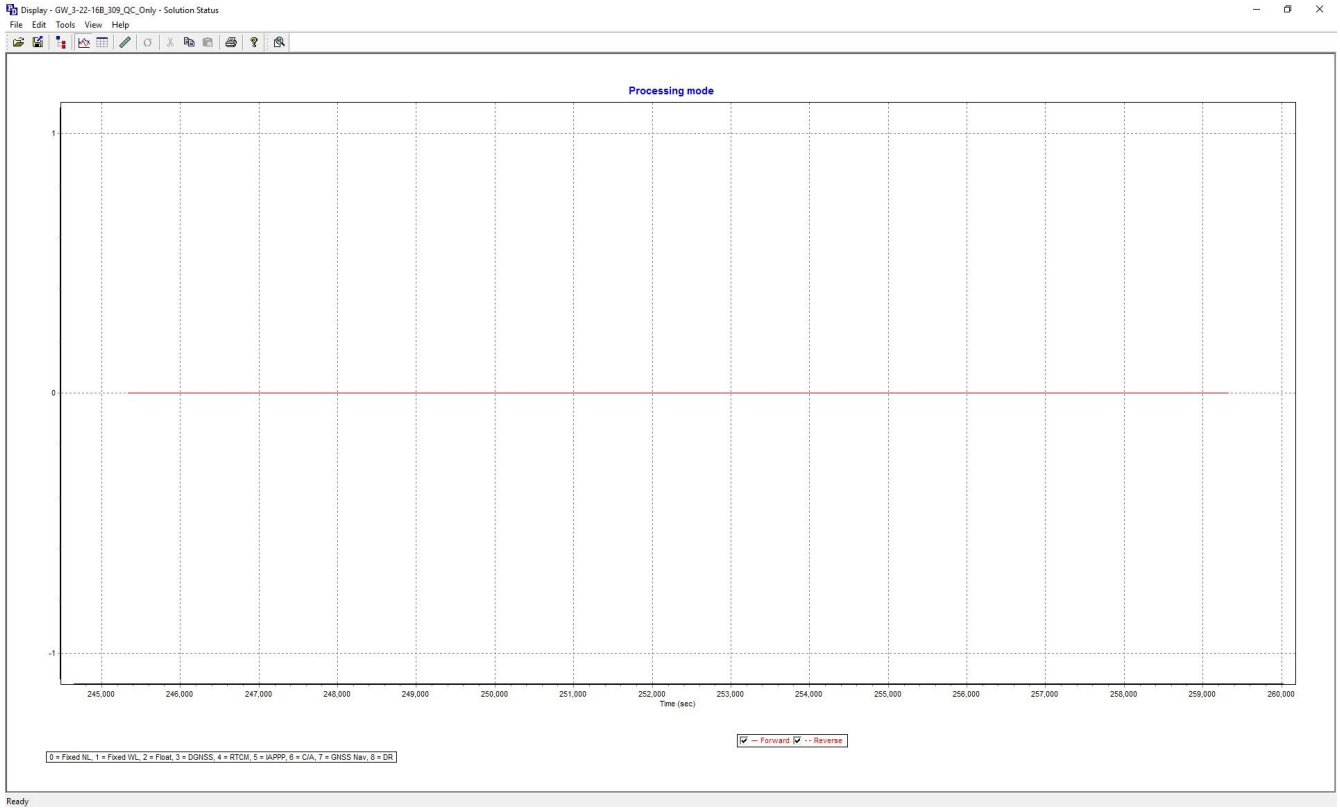
← MORE LINES

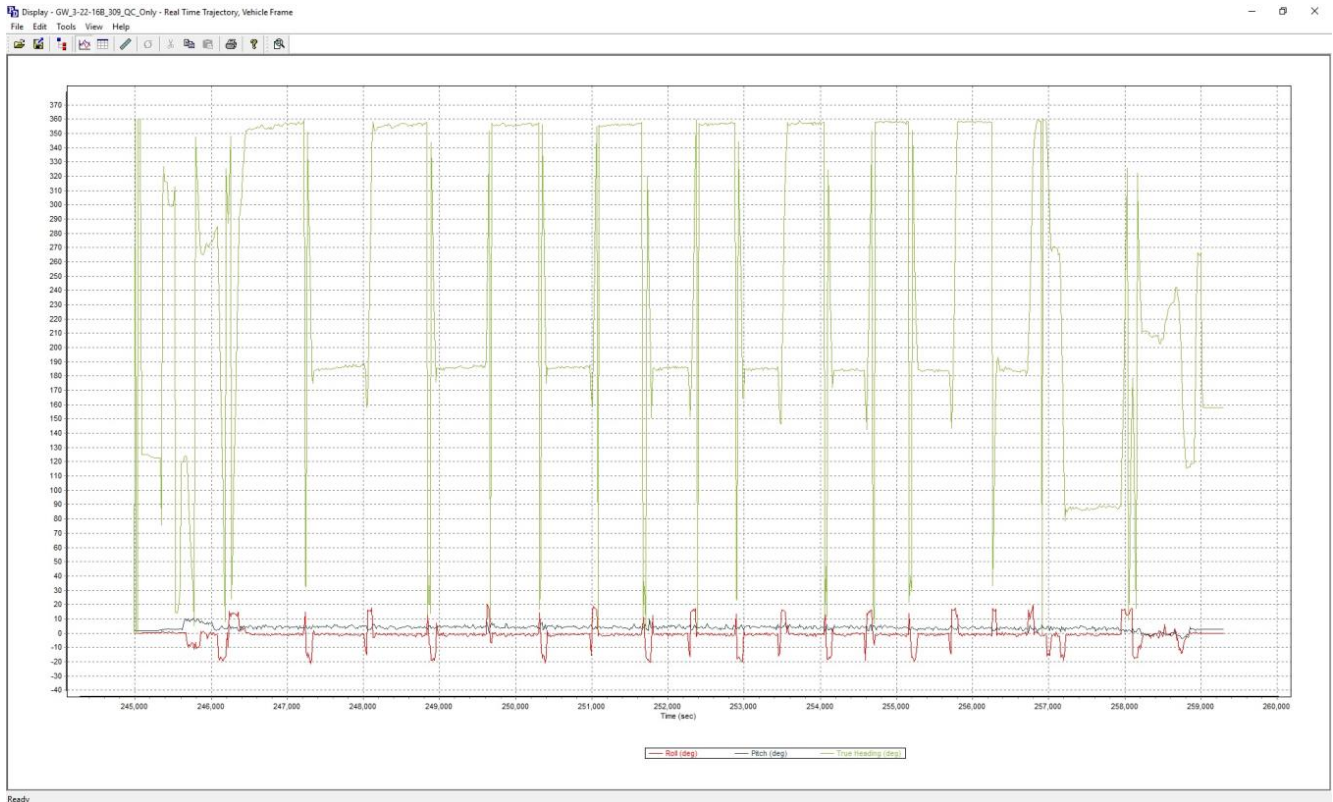
Mar 22, 2016-B (N2JJ, SN309)











Coordinate Manager

Station Information

Station ID: STP5

Coordinates

Latitude: N 44 18 | 14.18818000

Longitude: W 91 54 | 11.87112000

Altitude: 354.8870 m

Decimal Degrees

Antenna Reference Point (ARP) coordinates

Antenna **Frame**

Height: 0.000 m

Method: Bottom of antenna mount

Manufacturer: Trimble

Type: Zephyr Geodetic w/USCG SCIT

Offset from Measured Point to APC: 0.053 m

Apply Changes

Station Database

Station ID: STP5 Station Fullname: STP5

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

20:06

Airborne LIDAR Data Collection Log Sheet :: Quantum Spatial, Inc
(Email Log daily to flight_log_distribution_list@quantumspatial.com)

Date: **3-22-2016** **B**

Project: **Buffalo County WZ** Prof #: **27131** Flight Mgmt File: _____

Altcraft: **N2SJ** Begin Hobbs: **3591.7** End Hobbs: **3595.3** Total: **3.7** PILOT: **Brinkhoff** Co-Pilot: **Petersen**

Dep Apt: _____ Dep Time (Lcl): _____ Air Apt: _____ Air Time (Local): _____ [Z]: _____ Tot Time Aloft: _____

CORS: **N** Sta 1: **AC 4923** Sta 2: _____ Flyovers: Y / N IF Y, times: Sta 1) _____ Sta 2) _____

GPS Unit: **N** Sta 1: **S.154** Sta 2: _____ Flyovers: Y / N IF Y, times: Sta 1) _____ Sta 2) _____

Gd Temp beg: _____ °C End: _____ °C OAT beg: _____ °C End: _____ °C Altimeter beg: _____ end: _____

Line #	Hdg	Start (UTC)	End (UTC)	Gd Spd	poof/see	GPS Altitude	Crab	Alt AHSL	Alt AGL	Sentinel #	Scan Freq	FOV	Type of Scan	Avg Terr Ht	Max Gdspd	Power	Avg Pt Spacing	PPSM	Mag Cal	Roll Cal	Yaw Cal	Source Name	
35	N	20:28	20:40	138	9	1901	7	1873	1700	309	52	38	HScan	173	140	H	2+						
36	S	20:42	20:53	134	7	1920	-6																
37	N	20:56	21:07	130	7	1916	7																
38	S	21:09	21:19	132	7	1947	-7																
39	N	21:21	21:31	130	8	1900	8																
40	S	21:33	21:42	128	8	1980	-8																
41	N	21:45	21:54	130	7	1900	8																
42	S	21:56	22:04	138	7	1981	-5																
43	N	22:07	22:14	130	9	1919	5																
44	S	22:16	22:23	136	9	1925	-6																
45	N	22:26	22:34	126	9	1891	6																
46	S	22:36	22:42	136	9	1972	-6																
47	N	22:45	22:52	132	9	1902	5																
48	S	22:54	23:01	140	9	1926	-5																
49	N	23:03	23:10	122	9	1920	5																
46	S	23:15	23:18	136	9	1950	-5																
50	N	23:20	23:22	117	9	1907	6																
71	E	23:27	23:39	134	9	1911	-1																

FLIGHT LINE NOTES - visibility, clouds, smoke, partial, etc.

? SWATH AT END / DOESN'T SHOW COMPLETE

JUST IN CASE

JUST IN CASE 3/21 A

Total Prof Lines: _____ Lines Flow: _____ Lines Remain: _____ Online Time: _____ Mob Time: _____ Notes: _____