

CASIUS Calibration Report



Vessel: Western Flyer

Device No: Port
Transceiver

Date/Time: Saturday, March 05, 2011
12:32:57 AM

Settings:

Initial Estimates for BoxIn	
Transceiver depth offset	4.420m
Transceiver depth	4.420m
Antenna starboard offset	0.000m
Antenna forward offset	0.000m
Antenna height offset	6.700m

Error Estimates for BoxIn	
DGPS lags USBL	0.00s
Range measurement	0.5m
Range gate	10.0m
DGPS position	2.0m
Beacon position	20.0m
Beacon depth	5.0m
Sound velocity	8.0m/s
Transceiver depth	0.5m
Transceiver offset	0.5m

Transceiver & Beacon	
Transceiver Index	11
Beacon Name	Compatt 201
Turn Around Time	125.0ms

Depth Aiding	
Boresight Angle Limit	22.0°
Depth Difference Limit	1.0m

Transceiver Attitude Calculation Inputs	
Angle Gate	2.0°
Known Heading Correction	n/a

Values Used During Data Collection	
Transceiver Pitch Correction	0.00°
Transceiver Roll Correction	0.00°
Transceiver Heading Correction	0.00°
Sound Velocity	1483.3m/s

Results:

Beacon BoxIn	Beacon Eastings	Beacon Northings	Beacon Depth	Sound Velocity	Transceiver Starboard Offset	Transceiver Forward Offset
Before	572639.70m	4063233.80m	881.50m	1483.26m/s	-6.35m	3.35m
Calculated	572639.65m	4063232.33m	876.10m	1477.85m/s	-8.50m	-2.40m
Calculated Accuracy	0.04m	0.04m	0.23m	0.22m/s	0.04m	0.04m

Transceiver Attitude	Pitch Correction	Roll Correction	Heading Correction
Before	0.00°	0.00°	0.00°
Calculated	-0.87°	-0.26°	0.79°
Calculated Accuracy	0.00°	0.00°	0.01°

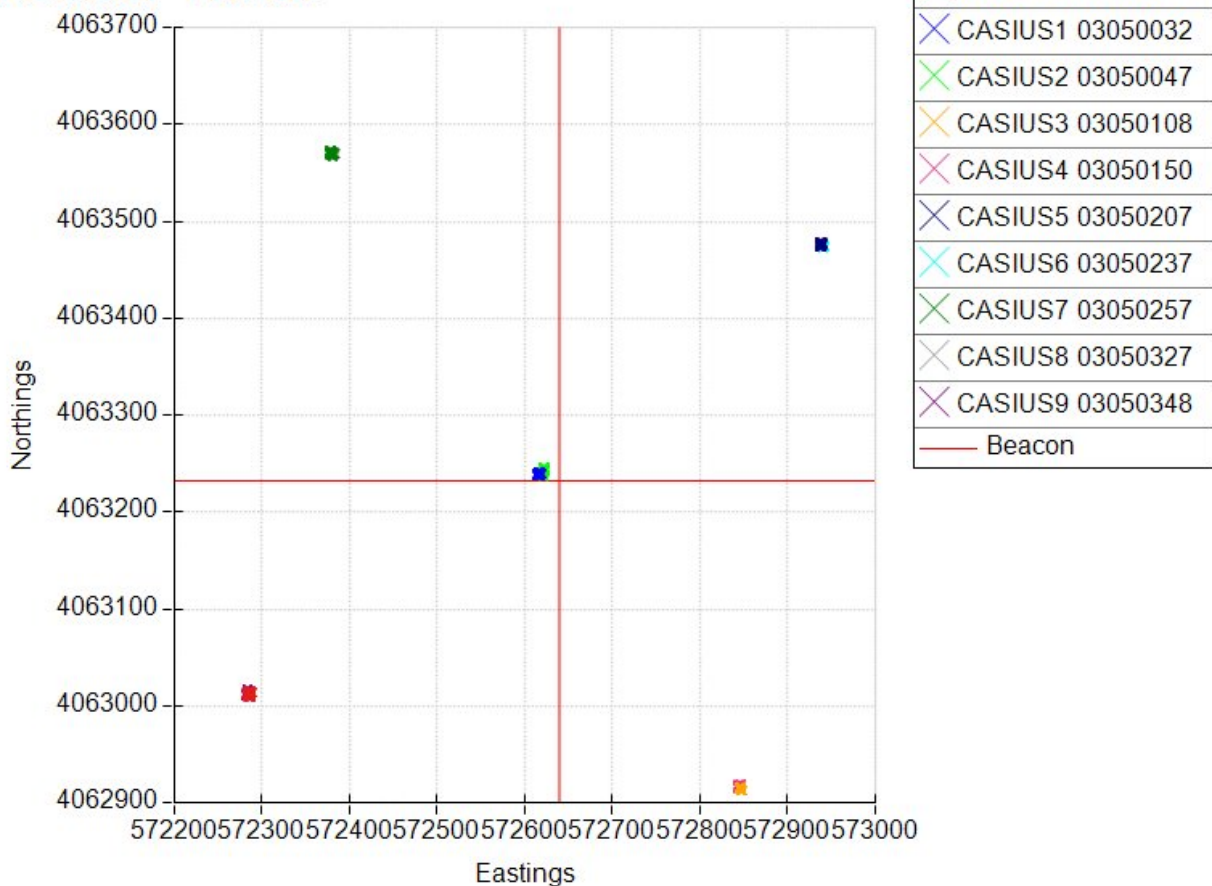
Statistics:

	Before CASIUS (distance)	After CASIUS (distance)	Before CASIUS (% depth)	After CASIUS (% depth)
39.4% Beacon Positions (1 sigma)	10.8m	2.4m	1.24	0.28
50.0% Beacon Positions (CEP)	12.5m	2.9m	1.43	0.33
63.2% Beacon Positions (1 Drms)	14.4m	3.8m	1.65	0.44
86.5% Beacon Positions (2 sigma)	19.3m	8.2m	2.20	0.93
98.2% Beacon Positions (2 Drms)	39.5m	19.9m	4.51	2.28

General:

	Beacon BoxIn	Transceiver Attitude
Number of Iterations	3	7
Number of Fixes Used	1990	1989
Number Depth Aided		1378
Average weighted residuals	0.029	0.169

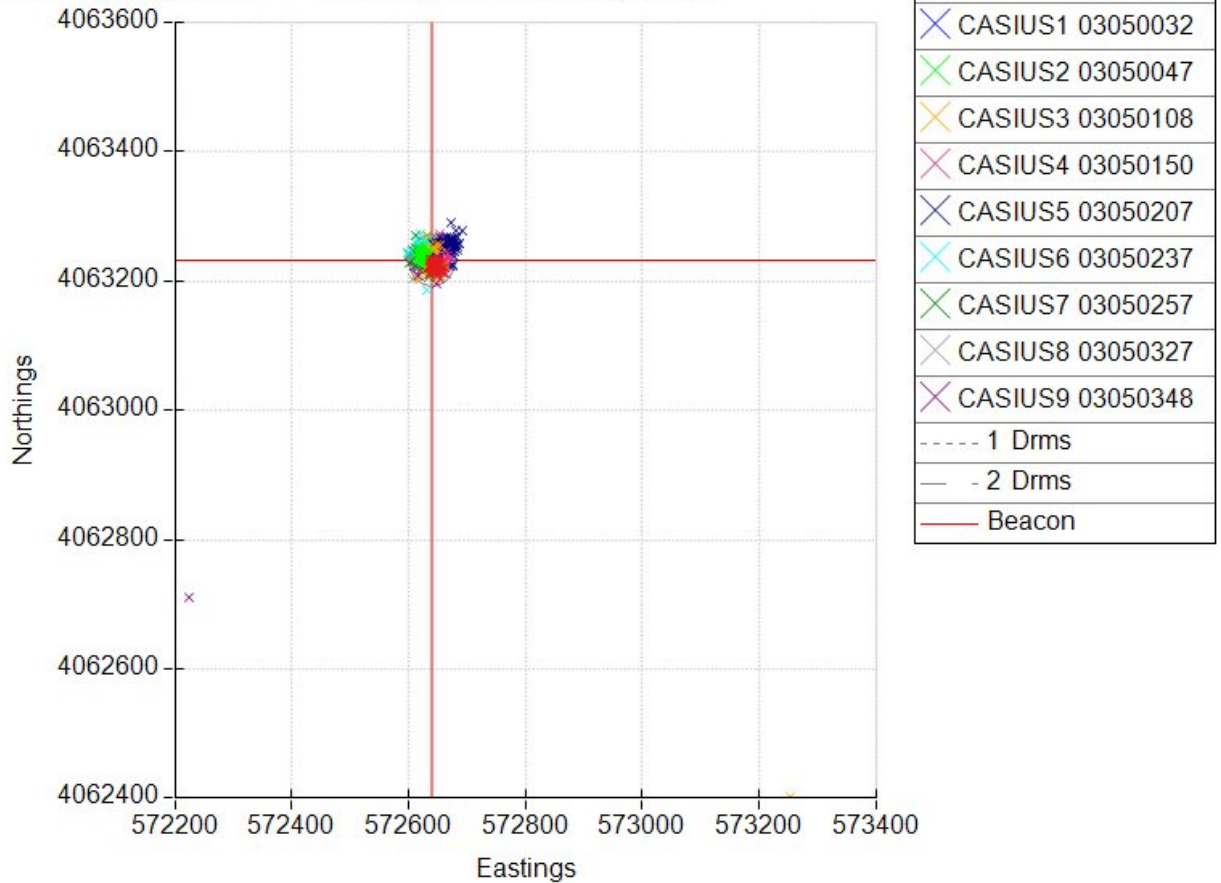
Vessel Track



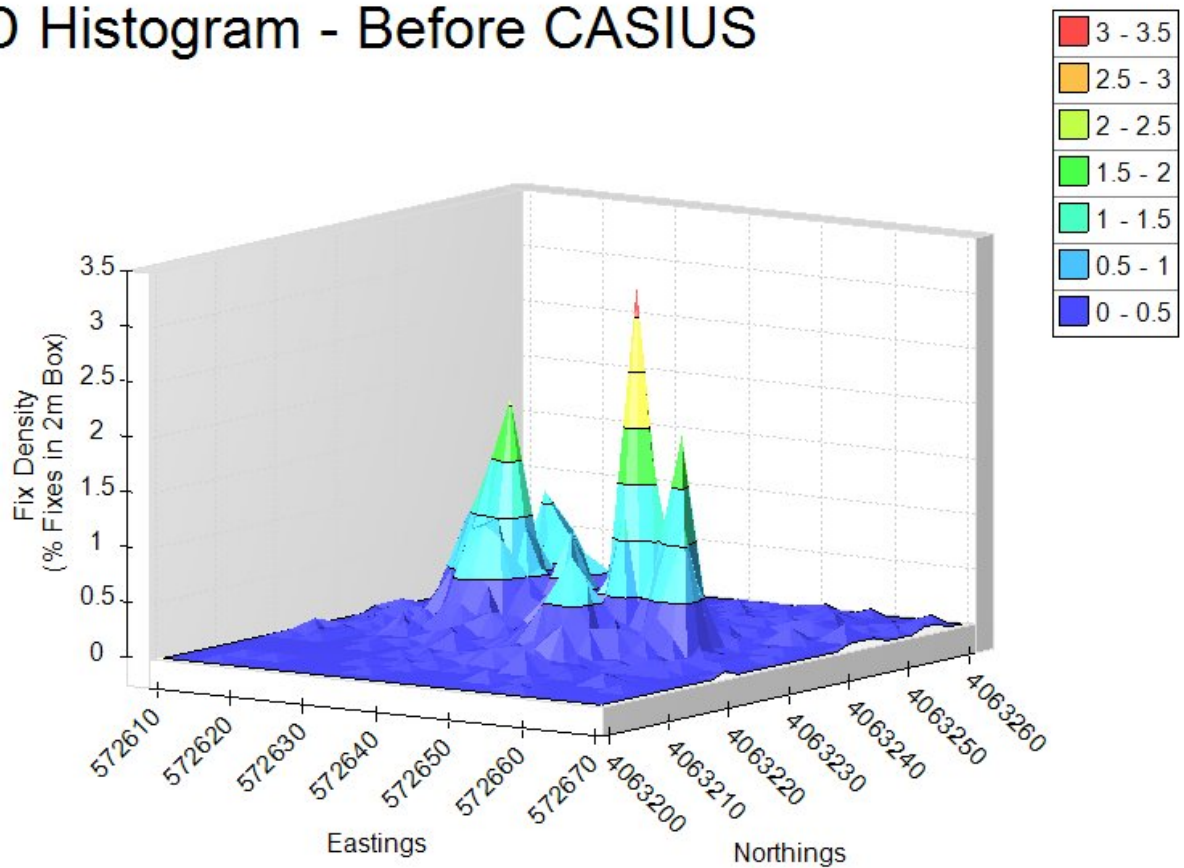
Data used:

Name	Filename	Start	End	#Acoustic	#Position
CASIUS10 03050419	E:\Western Flyer CASIUS\CASIUS10 03050419.csv	3/5/2011 4:29:25 AM	3/5/2011 4:39:51 AM	209	631
CASIUS1 03050032	E:\Western Flyer CASIUS\CASIUS1 03050032.csv	3/5/2011 12:32:57 AM	3/5/2011 12:46:45 AM	208	834
CASIUS2 03050047	E:\Western Flyer CASIUS\CASIUS2 03050047.csv	3/5/2011 12:58:21 AM	3/5/2011 1:08:26 AM	203	608
CASIUS3 03050108	E:\Western Flyer CASIUS\CASIUS3 03050108.csv	3/5/2011 1:37:40 AM	3/5/2011 1:49:03 AM	228	691
CASIUS4 03050150	E:\Western Flyer CASIUS\CASIUS4 03050150.csv	3/5/2011 1:56:27 AM	3/5/2011 2:07:28 AM	221	663
CASIUS5 03050207	E:\Western Flyer CASIUS\CASIUS5 03050207.csv	3/5/2011 2:25:32 AM	3/5/2011 2:37:16 AM	233	709
CASIUS6 03050237	E:\Western Flyer CASIUS\CASIUS6 03050237.csv	3/5/2011 2:46:11 AM	3/5/2011 2:56:30 AM	208	620
CASIUS7 03050257	E:\Western Flyer CASIUS\CASIUS7 03050257.csv	3/5/2011 3:15:43 AM	3/5/2011 3:27:08 AM	227	690
CASIUS8 03050327	E:\Western Flyer CASIUS\CASIUS8 03050327.csv	3/5/2011 3:37:49 AM	3/5/2011 3:48:22 AM	212	636
CASIUS9 03050348	E:\Western Flyer CASIUS\CASIUS9 03050348.csv	3/5/2011 4:09:02 AM	3/5/2011 4:19:41 AM	214	644

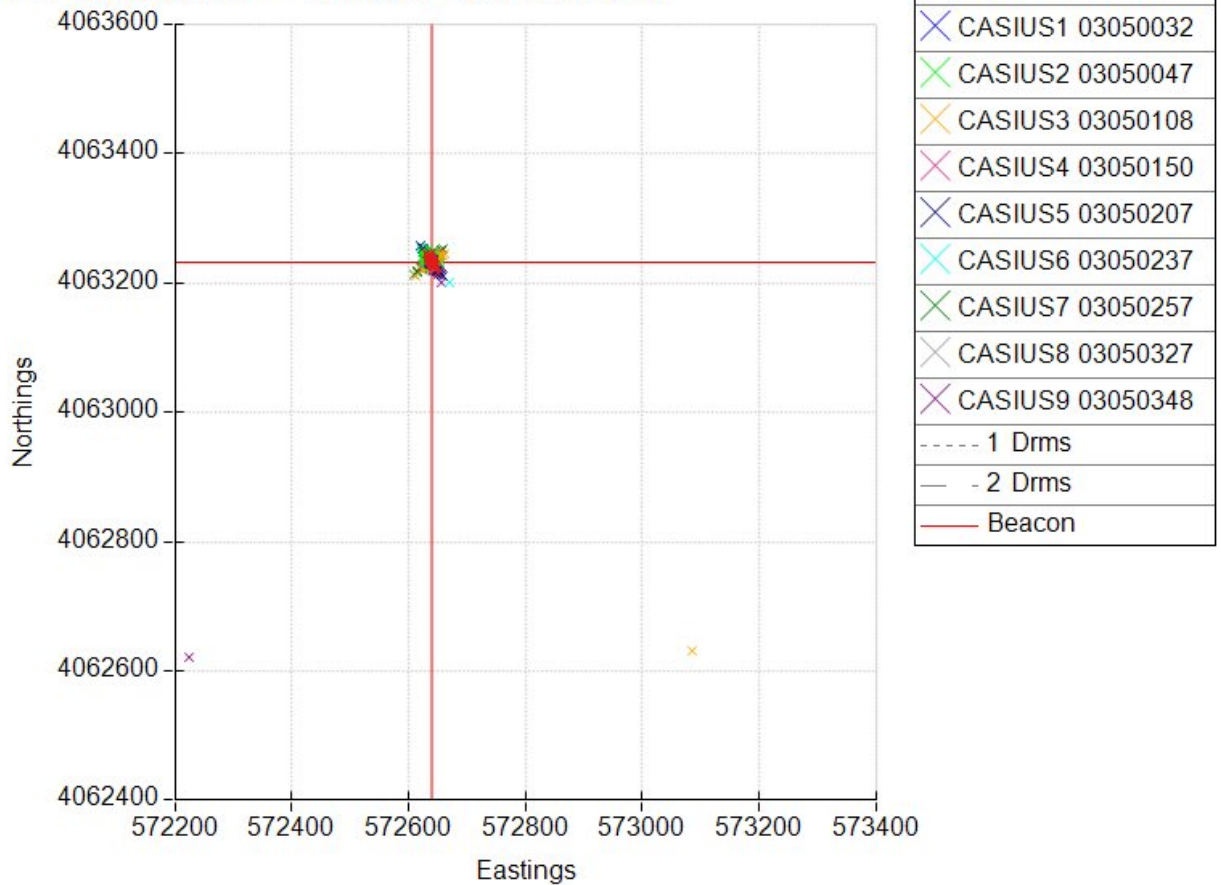
2D Scatter - Before CASIUS



3D Histogram - Before CASIUS



2D Scatter - After CASIUS



3D Histogram - After CASIUS

