LiDAR Processing Report

Professional Management
and LiDAR Data Collection
and Processing Services

Block 2

PROJECT TITLE:	Professional Management and LiDAR Data Collection and Processing Services
WORK ORDER NAME:	Task Order A
WORK ORDER NUMBER:	2007058492720
CONSULTANT NAME:	3001, Inc., CH2M Hill, Inc.
PROJECT MANAGERS:	Jeremy Conner, 3001 Project Manager JoLee Gardner, CH2M Hill Project Manager

Services provided by:

3001, INC. THE GEOSPATIAL COMPANY
501 Robert Blvd. 2nd Floor
Slidell, Louisiana 70458

Table of Contents

- **Section 1** System Calibration Report

  System Configuration

- **Section 2** Flight Logs

  Flight Map

- **Section 3** Calibration Site Maps

  Pre and Post Calibration Maps and Cross Sections

Section 1

System Calibration Report

The data posting is a function of flight altitude, airspeed, scan angle, scan rate, laser pulse rates, and terrain relief. The above functions are taken into consideration at the time of flight planning. Data acquisition procedures play a role in the success of this method. Many parameters are considered in order to achieve the maximum possible GPS positioning accuracy, such as the separation between the airborne and base station GPS receivers, satellite geometry as reflected by the Position Dilution of Precision (PDOP), signal multipath, and many other factors.

The post-flight data processing software maximizes detection probability while minimizing false alarms. It corrects for several unavoidable, but predictable, biases from the environment as well as removing effects inherent to the hardware configuration.

Monitoring the data during collection is only part of the process done to assure proper operation of equipment and ultimately, data quality. However, all subsystems may indicate correct operating parameters (precision), but that does not mean that together they are providing correct solutions (accuracy). In order to validate the collection process, calibration tests are performed. These procedures allow the operator to know if the subsystems have been set up properly and if there are any inherent biases in the instrumentation.

Prior to the calibration process, the GPS base stations, which are correlated to NGS CORS network stations, are processed in conjunction with the airborne GPS raw observables to determine the aircrafts positions. The processed GPS positions are combined with the inertial data (IMU) using the Applanix POSPac™ in a closed loop fashion (forward and backward solution with Kalman filter option) to compute the Smoothed Best Estimate of Trajectory (SBET) parameters, namely position, velocity, and attitude. The SBET file and the LiDAR data are used in the post-processing software (MFCCP) as input to compute the calibration parameters.

During the planning phase of this project, the airport/job site was chosen as the calibration test site. On a mission basis, the LiDAR was flown over this test area in two opposing directions and with additional parallel flights flown with a 30% overlap. The airborne results in each direction are then compared with results of the other flight directions. The attitude misalignment parameters derived from the calibration (bore sighting), and the modeled “windup” values were used in the post-processing software (MFCCP) to resolve the systematic errors in the data. Calibration charts and site maps are attached to this report. Once the calibration parameters and modeled “windup” value are acceptable, all mission data are processed.

System Configuration

Scanner Setup

Scan FOV (full angle)	degrees	14.00
Terrain Elevation AMSL (minimum in survey area)	meters	0.00
Terrain Elevation AMSL (maximum in survey area)	meters	50.00
Nominal Flying Height Above Minimum Terrain Elevation	meters	1400.00
Nominal Flying Altitude AMSL	meters	1400.00
Airspeed	knots	120.00
Range/Intensity Mode (1, 2, 3, 4)		3.00
Laser Pulse Rate	Hz	42300.00
System Controller Firmware (<V2.07, V2.07+)		V2.07+
Laser Power Class (3=3W, 4=4W)	Watts	4.00
Receiver Aperture Stop (45, 60, 65, 75, LM, ALS50)	degrees	ALS50
Scan Rate	Hz	48.00
Max Scan Rate (ALS50 Phase II only - SUBJECT TO CHANGE)	Hz	77.00
Max Scan Rate (ALS40/ALS50, 45-degree/3000 m mirror, gen 1c driver)	Hz	70.00
Max Scan Rate (ALS40, 45-degree/3000 m mirror, gen 1b driver)	Hz	46.61
Max Scan Rate (ALS40, 67-degree/6100 m mirror, all drivers)	Hz	23.31
Max Scan Rate (ALS40, 75-degree/6100 m mirror, all drivers)	Hz	20.37

Resulting Scan Pattern

Total Swath Width (nominal, at lowest terrain elev'n)	meters	343.80
Max Cross Track Spacing (occurs @ nadir)	meters	1.26
Max Along Track Spacing (occurs @ FOV edge)	meters	1.29
Illuminated Footprint Diameter (@ 1.e^2 energy)	meters	0.49
Point Density (average)	pts/meter^2	1.99
Area / Point (average)	meters^2	0.50

Section 2

LIDAR Daily Log

the spatial data company
5525 MOUNES STREET, SUITE 102
NEW ORLEANS, LOUISIANA 70123
PH. 504.733.3001 - FX. 504.734.8938

Field Crew	
Project #	
Project Description	Flidar Area 4
Location	Florida Keys
Aircraft	N22PB

Flight Date (UTC)	Pilot	Operator	Sensor
1/9/2008	Floyd	Laprarie	ALTM 203

Lever Arm

	x	y	z
GPS	-0.0649	-0.169	-1.379
IMU	-0.090	-0.008	-0.069

Attenuator POS #

0.0	Open (Full Red) (High Altitude)
0.5	POS 1 (Half Red/Half Black) (Medium Altitude)
1.0	POS 2 (1/4 Red/ 3/4 Black) (Low Altitude)

GPS Information		AGC
Base 1	STAA	
Base 2		multi mode
Base3		
Aero 2		

IMU Information	
Start Time	3:15:16
Stop Time	7:52:34

Meteorological Conditions

	Elevation	Temp		Pressure	
Airport	1,003	10.0°c	283.15°k	30.29 inHg	102574 Pa
@ Altitude	3,000				
@ Altitude					

GPS Base Station Information

	File Name	RNX File	Ant Hgt	Ant Type
Base 1	STAA0070.pdc		1.8	Novatel
Base 2				
Base 3				

Line/Dir		Start	Stop	Total Time	Altitude	Scan Angle/Rate		AGL (m)	AMSL (ft)	Attenuator	RCC	Pulse Rate	Speed		Miles Flwn	Void "Y"	Conditions/Comments
1	180	3:35:01	3:36:09	0:01:08	730	20	47	2395	2395	Auto	multi mode	70k	124 kts	143 mph	2.38		Bore
1	270	3:41:23	3:42:26	0:01:03	741	20	47	2431	2431	Auto	multi mode	70k	139 kts	160 mph	2.67		Bore
1	360	3:47:27	3:48:41	0:01:14	739	20	47	2425	2425	Auto	multi mode	70k	119 kts	137 mph	2.28		Bore
1	90	3:54:42	3:56:10	0:01:28	758	20	47	2487	2487	Auto	multi mode	70k	103 kts	119 mph	1.98		Bore
1	249	4:08:31	4:09:27	0:00:56	609	20	47	1998	1998	Auto	multi mode	70k	136 kts	157 mph	0.00		
2	69	4:14:38	4:15:50	0:01:12	616	20	47	2021	2021	Auto	multi mode	70k	123 kts	142 mph	2.36		
3	249	4:20:55	4:22:12	0:01:17	602	20	47	1975	1975	Auto	multi mode	70k	137 kts	158 mph	2.63		
4	69	4:27:30	4:29:06	0:01:36	612	20	47	2008	2008	Auto	multi mode	70k	127 kts	146 mph	2.44		
5	249	4:34:56	4:38:35	0:03:39	612	20	47	2008	2008	Auto	multi mode	70k	132 kts	152 mph	7.60		
6	69	4:43:27	4:47:31	0:04:04	608	20	47	1995	1995	Auto	multi mode	70k	128 kts	147 mph	9.82		
7	249	4:51:38	4:55:41	0:04:03	629	20	47	2064	2064	Auto	multi mode	70k	141 kts	162 mph	10.82		
8	69	4:59:59	5:04:23	0:04:24	606	20	47	1988	1988	Auto	multi mode	70k	129 kts	148 mph	9.90		
9	249	5:08:24	5:13:03	0:04:39	623	20	47	2044	2044	Auto	multi mode	70k	138 kts	159 mph	10.59		
10	69	5:17:20	5:22:06	0:04:46	603	20	47	1978	1978	Auto	multi mode	70k	136 kts	157 mph	10.43		
11	249	5:26:21	5:27:35	0:00:00	627	20	47	2057	2057	Auto	multi mode	70k	135 kts	155 mph	0.00	Y	line Bust Off line 50+ M
11	249	5:36:11	5:40:51	0:04:40	620	20	47	2034	2034	Auto	multi mode	70k	140 kts	161 mph	10.74		
12	69	5:45:02	5:50:20	0:05:18	603	20	47	1978	1978	Auto	multi mode	70k	131 kts	151 mph	12.56		
13	249	5:54:33	5:59:44	0:05:11	615	20	47	2018	2018	Auto	multi mode	70k	134 kts	154 mph	12.85		
14	69	6:03:48	6:09:04	0:05:16	607	20	47	1991	1991	Auto	multi mode	70k	132 kts	152 mph	12.66		
15	249	6:13:15	6:18:41	0:05:26	611	20	47	2005	2005	Auto	multi mode	70k	141 kts	162 mph	13.52		
16	69	6:23:01	6:28:16	0:05:15	600	20	47	1968	1968	Auto	multi mode	70k	131 kts	151 mph	12.56		
17	249	6:32:32	6:37:33	0:05:01	593	20	47	1946	1946	Auto	multi mode	70k	142 kts	163 mph	13.62		
18	69	6:42:17	6:47:57	0:05:40	606	20°	47°	1988	1988	Auto	multi mode	70k	137 kts	158 mph	13.14		
19	249	6:52:15	6:57:49	0:05:34	604	20°	47°	1982	1982	Auto	multi mode	70k	131 kts	151 mph	12.56		

LIDAR FLIGHT SUMMARY

Aircraft Flight Time:	4:37:18	Hobbs Time	
Laser Collection Time:	1:22:50	Start	1667.6
Miles Flown on Flights:	190.09	Stop	1672.5
		Total	4.9

Data Collection	
Percent Complete	73.1%
Total Flight Lines	26
Lines Complete	19
Lines Completed Today	19

Survey	
Percent Complete	
Total Check Sites	
Check Sites Complete	
Sites Completed Today	

Comments

Area 4

Weather

X

LIDAR Daily Log

the spatial data company
5525 MOUNES STREET, SUITE 102
NEW ORLEANS, LOUISIANA 70123
PH. 504.733.3001 - FX. 504.734.8938

Field Crew		
Flight Date (UTC)	Pilot	Operator
1/10/2008 1st	Floyd	Laprarie
Sensor		
ALTM 203		

Project #	NGA florida
Project Description	Flidar Area 4
Location	Florida Keys
Aircraft	N22PB

Lever Arm

	x	y	z
GPS	-0.0649	-0.169	-1.379
IMU	-0.090	-0.008	-0.069

Attenuator POS #

0.0	Open (Full Red) (High Altitude)
0.5	POS 1 (Half Red/Half Black) (Medium Altitude)
1.0	POS 2 (1/4 Red/ 3/4 Black) (Low Altitude)

GPS Information		AGC
Base 1	Hotel	
Base 2		multi mode
Base3		
Aero 2		

IMU Information	
Start Time	7:16:10
Stop Time	9:16:44

Meteorological Conditions

	Elevation	Temp		Pressure	
Airport		23.0°c	296.15°k	30.05 inHg	101761 Pa
@ Altitude					
@ Altitude					

GPS Base Station Information

	File Name	RNX File	Ant Hgt	Ant Type
Base 1	hotl0100.pdc		1.8	Novatel
Base 2				
Base 3				

Line/Dir		Start	Stop	Total Time	Altitude	Scan Angle/Rate		AGL (m)	AMSL (ft)	Attenuator	RCC	Pulse Rate	Speed		Miles Flwn	Void "Y"	Conditions/Comments
2	156	7:39:24	7:40:33	0:01:09	761	22	45	2497	2497	Auto	multi mode	70k	111 kts	128 mph	2.13		Bore
1	246	7:44:03	7:45:21	0:01:18	778	22	45	2552	2552	Auto	multi mode	70k	124 kts	143 mph	2.38		Bore
2	336	7:48:45	7:49:36	0:00:51	753	22	45	2470	2470	Auto	multi mode	70k	133 kts	153 mph	0.00		Bore
1	66	7:57:04	7:58:53	0:01:49	712	22	45	2336	2336	Auto	multi mode	70k	102 kts	117 mph	1.96		Bore
20	69	8:10:30	8:16:17	0:05:47	587	20	47	1926	1926	Auto	multi mode	70k	128 kts	147 mph	12.27		
21	249	8:20:11	8:25:33	0:05:22	578	20	47	1896	1896	Auto	multi mode	70k	130 kts	150 mph	12.47		
22	69	8:29:47	8:35:29	0:05:42	600	20	47	1968	1968	Auto	multi mode	70k	121 kts	139 mph	11.60		
23	249	8:39:18	8:44:12	0:04:54	595	20	47	1952	1952	Auto	multi mode	70k	139 kts	160 mph	10.66		
24	69	8:48:31	8:53:44	0:05:13	584	20	47	1916	1916	Auto	multi mode	70k	123 kts	142 mph	11.80		
25	249	8:57:34	8:58:16	0:00:42	603	20	47	1978	1978	Auto	multi mode	70k	132 kts	152 mph	0.00		
26	156	9:02:19	9:04:46	0:02:27	553	20	47	1814	1814	Auto	multi mode	70k	133 kts	153 mph	5.10		TIE Line

LIDAR FLIGHT SUMMARY

Aircraft Flight Time:	2:00:34	Hobbs Time	
Laser Collection Time:	0:35:14	Start	1676.2
Miles Flown on Flights:	70.37	Stop	1678.3
		Total	2.1

Data Collection	
Percent Complete	100.0%
Total Flight Lines	26
Lines Complete	26
Lines Completed Today	7

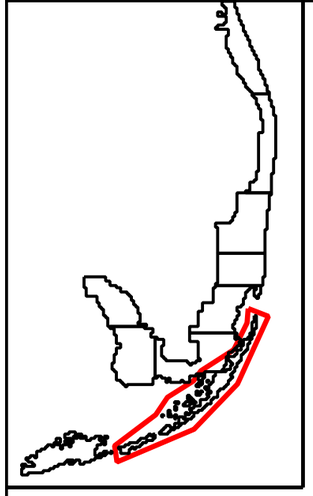
Survey	
Percent Complete	
Total Check Sites	
Check Sites Complete	
Sites Completed Today	

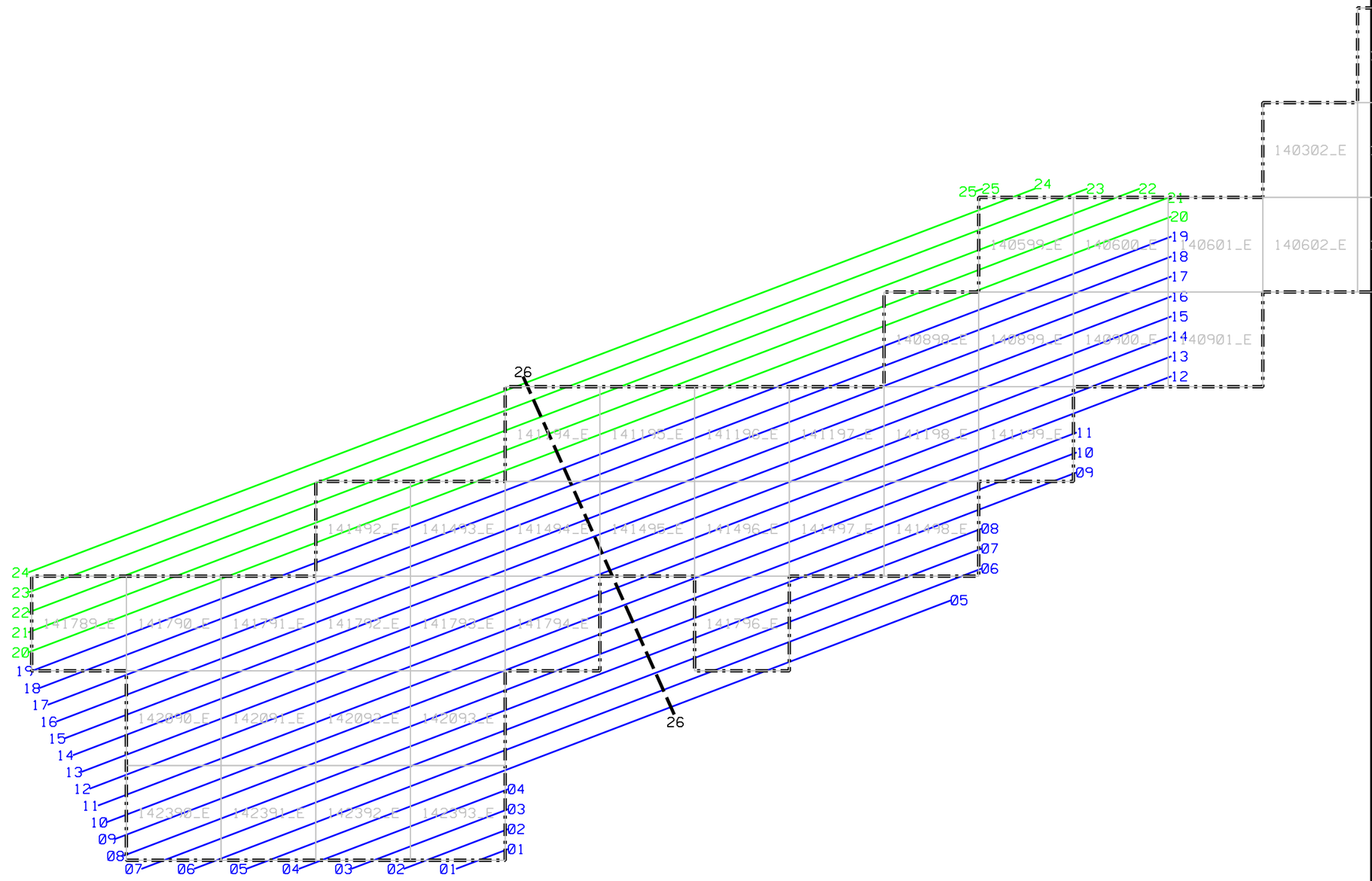
Comments

Area 4

Weather

X





Block 2
Dates Flown

January 9, 2008 1st
January 10, 2008 1st

Cross Flight — —

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LIDAR Daily Log

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5525 MOUNES STREET, SUITE 102
NEW ORLEANS, LOUISIANA 70123
PH. 504.733.3001 - FX. 504.734.8938

Field Crew	
2nd flgt	

Project #	A7190.01.001.551
Project Description	
Flidar AREA 5	
Location	
Florida Keys	
Aircraft	
N22PB	

Lever Arm

	x	y	z
GPS	-0.0649	-0.169	-1.379
IMU	-0.090	-0.008	-0.069

Attenuator POS #

0.0	Open (Full Red) (High Altitude)
0.5	POS 1 (Half Red/Half Black) (Medium Altitude)
1.0	POS 2 (1/4 Red/ 3/4 Black) (Low Altitude)

GPS Information

Base 1	
Base 2	Hotel
Base3	
Aero 2	

IMU Information

Start Time	20:58:57
Stop Time	0:37:11

AGC: multi mode

Meteorological Conditions

	Elevation	Temp		Pressure	
Airport		27.0°c	300.15°k	29.92 inHg	101321 Pa
@ Altitude					
@ Altitude					

GPS Base Station Information

	File Name	RNX File	Ant Hgt	Ant Type
Base 1	hotl0190		1.8	Novatel
Base 2	gp21		1.8	trmb
Base 3			1.8	Novatel

Flight Date (UTC)	Pilot	Operator	Sensor
1/19/2008	Satish	Doug	ALTM 203

Line/Dir		Start	Stop	Total Time	Altitude	Scan Angle/Rate		AGL (m)	AMSL (ft)	Attenuator	RCC	Pulse Rate	Speed		Miles Flwn	Void "Y"	Conditions/Comments
bs 2	156.11	21:30:50	21:32:07	0:01:17	754	22	45	2474	2474	Auto	multi mode	70k	122	140 mph	2.34		boresite good
bs 1	246.83	21:38:05	21:39:43	0:01:38	788	22	45	2585	2585	Auto	multi mode	70k	123	142 mph	2.36		boresite good
bs 2	336.11	21:44:09	21:45:27	0:01:18	744	22	45	2441	2441	Auto	multi mode	70k	118	136 mph	2.26		boresite good
bs 1	66.83	21:51:20	21:53:08	0:01:48	775	22	45	2543	2543	Auto	multi mode	70k	122	140 mph	2.34		boresite good, crab 13
blk5tiln 33	151	22:31:31	22:34:18	0:02:47	598	20	47	1962	1962	Auto	multi mode	70k	115	132 mph	4.41		crab 10
1	243	22:44:27	22:47:41	0:03:14	602	20	47	1975	1975	Auto	multi mode	70k	126	145 mph	7.25		crab 6
2	63	22:52:25	22:55:31	0:03:06	590	20	47	1936	1936	Auto	multi mode	70k	116	133 mph	6.67		crab 11
3	243	23:00:43	23:04:07	0:03:24	625	20	47	2051	2051	Auto	multi mode	70k	114	131 mph	6.56		crab5
4	63	23:09:07	23:12:20	0:03:13	609	20	47	1998	1998	Auto	multi mode	70k	126	145 mph	7.25		crab 10
5	243	23:17:14	23:21:19	0:04:05	615	20	47	2018	2018	Auto	multi mode	70k	128	147 mph	9.82		crab 3, roll 5
6	63	23:26:11	23:30:13	0:04:02	582	20	47	1909	1909	Auto	multi mode	70k	124	143 mph	9.51		crab 11, roll 6
7	243	23:35:22	23:41:07	0:05:45	601	20	47	1972	1972	Auto	multi mode	70k	115	132 mph	11.03		crab 5, roll 4
8	63	23:46:27	23:50:21	0:00:00	581	20	47	1906	1906	Auto	multi mode	70k	131	151 mph	0.00	Y	crab 8, roll 4, line busted, refly next time

LIGHT SUMMARY

ft Flight Time:	3:38:14	Hobbs Time	
llection Time:	0:35:37	Start	1734.8
wn on Flights:	71.81	Stop	1738.7
		Total	3.9

Data Collection		Survey	
Percent Complete	24.2%	Percent Complete	
Total Flight Lines	33	Total Check Sites	
Lines Complete	8	Check Sites Complete	
Lines Completed Today	8	Sites Completed Today	

Comments

mission aborted per pilot's call of unsafe flying conditions.

Weather

x

3001 the spatial data company
5525 MOUNES STREET, SUITE 102
NEW ORLEANS, LOUISIANA 70123
PH. 504.733.3001 - FX. 504.734.8938

LIDAR Daily Log

Field Crew	
1st flight	
david d	

Project #	A7190.01.001.551
Project Description	Flidar AREA 5
Location	Florida Keys

Lever Arm

	x	y	z
GPS	-0.0649	-0.169	-1.379
IMU	-0.090	-0.008	-0.069

Attenuator POS #

0.0	Open (Full Red) (High Altitude)
0.5	POS 1 (Half Red/Half Black) (Medium Altitude)
1.0	POS 2 (1/4 Red/ 3/4 Black) (Low Altitude)

Flight Date (UTC)	Pilot	Operator	Sensor	Aircraft
1/26/2008	lane m	tom v	ALTM 203	N22PB

GPS Information		AGC
Base 1	Hotel	
Base 2	Gps21	multi mode
Base3	Siminole	
Aero 2		

IMU Information	
Start Time	4:37:30
Stop Time	10:27:22

Meteorological Conditions

	Elevation	Temp		Pressure	
Airport		22.0°c	295.15°k	30.21 inHg	102303 Pa
@ Altitude					
@ Altitude					

GPS Base Station Information

	File Name	RNX File	Ant Hgt	Ant Type
Base 1	hotl0260.pdc		1.8	Novatel
Base 2	gp210260.dat		1.8	trmb zyphr
Base 3	simi0260.pdc		1.8	

Line/Dir		Start	Stop	Total Time	Altitude	Scan Angle/Rate		AGL (m)	AMSL (ft)	Attenuator	RCC	Pulse Rate	Speed		Miles Flwn	Void "Y"	Conditions/Comments
1	246.83	5:05:13	5:06:47	0:01:34	588	22	45	1929	1929	Auto	multi mode	70k	125	144 mph	2.40		Bore
2	336.11	5:11:03	5:12:21	0:00:00	602	22	45	1975	1975	Auto	multi mode	70k	129	148 mph	0.00	Y	line busted
2	336.11	5:16:56	5:17:53	0:00:57	559	22	45	1834	1834	Auto	multi mode	70k	129	148 mph	0.00		Bore
1	66.83	5:23:28	5:25:19	0:01:51	597	22	45	1959	1959	Auto	multi mode	70k	103	119 mph	1.98		Bore
2	156.11	5:31:22	5:32:22	0:01:00	597	20	47	1959	1959	Auto	multi mode	70k	112	129 mph	2.15		Bore
33	151.47	6:04:07	6:04:31	0:00:00	581	20	47	1906	1906	Auto	multi mode	70k	122	140 mph	0.00	Y	line busted
33	151.47	6:09:57	6:12:10	0:02:13	571	20	47	1873	1873	Auto	multi mode	70k	122	140 mph	4.68		
8	63	6:23:58	6:29:45	0:05:47	591	20	47	1939	1939	Auto	multi mode	70k	112	129 mph	10.74		
9	243	6:34:55	6:40:32	0:05:37	589	20	47	1932	1932	Auto	multi mode	70k	122	140 mph	11.70		
10	63	6:46:22	6:52:03	0:05:41	592	20	47	1942	1942	Auto	multi mode	70k	112	129 mph	10.74		
11	243	6:56:41	7:08:22	0:11:41	601	20	47	1972	1972	Auto	multi mode	70k	124	143 mph	26.16		
12	63	7:14:21	7:25:48	0:11:27	578	20	47	1896	1896	Auto	multi mode	70k	125	144 mph	26.37		
13	243	7:30:21	7:33:19	0:00:00	568	20	47	1864	1864	Auto	multi mode	70k	131	151 mph	0.00	Y	line busted
13	243	7:41:40	7:53:43	0:12:03	593	20	47	1946	1946	Auto	multi mode	70k	130	150 mph	29.92		
14	63	7:58:38	8:10:52	0:12:14	591	20	47	1939	1939	Auto	multi mode	70k	131	151 mph	30.15		
15	243	8:14:59	8:27:23	0:12:24	592	20	47	1942	1942	Auto	multi mode	70k	125	144 mph	28.77		
16	63	8:32:26	8:45:04	0:12:38	594	20	47	1949	1949	Auto	multi mode	70k	132	152 mph	30.38		
17	243	8:49:08	9:01:44	0:12:36	595	20	47	1952	1952	Auto	multi mode	70k	132	152 mph	30.38		
18	63	9:07:01	9:19:12	0:12:11	590	20	47	1936	1936	Auto	multi mode	70k	132	152 mph	30.38		
19	243	9:24:09	9:36:21	0:12:12	590	20	47	1936	1936	Auto	multi mode	70k	125	144 mph	28.77		
20	63	9:40:55	9:51:30		598												

LIGHT SUMMARY

ft Flight Time:	5:49:52	Hobbs Time	
llection Time:	2:14:06	Start	1744.7
wn on Flights:	305.67	Stop	1750.6
		Total	5.9

Data Collection	
Percent Complete	63.6%
Total Flight Lines	33
Lines Complete	21
Lines Completed Today	13

Survey	
Percent Complete	
Total Check Sites	
Check Sites Complete	
Sites Completed Today	

Comments

Area 5

Weather

- [x] Clear
- [ ] Fair
- [ ] Partly Cloudy
- [ ] Cloudy

LIDAR Daily Log

the spatial data company

5525 MOUNES STREET, SUITE 102
NEW ORLEANS, LOUISIANA 70123
PH. 504.733.3001 - FX. 504.734.8938

Field Crew	
	2nd flight

Project #	A7190.01.001.551
Project Description	Flidar AREA 5
Location	Florida Keys
Aircraft	N22PB

Lever Arm	x	y	z
GPS	-0.0649	-0.169	-1.379
IMU	-0.090	-0.008	-0.069

Attenuator POS #	
0.0	Open (Full Red) (High Altitude)
0.5	POS 1 (Half Red/Half Black) (Medium Altitude)
1.0	POS 2 (1/4 Red/ 3/4 Black) (Low Altitude)

GPS Information	
Base 1	Hotel
Base 2	Gps21
Base3	Siminole
Aero 2	

IMU Information	
Start Time	14:04:48
Stop Time	19:09:45

AGC
multi mode

Meteorological Conditions	Elevation	Temp		Pressure	
Airport		23.0°c	296.15°k	30.19 inHg	102235 Pa
@ Altitude					
@ Altitude					

GPS Base Station Information	File Name	RNX File	Ant Hgt	Ant Type
Base 1	hotl0260.pdc		1.8	Novatel
Base 2	gp210260.dat		1.8	trmb zyphr
Base 3	simi0260.pdc		1.8	

Flight Date (UTC)	Pilot	Operator	Sensor
1/26/2008	satish	davidson	ALTM 203

Line/Dir		Start	Stop	Total Time	Altitude	Scan Angle/Rate		AGL (m)	AMSL (ft)	Attenuator	RCC	Pulse Rate	Speed		Miles Flwn	Void "Y"	Conditions/Comments
2	156.11	14:28:42	14:29:47	0:01:05	761	22	45	2497	2497	Auto	multi mode	70k	125	144 mph	2.40		boresite
1	246.83	14:34:33	14:35:53	0:01:20	762	22	45	2500	2500	Auto	multi mode	70k	129	148 mph	2.47		boresite
2	336.11	14:40:22	14:41:15	0:00:53	756	22	45	2480	2480	Auto	multi mode	70k	129	148 mph	0.00		boresite
1	66.83	14:45:38	14:47:08	0:01:30	769	22	45	2523	2523	Auto	multi mode	70k	103	119 mph	1.98		boresite
1	243	14:53:18	14:57:29	0:04:11	640	20	47	2100	2100	Auto	multi mode	70k	112	129 mph	8.59		bridge tie area 3-4
1	243	15:02:43	15:06:18	0:03:35	648	20	47	2126	2126	Auto	multi mode	70k	122	140 mph	7.02		bridge tie area 3-4
21	243	15:56:39	16:07:37	0:10:58	633	20	47	2077	2077	Auto	multi mode	70k	122	140 mph	23.40		area 5
22	63	16:12:15	16:23:16	0:11:01	608	20	47	1995	1995	Auto	multi mode	70k	112	129 mph	23.63		area 5
23	243	16:27:37	16:38:11	0:10:34	626	20	47	2054	2054	Auto	multi mode	70k	122	140 mph	23.40		area 5
24	63	16:43:01	16:53:19	0:10:18	622	20	47	2041	2041	Auto	multi mode	70k	112	129 mph	21.48		area 5
25	243	16:57:36	17:07:45	0:10:09	610	20	47	2001	2001	Auto	multi mode	70k	124	143 mph	23.78		area 5
26	63	17:11:37	17:21:41	0:10:04	627	20	47	2057	2057	Auto	multi mode	70k	125	144 mph	23.97		area 5
27	243	17:24:38	17:33:16	0:08:38	611	20	47	2005	2005	Auto	multi mode	70k	131	151 mph	20.10		area 5
28	63	17:37:48	17:45:16	0:07:28	618	20	47	2028	2028	Auto	multi mode	70k	130	150 mph	17.45		area 5
29	243	17:49:18	17:55:31	0:06:13	616	20	47	2021	2021	Auto	multi mode	70k	131	151 mph	15.08		area 5
30	63	18:00:03	18:03:23	0:03:20	584	20	47	1916	1916	Auto	multi mode	70k	125	144 mph	7.19		area 5
31	243	18:07:22	18:08:12	0:00:50	597	20	47	1959	1959	Auto	multi mode	70k	132	152 mph	0.00		area 5
32	63	18:12:09	18:12:55	0:00:46	629	20	47	2064	2064	Auto	multi mode	70k	132	152 mph	0.00		area 5
32	63	18:23:16	18:24:56	0:01:40	595	20	47	1952	1952	Auto	multi mode	70k	132	152 mph	2.53		tie line west (not line 32)

LIGHT SUMMARY

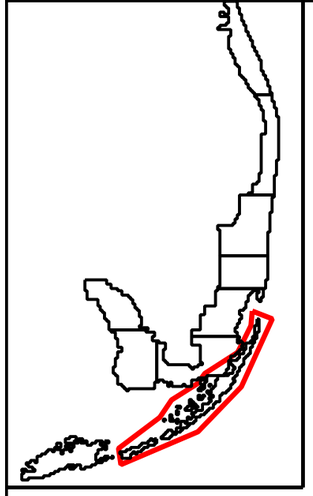
ft Flight Time:	5:04:57	Hobbs Time	
llection Time:	1:44:33	Start	1750.6
wn on Flights:	224.48	Stop	1755.8
		Total	5.2

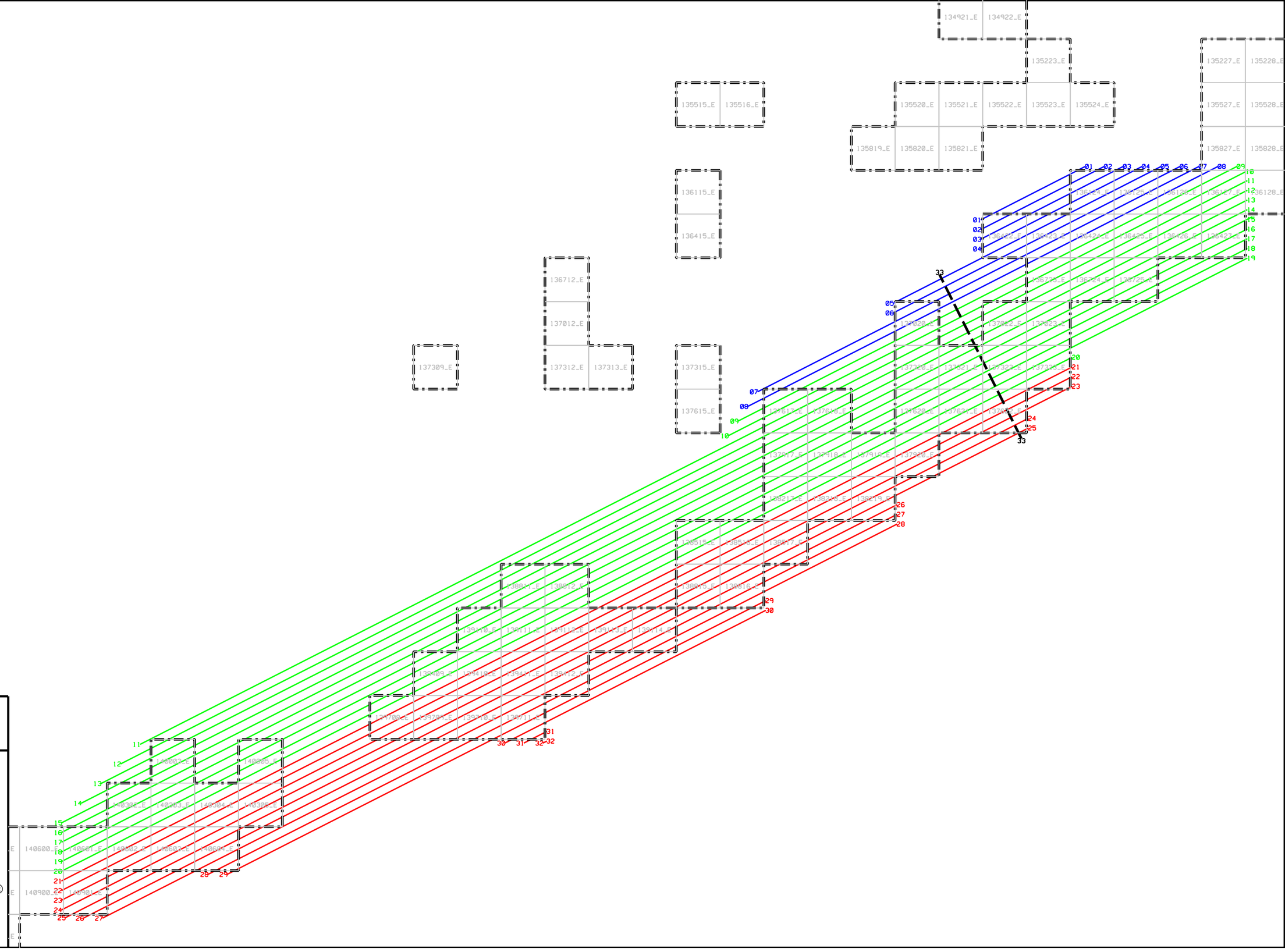
Data Collection	
Percent Complete	100.0%
Total Flight Lines	33
Lines Complete	33
Lines Completed Today	12

Survey	
Percent Complete	
Total Check Sites	
Check Sites Complete	
Sites Completed Today	

Comments
Area 5 complete

Weather
X
X





Block 2
Dates Flown

January 19, 2008 2nd
January 26, 2008 1st
January 26, 2008 2nd

Cross Flight — —

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LIDAR Daily Log

the spatial data company
5525 MOUNES STREET, SUITE 102
NEW ORLEANS, LOUISIANA 70123
PH. 504.733.3001 - FX. 504.734.8938

Field Crew			
Flight Date (UTC)	Pilot	Operator	Sensor
1/31/2008	Morrison	Davis	ALTM 203

Project #	A7190.01.001.551
Project Description	Flidar Area 6
Location	FL. Keys
Aircraft	N22PB

Lever Arm

	x	y	z
GPS	-0.0649	-0.169	-1.379
IMU	-0.090	-0.008	-0.069

Attenuator POS #

0.0	Open (Full Red) (High Altitude)
0.5	POS 1 (Half Red/Half Black) (Medium Altitude)
1.0	POS 2 (1/4 Red/ 3/4 Black) (Low Altitude)

GPS Information

Base 1	HOTEL	AGC
Base 2	Siminole	multi mode
Base3	GPS21	
Aero 2		

IMU Information

Start Time	20:55:29
Stop Time	1:52:00

Meteorological Conditions

	Elevation	Temp		Pressure	
Airport		26.0°c	299.15°k	30.10 inHg	101930 Pa
@ Altitude					
@ Altitude					

GPS Base Station Information

	File Name	RNX File	Ant Hgt	Ant Type
Base 1	HOTL0311.pdc		1.8	Novatel
Base 2	SIMI0310.pdc		1.8	Novatel
Base 3	GP210310.dat		1.8	Trimble

Line/Dir		Start	Stop	Total Time	Altitude (m)	Altitude ellipsoid (ft)	Scan Angle/Rate		AGL (ft)	AMSL (ft)	Attenuator	RCC	Pulse Rate	Speed		Miles Flwn	Void "Y"	Conditions/Comments
1	246	21:12:19	21:13:55	0:01:36	762	2500.0	22	45	2000	2000	Auto	multi mode	70k	125 kts	144 mph	2.40		Bore
2	336	21:18:08	21:19:07	0:00:59	746	2447.5	22	45	2000	2000	Auto	multi mode	70k	122 kts	140 mph	0.00		Bore
1	66	21:23:50	21:25:36	0:01:46	757	2483.6	22	45	2000	2000	Auto	multi mode	70k	97 kts	112 mph	1.86		Bore
2	156	21:31:07	21:32:16	0:01:09	753	2470.5	22	45	2000	2000	Auto	multi mode	70k	122 kts	140 mph	2.34		Bore
6	360	22:05:03	22:05:59	0:00:56	603	1978.3	20	47	2000	2000	Auto	multi mode	70k	131 kts	151 mph	0.00		Area 8
5	180	22:11:08	22:12:02	0:00:54	606	1988.2	20	47	2000	2000	Auto	multi mode	70k	129 kts	148 mph	0.00		
4	360	22:16:51	22:17:45	0:00:54	604	1981.6	20	47	2000	2000	Auto	multi mode	70k	130 kts	150 mph	0.00		
3	180	22:22:39	22:23:32	0:00:53	608	1994.7	20	47	2000	2000	Auto	multi mode	70k	134 kts	154 mph	0.00		
2	360	22:27:22	22:28:22	0:01:00	587	1925.8	20	47	2000	2000	Auto	multi mode	70k	128 kts	147 mph	2.45		
1	180	22:32:47	22:33:44	0:00:57	590	1935.7	20	47	2000	2000	Auto	multi mode	70k	132 kts	152 mph	0.00		
18	360	22:39:21	22:41:00	0:01:39	585	1919.3	17	47	2000	2000	Auto	multi mode	50k	130 kts	150 mph	2.49		
19	180	22:45:47	22:47:31	0:01:44	586	1922.6	17	47	2000	2000	Auto	multi mode	50k	132 kts	152 mph	2.53		
16	360	22:51:26	22:53:12	0:01:46	588	1929.1	17	47	2000	2000	Auto	multi mode	50k	129 kts	148 mph	2.47		
17	180	22:57:08	22:58:54	0:01:46	582	1909.4	17	47	2000	2000	Auto	multi mode	50k	126 kts	145 mph	2.42		
14	360	23:03:30	23:05:14	0:01:44	583	1912.7	17	47	2000	2000	Auto	multi mode	50k	133 kts	153 mph	2.55		
15	180	23:09:30	23:11:23	0:01:53	589	1932.4	17	47	2000	2000	Auto	multi mode	50k	132 kts	152 mph	2.53		
12	360	23:15:18	23:17:01	0:01:43	586	1922.6	17	47	2000	2000	Auto	multi mode	50k	130 kts	150 mph	2.49		
13	180	23:21:27	23:23:11	0:01:44	587	1925.8	17	47	2000	2000	Auto	multi mode	50k	127 kts	146 mph	2.44		
10	360	23:27:05	23:28:04	0:00:59	593	1945.5	17	47	2000	2000	Auto	multi mode	50k	134 kts	154 mph	0.00		
11	180	23:32:27	23:33:25	0:00:58	589	1932.4	17	47	2000	2000	Auto	multi mode	50k	133 kts	153 mph	0.00		
8	360	23:36:53	23:37:52	0:00:59	594	1948.8	17	47	2000	2000	Auto	multi mode	50k	130 kts	150 mph	0.00		Area 8 Complete
9	180	23:42:37	23:43:34	0:00:57	585	1919.3	17	47	2000	2000	Auto	multi mode	50k	129 kts	148 mph	0.00		
7	180	23:50:28	23:51:21	0:00:53	575	1886.5	17	47	2000	2000	Auto	multi mode	50k	130 kts	150 mph	0.00		
20	360	23:57:12	23:58:17	0:01:05	607	1991.5	17	47	2000	2000	Auto	multi mode	50k	133 kts	153 mph	2.55		
27	360	23:58:29	23:59:49	0:01:20	598	1961.9	17	47	2000	2000	Auto	multi mode	50k	135 kts	155 mph	2.59		
28	180	0:04:22	0:05:40	0:01:18	588	1929.1	17	47	2000	2000	Auto	multi mode	50k	128 kts	147 mph	2.45		
21	180	0:05:58	0:07:22	0:01:24	576	1889.8	17	47	2000	2000	Auto	multi mode	50k	128 kts	147 mph	2.45		
22	360	0:11:42	0:12:59	0:01:17	591	1939.0	17	47	2000	2000	Auto	multi mode	50k	132 kts	152 mph	2.53		
29	360	0:13:13	0:14:35	0:01:22	588	1929.1	17	47	2000	2000	Auto	multi mode	50k	132 kts	152 mph	2.53		
30	180	0:19:46	0:21:05	0:01:19	586	1922.6	17	47	2000	2000	Auto	multi mode	50k	134 kts	154 mph	2.57		
23	180	0:21:23	0:22:43	0:01:20	587	1925.8	17	47	2000	2000	Auto	multi mode	50k	126 kts	145 mph	2.42		
24	360	0:27:15	0:28:35	0:01:20	588	1929.1	17	47	2000	2000	Auto	multi mode	50k	128 kts	147 mph	2.45		
31	360	0:28:51	0:30:12	0:01:21	602	1975.1	17	47	2000	2000	Auto	multi mode	50k	130 kts	150 mph	2.49		
32	180	0:35:23	0:36:42	0:01:19	601	1971.8	17	47	2000	2000	Auto	multi mode	50k	124 kts	143 mph	2.38		
25	180	0:36:57	0:38:20	0:01:23	588	1929.1	17	47	2000	2000	Auto	multi mode	50k	121 kts	139 mph	2.32		
26	360	0:42:20	0:43:38	0:01:18	597	1958.7	17	47	2000	2000	Auto	multi mode	50k	126 kts	145 mph	2.42		
33	360	0:43:52	0:45:11	0:01:19	592	1942.3	17	47	2000	2000	Auto	multi mode	50k	126 kts	145 mph	2.42		
34	90	0:51:10	0:52:47	0:01:37	588	1929.1	17	47	2000	2000	Auto	multi mode	50k	126 kts	145 mph	2.42		
47	90	0:52:59	0:56:21	0:03:22	591	1939.0	17	47	2000	2000	Auto	multi mode	50k	126 kts	145 mph	7.25		
48	270	1:00:59	1:03:29	0:02:30	587	1925.8	17	47	2000	2000	Auto	multi mode	50k	126 kts	145 mph	4.83		
35	270	1:05:19	1:05:27	0:00:08	591	1939.0	17	47	2000	2000	Auto	multi mode	50k	126 kts	145 mph	0.00		
36	90	1:10:36	1:12:16	0:01:40	595	1952.1	17	47	2000	2000	Auto	multi mode	50k	126 kts	145 mph	2.42		
49	90	1:13:01	1:15:59	0:02:58	591	1939.0	17	47	2000	2000	Auto	multi mode	50k	126 kts	145 mph	4.83		

LIDAR FLIGHT SUMMARY

raft Flight Time:	4:56:31	Hobbs Time	
Collection Time:	0:46:55	Start	1802.7
own on Flights:	61.14	Stop	1808
		Total	5.3

Data Collection	
Percent Complete	33.6%
Total Flight Lines	116
Lines Complete	39
Lines Completed Today	39

Survey	
Percent Complete	
Total Check Sites	
Check Sites Complete	
Sites Completed Today	

Comments

AREA 6

Weather

- [x] Clear
- [ ] Fair
- [ ] Partly Cloudy
- [ ] Cloudy

the spatial data company
5525 MOUNES STREET, SUITE 102
NEW ORLEANS, LOUISIANA 70123
PH. 504.733.3001 - FX. 504.734.8938

LIDAR Daily Log

Field Crew	

Project #	A7190.01.001.551
Project Description	
Flidar Area 6	
Location	
FL. Keys	
Aircraft	
N22PB	

Lever Arm

	x	y	z
GPS	-0.0649	-0.169	-1.379
IMU	-0.090	-0.008	-0.069

Attenuator POS #

- 0.0 Open (Full Red) (High Altitude)
- 0.5 POS 1 (Half Red/Half Black) (Medium Altitude)
- 1.0 POS 2 (1/4 Red/ 3/4 Black) (Low Altitude)

GPS Information	
Base 1	HOTEL
Base 2	Siminole
Base3	GPS21
Aero 2	

IMU Information	
Start Time	20:55:29
Stop Time	1:52:00

AGC
multi mode

Meteorological Conditions

	Elevation	Temp		Pressure	
Airport		28.0°c	301.15°k	30.14 inHg	102066 Pa
@ Altitude					
@ Altitude					

GPS Base Station Information

	File Name	RNX File	Ant Hgt	Ant Type
Base 1	HOTL0320.pdc		1.8	Novatel
Base 2	SIMI0320.pdc		1.8	Novatel
Base 3	GP210320.dat		1.8	Trimble

Flight Date (UTC)	Pilot	Operator	Sensor
2/1/2008	Tinsley	Laprarie	ALTM 203

Line/Dir		Start	Stop	Total Time	Altitude (m)	Altitude ellipsoid (ft)	Scan Angle/Rate		AGL (ft)	AMSL (ft)	Attenuator	RCC	Pulse Rate	Speed		Miles Flwn	Void "Y"	Conditions/Comments
2	156	19:02:26	19:03:27	0:01:01	762	2500.0	22	45	2000	2000	Auto	multi mode	70k	131 kts	151 mph	2.51		Bore
1	146	19:06:42	19:08:18	0:01:36	746	2447.5	22	45	2000	2000	Auto	multi mode	70k	122 kts	140 mph	2.34		Bore
2	336	19:12:00	19:13:02	0:01:02	757	2483.6	22	45	2000	2000	Auto	multi mode	70k	129 kts	148 mph	2.47		Bore
1	66	19:16:22	19:17:47	0:01:25	753	2470.5	22	45	2000	2000	Auto	multi mode	70k	132 kts	152 mph	2.53		Bore
18	360	19:49:35	19:50:50	0:01:15	633	2076.8	20	47	2000	2000	Auto	multi mode	70k	132 kts	152 mph	2.53		
24	360	19:51:13	19:52:18	0:01:05	593	1945.5	20	47	2000	2000	Auto	multi mode	70k	136 kts	157 mph	2.61		
25	180	19:56:21	19:57:40	0:01:19	595	1952.1	20	47	2000	2000	Auto	multi mode	70k	124 kts	143 mph	2.38		
19	180	19:58:08	19:59:14	0:00:00	617	2024.3	20	47	2000	2000	Auto	multi mode	70k	125 kts	144 mph	0.00	Y	Operator reflew line later without voiding. JE
20	360	20:03:13	20:04:27	0:01:14	608	1994.7	20	47	2000	2000	Auto	multi mode	70k	133 kts	153 mph	2.55		
26	360	20:04:58	20:05:29	0:00:00	604	1981.6	20	47	2000	2000	Auto	multi mode	70k	133 kts	153 mph	0.00	Y	Delete started late
26	360	20:10:39	20:11:53	0:01:14	608	1994.7	20	47	2000	2000	Auto	multi mode	70k	128 kts	147 mph	2.45		
7	180	20:15:09	20:16:08	0:00:59	602	1975.1	20	47	2000	2000	Auto	multi mode	70k	124 kts	143 mph	0.00		
8	360	20:19:34	20:20:28	0:00:54	604	1981.6	20	47	2000	2000	Auto	multi mode	70k	131 kts	151 mph	0.00		
27	180	20:24:46	20:26:12	0:01:26	602	1975.1	20	47	2000	2000	Auto	multi mode	70k	120 kts	138 mph	2.30		
21	180	20:26:32	20:27:50	0:01:18	599	1965.2	20	47	2000	2000	Auto	multi mode	70k	121 kts	139 mph	2.32		
22	360	20:31:14	20:32:29	0:01:15	616	2021.0	20	47	2000	2000	Auto	multi mode	70k	132 kts	152 mph	2.53		
28	360	20:32:45	20:34:00	0:01:15	593	1945.5	20	47	2000	2000	Auto	multi mode	70k	134 kts	154 mph	2.57		
9	180	20:37:09	20:38:10	0:01:01	600	1968.5	20	47	2000	2000	Auto	multi mode	70k	123 kts	142 mph	2.36		
10	360	20:41:48	20:42:47	0:00:59	618	2027.6	20	47	2000	2000	Auto	multi mode	70k	128 kts	147 mph	0.00		
29	180	20:47:06	20:48:30	0:01:24	610	2001.3	20	47	2000	2000	Auto	multi mode	70k	122 kts	140 mph	2.34		
23	180	20:48:45	20:50:06	0:01:21	600	1968.5	20	47	2000	2000	Auto	multi mode	70k	125 kts	144 mph	2.40		
12	360	20:53:19	20:55:03	0:01:44	612	2007.9	20	47	2000	2000	Auto	multi mode	70k	128 kts	147 mph	2.45		
19	180	20:58:13	20:59:34	0:01:21	606	1988.2	20	47	2000	2000	Auto	multi mode	70k	123 kts	142 mph	2.36		
11	180	21:06:41	21:07:40	0:00:59	597	1958.7	20	47	2000	2000	Auto	multi mode	70k	126 kts	145 mph	0.00		
14	360	21:11:04	21:12:48	0:00:00	608	1994.7	20	47	2000	2000	Auto	multi mode	70k	128 kts	147 mph	0.00	Y	Operator reflew line later without voiding. JE
32	90	21:14:17	21:15:33	0:00:00	621	2037.4	20	47	2000	2000	Auto	multi mode	70k	124 kts	143 mph	0.00	Y	Operator reflew line later without voiding. JE
33	270	21:19:00	21:20:26	0:01:26	596	1955.4	20	47	2000	2000	Auto	multi mode	70k	129 kts	148 mph	2.47		
13	180	21:21:56	21:23:46	0:01:50	607	1991.5	20	47	2000	2000	Auto	multi mode	70k	124 kts	143 mph	2.38		
16	360	21:27:05	21:28:50	0:01:45	612	2007.9	20	47	2000	2000	Auto	multi mode	70k	130 kts	150 mph	2.49		
34	90	21:30:38	21:31:55	0:01:17	616	2021.0	20	47	2000	2000	Auto	multi mode	70k	128 kts	147 mph	2.45		
35	270	21:35:25	21:36:47	0:01:22	589	1932.4	20	47	2000	2000	Auto	multi mode	70k	129 kts	148 mph	2.47		
15	180	21:38:35	21:40:17	0:01:42	619	2030.8	20	47	2000	2000	Auto	multi mode	70k	125 kts	144 mph	2.40		
17	180	21:46:05	21:47:52	0:01:47	607	1991.5	20	47	2000	2000	Auto	multi mode	70k	121 kts	139 mph	2.32		
14	360	21:51:07	21:52:49	0:01:42	603	1978.3	20	47	2000	2000	Auto	multi mode	70k	135 kts	155 mph	2.59		
32	90	21:54:20	21:55:38	0:01:18	598	1961.9	20	47	2000	2000	Auto	multi mode	70k	122 kts	140 mph	2.34		
31	270	21:59:12	22:00:36	0:01:24	603	1978.3	20	47	2000	2000	Auto	multi mode	70k	127 kts	146 mph	2.44		
30	90	22:04:30	22:06:03	0:01:33	590	1935.7	20	47	2000	2000	Auto	multi mode	70k	126 kts	145 mph	2.42		
94	90	22:12:08	22:13:16	0:01:08	598	1961.9	20	47	2000	2000	Auto	multi mode	70k	129 kts	148 mph	2.47		
95	270	22:16:40	22:17:40	0:01:00	595	1952.1	20	47	2000	2000	Auto	multi mode	70k	130 kts	150 mph	2.49		
96	90	22:21:20	22:22:22	0:01:02	598	1961.9	20	47	2000	2000	Auto	multi mode	70k	127 kts	146 mph	2.44		
97	270	22:25:57	22:26:57	0:01:00	609	1998.0	20	47	2000	2000	Auto	multi mode	70k	129 kts	148 mph	2.47		
98	90	22:31:06	22:32:05	0:00:59	598	1961.9	20	47	2000	2000	Auto	multi mode	70k	131 kts	151 mph	0.00		
99	270	22:35:36	22:36:39	0:01:03	597	1958.7	20	47	2000	2000	Auto	multi mode	70k	136 kts	157 mph	2.61		
93	180	22:42:13	22:43:13	0:01:00	609	1998.0	20	47	2000	2000	Auto	multi mode	70k	123 kts	142 mph	2.36		
92	360	22:47:16	22:48:12	0:00:56	585	1919.3	20	47	2000	2000	Auto	multi mode	70k	135 kts	155 mph	0.00		
91	180	22:52:10	22:53:13	0:01:03	595	1952.1	20	47	2000	2000	Auto	multi mode	70k	124 kts	143 mph	2.38		
90	360	22:56:44	22:57:44	0:01:00	606	1988.2	20	47	2000	2000	Auto	multi mode	70k	138 kts	159 mph	2.65		
89	180	23:01:38	23:02:45	0:01:07	604	1981.6	20	47	2000	2000	Auto	multi mode	70k	121 kts	139 mph	2.32		

LIDAR FLIGHT SUMMARY

raft Flight Time:	4:56:31	Hobbs Time	
Collection Time:	0:42:40	Start	1802.7
own on Flights:	68.38	Stop	1808
		Total	5.3

Data Collection	
Percent Complete	45.5%
Total Flight Lines	99
Lines Complete	45
Lines Completed Today	39

Survey	
Percent Complete	
Total Check Sites	
Check Sites Complete	
Sites Completed Today	

Comments

AREA 6

Weather

- X Clear
- Fair
- Partly Cloudy
- Cloudy

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PH. 504.733.3001 - FX. 504.734.8938

LIDAR Daily Log

Field Crew	

Project #	A7190.01.001.551
Project Description	
Flidar Area 6	
Location	
FL. Keys	
Aircraft	
N22PB	

Lever Arm

	x	y	z
GPS	-0.0649	-0.169	-1.379
IMU	-0.090	-0.008	-0.069

Attenuator POS #

0.0	Open (Full Red) (High Altitude)
0.5	POS 1 (Half Red/Half Black) (Medium Altitude)
1.0	POS 2 (1/4 Red/ 3/4 Black) (Low Altitude)

GPS Information	
Base 1	HOTEL
Base 2	Siminole
Base3	GPS21
Aero 2	

IMU Information	
Start Time	18:08:00
Stop Time	23:16:05

AGC
multi mode

Meteorological Conditions

	Elevation	Temp		Pressure	
Airport		30.0°c	303.15°k	30.05 inHg	101761 Pa
@ Altitude					
@ Altitude					

GPS Base Station Information

	File Name	RNX File	Ant Hgt	Ant Type
Base 1	HOTL0380.pdc		1.8	Novatel
Base 2	SIMI0380.pdc		1.8	Novatel
Base 3	GP210380.dat		1.8	Trimble

Flight Date (UTC)	Pilot	Operator	Sensor
2/7/2008	Tinsley	Davis	ALTM 203

Line/Dir		Start	Stop	Total Time	Altitude (m)	Altitude ellipsoid (ft)	Scan Angle/Rate		AGL (ft)	AMSL (ft)	Attenuator	RCC	Pulse Rate	Speed		Miles Flwn	Void "Y"	Conditions/Comments
2	336	18:22:53	18:23:51	0:00:58	781	2562.3	22	45	2000	2000	Auto	multi mode	70k	135 kts	155 mph	0.00		Bore Line flown at 2500
1	66	18:27:29	18:28:56	0:01:27	632	2073.5	22	45	2000	2000	Auto	multi mode	70k	135 kts	155 mph	2.59		Bore Line flown at 2000
2	156	18:32:37	18:33:41	0:01:04	638	2093.2	22	45	2000	2000	Auto	multi mode	70k	123 kts	142 mph	2.36		Bore Line flown at 2000
1	246	18:37:24	18:39:04	0:01:40	620	2034.1	22	45	2000	2000	Auto	multi mode	70k	119 kts	137 mph	2.28		Bore Line flown at 2000
73	180	19:05:20	19:06:55	0:01:35	614	2014.4	20	47	2000	2000	Auto	multi mode	70k	111 kts	128 mph	2.13		
74	360	19:10:58	19:12:15	0:01:17	600	1968.5	20	47	2000	2000	Auto	multi mode	70k	135 kts	155 mph	2.59		
75	180	19:15:59	19:17:35	0:01:36	607	1991.5	20	47	2000	2000	Auto	multi mode	70k	110 kts	127 mph	2.11		
71	270	19:21:57	19:23:34	0:01:37	594	1948.8	20	47	2000	2000	Auto	multi mode	70k	120 kts	138 mph	2.30		
70	90	19:27:15	19:28:46	0:01:31	605	1984.9	20	47	2000	2000	Auto	multi mode	70k	120 kts	138 mph	2.30		
69	270	19:32:13	19:33:43	0:01:30	597	1958.7	20	47	2000	2000	Auto	multi mode	70k	123 kts	142 mph	2.36		
68	90	19:37:17	19:38:48	0:01:31	593	1945.5	20	47	2000	2000	Auto	multi mode	70k	122 kts	140 mph	2.34		
67	270	19:43:03	19:44:57	0:01:54	608	1994.7	20	47	2000	2000	Auto	multi mode	70k	119 kts	137 mph	2.28		
66	90	19:48:36	19:50:32	0:01:56	600	1968.5	20	47	2000	2000	Auto	multi mode	70k	123 kts	142 mph	2.36		
65	270	19:54:23	19:56:26	0:02:03	600	1968.5	20	47	2000	2000	Auto	multi mode	70k	120 kts	138 mph	4.60		
64	90	20:00:16	20:02:12	0:01:56	600	1968.5	20	47	2000	2000	Auto	multi mode	70k	122 kts	140 mph	2.34		
63	270	20:06:00	20:08:00	0:02:00	610	2001.3	20	47	2000	2000	Auto	multi mode	70k	117 kts	135 mph	4.49		
62	90	20:11:34	20:13:29	0:01:55	608	1994.7	20	47	2000	2000	Auto	multi mode	70k	125 kts	144 mph	2.40		
61	270	20:18:12	20:19:15	0:01:03	619	2030.8	20	47	2000	2000	Auto	multi mode	70k	124 kts	143 mph	2.38		
60	90	20:22:47	20:23:50	0:01:03	609	1998.0	20	47	2000	2000	Auto	multi mode	70k	129 kts	148 mph	2.47		
59	270	20:27:30	20:28:37	0:01:07	608	1994.7	20	47	2000	2000	Auto	multi mode	70k	121 kts	139 mph	2.32		
58	90	20:32:16	20:33:16	0:01:00	613	2011.2	20	47	2000	2000	Auto	multi mode	70k	132 kts	152 mph	2.53		
57	270	20:36:56	20:37:59	0:01:03	610	2001.3	20	47	2000	2000	Auto	multi mode	70k	123 kts	142 mph	2.36		
56	90	20:41:14	20:42:40	0:01:26	617	2024.3	20	47	2000	2000	Auto	multi mode	70k	128 kts	147 mph	2.45		
55	270	20:46:25	20:47:51	0:01:26	618	2027.6	20	47	2000	2000	Auto	multi mode	70k	121 kts	139 mph	2.32		
54	90	20:51:15	20:52:37	0:01:22	609	1998.0	20	47	2000	2000	Auto	multi mode	70k	131 kts	151 mph	2.51		
53	270	20:56:22	20:57:49	0:01:27	612	2007.9	20	47	2000	2000	Auto	multi mode	70k	125 kts	144 mph	2.40		
52	90	21:01:13	21:02:41	0:01:28	607	1991.5	20	47	2000	2000	Auto	multi mode	70k	130 kts	150 mph	2.49		
51	270	21:06:43	21:08:32	0:01:49	602	1975.1	20	47	2000	2000	Auto	multi mode	70k	126 kts	145 mph	2.42		
50	90	21:12:32	21:13:30	0:00:58	603	1978.3	20	47	2000	2000	Auto	multi mode	70k	133 kts	153 mph	0.00		
49	270	21:17:12	21:18:16	0:01:04	621	2037.4	20	47	2000	2000	Auto	multi mode	70k	122 kts	140 mph	2.34		
48	90	21:21:36	21:22:38	0:01:02	622	2040.7	20	47	2000	2000	Auto	multi mode	70k	131 kts	151 mph	2.51		
47	270	21:26:24	21:27:29	0:01:05	596	1955.4	20	47	2000	2000	Auto	multi mode	70k	125 kts	144 mph	2.40		
46	90	21:31:27	21:36:11	0:04:44	604	1981.6	20	47	2000	2000	Auto	multi mode	70k	129 kts	148 mph	9.90		Tie Line
45	270	21:41:01	21:43:43	0:02:42	612	2007.9	20	47	2000	2000	Auto	multi mode	70k	122 kts	140 mph	4.68		
44	90	21:47:09	21:49:37	0:02:28	608	1994.7	20	47	2000	2000	Auto	multi mode	70k	135 kts	155 mph	5.18		
43	270	21:53:18	21:56:03	0:02:45	603	1978.3	20	47	2000	2000	Auto	multi mode	70k	125 kts	144 mph	4.79		
42	90	21:59:18	22:01:53	0:02:35	607	1991.5	20	47	2000	2000	Auto	multi mode	70k	132 kts	152 mph	5.06		
41	270	22:05:30	22:08:38	0:03:08	612	2007.9	20	47	2000	2000	Auto	multi mode	70k	123 kts	142 mph	7.08		
40	90	22:12:14	22:13:59	0:01:45	614	2014.4	20	47	2000	2000	Auto	multi mode	70k	131 kts	151 mph	2.51		
39	270	22:17:32	22:19:22	0:01:50	613	2011.2	20	47	2000	2000	Auto	multi mode	70k	123 kts	142 mph	2.36		
38	90	22:22:43	22:24:26	0:01:43	610	2001.3	20	47	2000	2000	Auto	multi mode	70k	136 kts	157 mph	2.61		
37	270	22:28:05	22:29:59	0:01:54	614	2014.4	20	47	2000	2000	Auto	multi mode	70k	125 kts	144 mph	2.40		
36	90	22:33:41	22:35:29	0:01:48	614	2014.4	20	47	2000	2000	Auto	multi mode	70k	130 kts	150 mph	2.49		
2	336	23:02:58	23:03:48	0:00:50	606	1988.2	22	45	2000	2000	Auto	multi mode	70k	138 kts	159 mph	0.00		Bore Line flown at 2000

LIDAR FLIGHT SUMMARY

raft Flight Time:	5:08:05	Hobbs Time	
Collection Time:	0:58:32	Start	1817.5
own on Flights:	100.29	Stop	1822.7
		Total	5.2

Data Collection	
Percent Complete	84.8%
Total Flight Lines	99
Lines Complete	84
Lines Completed Today	39

Survey	
Percent Complete	
Total Check Sites	
Check Sites Complete	
Sites Completed Today	

Comments

AREA 6

Weather

- ☐ Clear
- x ☐ Fair
- ☐ Partly Cloudy
- ☐ Cloudy

LIDAR Daily Log

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NEW ORLEANS, LOUISIANA 70123
PH. 504.733.3001 - FX. 504.734.8938

Field Crew

Project #	A7190.01.001.551
Project Description	Flidar Area 6
Location	FL. Keys
Aircraft	N22PB

Lever Arm

	x	y	z
GPS	-0.0649	-0.169	-1.379
IMU	-0.090	-0.008	-0.069

Attenuator POS #

0.0	Open (Full Red) (High Altitude)
0.5	POS 1 (Half Red/Half Black) (Medium Altitude)
1.0	POS 2 (1/4 Red/ 3/4 Black) (Low Altitude)

GPS Information

Base 1	HOTEL	AGC
Base 2	GPS21	multi mode
Base3	Siminole	
Aero 2		

IMU Information

Start Time	22:45:40
Stop Time	2:10:45

Meteorological Conditions

	Elevation	Temp		Pres
Airport		27.0°c	300.15°k	30.01 inHg
@ Altitude		26.0°c	299.15°k	30.01 inHg
@ Altitude				

GPS Base Station Information

	File Name	RNX File	Ant Hgt	Ant Type
Base 1	HOTL0391.pdc		1.8	Novatel
Base 2	GP210390.dat		1.8	Trimble
Base 3	SIMI0390.pdc		1.8	Novatel

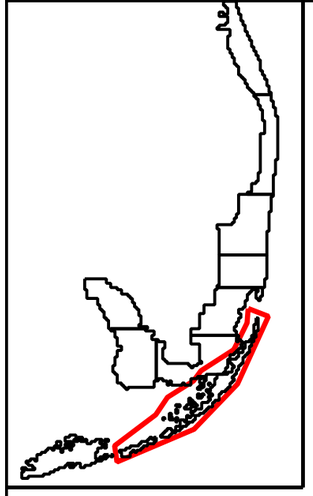
Flight Date (UTC)	Pilot	Operator	Sensor
2/8/2008	Matt	Doug	ALTM 203

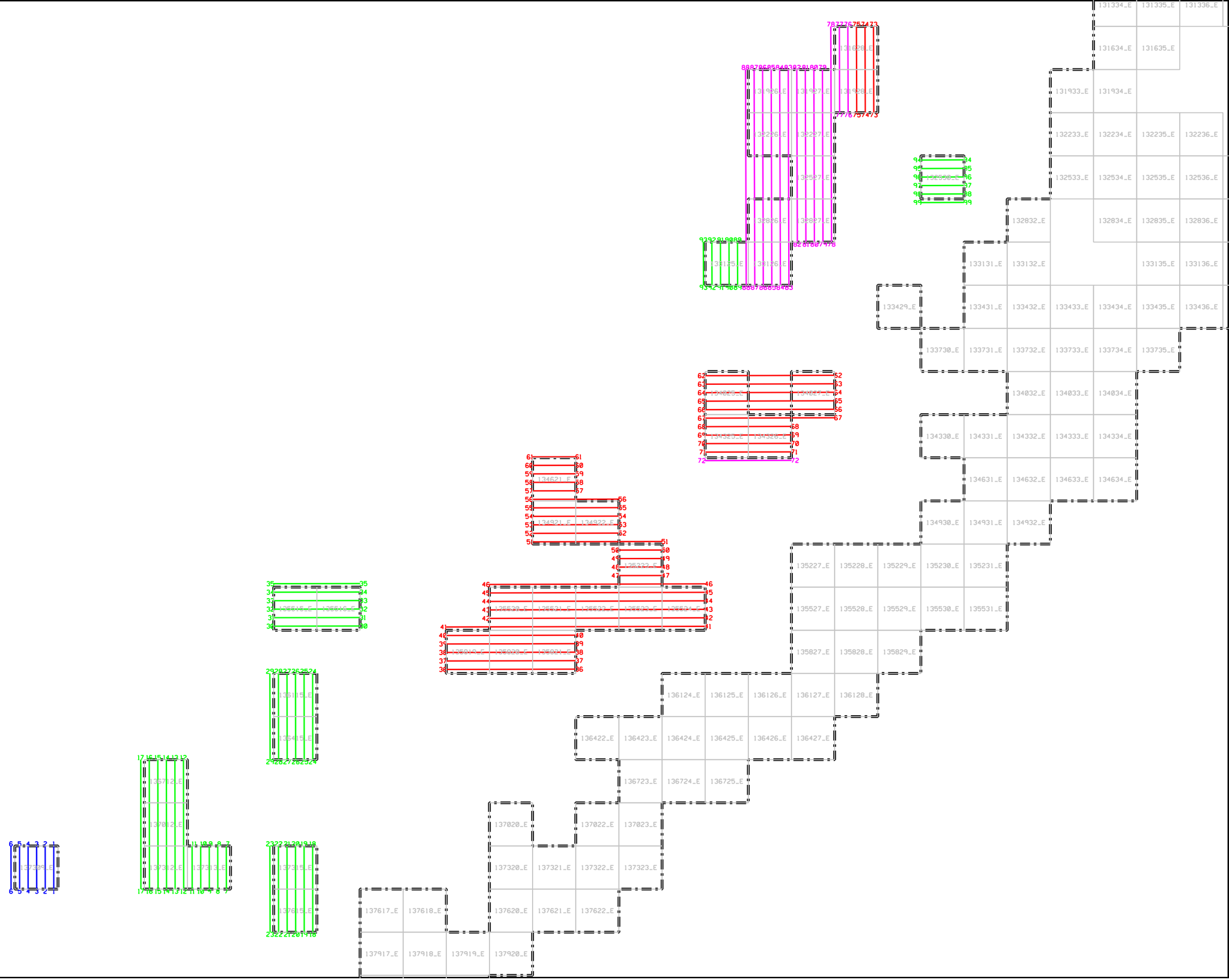
Line/Dir		Start	Stop	Total Time	Altitude (m)	Altitude ellipsoid (ft)	Scan Angle/Rate		AGL (ft)	AMSL (ft)	Attenuator	RCC	Pulse Rate	Speed		Miles Flwn	Void "Y"	Conditions/Comments
2	156	23:03:21	23:04:39	0:01:18	753	2470.5	22	45	2000	2000	Auto	multi mode	70k	122 kts	140 mph	2.34		Bore
1	246	23:08:07	23:09:42	0:01:35	757	2483.6	22	45	2000	2000	Auto	multi mode	70k	134 kts	154 mph	2.57		Bore
2	336	23:13:04	23:14:16	0:01:12	753	2470.5	22	45	2000	2000	Auto	multi mode	70k	127 kts	146 mph	2.44		Bore
1	246	23:17:44	23:18:11	0:00:00	772	2532.8	22	45	2000	2000	Auto	multi mode	70k	132 kts	152 mph	0.00	Y	Bore line bust 50+m off line
1	66	23:23:13	23:24:47	0:01:34	760	2493.4	20	47	2000	2000	Auto	multi mode	70k	128 kts	147 mph	2.45		Bore
76	360	23:50:43	23:52:20	0:01:37	620	2034.1	20	47	2000	2000	Auto	multi mode	70k	124 kts	143 mph	2.38		
77	180	23:57:07	23:58:48	0:01:41	613	2011.2	20	47	2000	2000	Auto	multi mode	70k	131 kts	151 mph	2.51		
78	360	0:04:12	0:06:56	0:02:44	623	2044.0	20	47	2000	2000	Auto	multi mode	70k	124 kts	143 mph	4.76		
79	180	0:10:59	0:13:22	0:02:23	622	2040.7	20	47	2000	2000	Auto	multi mode	70k	132 kts	152 mph	5.06		
80	360	0:16:39	0:19:02	0:02:23	615	2017.7	20	47	2000	2000	Auto	multi mode	70k	127 kts	146 mph	4.87		
81	180	0:22:44	0:25:04	0:02:20	612	2007.9	20	47	2000	2000	Auto	multi mode	70k	133 kts	153 mph	5.10		
82	360	0:28:50	0:31:14	0:02:24	607	1991.5	20	47	2000	2000	Auto	multi mode	70k	132 kts	152 mph	5.06		
83	180	0:34:35	0:37:23	0:02:48	611	2004.6	20	47	2000	2000	Auto	multi mode	70k	129 kts	148 mph	4.95		
84	360	0:41:32	0:44:20	0:02:48	604	1981.6	20	47	2000	2000	Auto	multi mode	70k	132 kts	152 mph	5.06		
85	180	0:47:48	0:50:34	0:02:46	611	2004.6	20	47	2000	2000	Auto	multi mode	70k	131 kts	151 mph	5.03		
86	360	0:54:18	0:57:07	0:02:49	610	2001.3	20	47	2000	2000	Auto	multi mode	70k	127 kts	146 mph	4.87		
87	180	1:00:33	1:03:21	0:02:48	609	1998.0	20	47	2000	2000	Auto	multi mode	70k	129 kts	148 mph	4.95		
88	360	1:06:51	1:09:40	0:02:49	615	2017.7	20	47	2000	2000	Auto	multi mode	70k	127 kts	146 mph	4.87		
72	90	1:17:00	1:18:39	0:01:39	624	2047.2	20	47	2000	2000	Auto	multi mode	70k	127 kts	146 mph	2.44		
46	90	1:27:59	1:32:54	0:04:55	614	2014.4	20	47	2000	2000	Auto	multi mode	70k	132 kts	152 mph	10.13		Tie Line

LIDAR FLIGHT SUMMARY

raft Flight Time:	3:25:05	Hobbs Time	
Collection Time:	0:44:33	Start	1833
lown on Flights:	81.84	Stop	1836.2
		Total	3.2

Data Collection		Survey		Comments	Weather
Percent Complete	100.0%	Percent Complete		AREA 6	X
Total Flight Lines	99	Total Check Sites			
Lines Complete	99	Check Sites Complete			
Lines Completed Today	14	Sites Completed Today			





Block 2
Dates Flown

January 31, 2008 2nd
February 1, 2008 2nd
February 7, 2008 1st
February 8, 2008 3rd

Cross Flight

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LIDAR Daily Log

Field Crew	
	3rd flight

Project #	A7190.01.001.551
Project Description	Flidar AREA 7
Location	Florida Keys
Aircraft	N22PB

Lever Arm	x	y	z
GPS	-0.0649	-0.169	-1.379
IMU	-0.090	-0.008	-0.069

Attenuator POS #	
0.0	Full Red) (High Altitude)
0.5	rd/Half Black) (Medium Altitude)
1.0	Red/ 3/4 Black) (Low Altitude)

GPS Information		AGC
Base 1	Hotel	
Base 2	Gps21(bridge)	multi mode
Base3	Siminole	
Aero 2		

IMU Information	
Start Time	22:22:00
Stop Time	3:24:07

Meteorological Conditions	Elevation	Temp		Pressure	
Airport		23.0°c	296.15°k	30.14 inHg	102066 Pa
@ Altitude					
@ Altitude					

GPS Base Station Information	File Name	RNX File	Ant Hgt	Ant Type
Base 1	hotl0261.pdc		1.8	Novatel
Base 2	gp210261.dat		1.8	trmb zyphr
Base 3	simi0262.pdc		1.8	Novatel

Flight Date (UTC)	Pilot	Operator	Sensor
1/26/2008	lane m	david d	ALTM 203

Line/Dir		Start	Stop	Total Time	Altitude	Scan Angle/Rate		AGL (m)	AMSL (ft)	Attenuator	RCC	Pulse Rate	Speed		Miles Flwn	Void "Y"	Conditions/Comments
1	246.83	22:41:03	22:42:32	0:01:29	756	22	45	2480	2480	Auto	multi mode	70k	130	150 mph	2.49		boresite
2	336.11	22:46:17	22:47:21	0:01:04	758	22	45	2487	2487	Auto	multi mode	70k	119	137 mph	2.28		boresite
1	66.83	22:52:02	22:53:33	0:01:31	769	22	45	2523	2523	Auto	multi mode	70k	130	150 mph	2.49		boresite
2	156.11	22:57:23	22:58:26	0:01:03	759	22	45	2490	2490	Auto	multi mode	70k	131	151 mph	2.51		boresite
44	304.72	23:19:53	23:22:20	0:02:27	580	20	47	1903	1903	Auto	multi mode	70k	134	154 mph	5.14		tie line niether file would select line
11	215	23:30:18	23:40:31	0:10:13	614	20	47	2014	2014	Auto	multi mode	70k	131	151 mph	25.13		
12	35	23:45:50	23:56:22	0:10:32	614	20	47	2014	2014	Auto	multi mode	70k	131	151 mph	25.13		
12	215	0:02:38	0:13:02	0:00:00	609	20	47	1998	1998	Auto	multi mode	70k	130	150 mph	0.00	Y	line ran 2 x's opp. Direction (see comments below)
13	35	0:18:03	0:21:40	0:00:00	613	20	47	2011	2011	Auto	multi mode	70k	129	148 mph	0.00	Y	line busted
14	35	0:29:56	0:40:35	0:10:39	612	20	47	2008	2008	Auto	multi mode	70k	126	145 mph	24.17		
15	215	0:45:46	0:57:02	0:11:16	598	20	47	1962	1962	Auto	multi mode	70k	123	142 mph	25.95		
16	35	1:01:23	1:12:25	0:11:02	595	20	47	1952	1952	Auto	multi mode	70k	132	152 mph	27.85		
17	215	1:17:18	1:23:39	0:00:00	612	20	47	2008	2008	Auto	multi mode	70k	127	146 mph	0.00	Y	line busted
17	215	1:32:57	1:44:32	0:11:35	596	20	47	1955	1955	Auto	multi mode	70k	120	138 mph	25.32		
18	35	1:49:06	2:00:53	0:11:47	601	20	47	1972	1972	Auto	multi mode	70k	134	154 mph	28.27		
19	215	2:04:47	2:16:43	0:11:56	622	20	47	2041	2041	Auto	multi mode	70k	125	144 mph	26.37		
20	35	2:20:39	2:32:22	0:11:43	621	20	47	2037	2037	Auto	multi mode	70k	132	152 mph	27.85		
13	215	2:37:07	2:47:44	0:10:37	619	20	47	2031	2031	Auto	multi mode	70k	134	154 mph	25.70		

LIGHT SUMMARY

rcraft Flight Time:	5:02:07	Hobbs Time	
er Collection Time:	1:58:54	Start	1755.8
s Flown on Flights:	276.65	Stop	1761.4
		Total	5.6

Data Collection	
Percent Compl	22.7%
Total Flight Lin	44
Lines Comple	10
Lines Completed T	10

Survey	
Percent Compl	
Total Check Si	
Check Sites Com	
Sites Completed T	

Comments
area 7
mission carried over into day 027 (Sunday)
line 12 ran 2 times , operator did not switch too next line just direction

Weather
X
X

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NEW ORLEANS, LOUISIANA 70123
PH. 504.733.3001 - FX. 504.734.8938

LIDAR Daily Log

Field Crew	
Project #	A2030.18.005.155
Project Description	NGA Florida AREA 7
Location	FL. Keys
Aircraft	N22PB

Flight Date (UTC)	Pilot	Operator	Sensor
1/28/2008	Satish	Davidson	ALTM 203

Lever Arm

	x	y	z
GPS	-0.0649	-0.169	-1.379
IMU	-0.090	-0.008	-0.069

Attenuator POS #

0.0	Open (Full Red) (High Altitude)
0.5	POS 1 (Half Red/Half Black) (Medium Altitude)
1.0	POS 2 (1/4 Red/ 3/4 Black) (Low Altitude)

GPS Information

Base 1	HOTEL	AGC
Base 2	GPS21	multi mode
Base3	SIMINOLE	
Aero 2		
Start Time	21:59:35	
Stop Time	3:17:30	

Meteorological Conditions

	Elevation	Temp	Pressure	
Airport		20.0°c	293.15°k	30.11 inHg	101964 Pa
@ Altitude				
@ Altitude				

GPS Base Station Information

	File Name	RNX File	Ant Hgt	Ant Type
Base 1	HOTL0280.pdc		1.8	Novatel
Base 2	GP210280.DAT		1.8	Trimble
Base 3	SIMI0280.DAT		1.8	Novatel

Line/Dir		Start	Stop	Total Time	Altitude	Scan Angle/Rate		AGL (m)	AMSL (ft)	Attenuator	RCC	Pulse Rate	Speed		Miles Flwn	Void "Y"	Conditions/Comments
2	156	22:18:24	22:19:25	0:01:01	776	22	45	2546	2546	Auto	multi mode	70k	128 kts	147 mph	2.45		Bore
1	246	22:24:51	22:26:26	0:01:35	761	22	45	2497	2497	Auto	multi mode	70k	114 kts	131 mph	2.19		Bore
2	336	22:31:05	22:32:07	0:01:02	765	22	45	2510	2510	Auto	multi mode	70k	122 kts	140 mph	2.34		Bore
1	66	22:36:43	22:38:08	0:01:25	772	22	45	2533	2533	Auto	multi mode	70k	120 kts	138 mph	2.30		Bore
21	215	23:08:21	23:20:35	0:12:14	627	20	47	2057	2057	Auto	multi mode	70k	126 kts	145 mph	29.00		
22	35	23:25:09	23:37:07	0:11:58	610	20	47	2001	2001	Auto	multi mode	70k	132 kts	152 mph	27.85		
23	215	23:41:42	23:53:46	0:12:04	618	20	47	2028	2028	Auto	multi mode	70k	134 kts	154 mph	30.84		
24	35	23:59:05	0:11:23	0:12:18	612	20	47	2008	2008	Auto	multi mode	70k	130 kts	150 mph	29.92		
25	215	0:16:34	0:28:50	0:12:16	629	20	47	2064	2064	Auto	multi mode	70k	129 kts	148 mph	29.69		
26	35	0:33:56	0:46:30	0:12:34	628	20	47	2060	2060	Auto	multi mode	70k	127 kts	146 mph	29.23		
27	215	0:51:25	1:04:34	0:13:09	612	20	47	2008	2008	Auto	multi mode	70k	120 kts	138 mph	29.92		
28	35	1:09:09	1:21:48	0:12:39	642	20	47	2106	2106	Auto	multi mode	70k	130 kts	150 mph	29.92		
29	215	1:26:08	1:38:00	0:11:52	633	20	47	2077	2077	Auto	multi mode	70k	125 kts	144 mph	26.37		
30	35	1:42:49	1:54:19	0:11:30	627	20	47	2057	2057	Auto	multi mode	70k	131 kts	151 mph	27.64		
31	215	1:59:07	2:10:25	0:11:18	634	20	47	2080	2080	Auto	multi mode	70k	130 kts	150 mph	27.43		
32	35	2:15:25	2:26:14	0:10:49	638	20	47	2093	2093	Auto	multi mode	70k	130 kts	150 mph	24.93		
44	302	2:38:47	2:42:20	0:03:33	614	20	47	2014	2014	Auto	multi mode	70k	120 kts	138 mph	6.90		

LIGHT SUMMARY

ft Flight Time:	5:17:55	Hobbs Time	
llection Time:	2:33:17	Start	1776.1
wn on Flights:	358.93	Stop	1781.6
		Total	5.5

Data Collection		Survey	
Percent Complete	50.0%	Percent Complete	
Total Flight Lines	44	Total Check Sites	
Lines Complete	22	Check Sites Complete	
Lines Completed Today	12	Sites Completed Today	

Comments

AREA 7

Weather

X

LIDAR Daily Log

the spatial data company
5525 MOUNES STREET, SUITE 102
NEW ORLEANS, LOUISIANA 70123
PH. 504.733.3001 - FX. 504.734.8938

Field Crew		
Flight Date (UTC)	Pilot	Operator
1/29/2008	Morrison	Davis

Sensor
ALTM 203

Project #	A7190.01.001.551
Project Description	Flidar area 7
Location	FL. Keys
Aircraft	N22PB

Lever Arm	x	y	z
GPS	-0.0649	-0.169	-1.379
IMU	-0.090	-0.008	-0.069

Attenuator POS #	
0.0	Open (Full Red) (High Altitude)
0.5	POS 1 (Half Red/Half Black) (Medium Altitude)
1.0	POS 2 (1/4 Red/ 3/4 Black) (Low Altitude)

GPS Information		AGC
Base 1	HOTEL	
Base 2	GPS21	multi mode
Base3	SIMINOLE	
Aero 2		

IMU Information	
Start Time	4:54:15
Stop Time	10:28:45

Meteorological Conditions	Elevation	Temp		Pressure	
Airport		18.0°c	291.15°k	30.12 inHg	101998 Pa
@ Altitude					
@ Altitude					

GPS Base Station Information	File Name	RNX File	Ant Hgt	Ant Type
Base 1	HOTL0280.pdc		1.8	Novatel
Base 2	GP210280.DAT		1.8	Trimble
Base 3	SIMI0280.pdc		1.8	Novatel

Line/Dir		Start	Stop	Total Time	Altitude	Scan Angle/Rate		AGL (m)	AMSL (ft)	Attenuator	RCC	Pulse Rate	Speed		Miles Flwn	Void "Y"	Conditions/Comments
1	246	5:12:42	5:14:16	0:01:34	606	22	45	1988	1988	Auto	multi mode	70k	130 kts	150 mph	2.49		Bore
2	336	5:18:28	5:19:33	0:01:05	603	22	45	1978	1978	Auto	multi mode	70k	129 kts	148 mph	2.47		Bore
1	66	5:23:45	5:25:26	0:01:41	598	22	45	1962	1962	Auto	multi mode	70k	114 kts	131 mph	2.19		Bore
2	156	5:29:21	5:30:16	0:00:55	586	22	45	1923	1923	Auto	multi mode	70k	107 kts	123 mph	0.00		Bore
44	302	5:54:08	5:54:54	0:00:00	591	20	47	1939	1939	Auto	multi mode	70k	133 kts	153 mph	0.00	Y	Line Bust 50m+ off line
44	302	6:00:54	6:04:28	0:03:34	602	20	47	1975	1975	Auto	multi mode	70k	124 kts	143 mph	7.13		Tie Line
32	35	6:14:56	6:25:27	0:10:31	604	20	47	1982	1982	Auto	multi mode	70k	127 kts	146 mph	24.36		
33	215	6:29:57	6:40:25	0:10:28	604	20	47	1982	1982	Auto	multi mode	70k	131 kts	151 mph	25.13		
34	35	6:44:58	6:55:15	0:10:17	610	20	47	2001	2001	Auto	multi mode	70k	115 kts	132 mph	22.06		
35	215	7:00:17	7:10:26	0:10:09	605	20	47	1985	1985	Auto	multi mode	70k	139 kts	160 mph	26.66		
36	35	7:15:33	7:25:17	0:09:44	619	20	47	2031	2031	Auto	multi mode	70k	132 kts	152 mph	22.79		
37	215	7:30:30	7:37:50	0:07:20	617	20	47	2024	2024	Auto	multi mode	70k	125 kts	144 mph	16.78		
38	35	7:42:26	7:49:00	0:06:34	608	20	47	1995	1995	Auto	multi mode	70k	125 kts	144 mph	14.38		
39	215	7:54:12	7:59:36	0:05:24	610	20	47	2001	2001	Auto	multi mode	70k	133 kts	153 mph	12.75		
40	35	8:03:45	8:09:17	0:05:32	616	20	47	2021	2021	Auto	multi mode	70k	126 kts	145 mph	12.08		
41	215	8:13:56	8:17:16	0:03:20	623	20	47	2044	2044	Auto	multi mode	70k	134 kts	154 mph	7.71		
42	35	8:22:01	8:24:45	0:02:44	607	20	47	1991	1991	Auto	multi mode	70k	133 kts	153 mph	5.10		
43	215	8:28:24	8:30:32	0:02:08	604	20	47	1982	1982	Auto	multi mode	70k	128 kts	147 mph	4.91		
1	215	8:37:34	8:41:31	0:03:57	606	20	47	1988	1988	Auto	multi mode	70k	133 kts	153 mph	7.65		
2	35	8:45:43	8:49:56	0:04:13	623	20	47	2044	2044	Auto	multi mode	70k	129 kts	148 mph	9.90		
3	215	8:54:01	8:58:23	0:04:22	603	20	47	1978	1978	Auto	multi mode	70k	133 kts	153 mph	10.20		
4	35	9:03:43	9:08:08	0:04:25	612	20	47	2008	2008	Auto	multi mode	70k	134 kts	154 mph	10.28		
5	215	9:12:12	9:16:44	0:04:32	618	20	47	2028	2028	Auto	multi mode	70k	129 kts	148 mph	9.90		
6	35	9:20:54	9:28:26	0:07:32	613	20	47	2011	2011	Auto	multi mode	70k	136 kts	157 mph	18.26		
7	215	9:33:07	9:36:33	0:00:00	610	20	47	2001	2001	Auto	multi mode	70k	133 kts	153 mph	0.00	Y	
7	215	9:44:51	9:52:36	0:07:45	599	20	47	1965	1965	Auto	multi mode	70k	137 kts	158 mph	18.39		Line Bust 50m+ off line

LIGHT SUMMARY

ft Flight Time:	5:34:30	Hobbs Time	
llection Time:	2:09:46	Start	1781.6
wn on Flights:	293.58	Stop	1787.3
		Total	5.7

Data Collection	
Percent Complete	93.2%
Total Flight Lines	44
Lines Complete	41
Lines Completed Today	19

Survey	
Percent Complete	
Total Check Sites	
Check Sites Complete	
Sites Completed Today	

Comments
AREA 7

Weather
X

the spatial data company
5525 MOUNES STREET, SUITE 102
NEW ORLEANS, LOUISIANA 70123
PH. 504.733.3001 - FX. 504.734.8938

LIDAR Daily Log

Field Crew			
Flight Date (UTC)	Pilot	Operator	Sensor
1/30/2008	Morrison	Davis	ALTM 203

Project #	A7190.01.001.551
Project Description	Flidar Area 7 & 8
Location	FL. Keys
Aircraft	N22PB

Lever Arm

	x	y	z
GPS	-0.0649	-0.169	-1.379
IMU	-0.090	-0.008	-0.069

Attenuator POS #

0.0	Open (Full Red) (High Altitude)
0.5	POS 1 (Half Red/Half Black) (Medium Altitude)
1.0	POS 2 (1/4 Red/ 3/4 Black) (Low Altitude)

GPS Information		AGC
Base 1	HOTEL	
Base 2	SIMINOLE	multi mode
Base3	FIRE	
Aero 2		

IMU Information	
Start Time	1:52:20
Stop Time	6:37:20

Meteorological Conditions	Elevation	Temp		Pressure	
Airport		22.0°c	295.15°k	30.08 inHg	101863 Pa
@ Altitude					
@ Altitude					

GPS Base Station Information	File Name	RNX File	Ant Hgt	Ant Type
Base 1	HOTL0300.pdc		1.8	Novatel
Base 2	SIMI0300.pdc		1.8	Novatel
Base 3	FIRE0300.pdc		1.8	Novatel

Line/Dir		Start	Stop	Total Time	Altitude	Scan Angle/Rate		AGL (m)	AMSL (ft)	Attenuator	RCC	Pulse Rate	Speed		Miles Flwn	Void "Y"	Conditions/Comments
1	66	2:09:42	2:11:13	0:01:31	761	22	45	2497	2497	Auto	multi mode	70k	127 kts	146 mph	2.44		Bore
2	156	2:14:49	2:15:52	0:01:03	744	22	45	2441	2441	Auto	multi mode	70k	109 kts	125 mph	2.09		Bore
1	246	2:19:52	2:21:26	0:01:34	773	22	45	2536	2536	Auto	multi mode	70k	123 kts	142 mph	2.36		Bore
2	336	2:25:17	2:25:45	0:00:00	764	22	45	2507	2507	Auto	multi mode	70k	128 kts	147 mph	0.00	Y	Bore Line Bust 70m off line
2	366	2:31:14	2:32:12	0:00:58	742	22	45	2434	2434	Auto	multi mode	70k	129 kts	148 mph	0.00		Bore
8	35	3:23:16	3:31:20	0:08:04	592	20	47	1942	1942	Auto	multi mode	70k	131 kts	151 mph	20.10		Area 7
9	215	3:36:56	3:45:24	0:08:28	605	20	47	1985	1985	Auto	multi mode	70k	122 kts	140 mph	18.72		Area 7
10	35	3:50:45	4:00:52	0:10:07	581	20	47	1906	1906	Auto	multi mode	70k	125 kts	144 mph	23.97		Area 7
44	302	4:10:09	4:13:40	0:03:31	580	20	47	1903	1903	Auto	multi mode	70k	133 kts	153 mph	7.65		Area 7 Tie Line
24	114	4:20:21	4:22:30	0:02:09	602	20	47	1975	1975	Auto	multi mode	70k	120 kts	138 mph	4.60		Area 8 Tie Line
1	206	4:28:22	4:29:24	0:01:02	591	20	47	1939	1939	Auto	multi mode	70k	110 kts	127 mph	2.11		Area 8
2	26	4:33:58	4:37:46	0:03:48	595	20	47	1952	1952	Auto	multi mode	70k	128 kts	147 mph	7.36		Area 8
3	206	4:45:03	4:50:21	0:05:18	597	20	47	1959	1959	Auto	multi mode	70k	101 kts	116 mph	9.69		Area 8
4	26	4:54:58	5:00:19	0:05:21	580	20	47	1903	1903	Auto	multi mode	70k	139 kts	160 mph	13.33		Area 8
5	206	5:06:15	5:13:13	0:06:58	586	20	47	1923	1923	Auto	multi mode	70k	97 kts	112 mph	11.16		Area 8
6	26	5:18:03	5:24:39	0:06:36	597	20	47	1959	1959	Auto	multi mode	70k	125 kts	144 mph	14.38		Area 8
7	206	5:30:10	5:34:28	0:00:00	598	20	47	1962	1962	Auto	multi mode	70k	107 kts	123 mph	0.00	Y	Area 8 Line bust 80m off line
7	206	5:41:35	5:48:48	0:07:13	584	20	47	1916	1916	Auto	multi mode	70k	103 kts	119 mph	13.83		Area 8

LIGHT SUMMARY

ft Flight Time:	4:45:00	Hobbs Time	
llection Time:	1:13:41	Start	1787.3
wn on Flights:	153.80	Stop	1792.4
		Total	5.1

Data Collection	
Percent Complete	100.0%
Total Flight Lines	44
Lines Complete	44
Lines Completed Today	3

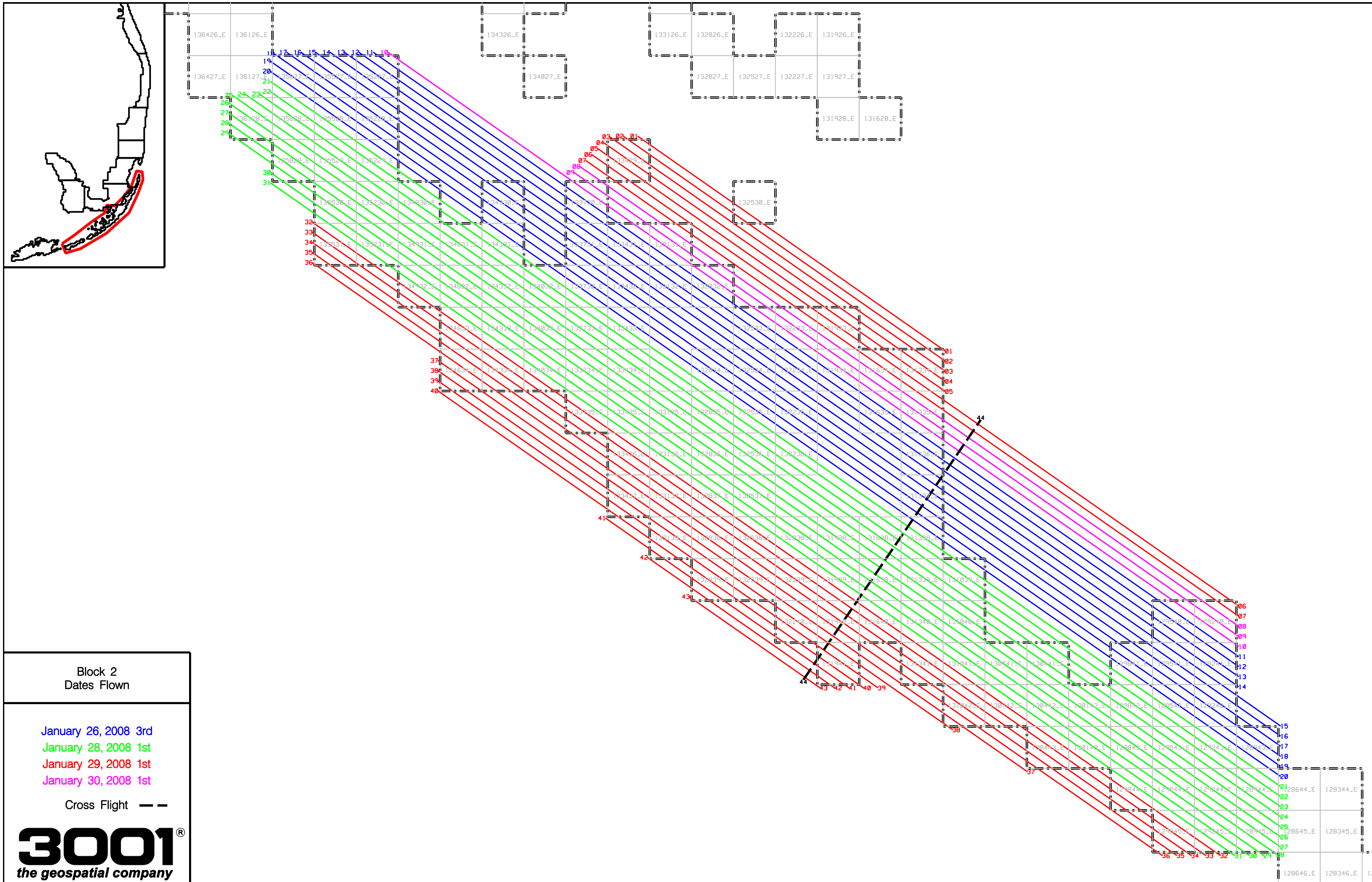
Survey	
Percent Complete	
Total Check Sites	
Check Sites Complete	
Sites Completed Today	

Comments

AREA 7 & 8

Weather

X



Block 2
Dates Flown

January 26, 2008 3rd
January 28, 2008 1st
January 29, 2008 1st
January 30, 2008 1st

Cross Flight — —

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NEW ORLEANS, LOUISIANA 70123
PH. 504.733.3001 - FX. 504.734.8938

LIDAR Daily Log

Field Crew			
Flight Date (UTC)	Pilot	Operator	Sensor
1/30/2008	Morrison	Davis	ALTM 203

Project #	A7190.01.001.551
Project Description	Flidar Area 7 & 8
Location	FL. Keys
Aircraft	N22PB

Lever Arm

	x	y	z
GPS	-0.0649	-0.169	-1.379
IMU	-0.090	-0.008	-0.069

Attenuator POS #

0.0	Open (Full Red) (High Altitude)
0.5	POS 1 (Half Red/Half Black) (Medium Altitude)
1.0	POS 2 (1/4 Red/ 3/4 Black) (Low Altitude)

GPS Information		AGC
Base 1	HOTEL	
Base 2	SIMINOLE	multi mode
Base3	FIRE	
Aero 2		

IMU Information	
Start Time	1:52:20
Stop Time	6:37:20

Meteorological Conditions	Elevation	Temp		Pressure	
Airport		22.0°c	295.15°k	30.08 inHg	101863 Pa
@ Altitude					
@ Altitude					

GPS Base Station Information	File Name	RNX File	Ant Hgt	Ant Type
Base 1	HOTL0300.pdc		1.8	Novatel
Base 2	SIMI0300.pdc		1.8	Novatel
Base 3	FIRE0300.pdc		1.8	Novatel

Line/Dir		Start	Stop	Total Time	Altitude	Scan Angle/Rate		AGL (m)	AMSL (ft)	Attenuator	RCC	Pulse Rate	Speed		Miles Flwn	Void "Y"	Conditions/Comments
1	66	2:09:42	2:11:13	0:01:31	761	22	45	2497	2497	Auto	multi mode	70k	127 kts	146 mph	2.44		Bore
2	156	2:14:49	2:15:52	0:01:03	744	22	45	2441	2441	Auto	multi mode	70k	109 kts	125 mph	2.09		Bore
1	246	2:19:52	2:21:26	0:01:34	773	22	45	2536	2536	Auto	multi mode	70k	123 kts	142 mph	2.36		Bore
2	336	2:25:17	2:25:45	0:00:00	764	22	45	2507	2507	Auto	multi mode	70k	128 kts	147 mph	0.00	Y	Bore Line Bust 70m off line
2	366	2:31:14	2:32:12	0:00:58	742	22	45	2434	2434	Auto	multi mode	70k	129 kts	148 mph	0.00		Bore
8	35	3:23:16	3:31:20	0:08:04	592	20	47	1942	1942	Auto	multi mode	70k	131 kts	151 mph	20.10		Area 7
9	215	3:36:56	3:45:24	0:08:28	605	20	47	1985	1985	Auto	multi mode	70k	122 kts	140 mph	18.72		Area 7
10	35	3:50:45	4:00:52	0:10:07	581	20	47	1906	1906	Auto	multi mode	70k	125 kts	144 mph	23.97		Area 7
44	302	4:10:09	4:13:40	0:03:31	580	20	47	1903	1903	Auto	multi mode	70k	133 kts	153 mph	7.65		Area 7 Tie Line
24	114	4:20:21	4:22:30	0:02:09	602	20	47	1975	1975	Auto	multi mode	70k	120 kts	138 mph	4.60		Area 8 Tie Line
1	206	4:28:22	4:29:24	0:01:02	591	20	47	1939	1939	Auto	multi mode	70k	110 kts	127 mph	2.11		Area 8
2	26	4:33:58	4:37:46	0:03:48	595	20	47	1952	1952	Auto	multi mode	70k	128 kts	147 mph	7.36		Area 8
3	206	4:45:03	4:50:21	0:05:18	597	20	47	1959	1959	Auto	multi mode	70k	101 kts	116 mph	9.69		Area 8
4	26	4:54:58	5:00:19	0:05:21	580	20	47	1903	1903	Auto	multi mode	70k	139 kts	160 mph	13.33		Area 8
5	206	5:06:15	5:13:13	0:06:58	586	20	47	1923	1923	Auto	multi mode	70k	97 kts	112 mph	11.16		Area 8
6	26	5:18:03	5:24:39	0:06:36	597	20	47	1959	1959	Auto	multi mode	70k	125 kts	144 mph	14.38		Area 8
7	206	5:30:10	5:34:28	0:00:00	598	20	47	1962	1962	Auto	multi mode	70k	107 kts	123 mph	0.00	Y	Area 8 Line bust 80m off line
7	206	5:41:35	5:48:48	0:07:13	584	20	47	1916	1916	Auto	multi mode	70k	103 kts	119 mph	13.83		Area 8

LIGHT SUMMARY

ft Flight Time:	4:45:00	Hobbs Time	
llection Time:	1:13:41	Start	1787.3
wn on Flights:	153.80	Stop	1792.4
		Total	5.1

Data Collection	
Percent Complete	100.0%
Total Flight Lines	44
Lines Complete	44
Lines Completed Today	3

Survey	
Percent Complete	
Total Check Sites	
Check Sites Complete	
Sites Completed Today	

Comments

AREA 7 & 8

Weather

X

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5525 MOUNES STREET, SUITE 102
NEW ORLEANS, LOUISIANA 70123
PH. 504.733.3001 - FX. 504.734.8938

LIDAR Daily Log

Field Crew	

Project #	A2030.18.005.155
Project Description	Flidar Area 8
Location	FL. Keys

Lever Arm	x	y	z
GPS	-0.0649	-0.169	-1.379
IMU	-0.090	-0.008	-0.069

Attenuator POS #

- 0.0 Open (Full Red) (High Altitude)
- 0.5 POS 1 (Half Red/Half Black) (Medium Altitude)
- 1.0 POS 2 (1/4 Red/ 3/4 Black) (Low Altitude)

Flight Date (UTC)	Pilot	Operator	Sensor	Aircraft
1/31/2008	Tinsley	Davidson	ALTM 203	N22PB

GPS Information		AGC
Base 1	HOTEL	
Base 2	FIRE	multi mode
Base3		
Aero 2		

IMU Information	
Start Time	13:27:13
Stop Time	18:21:04

Meteorological Conditions	Elevation	Temp		Pressure	
Airport		24.0°c	297.15°k	30.15 inHg	102100 Pa
@ Altitude					
@ Altitude					

GPS Base Station Information	File Name	RNX File	Ant Hgt	Ant Type
Base 1	HOTL0310.pdc		1.8	Novatel
Base 2	FIRE0310.pdc		1.8	Novatel
Base 3				

Line/Dir		Start	Stop	Total Time	Altitude	Scan Angle/Rate		AGL (m)	AMSL (ft)	Attenuator	RCC	Pulse Rate	Speed		Miles Flwn	Void "Y"	Conditions/Comments
2	156	13:50:13	13:51:20	0:01:07	768	22	45	2520	2520	Auto	multi mode	70k	118 kts	136 mph	2.26		Bore
1	246	13:54:51	13:56:02	0:01:11	766	22	45	2513	2513	Auto	multi mode	70k	139 kts	160 mph	2.67		Bore
2	336	14:01:16	14:02:20	0:01:04	767	22	45	2516	2516	Auto	multi mode	70k	121 kts	139 mph	2.32		Bore
1	66	14:06:53	14:08:35	0:01:42	765	22	45	2510	2510	Auto	multi mode	70k	110 kts	127 mph	2.11		Bore
8	26	14:41:03	14:47:22	0:06:19	616	20	47	2021	2021	Auto	multi mode	70k	135 kts	155 mph	15.54		Area 8
21	206	14:52:01	14:59:53	0:07:52	632	20	47	2073	2073	Auto	multi mode	70k	130 kts	150 mph	17.45		
20	26	15:03:34	15:11:24	0:07:50	607	20	47	1991	1991	Auto	multi mode	70k	133 kts	153 mph	17.86		
19	206	15:15:03	15:23:09	0:08:06	621	20	47	2037	2037	Auto	multi mode	70k	135 kts	155 mph	20.71		
18	26	15:27:03	15:35:09	0:08:06	609	20	47	1998	1998	Auto	multi mode	70k	133 kts	153 mph	20.41		
17	206	15:38:52	15:46:58	0:08:06	617	20	47	2024	2024	Auto	multi mode	70k	134 kts	154 mph	20.56		
16	26	15:50:42	15:58:39	0:07:57	612	20	47	2008	2008	Auto	multi mode	70k	133 kts	153 mph	17.86		
15	206	16:02:27	16:10:13	0:07:46	603	20	47	1978	1978	Auto	multi mode	70k	130 kts	150 mph	17.45		
14	26	16:13:59	16:21:25	0:07:26	619	20	47	2031	2031	Auto	multi mode	70k	136 kts	157 mph	18.26		
13	206	16:25:30	16:32:49	0:07:19	600	20	47	1968	1968	Auto	multi mode	70k	128 kts	147 mph	17.18		
12	26	16:36:36	16:43:42	0:07:06	607	20	47	1991	1991	Auto	multi mode	70k	135 kts	155 mph	18.12		
11	206	16:47:34	16:54:31	0:06:57	618	20	47	2028	2028	Auto	multi mode	70k	135 kts	155 mph	15.54		
10	26	16:58:15	17:04:56	0:06:41	612	20	47	2008	2008	Auto	multi mode	70k	135 kts	155 mph	15.54		
9	206	17:09:05	17:15:44	0:06:39	607	20	47	1991	1991	Auto	multi mode	70k	132 kts	152 mph	15.19		
22	26	17:19:28	17:26:47	0:07:19	593	20	47	1946	1946	Auto	multi mode	70k	136 kts	157 mph	18.26		
23	206	17:36:00	17:36:47	0:00:47	597	20	47	1959	1959	Auto	multi mode	70k	133 kts	153 mph	0.00		
24	114	17:41:04	17:43:21	0:02:17	594	20	47	1949	1949	Auto	multi mode	70k	122 kts	140 mph	4.68		Area 8 Complete

LIGHT SUMMARY

ft Flight Time:	4:53:51	Hobbs Time	
llection Time:	1:59:37	Start	1797.5
wn on Flights:	279.97	Stop	1802.7
		Total	5.2

Data Collection	
Percent Complete	100.0%
Total Flight Lines	24
Lines Complete	24
Lines Completed Today	17

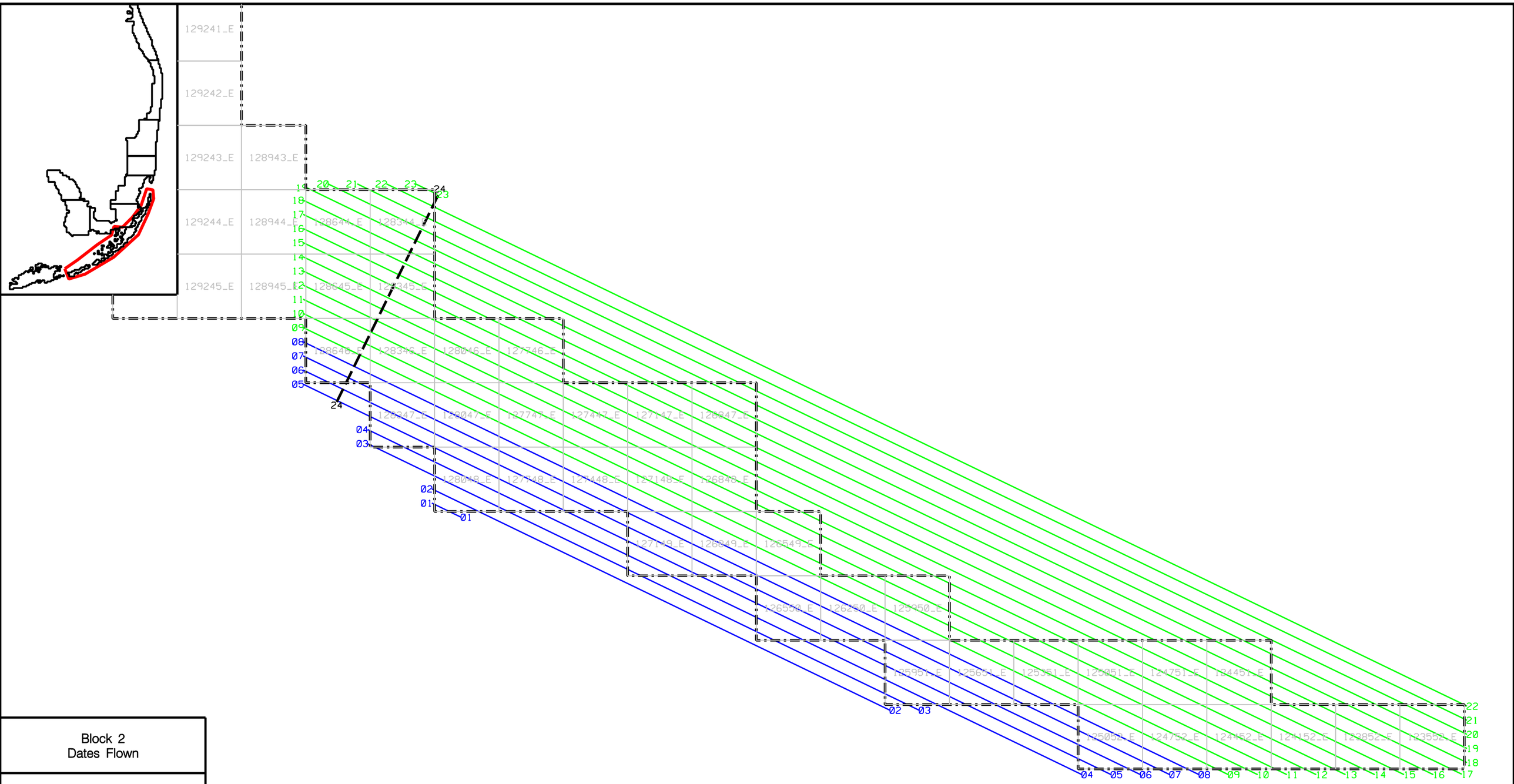
Survey	
Percent Complete	
Total Check Sites	
Check Sites Complete	
Sites Completed Today	

Comments

AREA 8

Weather

- X Clear
- Fair
- Partly Cloudy
- Cloudy



Block 2
Dates Flown

January 30, 2008 1st
January 31, 2008 1st

Cross Flight — —

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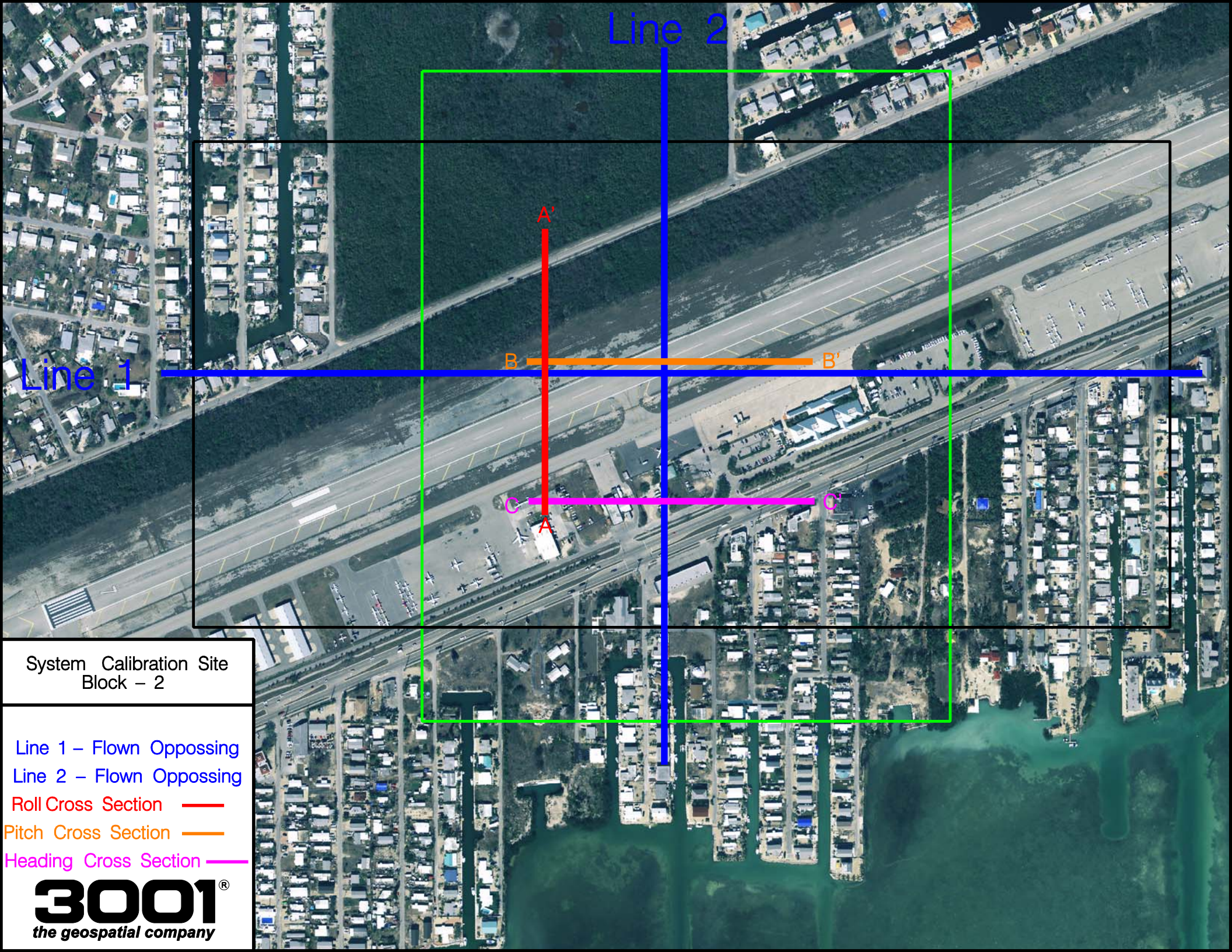
Section 3


Line 2
Line 1
A'
A
B
B'
C
C'
System Calibration Site
Block – 2
Line 1 – Flown Oppossing
Line 2 – Flown Oppossing
Roll Cross Section
Pitch Cross Section
Heading Cross Section
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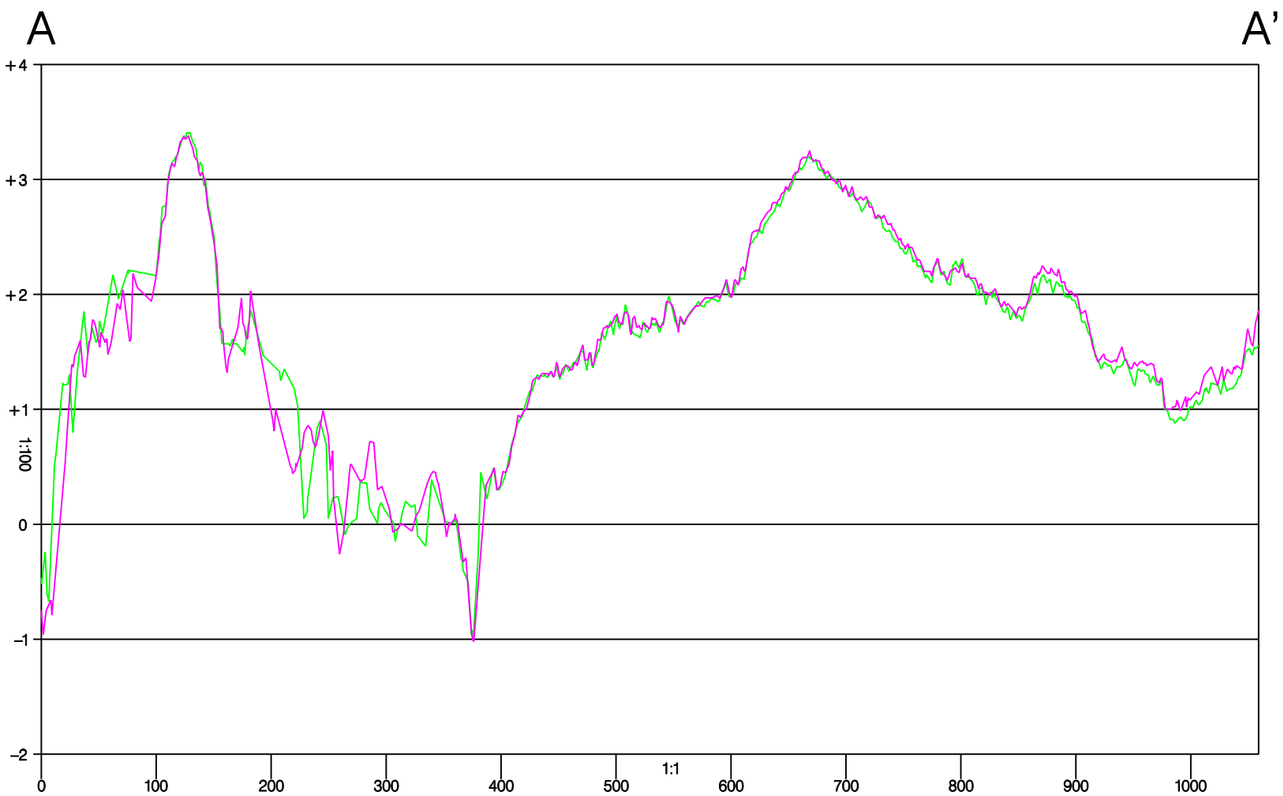
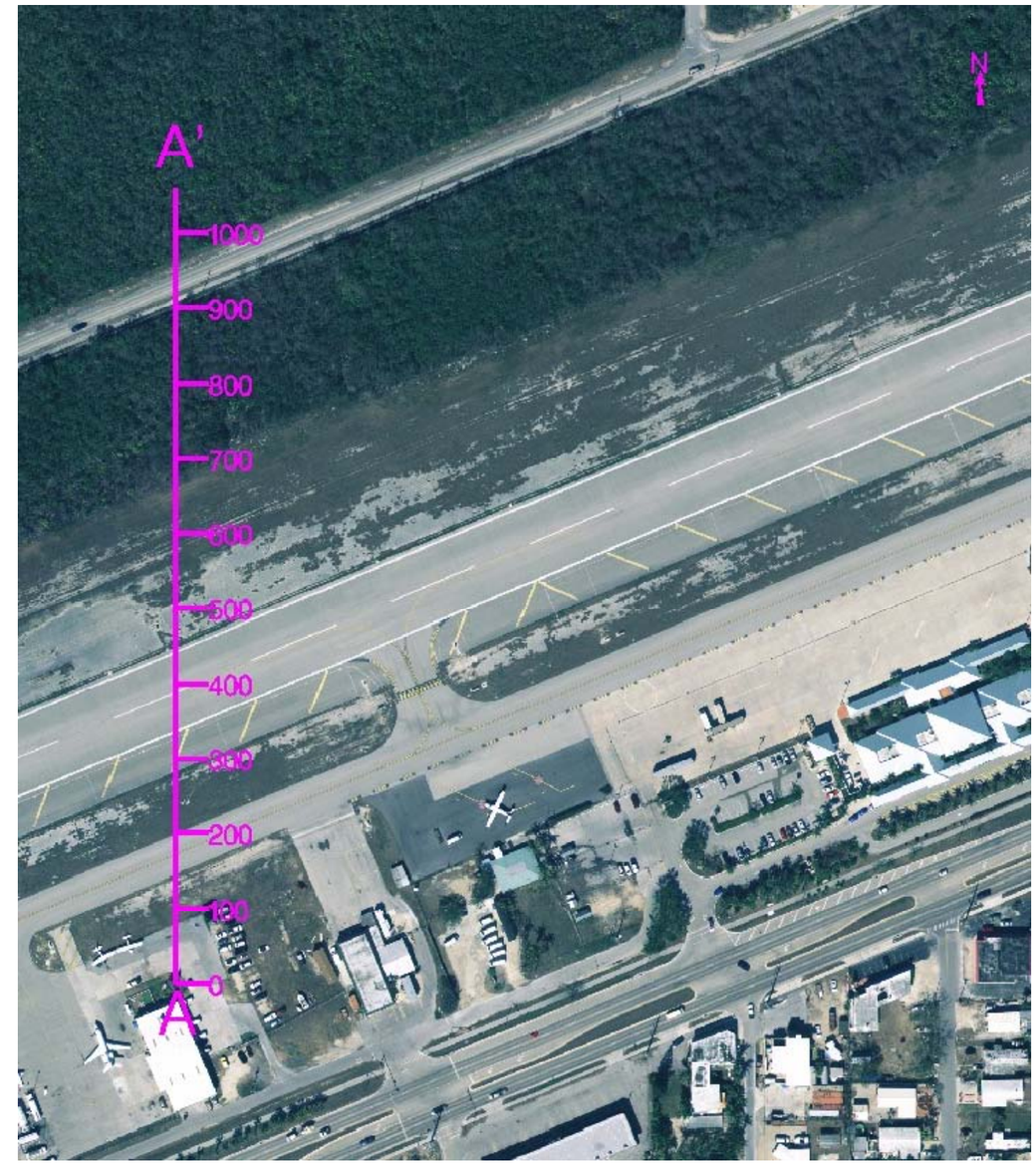
Roll





System Calibration Site
Block – 2

Pre–Project Calibration

X–section generated from two opposing flight lines

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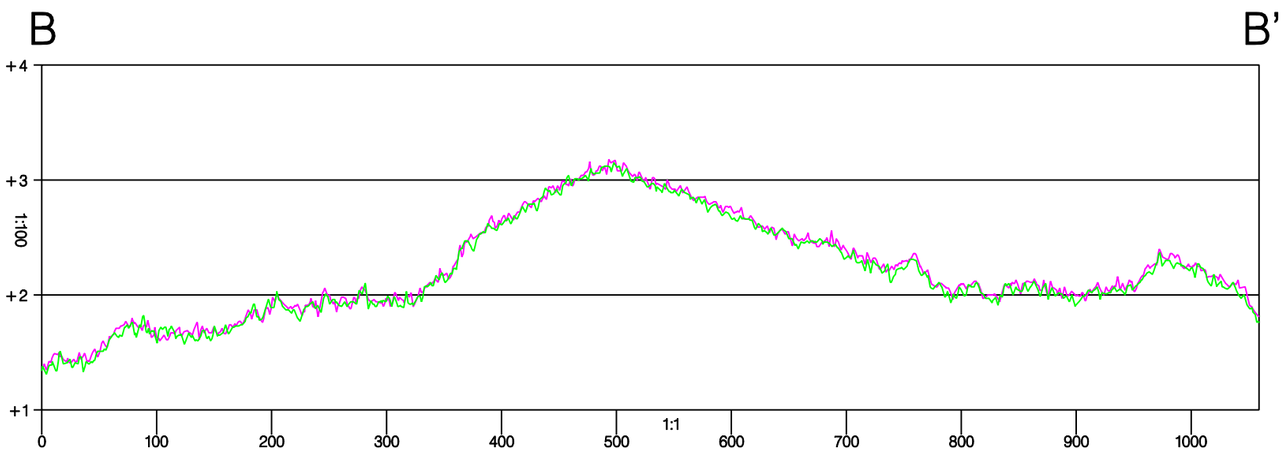
Pitch



System Calibration Site
Block – 2

Pre–Project Calibration

X–section generated from two opposing flight lines

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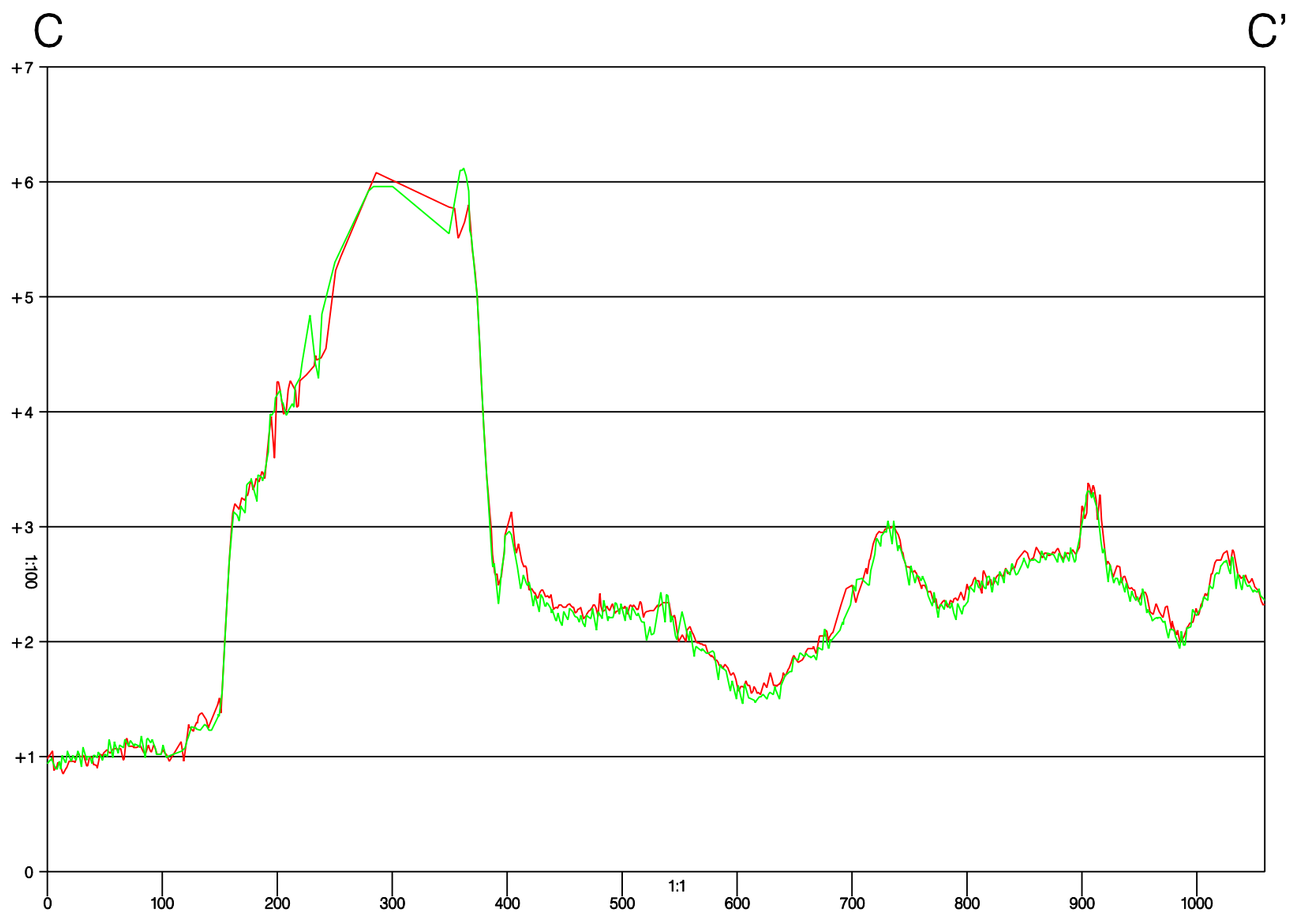
Heading



System Calibration Site
Block – 2

Pre–Project Calibration

X–sections generated in overlap of perpendicular flight lines

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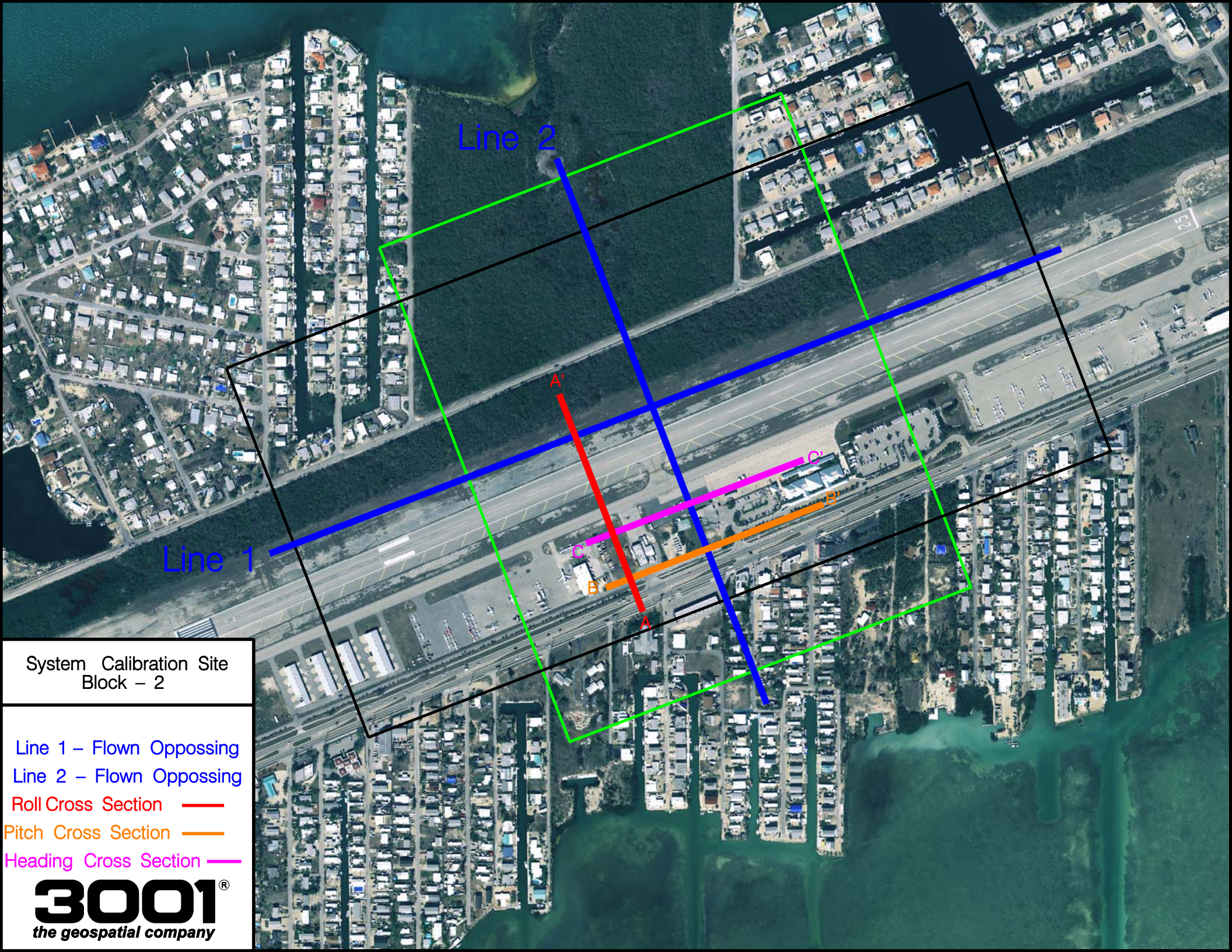
Line 2
Line 1
A'
A
B'
B
C'
C
System Calibration Site
Block – 2
Line 1 – Flown Oppossing
Line 2 – Flown Oppossing
Roll Cross Section
Pitch Cross Section
Heading Cross Section
3001®
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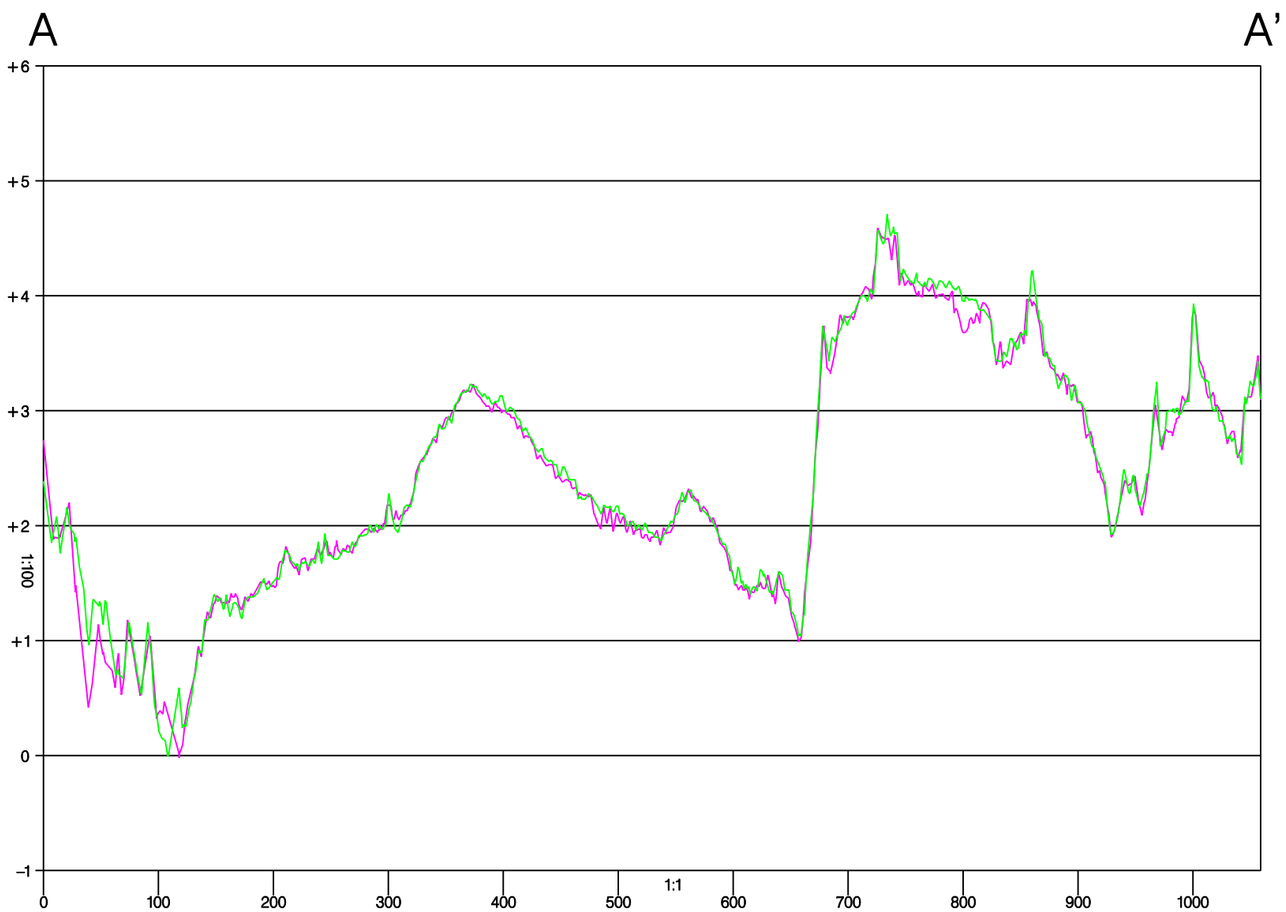
Roll



System Calibration Site
Block – 2

Post–Project Calibration

X–section generated from two opposing flight lines

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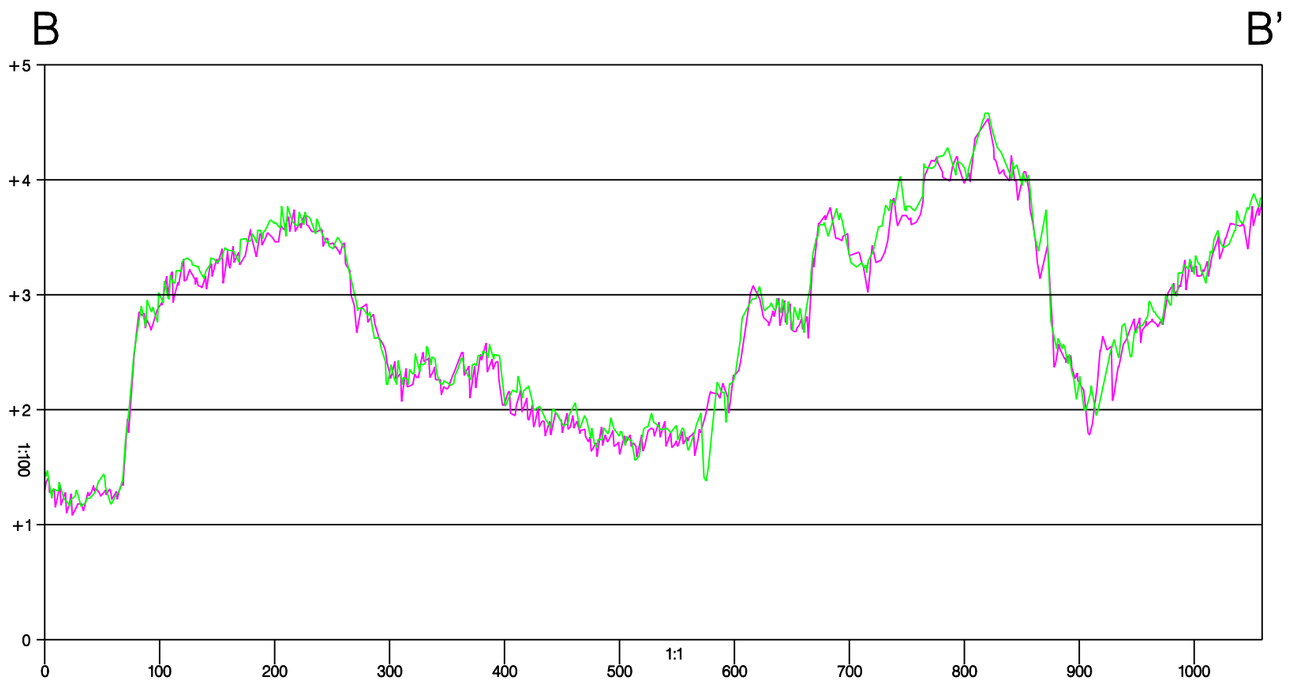
Pitch



System Calibration Site
Block – 2

Post–Project Calibration

X–section generated from two opposing flight lines

3001®
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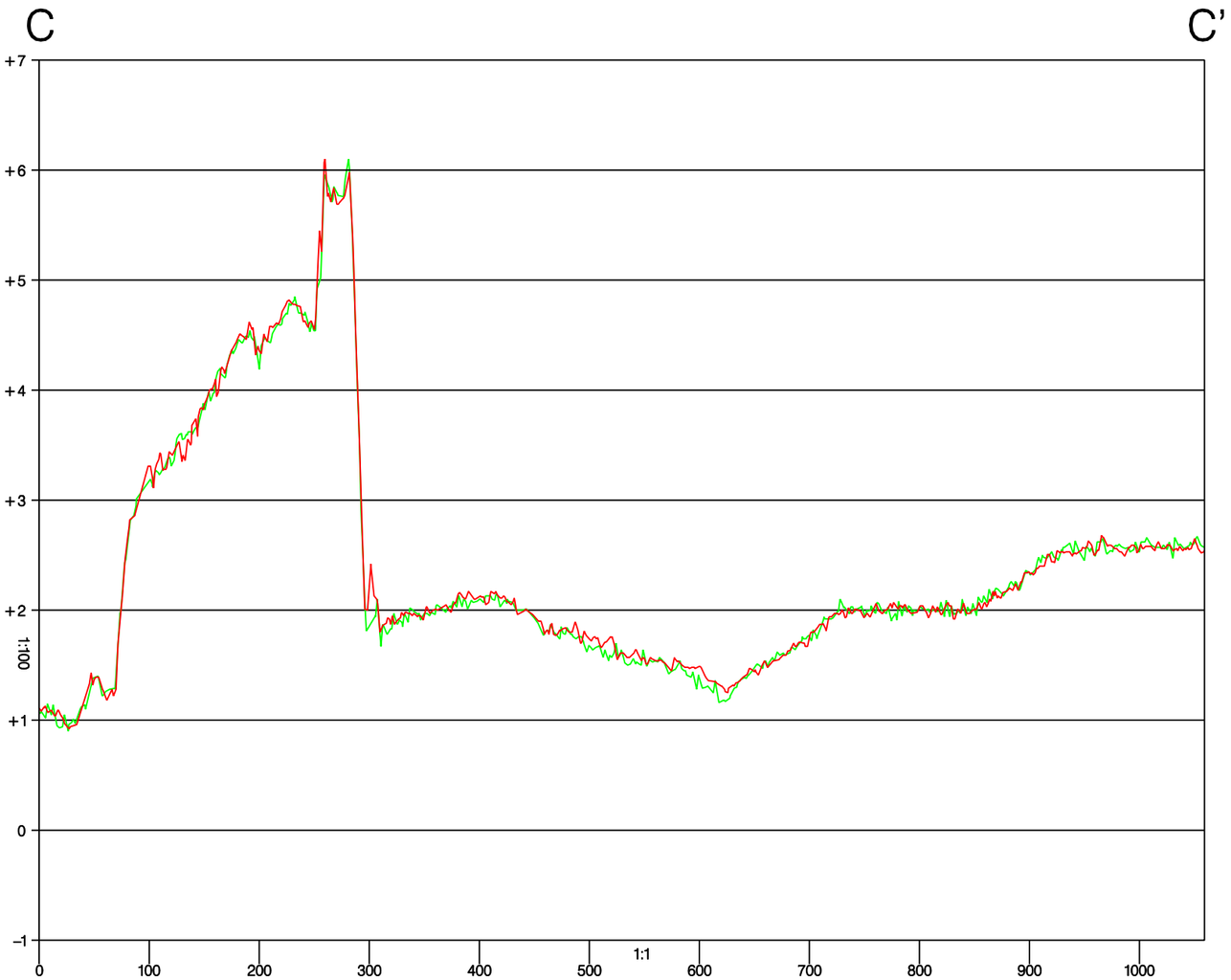
Heading



System Calibration Site
Block – 2

Post–Project Calibration

X–sections generated in overlap of perpendicular flight lines

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