

## Project Report Appendices

The following section contains the appendices as listed in  
the FEMA HQ - Shawano Co., WI 2015 QL2  
LiDAR Project Report.

## Appendix A

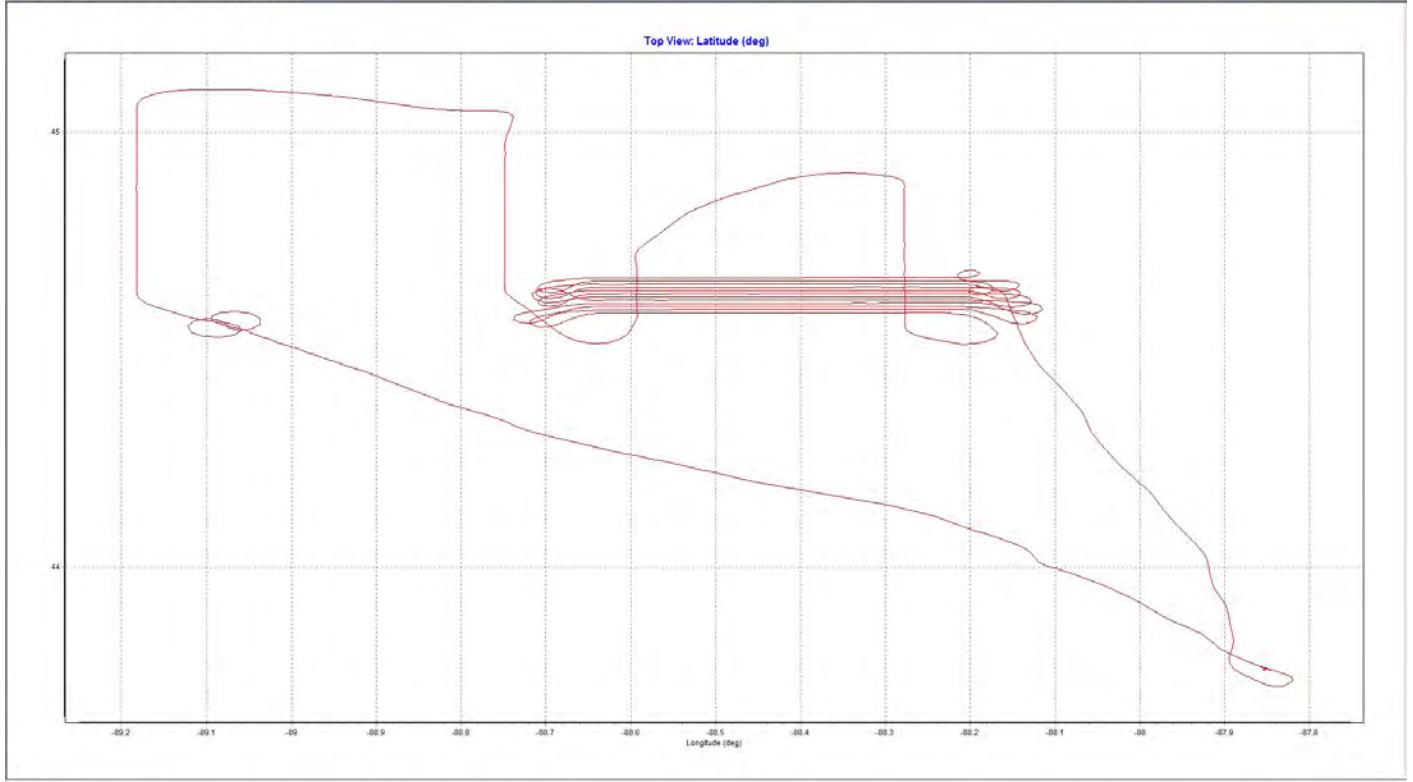
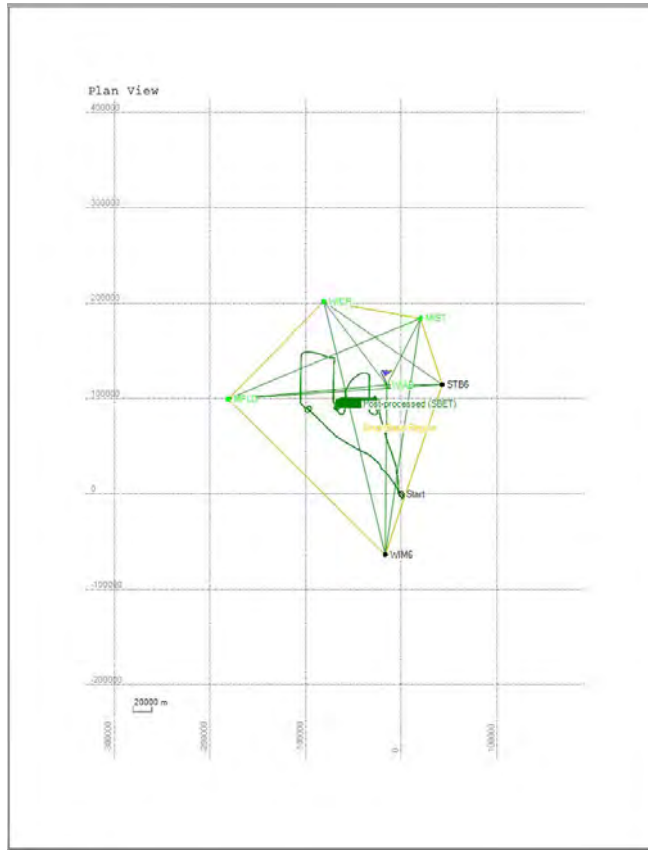
# GPS/IMU Processing Statistics Flight Logs Base Station Logs

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

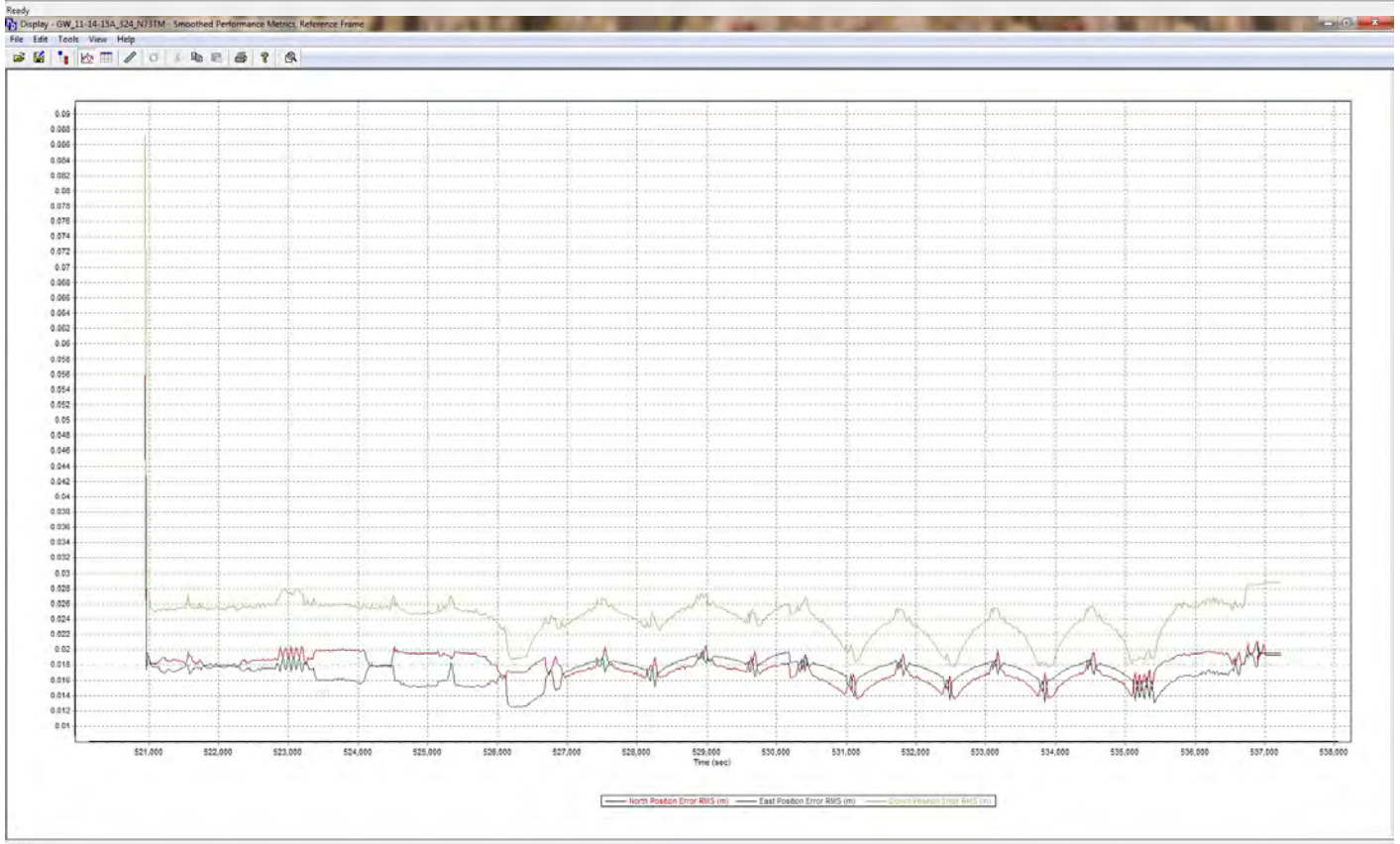
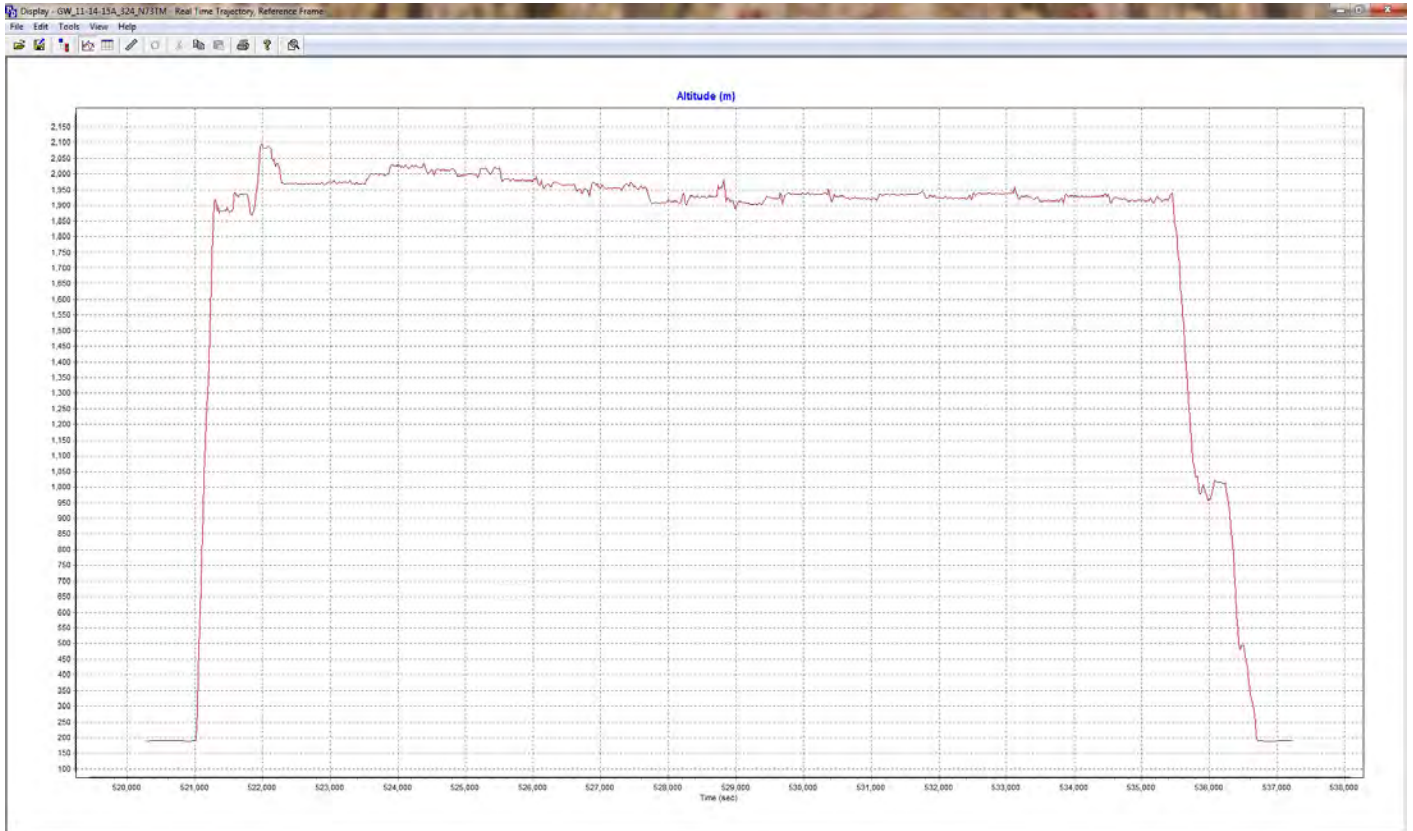
Nov 14, 2015-A (N73TM, SN324) .....	2
Flight Log .....	7
Base Station Log .....	8
Nov 14, 2015-A (N300LF, SN329) .....	9
Flight Log .....	14
Base Station Log .....	15
Nov 14, 2015-B (N73TM, SN324).....	16
Flight Log .....	21
Base Station Log .....	22
Nov 14, 2015-B (N300LF, SN329).....	23
Flight Log .....	28
Base Station Log .....	29
Nov 14, 2015-C (N73TM, SN324).....	30
Flight Log .....	35
Base Station Log .....	36
Nov 14, 2015-D (N73TM, SN324) .....	37
Flight Log .....	42
Base Station Log .....	43
Nov 15, 2015-A (N73TM, SN324).....	44
Flight Log .....	49
Base Station Log .....	50
Nov 15, 2015-A (N300LF, SN329).....	51
Flight Log .....	56
Base Station Log .....	57

# Nov 14, 2015-A (N73TM, SN324)

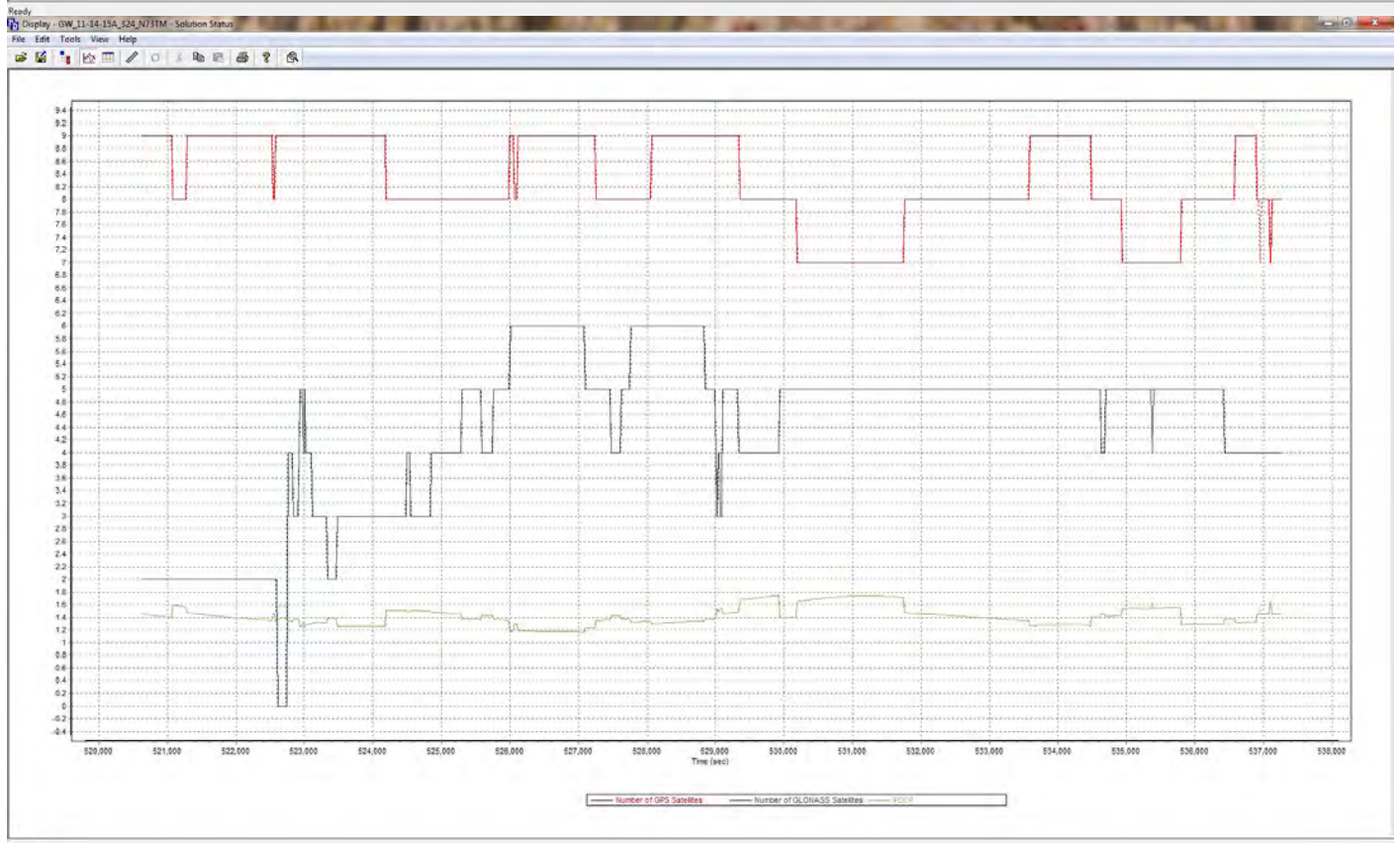
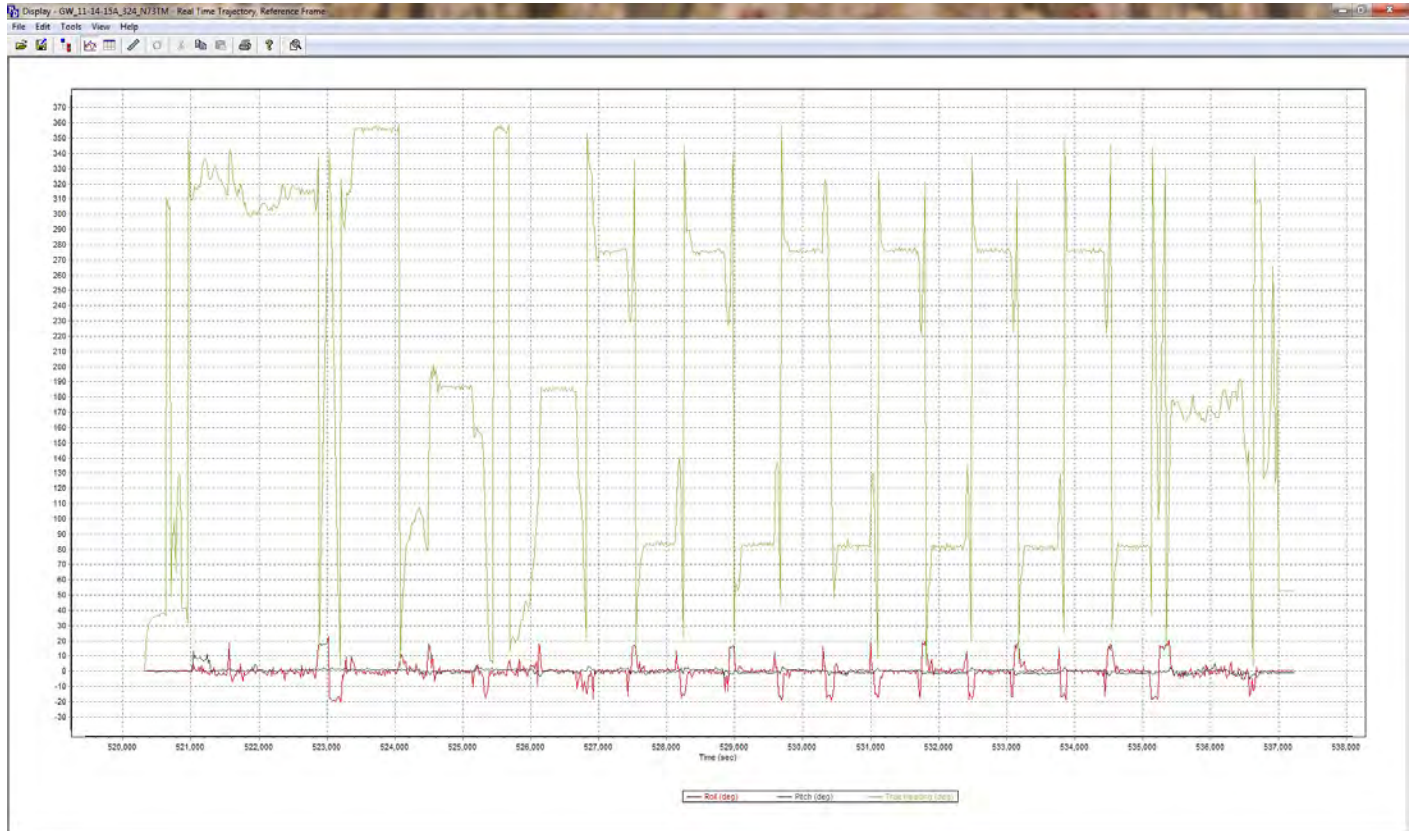


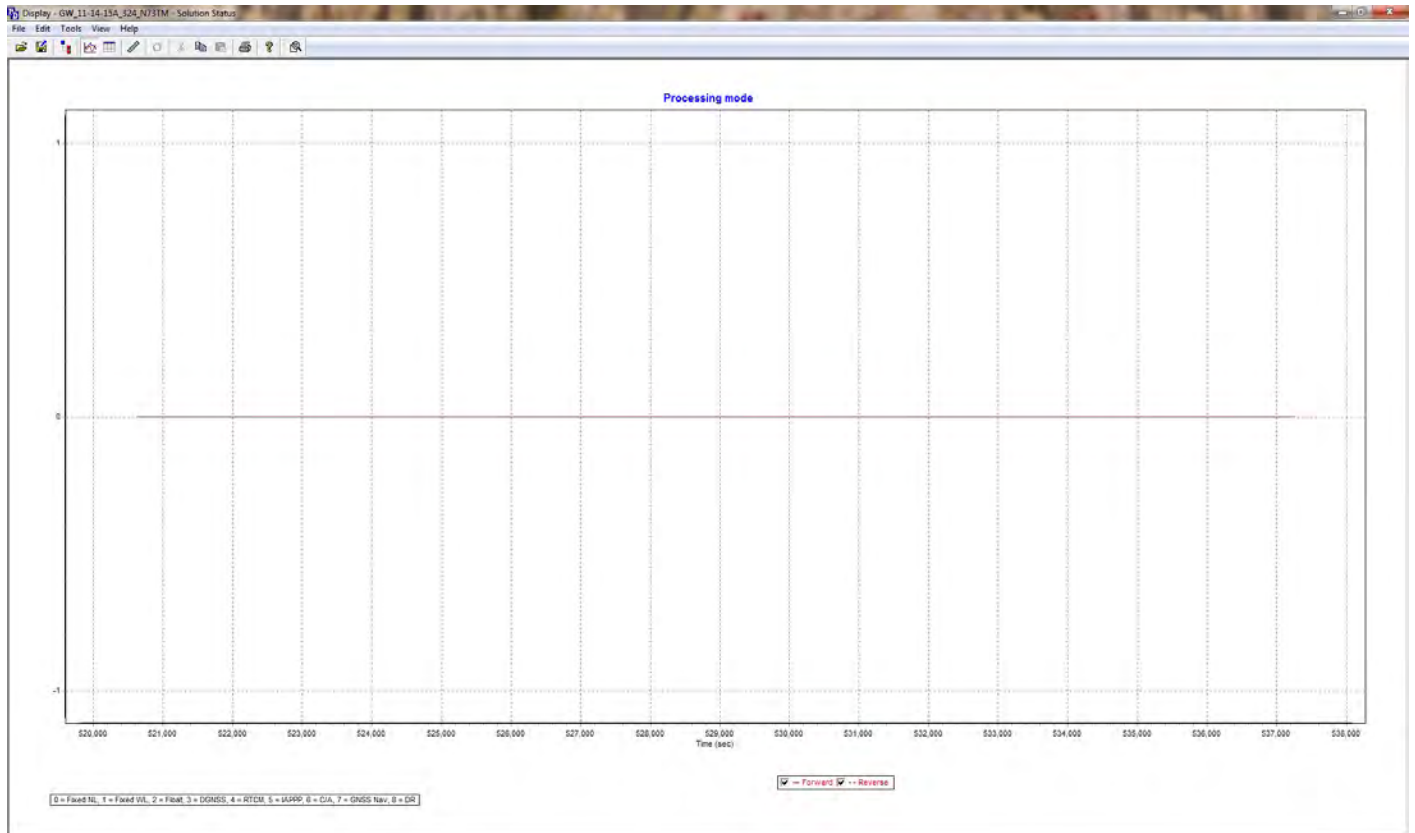


Ready









Coordinate Manager

Station Information

Station ID: **WIAB**

Coordinates

Latitude: N 44 47 27.29874000

Longitude: W 88 2 42.18794000

Altitude: 167.0600 m

Decimal Degrees

Antenna Reference Point (ARP) coordinates: Apply Changes

Antenna Frame

Height: 0.000 m

Method: Bottom of antenna mount

Manufacturer: Trimble

Type: Zephyr Geodetic 2

Offset from Measured Point to APC: 0.085 m

Station Database

Station ID: WIAB Station Fullname: WIAB

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
[Empty Table]								

Import Coordinates Export Coordinates Close





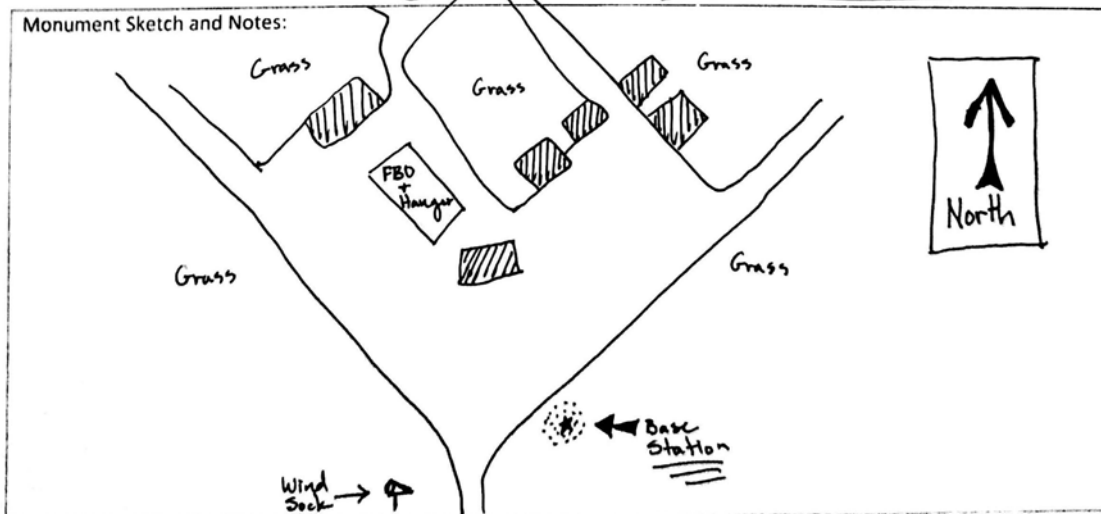
# Base Station Log

## GPS OBSERVATION LOG

Station ID	PN1351	Date	14 November → 15 November / 2015
Project Number	26737	Julian Date	318 → 319
Project Name	Shawano County	Start Time	12:56 Z on 14 <sup>th</sup> (318)
Revr. Type	DL-V3	Stop Time	06:28 Z on 15 <sup>th</sup> (319)
Revr. S/N	7-0141149	Revr. File Name	00073180.PDC
Antenna Type	GPS-702-GG	Observer	Minguy
Antenna S/N	NAE 12110034		

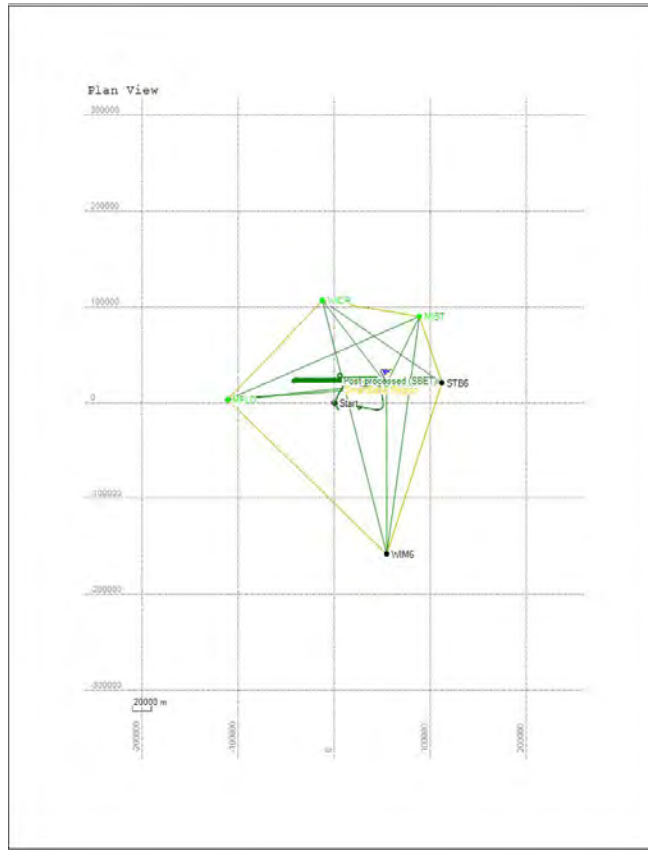
New or Existing  Mon  New  Existing  
 Photo Taken  Yes  No  
 Monument Type: Disk in Concrete  
 Spike  PK Nail  AM Washer   
 Other \_\_\_\_\_

Height Readings:  
 (Top of Monument to Bottom of Ground Plane)  
 Start 2.0 M. \_\_\_\_\_ Ft. To 7<sup>th</sup> Street  
 Stop 2.0 M. \_\_\_\_\_ Ft.  
 Mean 2.0 M. \_\_\_\_\_ Ft.

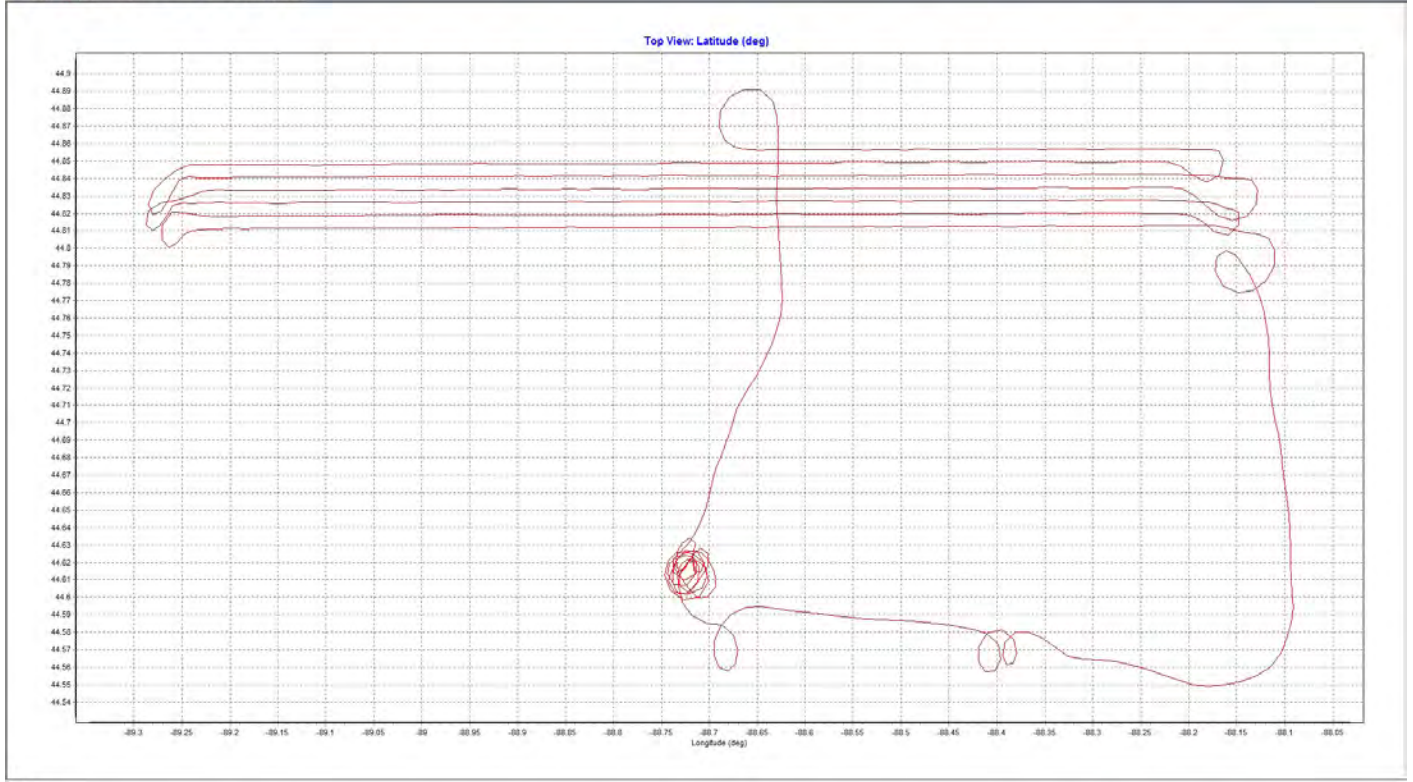


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# Nov 14, 2015-A (N300LF, SN329)

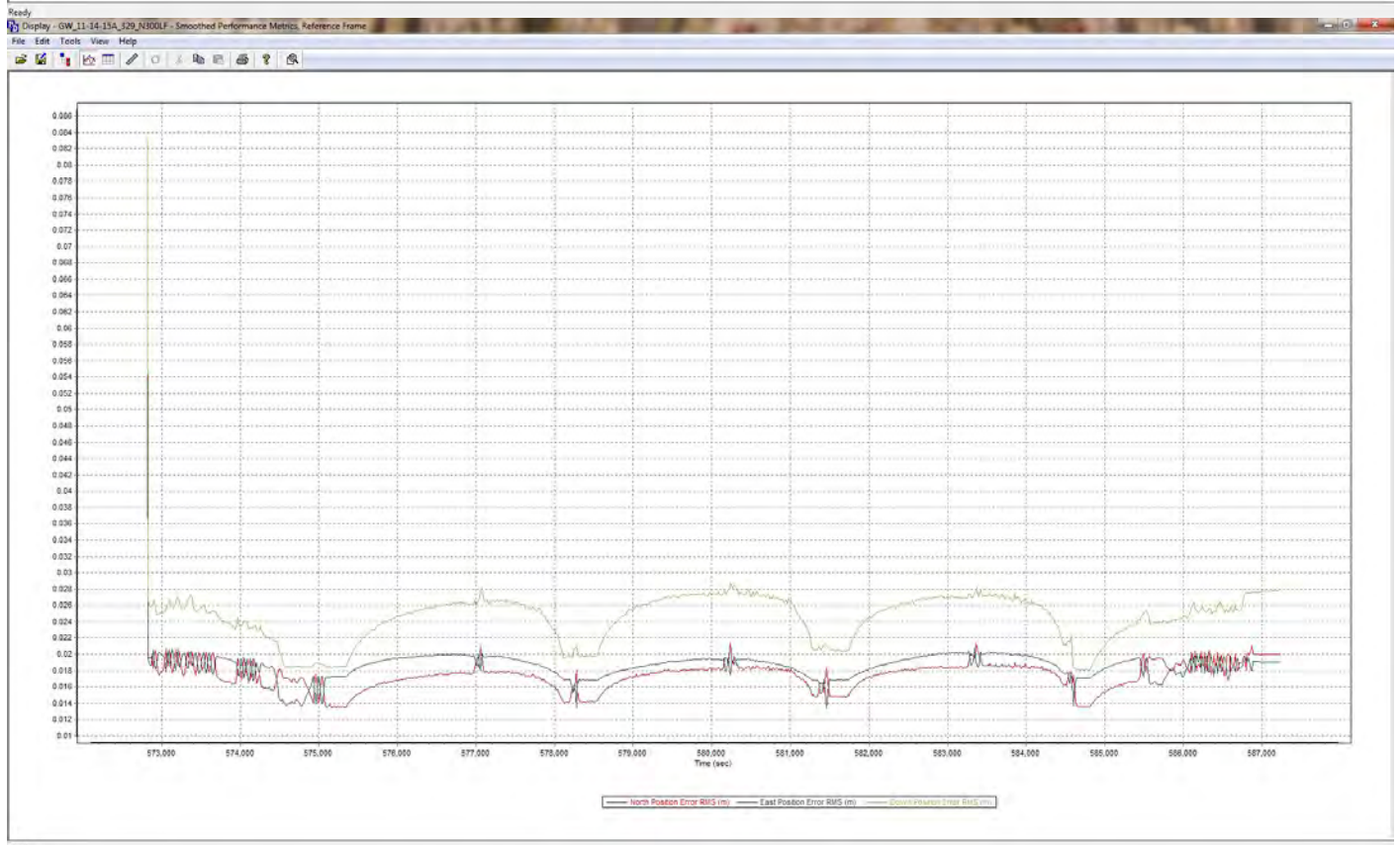
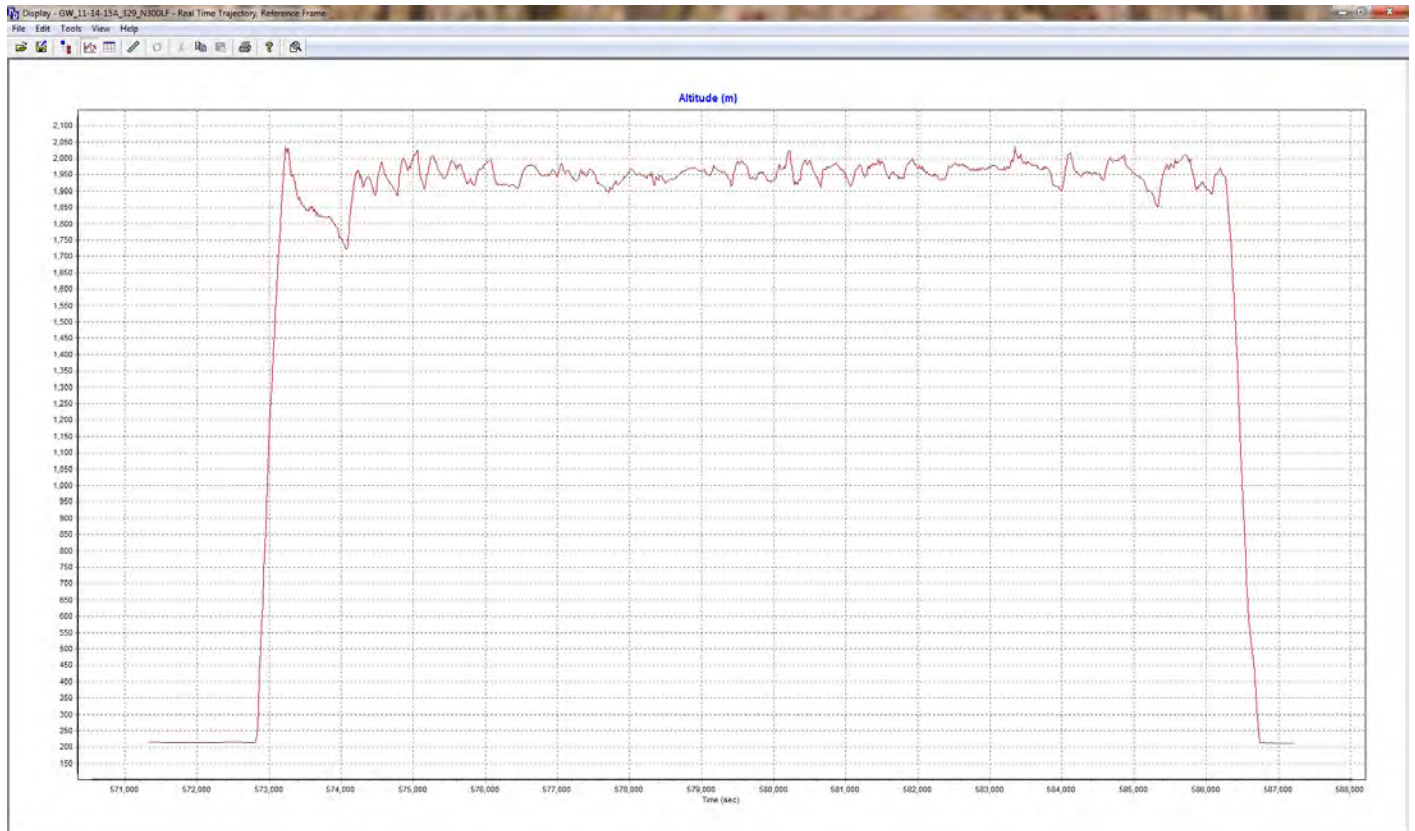


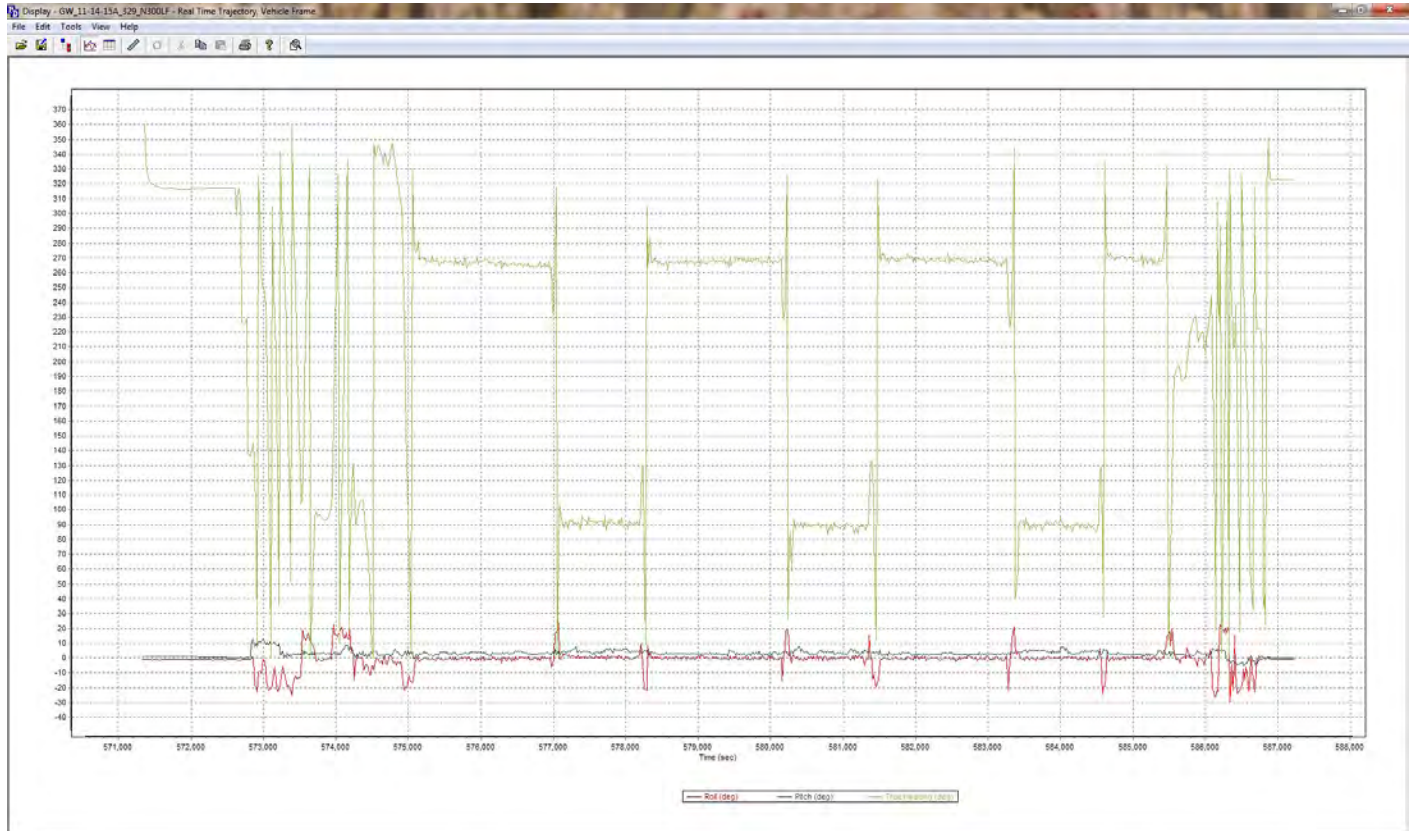
Display - GW\_11-14-15A\_829\_N300LF - Real Time Trajectory, Reference Frame



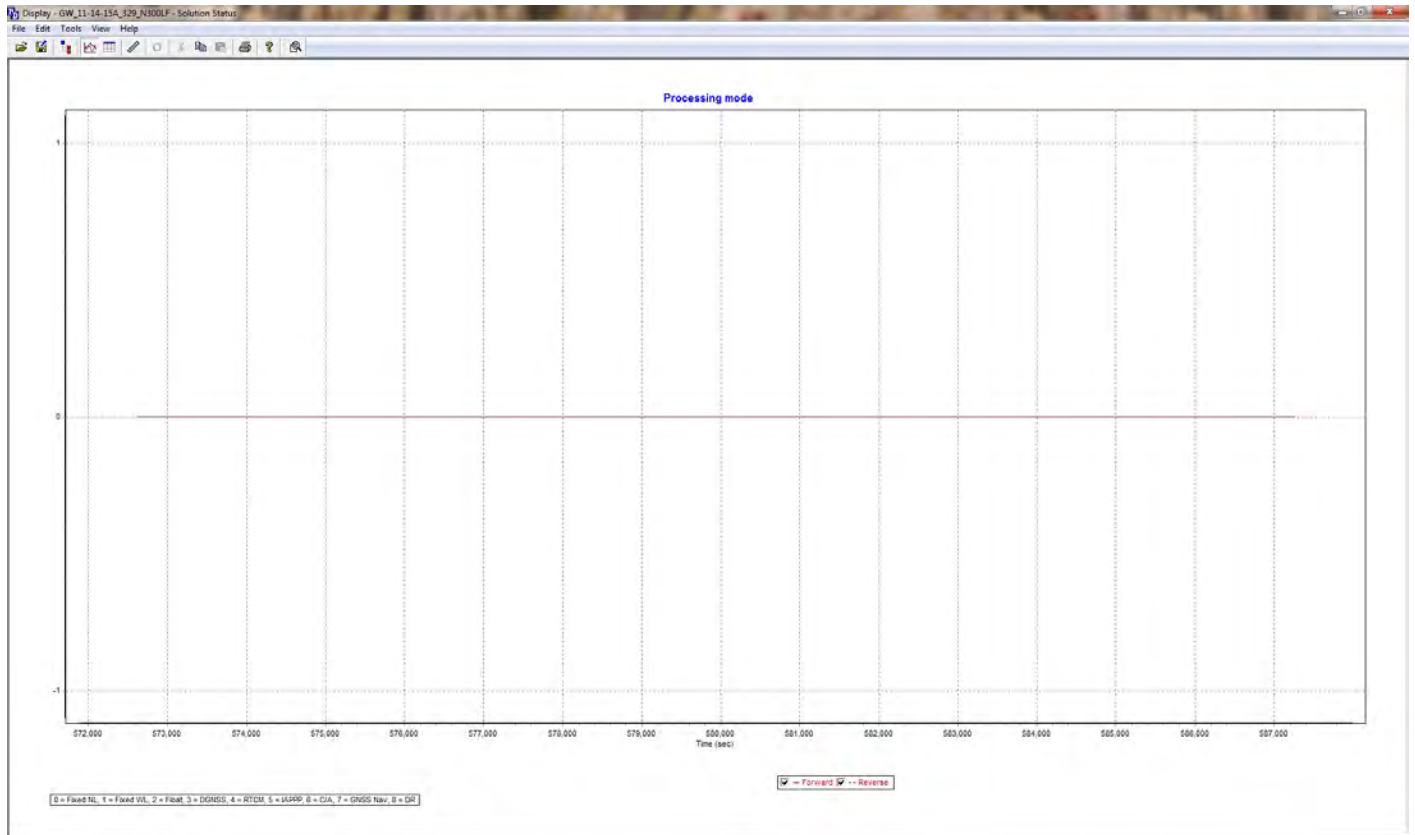
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Ready

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Method: Bottom of antenna mount

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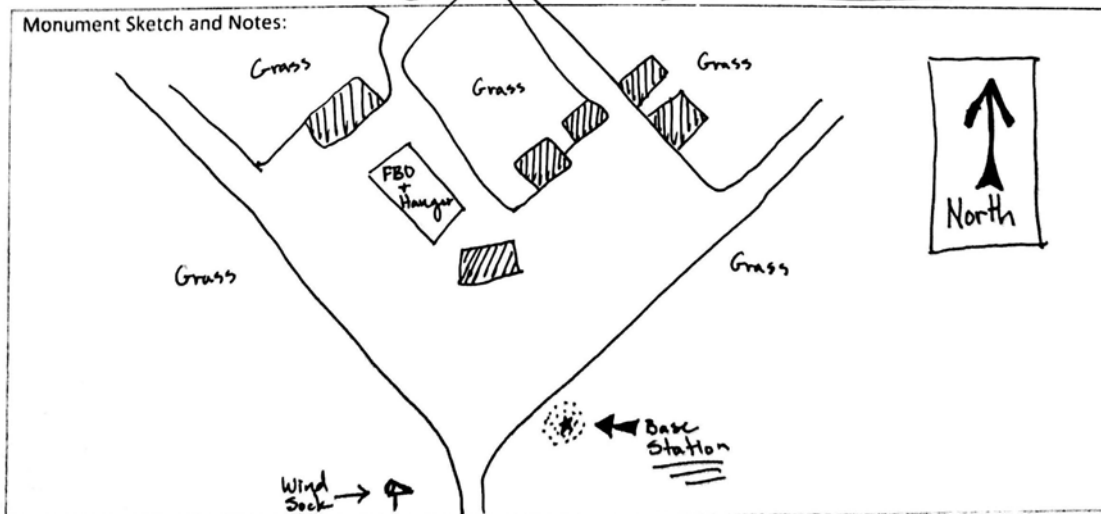
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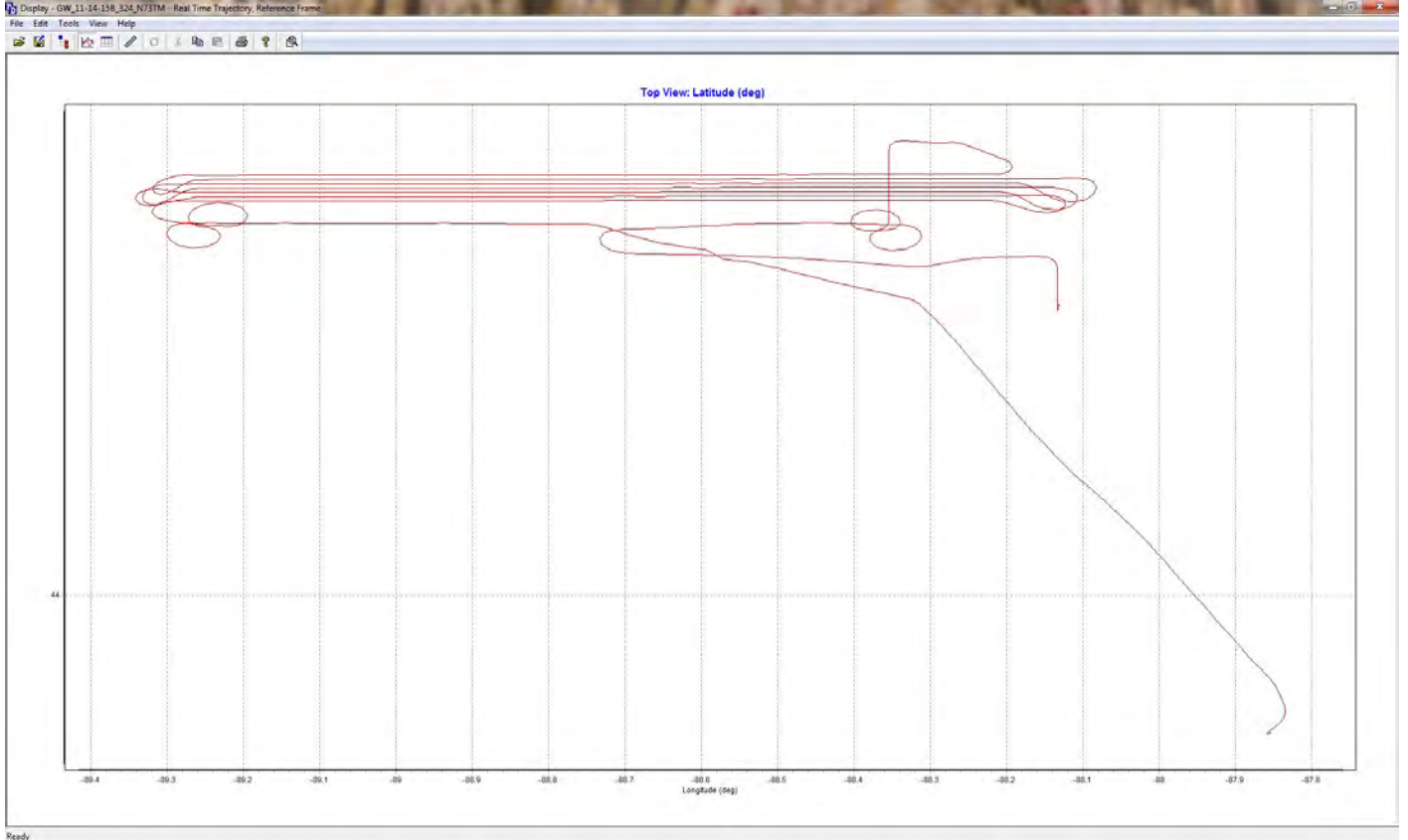
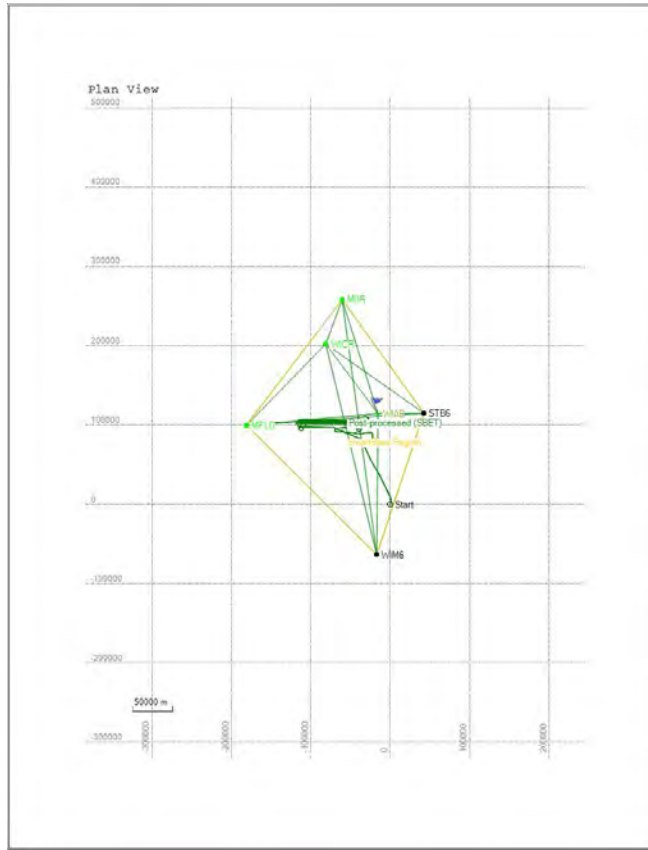
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 Photo Taken  Yes  No  
 Monument Type: Disk in Concrete  
 Spike  PK Nail  AM Washer   
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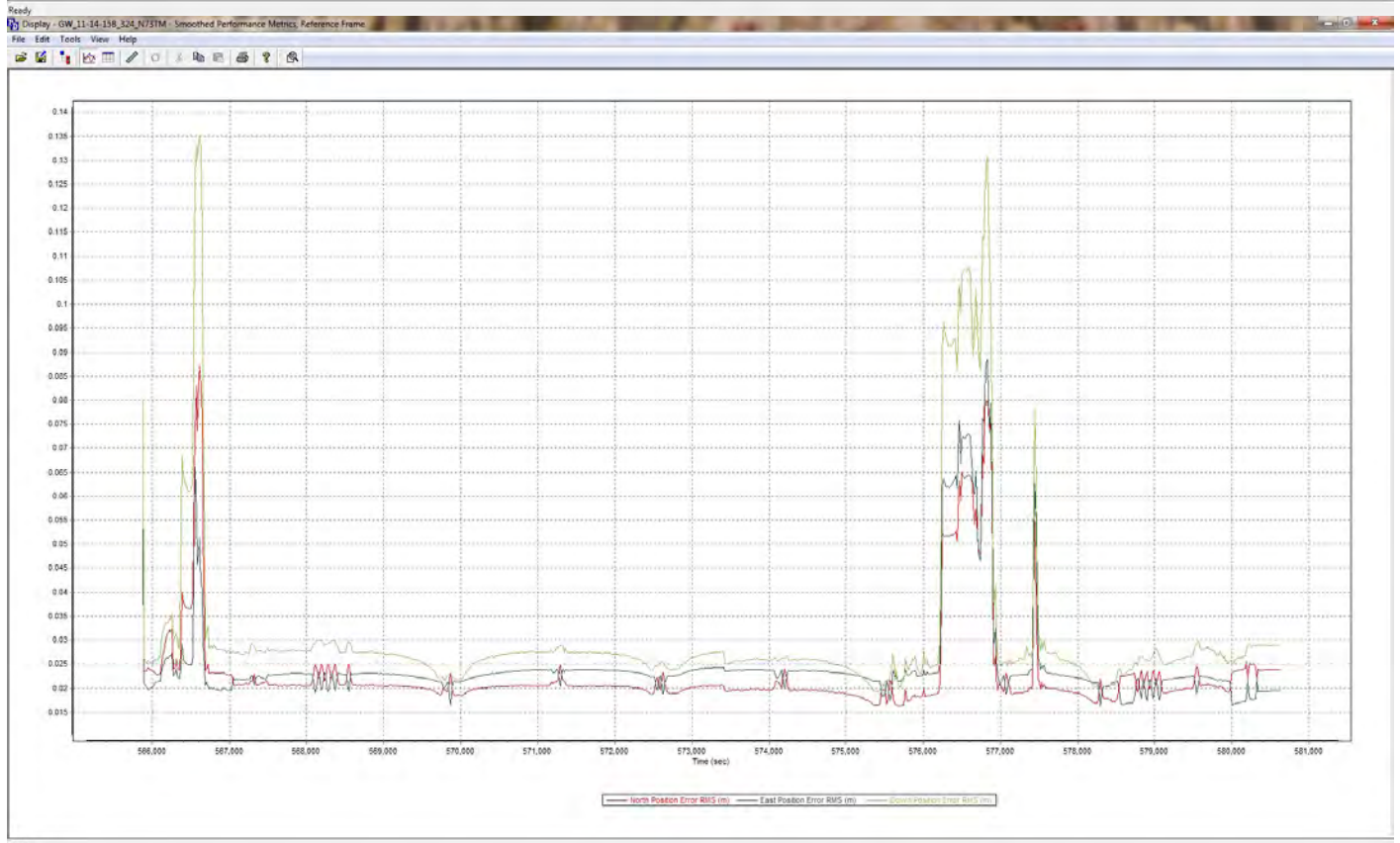
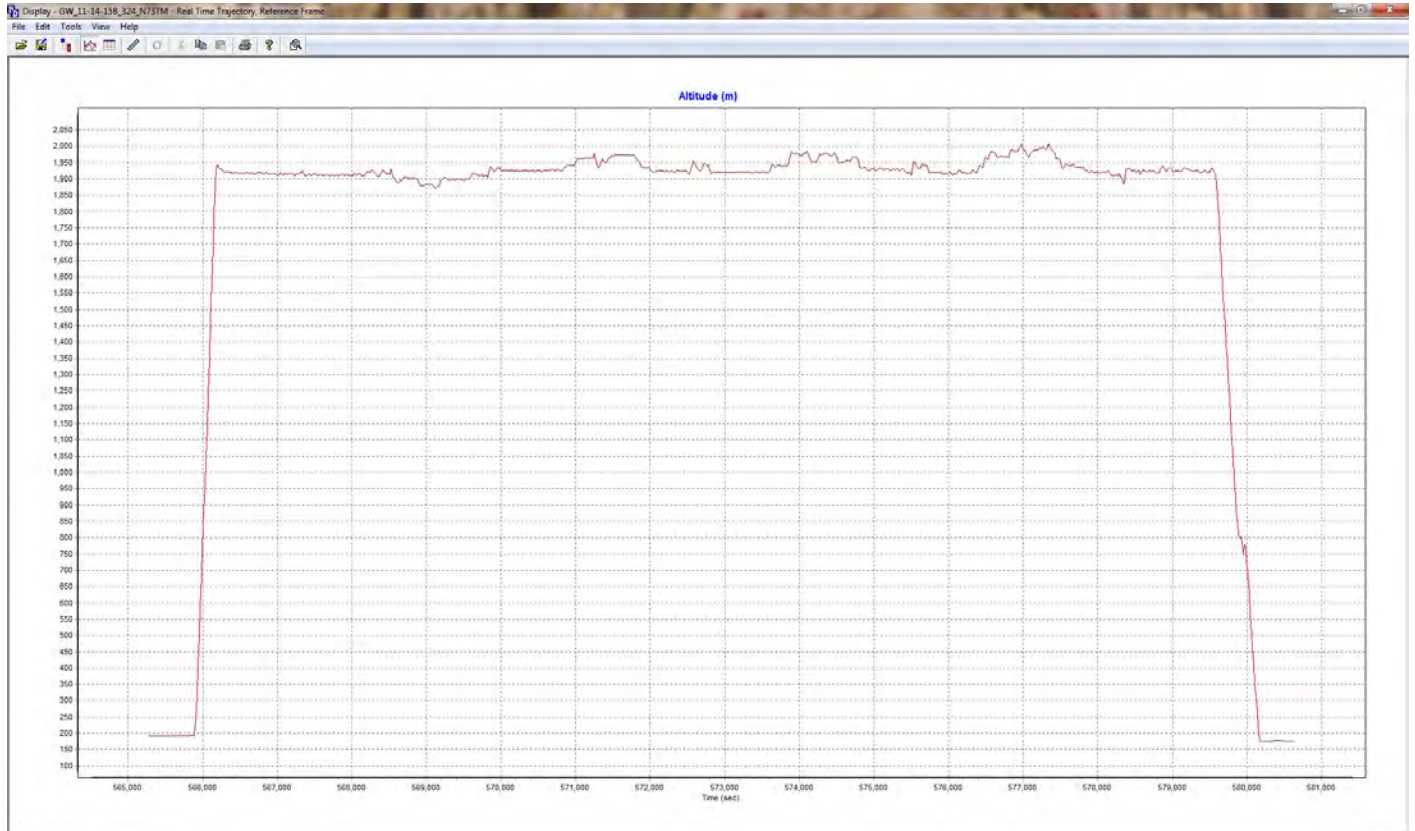


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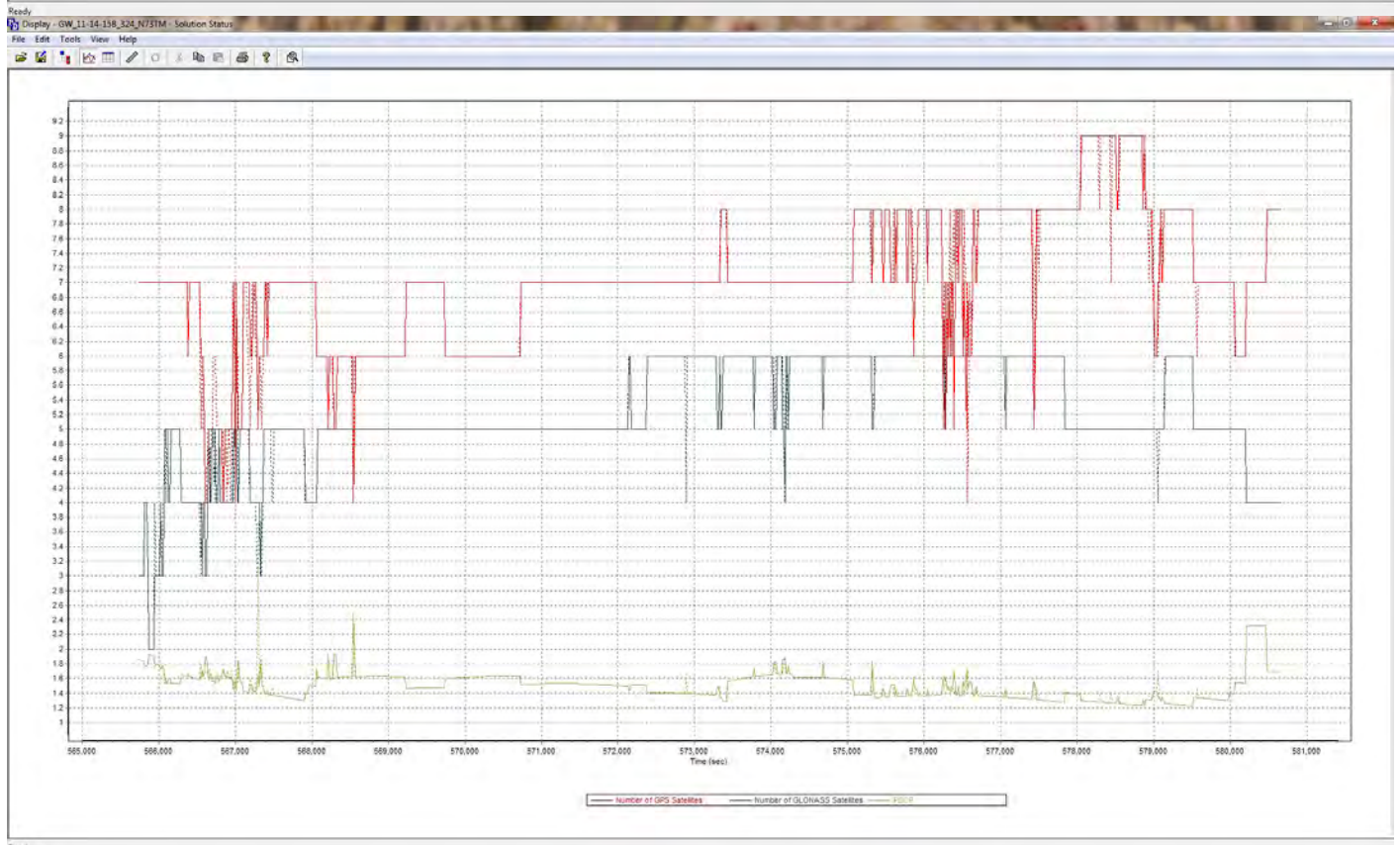
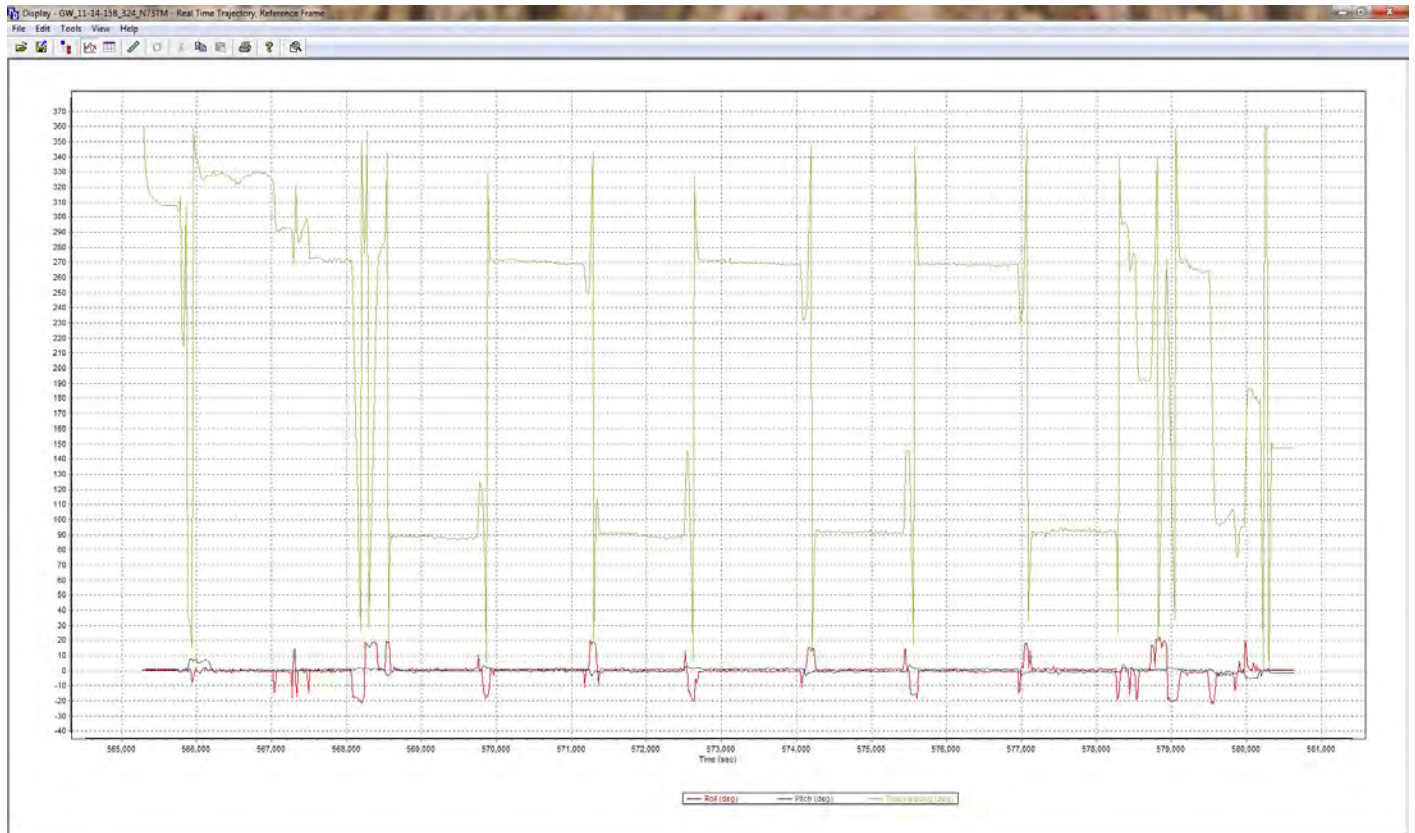
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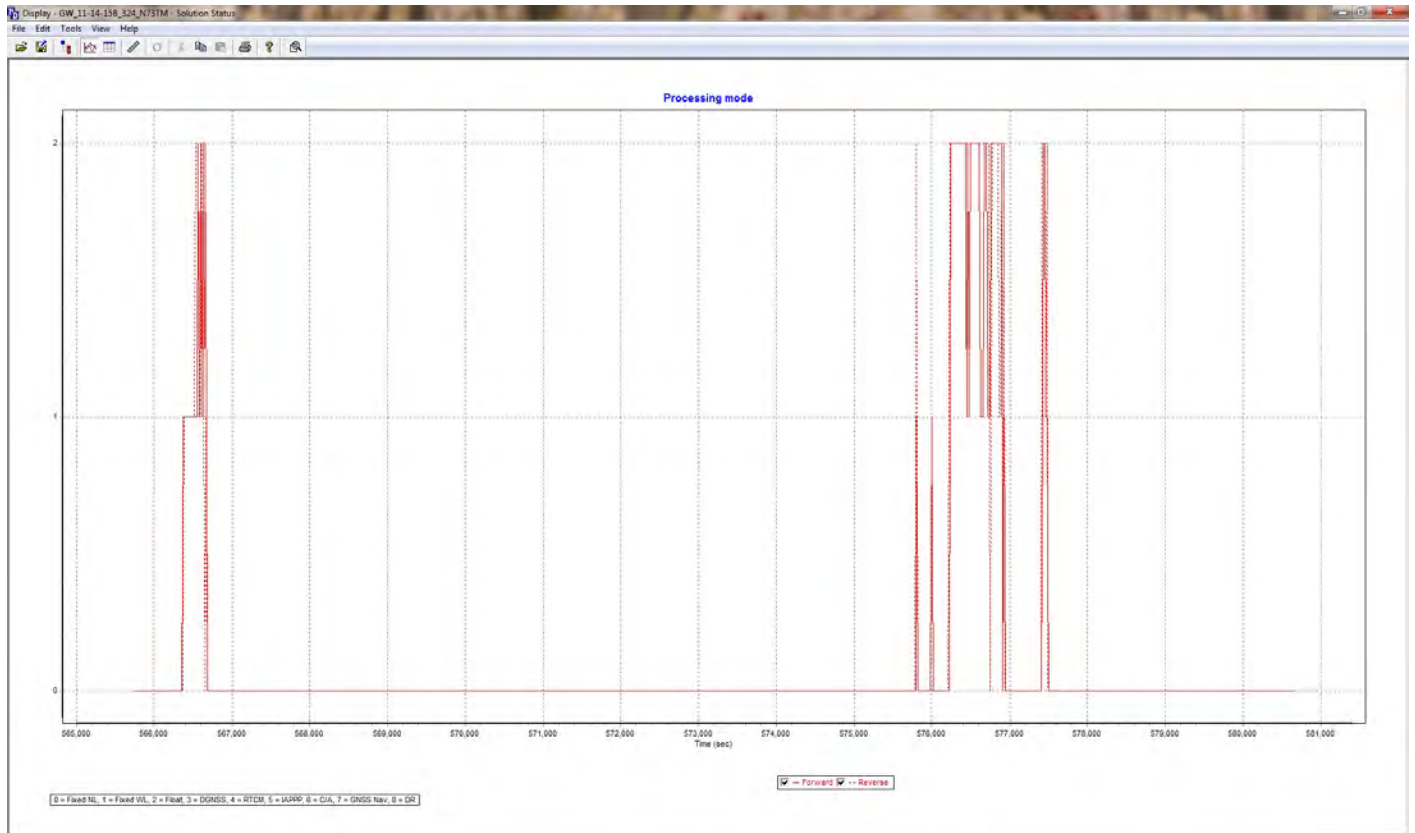












Ready

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Longitude: W 88 2 42.18794000

Altitude: 167.0600 m

Decimal Degrees

Antenna Reference Point (ARP) coordinates: Apply Changes

Antenna

Frame

Height: 0.000 m

Method: Bottom of antenna mount

Manufacturer: Trimble

Type: Zephyr Geodetic 2

Offset from Measured Point to APC: 0.085 m

Station Database

Station ID: WIAB Station Fullname: WIAB

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
[Empty Table]								

Import Coordinates Export Coordinates Close

# Flight Log

OPERATORS FLIGHT LOG											
MISSION: 20151114 B						DATE: 11/14/2015					
PILOT: Cam Stevenson						Aircraft: Duce Bensen 331					
PROJECT NUMBER AND NAME: 26737 Shawano County						Orion H BN: 324					
LINE No.	LRI	Hdg	OPERATOR:		SCAN ANGLE	PRF MHz	FIXED GAIN	Flying Ft. (m)	AIRCRAFT:		REMARKS
			UNIT	SPEED					TIME START	MM70 STOP DRIVE	
			JCCAL	Hz							
13	13	E	142	52	38	223	6350	8:58	11:16		
14	14	W	136	52	38	223	6400	10:30	10:39		
15	15	E	145	52	38	223	6477	10:11	15:02		
16	16	W	126	52	38	223	6455	18:30	18:47		
17	17	E	145	52	38	223	6477	18:31	19:50		
18	18	W	136	52	38	223	6455	19:55	19:58		
19	19	E	142	52	38	223	6500	16:30	16:38		
CR-55-F5E S											
16:49 16:46											
16:47 16:51											
16:56 16:59											
CR-55-F5E											
Closest fix											
Closest fix of Base KCI											
1st 3 lines had cycle											
slips on GPS sat, not											
on Glonass											
STATUS	TOTAL LINES	FLOWN	LEFT	AIRCRAFT SITE	FERRY	STATIC	START	STOP	NOTES: 57% 2 5940.2		
OK	66	1	1/4	2.7	1.3				12:52.00 17:18.01		
OK									13:11.00 17:10.00		

Quantum Spatial, N.0210 Resource Drive, Sheboygan Falls, WI, 53085. E-Mail: info@quantumspatial.com

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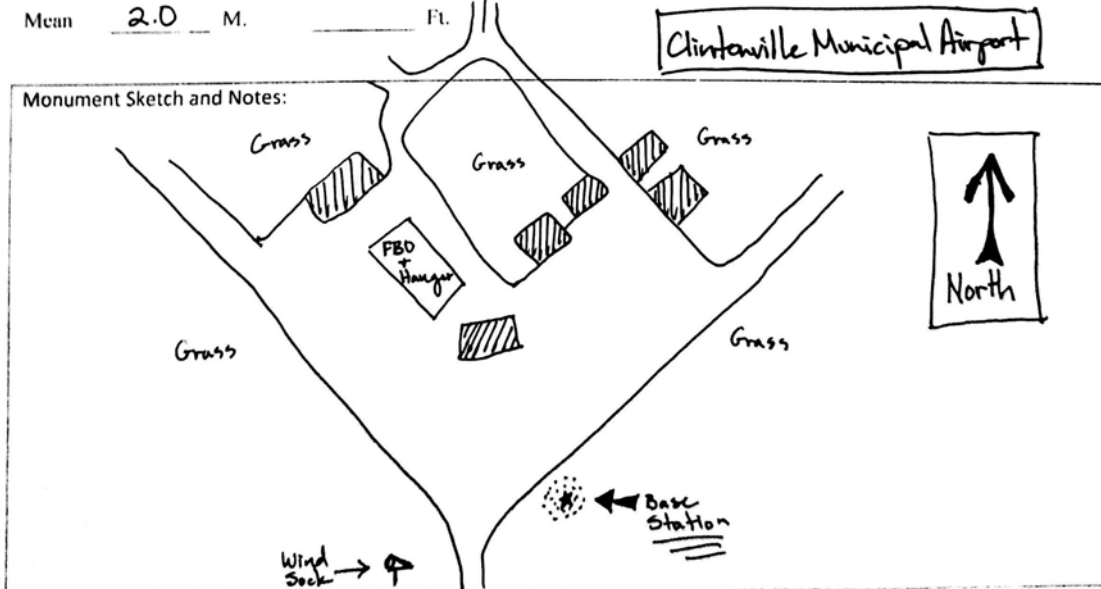
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Revr. S/N	7-0141149	Revr. File Name	00073180.PDC
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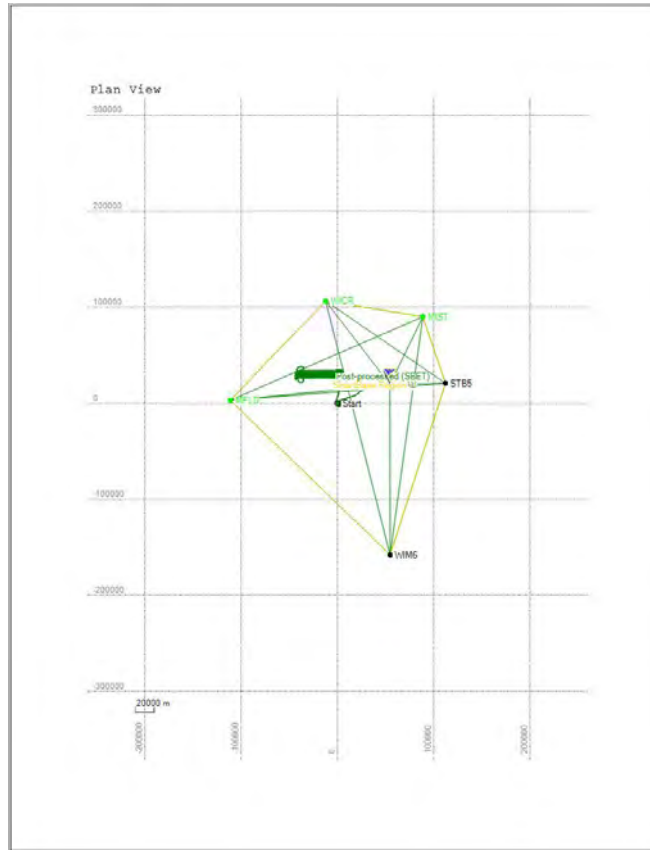
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 Photo Taken  Yes  No  
 Monument Type: Disk in Concrete  
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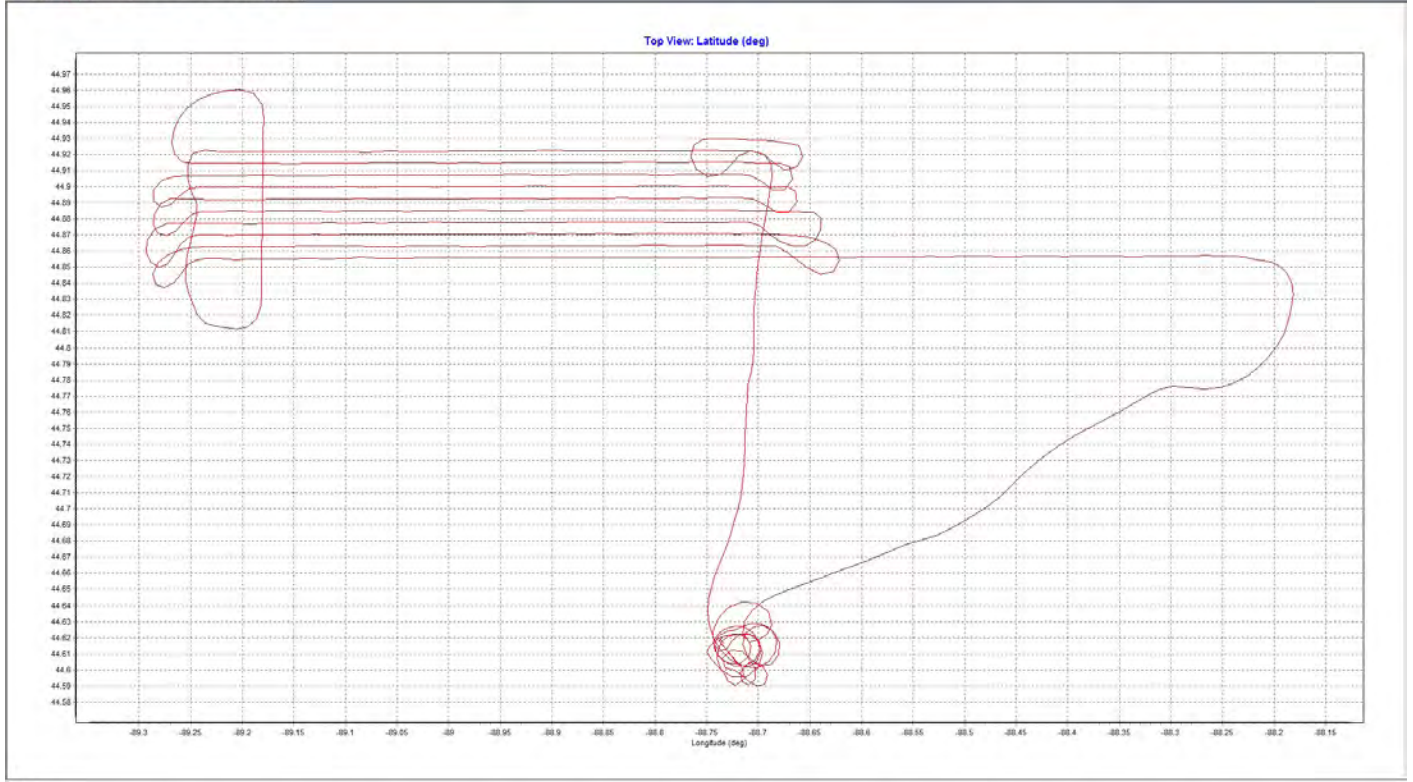


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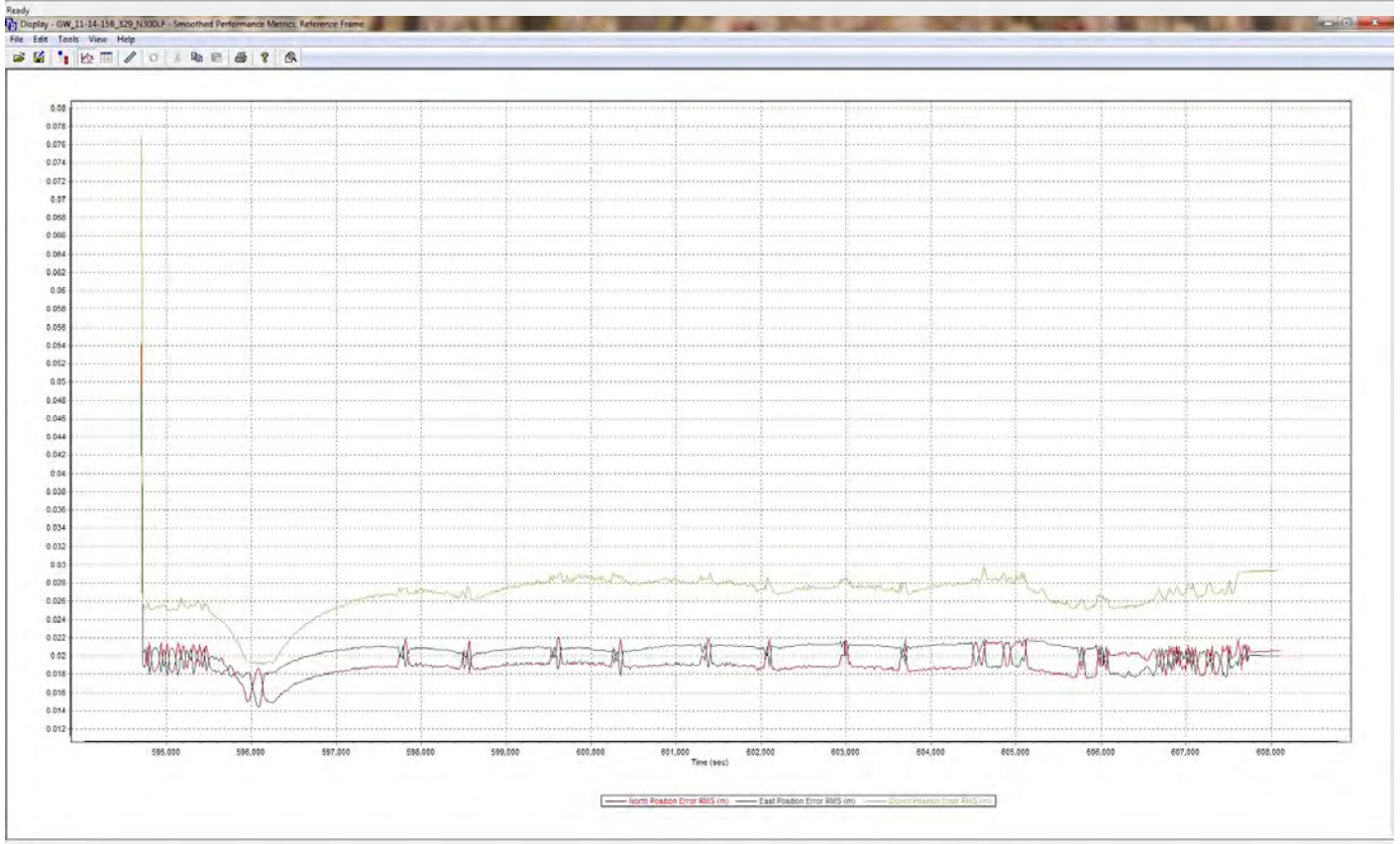
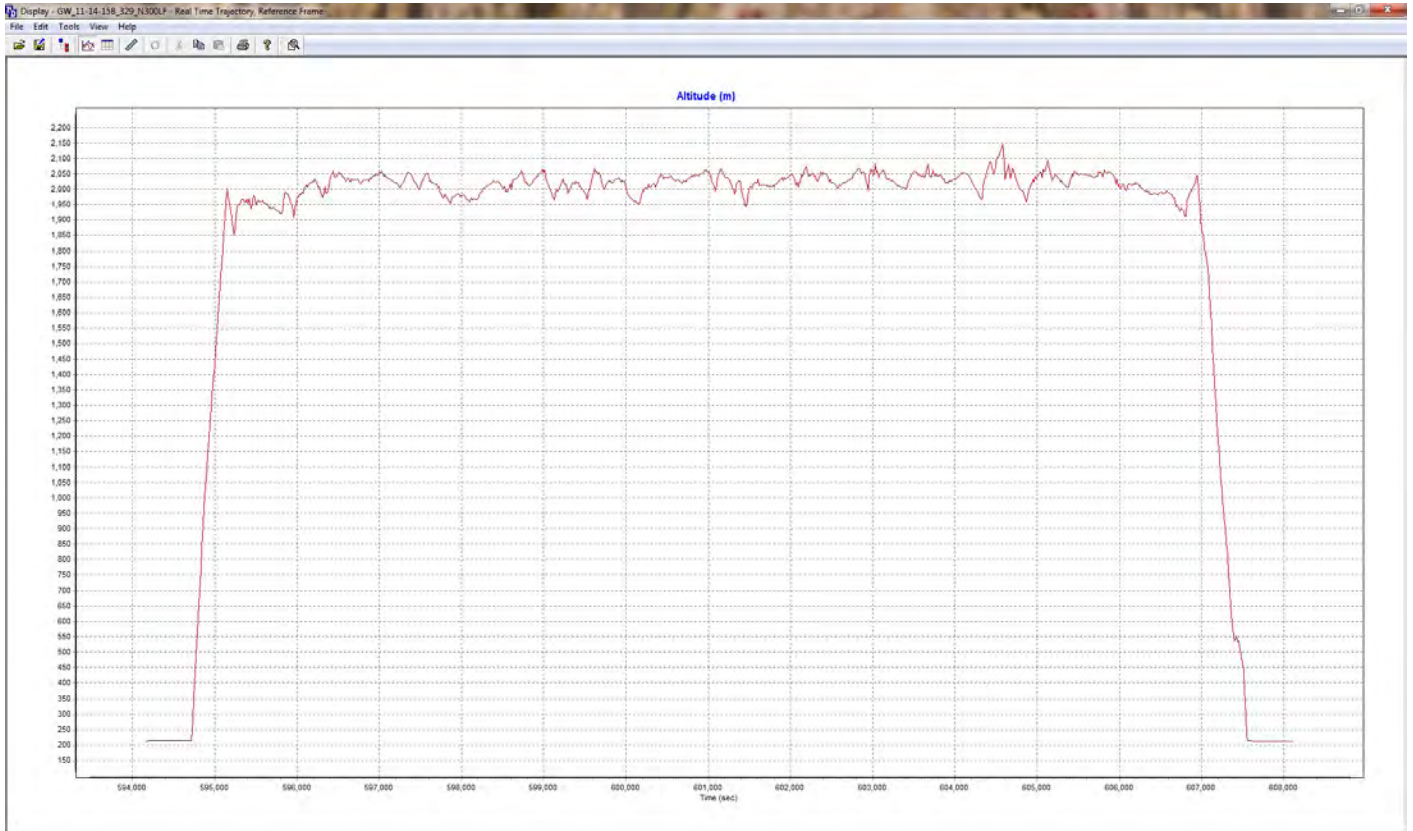
# Nov 14, 2015-B (N300LF, SN329)



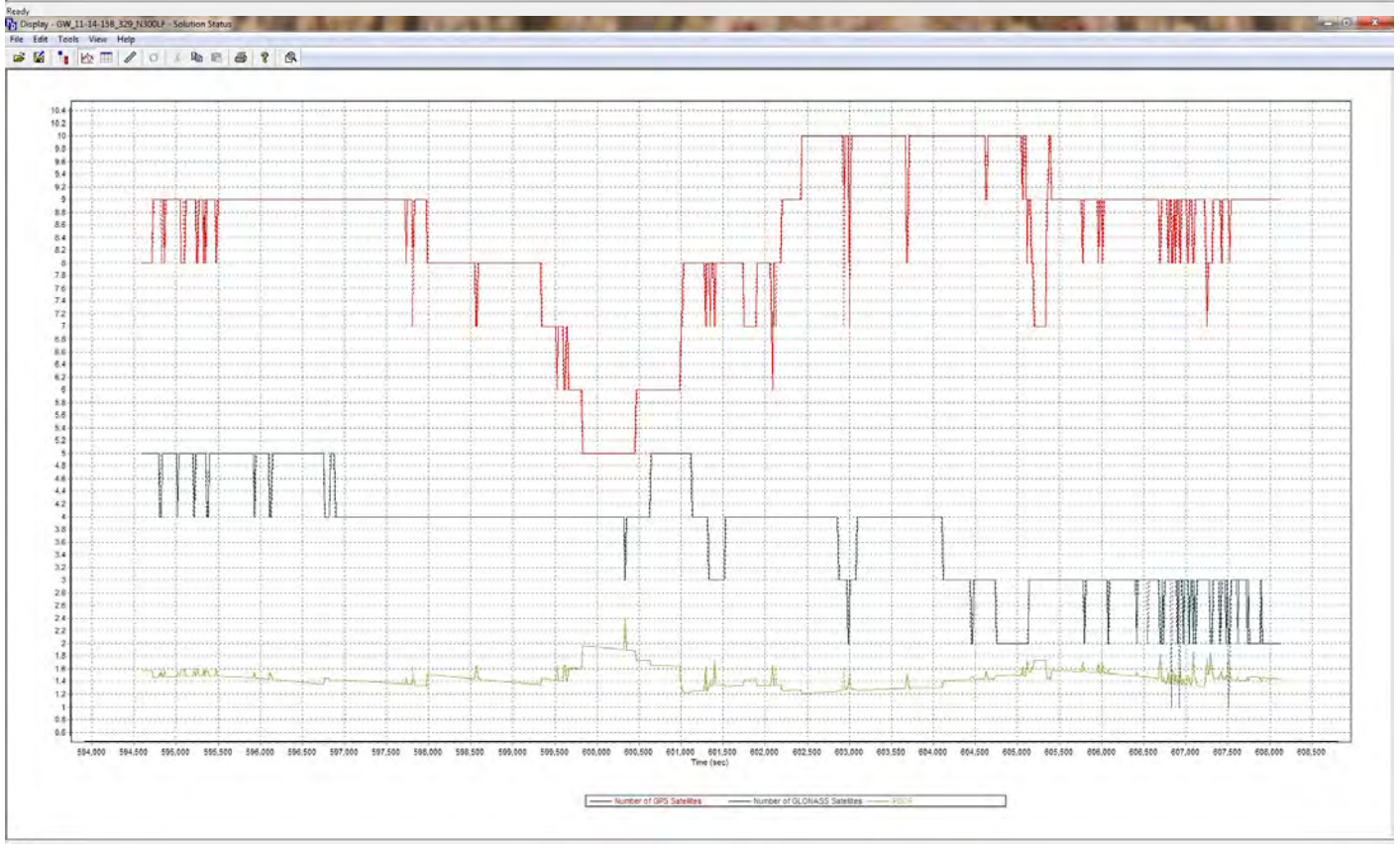
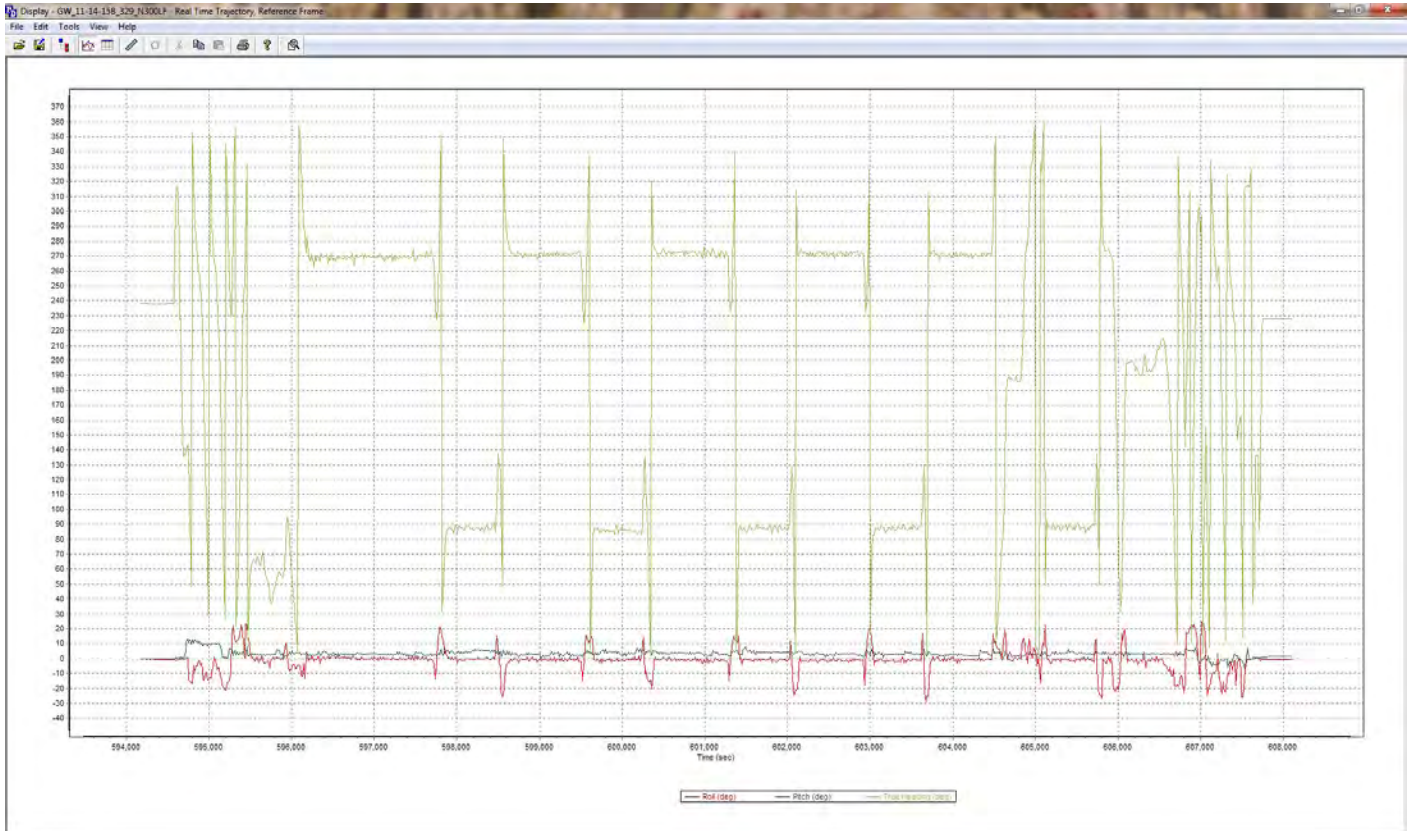
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File Edit Tools View Help



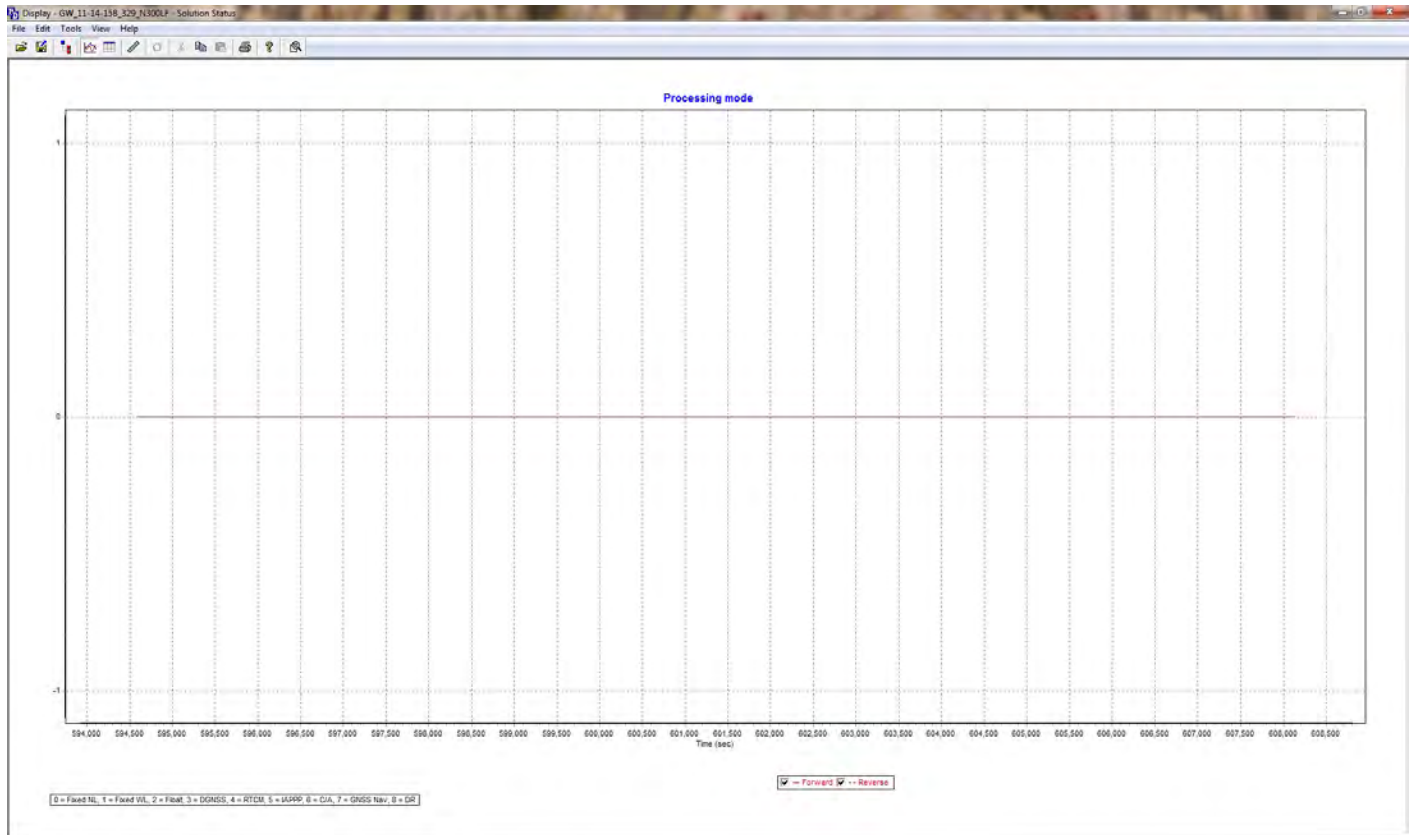
Ready











Coordinate Manager

Station Information

Station ID: **WIAB**

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Altitude: 167.0600 m

Decimal Degrees

Antenna Reference Point (ARP) coordinates: Apply Changes

Antenna

Frame

Height: 0.000 m

Method: Bottom of antenna mount

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Type: Zephyr Geodetic 2

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Station ID	Station Full...	Frame	Epoch	Ellipsoid	Latitude	Longitude	Altitude	Coord Acc
[Empty Table]								

Import Coordinates Export Coordinates Close



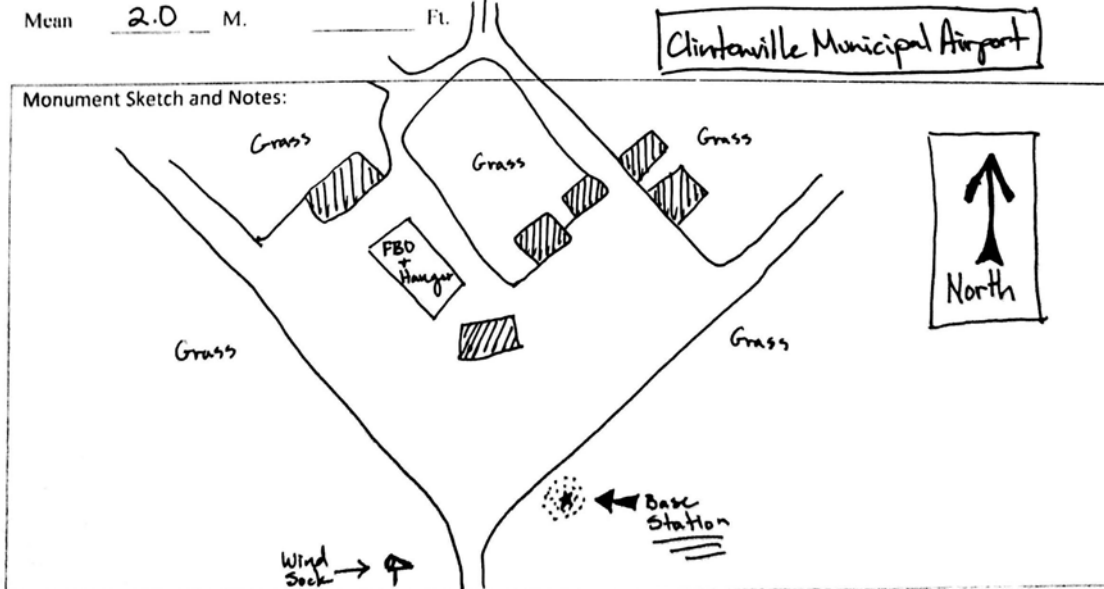
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## GPS OBSERVATION LOG

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Project Name	<u>Shawano County</u>	Start Time	<u>12:56 Z on 14<sup>th</sup> (318)</u>
Revr. Type	<u>DL-V3</u>	Stop Time	<u>06:20 Z on 15<sup>th</sup> (319)</u>
Revr. S/N	<u>7-0141149</u>	Revr. File Name	<u>00073180.PDC</u>
Antenna Type	<u>GPS-702-GG</u>	Observer	<u>Minguy</u>
Antenna S/N	<u>NAE 12110034</u>		

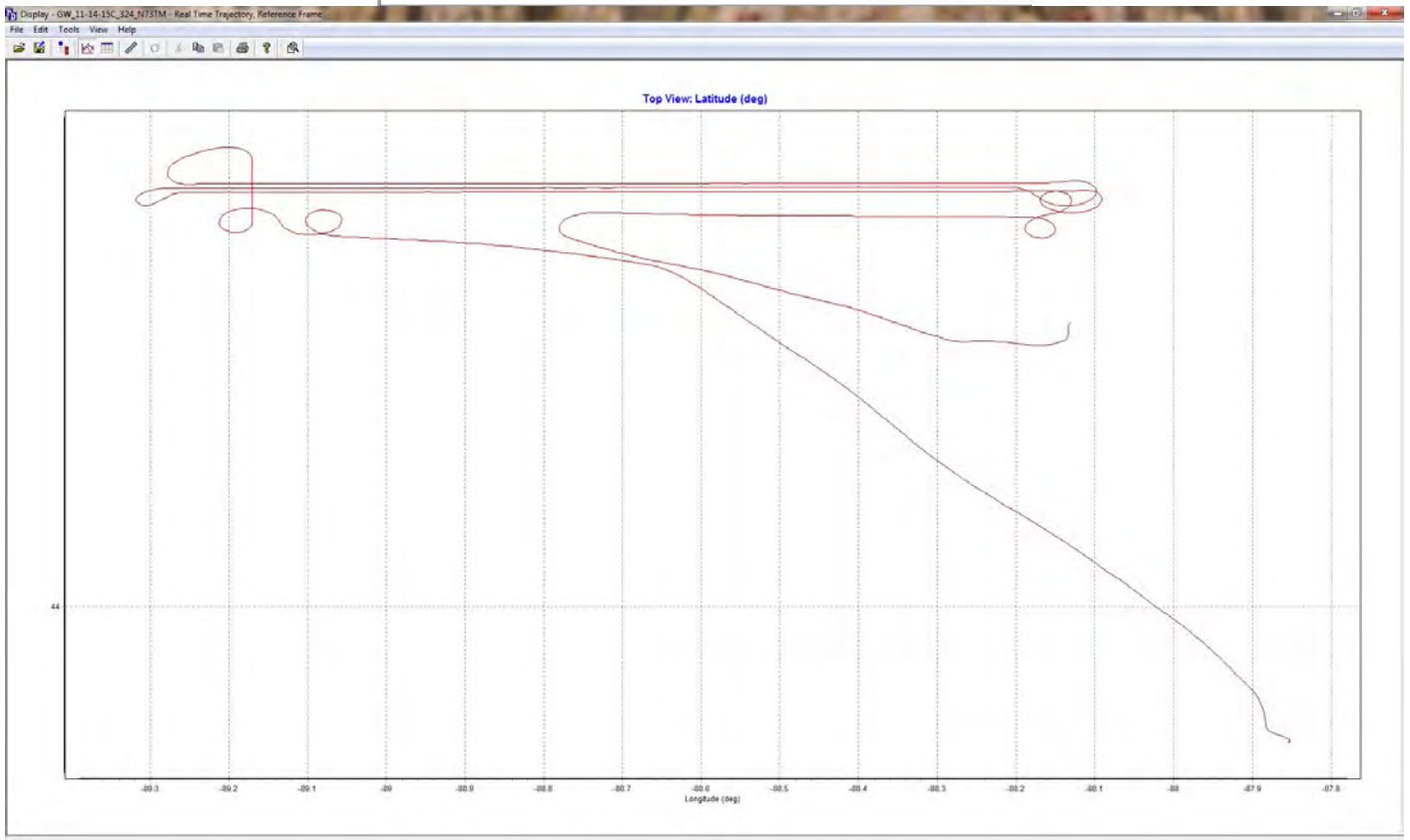
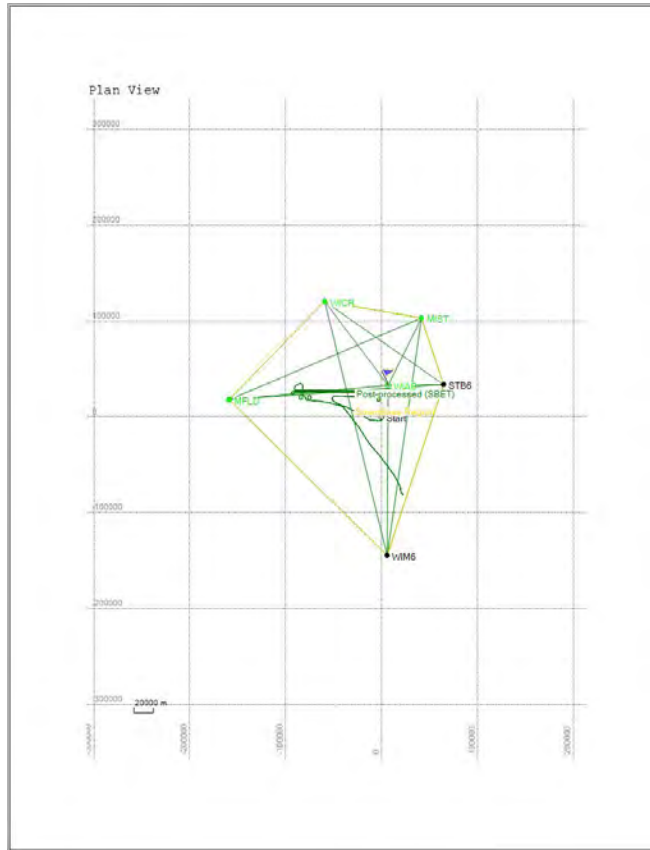
New or Existing  Mon  New  Existing  
 Photo Taken  Yes  No  
 Monument Type: Disk in Concrete  
 Spike  PK Nail  AM Washer   
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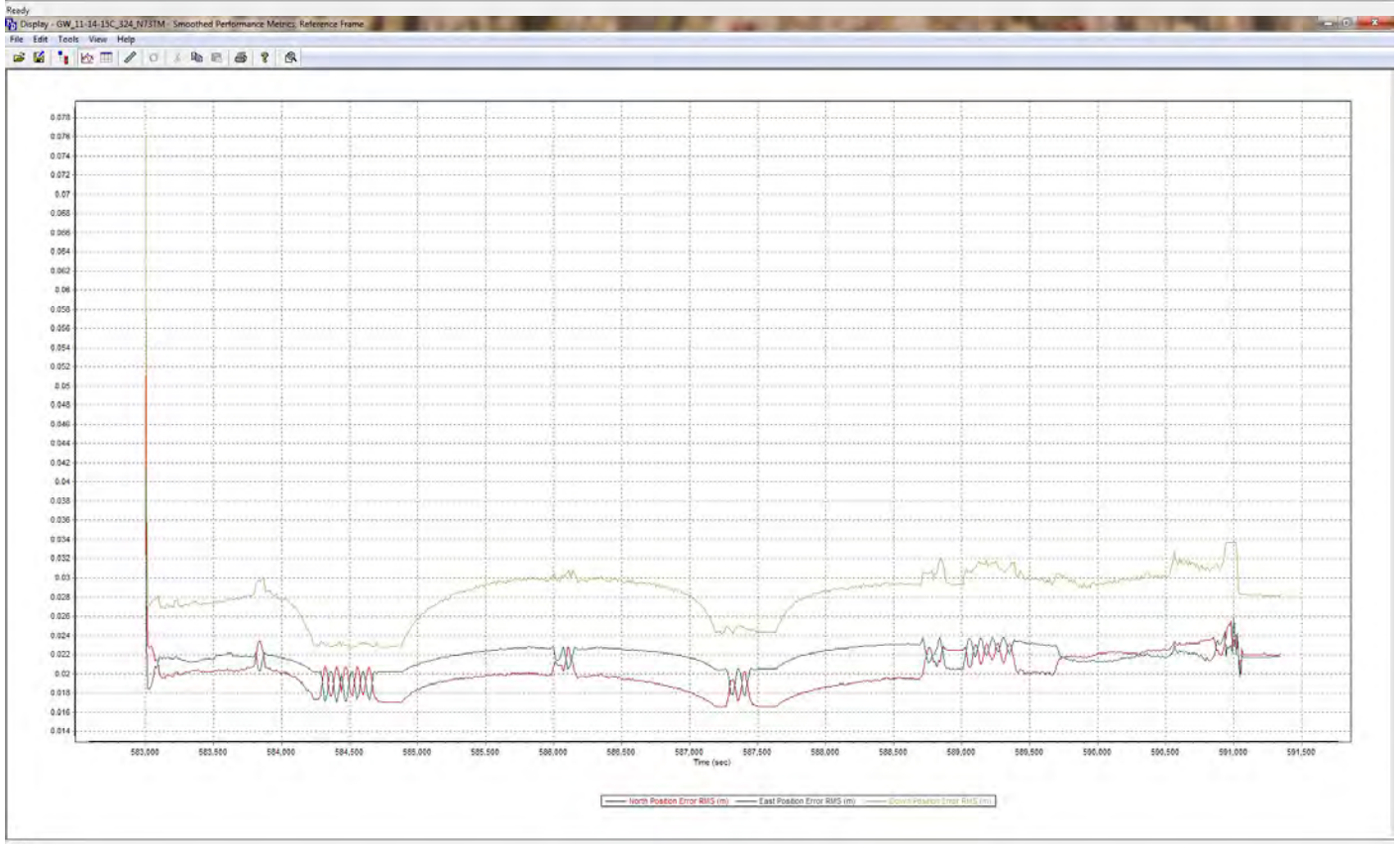
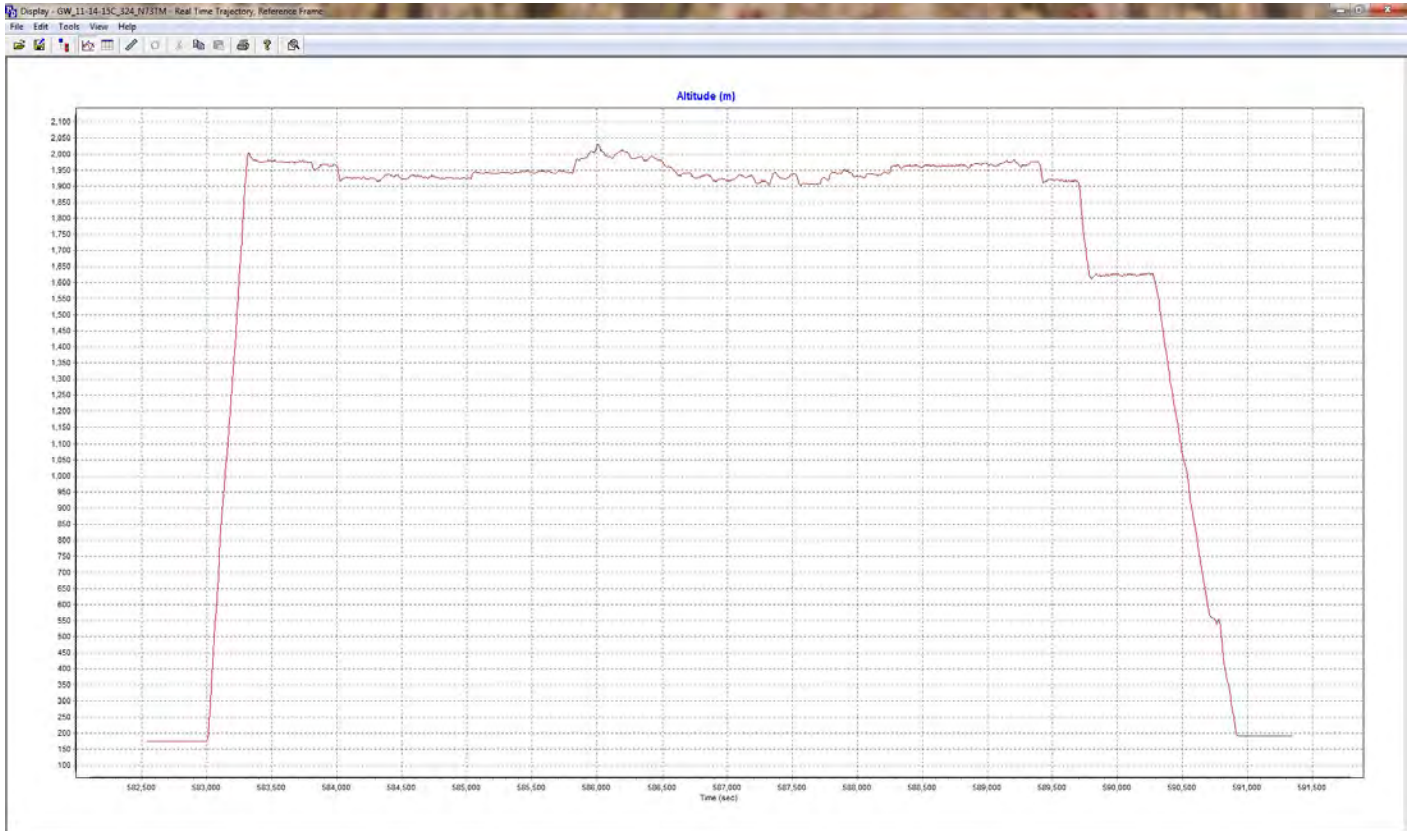


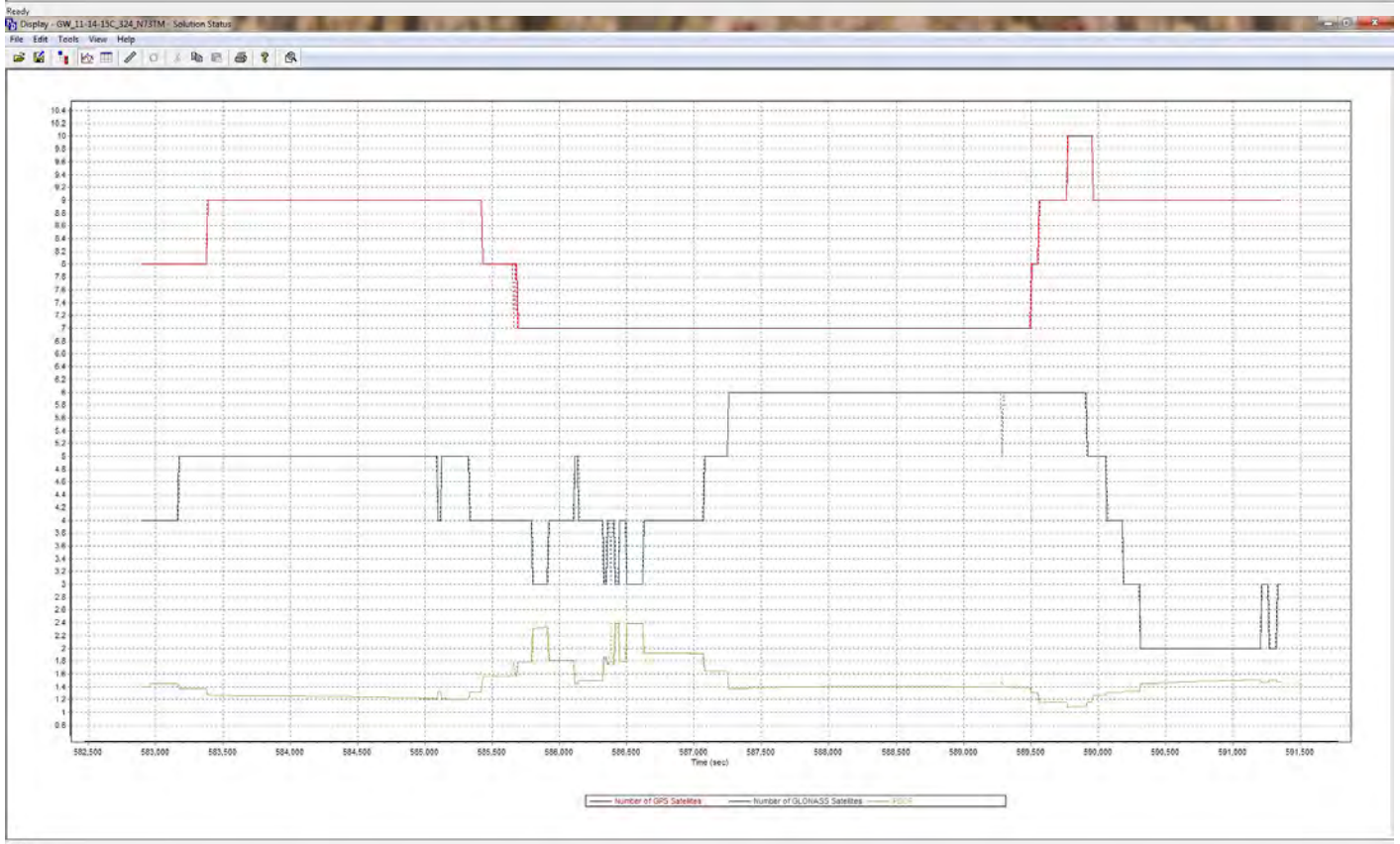
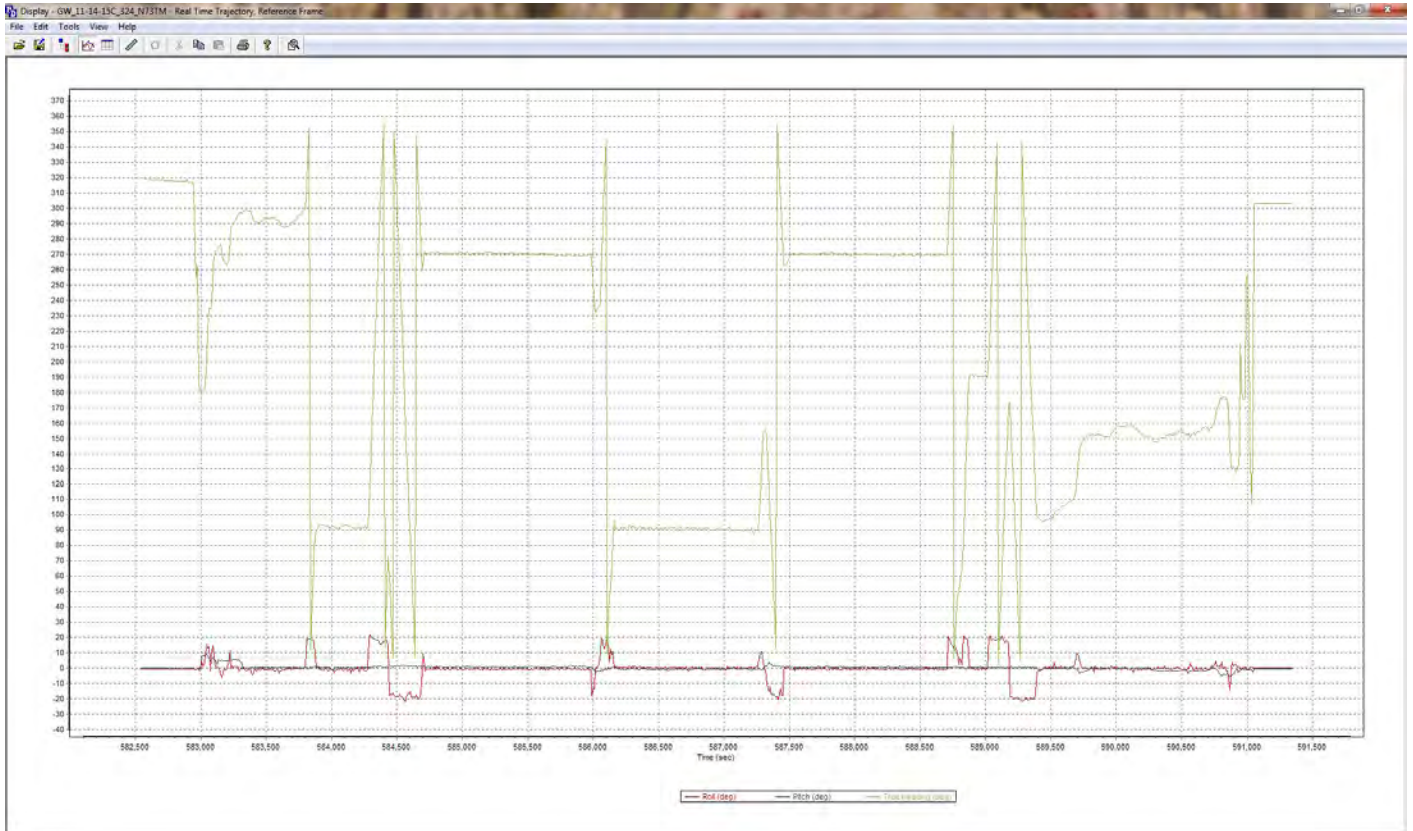
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# Nov 14, 2015-C (N73TM, SN324)

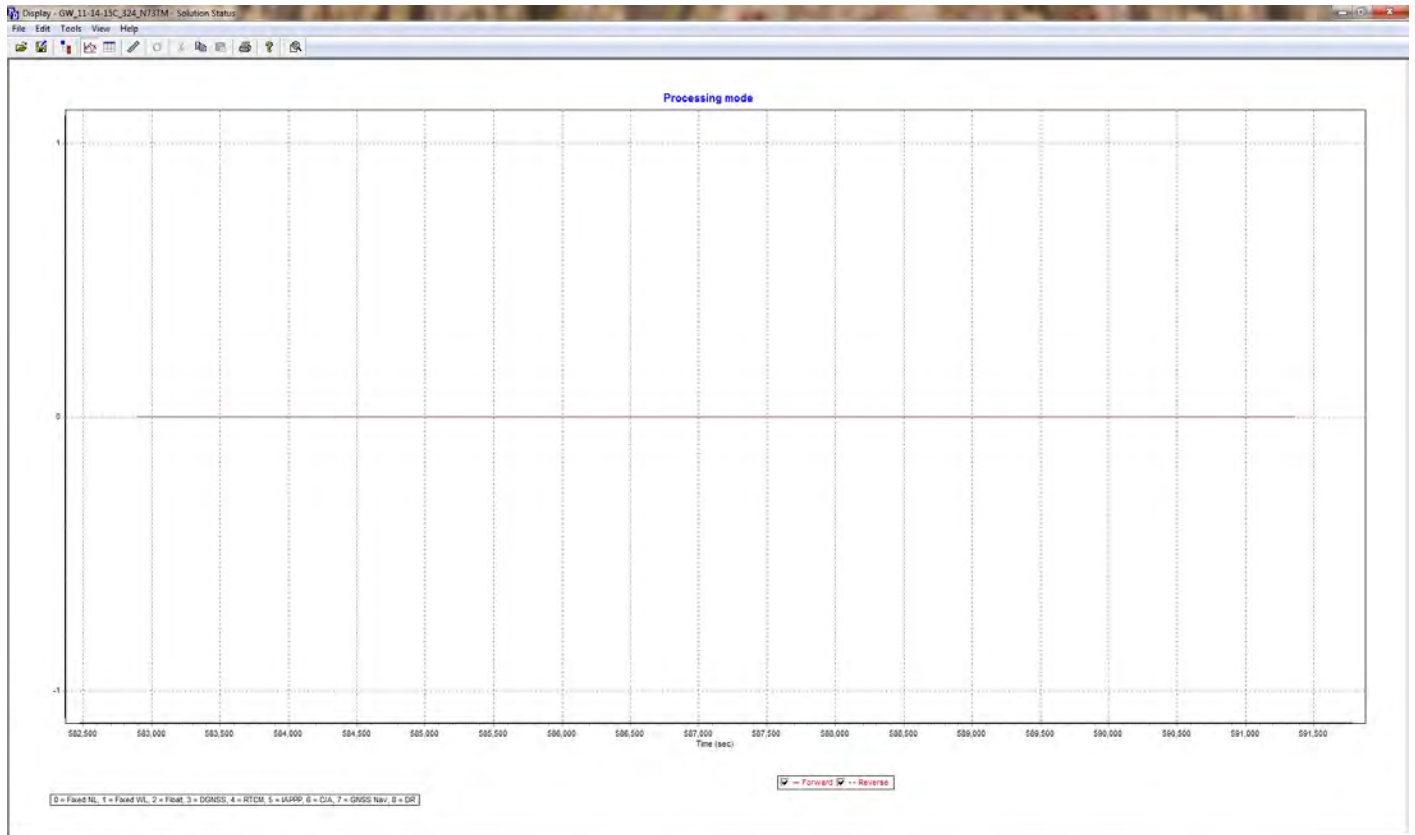












Coordinate Manager

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Antenna Frame

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Method: Bottom of antenna mount

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Import Coordinates Export Coordinates Close





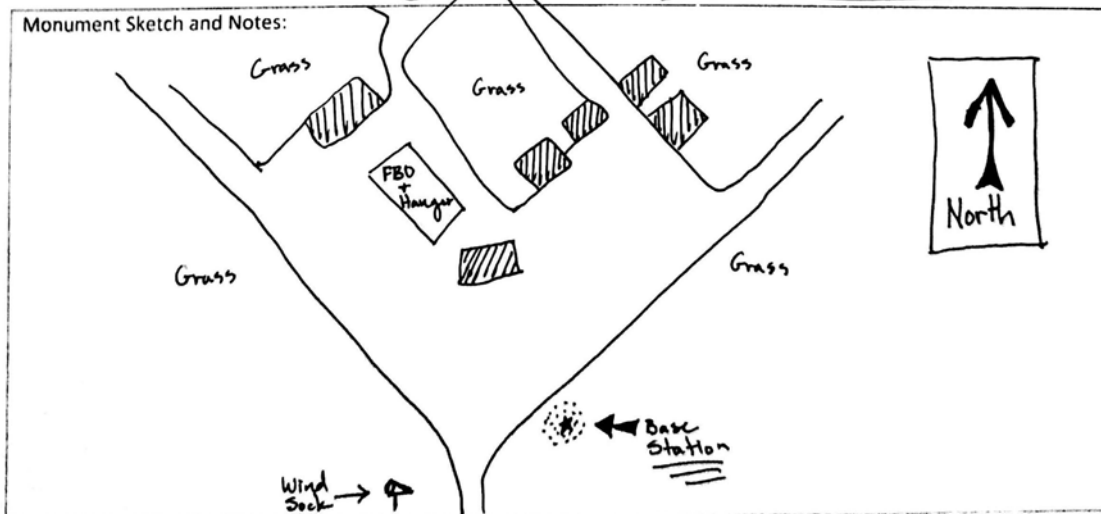
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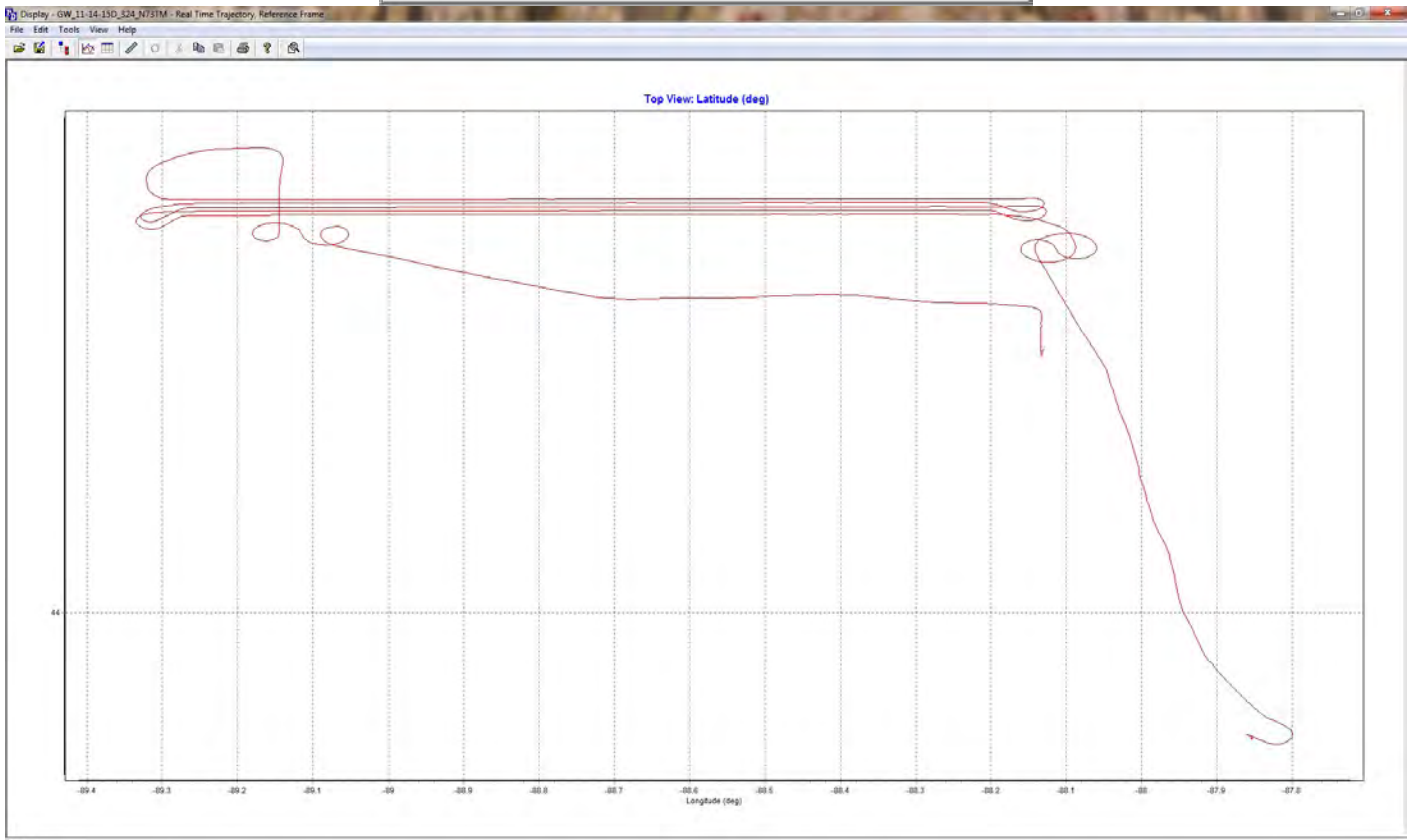
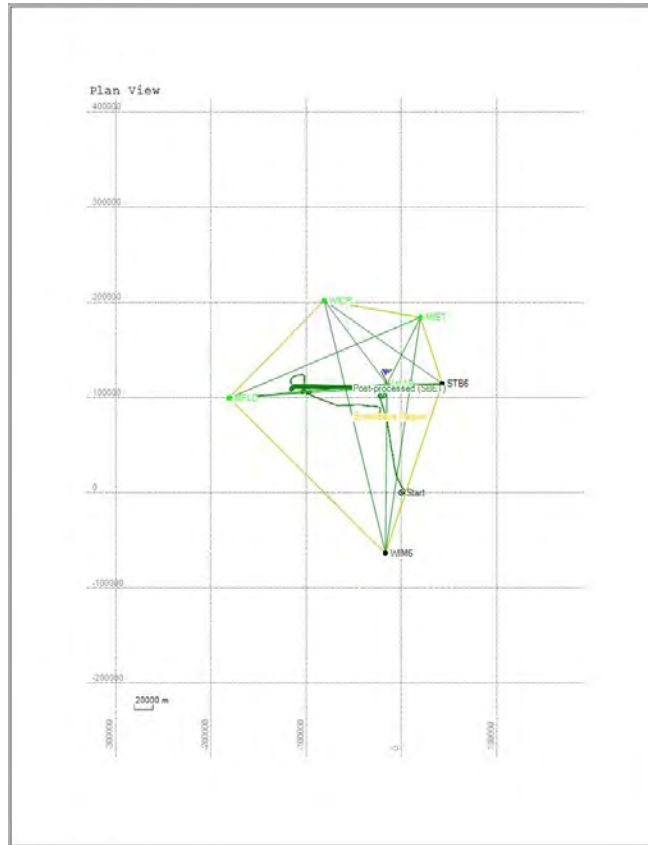
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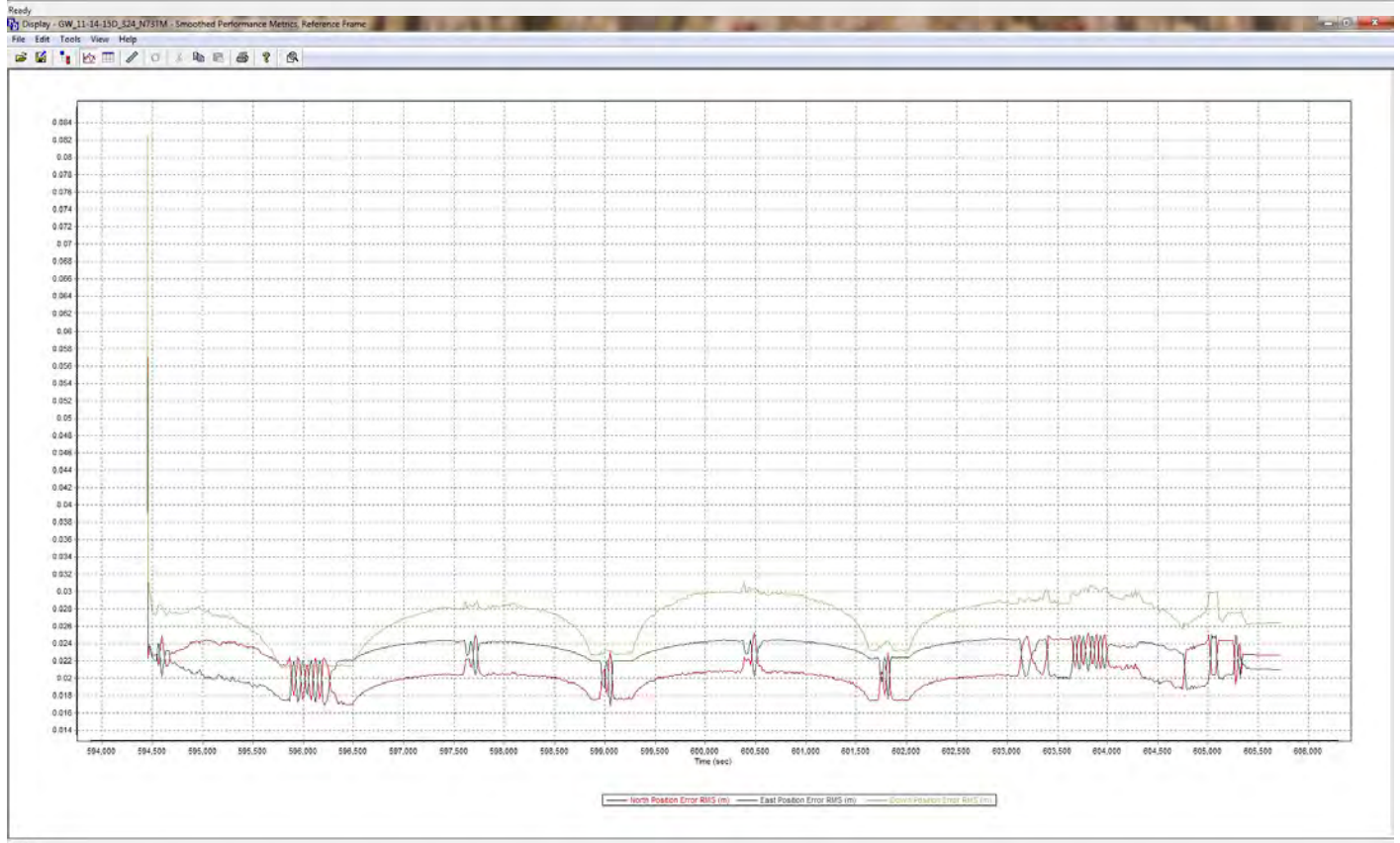
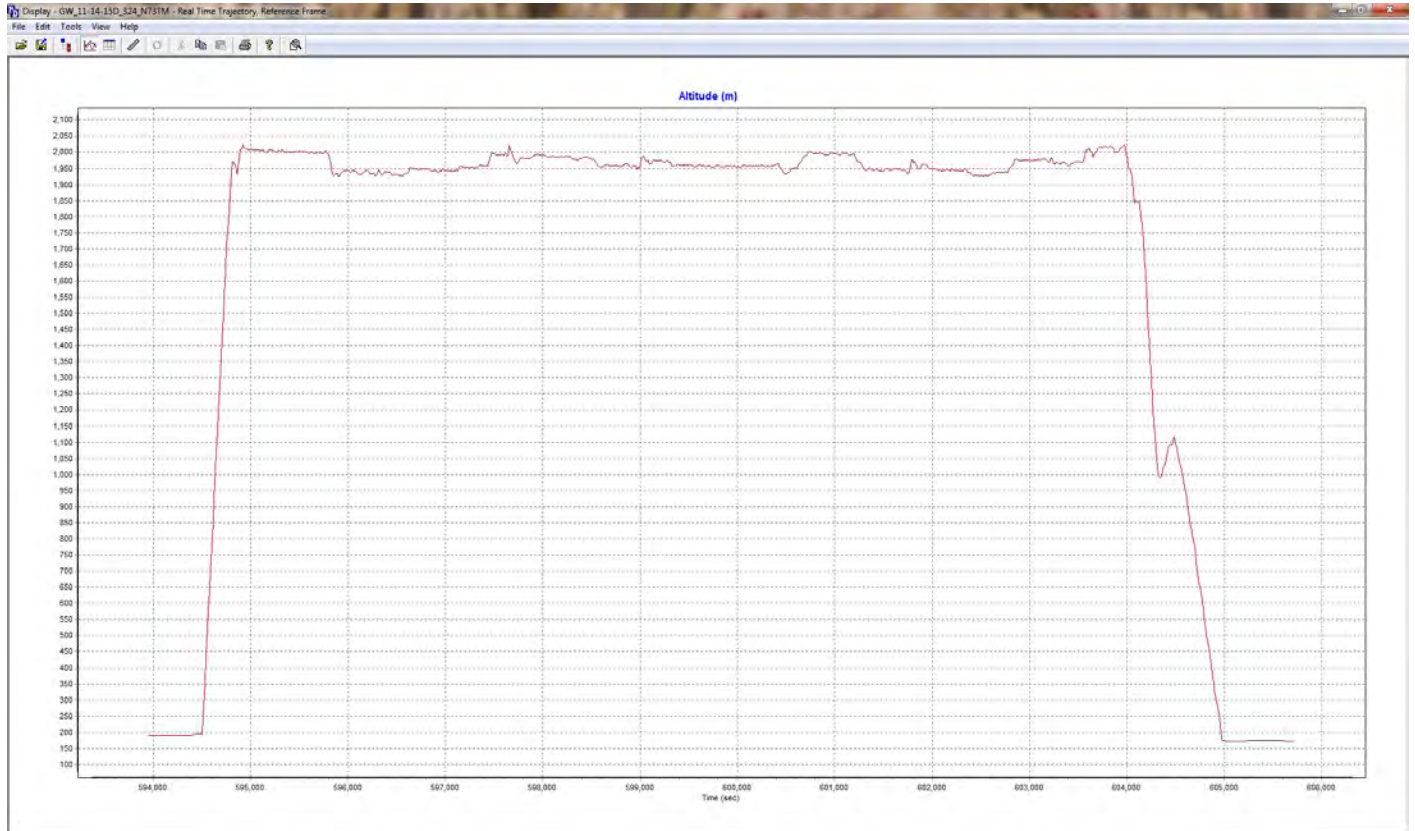


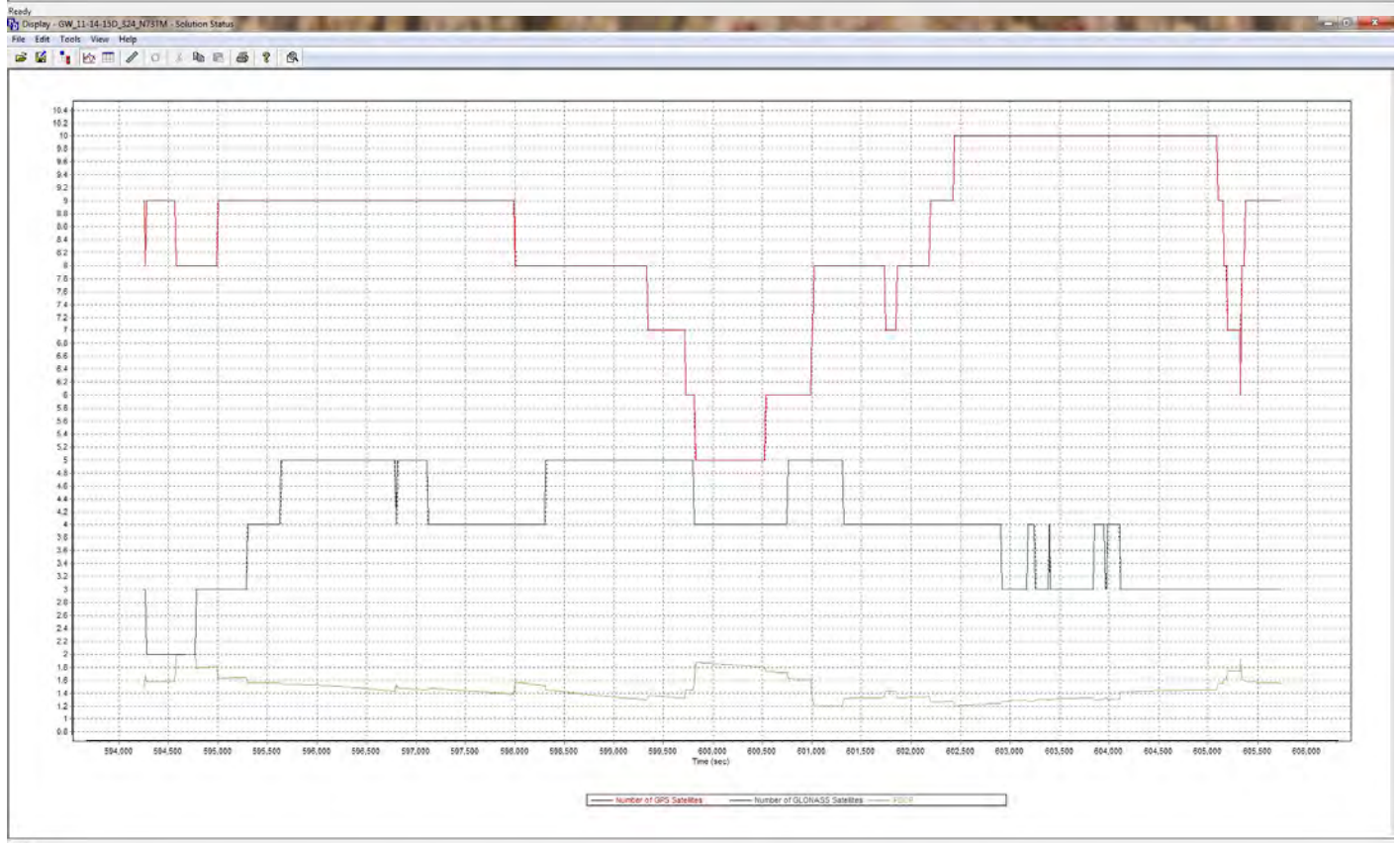
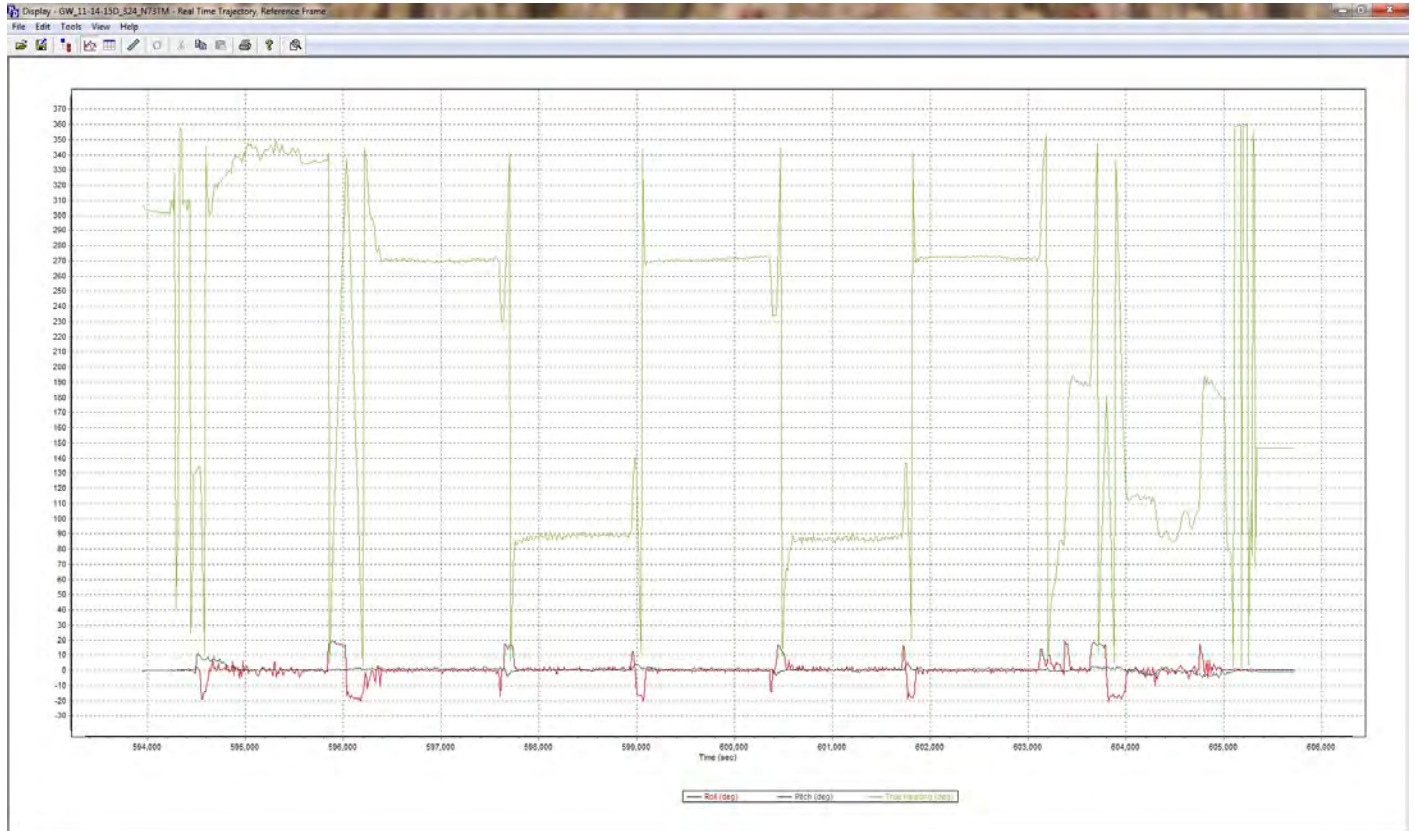
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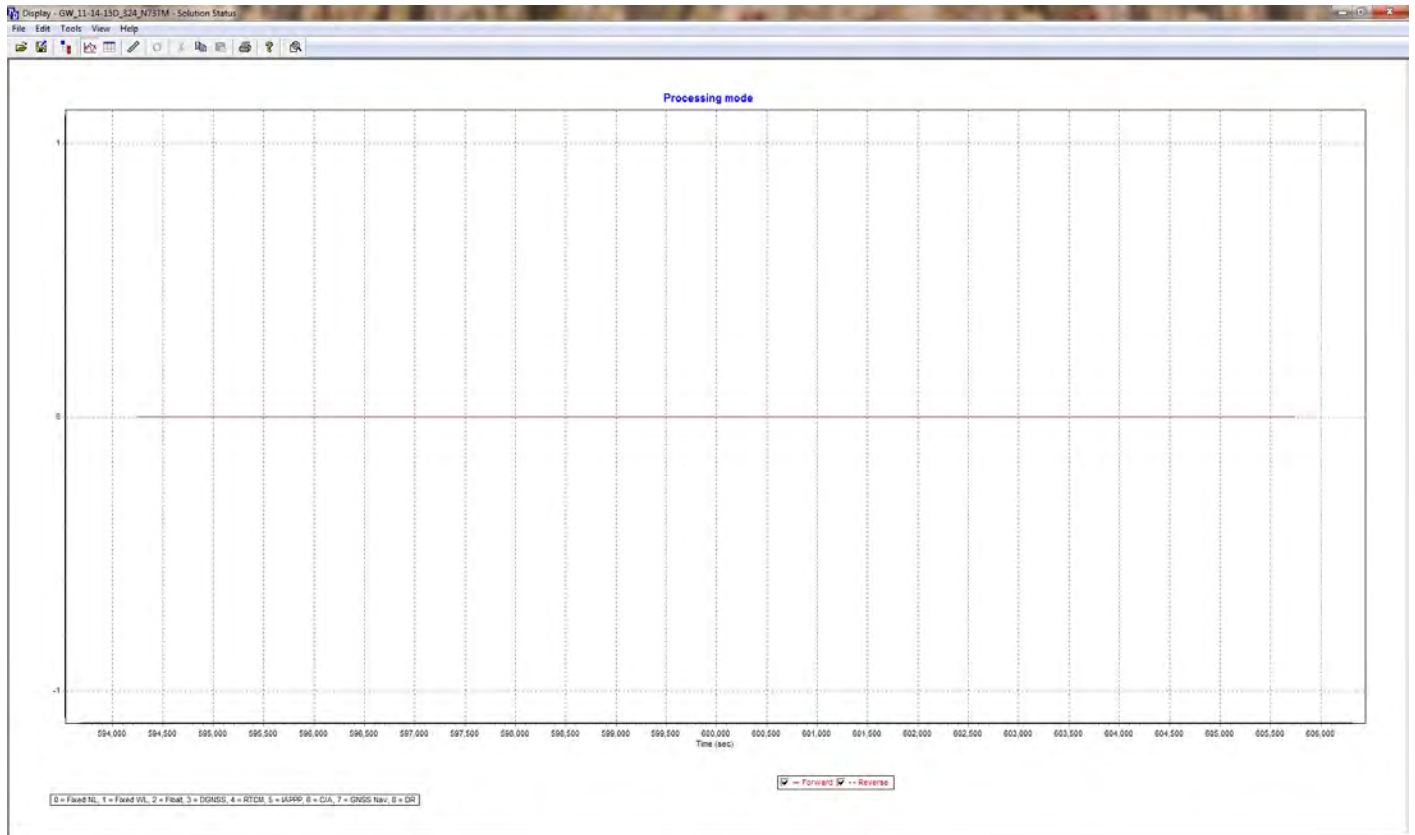












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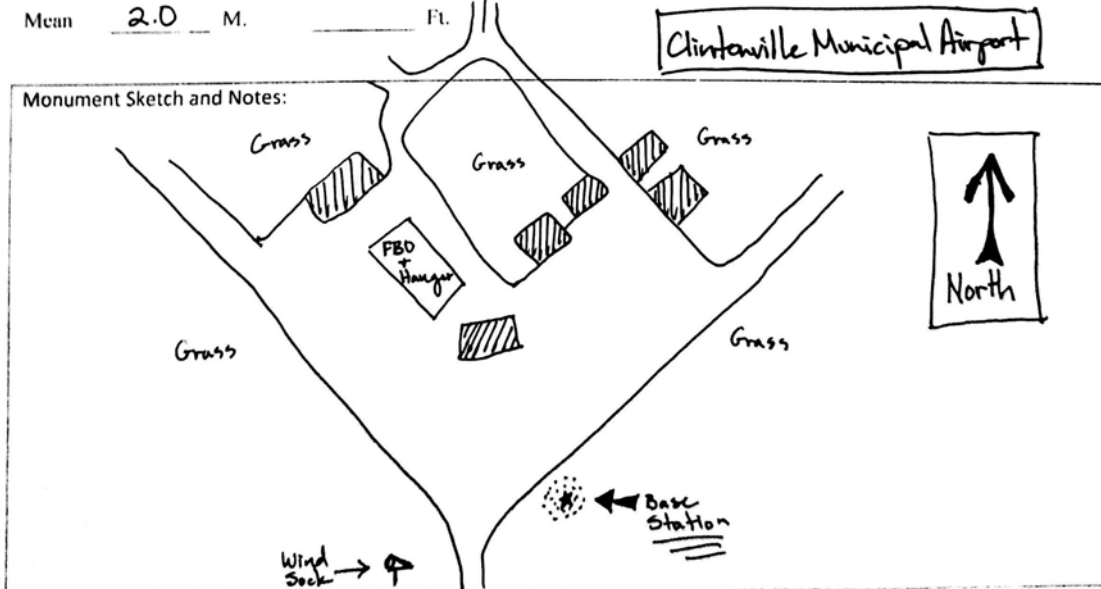
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Antenna Type	GPS-702-GG	Observer	Minguy
Antenna S/N	NAE 12110034		

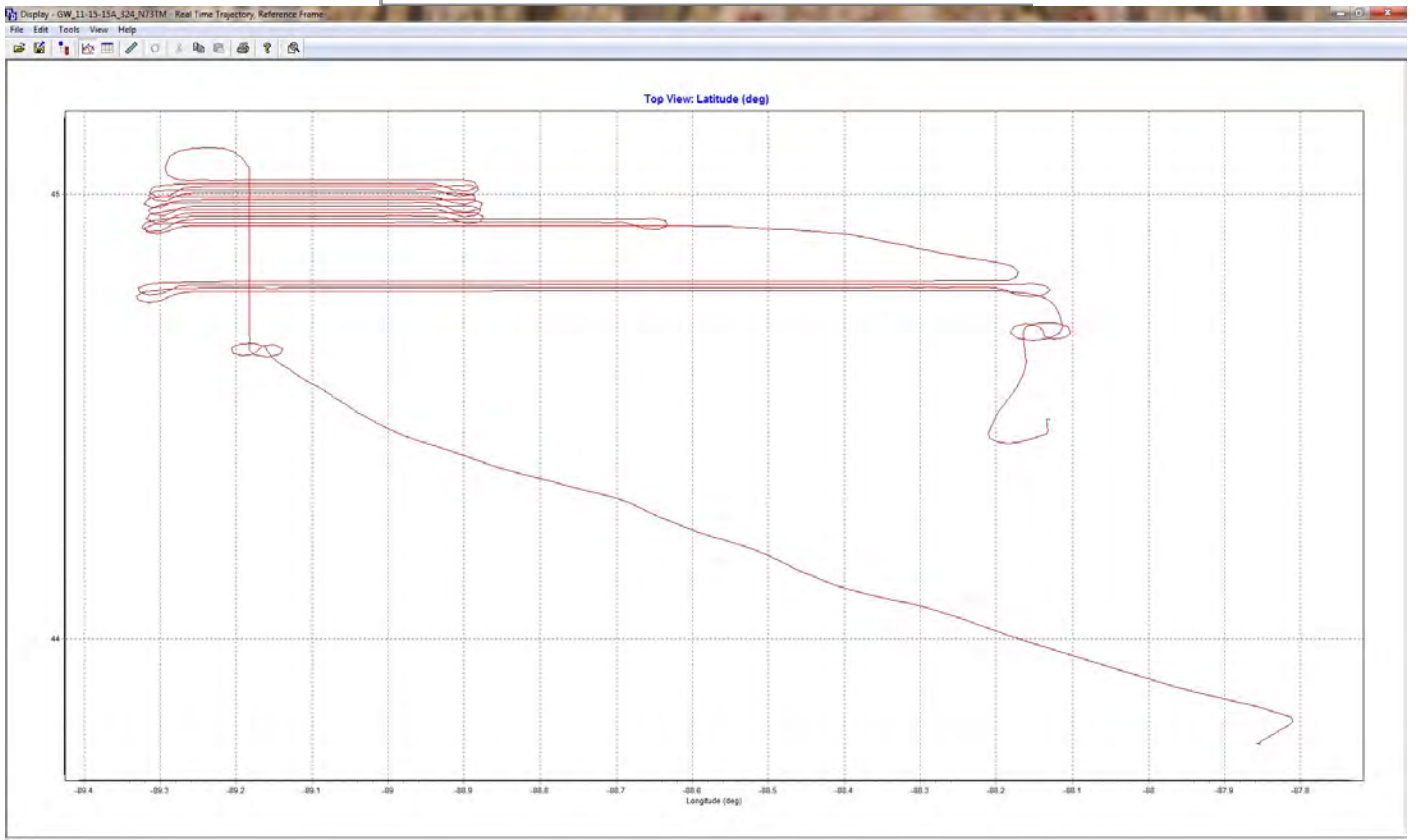
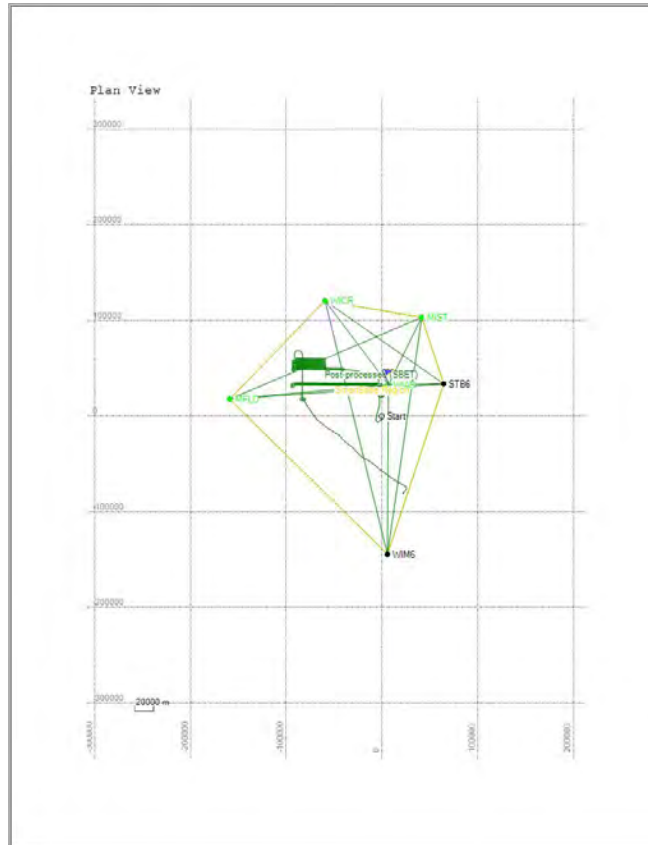
New or Existing  Mon  New  Existing  
 Photo Taken  Yes  No  
 Monument Type: Disk in Concrete  
 Spike  PK Nail  AM Washer   
 Other

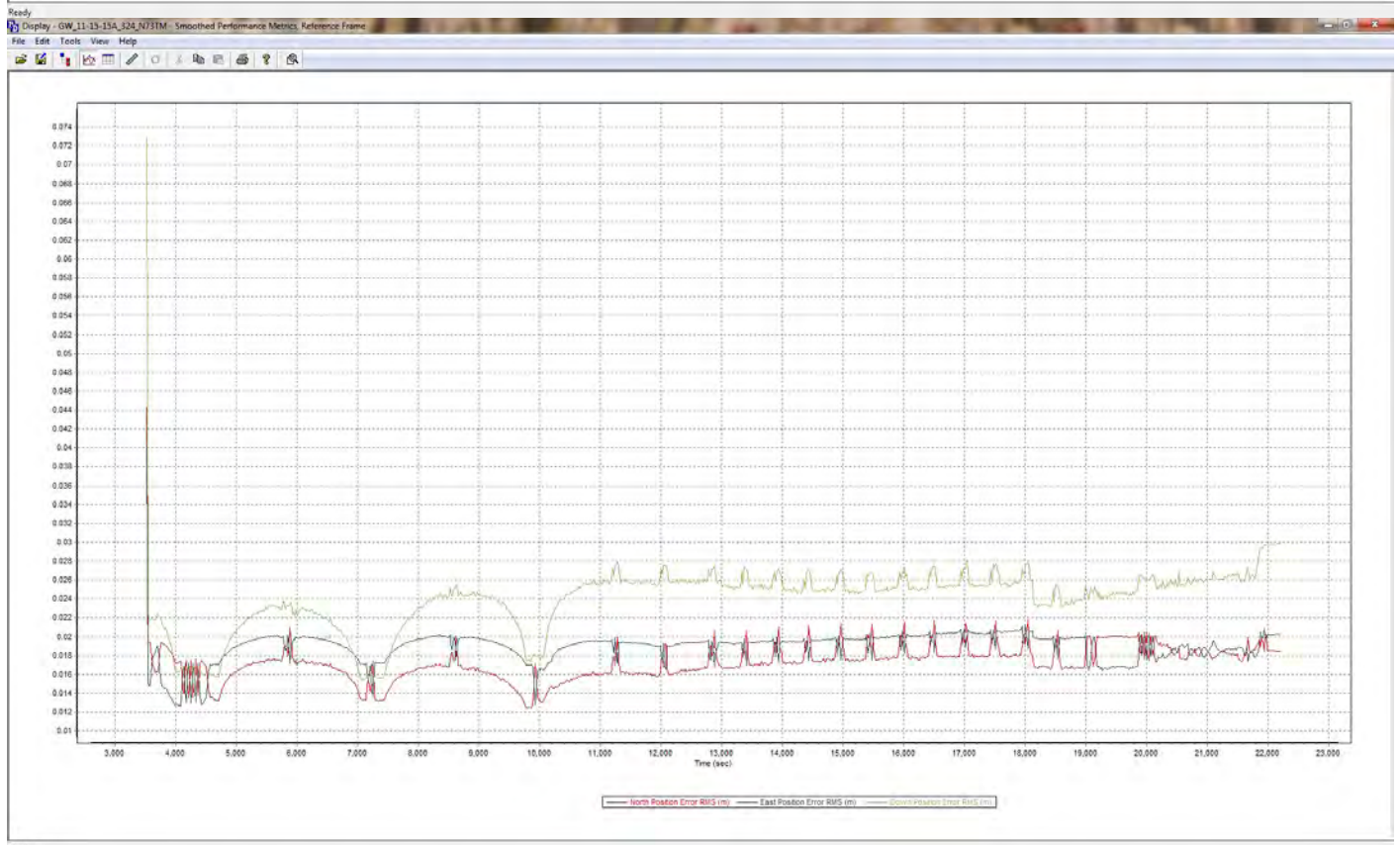
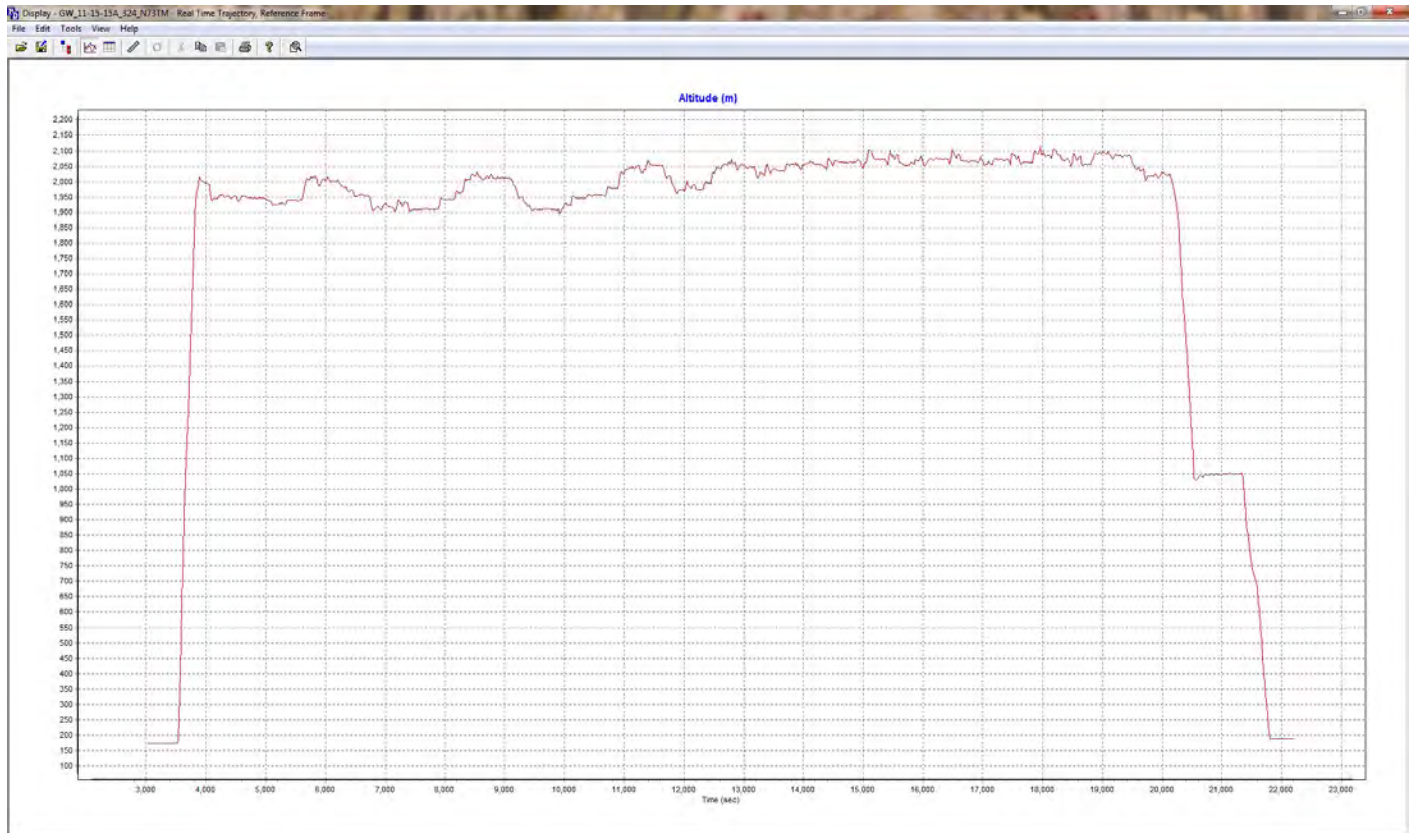
Height Readings:  
 (Top of Monument to Bottom of Ground Plane)  
 Start 2.0 M. \_\_\_\_\_ Ft. To 7<sup>th</sup> Street  
 Stop 2.0 M. \_\_\_\_\_ Ft.  
 Mean 2.0 M. \_\_\_\_\_ Ft.



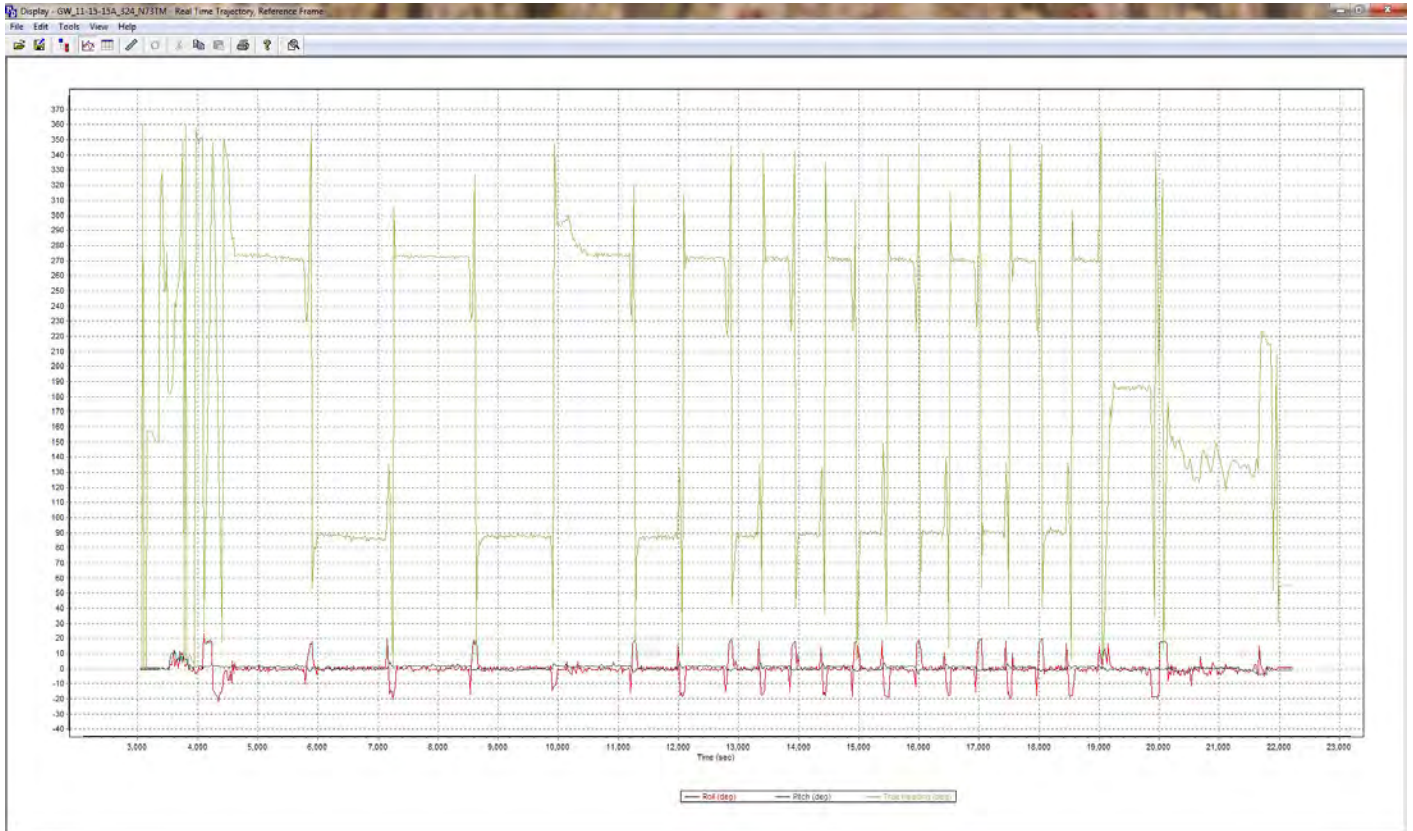
Scanned by CamScanner

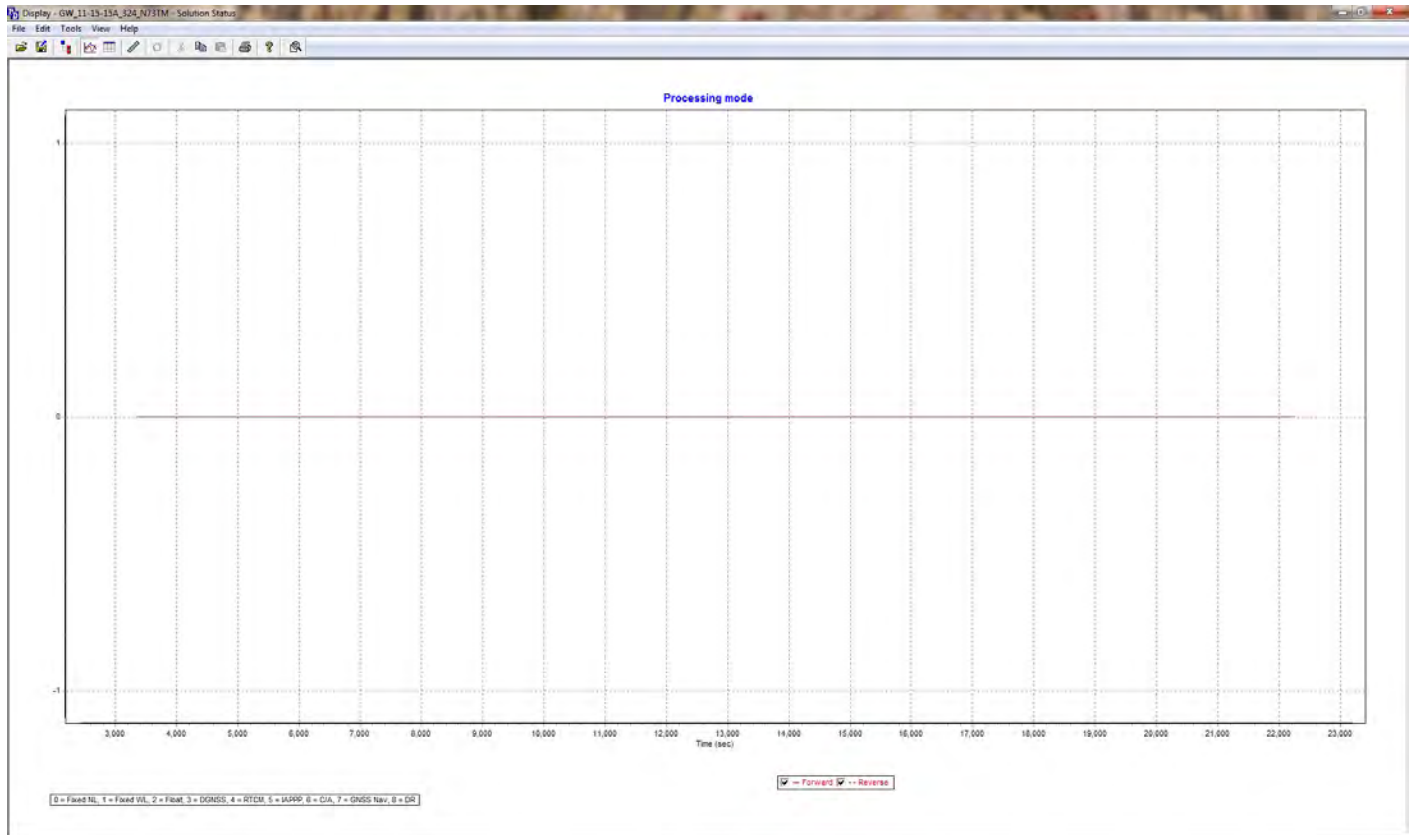
# Nov 15, 2015-A (N73TM, SN324)











Ready

**Coordinate Manager**

Station Information

Station ID: **WIAB**

Coordinates

Latitude: N 44 47 27.29874000

Longitude: W 88 2 42.18794000

Altitude: 167.0600 m

Decimal Degrees

Antenna Reference Point (ARP) coordinates: Apply Changes

Antenna **Frame**

Height: 0.000 m

Method: Bottom of antenna mount

Manufacturer: Trimble

Type: Zephyr Geodetic 2

Offset from Measured Point to APC: 0.085 m

Station Database

Station ID: WIAB Station Fullname: WIAB

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
[Empty Table]								

Import Coordinates Export Coordinates Close







# Base Station Log

## GPS OBSERVATION LOG

Station ID PN1351  
 Project Number 26737  
 Project Name Shawano County  
 Revr. Type DL-V3  
 Revr. S/N 7-0141149  
 Antenna Type GPS-702-GG  
 Antenna S/N NAE 12110034

Date 11 / 15 / 2015  
 Julian Date 319  
 Start Time 15:57:20L  
 Stop Time 21:42:20L  
 Revr. File Name 00073190.PDC  
 Observer Mingay

New or Existing  Mon  New  Existing

Photo Taken  Yes  No

Monument Type: Disk in Concrete

Spike  PK Nail  AM Washer

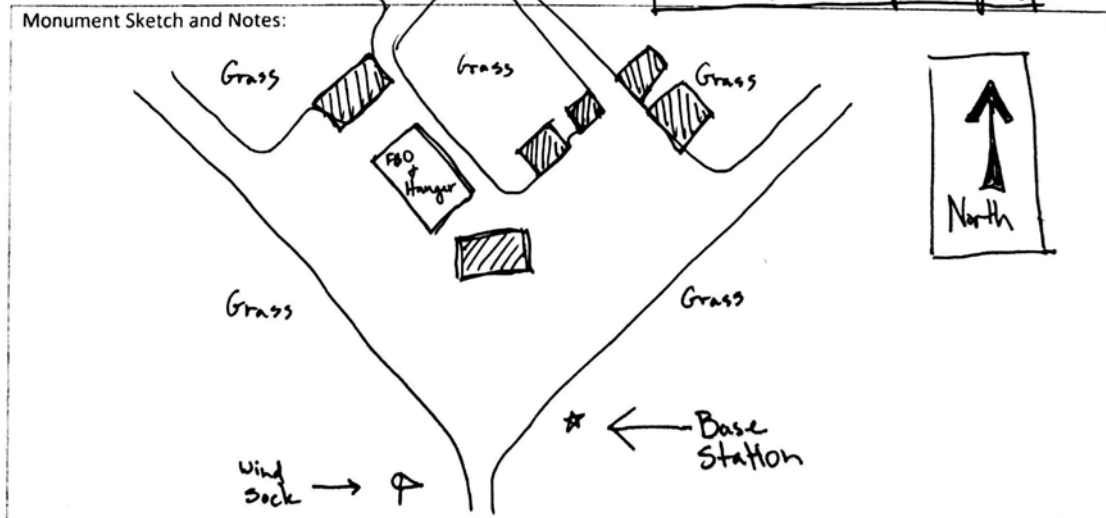
Other

Height Readings:

(Top of Monument to Bottom of Ground Plane)

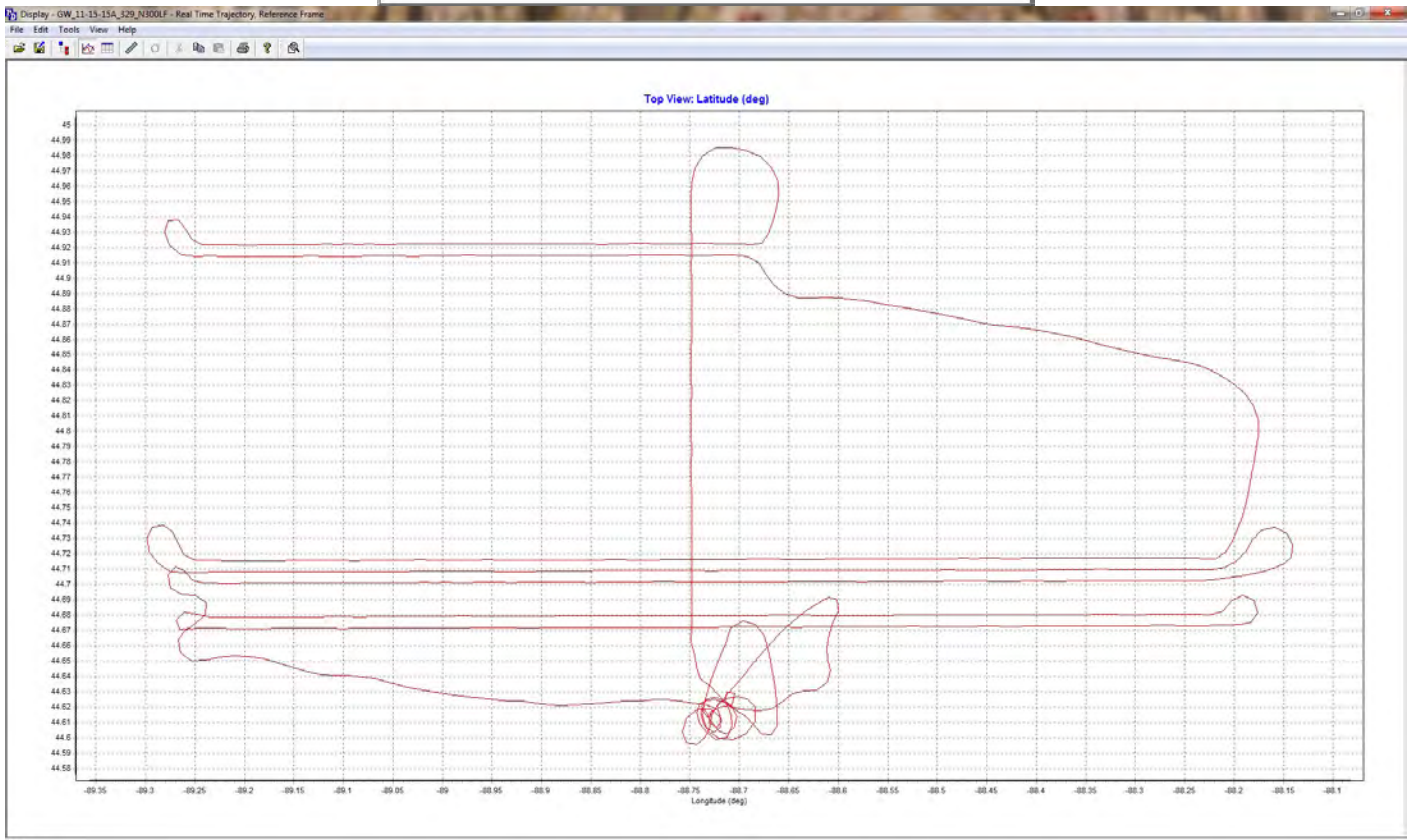
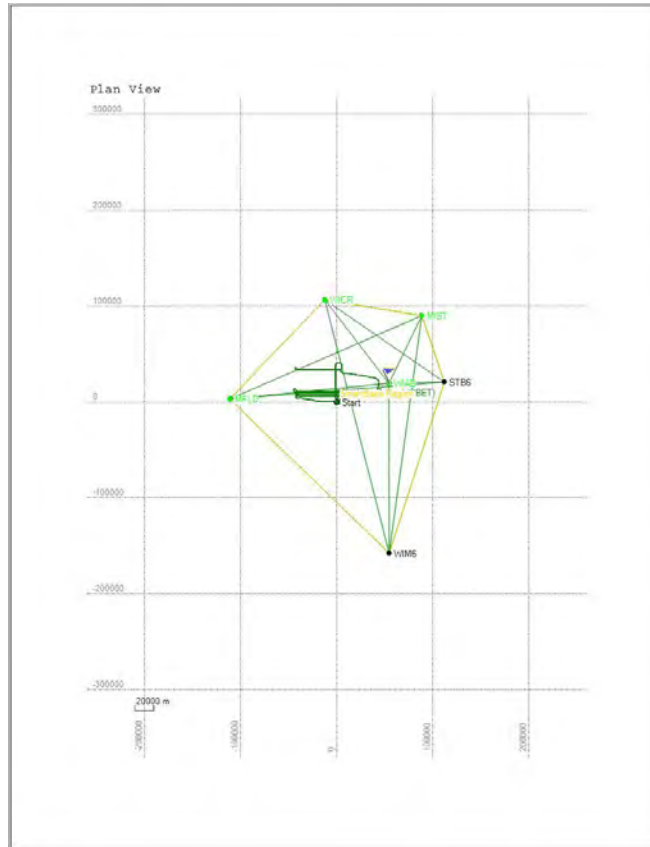
Start 2.0 M. \_\_\_\_\_ Ft. To 7th Street  
 Stop 2.0 M. \_\_\_\_\_ Ft.  
 Mean 2.0 M. \_\_\_\_\_ Ft.

Monument Sketch and Notes:

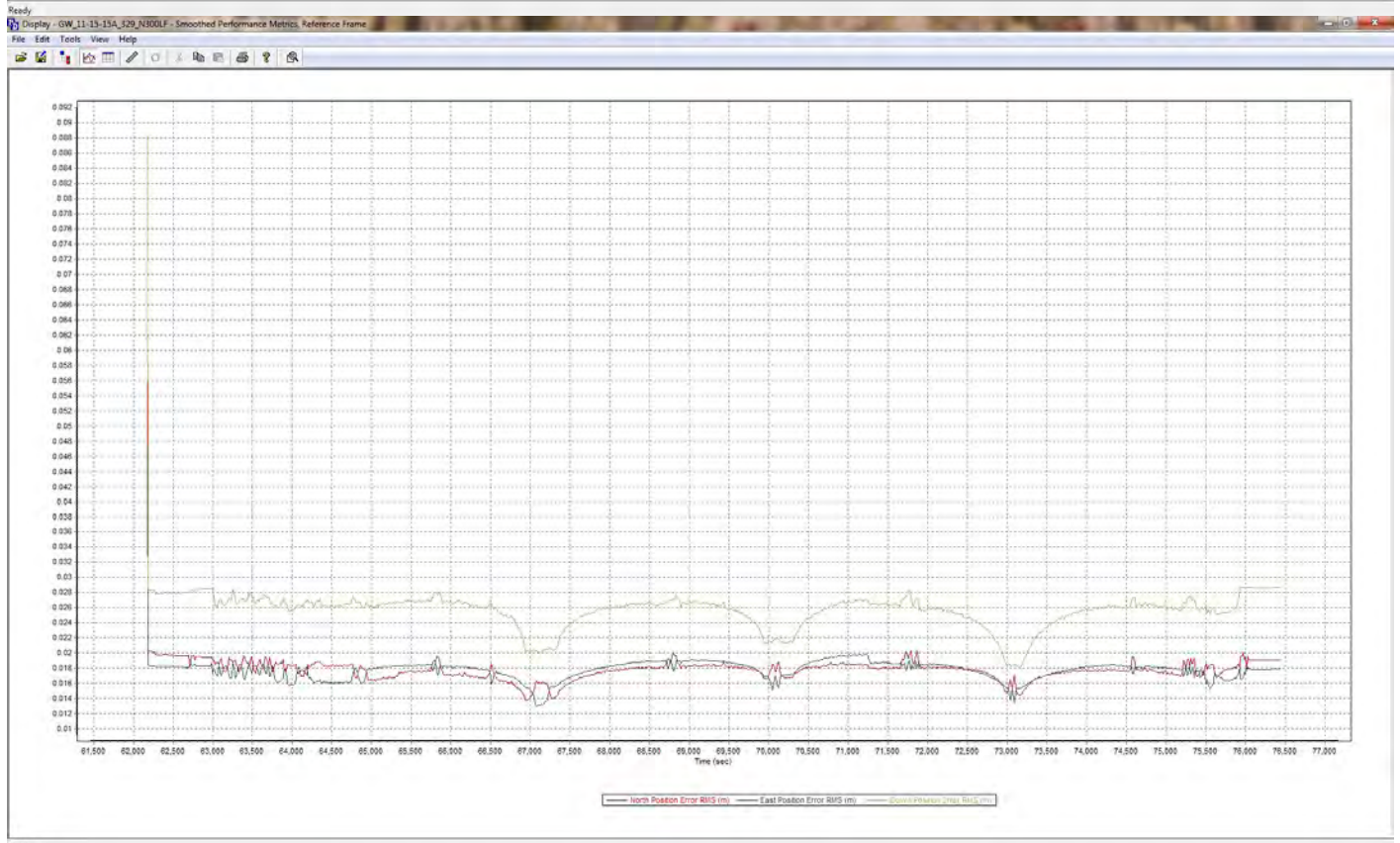
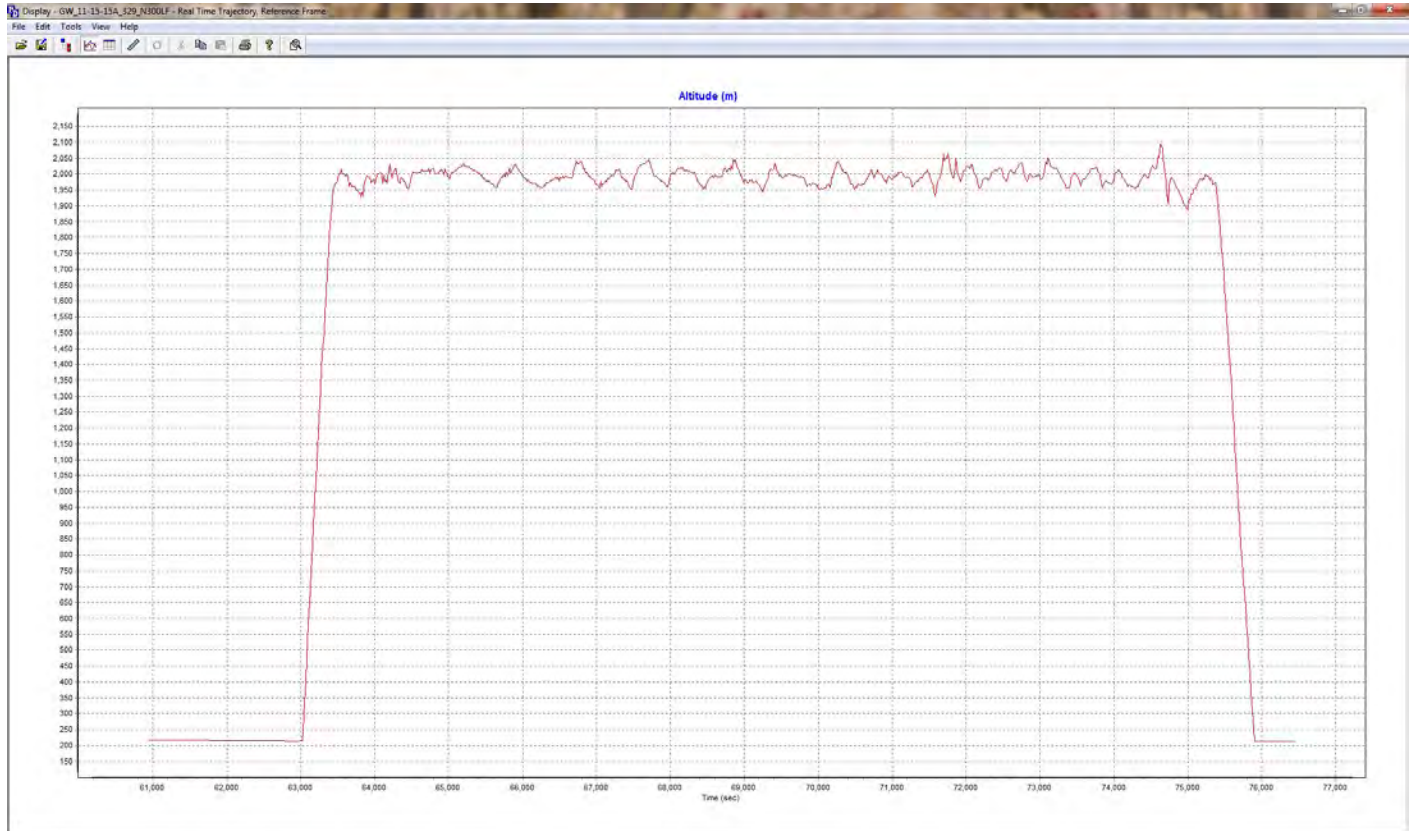


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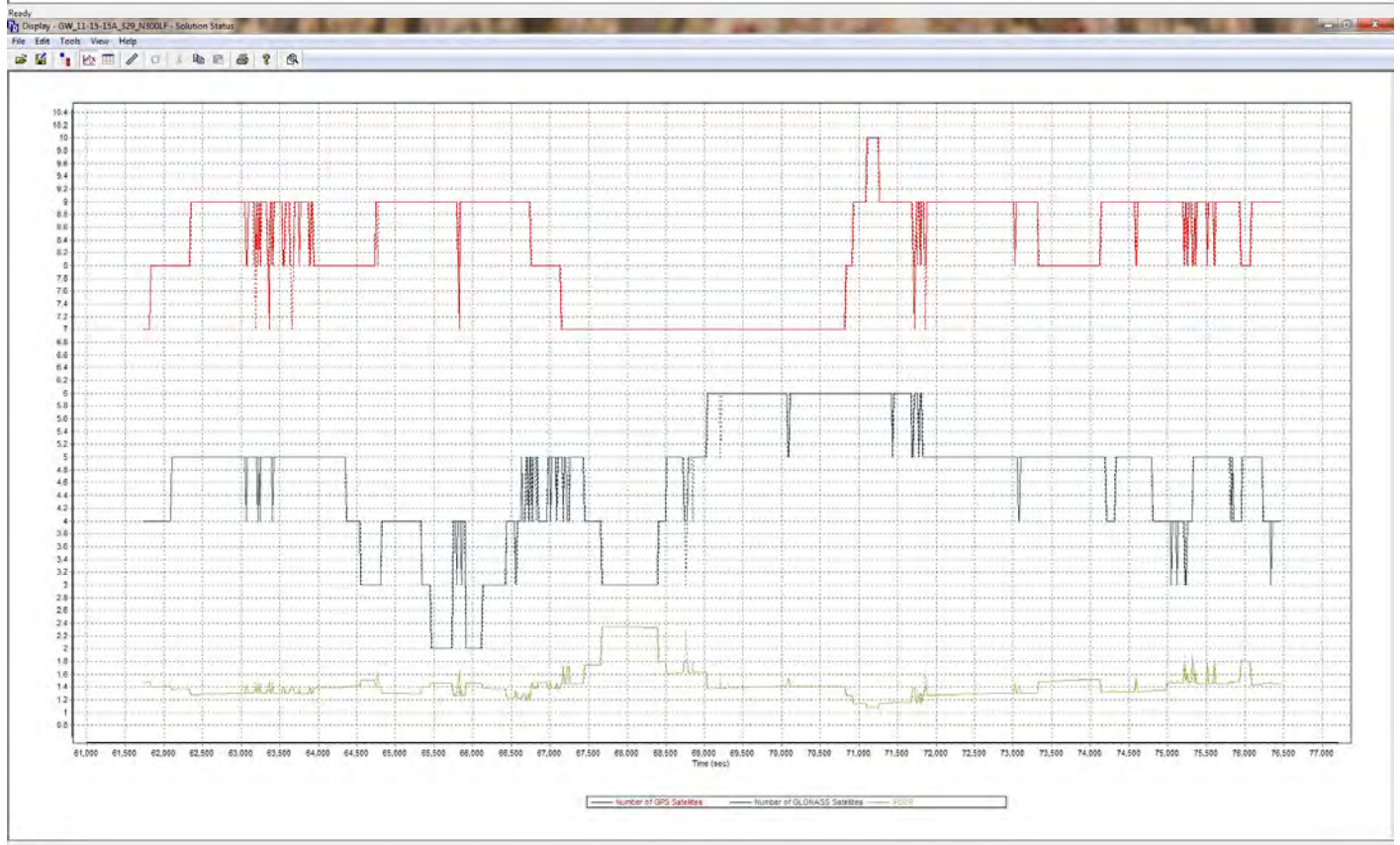
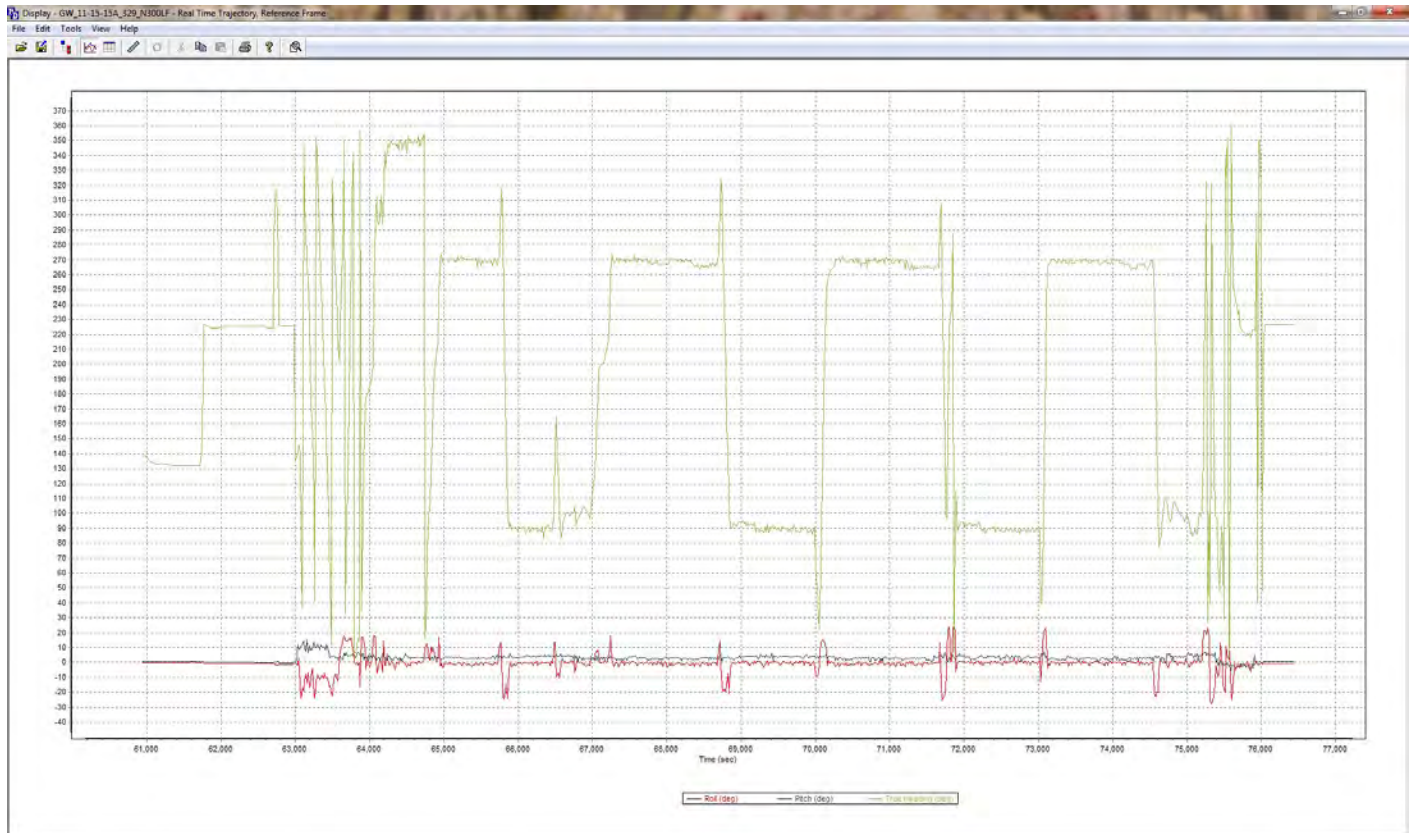
# Nov 15, 2015-A (N300LF, SN329)

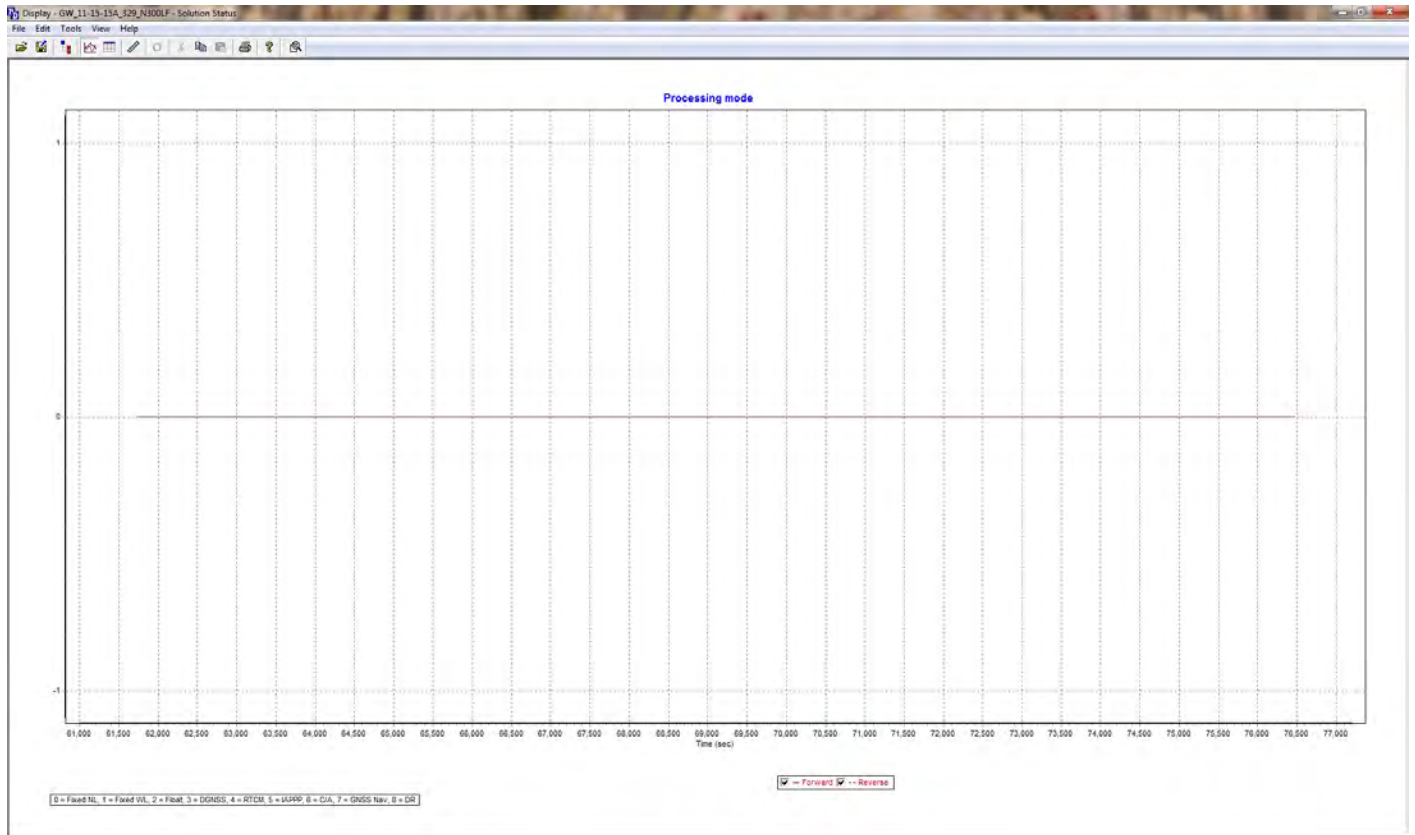


Ready









Coordinate Manager

Station Information

Station ID:

Coordinates

Latitude:

Longitude:

Altitude:  m

Decimal Degrees

Antenna Reference Point (ARP) coordinates:  m

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
[Empty Table]								



# Flight Log

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Reflights 13, 14, 17, 18, 19 & Cross Tie 216 & 117

OPERATORS FLIGHT LOG

MISSION: 20151115 - DATE: Sunday, 15 November 2015 Orion H SN: 13 SEN 329

PILOT: Harvest AIRCRAFT: N300LF SENSOR: Orion H

PROJECT NUMBER AND NAME	LINE No.	Lbi	Hdg	OPERATOR: Minging		FREQ Hz	SCAN ANGLE	PRF kHz	FIXED GAIN	Flying HI. (m)	TIME		REMARKS	
				GROUND SPEED (KTS)	ALTITUDE						START	STOP		
26757	Test fire	10°	120	52	19	225			1980	1743	1744	Drive		
Shawano County Reflights	Test fire	175°	120						2000	1747	1747	1002 2018		
	64	0°	130						1984	1750	1750		Line 64 is a planned cross-tie	
	47	270°	107						1990	1803	1816		reflight - good	
	46	90°	140						2030	1818	1827		reflight - good	
	19	270°	115						2020	1841	1901			
	18	90°	140						2000	1908	1926			
	17	270°	115						2020	1931	1954			
	14	90°	130						1975	1958	2016			
	13	270°	115						2020	2019	2042		final figure & completed over base station @ 2056	
STATUS	TOTAL LINES	FLOWN	LEFT	SITE	AIRCRAFT	FERRY	STATIC	START	STOP	NOTES:				
Complete	66	8	0	3.0	0.5	0.5	1656	1701	2103	2113	Departure & Arrival: KCUZ Huber Start: 1056.0 Huber Stop: 1059.6 3.6 hours Wheeler's Up: 1730 Wheeler's Down: 2105 3.5 hours Survey on-line time: 3.0 Ferry time: 0.5			

Quantum Spatial N.6216 Resource Drive Sheboygan Falls, WI. 53085 E-Mail: flight-log-distribution-list@quantumspatial.com

# Base Station Log

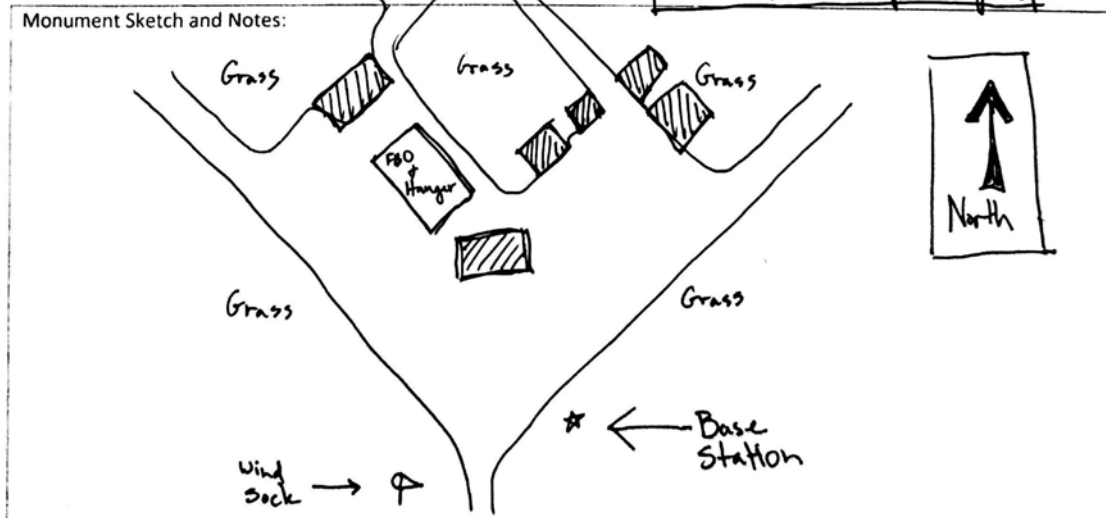
## GPS OBSERVATION LOG

Station ID	<u>PN1351</u>	Date	<u>11 / 15 / 2015</u>
Project Number	<u>26737</u>	Julian Date	<u>319</u>
Project Name	<u>Shawano County</u>	Start Time	<u>15:57:20L</u>
Revr. Type	<u>DL-V3</u>	Stop Time	<u>21:42:20L</u>
Revr. S/N	<u>7-0141149</u>	Revr. File Name	<u>00073190.PDC</u>
Antenna Type	<u>GPS-702-GG</u>	Observer	<u>Mingay</u>
Antenna S/N	<u>NAE 12110034</u>		

New or Existing  Mon  New  Existing  
 Photo Taken  Yes  No  
 Monument Type: Disk in Concrete  
 Spike  PK Nail  AM Washer   
 Other

Height Readings:  
 (Top of Monument to Bottom of Ground Plane)

Start	<u>2.0</u>	M.		Ft.	<u>To 7th Street</u>
Stop	<u>2.0</u>	M.		Ft.	
Mean	<u>2.0</u>	M.		Ft.	



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## Appendix B

# Survey Report



January 7<sup>th</sup>, 2016

**Survey Report** of  
LiDAR Calibration & Quality Control Points

Shawano County  
USGS Contract: G10PC00026  
USGS Task Order: G15PD00640

Presented to:



Presented By:





# CONTENTS OF REPORT

<b>PROJECT INTRODUCTION.....</b>	<b>1</b>
<b>AOI &amp; POINT LOCATION MAPS.....</b>	<b>5</b>
<i>CALIBRATION.....</i>	<i>6</i>
<i>NVA – URBAN AREA.....</i>	<i>7</i>
<i>VVA – FORESTED.....</i>	<i>8</i>
<i>VVA – TALL WEEDS.....</i>	<i>9</i>
<i>VVA – WETLANDS.....</i>	<i>10</i>
<i>HORIZONTAL CHECK POINTS.....</i>	<i>11</i>
<b>FINAL POINT COORDINATES.....</b>	<b>12</b>
<i>CALIBRATION.....</i>	<i>13</i>
<i>NVA – URBAN AREA.....</i>	<i>15</i>
<i>VVA – FORESTED.....</i>	<i>17</i>
<i>VVA – TALL WEEDS.....</i>	<i>18</i>
<i>VVA – WETLANDS.....</i>	<i>19</i>
<i>HORIZONTAL CHECK POINTS.....</i>	<i>20</i>



<b>POINT DATA &amp; ACCURACY LOG SHEETS.....</b>	<b>21</b>
<b><i>CALIBRATION LOG SHEETS.....</i></b>	<b>22</b>
<b><i>NVA LOG SHEETS.....</i></b>	<b>63</b>
<b><i>    URBAN AREA.....</i></b>	<b>63</b>
<b><i>VVA LOG SHEETS.....</i></b>	<b>119</b>
<b><i>    FORESTED.....</i></b>	<b>119</b>
<b><i>    TALL WEEDS.....</i></b>	<b>133</b>
<b><i>    WETLANDS.....</i></b>	<b>154</b>
<b><i>HORIZONTAL CHECK POINT LOG SHEETS.....</i></b>	<b>167</b>



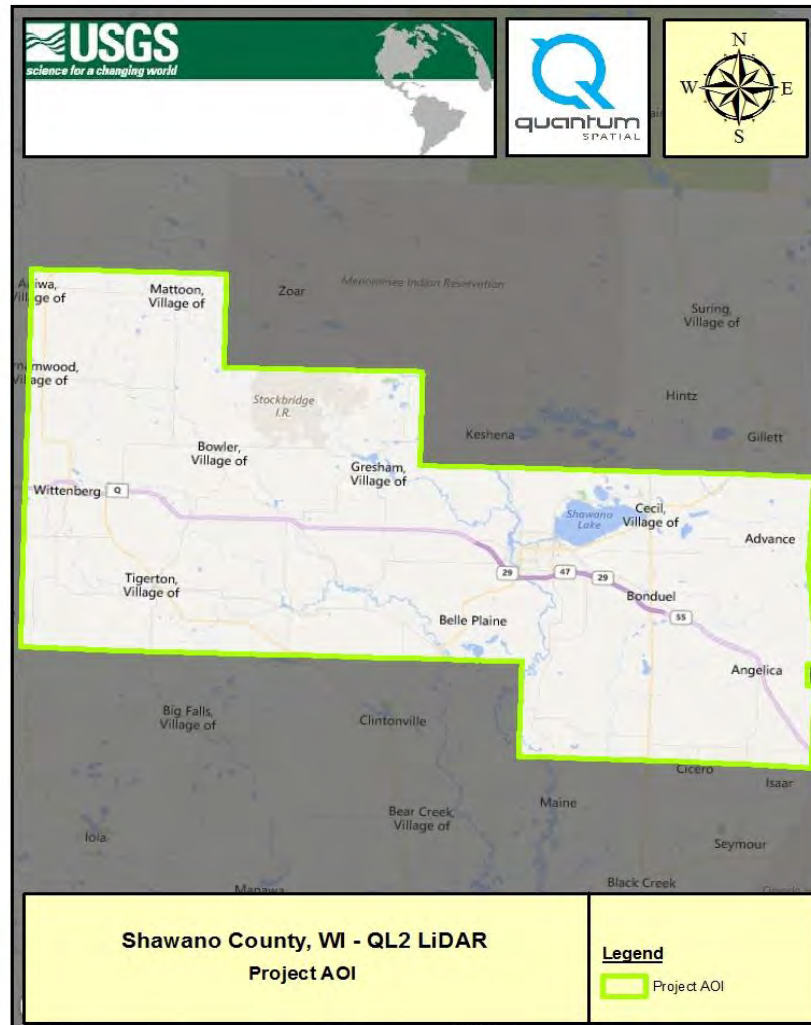


## Introduction

Quantum Spatial, Inc. was contracted by USGS under task order G15PD00640 to Survey LiDAR calibration and quality control points in support of the Shawano County LiDAR acquisition project. This is the report of the technical approach used and detail of each point surveyed.

## Project Area

The Project Area, shown in the figure below, consists of approximately 2,354 square kilometers.





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## Technical Approach to Land Cover Validation Point Selection

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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 55 Non-Vegetated Vertical Assessment (NVA) and 45 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:

<u>NVA Class</u>	<u># of Points</u>	<u>VVA Class</u>	<u># of Points</u>
Urban Area	55	Forested	13
		Tall Weeds/Crops	20
		Wetlands	12

Given that approximately 1/2 of the NVA check points should also be used for horizontal accuracy testing, but that it is commonly understood that good vertical check points do not generally make for good horizontal check points, Quantum Spatial has required that 28 horizontal check points shall be used for this project, whether they are used for NVA validation, or are entirely separate. These locations have been reported under their own chapter in this report.

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.



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## Survey Accuracy Requirements

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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 be better than 3 centimeters, both horizontally and vertically, and that VVA points be better than 5 centimeters, 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. The accuracy of each point is reported at the 95% confidence level, meaning that if the point were measured 20 times, statistically it would fall within the reported accuracy 19 times.

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:

September 30 to November 17, 2015

Equipment Used:

Leica GS15 dual frequency GNSS receivers and a Trimble M3 2" Total Station

GNSS Methodology:

Each point was measured using the real time adjusted network provided by Wisconsin Continuously Operating Reference Stations (WISCORS). Each point was measured a minimum of two times with enough separation in the observations to ensure variance in the observed satellite constellations. For forested points, a secondary control point with line of sight to another point was established so that the resulting pair could be occupied with a total station.

Total Station Methodology:

Angles and distances to forested points were doubled and the final point accuracy was determined through network adjustment using Leica Geo Office or by adding the calculated error, estimated procedural errors, and manufacturer stated instrument error to the reported error of the point over which the total station was placed.

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## Overall Project Accuracy Statement

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All point coordinates have been reported in the North American Datum of 1983 (NAD83 2011), UTM Zone 16N in meters. 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 at the 95% confidence level is 0.009 meter.  
Average Elevation RMSE at the 95% confidence level is 0.010 meter.  
Average 3 dimensional RMSE at the 95% confidence level is 0.014 meter.

### NVA Points

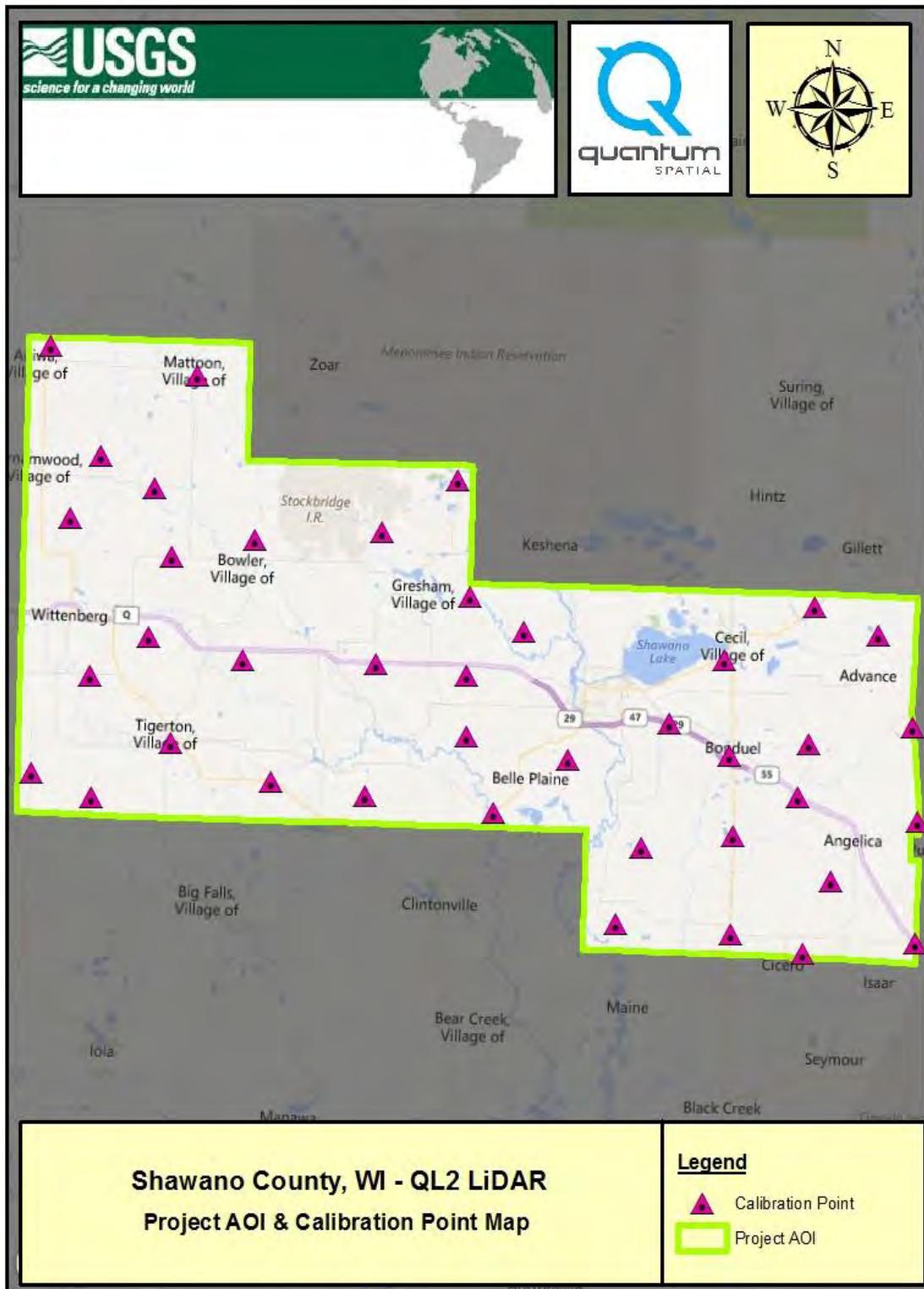
Average Horizontal RMSE at the 95% confidence level is 0.008 meter.  
Average Elevation RMSE at the 95% confidence level is 0.009 meter.  
Average 3 dimensional RMSE at the 95% confidence level is 0.013 meter.

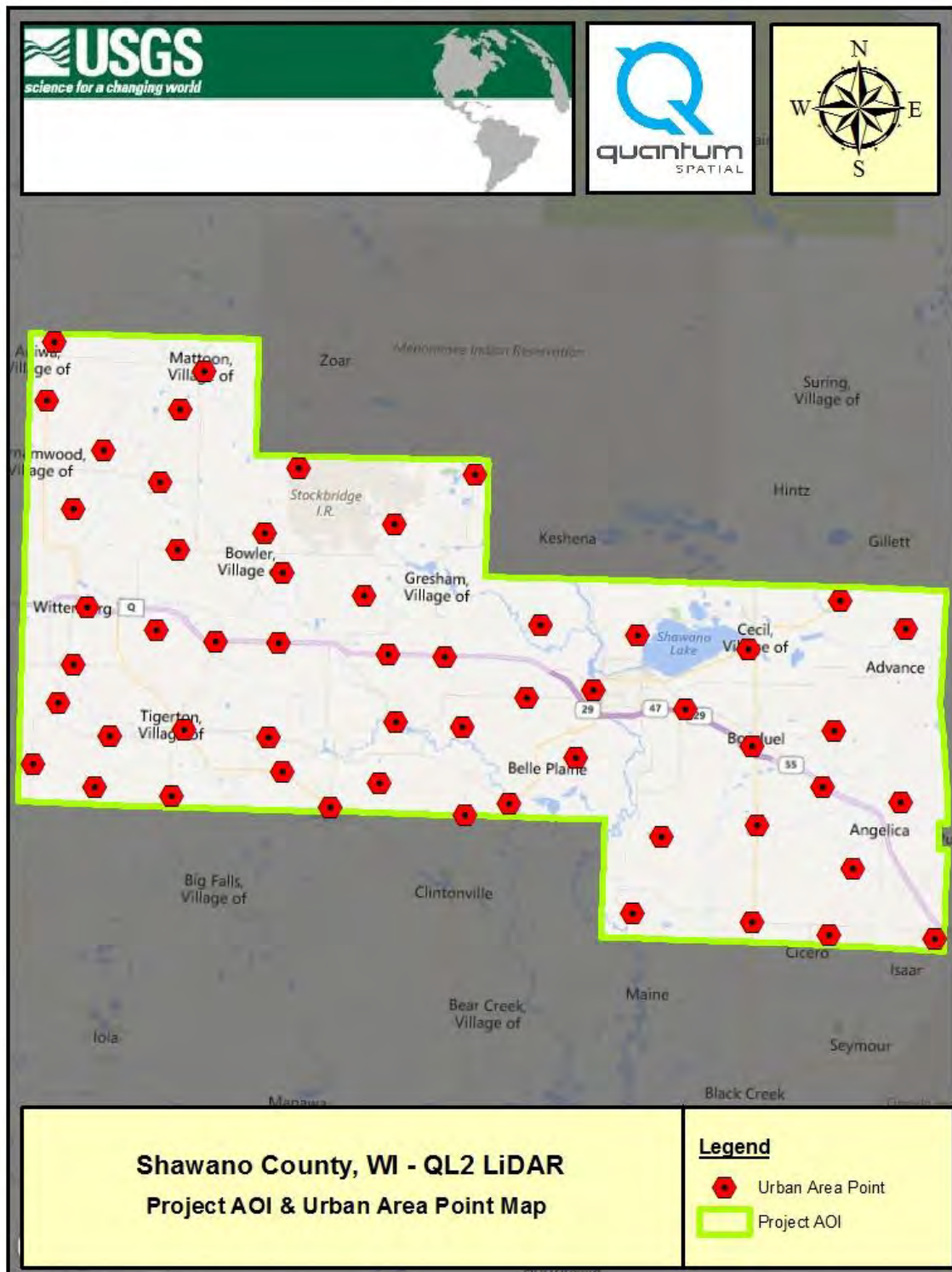
### VVA Points

Average Horizontal RMSE at the 95% confidence level is 0.009 meter.  
Average Elevation RMSE at the 95% confidence level is 0.011 meter.  
Average 3 dimensional RMSE at the 95% confidence level is 0.015 meter.

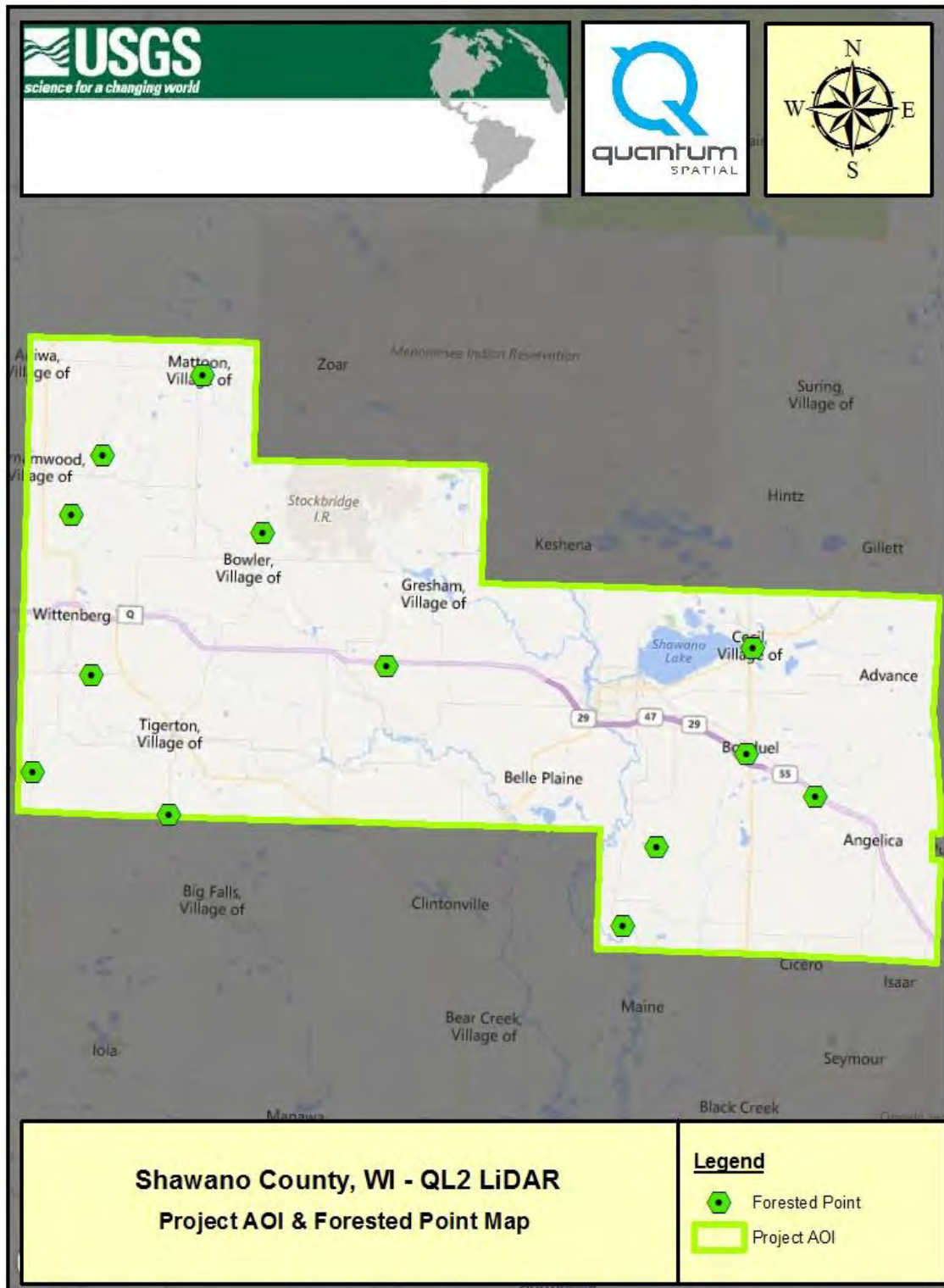


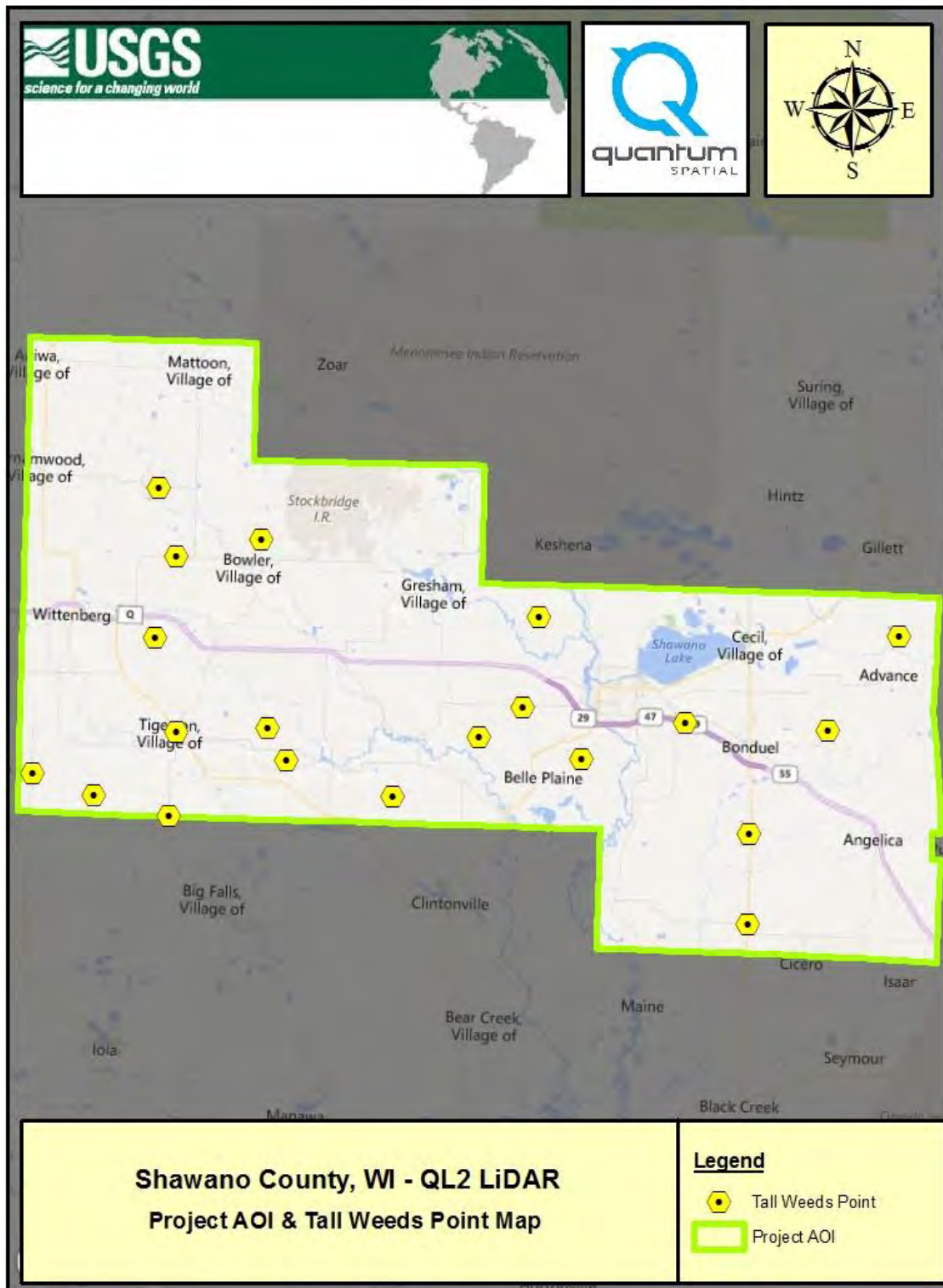
## **PROJECT AOI & POINT MAPS**

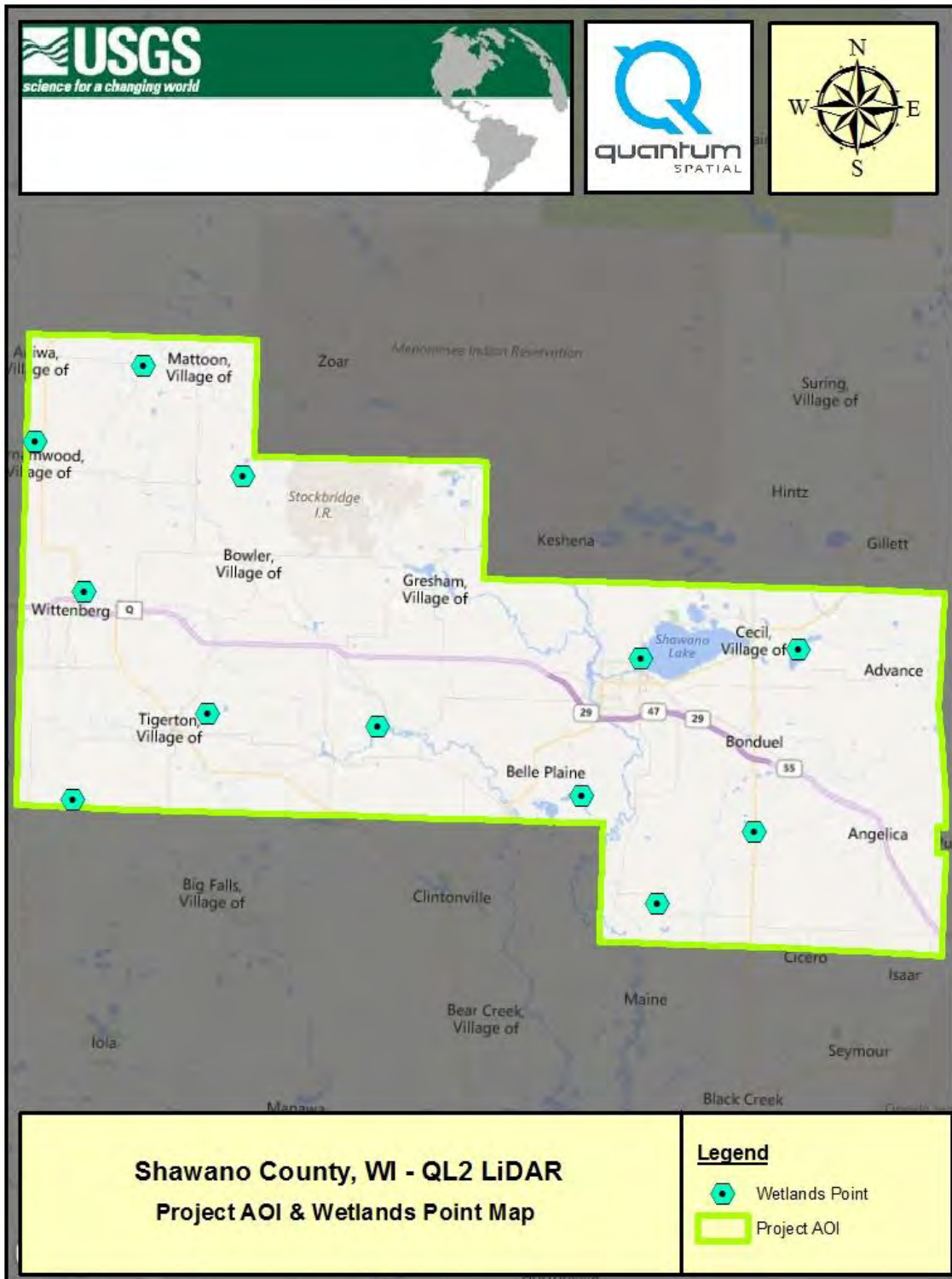




















## **FINAL POINT COORDINATES**



### CALIBRATION POINT COORDINATES

Horizontal Datum - NAD83(2011)  
UTM-Zone 16N  
Vertical Datum - NAVD 88  
Geoid - GEOID12B  
Units – Meters

Point ID	Northing (m)	Easting (m)	Elev. (m)
CP1	4961069.532	330045.549	354.341
CP2	4973871.868	328343.541	383.659
CP3	4955594.371	336983.880	312.950
CP4	4976958.009	361806.425	307.176
CP5	4985494.813	339357.019	382.690
CP6	4951128.360	390990.174	261.542
CP7	4987836.871	326746.827	433.385
CP8	4961012.860	362478.175	276.271
CP9	4940781.989	375300.427	243.799
CP10	4972032.548	344320.393	336.503
CP11	4961972.353	354726.252	279.025
CP12	4947028.536	377603.148	246.896
CP13	4962284.075	384716.692	248.079
CP14	4953078.419	325016.487	344.730
CP15	4970681.158	337131.495	352.858
CP16	4972702.502	355274.153	300.882
CP17	4956820.179	400937.157	238.968
CP18	4978935.271	330999.059	391.855
CP19	4967430.115	362855.962	269.363
CP20	4949819.070	364784.069	246.579
CP21	4964134.457	335124.191	341.465
CP22	4954544.134	385153.880	263.508
CP23	4939216.794	401120.757	245.775
CP24	4944325.149	393929.786	272.409
CP25	4949147.979	401362.566	246.455
CP26	4939916.242	385272.289	247.429
CP27	4951198.605	353740.045	270.682
CP28	4952406.542	345697.717	286.325
CP29	4976322.159	335632.639	375.937
CP30	4951081.695	330188.991	328.571



CP31	4938388.348	391481.326	261.248
CP32	4955496.220	391967.030	272.002
CP33	4956043.279	362539.293	259.685
CP34	4966580.473	392552.101	241.187
CP35	4947967.384	385473.760	257.354
CP36	4964245.644	397988.901	249.461
CP37	4957150.366	379953.950	308.797
CP38	4962277.662	343228.737	307.062
CP39	4954143.595	371214.221	248.543
CP40	4964564.908	367401.389	266.775



### URBAN AREA POINT COORDINATES

Horizontal Datum - NAD83(2011)  
UTM-Zone 16N  
Vertical Datum - NAVD 88  
Geoid - GEOID12B  
Units – Meters

Point ID	Northing (m)	Easting (m)	Elev. (m)
UA1	4963137.917	340280.305	314.007
UA2	4961878.616	359485.983	285.146
UA3	4974077.042	328347.163	379.146
UA4	4961183.174	328422.804	343.649
UA5	4950347.274	336550.468	308.937
UA6	4982985.364	326151.842	417.899
UA7	4972104.393	344340.920	334.231
UA8	4976303.392	335633.276	375.985
UA9	4985410.953	339285.825	382.107
UA10	4965940.069	329525.656	367.517
UA11	4966885.387	352674.431	297.981
UA12	4964549.711	367421.849	267.486
UA13	4938872.565	391561.864	267.076
UA14	4938564.403	400397.776	248.746
UA15	4955897.912	337676.962	313.802
UA16	4954505.932	385099.986	263.986
UA17	4982309.521	337334.730	384.337
UA18	4953535.689	370388.272	254.889
UA19	4959128.439	371879.323	245.618
UA20	4949809.875	364847.147	246.173
UA21	4966472.373	392542.213	235.056
UA22	4952370.294	345826.812	286.554
UA23	4970662.865	337106.962	351.597
UA24	4955289.702	331474.331	330.119
UA25	4976907.221	361984.947	308.916
UA26	4951417.240	353940.574	293.026
UA27	4953056.666	325003.351	344.801
UA28	4962486.681	384816.543	245.720
UA29	4939929.715	385185.059	246.050
UA30	4972782.621	355281.084	302.334





UA31	4946997.799	377589.898	246.870
UA32	4940660.592	375139.466	241.186
UA33	4947927.473	385558.628	262.124
UA34	4949893.791	397550.777	254.980
UA35	4955742.531	391976.021	269.549
UA36	4944367.689	393540.790	272.779
UA37	4964234.106	397997.981	249.780
UA38	4956067.687	360920.245	267.634
UA39	4977469.666	347268.228	348.467
UA40	4987888.692	326776.956	434.659
UA41	4958524.582	366263.575	262.320
UA42	4957523.981	379608.803	286.317
UA43	4955232.105	344713.884	291.396
UA44	4948852.280	361110.355	274.576
UA45	4964117.238	335293.998	341.691
UA46	4962986.632	345594.589	307.235
UA47	4949487.940	349822.263	273.994
UA48	4951082.724	330177.766	328.958
UA49	4951098.604	391019.629	262.906
UA50	4958079.382	327140.086	354.871
UA51	4968770.789	345823.231	314.243
UA52	4956538.177	355305.741	269.513
UA53	4963639.625	375556.182	256.706
UA54	4978892.606	330953.109	390.208
UA55	4962033.299	354682.458	279.704



### FORESTED POINT COORDINATES

Horizontal Datum - NAD83(2011)  
UTM-Zone 16N  
Vertical Datum - NAVD 88  
Geoid - GEOID12B  
Units – Meters

Point ID	Northing (m)	Easting (m)	Elev. (m)
FO1	4963257.990	385630.156	246.817
FO2	4974059.347	328312.815	378.046
FO3	4972608.499	344379.005	345.714
FO4	4949626.194	336495.511	301.050
FO5	4953077.884	324963.362	343.699
FO6	4978930.707	330936.495	389.780
FO7	4940621.739	374745.844	241.319
FO8	4961777.368	354802.945	284.106
FO9	4954594.206	385115.487	262.003
FO10	4951134.105	390966.628	260.711
FO11	4985465.650	339367.054	381.805
FO12	4947034.936	377562.839	246.838
FO13	4961063.329	329982.532	356.482



### TALL WEEDS POINT COORDINATES

Horizontal Datum - NAD83(2011)  
UTM-Zone 16N  
Vertical Datum - NAVD 88  
Geoid - GEOID12B  
Units – Meters

Point ID	Northing (m)	Easting (m)	Elev. (m)
TW1	4965768.612	367650.158	283.035
TW2	4958408.745	366277.859	260.134
TW3	4964101.943	335286.898	341.272
TW4	4951152.475	355319.121	270.922
TW5	4949516.734	336499.069	299.849
TW6	4954028.654	346388.053	285.127
TW7	4953033.456	325019.992	344.377
TW8	4951267.819	330192.889	327.892
TW9	4940704.137	385264.560	249.402
TW10	4972036.080	344332.520	335.657
TW11	4956463.775	391952.840	268.080
TW12	4948085.847	385346.957	254.992
TW13	4964202.185	397986.002	249.117
TW14	4957132.353	379967.643	308.445
TW15	4954139.842	371224.106	248.378
TW16	4956004.892	362558.672	259.575
TW17	4956749.357	344803.696	295.233
TW18	4970683.162	337088.959	352.980
TW19	4976291.623	335653.203	374.445
TW20	4956398.894	337144.980	308.686



### WETLANDS POINT COORDINATES

Horizontal Datum - NAD83(2011)  
UTM-Zone 16N  
Vertical Datum - NAVD 88  
Geoid - GEOID12B  
Units – Meters

Point ID	Northing (m)	Easting (m)	Elev. (m)
SW1	4962015.437	375930.960	244.922
SW2	4947717.167	385423.512	252.302
SW3	4962703.467	389094.071	249.799
SW4	4941839.638	377329.283	243.450
SW5	4950746.293	371015.077	243.464
SW6	4956379.907	354017.362	264.059
SW7	4957397.140	339770.615	305.450
SW8	4967416.896	329384.283	354.492
SW9	4979802.419	325365.327	402.874
SW10	4986018.235	334357.504	401.481
SW11	4976892.670	342699.022	350.580
SW12	4950416.055	328524.067	321.287





### HORIZONTAL POINT COORDINATES

Horizontal Datum - NAD83(2011)  
UTM-Zone 16N  
Vertical Datum - NAVD 88  
Geoid - GEOID12B  
Units – Meters

Point ID	Northing (m)	Easting (m)	Elev. (m)
Hz1	4955870.149	337495.556	314.718
Hz2	4949520.662	349724.250	274.643
Hz3	4953646.894	374368.513	258.088
Hz4	4961978.495	354707.058	279.699
Hz5	4954005.620	385327.239	266.491
Hz6	4956079.253	360735.827	271.510
Hz7	4947931.510	385523.933	260.112
Hz8	4959060.355	371880.112	245.389
Hz9	4949877.072	398274.725	255.605
Hz10	4965543.515	376089.472	256.525
Hz11	4948289.175	378447.533	248.121
Hz12	4986179.825	325834.500	435.351
Hz13	4985134.929	339019.986	381.954
Hz14	4977481.655	325403.316	399.936
Hz15	4966084.998	327488.553	360.074
Hz16	4959076.964	354049.348	287.111
Hz17	4969274.542	343375.695	329.251
Hz18	4962409.165	384602.754	245.795
Hz19	4967916.942	358884.253	286.811
Hz20	4951850.042	380764.557	276.681
Hz21	4942693.956	394376.053	279.672
Hz22	4951260.671	329832.743	330.399
Hz23	4960247.804	394438.008	261.856
Hz24	4953776.691	349950.363	286.933
Hz25	4940732.321	375029.998	242.922
Hz26	4976807.862	361540.516	305.922
Hz27	4974501.317	342756.706	354.084
Hz28	4963076.158	339715.131	323.043



## **POINT DATA AND ACCURACY LOG SHEETS**



## CALIBRATION POINT LOG SHEETS



Point ID	CP1
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Wittenberg

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

Coordinate System	
	NAD83(2011)
	UTM – Zone 16N
	NAVD88
	GEOID12B
	Meters

<b>Northing</b>	<b>Easting</b>	<b>Elevation</b>
4961069.532	330045.549	354.341

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-22-2015
RMSE Hz	0.005
RMSE Z	0.011
GPS Method	Wisconsin CORS VRS

PHOTOS:







Point ID	CP2
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Birnamwood

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4973871.868	328343.541	383.659

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-01-2015
RMSE Hz	0.006
RMSE Z	0.004
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	CP3
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Tigerton

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4955594.371	336983.880	312.950

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-25-2015
RMSE Hz	0.003
RMSE Z	0.009
GPS Method	Wisconsin CORS VRS

PHOTOS:







Point ID	CP4
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Neopit

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4976958.009	361806.425	307.176

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	11-02-2015
RMSE Hz	0.007
RMSE Z	0.012
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	CP5
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Mattoon

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

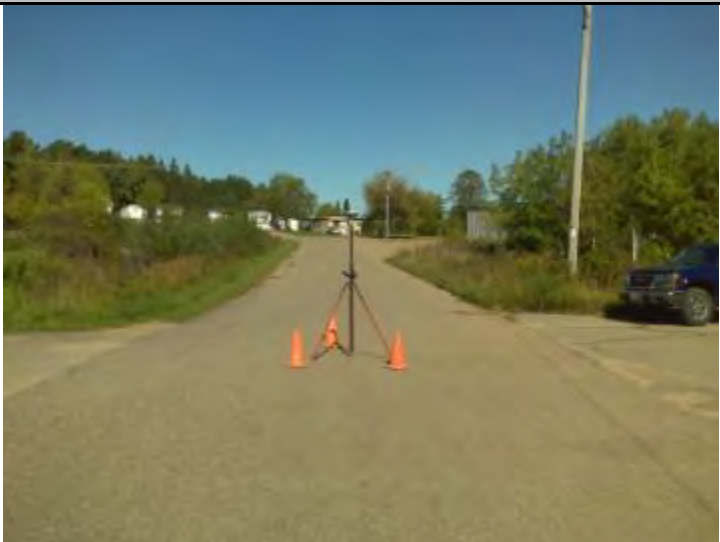
Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4985494.813	339357.019	382.690

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	09-30-2015
RMSE Hz	0.003
RMSE Z	0.009
GPS Method	Wisconsin CORS VRS

PHOTOS:







Point ID	CP6
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Bonduel

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4951128.360	390990.174	261.542

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	11-06-2015
RMSE Hz	0.008
RMSE Z	0.011
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	CP7
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Aniwa

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

Coordinate System	
	NAD83(2011)
	UTM – Zone 16N
	NAVD88
	GEOID12B
	Meters

Northing	Easting	Elevation
4987836.871	326746.827	433.385

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	09-30-2015
RMSE Hz	0.012
RMSE Z	0.005
GPS Method	Wisconsin CORS VRS

PHOTOS:







Point ID	CP8
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Thornton

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4961012.860	362478.175	276.271

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	11-03-2015
RMSE Hz	0.004
RMSE Z	0.012
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	CP9
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Leeman

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

Coordinate System	
	NAD83(2011)
	UTM – Zone 16N
	NAVD88
	GEOID12B
	Meters

Northing	Easting	Elevation
4940781.989	375300.427	243.799

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-29-2015
RMSE Hz	0.007
RMSE Z	0.013
GPS Method	Wisconsin CORS VRS

PHOTOS:







Point ID	CP10
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Burney Lake

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4972032.548	344320.393	336.503

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-03-2015
RMSE Hz	0.014
RMSE Z	0.013
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	CP11
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Gresham

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4961972.353	354726.252	279.025

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	11-03-2015
RMSE Hz	0.014
RMSE Z	0.012
GPS Method	Wisconsin CORS VRS

PHOTOS:







Point ID	CP12
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Lunds

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4947028.536	377603.148	246.896

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	11-04-2015
RMSE Hz	0.010
RMSE Z	0.005
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	CP13
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Cecil

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4962284.075	384716.692	248.079

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	11-07-2015
RMSE Hz	0.014
RMSE Z	0.008
GPS Method	Wisconsin CORS VRS

PHOTOS:







Point ID	CP14
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Tigerton NW

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4953078.419	325016.487	344.730

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-22-2015
RMSE Hz	0.007
RMSE Z	0.009
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	CP15
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Shepley

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4970681.158	337131.495	352.858

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-02-2015
RMSE Hz	0.008
RMSE Z	0.009
GPS Method	Wisconsin CORS VRS

PHOTOS:







Point ID	CP16
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Neopit

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4972702.502	355274.153	300.882

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	11-02-2015
RMSE Hz	0.004
RMSE Z	0.012
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	CP17
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Zachow

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4956820.179	400937.157	238.968

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	11-06-2015
RMSE Hz	0.003
RMSE Z	0.012
GPS Method	Wisconsin CORS VRS

PHOTOS:







Point ID	CP18
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Birnamwood

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4978935.271	330999.059	391.855

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-01-2015
RMSE Hz	0.012
RMSE Z	0.016
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	CP19
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Thornton

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

Coordinate System	
	NAD83(2011)
	UTM – Zone 16N
	NAVD88
	GEOID12B
	Meters

Northing	Easting	Elevation
4967430.115	362855.962	269.363

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	11-02-2015
RMSE Hz	0.006
RMSE Z	0.007
GPS Method	Wisconsin CORS VRS

PHOTOS:







Point ID	CP20
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Embarrass

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4949819.070	364784.069	246.579

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-27-2015
RMSE Hz	0.009
RMSE Z	0.008
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	CP21
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Shepley

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4964134.457	335124.191	341.465

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-20-2015
RMSE Hz	0.005
RMSE Z	0.012
GPS Method	Wisconsin CORS VRS

PHOTOS:







Point ID	CP22
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Bonduel

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4954544.134	385153.880	263.508

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	11-05-2015
RMSE Hz	0.007
RMSE Z	0.008
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	CP23
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Onieda North

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4939216.794	401120.757	245.775

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-30-2015
RMSE Hz	0.012
RMSE Z	0.010
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	CP24
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Zachow

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4944325.149	393929.786	272.409

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-30-2015
RMSE Hz	0.005
RMSE Z	0.013
GPS Method	Wisconsin CORS VRS

PHOTOS:







Point ID	CP25
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Pulaski

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4949147.979	401362.566	246.455

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-30-2015
RMSE Hz	0.009
RMSE Z	0.011
GPS Method	Wisconsin CORS VRS

PHOTOS:







Point ID	CP26
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Nichols

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

Coordinate System	
	NAD83(2011)
	UTM – Zone 16N
	NAVD88
	GEOID12B
	Meters

Northing	Easting	Elevation
4939916.242	385272.289	247.429

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-29-2015
RMSE Hz	0.007
RMSE Z	0.008
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	CP27
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Clintonville North

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4951198.605	353740.045	270.682

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-26-2015
RMSE Hz	0.012
RMSE Z	0.020
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	CP28
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Marion

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4952406.542	345697.717	286.325

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-26-2015
RMSE Hz	0.008
RMSE Z	0.002
GPS Method	Wisconsin CORS VRS

PHOTOS:







Point ID	CP29
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Regina

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4976322.159	335632.639	375.937

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-03-2015
RMSE Hz	0.013
RMSE Z	0.013
GPS Method	Wisconsin CORS VRS

PHOTOS:







Point ID	CP30
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Tigerton NW

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4951081.695	330188.991	328.571

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-23-2015
RMSE Hz	0.003
RMSE Z	0.006
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	CP31
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Seymour

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4938388.348	391481.326	261.248

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-30-2015
RMSE Hz	0.018
RMSE Z	0.014
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	CP32
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Zachow

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4955496.220	391967.030	272.002

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	11-06-2015
RMSE Hz	0.005
RMSE Z	0.005
GPS Method	Wisconsin CORS VRS

PHOTOS:







Point ID	CP33
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Embarrass

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

Coordinate System	
	NAD83(2011)
	UTM – Zone 16N
	NAVD88
	GEOID12B
	Meters

<b>Northing</b>	<b>Easting</b>	<b>Elevation</b>
4956043.279	362539.293	259.685

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-27-2015
RMSE Hz	0.017
RMSE Z	0.014
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	CP34
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Krakow

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4966580.473	392552.101	241.187

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	11-07-2015
RMSE Hz	0.008
RMSE Z	0.008
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	CP35
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Bonduel

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

Coordinate System	
	NAD83(2011)
	UTM – Zone 16N
	NAVD88
	GEOID12B
	Meters

Northing	Easting	Elevation
4947967.384	385473.760	257.354

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	11-05-2015
RMSE Hz	0.007
RMSE Z	0.017
GPS Method	Wisconsin CORS VRS

PHOTOS:







Point ID	CP36
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Krakov

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4964245.644	397988.901	249.461

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	11-07-2015
RMSE Hz	0.017
RMSE Z	0.012
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	CP37
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Shawano

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4957150.366	379953.950	308.797

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	11-01-2015
RMSE Hz	0.007
RMSE Z	0.010
GPS Method	Wisconsin CORS VRS

PHOTOS:







Point ID	CP38
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Bowler

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4962277.662	343228.737	307.062

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-20-2015
RMSE Hz	0.014
RMSE Z	0.002
GPS Method	Wisconsin CORS VRS

PHOTOS:







Point ID	CP39
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Embarrass

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4954143.595	371214.221	248.543

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	11-04-2015
RMSE Hz	0.005
RMSE Z	0.015
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	CP40
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Thornton

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

Coordinate System	
	NAD83(2011)
	UTM – Zone 16N
	NAVD88
	GEOID12B
	Meters

Northing	Easting	Elevation
4964564.908	367401.389	266.775

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	11-03-2015
RMSE Hz	0.017
RMSE Z	0.021
GPS Method	Wisconsin CORS VRS

PHOTOS:





## URBAN AREA POINT LOG SHEETS





Point ID	UA1
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Shepley

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

Coordinate System	
NAD83(2011)	
UTM – Zone 16N	
NAVD88	
GEOID12A	
Meters	

<b>Northing</b>	<b>Easting</b>	<b>Elevation</b>
4963137.917	340280.305	314.007

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-20-2015
RMSE Hz	0.010
RMSE Z	0.005
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	UA2
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Gresham

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

Coordinate System	NAD83(2011)
	UTM – Zone 16N
	NAVD88
	GEOID12A
	Meters

Northing	Easting	Elevation
4961878.616	359485.983	285.146

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	11-03-2015
RMSE Hz	0.007
RMSE Z	0.009
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	UA3
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Birnamwood

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

Coordinate System	NAD83(2011)
	UTM – Zone 16N
	NAVD88
	GEOID12A
	Meters

Northing	Easting	Elevation
4974077.042	328347.163	379.146

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-01-2015
RMSE Hz	0.007
RMSE Z	0.015
GPS Method	Wisconsin CORS VRS

PHOTOS:







Point ID	UA4
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Wittenberg

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

Coordinate System	NAD83(2011)
	UTM – Zone 16N
	NAVD88
	GEOID12A
	Meters

Northing	Easting	Elevation
4961183.174	328422.804	343.649

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-22-2015
RMSE Hz	0.009
RMSE Z	0.003
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	UA5
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Tigerton

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

Coordinate System	NAD83(2011)
	UTM – Zone 16N
	NAVD88
	GEOID12A
	Meters

Northing	Easting	Elevation
4950347.274	336550.468	308.937

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-25-2015
RMSE Hz	0.006
RMSE Z	0.002
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	UA6
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Birnamwood

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

Coordinate System	
NAD83(2011)	
UTM – Zone 16N	
NAVD88	
GEOID12A	
Meters	

Northing	Easting	Elevation
4982985.364	326151.842	417.899

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	09-30-2015
RMSE Hz	0.008
RMSE Z	0.002
GPS Method	Wisconsin CORS VRS

PHOTOS:







Point ID	UA7
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Burney Lake

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
4972104.393	344340.920	334.231

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-03-2015
RMSE Hz	0.019
RMSE Z	0.015
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	UA8
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Regina

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
4976303.392	335633.276	375.985

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-03-2015
RMSE Hz	0.007
RMSE Z	0.014
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	UA9
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Mattoon

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
4985410.953	339285.825	382.107

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	09-30-2015
RMSE Hz	0.009
RMSE Z	0.013
GPS Method	Wisconsin CORS VRS

PHOTOS:







Point ID	UA10
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Wittenberg

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
4965940.069	329525.656	367.517

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-02-2015
RMSE Hz	0.004
RMSE Z	0.004
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	UA11
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Gresham

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
4966885.387	352674.431	297.981

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	11-02-2015
RMSE Hz	0.005
RMSE Z	0.011
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	UA12
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Thornton

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

Coordinate System	NAD83(2011)
	UTM – Zone 16N
	NAVD88
	GEOID12A
	Meters

Northing	Easting	Elevation
4964549.711	367421.849	267.486

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	11-03-2015
RMSE Hz	0.006
RMSE Z	0.007
GPS Method	Wisconsin CORS VRS

PHOTOS:







Point ID	UA13
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Seymour

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

Coordinate System	NAD83(2011)
	UTM – Zone 16N
	NAVD88
	GEOID12A
	Meters

Northing	Easting	Elevation
4938872.565	391561.864	267.076

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-30-2015
RMSE Hz	0.003
RMSE Z	0.012
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	UA14
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Seymour

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
4938564.403	400397.776	248.746

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-30-2015
RMSE Hz	0.013
RMSE Z	0.002
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	UA15
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Tigerton

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
4955897.912	337676.962	313.802

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-25-2015
RMSE Hz	0.004
RMSE Z	0.008
GPS Method	Wisconsin CORS VRS

PHOTOS:







Point ID	UA16
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Bonduel

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

Coordinate System	NAD83(2011)
	UTM – Zone 16N
	NAVD88
	GEOID12A
	Meters

Northing	Easting	Elevation
4954505.932	385099.986	263.986

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	11-05-2015
RMSE Hz	0.009
RMSE Z	0.006
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	UA17
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Regina

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

Coordinate System	
NAD83(2011)	
UTM – Zone 16N	
NAVD88	
GEOID12A	
Meters	

Northing	Easting	Elevation
4982309.521	337334.730	384.337

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	09-30-2015
RMSE Hz	0.011
RMSE Z	0.018
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	UA18
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Embarrass

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
4953535.689	370388.272	254.889

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	11-04-2015
RMSE Hz	0.010
RMSE Z	0.006
GPS Method	Wisconsin CORS VRS

PHOTOS:







Point ID	UA19
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Shawano

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
4959128.439	371879.323	245.618

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	11-01-2015
RMSE Hz	0.004
RMSE Z	0.015
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	UA20
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Embarrass

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

Coordinate System	NAD83(2011)
	UTM – Zone 16N
	NAVD88
	GEOID12A
	Meters

Northing	Easting	Elevation
4949809.875	364847.147	246.173

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-27-2015
RMSE Hz	0.008
RMSE Z	0.022
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	UA21
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Krakow

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
4966472.373	392542.213	235.056

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	11-07-2015
RMSE Hz	0.011
RMSE Z	0.006
GPS Method	Wisconsin CORS VRS

PHOTOS:







Point ID	UA22
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Marion

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
4952370.294	345826.812	286.554

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-26-2015
RMSE Hz	0.006
RMSE Z	0.007
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	UA23
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Shepley

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
4970662.865	337106.962	351.597

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-02-2015
RMSE Hz	0.006
RMSE Z	0.012
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	UA24
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Tigerton NW

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
4955289.702	331474.331	330.119

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-22-2015
RMSE Hz	0.002
RMSE Z	0.001
GPS Method	Wisconsin CORS VRS

PHOTOS:







Point ID	UA25
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Keshena

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
4976907.221	361984.947	308.916

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	11-02-2015
RMSE Hz	0.013
RMSE Z	0.022
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	UA26
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Clintonville North

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

Coordinate System	NAD83(2011)
	UTM – Zone 16N
	NAVD88
	GEOID12A
	Meters

Northing	Easting	Elevation
4951417.240	353940.574	293.026

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-26-2015
RMSE Hz	0.006
RMSE Z	0.011
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	UA27
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Tigerton NW

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

Coordinate System	NAD83(2011)
	UTM – Zone 16N
	NAVD88
	GEOID12A
	Meters

Northing	Easting	Elevation
4953056.666	325003.351	344.801

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-22-2015
RMSE Hz	0.012
RMSE Z	0.010
GPS Method	Wisconsin CORS VRS

PHOTOS:







Point ID	UA28
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Cecil

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
4962486.681	384816.543	245.720

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	11-07-2015
RMSE Hz	0.013
RMSE Z	0.004
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	UA29
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Nichols

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

Coordinate System	NAD83(2011)
	UTM – Zone 16N
	NAVD88
	GEOID12A
	Meters

Northing	Easting	Elevation
4939929.715	385185.059	246.050

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-29-2015
RMSE Hz	0.004
RMSE Z	0.010
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	UA30
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Neopit

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
4972782.621	355281.084	302.334

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	11-02-2015
RMSE Hz	0.002
RMSE Z	0.002
GPS Method	Wisconsin CORS VRS

PHOTOS:







Point ID	UA31
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Lunds

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

Coordinate System	NAD83(2011)
	UTM – Zone 16N
	NAVD88
	GEOID12A
	Meters

Northing	Easting	Elevation
4946997.799	377589.898	246.870

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	11-04-2015
RMSE Hz	0.004
RMSE Z	0.008
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	UA32
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Leeman

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
4940660.592	375139.466	241.186

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-29-2015
RMSE Hz	0.002
RMSE Z	0.010
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	UA33
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Bonduel

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
4947927.473	385558.628	262.124

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	11-05-2015
RMSE Hz	0.006
RMSE Z	0.002
GPS Method	Wisconsin CORS VRS

PHOTOS:







Point ID	UA34
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Zachow

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

Coordinate System	
NAD83(2011)	
UTM – Zone 16N	
NAVD88	
GEOID12A	
Meters	

Northing	Easting	Elevation
4949893.791	397550.777	254.980

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	11-07-2015
RMSE Hz	0.020
RMSE Z	0.012
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	UA35
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Zachow

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

Coordinate System	
NAD83(2011)	
UTM – Zone 16N	
NAVD88	
GEOID12A	
Meters	

Northing	Easting	Elevation
4955742.531	391976.021	269.549

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	11-06-2015
RMSE Hz	0.007
RMSE Z	0.008
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	UA36
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Zachow

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

Coordinate System	NAD83(2011)
	UTM – Zone 16N
	NAVD88
	GEOID12A
	Meters

Northing	Easting	Elevation
4944367.689	393540.790	272.779

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-30-2015
RMSE Hz	0.002
RMSE Z	0.007
GPS Method	Wisconsin CORS VRS

PHOTOS:







Point ID	UA37
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Krakov

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
4964234.106	397997.981	249.780

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	11-07-2015
RMSE Hz	0.025
RMSE Z	0.006
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	UA38
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Clintonville North

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
4956067.687	360920.245	267.634

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-27-2015
RMSE Hz	0.004
RMSE Z	0.003
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	UA39
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Burney Lake

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
4977469.666	347268.228	348.467

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-03-2015
RMSE Hz	0.008
RMSE Z	0.014
GPS Method	Wisconsin CORS VRS

PHOTOS:







Point ID	UA40
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Aniwa

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
4987888.692	326776.956	434.659

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	09-30-2015
RMSE Hz	0.008
RMSE Z	0.007
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	UA41
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Thornton

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
4958524.582	366263.575	262.320

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	11-03-2015
RMSE Hz	0.006
RMSE Z	0.010
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	UA42
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Shawano

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
4957523.981	379608.803	286.317

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	11-01-2015
RMSE Hz	0.005
RMSE Z	0.006
GPS Method	Wisconsin CORS VRS

PHOTOS:







Point ID	UA43
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Marion

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

Coordinate System	NAD83(2011)
	UTM – Zone 16N
	NAVD88
	GEOID12A
	Meters

Northing	Easting	Elevation
4955232.105	344713.884	291.396

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-25-2015
RMSE Hz	0.005
RMSE Z	0.006
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	UA44
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Clintonville North

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

Coordinate System	NAD83(2011)
	UTM – Zone 16N
	NAVD88
	GEOID12A
	Meters

Northing	Easting	Elevation
4948852.280	361110.355	274.576

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-27-2015
RMSE Hz	0.010
RMSE Z	0.021
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	UA45
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Shepley

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
4964117.238	335293.998	341.691

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-20-2015
RMSE Hz	0.008
RMSE Z	0.001
GPS Method	Wisconsin CORS VRS

PHOTOS:







Point ID	UA46
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Bowler

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

Coordinate System	NAD83(2011)
	UTM – Zone 16N
	NAVD88
	GEOID12A
	Meters

Northing	Easting	Elevation
4962986.632	345594.589	307.235

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-20-2015
RMSE Hz	0.007
RMSE Z	0.004
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	UA47
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Marion

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
4949487.940	349822.263	273.994

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-26-2015
RMSE Hz	0.017
RMSE Z	0.002
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	UA48
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Tigerton NW

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

Coordinate System	NAD83(2011)
	UTM – Zone 16N
	NAVD88
	GEOID12A
	Meters

Northing	Easting	Elevation
4951082.724	330177.766	328.958

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-23-2015
RMSE Hz	0.006
RMSE Z	0.030
GPS Method	Wisconsin CORS VRS

PHOTOS:







Point ID	UA49
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Bonduel

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
4951098.604	391019.629	262.906

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	11-06-2015
RMSE Hz	0.004
RMSE Z	0.003
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	UA50
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Wittenberg

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
4958079.382	327140.086	354.871

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-22-2015
RMSE Hz	0.004
RMSE Z	0.011
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	UA51
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Burney Lake

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

Coordinate System	NAD83(2011)
	UTM – Zone 16N
	NAVD88
	GEOID12A
	Meters

Northing	Easting	Elevation
4968770.789	345823.231	314.243

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-03-2015
RMSE Hz	0.009
RMSE Z	0.005
GPS Method	Wisconsin CORS VRS

PHOTOS:







Point ID	UA52
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Clintonville North

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

Coordinate System	NAD83(2011)
	UTM – Zone 16N
	NAVD88
	GEOID12A
	Meters

Northing	Easting	Elevation
4956538.177	355305.741	269.513

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-27-2015
RMSE Hz	0.010
RMSE Z	0.014
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	UA53
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Shawano

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
4963639.625	375556.182	256.706

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	11-01-2015
RMSE Hz	0.006
RMSE Z	0.003
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	UA54
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Birnamwood

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
4978892.606	330953.109	390.208

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-01-2015
RMSE Hz	0.012
RMSE Z	0.009
GPS Method	Wisconsin CORS VRS

PHOTOS:







Point ID	UA55
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Gresham

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12A
Meters

Northing	Easting	Elevation
4962033.299	354682.458	279.704

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	11-03-2015
RMSE Hz	0.009
RMSE Z	0.015
GPS Method	Wisconsin CORS VRS

PHOTOS:





## **FORESTED POINT LOG SHEETS**



Point ID	FO1
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Cecil

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4963257.990	385630.156	246.817

Operator	Bill Neville
Instrument Model	Trimble M3 2"
Date (MM-DD-YYYY)	11-07-2015
Occupy PT	FO1TP
Back Sight PT	FO1BS
RMSE Hz	0.004
RMSE Z	0.008

PHOTOS:







Point ID	FO2
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Birnamwood

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4974059.347	328312.815	378.046

Operator	Bill Neville
Instrument Model	Trimble M3 2"
Date (MM-DD-YYYY)	10-01-2015
Occupy PT	FO2TP
Back Sight PT	UA3
RMSE Hz	0.007
RMSE Z	0.004

PHOTOS:







Point ID	FO3
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Burney Lake

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4972608.499	344379.005	345.714

Operator	Bill Neville
Instrument Model	Trimble M3 2"
Date (MM-DD-YYYY)	10-03-2015
Occupy PT	FO3TP
Back Sight PT	FO3BS
RMSE Hz	0.012
RMSE Z	0.028

PHOTOS:







Point ID	FO4
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Tigerton

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4949626.194	336495.511	301.050

Operator	Bill Neville
Instrument Model	Trimble M3 2"
Date (MM-DD-YYYY)	10-25-2015
Occupy PT	FO4TP
Back Sight PT	FO4BS
RMSE Hz	0.006
RMSE Z	0.011

PHOTOS:







Point ID	FO5
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Tigerton NW

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

Coordinate System	NAD83(2011)
	UTM – Zone 16N
	NAVD88
	GEOID12B
	Meters

Northing	Easting	Elevation
4953077.884	324963.362	343.699

Operator	Bill Neville
Instrument Model	Trimble M3 2"
Date (MM-DD-YYYY)	10-22-2015
Occupy PT	F05TP
Back Sight PT	UA27
RMSE Hz	0.013
RMSE Z	0.017

PHOTOS:







Point ID	FO6
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Birnamwood

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4978930.707	330936.495	389.780

Operator	Bill Neville
Instrument Model	Trimble M3 2"
Date (MM-DD-YYYY)	10-01-2015
Occupy PT	UA54
Back Sight PT	CP18
RMSE Hz	0.012
RMSE Z	0.009

PHOTOS:







Point ID	FO7
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Leeman

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4940621.739	374745.844	241.319

Operator	Bill Neville
Instrument Model	Trimble M3 2"
Date (MM-DD-YYYY)	10-29-2015
Occupy PT	FO3TP
Back Sight PT	FO3BS
RMSE Hz	0.022
RMSE Z	0.017

PHOTOS:







Point ID	FO8
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Gresham

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4961777.368	354802.945	284.106

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	11-03-2015
RMSE Hz	0.013
RMSE Z	0.014
GPS Method	Wisconsin CORS VRS

PHOTOS:







Point ID	FO9
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Bonduel

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4954594.206	385115.487	262.003

Operator	Bill Neville
Instrument Model	Trimble M3 2"
Date (MM-DD-YYYY)	11-05-2015
Occupy PT	FO9TP
Back Sight PT	CP22
RMSE Hz	0.009
RMSE Z	0.008

PHOTOS:





Point ID	FO10
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Bonduel

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4951134.105	390966.628	260.711

Operator	Bill Neville
Instrument Model	Trimble M3 2"
Date (MM-DD-YYYY)	11-06-2015
Occupy PT	CP6
Back Sight PT	UA49
RMSE Hz	0.008
RMSE Z	0.011

PHOTOS:







Point ID	FO11
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Mattoon

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4985465.650	339367.054	381.805

Operator	Bill Neville
Instrument Model	Trimble M3 2"
Date (MM-DD-YYYY)	09-30-2015
Occupy PT	CP5
Back Sight PT	UA9
RMSE Hz	0.009
RMSE Z	0.009

PHOTOS:







Point ID	FO12
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Lunds

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

Coordinate System	
NAD83(2011)	
UTM – Zone 16N	
NAVD88	
GEOID12B	
Meters	

Northing	Easting	Elevation
4947034.936	377562.839	246.838

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	11-04-2015
RMSE Hz	0.013
RMSE Z	0.025
GPS Method	Wisconsin CORS VRS

## PHOTOS:





Point ID	FO13
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Wittenberg

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4961063.329	329982.532	356.482

Operator	Bill Neville
Instrument Model	Trimble M3 2"
Date (MM-DD-YYYY)	10-22-2015
Occupy PT	F013TP
Back Sight PT	CP1
RMSE Hz	0.006
RMSE Z	0.009

PHOTOS:







## HU`K YXg POINT LOG SHEETS



Point ID	TW1
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Thornton

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

Coordinate System	
NAD83(2011)	
UTM – Zone 16N	
NAVD88	
GEOID12B	
Meters	

<b>Northing</b>	<b>Easting</b>	<b>Elevation</b>
4965768.612	367650.158	283.035

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	11-03-2015
RMSE Hz	0.002
RMSE Z	0.003
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	TW2
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Thornton

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4958408.745	366277.859	260.134

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	11-03-2015
RMSE Hz	0.006
RMSE Z	0.007
GPS Method	Wisconsin CORS VRS

PHOTOS:







Point ID	TW3
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Shepley

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4964101.943	335286.898	341.272

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-20-2015
RMSE Hz	0.007
RMSE Z	0.005
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	TW4
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Clintonville North

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4951152.475	355319.121	270.922

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-26-2015
RMSE Hz	0.011
RMSE Z	0.014
GPS Method	Wisconsin CORS VRS

PHOTOS:







Point ID	TW5
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Tigerton

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4949516.734	336499.069	299.849

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-25-2015
RMSE Hz	0.001
RMSE Z	0.010
GPS Method	Wisconsin CORS VRS

PHOTOS:







Point ID	TW6
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Marion

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

Coordinate System	NAD83(2011)
	UTM – Zone 16N
	NAVD88
	GEOID12B
	Meters

Northing	Easting	Elevation
4954028.654	346388.053	285.127

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-26-2015
RMSE Hz	0.003
RMSE Z	0.019
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	TW7
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Tigerton NW

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

Coordinate System	NAD83(2011)
	UTM – Zone 16N
	NAVD88
	GEOID12B
	Meters

Northing	Easting	Elevation
4953033.456	325019.992	344.377

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-22-2015
RMSE Hz	0.006
RMSE Z	0.014
GPS Method	Wisconsin CORS VRS

PHOTOS:







Point ID	TW8
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Tigerton NW

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

Coordinate System	NAD83(2011)
	UTM – Zone 16N
	NAVD88
	GEOID12B
	Meters

Northing	Easting	Elevation
4951267.819	330192.889	327.892

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-23-2015
RMSE Hz	0.005
RMSE Z	0.012
GPS Method	Wisconsin CORS VRS

PHOTOS:







Point ID	TW9
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Nichols

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

Coordinate System	NAD83(2011)
	UTM – Zone 16N
	NAVD88
	GEOID12B
	Meters

Northing	Easting	Elevation
4940704.137	385264.560	249.402

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-29-2015
RMSE Hz	0.004
RMSE Z	0.002
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	TW10
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Burney Lake

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4972036.080	344332.520	335.657

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-03-2015
RMSE Hz	0.015
RMSE Z	0.010
GPS Method	Wisconsin CORS VRS

PHOTOS:







Point ID	TW11
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Zachow

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4956463.775	391952.840	268.080

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	11-06-2015
RMSE Hz	0.012
RMSE Z	0.004
GPS Method	Wisconsin CORS VRS

PHOTOS:







Point ID	TW12
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Bonduel

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4948085.847	385346.957	254.992

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	11-05-2015
RMSE Hz	0.008
RMSE Z	0.020
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	TW13
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Krakov

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4964202.185	397986.002	249.117

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	11-07-2015
RMSE Hz	0.019
RMSE Z	0.008
GPS Method	Wisconsin CORS VRS

PHOTOS:







Point ID	TW14
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Shawano

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4957132.353	379967.643	308.445

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	11-01-2015
RMSE Hz	0.003
RMSE Z	0.014
GPS Method	Wisconsin CORS VRS

PHOTOS:







Point ID	TW15
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Embarrass

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4954139.842	371224.106	248.378

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	11-04-2015
RMSE Hz	0.011
RMSE Z	0.008
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	TW16
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Embarrass

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4956004.892	362558.672	259.575

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-27-2015
RMSE Hz	0.011
RMSE Z	0.005
GPS Method	Wisconsin CORS VRS

PHOTOS:







Point ID	TW17
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Marion

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4956749.357	344803.696	295.233

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-25-2015
RMSE Hz	0.005
RMSE Z	0.007
GPS Method	Wisconsin CORS VRS

PHOTOS:







Point ID	TW18
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Shepley

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4970683.162	337088.959	352.980

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-02-2015
RMSE Hz	0.005
RMSE Z	0.009
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	TW19
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Regina

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4976291.623	335653.203	374.445

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-03-2015
RMSE Hz	0.012
RMSE Z	0.007
GPS Method	Wisconsin CORS VRS

PHOTOS:







Point ID	TW20
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Tigerton

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

Coordinate System	NAD83(2011)
	UTM – Zone 16N
	NAVD88
	GEOID12B
	Meters

Northing	Easting	Elevation
4956398.894	337144.980	308.686

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-25-2015
RMSE Hz	0.022
RMSE Z	0.001
GPS Method	Wisconsin CORS VRS

PHOTOS:







## **K Yh` UbXg POINT LOG SHEETS**



Point ID	SW1
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Shawano

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

Coordinate System	
NAD83(2011)	
UTM – Zone 16N	
NAVD88	
GEOID12B	
Meters	

<b>Northing</b>	<b>Easting</b>	<b>Elevation</b>
4962015.437	375930.960	244.922

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	11-01-2015
RMSE Hz	0.005
RMSE Z	0.014
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	SW2
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Bonduel

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

Coordinate System	NAD83(2011)
	UTM – Zone 16N
	NAVD88
	GEOID12B
	Meters

Northing	Easting	Elevation
4947717.167	385423.512	252.302

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	11-05-2015
RMSE Hz	0.012
RMSE Z	0.010
GPS Method	Wisconsin CORS VRS

PHOTOS:







Point ID	SW3
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Cecil

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

Coordinate System	NAD83(2011)
	UTM – Zone 16N
	NAVD88
	GEOID12B
	Meters

Northing	Easting	Elevation
4962703.467	389094.071	249.799

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	11-06-2015
RMSE Hz	0.003
RMSE Z	0.001
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	SW4
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Leeman

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

Coordinate System	NAD83(2011)
	UTM – Zone 16N
	NAVD88
	GEOID12B
	Meters

Northing	Easting	Elevation
4941839.638	377329.283	243.450

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-29-2015
RMSE Hz	0.005
RMSE Z	0.002
GPS Method	Wisconsin CORS VRS

PHOTOS:







Point ID	SW5
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Embarrass

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

Coordinate System	NAD83(2011)
	UTM – Zone 16N
	NAVD88
	GEOID12B
	Meters

Northing	Easting	Elevation
4950746.293	371015.077	243.464

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-27-2015
RMSE Hz	0.002
RMSE Z	0.020
GPS Method	Wisconsin CORS VRS

PHOTOS:







Point ID	SW6
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Clintonville North

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

Coordinate System	NAD83(2011)
	UTM – Zone 16N
	NAVD88
	GEOID12B
	Meters

Northing	Easting	Elevation
4956379.907	354017.362	264.059

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-27-2015
RMSE Hz	0.011
RMSE Z	0.012
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	SW7
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Shepley

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4957397.140	339770.615	305.450

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-20-2015
RMSE Hz	0.008
RMSE Z	0.006
GPS Method	Wisconsin CORS VRS

PHOTOS:







Point ID	SW8
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Wittenberg

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4967416.896	329384.283	354.492

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-02-2015
RMSE Hz	0.011
RMSE Z	0.001
GPS Method	Wisconsin CORS VRS

PHOTOS:







Point ID	SW9
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Birnamwood

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4979802.419	325365.327	402.874

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	09-30-2015
RMSE Hz	0.010
RMSE Z	0.011
GPS Method	Wisconsin CORS VRS

PHOTOS:







Point ID	SW10
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Mattoon

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4986018.235	334357.504	401.481

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	09-30-2015
RMSE Hz	0.005
RMSE Z	0.009
GPS Method	Wisconsin CORS VRS

PHOTOS:







Point ID	SW11
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Burney Lake

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

Coordinate System	NAD83(2011)
	UTM – Zone 16N
	NAVD88
	GEOID12B
	Meters

Northing	Easting	Elevation
4976892.670	342699.022	350.580

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-01-2015
RMSE Hz	0.008
RMSE Z	0.007
GPS Method	Wisconsin CORS VRS

PHOTOS:







Point ID	SW12
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Tigerton NW

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4950416.055	328524.067	321.287

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-23-2015
RMSE Hz	0.007
RMSE Z	0.030
GPS Method	Wisconsin CORS VRS

PHOTOS:





## **HORIZONTAL POINT LOG SHEETS**



Point ID	Hz1
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Tigerton

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

Coordinate System	
NAD83(2011)	
UTM – Zone 16N	
NAVD88	
GEOID12B	
Meters	

<b>Northing</b>	<b>Easting</b>	<b>Elevation</b>
4955870.149	337495.556	Hz ONLY

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-25-2015
RMSE Hz	0.003
RMSE Z	0.013
GPS Method	Wisconsin CORS VRS

PHOTOS:







Point ID	Hz2
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Marion

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

Coordinate System	NAD83(2011)
	UTM – Zone 16N
	NAVD88
	GEOID12B
	Meters

Northing	Easting	Elevation
4949520.662	349724.250	Hz ONLY

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-26-2015
RMSE Hz	0.004
RMSE Z	0.015
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	Hz3
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Lunds

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4953646.894	374368.513	Hz ONLY

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	11-04-2015
RMSE Hz	0.005
RMSE Z	0.009
GPS Method	Wisconsin CORS VRS

PHOTOS:







Point ID	Hz4
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Gresham

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4961978.495	354707.058	Hz ONLY

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	11-03-2015
RMSE Hz	0.001
RMSE Z	0.008
GPS Method	Wisconsin CORS VRS

PHOTOS:







Point ID	Hz5
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Bonduel

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4954005.620	385327.239	Hz ONLY

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	11-05-2015
RMSE Hz	0.001
RMSE Z	0.003
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	Hz6
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Clintonville North

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

Coordinate System	NAD83(2011)
	UTM – Zone 16N
	NAVD88
	GEOID12B
	Meters

Northing	Easting	Elevation
4956079.253	360735.827	Hz ONLY

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-27-2015
RMSE Hz	0.004
RMSE Z	0.007
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	HZ7
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Bonduel

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4947931.510	385523.933	HZ ONLY

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	11-05-2015
RMSE Hz	0.003
RMSE Z	0.019
GPS Method	Wisconsin CORS VRS

PHOTOS:







Point ID	Hz8
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Shawano

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

Coordinate System	NAD83(2011)
	UTM – Zone 16N
	NAVD88
	GEOID12B
	Meters

Northing	Easting	Elevation
4959060.355	371880.112	Hz ONLY

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	11-01-2015
RMSE Hz	0.006
RMSE Z	0.010
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	Hz9
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Zachow

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4949877.072	398274.725	Hz ONLY

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	11-07-2015
RMSE Hz	0.004
RMSE Z	0.025
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	Hz10
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Shawano

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

Coordinate System	NAD83(2011)
	UTM – Zone 16N
	NAVD88
	GEOID12B
	Meters

Northing	Easting	Elevation
4965543.515	376089.472	Hz ONLY

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	11-01-2015
RMSE Hz	0.004
RMSE Z	0.004
GPS Method	Wisconsin CORS VRS

PHOTOS:







Point ID	Hz11
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Lunds

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4948289.175	378447.533	Hz ONLY

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	11-04-2015
RMSE Hz	0.005
RMSE Z	0.005
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	Hz12
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Mattoon

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

Coordinate System	NAD83(2011)
	UTM – Zone 16N
	NAVD88
	GEOID12B
	Meters

Northing	Easting	Elevation
4986179.825	325834.500	Hz ONLY

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	09-30-2015
RMSE Hz	0.002
RMSE Z	0.011
GPS Method	Wisconsin CORS VRS

PHOTOS:







Point ID	Hz13
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Mattoon

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4985134.929	339019.986	Hz ONLY

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	09-30-2015
RMSE Hz	0.008
RMSE Z	0.016
GPS Method	Wisconsin CORS VRS

PHOTOS:







Point ID	Hz14
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Birnamwood

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

Coordinate System	NAD83(2011)
	UTM – Zone 16N
	NAVD88
	GEOID12B
	Meters

Northing	Easting	Elevation
4977481.655	325403.316	Hz ONLY

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-01-2015
RMSE Hz	0.018
RMSE Z	0.013
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	Hz15
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Wittenberg

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

Coordinate System	NAD83(2011)
	UTM – Zone 16N
	NAVD88
	GEOID12B
	Meters

Northing	Easting	Elevation
4966084.998	327488.553	Hz ONLY

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-02-2015
RMSE Hz	0.007
RMSE Z	0.013
GPS Method	Wisconsin CORS VRS

PHOTOS:







Point ID	Hz16
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Gresham

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4959076.964	354049.348	Hz ONLY

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-27-2015
RMSE Hz	0.003
RMSE Z	0.007
GPS Method	Wisconsin CORS VRS

PHOTOS:







Point ID	Hz17
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Burney Lake

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4969274.542	343375.695	Hz ONLY

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-03-2015
RMSE Hz	0.007
RMSE Z	0.012
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	Hz18
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Cecil

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

Coordinate System	NAD83(2011)
	UTM – Zone 16N
	NAVD88
	GEOID12B
	Meters

Northing	Easting	Elevation
4962409.165	384602.754	Hz ONLY

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	11-07-2015
RMSE Hz	0.002
RMSE Z	0.005
GPS Method	Wisconsin CORS VRS

PHOTOS:







Point ID	Hz19
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Gresham

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

Coordinate System	NAD83(2011)
	UTM – Zone 16N
	NAVD88
	GEOID12B
	Meters

Northing	Easting	Elevation
4967916.942	358884.253	Hz ONLY

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	11-02-2015
RMSE Hz	0.005
RMSE Z	0.004
GPS Method	Wisconsin CORS VRS

PHOTOS:







Point ID	Hz20
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Lunds

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4951850.042	380764.557	Hz ONLY

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	11-04-2015
RMSE Hz	0.006
RMSE Z	0.003
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	Hz21
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Zachow

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

Coordinate System	NAD83(2011)
	UTM – Zone 16N
	NAVD88
	GEOID12B
	Meters

Northing	Easting	Elevation
4942693.956	394376.053	Hz ONLY

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-30-2015
RMSE Hz	0.007
RMSE Z	0.017
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	Hz22
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Tigerton NW

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4951260.671	329832.743	Hz ONLY

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-23-2015
RMSE Hz	0.004
RMSE Z	0.006
GPS Method	Wisconsin CORS VRS

PHOTOS:







Point ID	Hz23
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Kracow

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

Coordinate System	NAD83(2011)
	UTM – Zone 16N
	NAVD88
	GEOID12B
	Meters

Northing	Easting	Elevation
4960247.804	394438.008	Hz ONLY

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	11-06-2015
RMSE Hz	0.005
RMSE Z	0.004
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	Hz24
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Marion

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

Coordinate System
NAD83(2011)
UTM – Zone 16N
NAVD88
GEOID12B
Meters

Northing	Easting	Elevation
4953776.691	349950.363	Hz ONLY

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-26-2015
RMSE Hz	0.006
RMSE Z	0.007
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	Hz25
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Leeman

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

Coordinate System	NAD83(2011)
	UTM – Zone 16N
	NAVD88
	GEOID12B
	Meters

Northing	Easting	Elevation
4940732.321	375029.998	Hz ONLY

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-29-2015
RMSE Hz	0.007
RMSE Z	0.005
GPS Method	Wisconsin CORS VRS

PHOTOS:







Point ID	Hz26
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Neopit

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

Coordinate System	NAD83(2011)
	UTM – Zone 16N
	NAVD88
	GEOID12B
	Meters

Northing	Easting	Elevation
4976807.862	361540.516	Hz ONLY

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	11-02-2015
RMSE Hz	0.010
RMSE Z	0.010
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	Hz27
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Burney Lake

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

Coordinate System	NAD83(2011)
	UTM – Zone 16N
	NAVD88
	GEOID12B
	Meters

Northing	Easting	Elevation
4974501.317	342756.706	Hz ONLY

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-03-2015
RMSE Hz	0.015
RMSE Z	0.007
GPS Method	Wisconsin CORS VRS

PHOTOS:





Point ID	Hz28
Project No.	26737
Project Name	USGS Shawano County
State	Wisconsin
County	Shawano
Quad	Shepley

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

Coordinate System	NAD83(2011)
	UTM – Zone 16N
	NAVD88
	GEOID12B
	Meters

Northing	Easting	Elevation
4963076.158	339715.131	Hz ONLY

Operator	Bill Neville
Receiver Model	Leica GS15
Receiver S/N	1510893
Antenna Height	1.800 Meters

Date (MM-DD-YYYY)	10-20-2015
RMSE Hz	0.005
RMSE Z	0.002
GPS Method	Wisconsin CORS VRS

PHOTOS:

