LIDAR MAPPING REPORT

OVERVIEW

Client: *Spatial Systems Associates, Inc.*
Project Number: *A06_SPAT_004;* **Project Name:** *Carroll County, Maryland*
Location: *Carroll County, Maryland*
Area (Acres): *287,360;* **Number of Sites:** *1*
Vertical Accuracy Intended Suitability (m): 0.366 m at 95% RMSE for FEMA contour interval of 0.6096 m (2 feet)
Horizontal Accuracy: *Estimated at 1/3000 of flight height based on Calibration Surveys*

PROJECT DATUMS, REFERENCE SYSTEM

Horizontal Datum: *North American Datum of 1983 (NAD83)*
Reference Network: *High Accuracy Reference Network (HARN)*
Vertical Datum: *North American Vertical Datum of 1988 (NAVD88)*
Reference Network: *High Accuracy Reference Network (HARN) or NGS Benchmarks in the NSRS*
Geoid Model: *Geoid03*

DELIVERABLES

Projection: *Maryland State Plane*
Units: *US Survey Feet*
Data format: *ASCII in "XYZI", comma delimited*
Data Delivered via: *external hard drive*
Delivery Date: *June 22, 0006*
Containing: *First pulse and Last Pulse LiDAR data*

NETWORK ADJUSTMENTS: Number of Vectors= 87; Number of Stations= 5

Control			- Minimally Constrained -					
Station	Epoch	Source	CORS	New	P-Ortho	Ortho	Horiz	Vert
AB4681	[1991.0]	NGS				X	Fixed	Fixed
JV6661	[1991.0]	NGS				X	0.012	0.033
GAIT	[2002.0]	NGS	X			X	0.014	-0.055
UMBC	[2002.0]	NGS	X		X		0.008	0.057
YORK	[2002.0]	NGS	X		X		0.022	0.000

NETWORK FINAL COORDINATES (NAD83/NAVD88):

STA_ID	-- LATITUDE --	-- LONGITUDE --	- ELLHGT -	ORTHOHGT
AB4681	39 36 37.60944	-77 00 26.31956	205.6242	237.9719
JV6661	39 26 39.56349	-77 02 36.55742	195.3743	227.3308
GAIT	39 08 02.34022	-77 13 15.51930	108.8892	140.6059
UMBC	39 15 24.36070	-76 42 41.46899	66.0367	98.4714
YORK	39 59 13.27634	-76 44 24.53875	99.6500	133.3292

*NGS datasheets can be found in the appendix

DATA COLLECTION: AIRBORNE & FIELD SURVEYS

(Two different sensors were used for this survey)

Lidar System: *Optech ALTM-2025;* **Serial number:** *99D120*
Airborne GPS: *2025: Novatel MilleniumDL with Novatel 512 Antenna Ht=0.00m*
Mirror Scan Angle +/- (degrees): *19 degrees*
Swath Overlap (%): *50*
Swath Width (m): 944

Mirror Scanner Frequency (Hz): 20
Laser Pulse Rate (khz): *25*
Posting Interval (Spot Spacing) (square m): 1
IMU Positioning: *50 hertz adjusted to the 1 hertz GPS positions*
Airport of Operations: *Frederick, MD*
Boulder K Index: *3-4 all days*
Comments/Problems/Failures: *ALTM 2025 failed on first 3 missions due to a malfunction with the laser scanner. These flights were later re-flown with the ALTM 3100.*
Altitude: *1370 m*
Airspeed: *62 m/s*
Direction: *N90E and N0E in some area*

Lidar System: *Optech ALTM-3100;* **Serial number:** *06SEN185*
Airborne GPS: *Trimble receiver with Trimble antenna Ht=0.00m*
Mirror Scan Angle +/- (degrees): *18 degrees*
Swath Overlap (%): *50*
Swath Width (m): 780 (at 1200 m altitude), 1100 (at 1600 m altitude)
Mirror Scanner Frequency (Hz): 32
Laser Pulse Rate (khz): *70*
Posting Interval (Spot Spacing) (square m): 1
IMU Positioning: *200 hertz adjusted to the 1 hertz GPS positions*
Airport of Operations: *Frederick, MD*
Boulder K Index: *3-4 all days*
Comments/Problems/Failures: *none*
Altitude: *1200 m and 1700 m*
Airspeed: *62 m/s*
Direction: *N90E*

Flights & GPS Base Stations

Flight	Base1	Base2	Date-Start-Finish Time	Antenna Make/Model	Antenna Mount	Ht (m)
MD08806_1	AB4681	JV6661	J086 18:40-21:40	Novatel 702 pinwheel	Fixed Ht Pole	2.00
MD08806_2	AB4681	JV6661	J088 23:08-02:00	Novatel 702 pinwheel	Fixed Ht Pole	2.00
MD08906_1	AB4681	JV6661	J089 18:50-22:08	Novatel 702 pinwheel	Fixed Ht Pole	2.00
MD08906_2	AB4681	JV6661	J089 00:06-02:38	Novatel 702 pinwheel	Fixed Ht Pole	2.00
MD09006_1	AB4681	JV6661	J090 17:11-19:00	Novatel 702 pinwheel	Fixed Ht Pole	2.00
MD09006_2	AB4681	JV6661	J090 20:21-23:25	Novatel 702 pinwheel	Fixed Ht Pole	2.00
MD09006_3	AB4681	JV6661	J090 00:22-02:40	Novatel 702 pinwheel	Fixed Ht Pole	2.00
MD09106_1	AB4681	JV6661	J091 17:55-18:53	Novatel 702 pinwheel	Fixed Ht Pole	2.00
MD09106_2	AB4681	JV6661	J091 19:40-21:45	Novatel 702 pinwheel	Fixed Ht Pole	2.00
MD09106_3	AB4681	JV6661	J091 23:50-02:11	Novatel 702 pinwheel	Fixed Ht Pole	2.00
MD09106_4	AB4681	JV6661	J091 02:26-03:40	Novatel 702 pinwheel	Fixed Ht Pole	2.00
MD14106_1	YORK	GAIT	J141 13:00-16:30	TRM33429.00+GP/AOAD/M_T	CORS	0.00
MD14206_1	YORK	GAIT	J142 12:00-16:40	TRM33429.00+GP/AOAD/M_T	CORS	0.00

GPS Survey Criteria: (standard unless otherwise noted)
GPS Observables: *L1 & L2 Carrier wave, C/A Code and P-Code*;
Epoch Rate (seconds): *1;* **Minimum Satellites:** 6; **Elevation Mask (degrees):** *15 or 12 in some portions of flights;* **PDOP =<:** *3.5, over 4 in limited portions of flights;*
Maximum Base Line Length (km): *70;*
GPS Ground Receivers (Base Stations): *2 Minimum:*
Base Stations Occupied by: *Airborne 1*
Criteria Exceeded: *no;* **Equipment Failures**: none

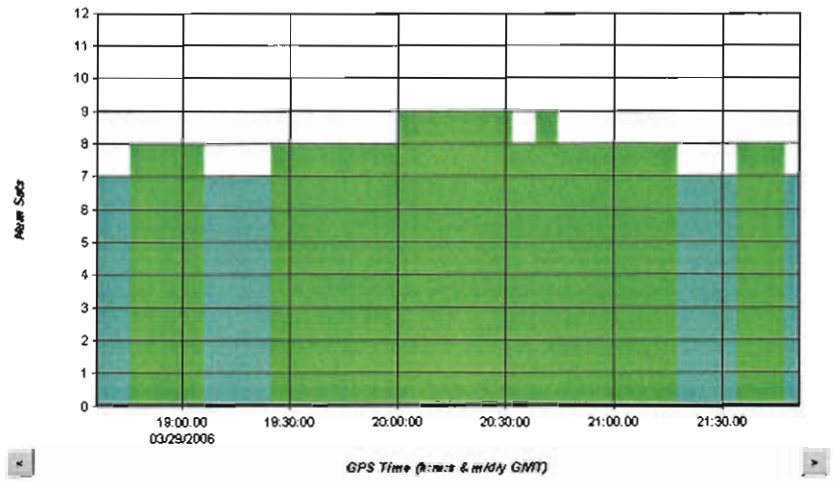
POST PROCESSING - KINEMATIC SOLUTIONS

Processing Software: *Applanix Pos-GPS;* **Laser Point Computation Software:** *Optech's REALM*
Ephemeris used: *Broadcast*
Ionosphere: *Ionospheric Free*

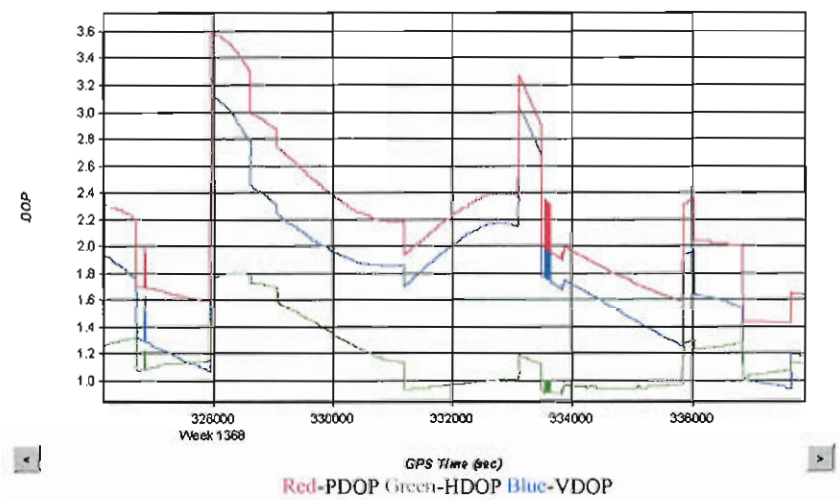
Flight: *MD08806_1*
Trajectory Solution: *Combined from both base stations*
Average Difference : *3.5 cm vertical, 1 cm horizontal*
Maximum Difference: *11.5 cm vertical, 4.5 cm horizontal*

Base	RMSE Ll Phase	Max.Dist.	Solution	Fixed or Float
AB4681	0.015	34.0	combined	X
JV6661	0.016	41.0	combined	x

Number of Satellites vs. Time:



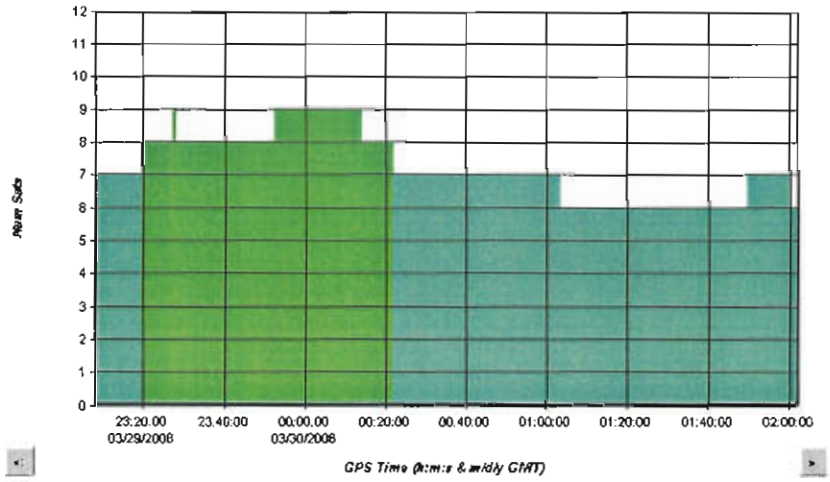
Dilution of Precision:



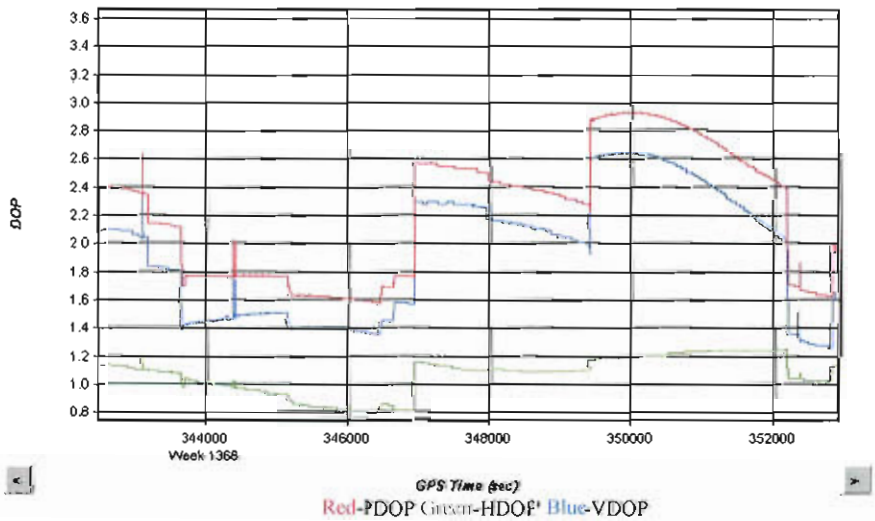
Flight: *MD08806_2*
Trajectory Solution: *Combined from both base stations*
Average Difference : *4.5 cm vertical, 1.5 cm horizontal*
Maximum Difference: *9.5 cm vertical, 3.5 cm horizontal*

Base	RMSE Ll Phase	Max.Dist.	Solution	Fixed or Float
AB4681	0.016	32.0	combined	X
JV6661	0.014	31.0	combined	x

Number of Satellites vs. Time:



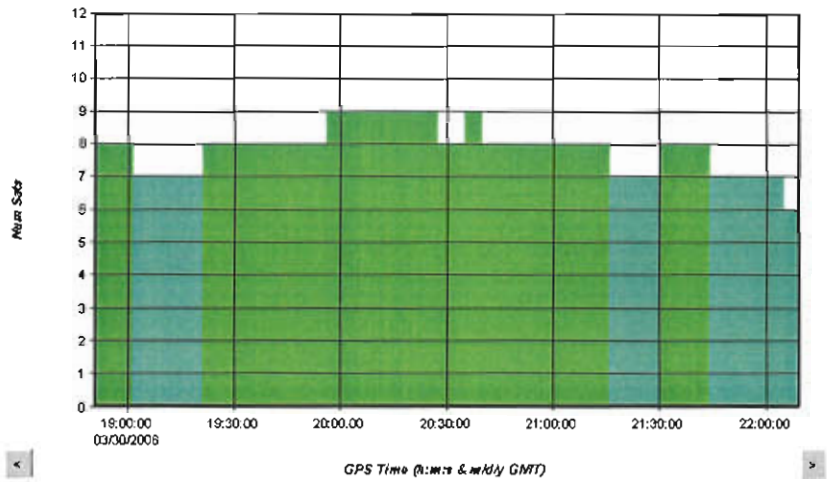
Dilution of Precision:



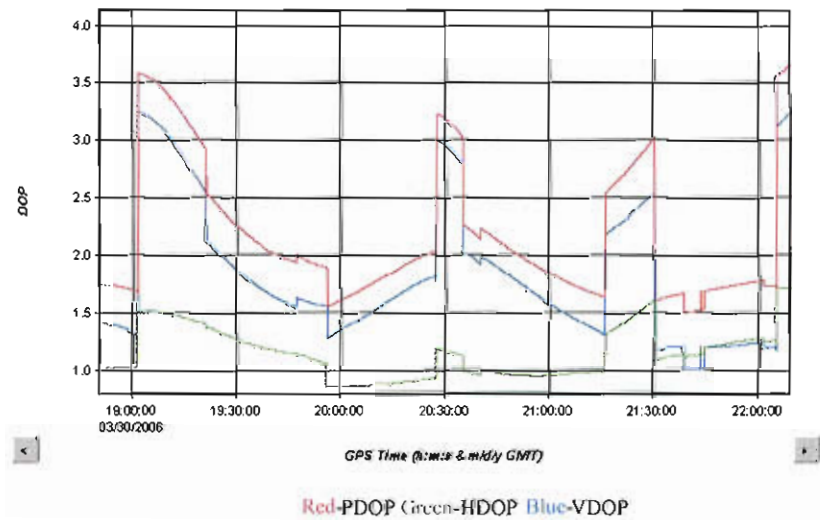
Flight: *MD08906_1*
Trajectory Solution: *Combined from both base stations*
Average Difference : *4.5 cm vertical, 1.5 cm horizontal*
Maximum Difference: *9.5 cm vertical, 3.5 cm horizontal*

Base	RMSE L1 Phase	Max.Dist.	Solution	Fixed or Float
AB4681	0.015	30.0	combined	X
JV6661	0.015	40.0	combined	x

Number of Satellites vs. Time:



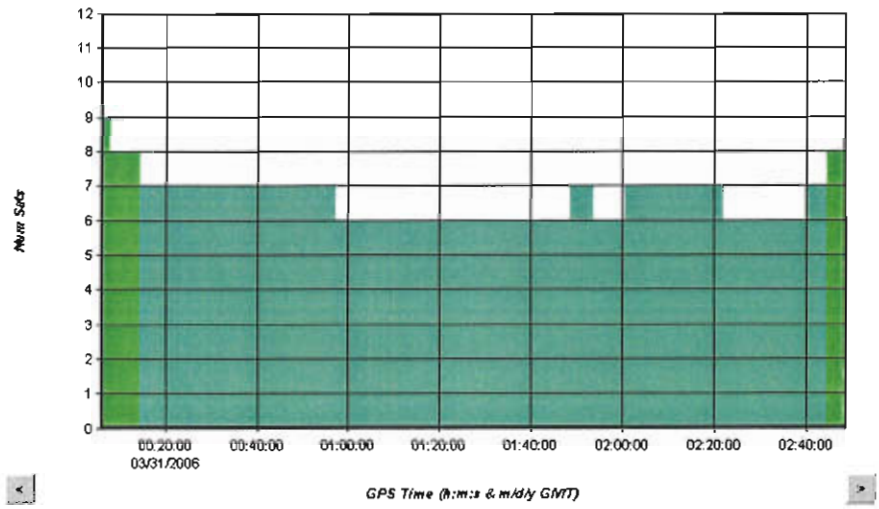
Dilution of Precision:



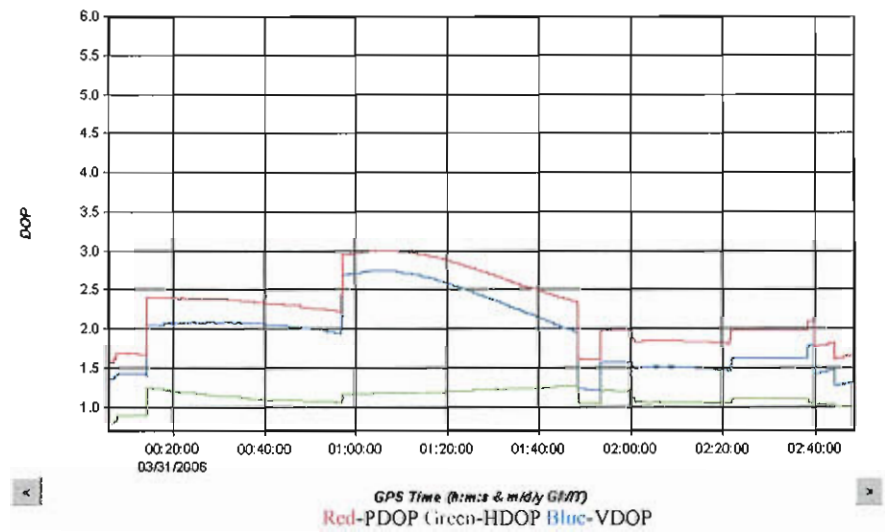
Flight: *MD08906_2*
Trajectory Solution: *Combined from both base stations*
Average Difference: *4.0 cm vertical, 2.0 cm horizontal*
Maximum Difference: *12.0 cm vertical, 4.0 cm horizontal*

Base	RMSE Ll Phase	Max.Dist.	Solution	Fixed or Float
AB4681	*0.014*	*37.0*	*combined*	*X*
JV6661	*0.016*	*28.0*	*combined*	*x*

Number of Satellites vs. Time:



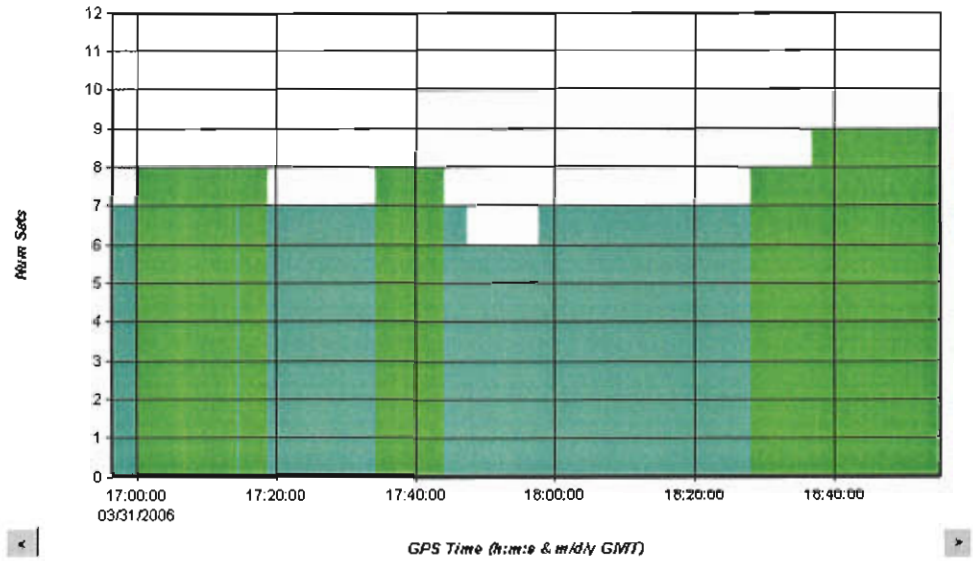
Dilution of Precision:



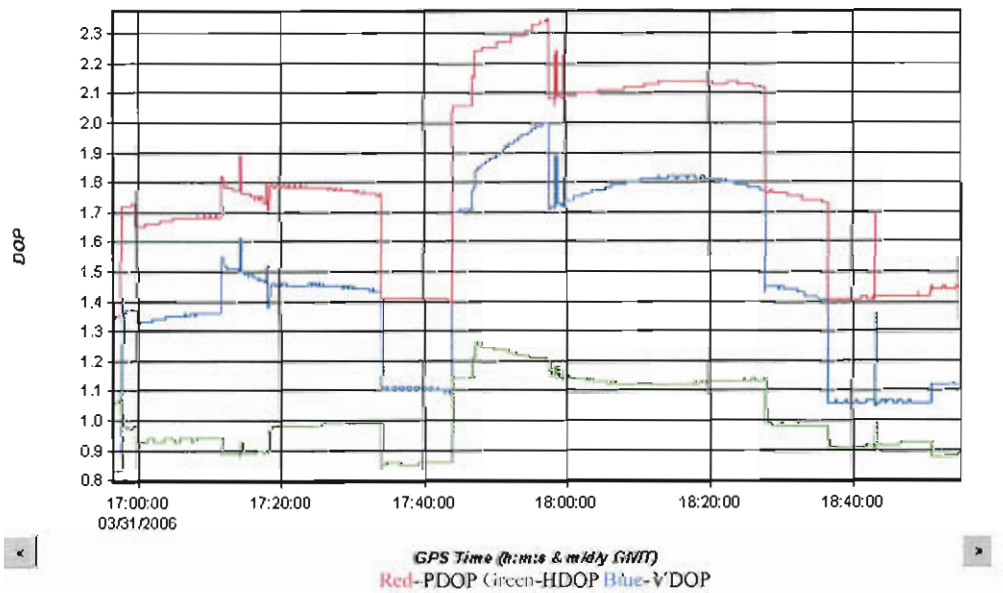
Flight: *MD09006_1*
Trajectory Solution: *Combined from both base stations*
Average Difference: *2.5 cm vertical, 1.5 cm horizontal*
Maximum Difference: *8.5 cm vertical, 5.0 cm horizontal*

Base	RMSE L1 Phase	Max.Dist.	Solution	Fixed or Float
AB4681	0.022	31.0	combined	X
JV6661	0.018	36.0	combined	x

Number of Satellites vs. Time:



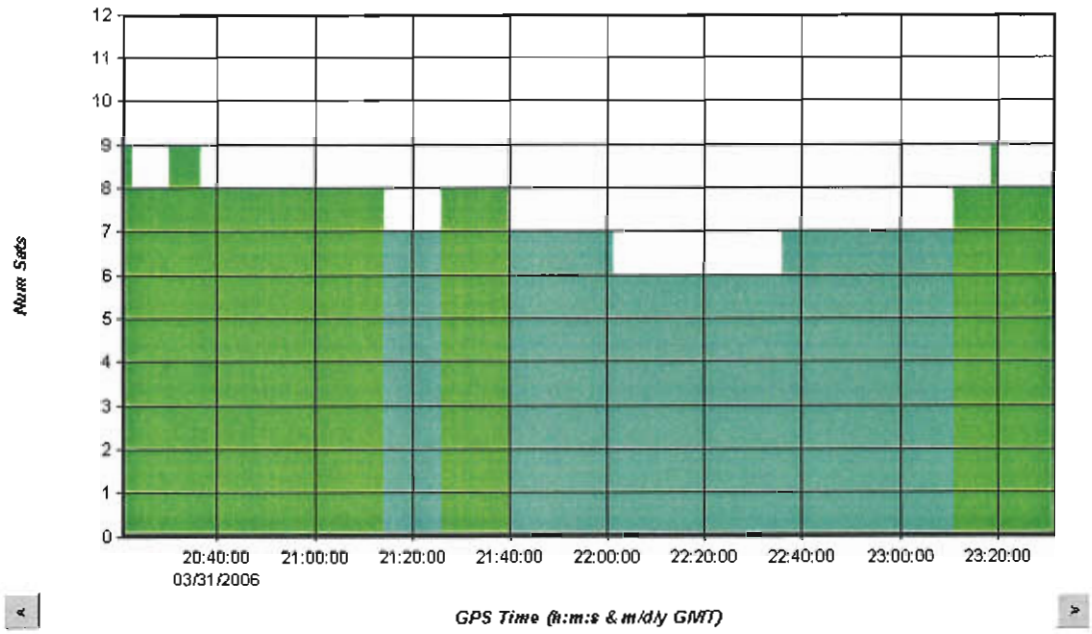
Dilution of Precision:



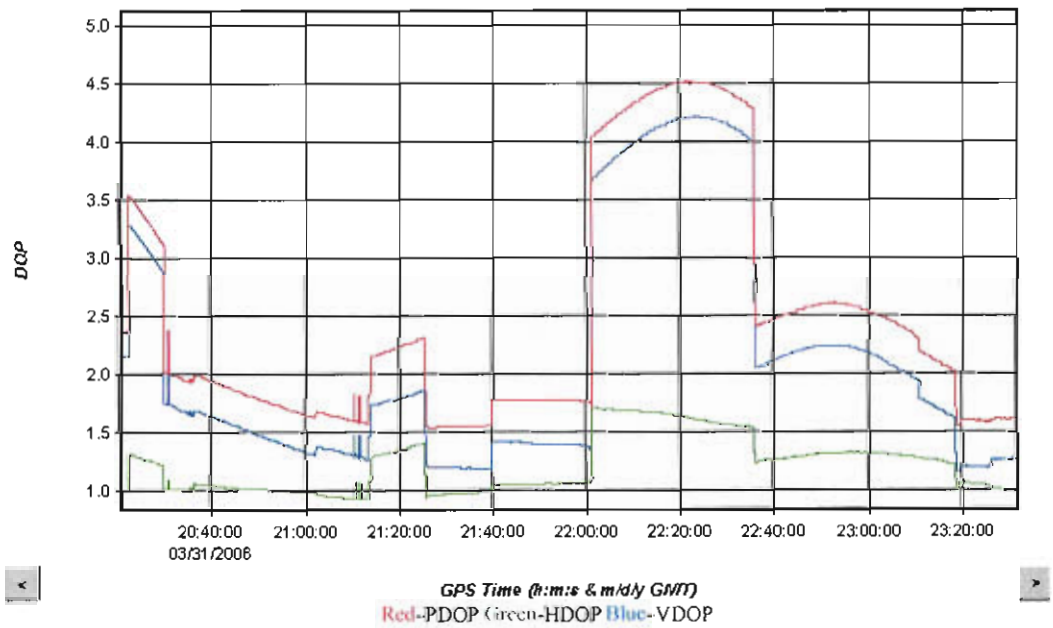
Flight: *MD09006_2*
Trajectory Solution: *Combined from both base stations*
Average Difference: *3.0 cm vertical, 5.0 cm horizontal*
Maximum Difference: *9.5 cm vertical, 7.0 cm horizontal*

Base	RMSE L1 Phase	Max.Dist.	Solution	Fixed or Float
AB4681	*0.015*	*32.0*	*combined*	*X*
JV6661	*0.015*	*41.0*	*combined*	*x*

Number of Satellites vs. Time:



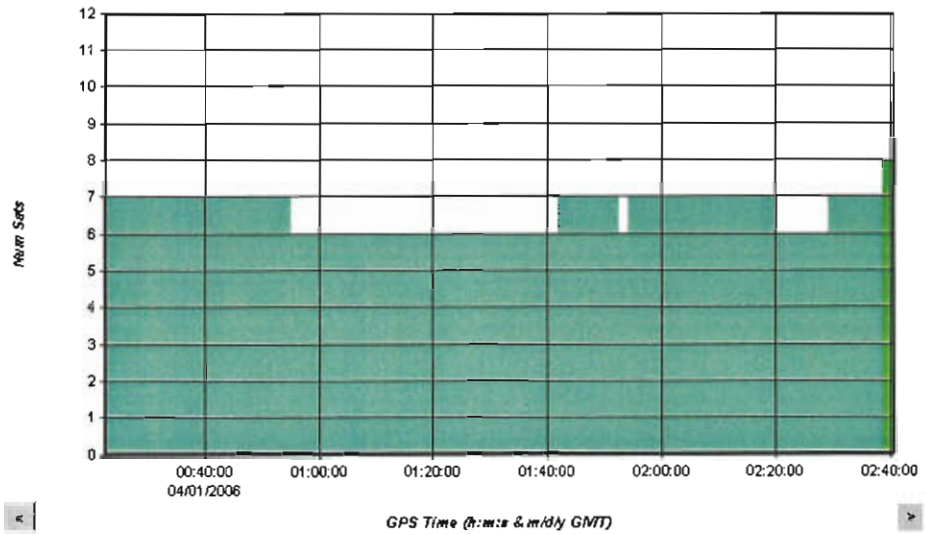
Dilution of Precision:



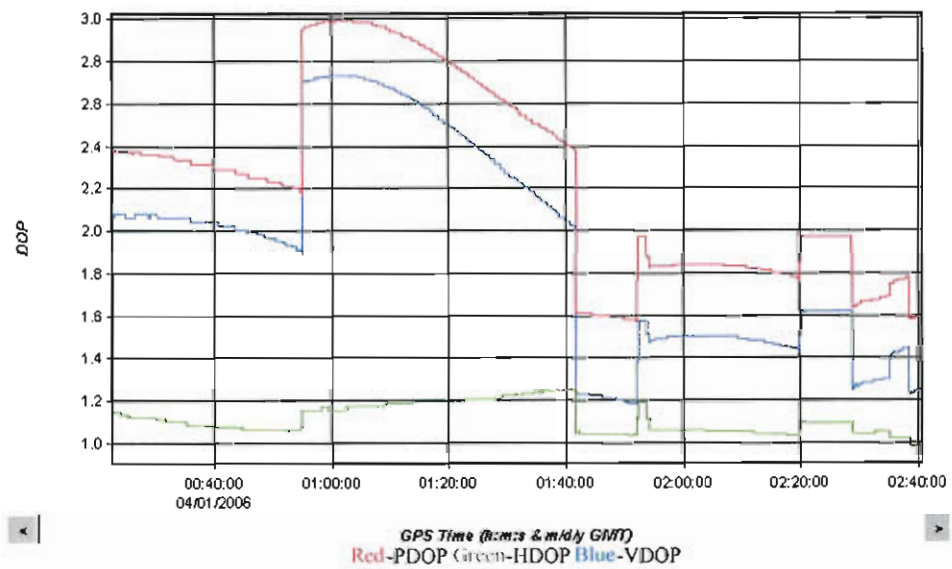
Flight: *MD09006_3*
Trajectory Solution: *Combined from both base stations*
Average Difference: *3.5 cm vertical, 5.0 cm horizontal*
Maximum Difference: *9.5 cm vertical, 6.5 cm horizontal*

Base	RMSE L1 Phase	Max.Dist.	Solution	Fixed or Float
AB4681	0.018	26.0	combined	X
JV6661	0.018	26.0	combined	x

Number of Satellites vs. Time:



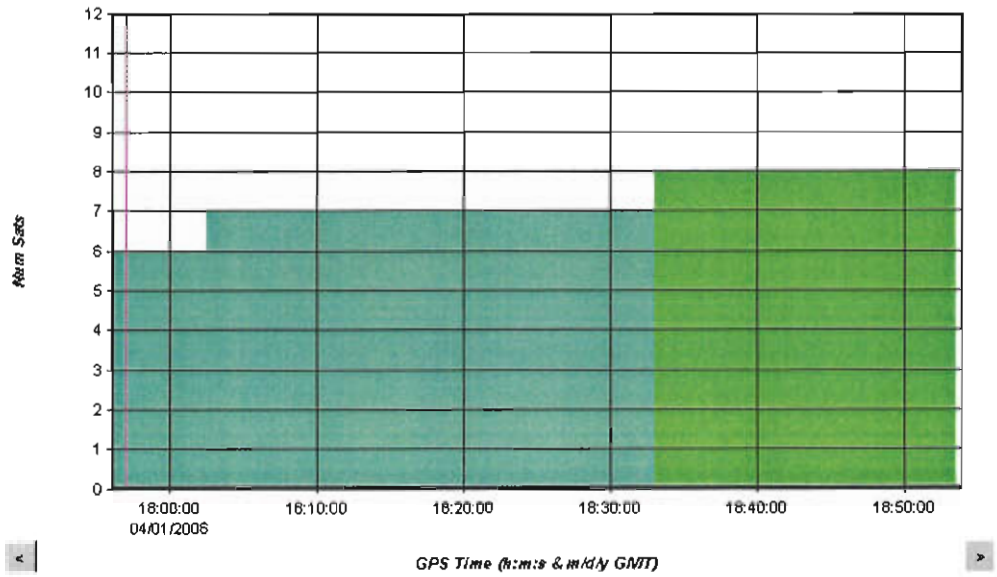
Dilution of Precision:



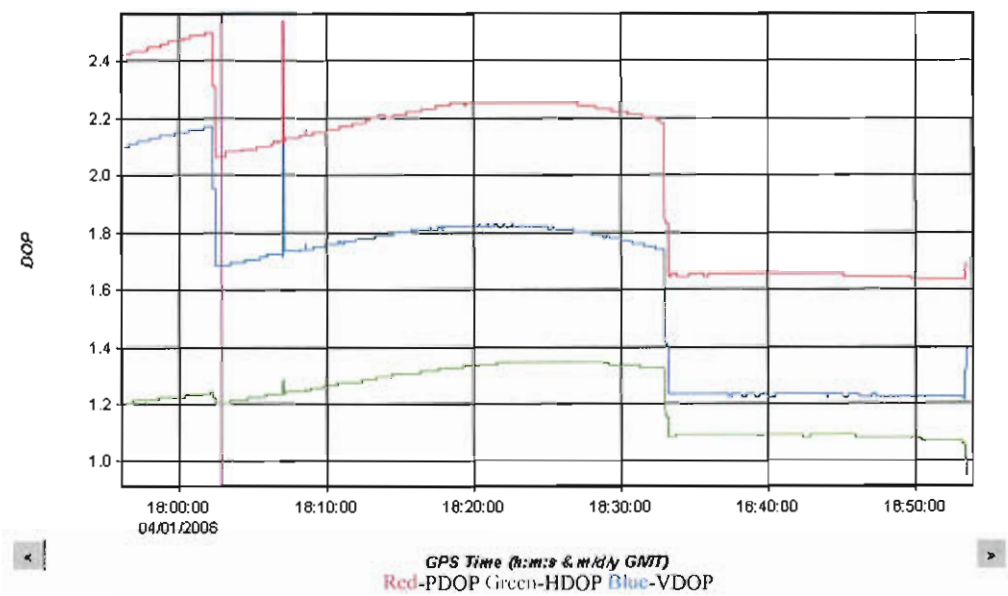
Flight: *MD09106_1*
Trajectory Solution: *Combined from both base stations*
Average Difference: *3.0 cm vertical, 3.0 cm horizontal*
Maximum Difference: *9.5 cm vertical, 4.5 cm horizontal*

Base	RMSE L1 Phase	Max.Dist.	Solution	Fixed or Float
AB4681	0.015	27.0	combined	X
JV6661	0.015	27.0	combined	x

Number of Satellites vs. Time:



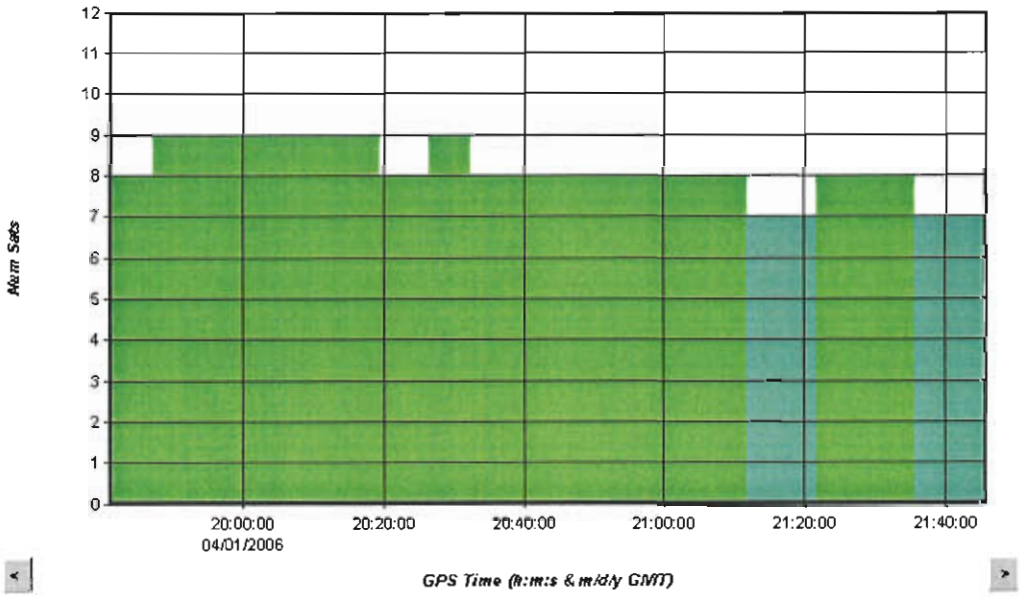
Dilution of Precision:



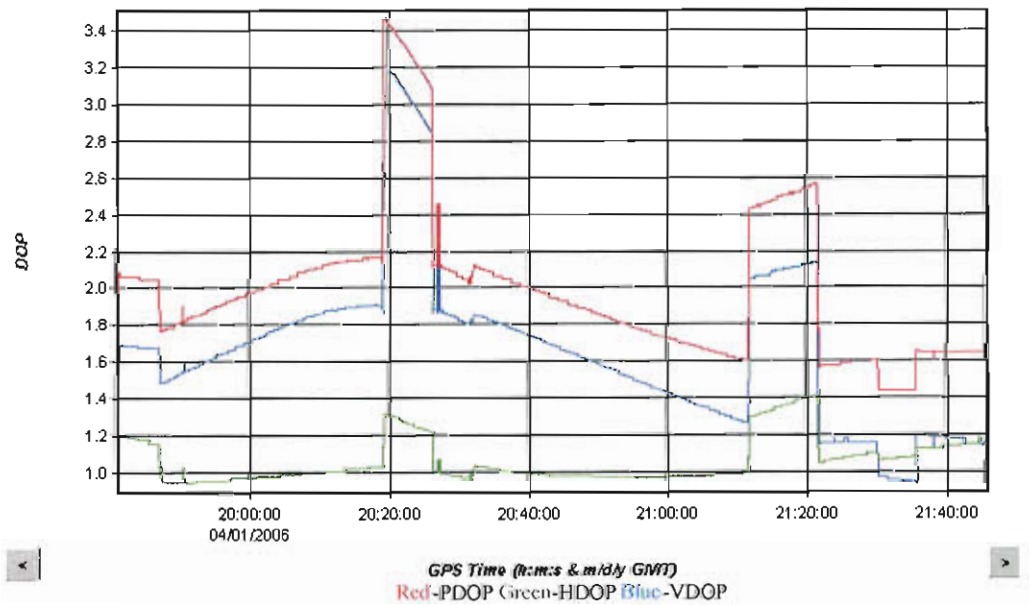
Flight: *MD09106_2*
Trajectory Solution: *Combined from both base stations*
Average Difference: *3.5 cm vertical, 2.0 cm horizontal*
Maximum Difference: *8.5 cm vertical, 4.5 cm horizontal*

Base	RMSE L1 Phase	Max.Dist.	Solution	Fixed or Float
AB4681	0.020	27.0	combined	X
JV6661	0.015	23.0	combined	x

Number of Satellites vs. Time:



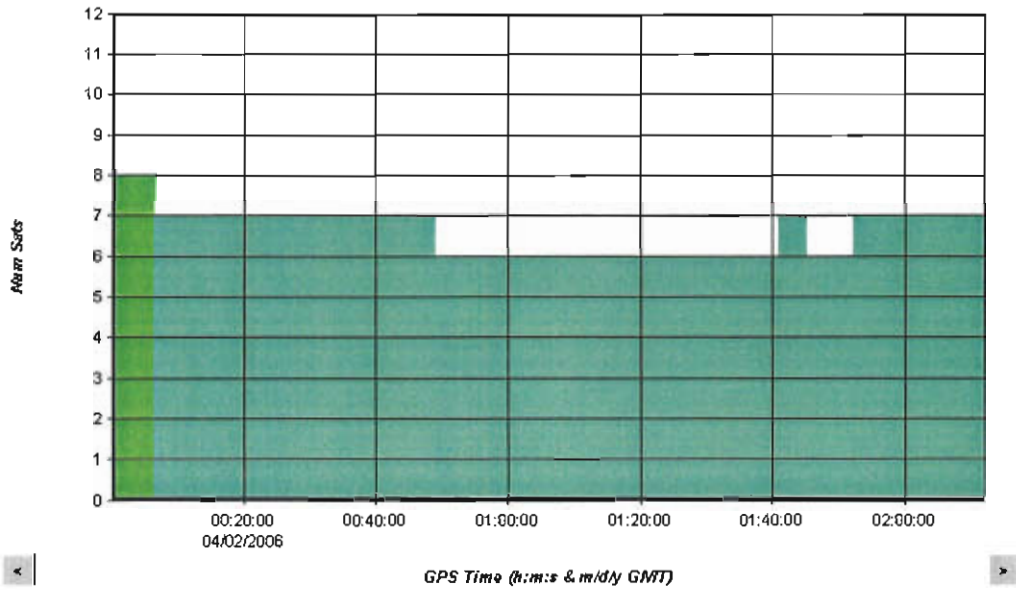
Dilution of Precision:



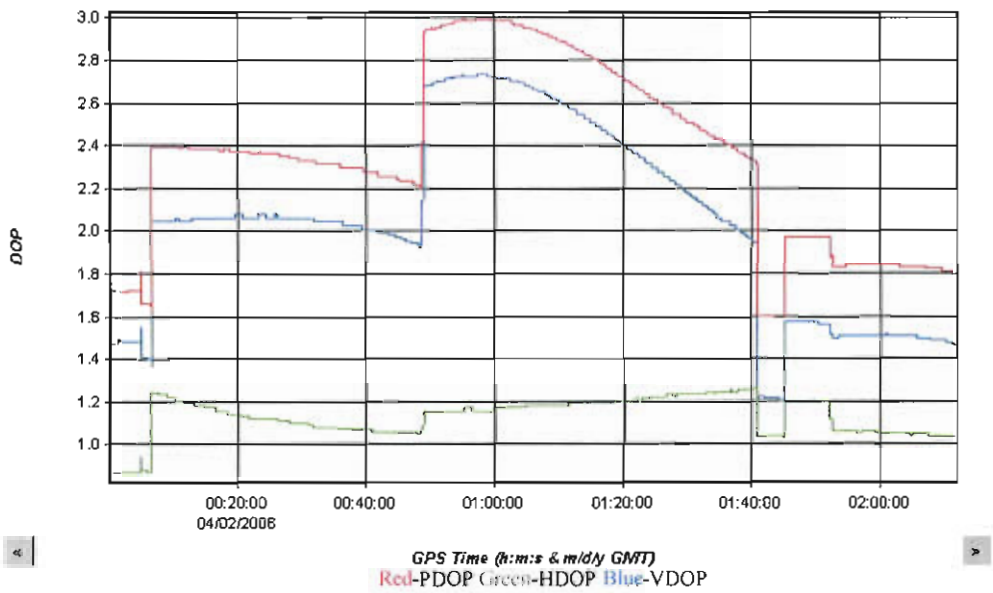
Flight: *MD09106_3*
Trajectory Solution: *Combined from both base stations*
Average Difference: *3.5 cm vertical, 2.0 cm horizontal*
Maximum Difference: *10.5 cm vertical, 5.0 cm horizontal*

Base	RMSE Ll Phase	Max.Dist.	Solution	Fixed or Float
AB4681	0.015	31.0	combined	X
JV6661	0.015	27.0	combined	x

Number of Satellites vs. Time:



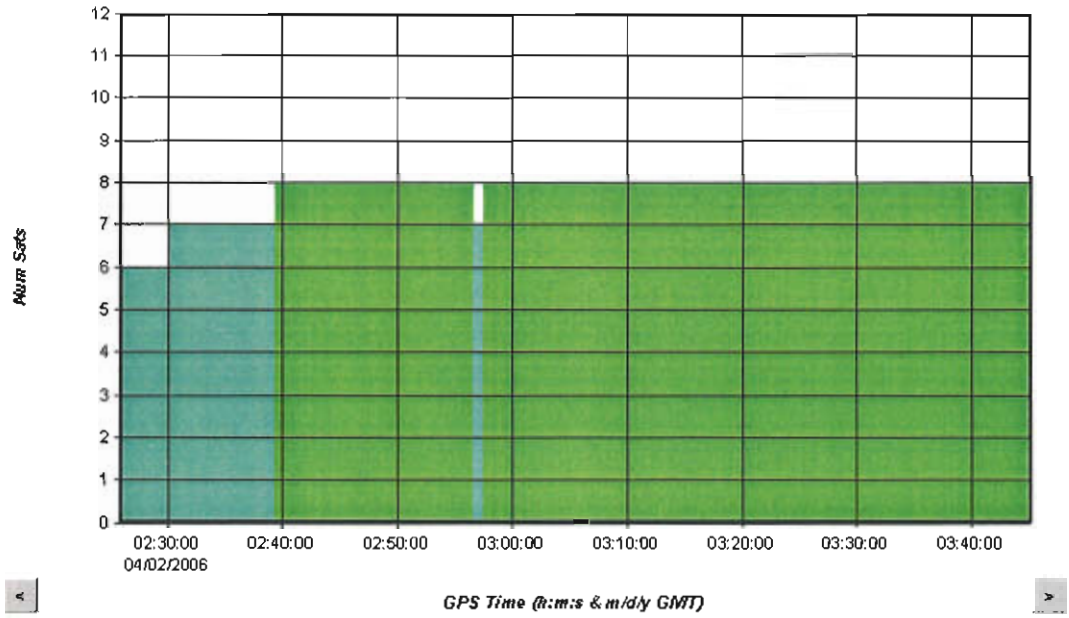
Dilution of Precision:



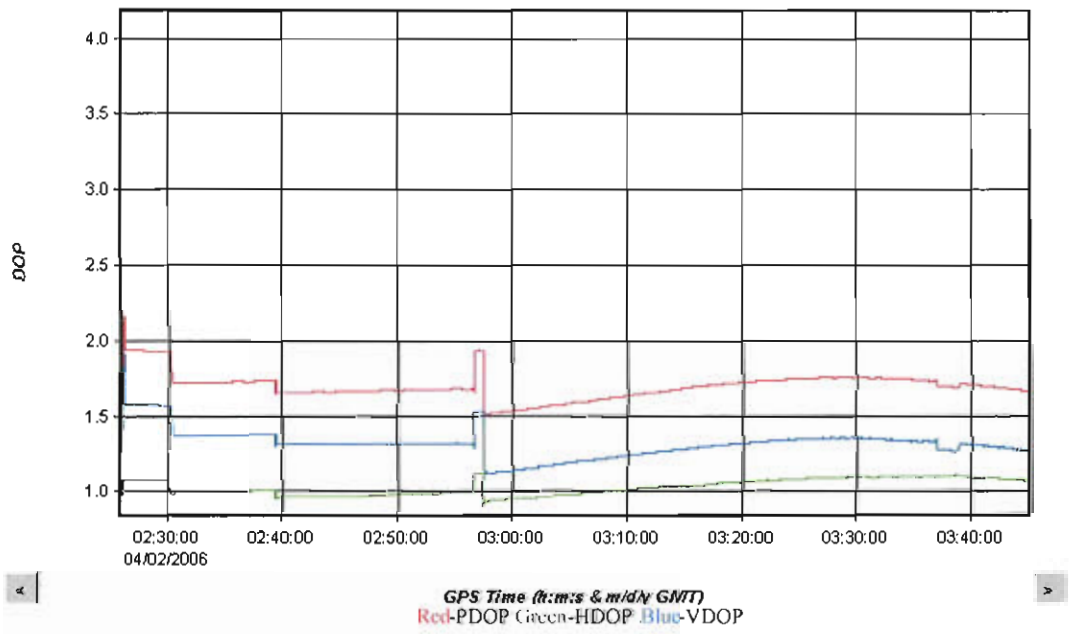
Flight: *MD09106_4*
Trajectory Solution: *Combined from both base stations*
Average Difference: *2.5 cm vertical, 2.5 cm horizontal*
Maximum Difference: *7.5 cm vertical, 5.0 cm horizontal*

Base	RMSE L1 Phase	Max.Dist.	Solution	Fixed or Float
AB4681	0.015	38.0	combined	x
JV6661	0.015	36.0	combined	x

Number of Satellites vs. Time:



Dilution of Precision:

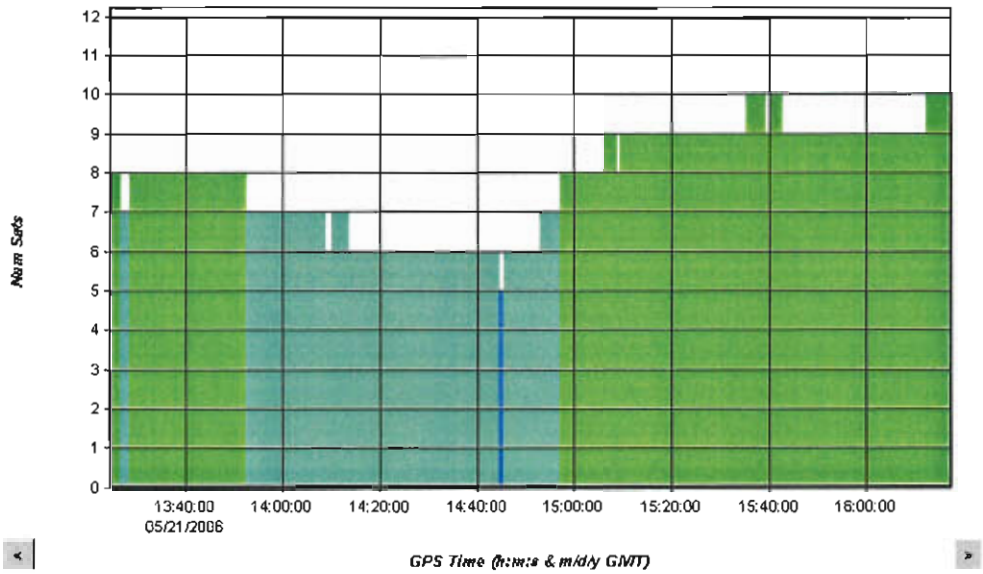


Flight: *MD14106_1*
Trajectory Solution: *forward from YORK station*
Average Difference: *15.0 cm vertical, 8.0 cm horizontal (when comparing forward and reverse from YORK)*
Maximum Difference: *30.0 cm vertical, 15.0 cm horizontal (when comparing forward and reverse from YORK)*

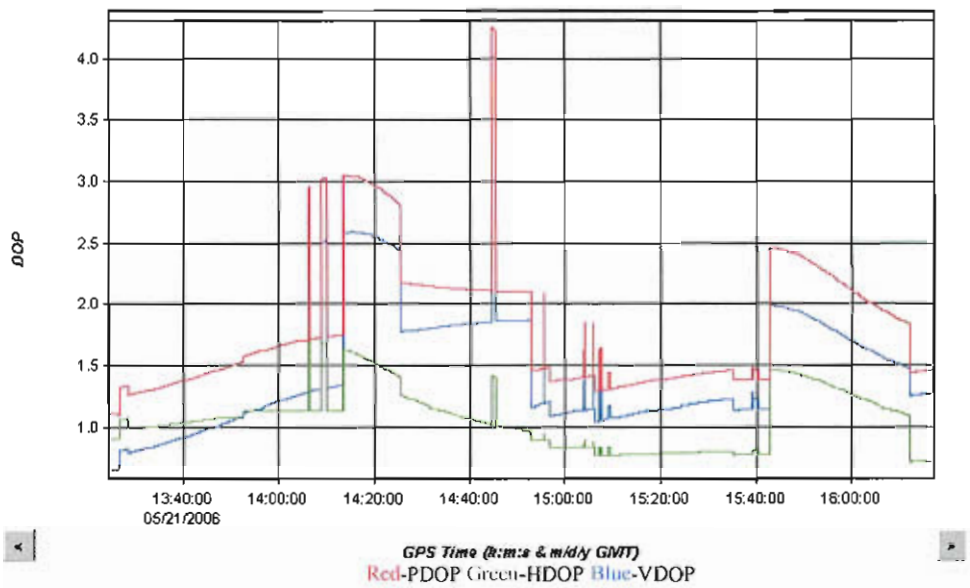
Base	RMSE L1 Phase	Max.Dist.	Solution	Fixed or Float	
YORK	0.035	65.0	forward	X	
YORK	0.065	65.0	reverse	x	X (some portions had float solution)

*due to the inability to achieve a fixed solution in the reverse direction from station YORK, it is evident that the forward solution is significantly more accurate than the reverse solution. Therefore only the forward solution was used in laser point processing for this flight.

Number of Satellites vs. Time:



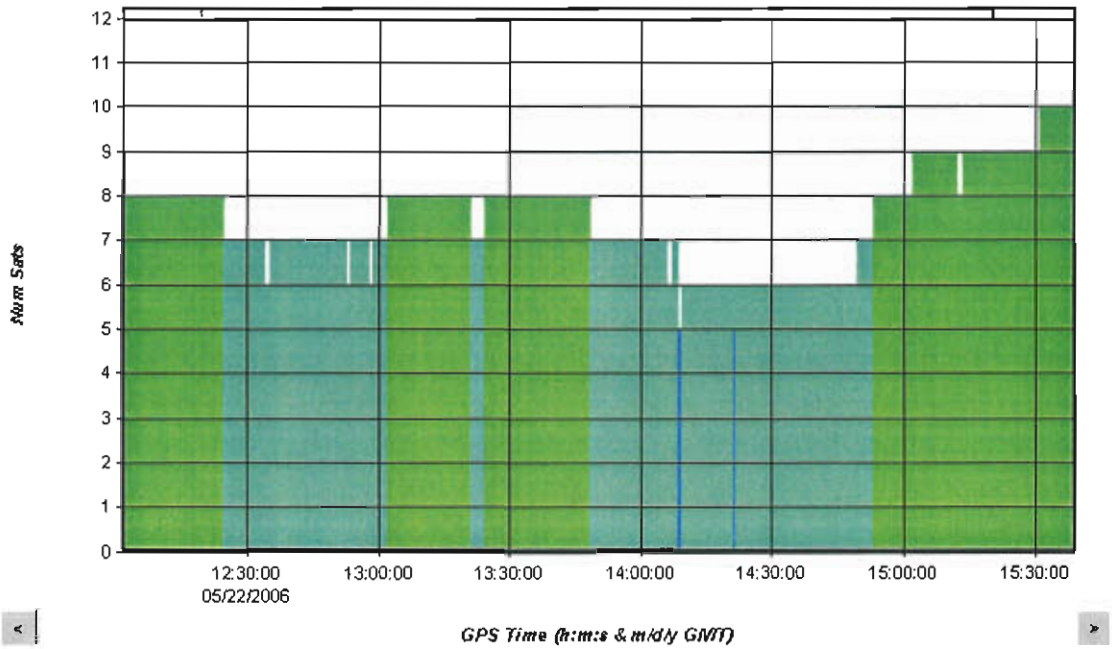
Dilution of Precision:



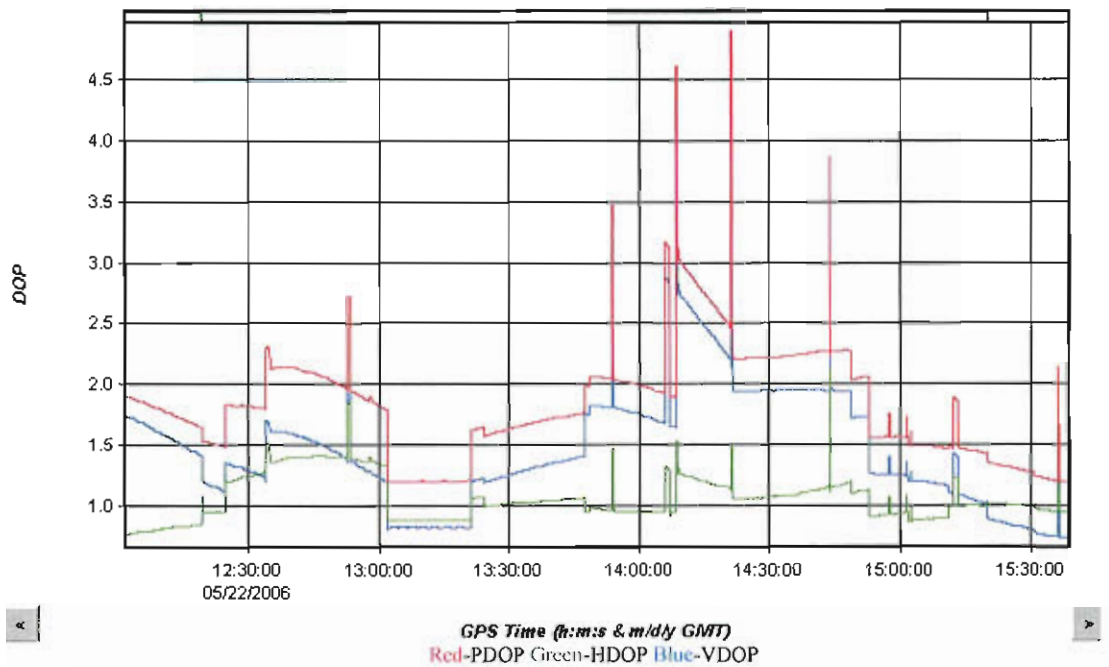
Flight: *MD14206_1*
Trajectory Solution: *Combined from one base stations*
Average Difference: *4.0 cm vertical, 2.5 cm horizontal*
Maximum Difference: *12.5 cm vertical, 5.0 cm horizontal*

Base	RMSE L1 Phase	Max.Dist.	Solution	Fixed or Float
York	0.025	60.0	combined	X

Number of Satellites vs. Time:



Dilution of Precision:



SYSTEM CALIBRATION

See attached System Calibration report

QUALITY-CONTROL & ACCURACY

See attached QAQC report

APPENDIX

NGS DATASHEETS:

The NGS Data SheetSee file dsdata.txt for more information about the datasheet.DATABASE = Sybase ,PROGRAM = datasheet, VERSION = 7.34

1 National Geodetic Survey, Retrieval Date = APRIL 6, 2006

AB4681 **********

AB4681 SACS - This is a Secondary Airport Control Station.

AB4681 DESIGNATION - SHOP

AB4681 PID - AB4681

AB4681 STATE/COUNTY- MD/CARROLL

AB4681 USGS QUAD - NEW WINDSOR (1977)

AB4681

AB4681 *CURRENT SURVEY CONTROL

AB4681 ---

AB4681* NAD 83(1991)- 39 36 37.60944(N) 077 00 26.31956(W) ADJUSTED

AB4681* NAVD 88 - 237.972 (meters) 780.75 (feet) ADJUSTED

AB4681 ---

AB4681 X - 1,106,272.310 (meters) COMP

AB4681 Y - -4,794,582.946 (meters) COMP

AB4681 Z - 4,044,889.131 (meters) COMP

AB4681 LAPLACE CORR- 4.01 (seconds) DEFLEC99

AB4681 ELLIP HEIGHT- 205.60 (meters) (02/12/02) GPS OBS

AB4681 GEOID HEIGHT- -32.35 (meters) GEOID03

AB4681 DYNAMIC HT - 237.848 (meters) 780.34 (feet) COMP

AB4681 MODELED GRAV- 980,096.5 (mgal) NAVD 88

AB4681

AB4681 HORZ ORDER - A

AB4681 VERT ORDER - SECOND CLASS I

AB4681 ELLP ORDER - FOURTH CLASS I

AB4681

AB4681.This mark is at Carroll Co Regional/jack B Poage Fld Airport (W54)

AB4681

AB4681.The horizontal coordinates were established by GPS observations

AB4681.and adjusted by the National Geodetic Survey in February 2002..

AB4681

AB4681.The orthometric height was determined by differential leveling

AB4681.and adjusted by the National Geodetic Survey in November 2003..

AB4681.No vertical observational check was made to the station.

AB4681

AB4681.The X, Y, and Z were computed from the position and the ellipsoidal ht.

AB4681

AB4681.The Laplace correetion was computed from DEFLEC99 derived deflections.

AB4681

AB4681.The ellipsoidal height was determined by GPS observations

AB4681.and is referenced to NAD 83.

AB4681

AB4681.The geoid height was determined by GEOID03.

AB4681

AB4681.The dynamic height is computed by dividing the NAVD 88

AB4681.geopotential number by the normal gravity value computed on the

AB4681.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45

AB4681.degrees latitude (g = 980.6199 gals.).

AB4681

AB4681.The modeled gravity was interpolated from observed gravity values.

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AB4681
AB4681;              North        East     Units Scale Factor Converg.
AB4681;SPC MD     -  215,777.691  399,372.133  MT  1.00003201  -0 00 16.5
AB4681;SPC MD     -  707,930.64  1,310,273.41  sFT  1.00003201  -0 00 16.5
AB4681;UTM 18     - 4,386,447.059  327,680.184  MT  0.99996560  -1 16 48.4
AB4681
AB4681!          -  Elev Factor  x  Scale Factor =   Combined Factor
AB4681!SPC MD     -  0.99996775  x  1.00003201  =  0.99999975
AB4681!UTM 18     -  0.99996775  x  0.99996560  =  0.99993335
AB4681
AB4681:             Primary Azimuth Mark                Grid Az
AB4681:SPC MD     -  CARROLL AP                         155 25 22.5
AB4681:UTM 18     -  CARROLL AP                         156 41 54.4
AB4681
AB4681|-----------------------------------------------------------------------|
AB4681| PID    Reference Object                Distance      Geod. Az  |
AB4681|                                        dddmmss.s |
AB4681| JV6465 CARROLL AP                        APPROX. 0.6 KM 1552506.0 |
AB4681|-----------------------------------------------------------------------|
AB4681
AB4681                    SUPERSEDED SURVEY CONTROL
AB4681
AB4681  NAD 83(1991)-  39 36 37.60965(N)    077 00 26.31977(W) AD(      ) 1
AB4681  ELLIP H (07/08/98)  205.54  (m)                    GP(      ) 4 1
AB4681  NAD 83(1991)-  39 36 37.60887(N)    077 00 26.32033(W) AD(      ) 1
AB4681  ELLIP H (07/03/96)  205.53  (m)                    GP(      ) 1 1
AB4681
AB4681.Superseded values are not recommended for survey control.
AB4681.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
AB4681.See file dsdata.txt to determine how the superseded data were derived.
AB4681
AB4681_U.S. NATIONAL GRID SPATIAL ADDRESS: 18SUJ2768086447(NAD 83)
AB4681_MARKER: DD = SURVEY DISK
AB4681_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
AB4681_STAMPING: SHOP 1995
AB4681_MARK LOGO: MD-013
AB4681_MAGNETIC: O = OTHER; SEE DESCRIPTION
AB4681_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
AB4681+STABILITY: SURFACE MOTION
AB4681_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
AB4681+SATELLITE: SATELLITE OBSERVATIONS - June 28, 2001
AB4681
AB4681  HISTORY    - Date    Condition      Report By
AB4681  HISTORY    - 1995    MONUMENTED     MD-013
AB4681  HISTORY    - 19960830 GOOD          NGS
AB4681  HISTORY    - 20000327 GOOD          MDSHA
AB4681  HISTORY    - 20010628 GOOD          MDSHA
AB4681
AB4681                    STATION DESCRIPTION
AB4681
AB4681'DESCRIBED BY CARROLL COUNTY MARYLAND 1995
AB4681'STATION IS LOCATED ABOUT 2.0 MI (3.2 KM) NORTH OF THE CENTER OF
AB4681'WESTMINSTER ON THE GROUNDS OF THE CARROLL COUNTY AIRPORT. TO REACH
AB4681'STATION FROM THE MD ROUTE 140 (TANEYTOWN PIKE) OVERPASS BRIDGE OVER MD
AB4681'ROUTE 97 (LITTLESTOWN PIKE) AT WESTMINSTER GO NORTH ON MD ROUTE 97 FOR
AB4681'1.5 MI (2.4 KM) TO THE INTERSECTION WITH OLD MEADOW BRANCH ROAD. TURN
AB4681'LEFT ON OLD MEADOW BRANCH ROAD AND GO WEST FOR 0.5 MI (0.8 KM) TO THE
AB4681'ENTRANCE TO THE CARROLL COUNTY MAINTENANCE CENTER. TURN RIGHT AND GO
```

AB4681'NORTH ALONG THE ENTRANCE ROAD FOR 0.1 MI (0.2 KM) TO A BLACK BUILDING
AB4681'ON THE RIGHT AND THE STATION ON THE LEFT. STATION IS ON THE TOP OF THE
AB4681'BANK BETWEEN THE TAXIWAY OF THE AIRPORT AND THE MAINTENANCE CENTER
AB4681'ENTRANCE ROAD. STATION MARK IS SET IN THE TOP OF A 10 IN DIAMETER
AB4681'CONCRETE MONUMENT SET 0.3 FT (0.1 M) BELOW THE GROUND. IT IS 141 FT
AB4681'(43.0 M) WEST OF THE ROAD, 100 FT (30.5 M) WEST OF A 14 IN MAPLE TREE,
AB4681'176.5 FT (53.8 M) EAST OF A BLUE RUNWAY LIGHT, 183.7 FT (56.0 M) EAST
AB4681'OF THE EDGE OF PAVE OF THE TAXIWAY, 174.5 FT (53.2 M) SOUTH EAST OF A
AB4681'RUNWAY LIGHT, 86.0 FT (26.2 M) SOUTH OF AN UNDERGROUND CABLE POST
AB4681'NO.981.5, 146.5 FROM AN UNDERGROUND CABLE POST NO.981 AND ABOUT 45 FT
AB4681'(13.7 M) WEST OF THE TOP OF THE BANK.
AB4681
AB4681 STATION RECOVERY (1996)
AB4681
AB4681'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1996 (JTM)
AB4681'RECOVERED AS DESCRIBED. THIS STATION IS DESIGNATED AS A SECONDARY
AB4681'AIRPORT CONTROL STATION (SACS) .
AB4681
AB4681 STATION RECOVERY (2000)
AB4681
AB4681'RECOVERY NOTE BY MARYLAND DOT HIGHWAY ADMINISTRATION 2000 (SFK)
AB4681'RECOVERED AS DESCRIBED.
AB4681
AB4681 STATION RECOVERY (2001)
AB4681
AB4681'RECOVERY NOTE BY MARYLAND DOT HIGHWAY ADMINISTRATION 2001 (SFK)
AB4681'NOTE= SEE MD-DE-DC FBN 2000 PROJECT GPS 1530 FOR DESCRIPTION.

*** retrieval complete.
Elapsed Time = 00:00:01

The NGS Data SheetSee file dsdata.txt for more information about the datasheet.DATABASE = Sybase ,PROGRAM = datasheet, VERSION = 7.34

1 National Geodetic Survey, Retrieval Date = APRIL 6, 2006

JV6661 **********

JV6661 CBN - This is a Cooperative Base Network Control Station.

JV6661 DESIGNATION - MAYESKI

JV6661 PID - JV6661

JV6661 STATE/COUNTY- MD/CARROLL

JV6661 USGS QUAD - WINFIELD (1979)

JV6661

JV6661 *CURRENT SURVEY CONTROL

JV6661 ---

JV6661* NAD 83(1991)- 39 26 39.56347(N) 077 02 36.55693(W) ADJUSTED

JV6661* NAVD 88 - 227.298 (meters) 745.73 (feet) ADJUSTED

JV6661 ---

JV6661 X - 1,105,874.992 (meters) COMP

JV6661 Y - -4,806,712.919 (meters) COMP

JV6661 Z - 4,030,655.931 (meters) COMP

JV6661 LAPLACE CORR- 0.97 (seconds) DEFLEC99

JV6661 ELLIP HEIGHT- 195.35 (meters) (02/12/02) GPS OBS

JV6661 GEOID HEIGHT- -31.96 (meters) GEOID03

JV6661 DYNAMIC HT - 227.178 (meters) 745.33 (feet) COMP

JV6661 MODELED GRAV- 980,094.8 (mgal) NAVD 88

JV6661

JV6661 HORZ ORDER - B

JV6661 VERT ORDER - SECOND CLASS I

JV6661 ELLP ORDER - FOURTH CLASS I

JV6661

JV6661.The horizontal coordinates were established by GPS observations

JV6661.and adjusted by the National Geodetic Survey in October 1991..

JV6661

JV6661.The orthometric height was determined by differential leveling

JV6661.and adjusted by the National Geodetic Survey in August 1994..

JV6661

JV6661.The X, Y, and Z were computed from the position and the ellipsoidal ht.

JV6661

JV6661.The Laplace correction was computed from DEFLEC99 derived deflections.

JV6661

JV6661.The ellipsoidal height was determined by GPS observations

JV6661.and is referenced to NAD 83.

JV6661

JV6661.The geoid height was determined by GEOID03.

JV6661

JV6661.The dynamic height is computed by dividing the NAVD 88

JV6661.geopotential number by the normal gravity value computed on the

JV6661.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45

JV6661.degrees latitude (g = 980.6199 gals.).

JV6661

JV6661.The modcled gravity was interpolated from observed gravity values.

JV6661

JV6661; North East Units Scale Factor Converg.

JV6661;SPC MD - 197,334.287 396,256.467 MT 0.99999901 -0 01 38.3

JV6661;SPC MD - 647,420.91 1,300,051.43 sFT 0.99999901 -0 01 38.3

JV6661;UTM 18 - 4,368,078.217 324,155.551 MT 0.99998072 -1 17 55.0

JV6661

```
JV6661!          - Elev Factor  x  Scale Factor =   Combined Factor
JV6661!SPC MD    -  0.99996935  x  0.99999901  =   0.99996836
JV6661!UTM 18    -  0.99996935  x  0.99998072  =   0.99995007
JV6661
JV6661                  SUPERSEDED SURVEY CONTROL
JV6661
JV6661  ELLIP H (10/23/91)  195.24  (m)              GP(     ) 4 1
JV6661  NAVD 88 (07/03/96)  227.30  (m)      745.7   (f) LEVELING   3
JV6661  NGVD 29 (10/23/91)  227.50  (m)      746.4   (f) LEVELING   3
JV6661
JV6661.Superseded values are not recommended for survey control.
JV6661.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
JV6661.See file dsdata.txt to determine how the superseded data were derived.
JV6661
JV6661_U.S. NATIONAL GRID SPATIAL ADDRESS: 18SUJ2415668078(NAD 83)
JV6661_MARKER: DH = HORIZONTAL CONTROL DISK
JV6661_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
JV6661_SP_SET: CONCRETE POST
JV6661_STAMPING: MAYESKI 1990
JV6661_MARK LOGO: NGS
JV6661_MAGNETIC: O = OTHER; SEE DESCRIPTION
JV6661_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
JV6661+STABILITY: SURFACE MOTION
JV6661_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
JV6661+SATELLITE: SATELLITE OBSERVATIONS - March 27, 2000
JV6661
JV6661  HISTORY    - Date    Condition      Report By
JV6661  HISTORY    - 1990    MONUMENTED     NGS
JV6661  HISTORY    - 19901123 GOOD          NGS
JV6661  HISTORY    - 19951128 GOOD          MCCRON
JV6661  HISTORY    - 19990805 GOOD          GEOMET
JV6661  HISTORY    - 20000327 GOOD          MDSHA
JV6661
JV6661                  STATION DESCRIPTION
JV6661
JV6661'DESCRIBED BY NATIONAL GEODETIC SURVEY 1990
JV6661'THE STATION IS LOCATED ABOUT 1 KM (0.6 MI) EAST OF THE APPROXIMATE
JV6661'CENTER OF THE SMALL VILLAGE OF WINFIELD AND AT THE SOUTH CARROLL HIGH
JV6661'SCHOOL. OWNERSHIP--CARROLL COUNTY DEPARTMENT OF EDUCATION.
JV6661'TO REACH FROM THE OVERPASS BRIDGE WHERE STATE HIGHWAY 26 PASSES OVER
JV6661'STATE HIGHWAY 97 AT DORSEY CROSSROADS, GO NORTHWEST ON STATE HIGHWAY
JV6661'26 FOR 3.5 KM (2.2 MI) TO THE ENTRANCE TO MAYESKI PARK ON THE RIGHT.
JV6661'TURN RIGHT AND GO NORTHEAST ON CRUSH AND RUN ENTRANCE ROAD FOR 0.2 KM
JV6661'(0.1 MI) TO THE STATION ON THE RIGHT.
JV6661'THE DISK IS SET IN THE TOP OF A 0.3 M (1.0 FT) ROUND CONCRETE POST
JV6661'WHICH IS FLUSH WITH THE SURFACE OF THE GROUND.  IT IS 40.8 M
JV6661'(133.9 FT) SOUTHEAST OF THE CENTER OF CRUSH AND RUN ENTRANCE ROAD,
JV6661'60.0 M (196.8 FT) SOUTH OF THE SOUTHEAST CORNER OF A ONE STORY BLOCK
JV6661'BUILDING, 52.7 M (172.9 FT) SOUTH OF A METAL FENCE POST, 55.0 M
JV6661'(180.4 FT) NORTHWEST OF A POWERLINE POLE NUMBERED 39, 184 FT
JV6661'(56.1 M) NORTHWEST OF A POWERLINE POLE NUMBERED 39 4 AND 47.5 M
JV6661'(155.8 FT) NORTH OF A ONE STORY RED BLOCK BUILDING.
JV6661
JV6661                  STATION RECOVERY (1990)
JV6661
JV6661'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1990
JV6661'STATION IS LOCATED ABOUT 14 KM (8.7 MI) NORTHEAST OF MOUNT AIRY, 4 KM
JV6661'(2.5 MI) SOUTHEAST OF TAYLORSVILLE, I KM (0.6 MI) SOUTHEAST OF
```

JV6661'WINFIELD, AT MAYESKI PARK, AND IN A LONG GRASS STRIP BETWEEN THE
JV6661'VOLUNTEER FIRE DEPARTMENT BUILDING AND THE HIGH SCHOOL FOOTBALL
JV6661'STADIUM FOR SOUTH CARROLL HIGH SCHOOL. OWNERSHIP--CARROLL COUNTY
JV6661'DEPARTMENT OF EDUCATION.
JV6661'TO REACH FROM THE JUNCTION OF INTERSTATE HIGHWAY 70 AND STATE HIGHWAY
JV6661'27 AT MOUNT AIRY (EXIT 68), GO NORTHWEST ON HIGHWAY 27 FOR 13.74 KM
JV666I'(8.54 MI) TO ITS JUNCTION WITH STATE HIGHWAY 26 IN TAYLORSVILLE. TURN
JV666I'RIGHT, SOUTHEAST, ON HIGHWAY 26 FOR 2.98 KM (1.85 MI) TO A CROSSROAD
JV666I'AT STOPLIGHT (WOODBINE ROAD ON RIGHT). CONTINUE AHEAD FOR 0.99 KM
JV666I'(0.62 MI) TO A PAVED ROAD LEFT. TURN LEFT, CROSSING A PAVED FRONTAGE
JV6661'ROAD, AND GO NORTH ON A GRAVEL ROAD INTO MAYESKI PARK FOR 0.21 KM
JV6661'(0.13 MI) TO A BLOCK BUILDING ON THE LEFT AT ENTRANCE TO THE FOOTBALL
JV6661'STADIUM AND THE STATION ON THE RIGHT.
JV6661'STATION MARK IS SET IN THE TOP OF A 30-CM ROUND CONCRETE POST FLUSH
JV6661'WITH THE GROUND. IT IS 40.6 M (133.2 FT) SOUTHEAST OF THE CENTER OF
JV6661'THE GRAVEL ROAD, 3 M (9.8 FT) NORTHWEST OF THE TOP OF THE
JV6661'NORTHEAST-SOUTHWEST RIDGE, 60.2 M (197.5 FT) SOUTH-SOUTHEAST OF THE
JV666I'SOUTHEAST CORNER OF THE BLOCK BUILDING, 47.6 M (156.2 FT) NORTH OF
JV666I'THE NORTH CORNER OF A LONG CINDERBLOCK BUILDING, 23.0 M (75.5 FT)
JV666I'NORTHWEST OF THE CENTER OF A TRACK ROAD, AND 13.8 M (45.3 FT)
JV666I'SOUTHWEST OF THE EXTENDED SOUTHWEST WALL OF THE STADIUM ENTRANCE
JV6661'BUILDING.
JV6661'DESCRIBED BY G.R.HEID.
JV6661
JV6661 STATION RECOVERY (1995)
JV6661
JV6661'RECOVERY NOTE BY J R MCCRONE JR INCORPORATED 1995 (HAS)
JV6661'RECOVERED AS DESCRIBED.
JV6661
JV666I STATION RECOVERY (1999)
JV666I
JV666I'RECOVERY NOTE BY GEOMETRICS GPS INCORPORATED 1999 (CN)
JV666I'RECOVERED AS DESCRIBED.
JV6661
JV666I STATION RECOVERY (2000)
JV666I
JV6661'RECOVERY NOTE BY MARYLAND DOT HIGHWAY ADMINISTRATION 2000 (SFK)
JV666I'THE STATION WAS RECOVERED IN GOOD CONDITION AS DESCRIBED. THE AREA IS
JV666I'BEING USED AS A PARKING AREA FOR SOUTH CARROLL HIGH SCHOOL STUDENTS.

*** retrieval complete.
Elapsed Time = 00:00:00

The NGS Data SheetSee file dsdata.txt for more information about the datasheet.DATABASE = Sybase ,PROGRAM = datasheet, VERSION = 7.34

1 National Geodetic Survey, Retrieval Date = APRIL 6, 2006

AF9522 **********

AF9522 HT_MOD - This is a Height Modernization Survey Station.

AF9522 CORS - This is a GPS Continuously Operating Reference Station.

AF9522 DESIGNATION - GAITHERSBURG CORS ARP

AF9522 CORS_ID - GAIT

AF9522 PID - AF9522

AF9522 STATE/COUNTY- MD/MONTGOMERY

AF9522 USGS QUAD - GAITHERSBURG (1979)

AF9522

AF9522 *CURRENT SURVEY CONTROL

AF9522 ---

AF9522* NAD 83(CORS)- 39 08 02.34046(N) 077 13 15.51884(W) ADJUSTED

AF9522* NAVD 88 - 140.66 (meters) 461.5 (feet) GPS OBS

AF9522 ---

AF9522 EPOCH DATE - 2002.00

AF9522 X - 1,095,790.780 (meters) COMP

AF9522 Y - -4,831,328.052 (meters) COMP

AF9522 Z - 4,003,934.411 (meters) COMP

AF9522 ELLIP HEIGHT- 108.94 (meters) (03/??/02) GPS OBS

AF9522 GEOID HEIGHT- -31.72 (meters) GEOID03

AF9522

AF9522 HORZ ORDER - SPECIAL (CORS)

AF9522 ELLP ORDER - SPECIAL (CORS)

AF9522

AF9522.ITRF positions are available for this station.

AF9522.The coordinates were established by GPS observations

AF9522.and adjusted by the National Geodetic Survey in March 2002..

AF9522.The coordinates are valid at the epoch date displayed above.

AF9522.The epoch date for horizontal control is a decimal equivalence

AF9522.of Year/Month/Day.

AF9522

AF9522.The orthometric height was determined by GPS observations and a

AF9522.high-resolution geoid model using precise GPS observation and

AF9522.processing techniques.

AF9522

AF9522.The PID for the CORS L1 Phase Center is AA3495.

AF9522

AF9522.The XYZ, and position/ellipsoidal ht. are equivalent.

AF9522

AF9522.The ellipsoidal height was determined by GPS observations

AF9522.and is referenced to NAD 83.

AF9522

AF9522.The geoid height was determined by GEOID03.

AF9522

AF9522; North East Units Scale Factor Converg.

AF9522;SPC MD - 162,903.082 380,894.456 MT 0.99995997 -0 08 19.3

AF9522;SPC MD - 534,457.86 1,249,651.23 sFT 0.99995997 -0 08 19.3

AF9522

AF9522! - Elev Factor x Scale Factor = Combined Factor

AF9522!SPC MD - 0.99998291 x 0.99995997 = 0.99994288

AF9522

AF9522 SUPERSEDED SURVEY CONTROL

AF9522

AF9522 NAD 83(CORS)- 39 08 02.34059(N) 077 13 15.51925(W) AD(1997.00) c
AF9522 ELLIP H (01/??/01) 108.94 (m) GP(1997.00) c c
AF9522 NAD 83(CORS)- 39 08 02.34060(N) 077 13 I5.51927(W) AD(1996.00) c
AF9522 NAD 83(CORS)- 39 08 02.34060(N) 077 13 I5.51927(W) AD(1997.00) c
AF9522 ELLIP H (04/??/96) 108.94 (m) GP(I997.00) c c
AF9522 ELLIP H (04/??/96) 108.94 (m) GP(1996.00) c c
AF9522
AF9522.Superseded values are not recommended for survey control.
AF9522.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
AF9522.See file dsdata.txt to determine how the superseded data were derived.
AF9522
AF9522_U.S. NATIONAL GRID SPATIAL ADDRESS: 18SUJ0803533994(NAD 83)
AF9522_MARKER: STATION IS THE ANTENNA REFERENCE POINT OF THE GPS ANTENNA
AF9522
AF9522 STATION DESCRIPTION
AF9522
AF9522'DESCRIBED BY NATIONAL GEODETIC SURVEY 2002
AF9522'STATION IS A GPS CORS. LATEST INFORMATION INCLUDING POSITIONS AND
AF9522'VELOCITIES ARE AVAILABLE IN THE COORDINATE AND LOG FILES ACCESSIBLE
AF9522'BY ANONYMOUS FTP OR THE WORLDWIDE WEB.
AF9522' FTP CORS.NGS.NOAA.GOV: CORS/COORD AND CORS/STATION_LOG
AF9522' HTTP://WWW.NGS.NOAA.GOV UNDER PRODUCTS AND SERVICES.

*** retrieval complete.
Elapsed Time = 00:00:00

The NGS Data SheetSee file dsdata.txt for more information about the datasheet.DATABASE = Sybase ,PROGRAM = datasheet, VERSION = 7.34
1 National Geodetic Survey, Retrieval Date = APRIL 6, 2006
DF6305 ***
DF6305 CORS - This is a GPS Continuously Operating Reference Station.
DF6305 DESIGNATION - U OF MD BALT COOP CORS ARP
DF6305 CORS_ID - UMBC
DF6305 PID - DF6305
DF6305 STATE/COUNTY- MD/BALTIMORE
DF6305 USGS QUAD - BALTIMORE WEST (1974)
DF6305
DF6305 *CURRENT SURVEY CONTROL
DF6305 _____
DF6305* NAD 83(CORS)- 39 15 24.36083(N) 076 42 41.46869(W) ADJUSTED
DF6305* NAVD 88 -
DF6305 _____
DF6305 EPOCH DATE - 2002.00
DF6305 X - 1,136,717.974 (meters) COMP
DF6305 Y - -4,812,977.318 (meters) COMP
DF6305 Z - 4,014,471.616 (meters) COMP
DF6305 ELLIP HEIGHT- 65.98 (meters) (07/??/02) GPS OBS
DF6305 GEOID HEIGHT- -32.44 (meters) GEOID03
DF6305
DF6305 HORZ ORDER - SPECIAL (CORS)
DF6305 ELLP ORDER - SPECIAL (CORS)
DF6305
DF6305.ITRF positions are available for this station.
DF6305.The coordinates were established by GPS observations
DF6305.and adjusted by the National Geodetic Survey in July 2002..
DF6305.The coordinates are valid at the epoch date displayed above.
DF6305.The epoch date for horizontal control is a decimal equivalence
DF6305.of Year/Month/Day.
DF6305
DF6305
DF6305.The PID for the CORS L1 Phase Center is DF6306.
DF6305
DF6305.The XYZ, and position/ellipsoidal ht. are equivalent.
DF6305
DF6305.The ellipsoidal height was determined by GPS observations
DF6305.and is referenced to NAD 83.
DF6305
DF6305.The geoid height was determined by GEOID03.
DF6305
DF6305; North East Units Scale Factor Converg.
DF6305;SPC MD - 176,550.150 424,898.751 MT 0.99997190 +0 10 51.8
DF6305;SPC MD - 579,231.62 1,394,021.99 sFT 0.99997190 +0 10 51.8
DF6305
DF6305! - Elev Factor x Scale Factor = Combined Factor
DF6305!SPC MD - 0.99998965 x 0.99997190 = 0.99996155
DF6305
DF6305 SUPERSEDED SURVEY CONTROL
DF6305
DF6305.No superseded survey control is available for this station.
DF6305
DF6305_U.S. NATIONAL GRID SPATIAL ADDRESS: 18SUJ5232946667(NAD 83)
DF6305_MARKER: STATION IS THE ANTENNA REFERENCE POINT OF THE GPS ANTENNA

DF6305
DF6305 STATION DESCRIPTION
DF6305
DF6305'DESCRIBED BY NATIONAL GEODETIC SURVEY 2002
DF6305'STATION IS A GPS COOPERATIVE CORS. LATEST INFORMATION INCLUDING
DF6305'POSITIONS AND VELOCITIES ARE AVAILABLE IN THE COORDINATE AND LOG
DF6305'FILES LOCATED AT THE PARTICIPATING AGENCY'S WEB SITE WHICH IS
DF6305'ACCESSIBLE FROM THE COOPERATIVE CORS WEB PAGE.
DF6305'http://www.ngs.noaa.gov/CORS/Coop

*** retrieval complete.
Elapsed Time = 00:00:01

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DE8103 ************************************************************************
 DE8103 CORS      - This is a GPS Continuously Operating Reference Station.
 DE8103 DESIGNATION - YORK CORS ARP
 DE8103 CORS_ID   - YORK
 DE8103 PID       - DE8103
 DE8103 STATE/COUNTY- PA/YORK
 DE8103 USGS QUAD  - YORK (1990)
 DE8103
 DE8103                *CURRENT SURVEY CONTROL
 DE8103 ______________________________________________________________________
 DE8103* NAD 83(CORS)- 39 59 13.27675(N)   076 44 24.53799(W)    ADJUSTED
 DE8103* NAVD 88   -
 DE8103 ______________________________________________________________________
 DE8103 EPOCH DATE -      2002.00
 DE8103 X          - 1,122,459.212 (meters)            COMP
 DE8103 Y          - -4,763,243.034 (meters)           COMP
 DE8103 Z          - 4,076,945.571 (meters)            COMP
 DE8103 ELLIP HEIGHT-       99.65 (meters)       (10/??/02) GPS OBS
 DE8103 GEOID HEIGHT-       -33.68 (meters)            GEOID03
 DE8103
 DE8103 HORZ ORDER  - SPECIAL (CORS)
 DE8103 ELLP ORDER  - SPECIAL (CORS)
 DE8103
 DE8103.ITRF positions are available for this station.
 DE8103.The coordinates were established by GPS observations
 DE8103.and adjusted by the National Geodetic Survey in October 2002..
 DE8103.The coordinates are valid at the epoch date displayed above.
 DE8103.The epoch date for horizontal control is a decimal equivalence
 DE8103.of Year/Month/Day.
 DE8103
 DE8103
 DE8103.The PID for the CORS L1 Phase Center is DE8104.
 DE8103
 DE8103.The XYZ, and position/ellipsoidal ht. are equivalent.
 DE8103
 DE8103.The ellipsoidal height was determined by GPS observations
 DE8103.and is referenced to NAD 83.
 DE8103
 DE8103.The geoid height was determined by GEOID03.
 DE8103
 DE8103;              North      East     Units Scale Factor Converg.
 DE8103;SPC PA S   -  73,075.183  686,248.792  MT  0.99999204   +0 39 18.7
 DE8103;SPC PA S   -  239,747.50  2,251,467.91  sFT  0.99999204   +0 39 18.7
 DE8103
 DE8103!         - Elev Factor  x  Scale Factor =  Combined Factor
 DE8103!SPC PA S   -  0.99998437  x  0.99999204  =  0.99997641
 DE8103
 DE8103                  SUPERSEDED SURVEY CONTROL
 DE8103
 DE8103.No superseded survey control is available for this station.
 DE8103
 DE8103_U.S. NATIONAL GRID SPATIAL ADDRESS: 18SUK5142927767(NAD 83)
 DE8103_MARKER: STATION IS THE ANTENNA REFERENCE POINT OF THE GPS ANTENNA
 DE8103
 DE8103                  STATION DESCRIPTION
 DE8103
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DE8103'DESCRIBED BY NATIONAL GEODETIC SURVEY 2002
DE8103'STATION IS A GPS CORS.  LATEST INFORMATION INCLUDING POSITIONS AND
DE8103'VELOCITIES ARE AVAILABLE IN THE COORDINATE AND LOG FILES ACCESSIBLE
DE8103'BY ANONYMOUS FTP OR THE WORLDWIDE WEB.
DE8103'  FTP CORS.NGS.NOAA.GOV: CORS/COORD  AND  CORS/STATION_LOG
DE8103'  HTTP://WWW.NGS.NOAA.GOV  UNDER PRODUCTS AND SERVICES.
DE8104 ***********************************************************************
DE8104  CORS      - This is a GPS Continuously Operating Reference Station.
DE8104  DESIGNATION - YORK CORS LI PHASE CENTER
DE8104  CORS_ID   - YORK
DE8104  PID       - DE8104
DE8104  STATE/COUNTY- PA/YORK
DE8104  USGS QUAD  - YORK (1990)
DE8104
DE8104                 *CURRENT SURVEY CONTROL
DE8104 ______________________________________________________________________
DE8104* NAD 83(CORS)- 39 59 13.27675(N)   076 44 24.53794(W)    ADJUSTED
DE8104* NAVD 88    -
DE8104 ______________________________________________________________________
DE8104  EPOCH DATE -      2002.00
DE8104  X         -  1,122,459.225 (meters)              COMP
DE8104  Y         - -4,763,243.086 (meters)              COMP
DE8104  Z         -  4,076,945.616 (meters)              COMP
DE8104  ELLIP HEIGHT-        99.72  (meters)       (10/??/02) GPS OBS
DE8104  GEOID HEIGHT-        -33.68  (meters)             GEOID03
DE8104
DE8104  HORZ ORDER  - SPECIAL (CORS)
DE8104  ELLP ORDER  - SPECIAL (CORS)
DE8104
DE8104.ITRF positions are available for this station.
DE8104.The coordinates were established by GPS observations
DE8104.and adjusted by the National Geodetic Survey in October 2002..
DE8104.The coordinates are valid at the epoch date displayed above.
DE8104.The epoch date for horizontal control is a decimal equivalence
DE8104.of Year/Month/Day.
DE8104
DE8104
DE8104.The PID for the CORS ARP is DE8103.
DE8104
DE8104.The XYZ, and position/ellipsoidal ht. are equivalent.
DE8104
DE8104.The ellipsoidal height was determined by GPS observations
DE8104.and is referenced to NAD 83.
DE8104
DE8104.The geoid height was determined by GEOID03.
DE8104
DE8104;              North      East     Units Scale Factor Converg.
DE8104;SPC PA S   -   73,075.183  686,248.793   MT  0.99999204   +0 39 18.7
DE8104;SPC PA S   -   239,747.50  2,251,467.92   sFT  0.99999204   +0 39 18.7
DE8104
DE8104!         - Elev Factor  x  Scale Factor =   Combined Factor
DE8104!SPC PA S   -  0.99998436  x  0.99999204  =  0.99997640
DE8104
DE8104                   SUPERSEDED SURVEY CONTROL
DE8104
DE8104.No superseded survey control is available for this station.
DE8104
DE8104_U.S. NATIONAL GRID SPATIAL ADDRESS: 18SUK5142927767(NAD 83)
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DE8104_MARKER: STATION IS THE L1 PHASE CENTER OF THE GPS ANTENNA
DE8104
DE8104 STATION DESCRIPTION
DE8104
DE8104'DESCRIBED BY NATIONAL GEODETIC SURVEY
DE8104'STATION IS A GPS CORS. LATEST INFORMATION INCLUDING POSITIONS AND
DE8104'VELOCITIES ARE AVAILABLE IN THE COORDINATE AND LOG FILES ACCESSIBLE
DE8104'BY ANONYMOUS FTP OR THE WORLDWIDE WEB.
DE8104' FTP CORS.NGS.NOAA.GOV: CORS/COORD AND CORS/STATION_LOG
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