Data Acquisition and Processing Report

NOAA Ship RAINIER

OPR-N161-RA-03

Approaches to Anacortes and Bellingham, Washington

Hydrographic Letter Instructions dated October 7, 2003

Chief of Party: Commander John W. Humphrey, NOAA

A. EQUIPMENT

This Data Acquisition and Processing Report describes all the RAINIER's survey equipment and the standard methods for acquisition applied to the equipment used. Not necessarily all equipment described within this report was used during data acquisition for this project. Data are acquired by the RAINIER and RAINIER survey launches:

Name	Hull Number
RAINIER	S-221
RA1	1101
RA2	1103
RA4	1016
RA5	1006
RA6	1015
RA7	817

Vessels RA4, RA5, and RA6 are used to acquire shallow-water multibeam (SWMB) data and sound velocity profiles. Vessels RA1, RA2, and RA7 are used to collect vertical-beam echosounder (VBES) data and detached positions. Any vessel may be utilized for collecting bottom samples. No unusual vessel configurations or problems were encountered on this project. Vessel descriptions and offset measurements are included in Appendix III of this report.

Five different categories of echosounder systems were utilized for project OPR-N161-RA-03. The individual system(s) chosen for use in a given area were decided at the discretion of the Hydrographer using the guidance stated in the Standing Project Instructions, the Hydrographic Letter Instructions, and the Field Procedures Manual, and depended upon the limitations of each system, the bottom topography, the water depth, and the ability of the platform vessel to safely navigate the area. These systems are described in the following section.

Sounding Equipment:

1. Ship Shallow-Water and Intermediate-Depth Multibeam

RAINIER is equipped with a hull-mounted SeaBeam/Elac (Elac) 1050D MKII, which is a dual frequency (180 kHz, 50 kHz), high-resolution multibeam echo sounder system for shallow- and intermediate-water depths. The Elac 1050D MKII transmits utilizing two narrow beamwidth transducer arrays pinging into 14 sectors. The receiving beamformer generates 3 narrow beams for each sector with a beam width of 1.5^{o} and a spacing of 1.25^{o}. Each fan is comprised of three subfans. Hence, there are 14 sectors x 3 beams x 3 subfans resulting in 126 total beams (at an acquisition swath width of 151°). The high-frequency array (180 kHz) was used in depths of approximately 30 to 300 meters, while the low-frequency array (50 kHz) is used in depths of approximately 300 to 1500 meters.

2. RESON 8101 Launch Shallow-Water Multibeam (SWMB)

Vessel RA3 is equipped with a Reson SeaBat 8101 mounted on a swing-arm which deploys the transducer from an "in transit" position recessed within the hull to a "survey" position extending beneath the hull once data collection commences. Vessel RA5 is equipped with a hull-mounted Reson SeaBat 8101. Both of these Reson SeaBat 8101s are equipped with option 033, Angle-Independent Imagery, and option 040, Extended Range Projector. The SeaBat 8101 is a 240 kHz multibeam system that measures relative water depths across a 150° swath, consisting of 101 individual 1.5° x 1.5° beams. This system was used to obtain full-bottom coverage in depths generally from 4 meters to 200 meters, with varying range scale values dependent upon the depth of water and across-track slope.

3. RESON 8125 Launch Shallow-Water Multibeam (SWMB)

Vessel RA4 is equipped with a hull-mounted Reson SeaBat 8125, with option 033, Angle-Independent Imagery. The SeaBat 8125 is a 455 kHz multibeam system that uses high frequency focused near-field beam forming to measure relative water depths across a 120° swath, consisting of 240 individual 0.5° x 1.0° beams. This system was used to obtain full-bottom coverage in depths generally from 4 meters to 60 meters, with varying range scale values dependent upon the depth of water and across-track slope. Surface sound velocity was measured using an Odom Digibar Pro, model db1200, velocimeter and digitally input into the Seabat 8125 during acquisition.

4. ELAC 1180 Launch Shallow-Water Multibeam (SWMB)

Vessels RA4 and RA6 are equipped with a hull-mounted Elac 1180, which is a single frequency (180 kHz), multibeam echosounder system for shallow- and intermediate-water depths. The transducer assembly consists of two arrays, one starboard and one port, each mounted at a 38° angle from horizontal. The Elac 1180 transmits utilizing both transducer arrays pinging into 14 sectors. The receiving beamformer generates 3 narrow beams within each sector with a beam width of 1.5° and a spacing of 1.25°. Three subfans are one total fan. Hence, there are 14 sectors x 3 beams x 3 subfans resulting in 126 total beams, at an acquisition swath width of 151°. The Elac 1180 was generally used in depths of 50 to 100 meters with an acquisition swath width of 131° and narrower swath widths to 300 meters.

Multibeam sounding lines are generally run parallel to the contours and at line spacing three times the water depth.

5. Launch Vertical-Beam Echosounder (VBES)

RAINIER launches RA1 through RA6 are equipped with a Knudsen Engineering Limited 320M, which is a dual frequency (100 kHz, 24 kHz) digital recording vertical-beam echo sounder with an analog paper record. The beam widths for the high and low frequency are 7° and 25° respectively. Soundings were acquired in meters for both frequencies, with high frequency utilized as the primary frequency, although in shallow water frequently the low frequency was not used because it distorted the echosounder trace.

RAINIER launch RA7 is equipped with a Ross Laboratories 950 series hydrographic survey system, which is a single frequency (120 kHz, 7° beam width) digitally recording vertical beam echo sounder.

Vertical-beam echo sounder data were collected in near shore areas to define the four-meter curve and the limit of shallow-water multibeam hydrography, and over offshore reefs and shoals, in depths generally ranging from 4 meters to 20 meters. Sounding lines were run perpendicular to depth contours at a line

spacing sufficient to generalize the near shore contours, with splits run at a reduced line spacing to develop shoal areas that were deemed too shallow for the safe or effective use of a vessel equipped with shallow-water multibeam.

6. Side Scan Sonar

All the SWMB used by the RAINIER provide a low-resolution digital SSS record of the multibeam swath. This SSS imagery is primarily used during processing of the multibeam depth data to aid in determining whether anomalous soundings are true features or noise.

RA-1 tows the Klein 3000 dual frequency towfish. All Klein 3000 side-scan sonar data are recorded digitally from the Series 3000 Transceiver and Processing Unit (TPU) using the ISIS software and archived in the Extended Triton Format (*.XTF). KLEIN 3000 towfish transmits at 100 kHz and 500 kHz.

Side scan sonar lines are planned to run parallel to bottom contours, spaced according to the range scale appropriate for the water depth. Range scale of 75 meters is selected based on the Homeland Security project instructions. Lines are planned with 15m of overlap with adjacent swaths on either side.

Vessel speed is adjusted to ensure that an object one meter in characteristic size would be detected and clearly imaged across the sonar swath. Confidence checks are performed and noted frequently to ensure this standard of resolution is met.

RA1 is equipped with a 3PS cable counter that measures the side scan towfish tow cable by counting revolutions of the towing block on the J-frame. The length of cable deployed is computed automatically and output to the TPU.

7. Diver Least-Depth Gauge

Not Applicable

8. Lead Line

Lead lines are used to acquire depths over rocks and other features during shoreline acquisition, for features that are too shallow to acquire soundings using echo sounders. RAINIER personnel calibrated lead lines in April 2003. Calibration reports are included in Appendix IV of this report.

Positioning Equipment:

Vessels RA1, RA2, RA7, and RAINIER are equipped with a Trimble DSM212L to measure and calculate position. The DSM212L is an integrated 12-channel GPS receiver and dual-channel DGPS beacon receiver. The beacon receiver can simultaneously monitor two independent U.S. Coast Guard (USCG) DGPS beacons. There are three modes: Auto-Range, which locks onto the beacon nearest the vessel; Auto-Power, which locks onto the beacon with the greatest signal strength; and Manual, which allows the user to select the desired beacon. Additionally, the DSM212L can accept differential correctors (RTCM messages) from an external source such as a user-established DGPS reference station. The following parameters were monitored in real-time through Trimble's TSIPTalker software to ensure position data quality: number of satellites used in the solution, horizontal dilution of precision (HDOP), latency of correctors, and beacon signal strength. The DSM212L was configured in the manual mode to only use correctors from the nearest USCG beacon, to go off-line if the age of DGPS correctors exceeded 20 seconds, and was also configured to exclude satellites with an altitude below 8 degrees.

Vessels RA3, RA4, RA5, and RA6 are equipped with a TSS POS/MV Position and Orientation Sensor to measure and calculate position. The POS/MV is a GPS-aided inertial navigation system, which provides a

blended position solution derived from both an Inertial Motion Unit (IMU) and an integrated GPS receiver. The IMU and GPS receiver are complementary sensors, and data from one are used to filter and constrain errors from the other, resulting in higher position accuracy and fewer errors than either system alone. Position accuracy is displayed in real time by the POS/MV software and was monitored to ensure that positioning accuracy requirements as outlined in the NOS Hydrographic Surveys Specifications and Deliverables were not exceeded. In addition, the POS/MV software displays HDOP and number of satellites used in position computation. Data acquisition was generally halted when an HDOP of 2.5 was exceeded or the number of satellites available dropped below four. However, because positional accuracy can be maintained by the POS/MV through short GPS outages with the help of the IMU, data acquisition was not halted during short periods of time when the HDOP and number of satellites used exceeded stated parameters.

Software:

Reson 8101 and 8125 Shallow-water multibeam (SWMB) echosounder data, along with position and attitude data from the POS/MV, were recorded using Triton-Elics' ISIS software version 6.06 and logged in the Extended Triton Format (XTF). Elac 1050 and 1180 Shallow-water multibeam (SWMB) echosounder data, along with position and attitude data were recorded using Elac's Hydrostar software version 3.4.0 and logged in the Hydrostar exchange format (XSE). SWMB data were processed using the CARIS Hydrographic Information Processing System (HIPS) and Hydrographic Data Cleaning System (HDCS) software version 5.3 for windows environment.

All VBES data were acquired using Coastal Oceanographic's HYPACK MAX version 2.12, in the "RAW" format. VBES data were processed using CARIS HIPS for Windows NT version 5.3.

Detached positions (DPs) were acquired with HYPACK MAX in the format of target (".tgt") files and processed with "Pydro" version 3.6 or later version supplied by the Hydrographic Systems and Technology Program (HSTP) N/CS11.

HYPACK MAX was also used for vessel navigation and line tracking during acquisition of both SWMB and VBES data.

Sound velocity profiles were computed from raw pressure, temperature, and conductivity measurements using VelocWin 8.21 supplied by the NOS Hydrographic Systems and Technology Programs N/CS11 (HSTP).

A complete list of software and versions is included in Appendix I.

B. DATA PROCESSING AND QUALITY CONTROL

Shallow-Water Multibeam Data

Shallow-water multibeam data were monitored in real-time using the 2-D and 3-D data display windows in Isis, the on-screen display for the Reson SeaBat 8101, 8125 sonars, and the Elac HydroStar Online bathymetry data display for the Elac 1180 sonar. Adjustable user parameters common for all sonars are range scale, power, gain, and pulse width. In addition the swath width and bottom slope type are additional user parameters for the Elac 1050D and 1180 used during acquisition. These parameters were adjusted as necessary to ensure the best data quality. Additionally, vessel speed was adjusted as necessary, and in accordance with the NOS Specifications and Deliverables and Draft Standing Project Instructions, to ensure the required along-track coverage for object detection.

Following acquisition, Reson shallow-water multibeam data were converted from XTF to HDCS using CARIS HIPS and SIPS Conversion Wizard, XTF version 5.3.2.2, and Elac shallow-water multibeam data were converted from XSE to HDCS using the CARIS HIPS and SIPS Conversion Wizard, Elac version 5.3.2.1. All data were initially reviewed with the HDCS program SwathEdit. All soundings beyond a maximum angle of 60^{o} off-nadir were rejected in accordance with the Draft Standing Project Instructions to reduce the noise and refraction errors possible in these outer beams. Soundings with poor quality flags, 0 for Reson and 3 for Elac system, were also rejected. All soundings were reviewed and obvious depth fliers were identified and manually flagged as "rejected". Vessel positioning and attitude data from each system were similarly displayed and manually cleaned. Fliers or gaps in positioning and attitude data were rejected and interpolated for small periods in time and outright rejected for larger periods in time in which the characteristic of the curve was ambiguous. Additionally, when it was felt that the quality of the data was reduced due to environmental conditions such as sea conditions or extreme variance in sound velocity, data were filtered to a lesser swath width to ensure data quality. Specific data quality factors are discussed in the Descriptive Report for each survey.

After review and cleaning in Swath Editer, depth, position and attitude data were merged with sound velocity, tide, vessel offset, and dynamic draft correctors to compute the corrected depth and position of each sounding. All soundings were then again reviewed, spatially referenced with the CARIS HIPS and SIPS Subset Editer. Data were compared with adjacent lines and crosslines, for systematic errors such as tide or sound velocity errors. Questionable soundings were also compared with adjacent or overlapping data for confirmation or further rejection. Depth fliers and noisy data that were not rejected in SwathEdit were rejected in Subset Mode.

Sun-illuminated Digital Terrain Model images (DTMs) were created to demonstrate coverage and to further check for systematic errors such as tide, sound velocity, or attitude and/or timing errors. DTMs for quality-assurance purposes were created using CARIS NT and a 2-meter 9-pixel resolution.

A statistical analysis of all SWMB data is performed using the CARIS HIPS Quality Control Report (QCR) function. Each SWMB system either ran two sets of orthogonal lines at the deeper end of its designed depth range or one set of lines over a reference surface for a beam-by-beam comparison in order to statistically determine the accuracy of each beam. Beams not meeting accuracy requirements as described in the NOS Hydrographic Surveys Specifications and Deliverables were further filtered and rejected. Results from each system's QCR can be found in Appendix IV. Crosslines of greater than 5% of mainscheme lines were run on each survey and manually compared to the mainscheme lines in CARIS subset mode for an additional qualitative QC comparison that are discussed in the descriptive report for each survey.

Vertical-Beam Echosounder Data

Following data acquisition, vertical-beam echosounder data were converted from HYPACK to the CARIS HDCS format using the CARIS HIPS Conversion Wizard for Windows NT. VBES data were processed using CARIS HIPS Single-Beam Editor ("SBEdit"). Obvious fliers were rejected, and analog fathograms of vertical-beam echo soundings were compared graphically with digital data in SBEdit to ensure that peaks of shoals and abrupt changes in slope were properly digitized by the echosounder. After review and cleaning in SBEdit, data were merged using the HDCS program HDCSLineMerge with sound velocity, tide, vessel offset, and dynamic draft correctors to compute the corrected depth and position of each VBES sounding.

Data Decimation and Field Sheet Production

All VBES and SWMB soundings were combined in the same HDCS project. To produce the final reduced data set represented by the final field sheet, all non-rejected soundings having passed all other quality-assurance checks were imported into a Pydro Preliminary Smooth Sheet (PSS) file using shoal-biased "line-by-line" binning using a cell size of 1.5 millimeters x 1.5 millimeters at survey scale. The resultant thinned

data were then excessed in Pydro using a 3-millimeter character size, ensuring that the largest spacing between selected soundings would not exceed 5 millimeters at survey scale. Final selected soundings were exported to MapInfo from Pydro, and plotted in MapInfo at a 2-millimeter character size. Data processing flow diagrams are included in Appendix II of this report.

C. CORRECTIONS TO ECHO SOUNDINGS

Sound Velocity

Sound velocity profiles were acquired with SeaBird Electronics SeaCat SBE19 and SBE 19Plus Conductivity, Temperature, and Depth (CTD) profilers (S/N 219, 281, 4039, 4114, and 4343). Raw conductivity, temperature, and pressure data were processed using the program VelocWin version 8.21 which generated sound velocity y profiles for CARIS. Calibration reports and dates of the SeaCat profilers are included in Appendix IV of this report.

The speed of sound through the water was determined by a minimum of one cast every four hours of SWMB acquisition, in accordance with the Standing Project Instructions and the NOS Hydrographic Surveys Specifications and Deliverables Manual. Casts were conducted more frequently when changing survey areas, or when it was felt that conditions, such as a change in weather, tide, or current, would warrant additional sound velocity profiles.

Vessel Offsets and Dynamic Draft Correctors

The following table shows when the vessel offsets and dynamic draft correctors used for this survey were last determined:

Vessel No.	Date of Static Draft and Transducer Offset Measurements	Method of Settlement and Squat Measurement	Date of Settlement and Squat Measurement	Location of Settlement and Squat Measurement
RAINIER	March 1999	OTF*	March 1999	Port Angeles, WA
RA1	March 2001	Rod leveling	April 2003	Deep Bay, AK
RA2	May 2000	Rod leveling	March 2003	Shilshole Bay, WA
RA3	Aug 2003	Surface analysis	Aug 2003	Lake Washington, WA
RA4	May 2003	Rod leveling	March 2003	Shilshole Bay, WA
RA5	May 2000	Rod leveling	April 2003	Deep Bay, AK
RA6	May 2000	Rod leveling	March 2003	Shilshole Bay, WA
RA7	May 2000	Rod leveling	April 2003	Fish Bay, AK

*OTF: “On-the-fly” GPS techniques

In March 2002 settlement and squat observations were taken on the RAINIER using a fixed-point method. Although less accurate it showed the values collected in March of 1999 using OTF techniques are still valid and the 1999 values have continued to be used.

In August 2003 settlement and squat observations were conducted with RA3 using a surface analysis method. An area of flat topography was selected in a lake to negate any tidal influence. A line was then run repeatedly at different speeds while logging data. Finally three target areas on the same line were selected and data was collected while the launch was at rest. Settlement and squat speed curves were derived by querying these target areas using CARIS and graphing the change of apparent depth at different speeds.

Vessel offsets and dynamic draft corrector values are stored in CARIS Vessel Configuration Files (VCFs). Vessel offset diagrams and dynamic draft tables are included in Appendix III of this report. The VCFs themselves are submitted with the digital HDCS data.

All launches commonly utilized to collect detached positions (RA1, RA2 & RA7) each have three separate CARIS Vessel Configuration Files (VCFs) associated with them to cover all possible data collection conditions. The "SB" VCFs (ex: R1SB_2003) contain all offset and dynamic draft correctors and are applied only to single beam hydrography. The "ES" VCFs (ex: R1ES_2003) contain all offsets but exclude the dynamic draft correctors and are applied to all echo sounder detached positions. Finally the "NE" VCFs (ex: R1NE_2003) are simply zeroed out VCFs which are applied to all non echo sounder detached positions. Detached positions, both echo sounder and non echo sounder, have all sensor offsets applied in Pydro. All single beam data have sensor offsets and dynamic draft applied in CARIS during post-processing.

Survey platforms used to collect SWMB data each have separate CARIS Vessel Configuration Files (VCFs) associated with each individual acquisition system aboard. All of these VCFs contain sensor offset and dynamic draft correctors. The "RE" VCFs (ex: R4RE_2003) refer to vessels with either a Reson 8101 (RA3 & RA5) or a Reson 8125 (RA4). The "EL" VCFs (ex: R6EL_2003) refer to vessels using an Elac 1180 (RA4 & RA6). The "LF" and "HF" VCFs (ex: RAHF_2003) refer to the RAINIER which uses an Elac 1050D MKII in both high frequency and low frequency modes. Sensor offset and dynamic draft correctors were applied to SWMB data in CARIS during post-processing.

Heave, Pitch, Roll and Heading, Including Biases and Navigation Timing Errors

SWMB launches (Vessels RA3, RA4, RA5, and RA6) utilized a TSS POS/MV Model 320 Position and Orientation System – Marine Vessel (POS/MV), which provides accurate navigation and attitude data to correct for the effects of heave, pitch, roll and heading. The POS generates attitude data in three axes (roll, pitch and heading) to an accuracy of 0.05^{o} or better. Heave measurements supplied by the POS/MV maintain an accuracy of 5% of the measured vertical displacement for movements that have a period of up to 20 seconds. The POS/MV delivers heading measurements by two distinct methods. First, the Dynamic Heading Alignment determines the vessels heading by using the data supplied by the Internal Measurement Unit (IMU) and GPS receivers to achieve heading that is, at best, accurate to within 0.25^{o}. This method suffers from drift but is relatively unaffected by noise. Second, the GPS Azimuth Measurement System (GAMS) determines the geographic vector between two GPS antennas fixed to the vessel by comparing the phase of satellite signals they receive. The error from this method is largely due to noise, but exhibits no drift. The POS/MV uses the advantages of each method to compensate for the disadvantages of the other to arrive at an optimal accuracy of 0.05^{o}.

Heave, roll, pitch, and navigation latency biases were determined in accordance with NOS Hydrographic Specifications and Deliverables. SWMB vessel offsets, dynamic draft correctors, and system bias values are contained in CARIS Vessel Configuration Files (VCFs) and were created using the program Vessel Editor in CARIS. These offsets and biases are applied to the sounding data during processing in CARIS. The VCFs and Patch Test data are included with the digital HDCS data.

Water Level Correctors

Soundings were reduced to Mean Lower-Low Water (MLLW) using unverified observed tide data for stations Cherry Point, WA (944-9424) and Friday Harbor, WA (944-9880) obtained from the Center for Operational Oceanographic Products and Services (CO-OPS) web site through TideBot. These data were used in creating the observed tide corrector table (*.tid file) in CARIS. Raw observed water level data from the primary station in Sand Point were applied to the survey depths in CARIS using height ratio and time correctors from the CO-OPS provided zone definition file (*.zdf).

Refer to the Horizontal and Vertical Control Report for specific information on the tidal gauges used in during this project and individual Descriptive Reports for further information regarding water level correctors specific to each survey.

D. APPROVAL

As Chief of Party, I have ensured that standard field surveying and processing procedures were used during this project in accordance with the Hydrographic Manual, Fourth Edition; Hydrographic Survey Guidelines; Field Procedures Manual, and the NOS Hydrographic Surveys Specifications and Deliverables Manual, as updated for 2003.

I acknowledge that all of the information contained in this report is complete and accurate to the best of my knowledge.

Approved and Forwarded: _____

John W. Humphrey
Commander, NOAA
Commanding Officer

In addition, the following individual was also responsible for overseeing data acquisition and processing of this project:

Field Operations Officer: _____

Stephanie A. Koes
Lieutenant (Junior Grade), NOAA

Chief Survey Technician: _____

James B. Jacobson
Chief Survey Technician, NOAA

APPENDIX I
Software Versions and Hardware Serial Numbers

Software	Version
Acquisition	
Hypack Max	2.12
Survey Data Acquisition Program	4.11.3.0
POS/MV Controller v2	3.0
POS/MV Controller v3	1.3
Isis	6.06
Hydrostar (VN RAINIER, RA4, RA6)	3.4.0
Sonar_Pro (for Klein 3000)	6.4
Processing	
HYDROSOFT	
Pydro	3.3.1 – 3.7.1
HP Tools	10.9.1
KapConv	1.3
Projman	2.0
MapInfo	6.5
Vertical Mapper	3.0
Exceed	7.1.1
CARIS HIPS/SIPS	5.3
CARIS GIS	4.4a
Utilities	
Tides and Currents for Windows	2.5b
Horizontal Control	
Starlink Initialization	5.00.3716
Probeacon	3.0
TSIP Talker	2.00
DSX/National Geodetic Society DSData Extraction	6.04
GPPS/Geodetic Post Processing Software	5.0.00
Ashtech Mission Planner	3.0
Fillnet	3.1
Vertical Control	
Sound Velocity	
VelocWin	8.21
SBE SeaTerm	1.09
Leveling	
Newiz	1.2
Tides	
LogPlot	1.3
LogStats	1.1
LogPrn Convert	1.6

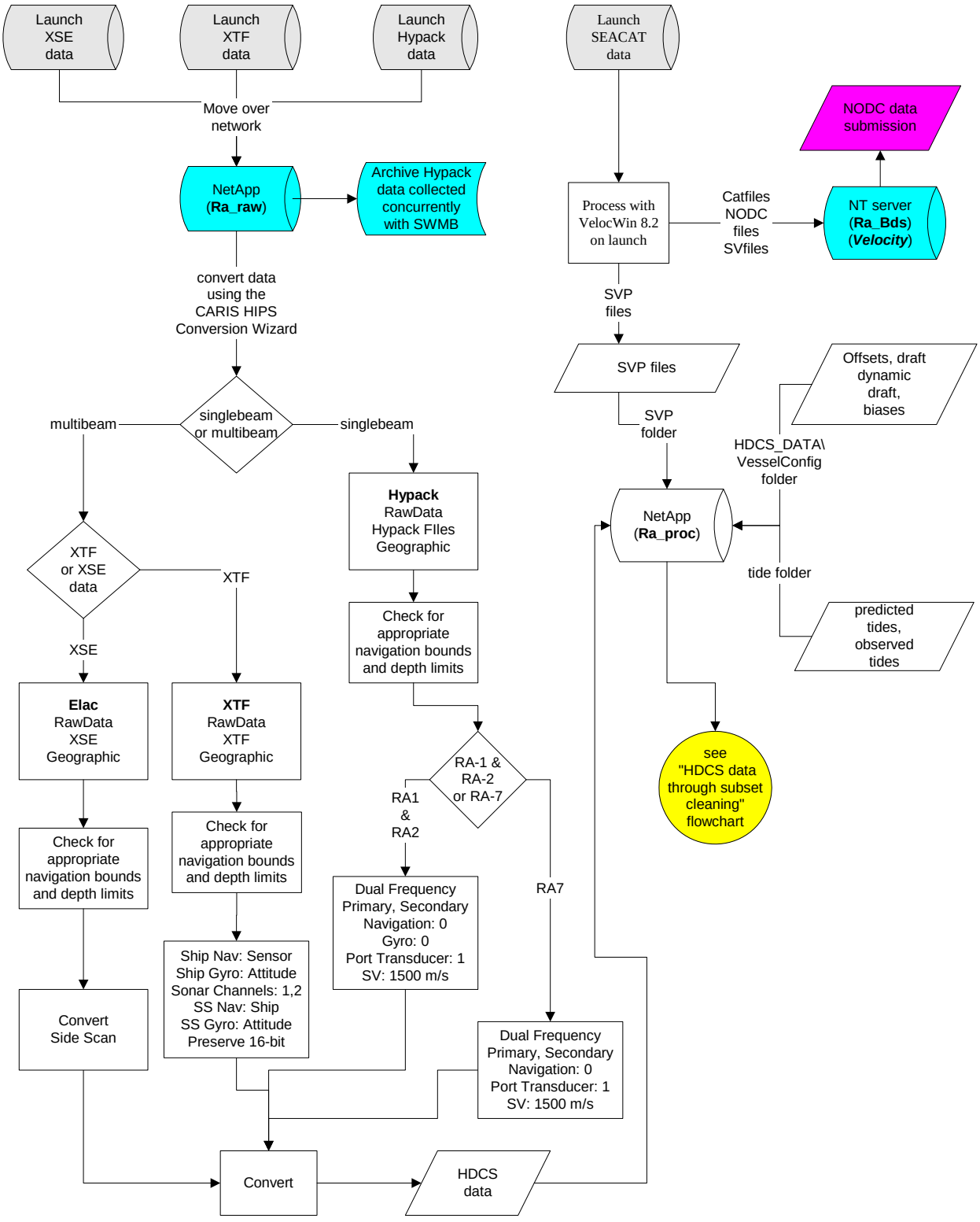
Equipment

Description	Vessel	Serial Number
Knudsen Engineering Limited 320M Marine Echosounders	Spare	K96388
	RA2	K98579
	RA5	K96387
	RA1	K99323
	RA4	K99322
	RA6	K99324
RESON 8101 SONAR Processor	RA3	17005
	RA5	31676
RESON 8125 Sonar Processor	RA4	29979
Seabeam/Elac 1180	RA6	76
	RA4	77
	RAINIER	62
Trimble DSM212L	RAINIER	0220157923
	RA1	0220159717
	RA2	0020159719
	Spare	0220157914
TSS Position & Orientation System POS/MV	RA5	021
TSS Position & Orientation System POS/MV V3	RA3	507
	RA6	304
	RA4	295
TSS IMU	RA3	305
	RA4	131
	RA5	028
	RA6	037
DMS-O5	RAINIER	002062

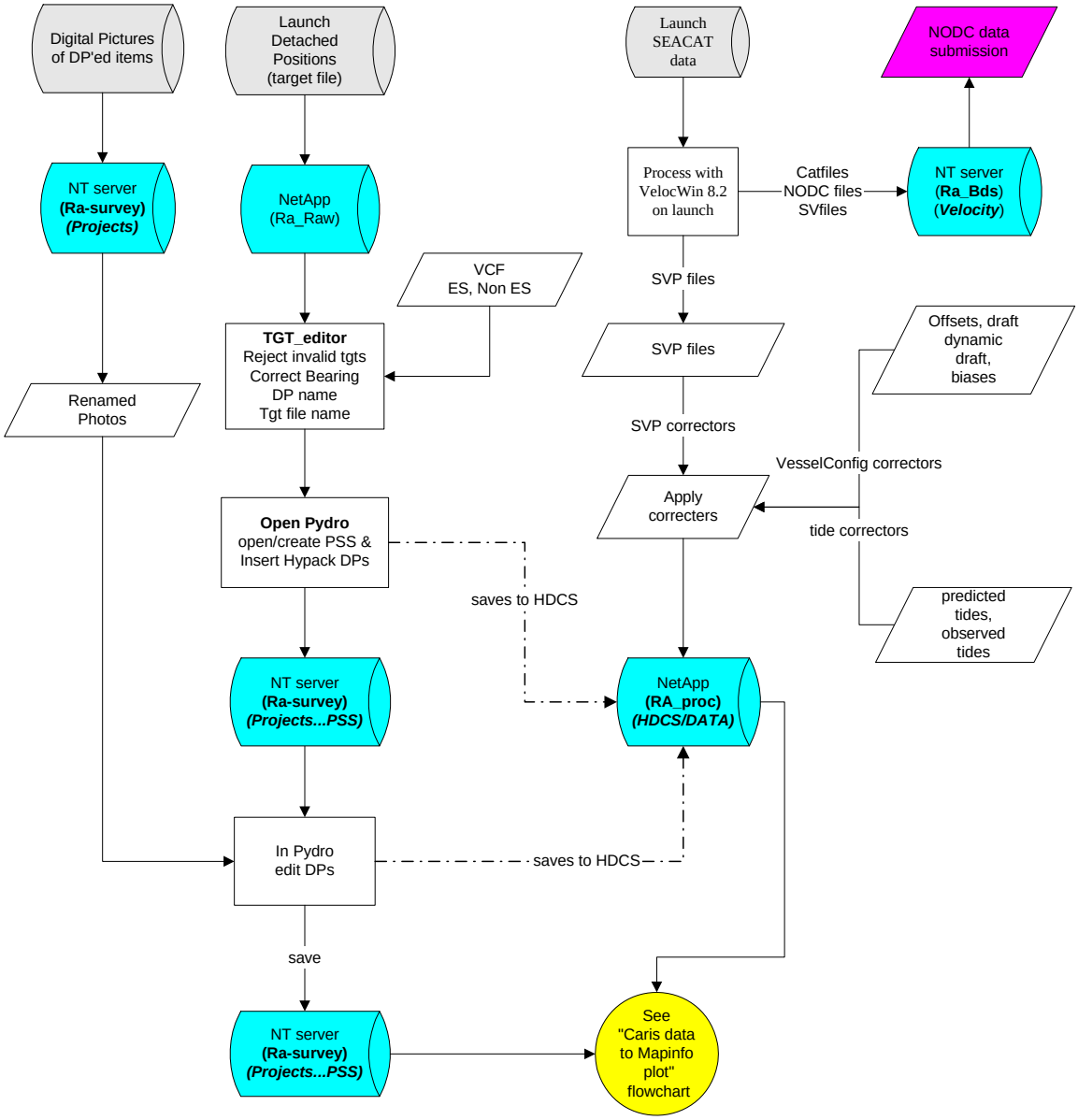
APPENDIX II

Data Processing Flow Diagrams

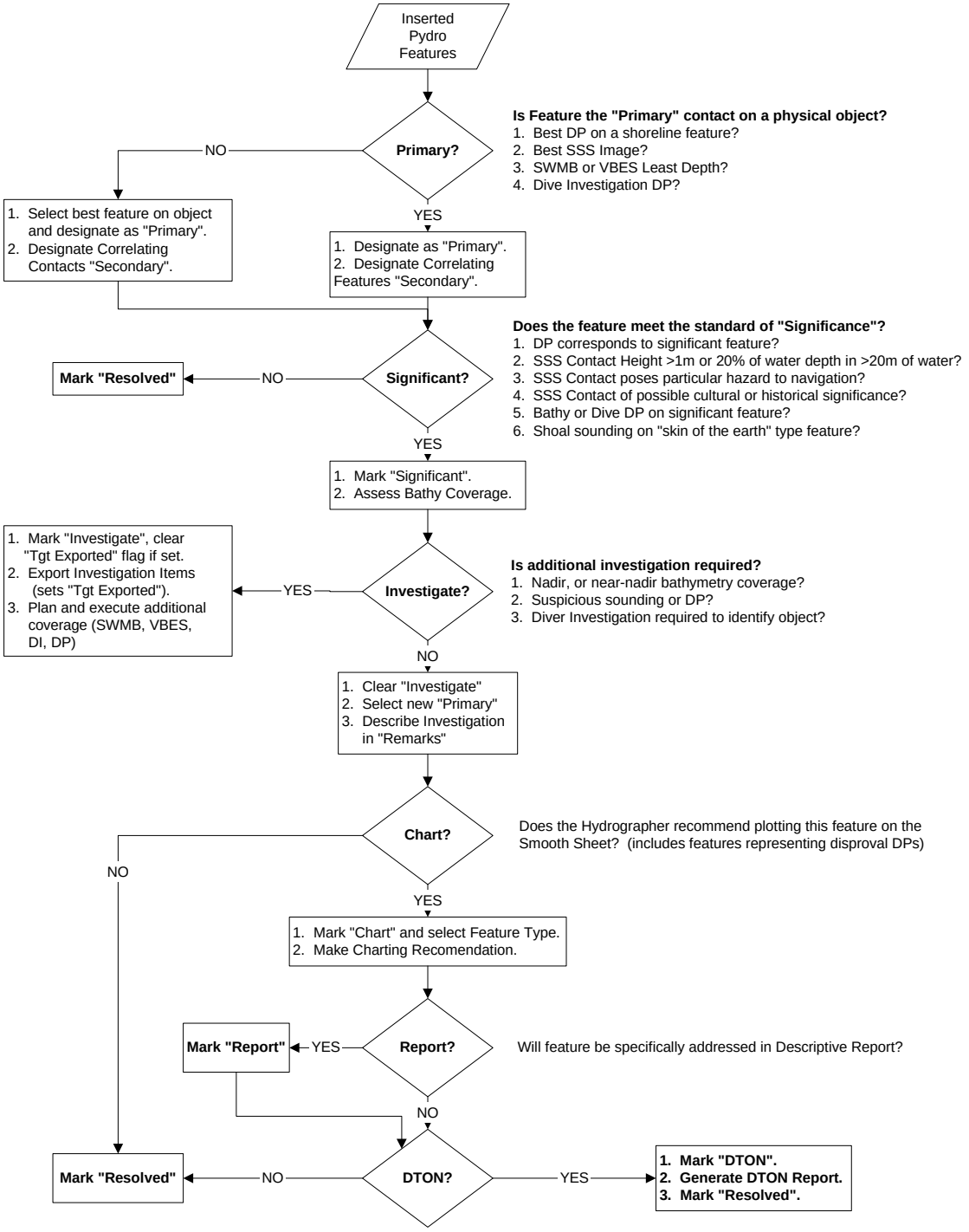
Raw sounding data to HDCS



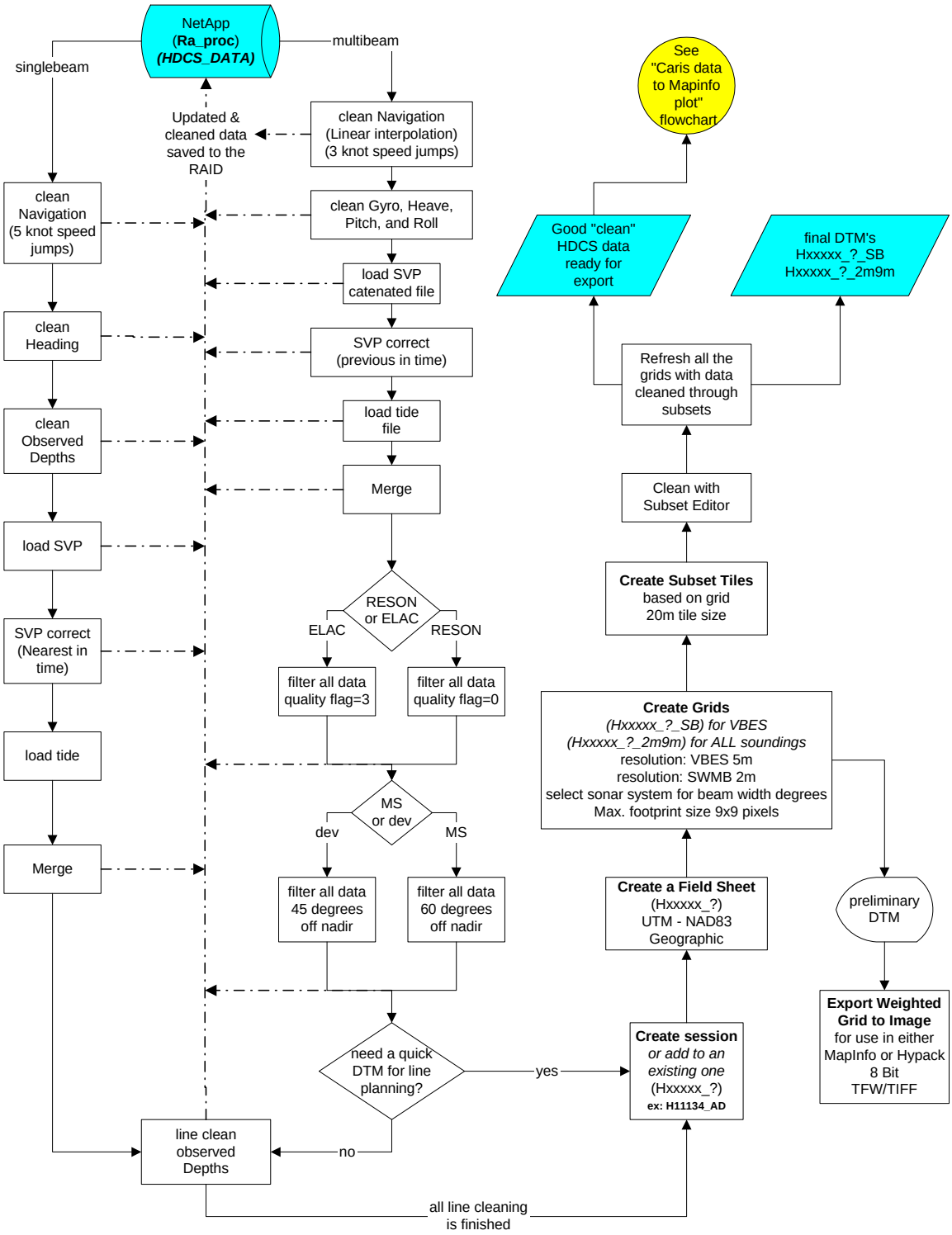
Detached Position processing (Raw DP's to Pydro)



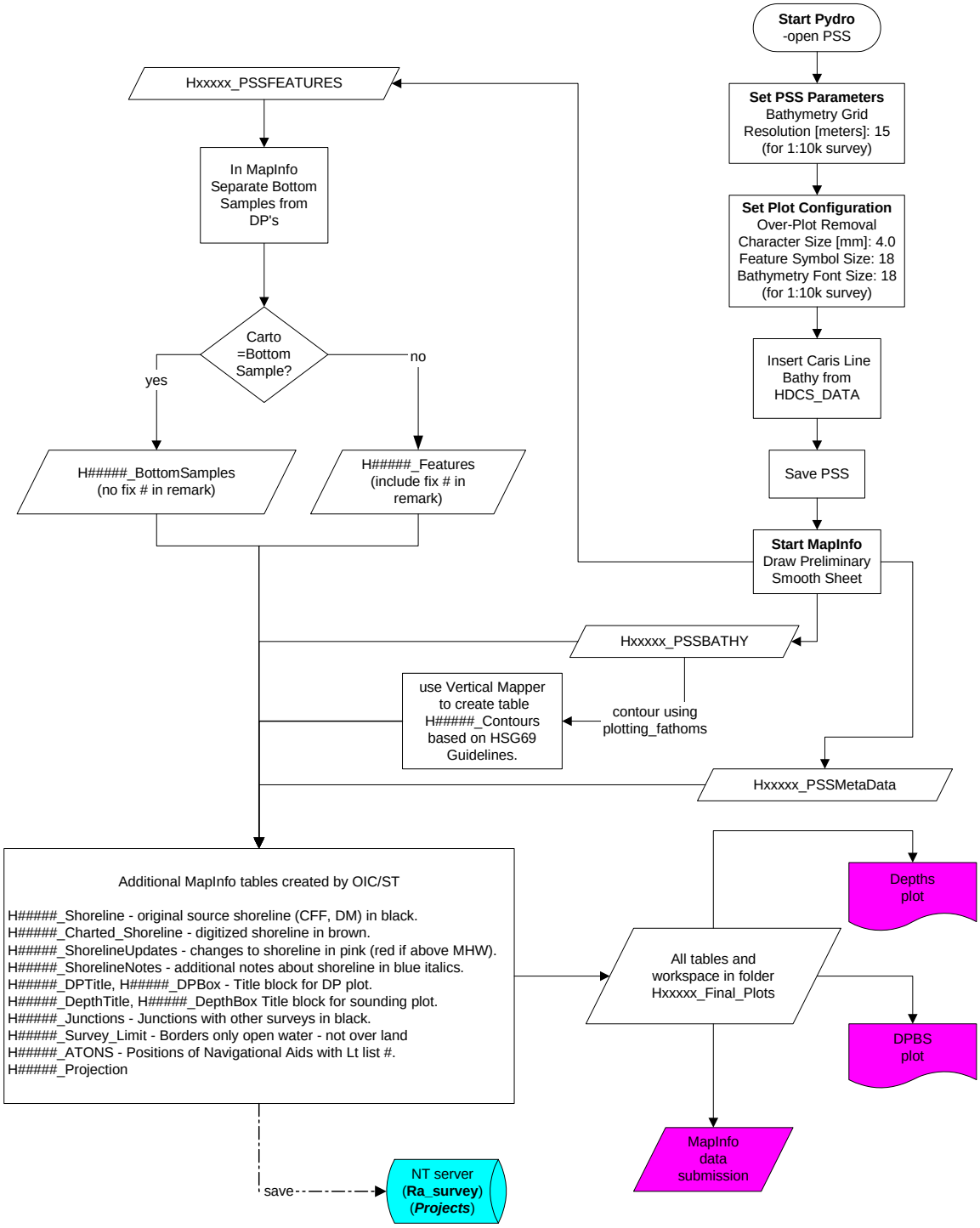
Detached Position processing in Pydro



HDCS data through subset cleaning



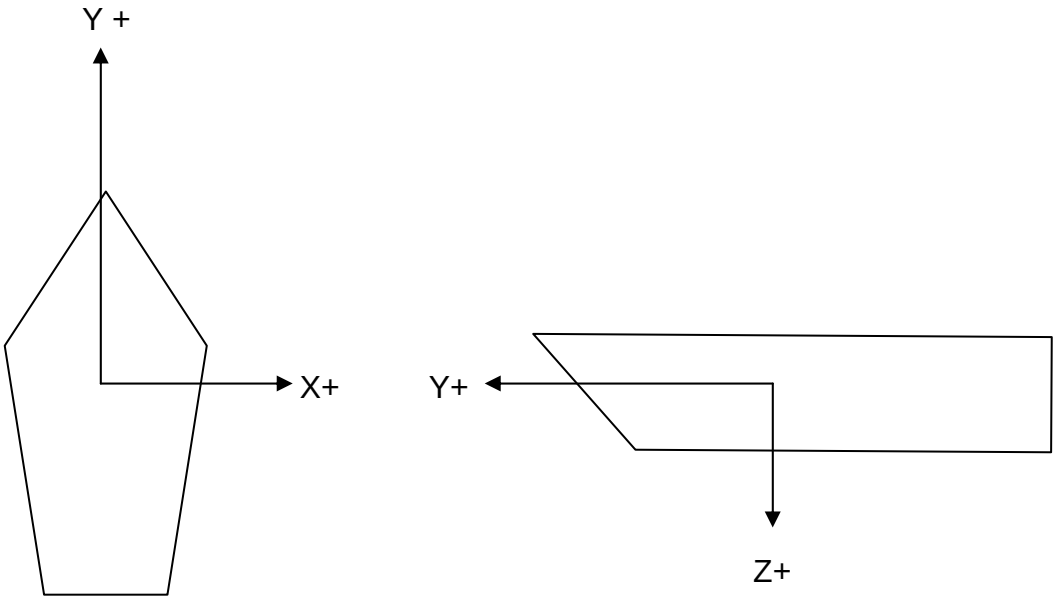
Caris data to MapInfo plot



APPENDIX III

Vessel Offset Diagrams

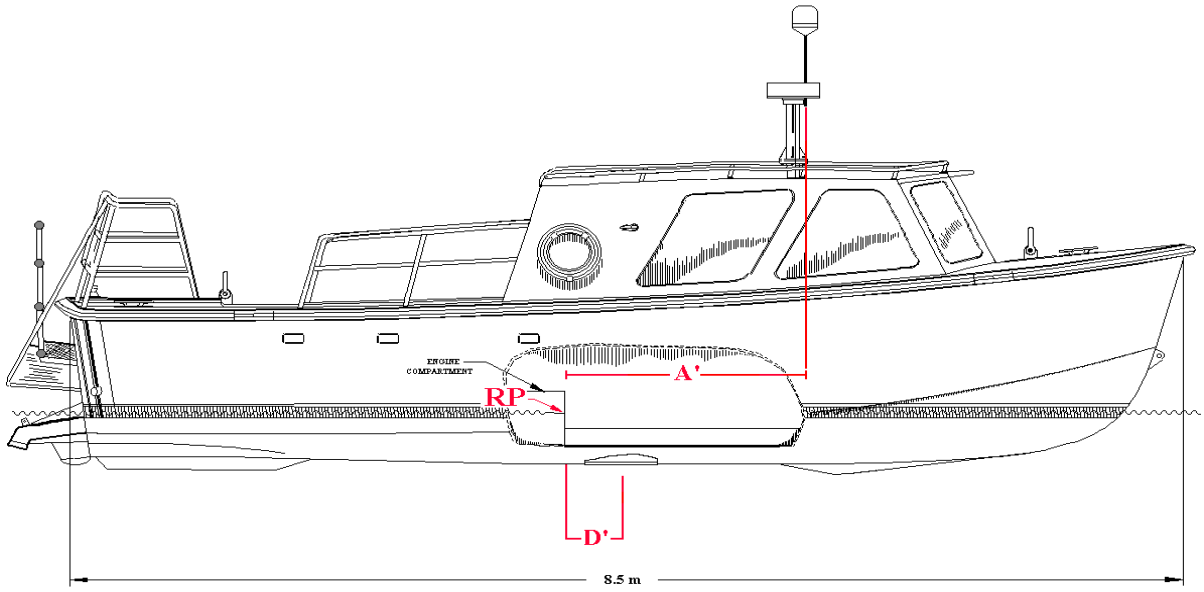
CARIS Offset Sign Conventions



RA1 (hull 1101) Vessel Offset Measurements

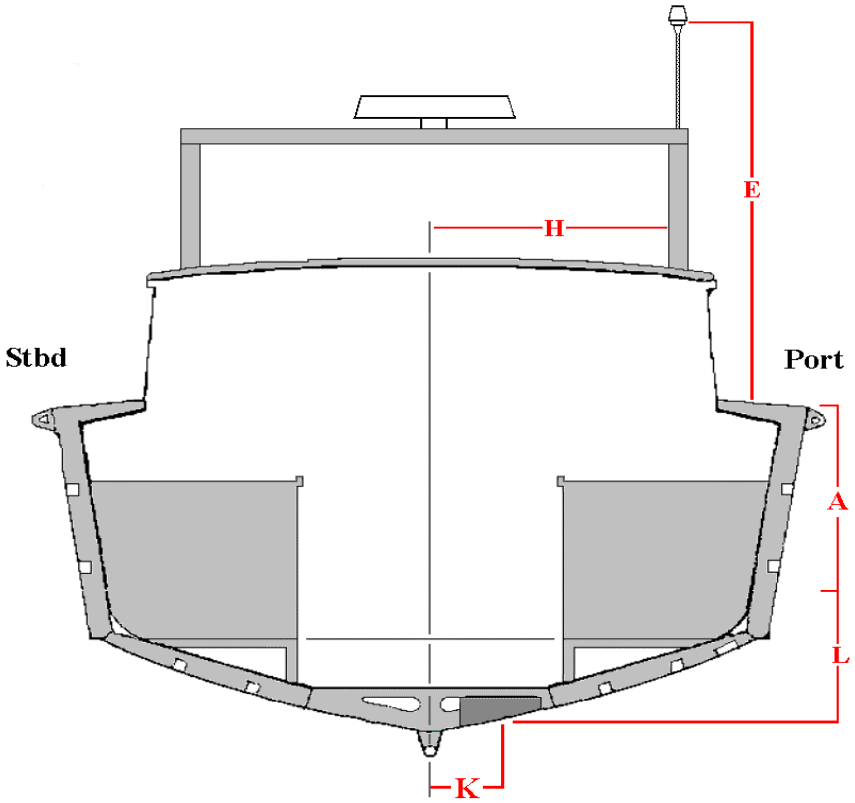
9/3/2003

Description: Aluminum Jensen survey launch, jet drive
LOA: 29 feet
Weigh: 14,000 lbs



* Assume RP at waterline & centerline of engine bulkhead

		cm.	date measured
RP to GPS	A'	180.0	3/21/01
RP to VBES transducer	D'	45.5	3/21/01



		cm.	date measured
Waterline to deck	A	101.0	3/21/01
Deck to bottom of GPS	E	254.0	3/21/01
Centerline to GPS	H	81.0	3/21/01
Centerline to VBES transducer	K	26.0	3/21/01
Waterline to VBES transducer	L	43.0	3/21/01

CARIS configuration is based on a Reference Position (RP)
RP is assumed to be centerline, at the waterline, on the forward side of the bulkhead separating the engine compartment from the cabin

X athwartship distance [+ starboard]
Y along-ship distance [+ towards bow]
Z vertical distance [+ into water]

X	RP to VBES transducer (equals K)	-0.26	Depth sensor
	RP to GPS (equals H)	-0.81	
			NAV
Y	RP to VBES transducer (equals D')	0.46	
	RP to GPS (equals A')	1.80	
Z	RP to VBES transducer (equals L)	0.43	
	RP to GPS (equals A + E)	-3.55	

CARIS R1SB_2003 VCF Summary

	Date	Time Error	X	Y	Z
Singlebeam	2002-001	0.00	-0.26	0.46	0.43

	Date	Time Error	X	Y	Z
Navigation	2002-001	0.00	-0.81	1.80	-3.55

Dynamic Draft

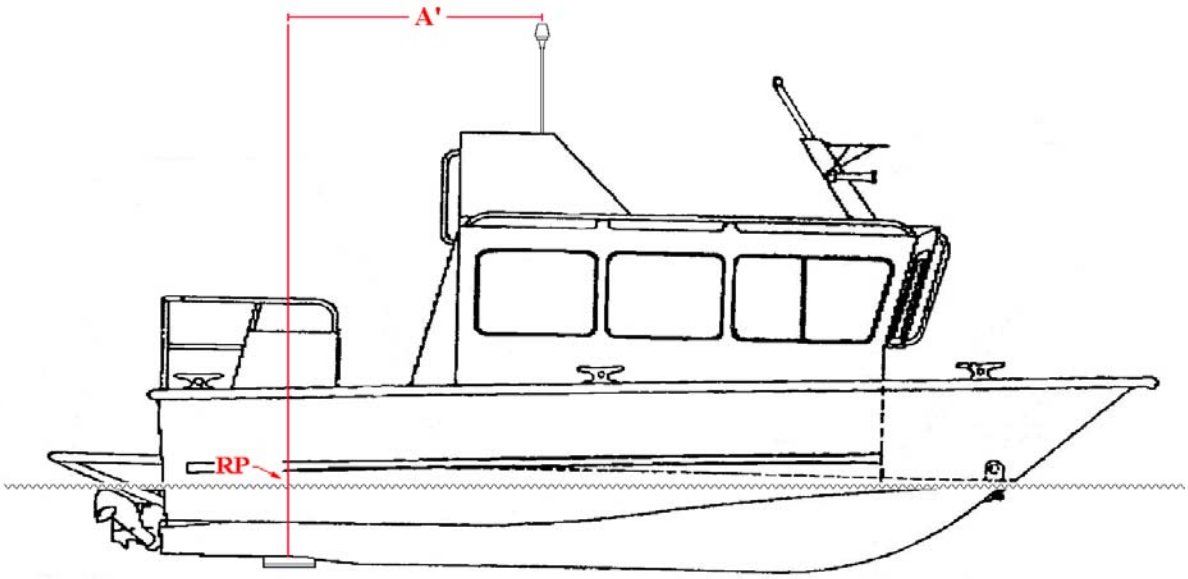
Speed	0.00	3.50	4.80	5.60	6.30	6.80	7.40	8.00	8.90	9.50
Draft	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.05	0.02	-0.02

	Date	Top X	Top Y	Top Z	Bot X	Bot Y	Bot Z	Roll	Pitch	Yaw
SVP 1	2002-001	-0.26	0.46	0.43	-0.26	0.46	0.43	0.00	0.00	0.00

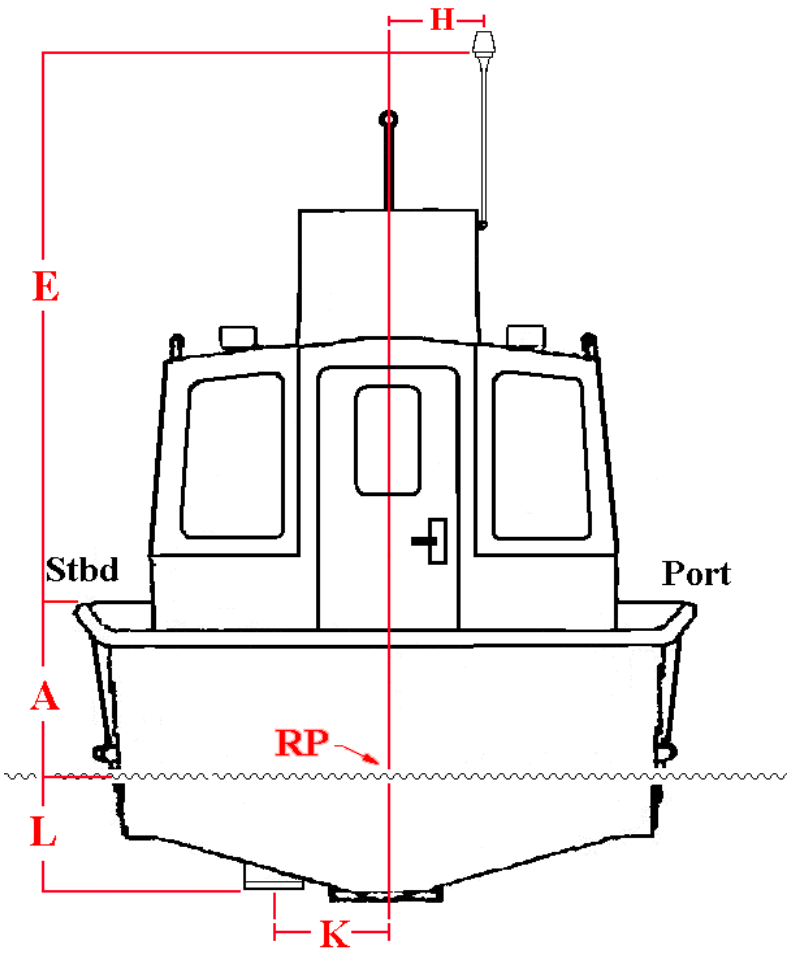
RA2 (hull 1103) Vessel Offset Measurements

9/2/2003

Description: Munson aluminum work boat, jet drive
LOA: 28 feet
Weigh: 10,200 lbs



		cm.	date measured
RP to GPS	A'	196.0	Mar-98
RP to VBES transducer		0.0	n/a



		cm.	date measured
Waterline to deck	A	87.5	Mar-98
Deck to bottom of GPS	E	265.0	May-00
Centerline to GPS	H	49.0	May-00
Centerline to VBES transducer	K	62.0	May-00
Waterline to VBES transducer	L	53.0	Mar-98

CARIS configuration is based on a Reference Position (RP)
In RA-2 the RP is assumed to be centerline, at the waterline, above the transducer

X	athwartship distance [+ starboard]	
Y	along-ship distance [+ towards bow]	
Z	vertical distance [+ into water]	

X	RP to VBES transducer (equals K)	0.62	Depth sensor
	RP to GPS (equals H)	-0.49	
Y	RP to VBES transducer (equals D')	0.00	NAV
	RP to GPS (equals A')	1.96	
Z	RP to VBES transducer (equals L)	0.53	
	RP to GPS (equals A + E)	-3.53	

CARIS R2SB_2003 VCF Summary

	Date	Time Error	X	Y	Z
Singlebeam	2003-110	0.00	0.62	0.00	0.53

	Date	Time Error	X	Y	Z
Navigation	2003-110	0.00	-0.49	1.96	-3.53

Dynamic Draft

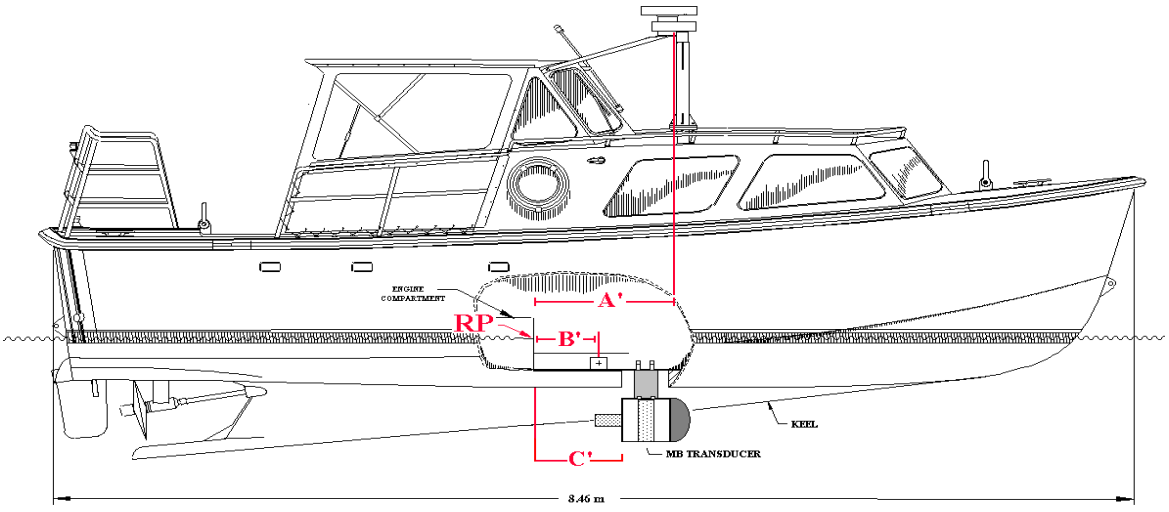
Speed	0.00	2.00	3.80	4.90	6.00	6.90	7.80	8.70	9.60	10.40
Draft	0.00	0.01	0.03	0.05	0.10	0.15	0.20	0.24	0.28	0.30

	Date	Top X	Top Y	Top Z	Bot X	Bot Y	Bot Z	Roll	Pitch	Yaw
SVP 1	2003-110	0.62	0.00	0.53	0.62	0.00	0.53	0.00	0.00	0.00

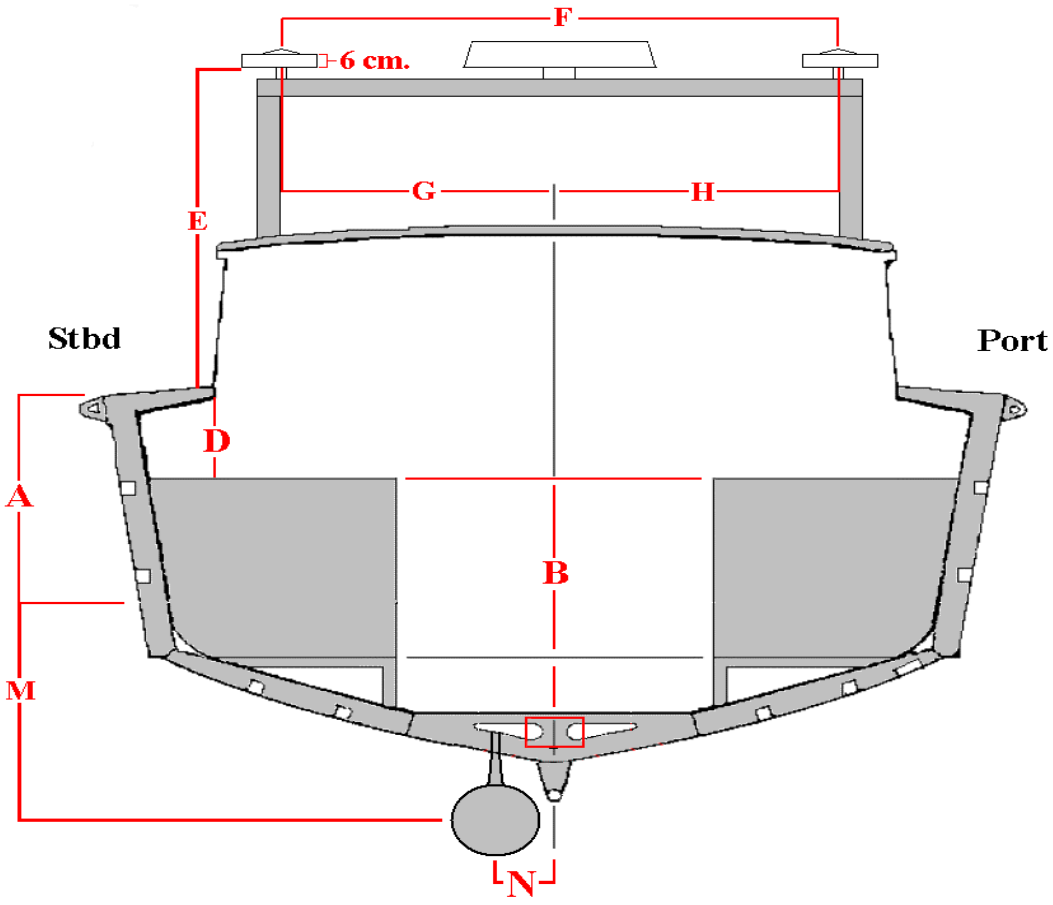
RA3 (hull 1021) Vessel Offset Measurements

3/22/2004

Description: Aluminum Jensen survey launch
LOA: 29 feet
Weigh: 14,000 lbs



		cm.	date measured
RP to GPS	A'		
RP to MRU	B'	48.0	Aug-04
RP to SWMB ducer	C'	33.0	Oct-04



		cm.	date measured
Waterline to deck	A		
MRU to counter top rail	B		
Countertop to deck	D		
Deck to bottom of GPS	E		
GPS to GPS	F		
Centerline to Stbd GPS	G		
Centerline to Port GPS	H		
Waterline to SWMB transducer	M	68.0	Aug-04
Centerline to SWMB transducer	N	33.0	Oct-04

CARIS configuration is based on a Reference Position (RP)
RP is assumed to be centerline, at the waterline, on the forward side of the bulkhead separating the engine compartment from the cabin

X athwartship distance [+ starboard]
Y along-ship distance [+ towards bow]
Z vertical distance [+ into water]

X	SWMB-ducer offset	0.33	SWMB
	MRU to RP (mounted centerline)	0.00	
			NAV
			GYRO
Y	RP to MB-ducer (equals C')	0.33	Heave
	RP to MRU (equals B')	0.48	PITCH
			ROLL
Z	MB-ducer to RP (equals M)	0.68	
	MRU to RP (equals B+D-A)	0.16 *	

* derived from VCF supplied with the launch

CARIS R3RE_2003 VCF Summary

	Date	Time Error	Beams	X	Y	Z	Roll	Pitch	Yaw
Swath 1	2003-223	0.000	101	0.330	0.330	0.680	0.170	1.450	0.000

	Date	Time Error	X	Y	Z
Navigation	2003-223	-0.200	0.000	0.480	0.160

	Date	Time Error	X	Y	Z
Gyro	2003-223	-0.200	0.000	0.480	0.160
Heave	2003-223	-0.200	0.000	0.480	0.160
Pitch	2003-223	-0.200	0.000	0.480	0.160
Roll	2003-223	-0.200	0.000	0.480	0.160

Dynamic Draft

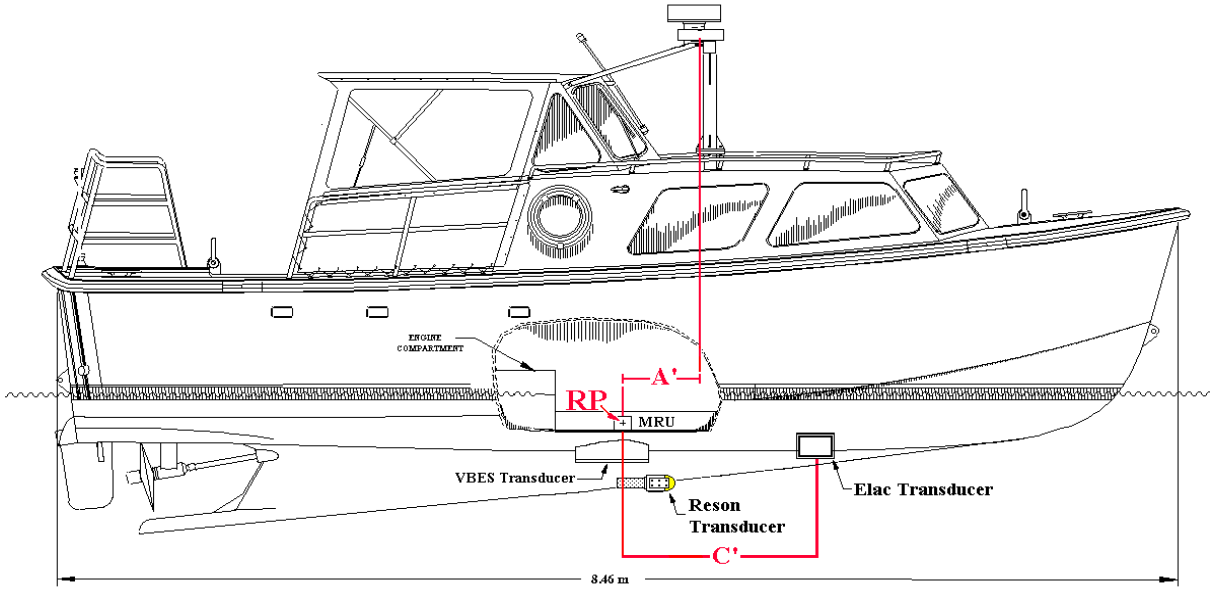
Speed	0.000	4.000	5.200	5.900	6.600	7.300	7.900	8.200	9.500
Draft	0.000	-0.010	0.010	0.010	0.020	0.030	0.030	0.030	0.000

	Date	Top X	Top Y	Top Z	Bot X	Bot Y	Bot Z	Roll	Pitch	Yaw
SVP 1	2003-223	0.330	0.330	0.000	0.330	0.330	0.680	0.000	0.000	0.000

RA4 (hull 1016) Vessel Offset Measurements, Elac

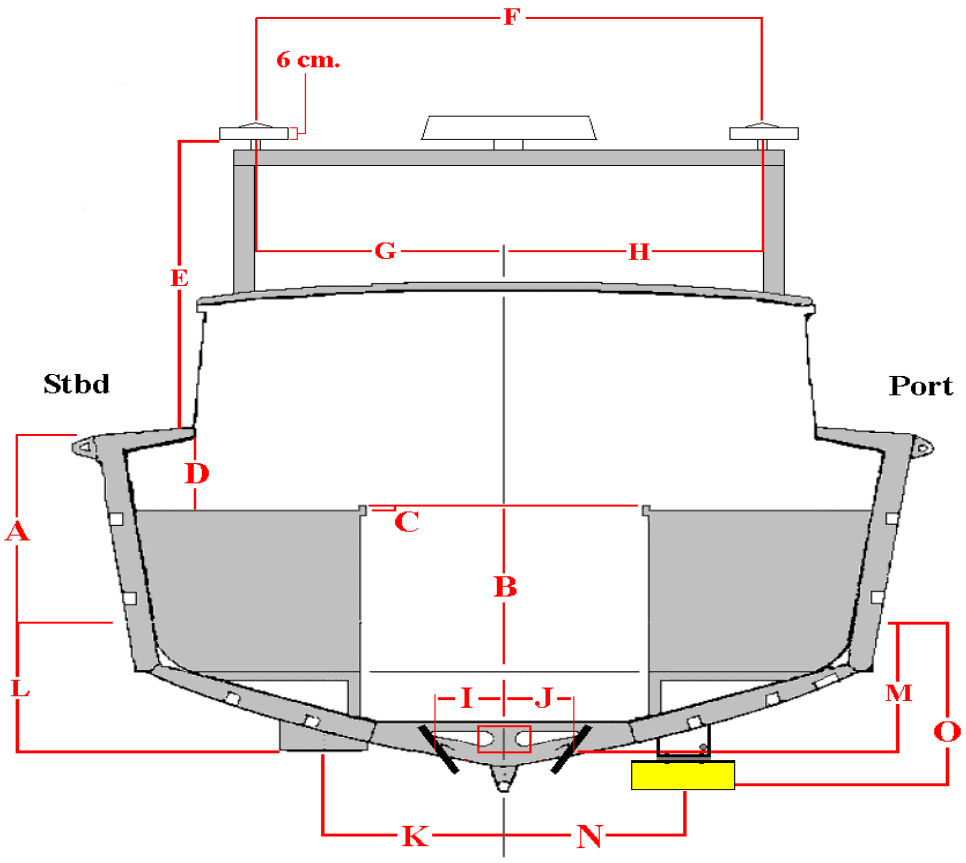
9/2/2003

Description: Aluminum Jensen survey launch
LOA: 29 feet
Weigh: 14,000 lbs



* Assume RP at waterline & centerline of engine bulkhead

		cm.	date measured
RP to GPS	A'	35.0	May-00
RP to Elac ducer	C'	156.0	May-00



		cm.	date measured
Waterline to deck	A	96.5	May-00
MRU to counter top rail	B	104.9	May-00
Countertop rail	C	0.0	May-00
Countertop to deck	D	21.8	May-00
Deck to bottom of GPS	E	170.9	May-00
GPS to GPS	F	174.5	May-00
Centerline to Stbd GPS	G	87.5	May-00
Centerline to Port GPS	H	87.0	May-00
Centerline to Stbd Elac ducer	I	33.3	May-00
Centerline to Port Elac ducer	J	33.4	May-00
Centerline to VBES transducer	K	34.9	May-00
Waterline to VBES transducer	L	61.0	Mar-98
Waterline to Elac transducer	M	57.0	May-00
Centerline to Reson transducer	N	38.0	May-03
Waterline to Reson transducer	O	76.0	May-03

CARIS configuration is based on a Reference Position (RP)
The RP has been defined to coincide with the location of the MRU

X	athwartship distance [+ starboard]
Y	along-ship distance [+ towards bow]
Z	vertical distance [+ into water]

X	Elac transducer offset (equals average I & J)	**+/-**	0.33	Elac
	MRU to RP (mounted centerline)		0.00	
				NAV
				GYRO
Y	RP to Elac transducer (equals C')		1.56	Heave
	RP to MRU (equals B')		0.00	PITCH
				ROLL
Z	Elac transducer to RP (equals M-(B+D-C-A))		0.27	Waterline
	MRU to RP (equals B+D-C-A)		0.00	
	MRU to waterline (equals A-D+C-B)		-0.30	

CARIS R4EL_2003 VCF Summary

	Date	Time Error	Beams	X	Y	Z	Roll	Pitch	Yaw
Swath 1	2003-168	0.00	63	0.33	1.56	0.27	0.45	-2.20	0.30

	Date	Time Error	Beams	X	Y	Z	Roll	Pitch	Yaw
Swath 2	2003-168	0.00	63	-0.33	1.56	0.27	0.80	-0.85	-0.60

	Date	Time Error	X	Y	Z
Navigation	2003-168	0.20	0.00	0.00	0.00

	Date	Time Error	X	Y	Z
Gyro	2003-168	0.00	0.00	0.00	0.00
Heave	2003-168	0.00	0.00	0.00	0.00
Pitch	2003-168	0.00	0.00	0.00	0.00
Roll	2003-168	0.00	0.00	0.00	0.00

	Date	Time	Waterline
Waterline	2003-168	0.00	-0.30

Dynamic Draft

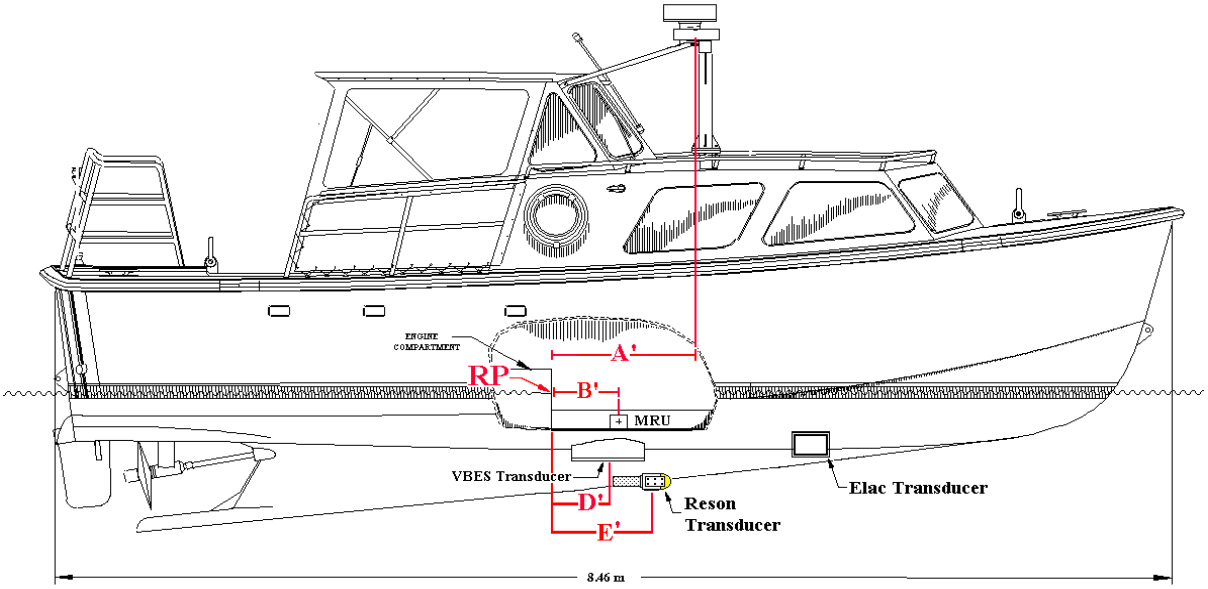
Speed	0.00	5.00	5.50	6.00	7.50	8.50	9.00	9.70	10.50	11.50
Draft	0.00	0.02	0.03	0.04	0.06	0.05	0.03	0.00	-0.04	-0.06

	Date	Top X	Top Y	Top Z	Bot X	Bot Y	Bot Z	Roll	Pitch	Yaw
SVP 1	2003-168	0.33	1.56	0.00	0.33	1.56	0.27	-38.00	0.00	0.00
SVP 2	2003-168	-0.33	1.56	0.00	-0.33	1.56	0.27	38.00	0.00	0.00

RA4 (hull 1016) Vessel Offset Measurements, Reson

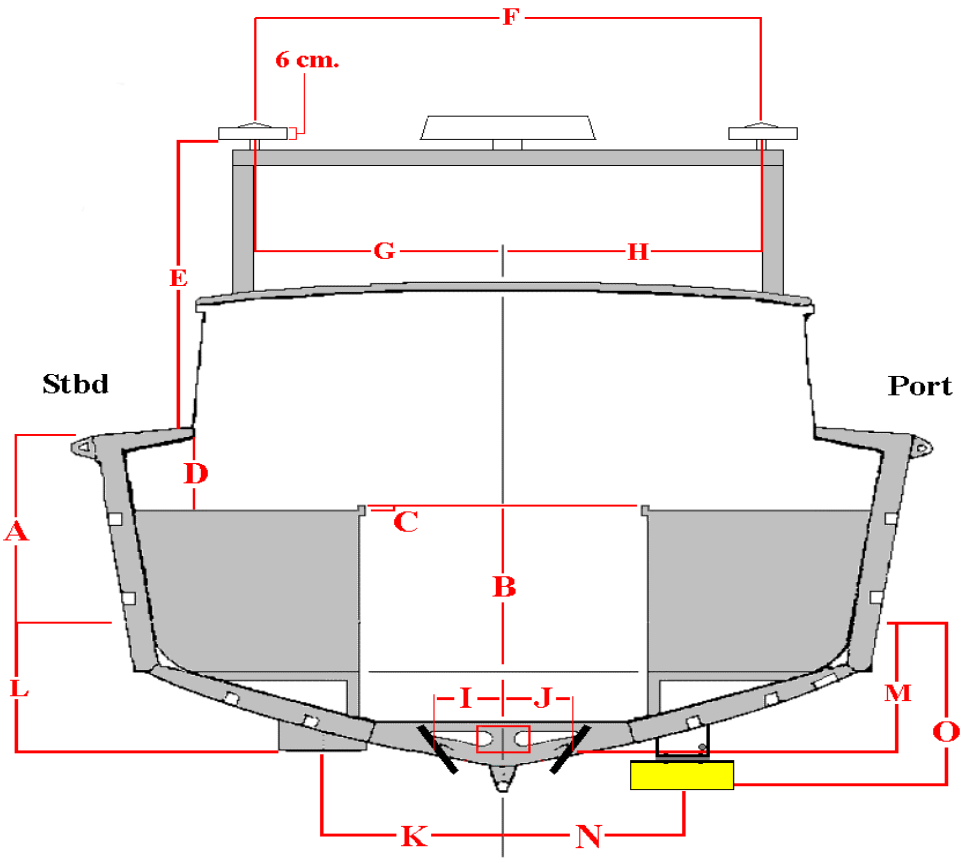
9/2/2003

Description: Aluminum Jensen survey launch
LOA: 29 feet
Weigh: 14,000 lbs



* Assume RP at waterline & centerline of engine bulkhead

		cm.	date measured
RP to GPS	A'	83.0	May-00
RP to MRU	B'	48.0	May-00
RP to VBES ducer	D'	43.4	May-00
RP to Reson ducer	E'	81.0	May-03



		cm.	date measured
Waterline to deck	A	96.5	May-00
MRU to counter top rail	B	104.9	May-00
Countertop rail	C	0.0	May-00
Countertop to deck	D	21.8	May-00
Deck to bottom of GPS	E	170.9	May-00
GPS to GPS	F	174.5	May-00
Centerline to Stbd GPS	G	87.5	May-00
Centerline to Port GPS	H	87.0	May-00
Centerline to Stbd Elac ducer	I	33.3	May-00
Centerline to Port Elac ducer	J	33.4	May-00
Centerline to VBES transducer	K	34.9	May-00
Waterline to VBES transducer	L	61.0	Mar-98
Waterline to Elac transducer	M	57.0	May-00
Centerline to Reson transducer	N	38.0	May-03
Waterline to Reson transducer	O	76.0	May-03

CARIS configuration is based on a Reference Position (RP)
RP is assumed to be centerline, at the waterline, on the forward side of the bulkhead separating the engine compartment from the cabin

X	athwartship distance [+ starboard]
Y	along-ship distance [+ towards bow]
Z	vertical distance [+ into water]

X	Reson transducer offset (equals N)	-0.38	Reson
	MRU to RP (mounted centerline)	0.00	
			NAV
			GYRO
Y	RP to Reson transducer (equals E')	0.81	Heave
	RP to MRU (equals B')	0.48	PITCH
			ROLL
Z	Reson transducer to RP (equals O)	0.76	
	MRU to RP (equals B+D-C-A)	0.30	

CARIS R4RE_2003 VCF Summary

Swath

Date	Time Error	Beams	X	Y	Z	Roll	Pitch	Yaw
2003-079	0.00	240	-0.38	0.81	0.76	0.01	-0.85	-0.60
2003-115	0.00	240	-0.38	0.81	0.76	-0.04	-0.56	-0.73
2003-159	0.00	240	-0.38	0.81	0.76	0.12	-2.00	-0.40

Navigation

Date	Time Error	X	Y	Z
2003-079	0.02	0.00	0.48	0.30
2003-115	0.04	0.00	0.48	0.30
2003-159	0.00	0.00	0.48	0.30

	Date	Time Error	X	Y	Z
Gyro	2003-079	0.00	0.00	0.48	0.30
Heave	2003-079	0.00	0.00	0.48	0.30
Pitch	2003-079	0.00	0.00	0.48	0.30
Roll	2003-079	0.00	0.00	0.48	0.30

Dynamic Draft

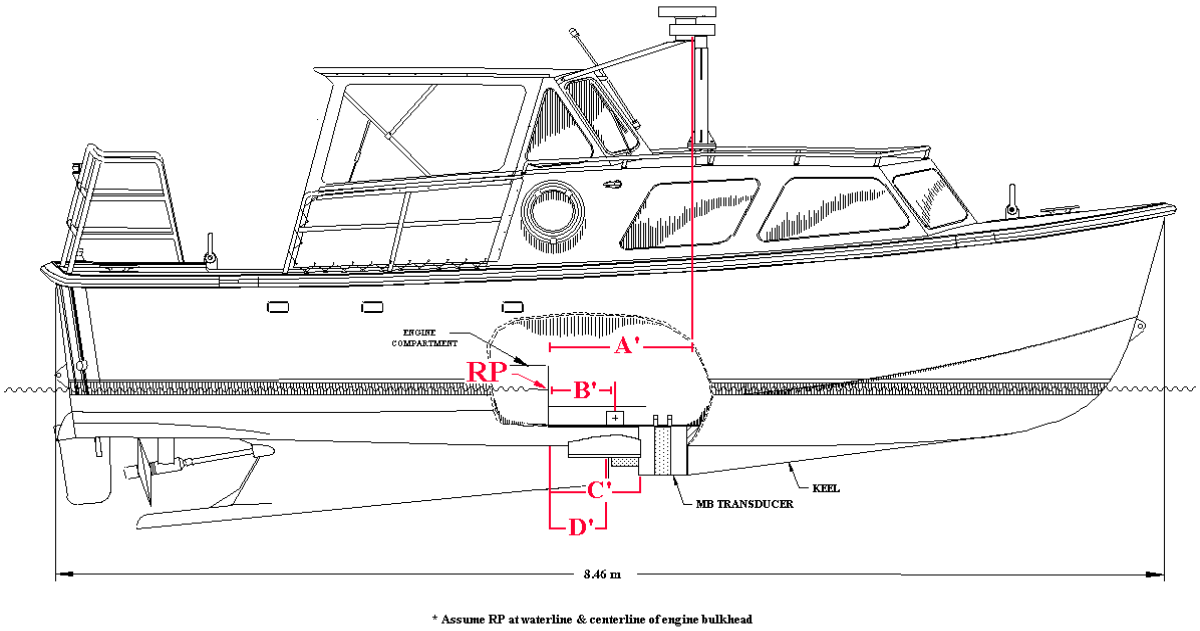
Speed	0.00	5.00	5.50	6.00	7.50	8.50	9.00	9.70	10.50	11.50
Draft	0.00	0.02	0.03	0.04	0.06	0.05	0.03	0.00	-0.04	-0.06

	Date	Top X	Top Y	Top Z	Bot X	Bot Y	Bot Z	Roll	Pitch	Yaw
SVP 1	2003-079	-0.38	0.81	0.00	-0.38	0.81	0.76	0.00	0.00	0.00

RA5 (hull 1006) Vessel Offset Measurements

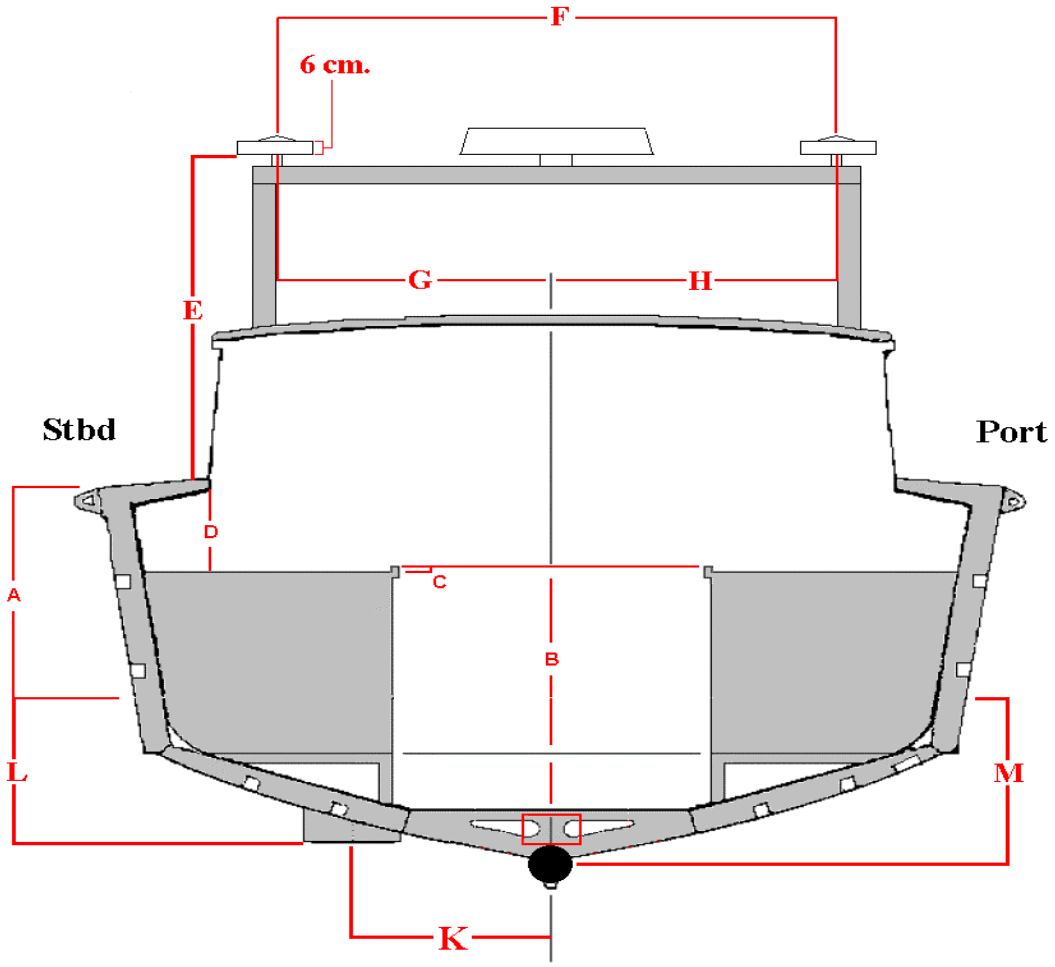
9/2/2003

Description: Aluminum Jensen survey launch
LOA: 29 feet
Weigh: 14,000 lbs



* Assume RP at waterline & centerline of engine bulkhead

		cm.	date measured
RP to GPS	A'	95.6	5/00 & 4/98
RP to MRU	B'	51.9	Mar-99
RP to SWMB ducer	C'	73.3	Mar-99
RP to VBES ducer	D'	40.5	May-00



		cm.	date measured
Waterline to deck	A	100.0	Mar-99
MRU to counter top rail	B	105.0	Mar-99
Countertop rail	C	1.8	Mar-99
Countertop to deck	D	14.7	Mar-99
Deck to bottom of GPS	E	176.0	May-00
GPS to GPS	F	181.0	Apr-98
Centerline to Stbd GPS	G	90.0	Apr-98
Centerline to Port GPS	H	91.0	Apr-98
Centerline to VBES transducer	K	49.7	May-00
Waterline to VBES transducer	L	53.0	Apr-98
Waterline to SWMB transducer	M	49.6	Mar-99

CARIS configuration is based on a Reference Position (RP)
RP is assumed to be centerline, at the waterline, on the forward side of the bulkhead separating the engine compartment from the cabin

X	athwartship distance [+ starboard]
Y	along-ship distance [+ towards bow]
Z	vertical distance [+ into water]

X	SWMB-ducer offset (mounted centerline)	0.00	SWMB
	MRU to RP (mounted centerline)	0.00	
			NAV
			GYRO
Y	RP to MB-ducer (equals C')	0.73	Heave
	RP to MRU (equals B')	0.52	PITCH
			ROLL
Z	MB-ducer to RP (equals M)	0.50	
	MRU to RP (equals B+D-C-A)	0.18	

CARIS R5RE_2003 VCF Summary

	Date	Time Error	Beams	X	Y	Z	Roll	Pitch	Yaw
Swath 1	2003-085	0.00	101	0.00	0.73	0.50	-0.36	1.50	-0.31
	2003-188	0.00	101	0.00	0.73	0.50	-0.89	1.48	0.06

	Date	Time Error	X	Y	Z
Navigation	2003-085	0.14	0.00	0.52	0.18
	2003-188	0.15	0.00	0.52	0.18

	Date	Time Error	X	Y	Z
Gyro	2003-085	0.00	0.00	0.52	0.18
Heave	2003-085	0.00	0.00	0.52	0.18
Pitch	2003-085	0.00	0.00	0.52	0.18
Roll	2003-085	0.00	0.00	0.52	0.18

Dynamic Draft

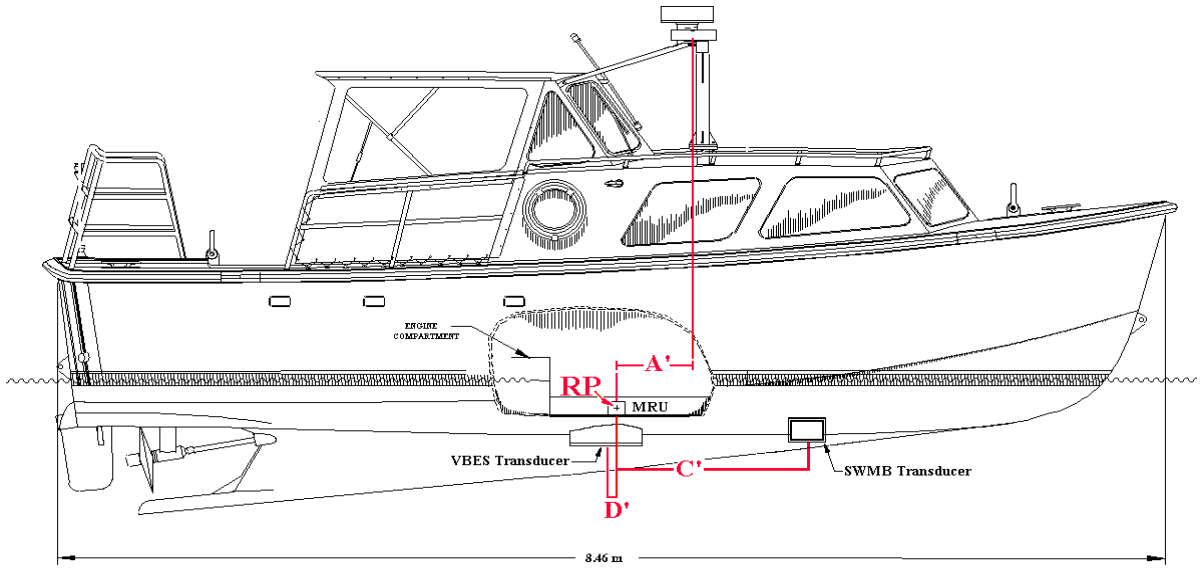
Speed	0.00	3.50	5.00	6.00	7.00	8.20	9.00	10.10	13.30	15.50
Draft	0.00	0.01	0.02	0.04	0.05	0.04	0.02	-0.02	-0.18	-0.25

	Date	Top X	Top Y	Top Z	Bot X	Bot Y	Bot Z	Roll	Pitch	Yaw
SVP 1	2003-085	0.00	0.73	0.50	0.00	0.73	0.50	0.00	0.00	0.00

RA6 (hull 1015) Vessel Offset Measurements

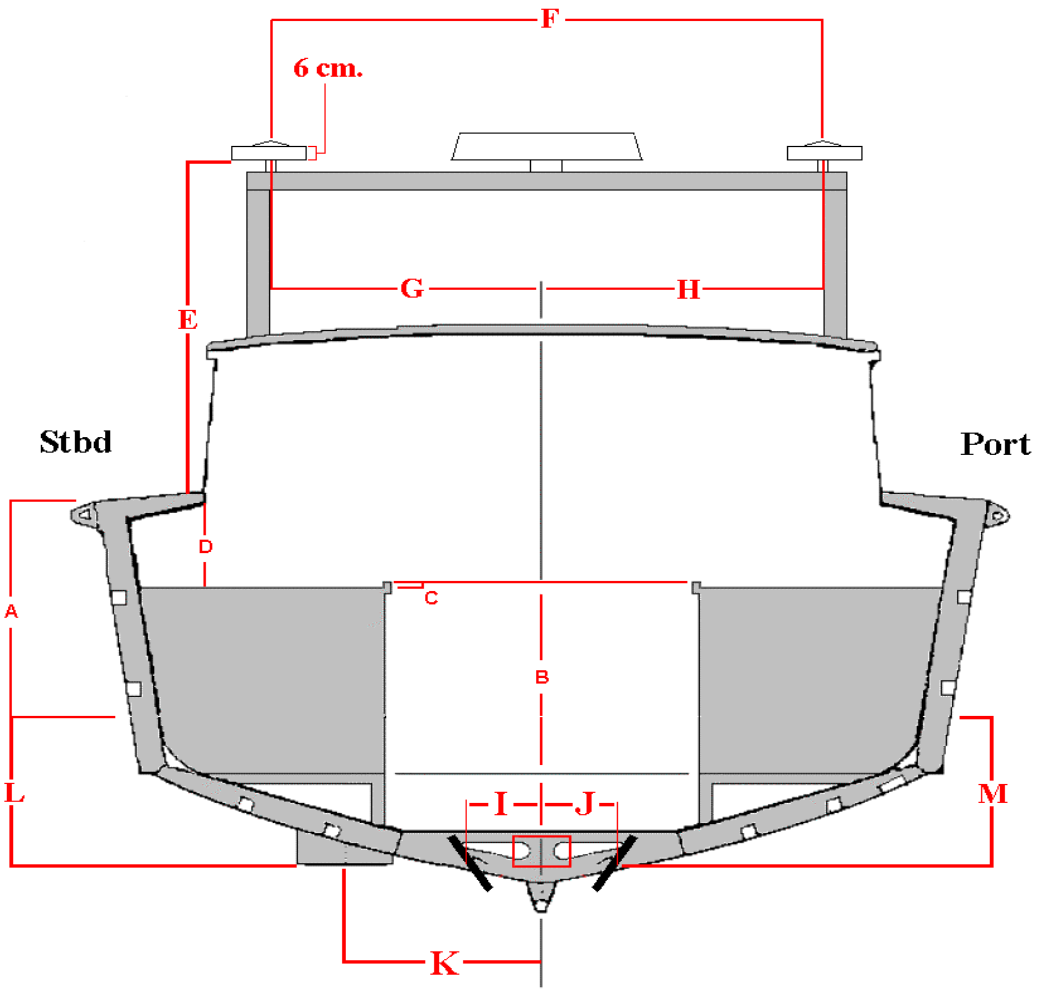
9/2/2003

Description: Aluminum Jensen survey launch
LOA: 29 feet
Weigh: 14,000 lbs



* Assume RP at waterline & centerline of engine bulkhead

		cm.	date measured
RP to GPS	A'	51.2	May-00
RP to SWMB ducer	C'	156.0	May-00
RP to VBES ducer	D'	3.2	May-00



		cm.	date measured
Waterline to deck	A	100.5	May-00
MRU to counter top rail	B	103.6	May-00
Countertop rail	C	0.0	May-00
Countertop to deck	D	21.4	May-00
Deck to bottom of GPS	E	175.6	May-00
GPS to GPS	F	170.3	May-00
Centerline to Stbd GPS	G	85.8	May-00
Centerline to Port GPS	H	84.5	May-00
Centerline to Stbd SWMB ducer	I	33.8	May-00
Centerline to Port SWMB ducer	J	34.4	May-00
Centerline to VBES transducer	K	51.8	May-00
Waterline to VBES transducer	L	42.0	May-00
Waterline to SWMB transducer	M	46.2	May-00

CARIS configuration is based on a Reference Position (RP)
The RP has been defined to coincide with the location of the MRU

X	athwartship distance [+ starboard]
Y	along-ship distance [+ towards bow]
Z	vertical distance [+ into water]

X	SWMB-ducer offset (equals average I & J)	**+/-**	0.34	SWMB
	MRU to RP (mounted centerline)		0.00	
				NAV
				GYRO
Y	RP to MB-ducer (equals C')		1.56	Heave
	RP to MRU (equals B')		0.00	PITCH
				ROLL
Z	MB-ducer to RP (equals M-(B+D-C-A))		0.22	Waterline
	MRU to RP		0.00	
	MRU to waterline (equals A-D+C-B)		-0.25	

CARIS R6EL_2003 VCF Summary

	Date	Time Error	Beams	X	Y	Z	Roll	Pitch	Yaw
Swath 1	2003-001	0.00	63	0.34	1.56	0.22	-0.22	-1.10	0.70
	2003-178	0.00	63	0.34	1.56	0.22	-0.22	-1.10	0.70
	2003-203	0.00	63	0.34	1.56	0.22	-0.79	-1.10	0.70
	2003-204	0.00	63	0.34	1.56	0.22	-1.52	-1.10	0.70

	Date	Time Error	Beams	X	Y	Z	Roll	Pitch	Yaw
Swath 2	2003-001	0.00	63	-0.34	1.56	0.22	0.75	-0.40	-0.85
	2003-178	0.00	63	-0.34	1.56	0.22	0.75	-0.40	-0.85
	2003-203	0.00	63	-0.34	1.56	0.22	1.52	-0.40	-0.85
	2003-204	0.00	63	-0.34	1.56	0.22	1.52	-0.40	-0.85

	Date	Time Error	X	Y	Z
Navigation	2003-001	-0.05	0.00	0.00	0.00
	2003-203	0.00	0.00	0.00	0.00

	Date	Time Error	X	Y	Z
Gyro	2003-060	0.00	0.00	0.00	0.00
Heave	2003-060	0.00	0.00	0.00	0.00
Pitch	2003-060	0.00	0.00	0.00	0.00
Roll	2003-060	0.00	0.00	0.00	0.00

	Date	Time	Waterline
Waterline	2003-060	0.00	-0.25

Dynamic Draft

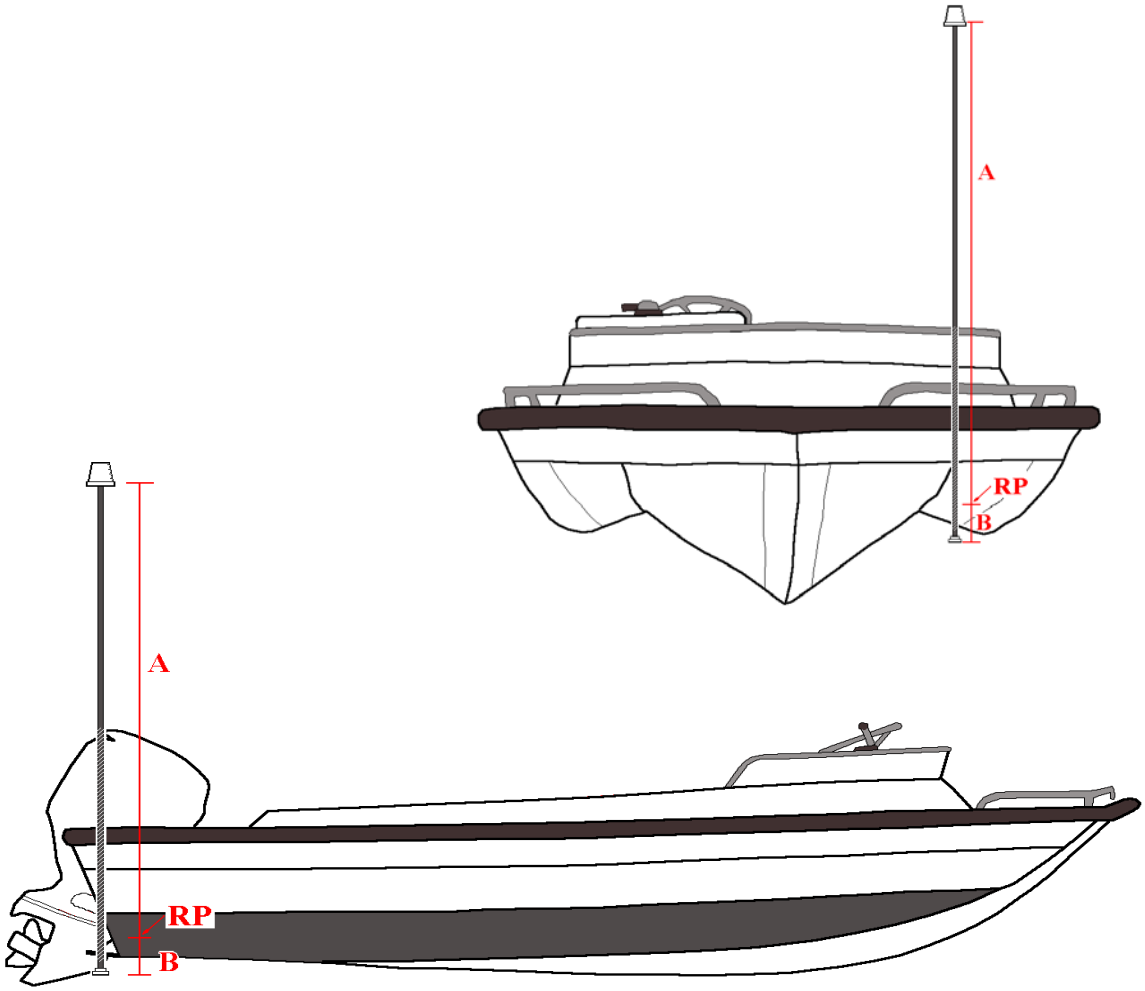
Speed	0.00	3.5	5	5.5	6.2	7.4	8.6	9.3	11.2	13
Draft	0.00	0.01	0.03	0.04	0.05	0.06	0.05	0.04	0	-0.03

	Date	Top X	Top Y	Top Z	Bot X	Bot Y	Bot Z	Roll	Pitch	Yaw
SVP 1	2003-123	0.34	1.56	0.00	0.34	1.56	0.22	-37.80	0.00	0.00
SVP 2	2003-123	-0.34	1.56	0.00	-0.34	1.56	0.22	37.80	0.00	0.00

RA7 (hull 817) Vessel Offset Measurements (2003)

9/2/2003

Description: Aluminum SeaArk survey skiff
LOA: feet
Weigh: lbs



		cm.	date measured
RP to GPS	A	214.0	Apr-03
RP to transducer	B	25.0	Apr-03

CARIS configuration is based on a Reference Position (RP)
On RA7 the RP is assumed to be at the waterline,
directly below the GPS antenna and above the transducer

X athwartship distance [+ starboard]
Y along-ship distance [+ towards bow]
Z vertical distance [+ into water]

X	RP to VBES transducer	0.00	Depth sensor
	RP to GPS	0.00	
			NAV
Y	RP to VBES transducer	0.00	
	RP to GPS	0.00	
Z	RP to VBES transducer (equals B)	0.25	
	RP to GPS (equals A)	-2.14	

CARIS R7SB_2003 VCF Summary

	Date	Time Error	X	Y	Z
Singlebeam	2003-112	0.00	0.00	0.00	0.25

	Date	Time Error	X	Y	Z
Navigation	2003-112	0.00	0.00	0.00	-2.14

Dynamic Draft

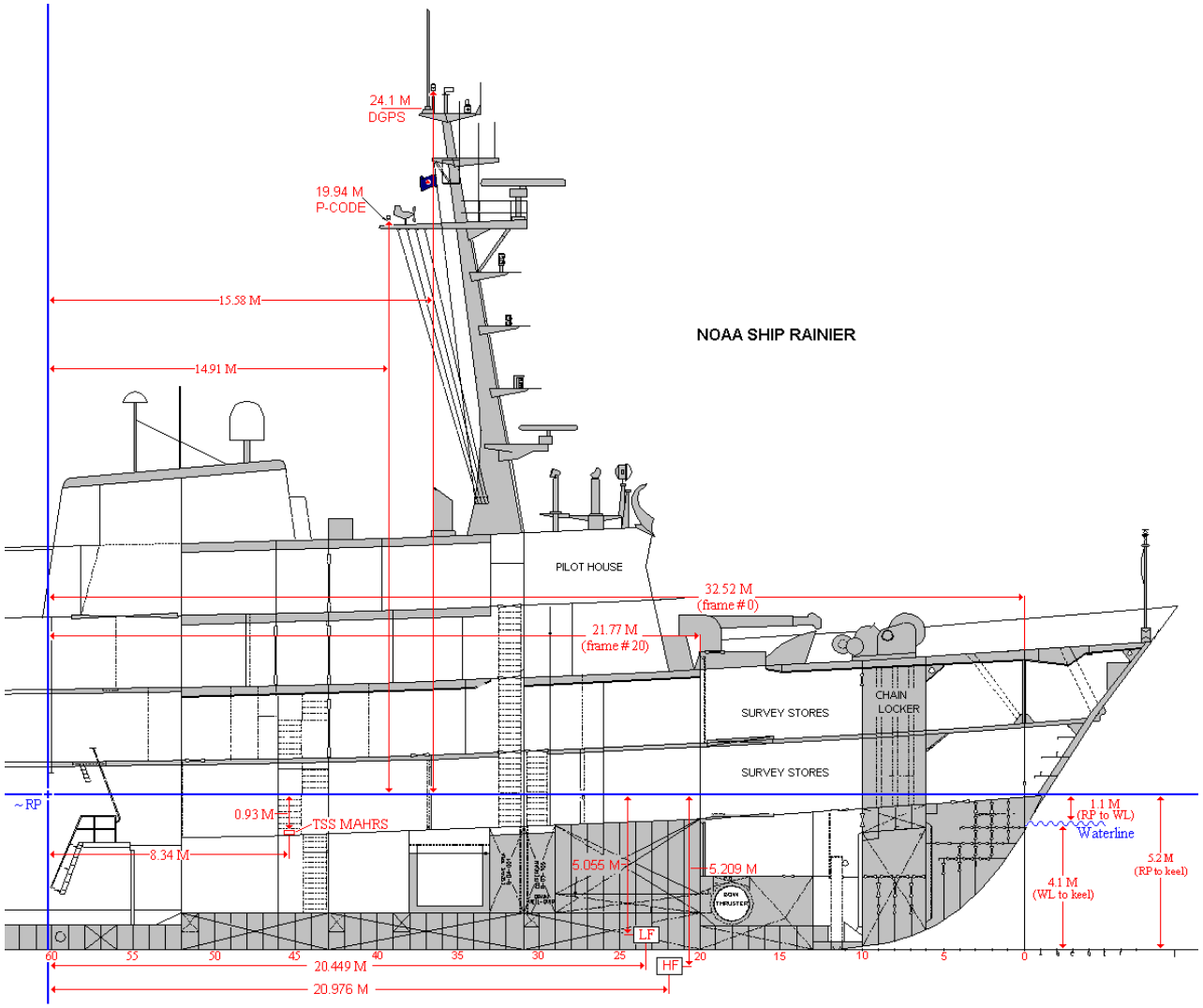
Speed	0.00	1.00	2.40	4.50	6.00	7.50	10.00	11.50	13.00	15.00
Draft	0.00	-0.01	0.00	0.05	0.11	0.17	0.16	0.13	0.08	0.00

	Date	Top X	Top Y	Top Z	Bot X	Bot Y	Bot Z	Roll	Pitch	Yaw
SVP 1	2003-112	0.00	0.00	0.25	0.00	0.00	0.25	0.00	0.00	0.00

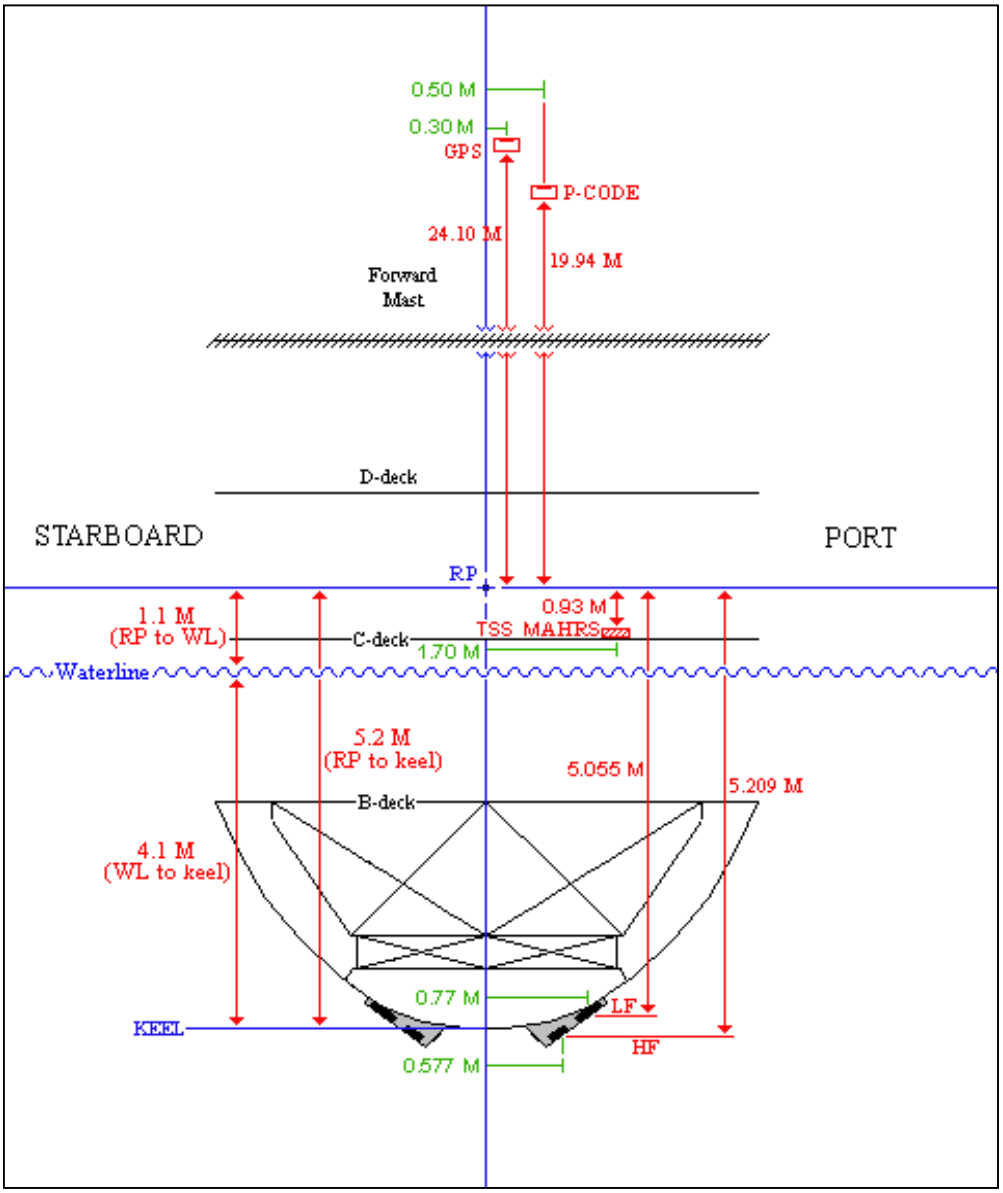
RAINIER (S-221) Vessel Offset Measurements

9/3/2003

Description: Steel hydrographic ship
LOA: 231 feet
Weigh: 1591 Tons



	Y (along-ship)	
	cm.	date measured
RP to P-code	1491.0	Mar-95
RP to GPS	1558.0	Mar-95
RP to TSS MAHRS	834.0	Apr-03
RP to LF MB transducer	2044.9	Apr-98
RP to HF MB transducer	2097.6	Apr-98
RP to frame #0	3252.0	Mar-95



	X (athwartship)		Z (vertical)	
	cm.	date measured	cm.	date measured
RP to P-code	50.0	Mar-95	1994.0	Mar-95
RP to GPS	30.0	Mar-95	2410.0	Mar-95
RP to TSS MAHRS	170.0	Apr-03	93.0	Apr-03
RP to LF MB transducer	77.0	Apr-98	505.5	Apr-98
RP to HF MB transducer	57.7	Apr-98	520.9	Apr-98
RP to keel			520.0	Mar-95
RP to Waterline			110.0	Mar-03

CARIS configuration is based on a Reference Position (RP)
RP is assumed to be centerline, 5.20 meters above the keel,
32.52 meters aft of frame # 0, somewhere in the main engine's compartment

- **X** athwartship distance [+ starboard]
- **Y** along-ship distance [+ towards bow]
- **Z** vertical distance [+ into water]

		meters	
X	HF MB transducer offset	**+/-** 0.58	HF MB
	LF MB transducer offset	**+/-** 0.77	
	RP to GPS	-0.30	LF MB
	RP to P-code	-0.50	
	RP to TSS MAHRS	-1.70	NAV (GPS)
			NAV (P-code)
Y	RP to HF MB transducer	20.98	
	RP to LF MB transducer	20.45	TSS GYRO
	RP to GPS	15.58	MAHRS Heave
	RP to P-code	14.91	PITCH
	RP to TSS MARHS	8.34	ROLL
			Waterline
Z	RP to HF MB transducer	5.21	
	RP to LF MB transducer	5.06	
	RP to GPS	-24.10	
	RP to P-code	-19.94	
	RP to TSS MAHRS	0.93	
	RP to waterline	1.10	

CARIS RAHF_2003 VCF Summary

	Date	Time Error	Beams	X	Y	Z	Roll	Pitch	Yaw
Swath 1	2003-152	0.00	63	0.58	20.98	5.21	-0.92	0.78	1.40
Swath 2	2003-152	0.00	63	-0.58	20.98	5.21	-1.14	0.00	1.50

	Date	Time Error	X	Y	Z
Navigation	2003-152	0.00	-0.30	15.58	-24.10

	Date	Time Error	X	Y	Z
Gyro	2003-152	0.00	-1.70	8.34	0.93
Heave	2003-152	0.00	-1.70	8.34	0.93
Pitch	2003-152	0.00	-1.70	8.34	0.93
Roll	2003-152	0.00	-1.70	8.34	0.93

	Date	Time	Waterline
Waterline	2003-153	0.00	1.10

Dynamic Draft

Speed	0.00	3.00	4.00	6.00	7.00	9.00	10.00	11.50	12.80	20.00
Draft	0.00	0.00	0.10	0.20	0.30	0.30	0.30	0.40	0.40	0.40

	Date	Top X	Top Y	Top Z	Bot X	Bot Y	Bot Z	Roll	Pitch	Yaw
SVP 1	2003-140	0.58	20.98	0.00	0.58	20.98	5.21	-38.00	0.00	0.00
SVP 2	2003-140	-0.58	20.98	0.00	-0.58	20.98	5.21	38.00	0.00	0.00

Appendix IV

Calibration Reports

- **SWMB QC Reports**
  - **Lead Line**
- **Sound Velocity Profiler**

2003 Patch Test Summary (Rainier & launches)

vessel	system	date	yyyy-ddd	1 0.023 % pass	location	reference surface used
RA4	Reson SeaBat 8125	March 20, 2003	2003-079	98.79	Shilshole Marina, Washington	**(a)**
	Reson SeaBat 8125	April 25, 2003	2003-115*	100.00	Juneau, Alaska	**(b)**
	Reson SeaBat 8125	June 8, 2003	2003-159**	96.79	Edgecombe, Sitka, Alaska	**(b)**
	Seabeam/Elac 1180	June 17, 2003	2003-168	99.96	Old Sitka Rocks, Alaska	**(b)**
RA5	Reson SeaBat 8101	March 26, 2003	2003-085	97.54	Shilshole Marina, Washington	**(a)**
	Reson SeaBat 8101	July 7, 2003	2003-188***	99.78	Seward, Alaska	**(b)**
RA6	Seabeam/Elac 1180	May 22, 2003	2003-142	100.00	Old Sitka Rocks, Alaska	**(b)**
Rainier	HF Seabeam/Elac 1050D MKII	April 30, 2003	2003-120	98.57	Hoonah Sound, Alaska	**(b)**

* Reson transducer hit rock April 24th (DN114) & re-patched
** Reson transducer knocked off June 3rd (DN154) & replaced
*** New high speed transducer replaced older model

(a) Shilshole reference surface
(b) Surface collected concurent with checklines

R4RE_2003 DN079

Quality Control Report for file : C:\Temp\2003_Patch_tests\Shilshole_surface\r4_dn079

Surface lines: used Shilshole reference surface

Checkline lines: 014_2028, 015_2023, 016_2021, 017_2018, 018_2030, 019_2033

Elevation Range is : -30.018(m) -10.406(m)

Total number of 3D points used: 729506

Starting Time: 20-MAR-2003 20:18:30.40
Ending Time: 20-MAR-2003 20:34:48.32

Minimum tidal reduction: 150 (mm)
Maximum tidal reduction: 159 (mm)

User#	Total	Max(+)	Max(-)	Mean	Std.	3dm(%)	5dm(%)	1%(%)	1.6%(%)
1	3014	2.876	-7.141	-0.225	0.6460	90.3	96.1	75.4	92.6
2	3020	2.634	-7.092	-0.220	0.6207	91.1	96.3	76.1	92.8
3	3028	2.110	-7.157	-0.221	0.6102	91.5	96.4	73.9	93.5
4	3031	1.803	-7.079	-0.218	0.6005	91.9	96.6	75.1	94.6
5	3043	1.428	-7.085	-0.216	0.5848	91.9	96.8	76.0	94.8
6	3047	1.123	-6.897	-0.213	0.5647	92.5	97.1	75.7	95.5
7	3041	1.221	-6.646	-0.215	0.5481	92.6	97.1	75.4	95.9
8	3044	0.991	-6.367	-0.212	0.5262	92.3	97.2	75.3	95.7
9	3047	1.114	-6.366	-0.209	0.5054	92.5	97.1	75.3	95.4
10	3044	1.818	-6.701	-0.207	0.4859	91.6	96.9	73.1	94.9
11	3050	1.631	-6.916	-0.202	0.4703	90.9	96.8	73.3	94.3
12	3049	1.677	-6.924	-0.199	0.4473	91.5	96.6	72.4	94.5
13	3043	1.680	-6.861	-0.197	0.4269	91.8	96.7	72.2	94.7
14	3038	1.575	-6.770	-0.200	0.4112	91.4	96.7	69.8	94.5
15	3047	2.156	-6.708	-0.198	0.4069	91.3	96.6	69.8	94.4
16	3050	1.974	-6.132	-0.198	0.3959	91.3	96.6	69.9	94.6
17	3045	2.283	-5.610	-0.198	0.3815	91.6	96.7	68.3	94.7
18	3044	3.362	-5.095	-0.197	0.3635	91.3	96.9	67.1	94.8
19	3051	2.561	-4.779	-0.200	0.3315	91.4	96.8	67.8	94.5
20	3053	3.501	-4.213	-0.195	0.3277	91.4	96.5	67.9	94.6
21	3048	3.294	-3.757	-0.195	0.3125	91.3	96.6	67.1	94.4
22	3053	3.635	-3.302	-0.194	0.3100	90.6	96.6	66.3	93.9
23	3054	3.821	-3.199	-0.191	0.3067	90.9	96.6	67.0	93.6
24	3048	3.779	-3.208	-0.188	0.3000	90.9	96.5	67.3	93.8
25	3055	3.863	-3.170	-0.189	0.2952	90.9	96.5	66.6	93.6
26	3049	3.624	-3.179	-0.187	0.2866	91.0	96.6	66.0	93.7
27	3049	3.626	-3.262	-0.186	0.2850	91.3	96.4	64.9	93.8
28	3049	3.357	-3.086	-0.187	0.2740	91.4	96.4	65.6	93.8
29	3047	3.160	-3.267	-0.189	0.2688	91.4	96.5	64.2	93.8
30	3045	2.911	-3.162	-0.191	0.2618	91.5	96.5	63.5	93.9
31	3046	3.321	-3.169	-0.191	0.2676	92.2	96.5	64.3	94.2
32	3046	3.184	-3.159	-0.192	0.2627	92.2	96.3	63.9	94.3
33	3046	3.166	-3.209	-0.196	0.2617	92.3	96.2	62.4	94.4
34	3047	2.900	-3.235	-0.195	0.2576	92.6	96.2	63.8	94.7
35	3047	3.402	-3.208	-0.196	0.2582	92.6	96.3	63.1	94.6
36	3042	3.122	-3.267	-0.201	0.2609	92.5	96.3	63.7	94.5
37	3042	2.851	-3.341	-0.203	0.2607	92.5	96.4	62.9	94.4
38	3045	1.882	-3.368	-0.208	0.2610	92.9	96.4	62.5	94.6
39	3043	2.280	-3.408	-0.209	0.2673	92.5	96.6	62.8	94.6
40	3047	2.578	-3.515	-0.212	0.2830	92.3	96.7	62.3	94.3
41	3045	2.480	-3.595	-0.212	0.2809	92.4	96.7	62.1	94.5
42	3049	2.375	-3.730	-0.213	0.2907	92.7	96.7	62.4	94.6
43	3050	2.157	-4.488	-0.215	0.3073	92.6	96.9	62.3	94.6
44	3051	1.889	-4.683	-0.217	0.3166	92.8	96.8	61.7	94.6
45	3048	1.842	-4.674	-0.219	0.3236	92.7	96.9	61.8	94.6

46	3048	1.636	-4.704	-0.219	0.3312	93.1	96.9	62.3	94.7
47	3048	1.474	-5.281	-0.222	0.3452	93.2	96.8	62.4	94.6
48	3048	1.032	-5.236	-0.224	0.3552	93.3	96.7	62.1	94.6
49	3049	1.302	-5.588	-0.223	0.3747	93.3	96.9	62.9	94.9
50	3050	0.879	-5.758	-0.225	0.3818	93.1	97.0	62.6	94.7
51	3046	0.858	-6.011	-0.222	0.3742	93.3	97.0	63.2	95.0
52	3048	0.812	-5.983	-0.221	0.3649	93.2	97.1	61.5	95.1
53	3052	1.403	-5.922	-0.221	0.3762	93.4	96.9	61.5	95.1
54	3050	1.361	-5.877	-0.222	0.3873	93.5	97.0	61.3	95.0
55	3055	1.018	-5.709	-0.220	0.3700	93.4	97.1	61.4	95.1
56	3052	1.563	-5.732	-0.221	0.3861	93.1	97.3	61.5	95.3
57	3053	1.222	-5.609	-0.223	0.3903	93.3	97.3	61.2	95.5
58	3048	1.082	-5.851	-0.223	0.4038	94.0	97.4	61.8	95.6
59	3052	1.321	-5.660	-0.226	0.4095	93.8	97.4	60.4	95.5
60	3049	1.068	-5.847	-0.226	0.4149	93.5	97.5	61.4	95.3
61	3047	0.586	-5.961	-0.228	0.4283	93.9	97.7	61.0	95.5
62	3046	0.615	-6.360	-0.231	0.4559	93.7	97.8	60.8	95.6
63	3050	0.762	-6.426	-0.231	0.4531	93.5	97.8	59.8	95.6
64	3053	1.056	-7.365	-0.232	0.4685	93.1	97.8	60.8	95.4
65	3051	0.577	-7.351	-0.234	0.4770	93.5	97.8	60.5	95.6
66	3051	0.379	-7.431	-0.237	0.4934	93.8	97.6	61.1	95.6
67	3049	0.397	-7.111	-0.237	0.4854	93.5	97.7	60.4	95.5
68	3046	0.432	-7.413	-0.238	0.4859	93.4	97.5	60.9	95.3
69	3047	0.402	-7.350	-0.238	0.4804	93.5	97.5	61.3	95.3
70	3050	0.506	-7.844	-0.239	0.4814	93.5	97.6	60.5	95.2
71	3051	0.365	-7.894	-0.243	0.5123	93.2	97.6	60.0	95.3
72	3053	0.709	-7.849	-0.241	0.4897	93.7	97.5	60.7	95.6
73	3054	0.070	-7.364	-0.241	0.4786	93.1	97.5	60.1	95.5
74	3054	0.074	-7.554	-0.243	0.4881	93.4	97.4	59.4	95.8
75	3054	0.234	-7.678	-0.241	0.4792	93.7	97.5	61.2	95.3
76	3053	0.278	-8.096	-0.241	0.4791	93.6	97.5	58.3	95.5
77	3054	0.350	-7.689	-0.241	0.4861	93.0	97.6	60.0	95.5
78	3051	1.098	-7.915	-0.239	0.4747	93.3	97.6	59.8	95.4
79	3052	1.101	-7.640	-0.243	0.5059	93.3	97.5	59.5	95.2
80	3049	0.400	-7.789	-0.241	0.4958	93.6	97.5	59.8	95.2
81	3049	0.440	-7.832	-0.238	0.4829	93.8	97.6	60.8	95.4
82	3051	1.205	-8.164	-0.237	0.4945	94.0	97.5	60.8	95.2
83	3051	0.641	-8.635	-0.238	0.5147	94.0	97.6	61.6	95.5
84	3052	0.667	-8.722	-0.239	0.5245	94.5	97.6	60.3	95.8
85	3049	1.563	-8.254	-0.237	0.5139	94.3	97.7	61.1	95.6
86	3051	0.435	-8.086	-0.236	0.4855	94.1	97.8	60.0	96.0
87	3051	0.090	-8.922	-0.239	0.5339	94.8	97.7	60.7	96.2
88	3050	0.056	-8.949	-0.239	0.5222	95.1	97.7	61.1	96.5
89	3048	0.064	-8.913	-0.240	0.5420	95.2	97.8	60.1	96.7
90	3047	0.626	-8.952	-0.240	0.5480	95.0	97.8	61.6	96.6
91	3050	0.678	-8.640	-0.236	0.5284	95.7	97.9	61.1	97.0
92	3048	1.489	-8.851	-0.237	0.5499	95.6	97.9	61.2	96.9
93	3048	0.078	-8.683	-0.239	0.5476	95.7	98.0	61.3	97.1
94	3046	0.054	-8.935	-0.235	0.5343	95.6	98.1	61.3	97.2
95	3043	0.099	-8.908	-0.231	0.5110	96.1	98.3	61.2	97.2
96	3046	1.446	-8.523	-0.230	0.5267	96.0	98.2	62.0	97.2
97	3047	1.122	-8.311	-0.234	0.5441	96.1	98.3	62.3	97.1
98	3055	1.353	-8.736	-0.234	0.5668	96.0	98.3	61.7	97.3
99	3052	1.900	-8.317	-0.230	0.5564	96.1	98.3	61.8	97.3
100	3050	1.951	-8.985	-0.230	0.5472	96.3	98.3	62.6	97.4
101	3046	2.053	-9.130	-0.230	0.5476	96.3	98.3	61.4	97.2
102	3044	1.657	-8.864	-0.233	0.5315	95.8	98.4	62.5	97.0
103	3042	0.158	-8.719	-0.237	0.5526	96.3	98.4	61.7	97.1
104	3047	0.140	-8.703	-0.234	0.5290	96.0	98.5	61.5	97.1
105	3044	0.071	-8.671	-0.227	0.4814	96.1	98.6	61.4	97.4
106	3044	0.057	-8.654	-0.230	0.4977	96.2	98.6	60.3	97.0
107	3042	0.175	-8.051	-0.226	0.4735	96.1	98.7	60.6	97.3
108	3046	0.162	-8.337	-0.233	0.5237	96.0	98.6	61.0	97.1
109	3043	0.159	-8.494	-0.227	0.4795	96.0	98.6	61.0	96.9
110	3039	0.104	-8.355	-0.227	0.4853	95.6	98.5	62.2	96.7

111	3038	0.092	-7.846	-0.222	0.4596	95.5	98.6	61.5	96.7
112	3041	0.136	-7.884	-0.221	0.4589	95.8	98.6	62.6	96.4
113	3047	0.124	-7.549	-0.219	0.4531	95.7	98.6	63.7	96.9
114	3042	0.120	-7.593	-0.213	0.4104	96.0	98.7	64.0	96.7
115	3045	0.116	-7.560	-0.221	0.4754	95.7	98.5	63.8	96.3
116	3041	0.050	-7.531	-0.219	0.4522	95.6	98.7	63.3	96.6
117	3039	0.106	-7.361	-0.214	0.4150	95.8	98.7	64.3	96.5
118	3034	0.079	-7.444	-0.211	0.3787	95.6	98.9	62.9	96.6
119	3037	0.109	-7.428	-0.217	0.4281	95.2	98.9	62.8	96.6
120	3032	0.272	-7.792	-0.214	0.4107	95.7	98.9	62.7	96.4
121	3034	0.278	-8.039	-0.221	0.4583	95.6	98.9	62.6	96.5
122	3031	0.312	-7.977	-0.217	0.4222	95.1	99.0	61.9	96.1
123	3034	0.238	-8.207	-0.221	0.4537	95.8	98.9	61.4	96.7
124	3032	0.273	-8.156	-0.220	0.4458	95.7	99.0	61.9	96.4
125	3034	0.122	-8.170	-0.220	0.4415	95.4	99.0	61.8	96.7
126	3031	0.129	-7.687	-0.217	0.4192	96.1	99.1	62.8	96.8
127	3035	0.123	-8.318	-0.216	0.4340	95.9	99.1	62.7	96.7
128	3041	0.287	-8.389	-0.218	0.4484	95.8	99.1	61.5	96.6
129	3035	0.332	-7.633	-0.211	0.3706	95.7	99.1	61.7	96.8
130	3034	0.376	-7.504	-0.207	0.3472	95.9	99.2	62.3	96.7
131	3031	0.377	-8.036	-0.208	0.3600	96.0	99.2	63.3	96.8
132	3031	0.411	-8.178	-0.212	0.3927	95.5	99.1	62.5	96.7
133	3033	0.427	-8.083	-0.216	0.4284	95.4	99.1	62.5	96.6
134	3031	0.411	-8.062	-0.207	0.3577	95.7	99.2	61.9	96.9
135	3032	0.384	-8.129	-0.210	0.3852	95.4	99.1	61.2	96.7
136	3033	0.387	-7.969	-0.210	0.3744	95.2	99.1	61.3	96.7
137	3032	0.377	-7.895	-0.210	0.3645	95.4	99.1	61.3	96.7
138	3031	0.382	-7.816	-0.207	0.3459	95.9	99.1	61.4	96.7
139	3032	0.343	-8.739	-0.211	0.3826	95.5	99.1	61.0	96.7
140	3032	0.352	-8.835	-0.210	0.3775	95.3	99.2	61.8	97.0
141	3035	0.343	-8.724	-0.211	0.3766	95.8	99.2	61.5	97.1
142	3031	0.334	-8.894	-0.210	0.3853	95.6	99.2	60.9	97.2
143	3030	0.296	-9.036	-0.212	0.3983	96.0	99.2	60.4	97.2
144	3033	0.277	-8.892	-0.214	0.4018	95.7	99.2	60.5	97.0
145	3030	0.267	-8.647	-0.209	0.3642	96.0	99.2	60.8	97.4
146	3029	0.185	-8.703	-0.210	0.3837	96.0	99.3	60.5	97.5
147	3033	0.207	-8.854	-0.215	0.4211	96.0	99.2	60.2	97.5
148	3036	0.165	-8.666	-0.218	0.4462	95.9	99.2	59.9	97.4
149	3034	0.183	-8.435	-0.212	0.4033	96.5	99.3	61.2	97.7
150	3033	0.083	-8.898	-0.215	0.4158	95.9	99.2	61.0	97.4
151	3029	0.100	-8.143	-0.211	0.3604	95.5	99.3	59.8	97.6
152	3027	0.069	-7.567	-0.208	0.3303	95.9	99.3	60.1	97.6
153	3026	0.034	-7.571	-0.208	0.3175	95.9	99.3	59.8	97.6
154	3029	0.042	-7.654	-0.210	0.3389	96.0	99.3	59.0	97.6
155	3030	0.602	-8.346	-0.211	0.3477	95.3	99.2	58.7	97.0
156	3036	0.106	-8.116	-0.218	0.3960	95.2	99.2	57.9	96.8
157	3035	0.062	-7.976	-0.216	0.3673	95.3	99.1	58.4	96.9
158	3032	0.057	-8.073	-0.217	0.3767	94.5	99.0	58.0	96.9
159	3030	0.155	-6.711	-0.216	0.3406	94.8	98.9	57.0	96.5
160	3034	0.132	-7.454	-0.221	0.3827	94.8	98.7	57.2	96.5
161	3036	0.125	-7.211	-0.221	0.3701	94.6	98.6	57.2	96.5
162	3036	0.106	-6.497	-0.217	0.3254	94.1	98.5	56.5	96.6
163	3034	0.098	-6.714	-0.218	0.3104	94.0	98.3	55.9	96.3
164	3036	0.114	-6.874	-0.220	0.3254	94.0	98.3	56.2	96.0
165	3036	0.170	-6.447	-0.220	0.3330	94.0	98.3	57.0	96.4
166	3029	0.186	-6.699	-0.218	0.2958	94.1	98.2	57.1	96.1
167	3032	0.174	-6.680	-0.224	0.3298	93.7	98.1	55.8	96.1
168	3031	0.118	-6.758	-0.225	0.3369	93.9	97.9	55.6	96.1
169	3029	0.116	-6.325	-0.226	0.3263	94.0	98.0	55.3	96.1
170	3032	0.104	-6.673	-0.225	0.3225	93.8	98.0	55.2	96.1
171	3032	0.153	-6.773	-0.227	0.3217	93.6	98.0	54.7	96.0
172	3028	0.371	-6.537	-0.228	0.3307	93.3	98.1	54.4	96.1
173	3029	0.095	-6.667	-0.230	0.3409	93.5	98.0	53.9	95.8
174	3037	0.879	-6.730	-0.234	0.3604	93.2	97.9	54.5	96.0
175	3032	0.062	-6.539	-0.234	0.3587	93.5	97.9	54.5	95.8

176	3035	0.041	-6.710	-0.234	0.3621	93.3	97.9	55.1	95.9
177	3032	0.042	-6.780	-0.236	0.3635	93.6	97.9	54.7	96.2
178	3032	0.123	-6.757	-0.233	0.3486	93.7	98.0	54.2	96.2
179	3034	0.998	-6.777	-0.226	0.3419	94.1	98.2	54.4	96.4
180	3028	0.458	-6.792	-0.222	0.3192	93.6	98.4	53.8	96.6
181	3032	0.720	-6.832	-0.226	0.3404	93.6	98.1	53.5	95.9
182	3033	0.863	-6.618	-0.224	0.3281	93.7	97.9	53.4	95.9
183	3035	1.333	-6.934	-0.224	0.3336	93.6	98.1	55.5	96.0
184	3040	1.226	-7.093	-0.224	0.3288	94.0	98.1	53.2	96.2
185	3037	1.790	-6.465	-0.221	0.3187	94.1	98.1	55.1	96.1
186	3040	2.003	-6.713	-0.221	0.3220	93.8	97.9	54.9	96.0
187	3039	1.395	-7.001	-0.222	0.3233	94.4	98.0	54.8	95.9
188	3040	1.693	-7.139	-0.223	0.3253	93.9	97.9	55.0	95.4
189	3041	2.549	-7.197	-0.222	0.3288	93.9	97.9	54.2	95.6
190	3039	1.974	-6.654	-0.221	0.3229	93.9	97.9	55.5	95.5
191	3038	2.097	-6.914	-0.220	0.3213	94.0	97.9	56.4	95.4
192	3037	2.792	-7.072	-0.220	0.3191	94.0	98.1	55.8	95.6
193	3038	2.370	-7.289	-0.221	0.3238	94.0	98.2	54.9	95.3
194	3036	2.377	-7.386	-0.219	0.3219	94.3	98.3	56.9	95.5
195	3032	2.668	-6.978	-0.218	0.3176	94.3	98.4	55.6	95.6
196	3035	3.238	-7.363	-0.217	0.3195	94.2	98.4	55.4	95.5
197	3038	2.528	-7.418	-0.216	0.3185	93.8	98.5	56.4	95.5
198	3033	2.822	-7.389	-0.214	0.3153	94.4	98.6	57.4	95.7
199	3036	1.976	-6.812	-0.215	0.3001	94.5	98.5	56.7	95.7
200	3040	3.327	-6.827	-0.215	0.3080	94.3	98.4	56.6	95.5
201	3043	3.608	-6.232	-0.214	0.2972	93.9	98.3	55.8	95.4
202	3041	3.789	-5.829	-0.210	0.2742	94.1	98.3	57.9	95.4
203	3040	4.020	-5.718	-0.207	0.2815	94.1	98.3	57.8	95.2
204	3041	4.326	-5.567	-0.206	0.2693	93.9	98.8	57.1	95.4
205	3041	4.400	-5.412	-0.201	0.2589	94.0	98.9	58.7	95.2
206	3037	4.525	-5.276	-0.202	0.2538	94.4	98.9	58.9	95.4
207	3039	4.646	-5.158	-0.200	0.2511	94.7	98.8	58.8	95.4
208	3037	4.253	-4.973	-0.200	0.2480	94.8	98.9	58.0	95.4
209	3040	4.428	-4.823	-0.197	0.2174	95.2	98.8	60.2	95.4
210	3040	4.105	-4.681	-0.198	0.2070	95.3	98.7	60.9	95.5
211	3041	4.798	-4.181	-0.193	0.2228	95.2	98.8	60.6	95.4
212	3040	5.012	-4.029	-0.195	0.2086	95.6	98.8	62.1	95.4
213	3037	5.283	-3.216	-0.190	0.2154	96.2	98.7	63.7	95.9
214	3031	5.091	-2.986	-0.192	0.1981	96.4	98.6	62.9	95.9
215	3026	3.776	-2.767	-0.196	0.1531	96.1	98.7	62.0	96.2
216	3023	5.115	-2.137	-0.193	0.1708	96.5	98.6	61.7	96.5
217	3024	5.332	-2.035	-0.189	0.1933	96.5	98.4	63.0	96.7
218	3035	5.583	-2.016	-0.186	0.2213	96.2	98.3	62.4	96.9
219	3033	5.286	-1.996	-0.187	0.2055	96.3	98.4	62.6	97.0
220	3028	4.978	-2.551	-0.186	0.1960	96.4	98.3	64.8	96.9
221	3031	5.766	-2.585	-0.185	0.2329	96.2	98.4	64.6	97.1
222	3033	5.512	-2.712	-0.187	0.2244	95.9	98.2	64.9	97.1
223	3032	3.984	-2.911	-0.193	0.1923	96.0	98.1	64.2	97.0
224	3034	5.266	-2.961	-0.190	0.2282	95.8	98.1	65.3	97.1
225	3031	4.507	-3.030	-0.192	0.2258	95.7	98.2	65.2	97.1
226	3030	4.783	-2.988	-0.194	0.2291	95.7	98.3	65.0	97.3
227	3034	4.960	-2.817	-0.192	0.2486	95.6	98.4	64.9	97.2
228	3032	5.306	-2.723	-0.185	0.2497	95.6	98.3	67.0	97.2
229	3032	4.629	-2.919	-0.184	0.2283	95.3	98.4	66.4	97.1
230	3033	4.112	-2.628	-0.182	0.2090	95.5	98.5	66.2	97.4
231	3033	4.404	-2.656	-0.184	0.1942	95.6	98.5	66.4	97.4
232	3029	2.975	-2.721	-0.180	0.1642	95.9	98.7	67.8	97.6
233	3026	2.807	-2.485	-0.177	0.1418	95.9	98.9	68.0	97.8
234	3026	3.045	-2.301	-0.174	0.1443	95.9	98.9	68.5	97.4
235	3022	3.323	-2.452	-0.172	0.1422	95.8	99.0	69.0	97.3
236	3024	3.530	-2.407	-0.171	0.1448	95.7	99.1	69.2	97.3
237	3018	3.771	-2.292	-0.169	0.1376	96.0	99.1	70.8	97.7
238	3018	4.021	-2.111	-0.168	0.1401	95.5	99.2	69.7	97.2
239	3002	4.229	-1.924	-0.160	0.1422	96.0	99.5	71.5	97.4
240	2989	4.466	-1.752	-0.156	0.1771	95.0	99.4	70.6	97.1

Classification report 1 of 3

IHO statistics a/b are : 0.250 0.008

User#	Total	# fail	% fail	# pass	% pass
1	3014	284	9.42	2730	90.58
2	3020	255	8.44	2765	91.56
3	3028	236	7.79	2792	92.21
4	3031	234	7.72	2797	92.28
5	3043	222	7.30	2821	92.70
6	3047	204	6.70	2843	93.30
7	3041	207	6.81	2834	93.19
8	3044	208	6.83	2836	93.17
9	3047	215	7.06	2832	92.94
10	3044	244	8.02	2800	91.98
11	3050	264	8.66	2786	91.34
12	3049	248	8.13	2801	91.87
13	3043	242	7.95	2801	92.05
14	3038	247	8.13	2791	91.87
15	3047	246	8.07	2801	91.93
16	3050	239	7.84	2811	92.16
17	3045	241	7.91	2804	92.09
18	3044	243	7.98	2801	92.02
19	3051	247	8.10	2804	91.90
20	3053	247	8.09	2806	91.91
21	3048	251	8.23	2797	91.77
22	3053	265	8.68	2788	91.32
23	3054	261	8.55	2793	91.45
24	3048	254	8.33	2794	91.67
25	3055	258	8.45	2797	91.55
26	3049	251	8.23	2798	91.77
27	3049	244	8.00	2805	92.00
28	3049	243	7.97	2806	92.03
29	3047	238	7.81	2809	92.19
30	3045	222	7.29	2823	92.71
31	3046	213	6.99	2833	93.01
32	3046	212	6.96	2834	93.04
33	3046	203	6.66	2843	93.34
34	3047	198	6.50	2849	93.50
35	3047	192	6.30	2855	93.70
36	3042	195	6.41	2847	93.59
37	3042	207	6.80	2835	93.20
38	3045	193	6.34	2852	93.66
39	3043	198	6.51	2845	93.49
40	3047	210	6.89	2837	93.11
41	3045	200	6.57	2845	93.43
42	3049	205	6.72	2844	93.28
43	3050	204	6.69	2846	93.31
44	3051	217	7.11	2834	92.89
45	3048	212	6.96	2836	93.04
46	3048	201	6.59	2847	93.41
47	3048	198	6.50	2850	93.50
48	3048	201	6.59	2847	93.41
49	3049	193	6.33	2856	93.67
50	3050	198	6.49	2852	93.51
51	3046	190	6.24	2856	93.76
52	3048	196	6.43	2852	93.57
53	3052	196	6.42	2856	93.58
54	3050	187	6.13	2863	93.87
55	3055	185	6.06	2870	93.94
56	3052	192	6.29	2860	93.71
57	3053	188	6.16	2865	93.84
58	3048	170	5.58	2878	94.42
59	3052	181	5.93	2871	94.07

60	3049	193	6.33	2856	93.67
61	3047	183	6.01	2864	93.99
62	3046	183	6.01	2863	93.99
63	3050	178	5.84	2872	94.16
64	3053	195	6.39	2858	93.61
65	3051	186	6.10	2865	93.90
66	3051	184	6.03	2867	93.97
67	3049	180	5.90	2869	94.10
68	3046	185	6.07	2861	93.93
69	3047	190	6.24	2857	93.76
70	3050	194	6.36	2856	93.64
71	3051	196	6.42	2855	93.58
72	3053	186	6.09	2867	93.91
73	3054	202	6.61	2852	93.39
74	3054	199	6.52	2855	93.48
75	3054	194	6.35	2860	93.65
76	3053	190	6.22	2863	93.78
77	3054	197	6.45	2857	93.55
78	3051	201	6.59	2850	93.41
79	3052	202	6.62	2850	93.38
80	3049	195	6.40	2854	93.60
81	3049	182	5.97	2867	94.03
82	3051	186	6.10	2865	93.90
83	3051	179	5.87	2872	94.13
84	3052	158	5.18	2894	94.82
85	3049	167	5.48	2882	94.52
86	3051	158	5.18	2893	94.82
87	3051	153	5.01	2898	94.99
88	3050	139	4.56	2911	95.44
89	3048	138	4.53	2910	95.47
90	3047	136	4.46	2911	95.54
91	3050	119	3.90	2931	96.10
92	3048	124	4.07	2924	95.93
93	3048	125	4.10	2923	95.90
94	3046	115	3.78	2931	96.22
95	3043	112	3.68	2931	96.32
96	3046	109	3.58	2937	96.42
97	3047	108	3.54	2939	96.46
98	3055	106	3.47	2949	96.53
99	3052	106	3.47	2946	96.53
100	3050	105	3.44	2945	96.56
101	3046	115	3.78	2931	96.22
102	3044	116	3.81	2928	96.19
103	3042	116	3.81	2926	96.19
104	3047	106	3.48	2941	96.52
105	3044	101	3.32	2943	96.68
106	3044	129	4.24	2915	95.76
107	3042	110	3.62	2932	96.38
108	3046	121	3.97	2925	96.03
109	3043	123	4.04	2920	95.96
110	3039	127	4.18	2912	95.82
111	3038	122	4.02	2916	95.98
112	3041	133	4.37	2908	95.63
113	3047	126	4.14	2921	95.86
114	3042	125	4.11	2917	95.89
115	3045	131	4.30	2914	95.70
116	3041	123	4.04	2918	95.96
117	3039	125	4.11	2914	95.89
118	3034	128	4.22	2906	95.78
119	3037	131	4.31	2906	95.69
120	3032	136	4.49	2896	95.51
121	3034	134	4.42	2900	95.58
122	3031	147	4.85	2884	95.15
123	3034	122	4.02	2912	95.98
124	3032	129	4.25	2903	95.75

125	3034	140	4.61	2894	95.39
126	3031	122	4.03	2909	95.97
127	3035	127	4.18	2908	95.82
128	3041	125	4.11	2916	95.89
129	3035	127	4.18	2908	95.82
130	3034	124	4.09	2910	95.91
131	3031	121	3.99	2910	96.01
132	3031	134	4.42	2897	95.58
133	3033	137	4.52	2896	95.48
134	3031	128	4.22	2903	95.78
135	3032	136	4.49	2896	95.51
136	3033	136	4.48	2897	95.52
137	3032	131	4.32	2901	95.68
138	3031	131	4.32	2900	95.68
139	3032	136	4.49	2896	95.51
140	3032	135	4.45	2897	95.55
141	3035	136	4.48	2899	95.52
142	3031	130	4.29	2901	95.71
143	3030	129	4.26	2901	95.74
144	3033	131	4.32	2902	95.68
145	3030	122	4.03	2908	95.97
146	3029	120	3.96	2909	96.04
147	3033	123	4.06	2910	95.94
148	3036	124	4.08	2912	95.92
149	3034	113	3.72	2921	96.28
150	3033	131	4.32	2902	95.68
151	3029	129	4.26	2900	95.74
152	3027	123	4.06	2904	95.94
153	3026	128	4.23	2898	95.77
154	3029	124	4.09	2905	95.91
155	3030	144	4.75	2886	95.25
156	3036	150	4.94	2886	95.06
157	3035	152	5.01	2883	94.99
158	3032	160	5.28	2872	94.72
159	3030	162	5.35	2868	94.65
160	3034	156	5.14	2878	94.86
161	3036	167	5.50	2869	94.50
162	3036	168	5.53	2868	94.47
163	3034	177	5.83	2857	94.17
164	3036	180	5.93	2856	94.07
165	3036	179	5.90	2857	94.10
166	3029	175	5.78	2854	94.22
167	3032	184	6.07	2848	93.93
168	3031	181	5.97	2850	94.03
169	3029	184	6.07	2845	93.93
170	3032	192	6.33	2840	93.67
171	3032	195	6.43	2837	93.57
172	3028	201	6.64	2827	93.36
173	3029	199	6.57	2830	93.43
174	3037	213	7.01	2824	92.99
175	3032	201	6.63	2831	93.37
176	3035	206	6.79	2829	93.21
177	3032	192	6.33	2840	93.67
178	3032	187	6.17	2845	93.83
179	3034	179	5.90	2855	94.10
180	3028	195	6.44	2833	93.56
181	3032	196	6.46	2836	93.54
182	3033	199	6.56	2834	93.44
183	3035	189	6.23	2846	93.77
184	3040	187	6.15	2853	93.85
185	3037	184	6.06	2853	93.94
186	3040	191	6.28	2849	93.72
187	3039	184	6.05	2855	93.95
188	3040	191	6.28	2849	93.72
189	3041	185	6.08	2856	93.92

190	3039	185	6.09	2854	93.91
191	3038	193	6.35	2845	93.65
192	3037	201	6.62	2836	93.38
193	3038	197	6.48	2841	93.52
194	3036	187	6.16	2849	93.84
195	3032	187	6.17	2845	93.83
196	3035	196	6.46	2839	93.54
197	3038	197	6.48	2841	93.52
198	3033	188	6.20	2845	93.80
199	3036	172	5.67	2864	94.33
200	3040	188	6.18	2852	93.82
201	3043	187	6.15	2856	93.85
202	3041	192	6.31	2849	93.69
203	3040	192	6.32	2848	93.68
204	3041	192	6.31	2849	93.69
205	3041	185	6.08	2856	93.92
206	3037	182	5.99	2855	94.01
207	3039	171	5.63	2868	94.37
208	3037	176	5.80	2861	94.20
209	3040	150	4.93	2890	95.07
210	3040	153	5.03	2887	94.97
211	3041	160	5.26	2881	94.74
212	3040	153	5.03	2887	94.97
213	3037	143	4.71	2894	95.29
214	3031	135	4.45	2896	95.55
215	3026	137	4.53	2889	95.47
216	3023	119	3.94	2904	96.06
217	3024	105	3.47	2919	96.53
218	3035	113	3.72	2922	96.28
219	3033	111	3.66	2922	96.34
220	3028	111	3.67	2917	96.33
221	3031	113	3.73	2918	96.27
222	3033	116	3.82	2917	96.18
223	3032	120	3.96	2912	96.04
224	3034	124	4.09	2910	95.91
225	3031	131	4.32	2900	95.68
226	3030	130	4.29	2900	95.71
227	3034	129	4.25	2905	95.75
228	3032	131	4.32	2901	95.68
229	3032	141	4.65	2891	95.35
230	3033	136	4.48	2897	95.52
231	3033	139	4.58	2894	95.42
232	3029	131	4.32	2898	95.68
233	3026	129	4.26	2897	95.74
234	3026	125	4.13	2901	95.87
235	3022	136	4.50	2886	95.50
236	3024	130	4.30	2894	95.70
237	3018	125	4.14	2893	95.86
238	3018	135	4.47	2883	95.53
239	3002	130	4.33	2872	95.67
240	2989	157	5.25	2832	94.75

Classification report 2 of 3

IHO statistics a/b are : 0.500 0.013

User#	Total	# fail	% fail	# pass	% pass
1	3014	107	3.55	2907	96.45
2	3020	105	3.48	2915	96.52
3	3028	102	3.37	2926	96.63
4	3031	99	3.27	2932	96.73
5	3043	91	2.99	2952	97.01
6	3047	82	2.69	2965	97.31
7	3041	82	2.70	2959	97.30
8	3044	82	2.69	2962	97.31
9	3047	84	2.76	2963	97.24
10	3044	85	2.79	2959	97.21
11	3050	89	2.92	2961	97.08
12	3049	90	2.95	2959	97.05
13	3043	88	2.89	2955	97.11
14	3038	91	3.00	2947	97.00
15	3047	94	3.09	2953	96.91
16	3050	95	3.11	2955	96.89
17	3045	91	2.99	2954	97.01
18	3044	88	2.89	2956	97.11
19	3051	85	2.79	2966	97.21
20	3053	88	2.88	2965	97.12
21	3048	89	2.92	2959	97.08
22	3053	92	3.01	2961	96.99
23	3054	98	3.21	2956	96.79
24	3048	89	2.92	2959	97.08
25	3055	89	2.91	2966	97.09
26	3049	84	2.76	2965	97.24
27	3049	84	2.76	2965	97.24
28	3049	87	2.85	2962	97.15
29	3047	86	2.82	2961	97.18
30	3045	84	2.76	2961	97.24
31	3046	87	2.86	2959	97.14
32	3046	94	3.09	2952	96.91
33	3046	99	3.25	2947	96.75
34	3047	101	3.31	2946	96.69
35	3047	97	3.18	2950	96.82
36	3042	100	3.29	2942	96.71
37	3042	92	3.02	2950	96.98
38	3045	87	2.86	2958	97.14
39	3043	81	2.66	2962	97.34
40	3047	91	2.99	2956	97.01
41	3045	89	2.92	2956	97.08
42	3049	92	3.02	2957	96.98
43	3050	88	2.89	2962	97.11
44	3051	87	2.85	2964	97.15
45	3048	87	2.85	2961	97.15
46	3048	81	2.66	2967	97.34
47	3048	86	2.82	2962	97.18
48	3048	82	2.69	2966	97.31
49	3049	86	2.82	2963	97.18
50	3050	78	2.56	2972	97.44
51	3046	81	2.66	2965	97.34
52	3048	81	2.66	2967	97.34
53	3052	87	2.85	2965	97.15
54	3050	84	2.75	2966	97.25
55	3055	77	2.52	2978	97.48
56	3052	74	2.42	2978	97.58
57	3053	73	2.39	2980	97.61
58	3048	73	2.40	2975	97.60
59	3052	70	2.29	2982	97.71

60	3049	66	2.16	2983	97.84
61	3047	64	2.10	2983	97.90
62	3046	65	2.13	2981	97.87
63	3050	63	2.07	2987	97.93
64	3053	65	2.13	2988	97.87
65	3051	65	2.13	2986	97.87
66	3051	70	2.29	2981	97.71
67	3049	68	2.23	2981	97.77
68	3046	69	2.27	2977	97.73
69	3047	70	2.30	2977	97.70
70	3050	69	2.26	2981	97.74
71	3051	70	2.29	2981	97.71
72	3053	73	2.39	2980	97.61
73	3054	76	2.49	2978	97.51
74	3054	76	2.49	2978	97.51
75	3054	74	2.42	2980	97.58
76	3053	72	2.36	2981	97.64
77	3054	70	2.29	2984	97.71
78	3051	70	2.29	2981	97.71
79	3052	71	2.33	2981	97.67
80	3049	68	2.23	2981	97.77
81	3049	68	2.23	2981	97.77
82	3051	72	2.36	2979	97.64
83	3051	67	2.20	2984	97.80
84	3052	68	2.23	2984	97.77
85	3049	69	2.26	2980	97.74
86	3051	67	2.20	2984	97.80
87	3051	64	2.10	2987	97.90
88	3050	66	2.16	2984	97.84
89	3048	66	2.17	2982	97.83
90	3047	65	2.13	2982	97.87
91	3050	62	2.03	2988	97.97
92	3048	62	2.03	2986	97.97
93	3048	57	1.87	2991	98.13
94	3046	52	1.71	2994	98.29
95	3043	48	1.58	2995	98.42
96	3046	46	1.51	3000	98.49
97	3047	51	1.67	2996	98.33
98	3055	52	1.70	3003	98.30
99	3052	51	1.67	3001	98.33
100	3050	52	1.70	2998	98.30
101	3046	47	1.54	2999	98.46
102	3044	46	1.51	2998	98.49
103	3042	48	1.58	2994	98.42
104	3047	46	1.51	3001	98.49
105	3044	40	1.31	3004	98.69
106	3044	41	1.35	3003	98.65
107	3042	41	1.35	3001	98.65
108	3046	44	1.44	3002	98.56
109	3043	42	1.38	3001	98.62
110	3039	42	1.38	2997	98.62
111	3038	41	1.35	2997	98.65
112	3041	42	1.38	2999	98.62
113	3047	39	1.28	3008	98.72
114	3042	36	1.18	3006	98.82
115	3045	41	1.35	3004	98.65
116	3041	36	1.18	3005	98.82
117	3039	35	1.15	3004	98.85
118	3034	29	0.96	3005	99.04
119	3037	29	0.95	3008	99.05
120	3032	27	0.89	3005	99.11
121	3034	29	0.96	3005	99.04
122	3031	27	0.89	3004	99.11
123	3034	30	0.99	3004	99.01
124	3032	27	0.89	3005	99.11

125	3034	30	0.99	3004	99.01
126	3031	27	0.89	3004	99.11
127	3035	26	0.86	3009	99.14
128	3041	28	0.92	3013	99.08
129	3035	24	0.79	3011	99.21
130	3034	24	0.79	3010	99.21
131	3031	25	0.82	3006	99.18
132	3031	25	0.82	3006	99.18
133	3033	28	0.92	3005	99.08
134	3031	24	0.79	3007	99.21
135	3032	25	0.82	3007	99.18
136	3033	26	0.86	3007	99.14
137	3032	25	0.82	3007	99.18
138	3031	25	0.82	3006	99.18
139	3032	26	0.86	3006	99.14
140	3032	25	0.82	3007	99.18
141	3035	24	0.79	3011	99.21
142	3031	24	0.79	3007	99.21
143	3030	23	0.76	3007	99.24
144	3033	24	0.79	3009	99.21
145	3030	21	0.69	3009	99.31
146	3029	20	0.66	3009	99.34
147	3033	23	0.76	3010	99.24
148	3036	24	0.79	3012	99.21
149	3034	22	0.73	3012	99.27
150	3033	22	0.73	3011	99.27
151	3029	21	0.69	3008	99.31
152	3027	20	0.66	3007	99.34
153	3026	20	0.66	3006	99.34
154	3029	20	0.66	3009	99.34
155	3030	23	0.76	3007	99.24
156	3036	23	0.76	3013	99.24
157	3035	24	0.79	3011	99.21
158	3032	25	0.82	3007	99.18
159	3030	29	0.96	3001	99.04
160	3034	33	1.09	3001	98.91
161	3036	36	1.19	3000	98.81
162	3036	39	1.28	2997	98.72
163	3034	43	1.42	2991	98.58
164	3036	46	1.52	2990	98.48
165	3036	48	1.58	2988	98.42
166	3029	49	1.62	2980	98.38
167	3032	51	1.68	2981	98.32
168	3031	52	1.72	2979	98.28
169	3029	56	1.85	2973	98.15
170	3032	55	1.81	2977	98.19
171	3032	56	1.85	2976	98.15
172	3028	54	1.78	2974	98.22
173	3029	54	1.78	2975	98.22
174	3037	61	2.01	2976	97.99
175	3032	61	2.01	2971	97.99
176	3035	61	2.01	2974	97.99
177	3032	62	2.04	2970	97.96
178	3032	58	1.91	2974	98.09
179	3034	51	1.68	2983	98.32
180	3028	46	1.52	2982	98.48
181	3032	52	1.72	2980	98.28
182	3033	56	1.85	2977	98.15
183	3035	55	1.81	2980	98.19
184	3040	53	1.74	2987	98.26
185	3037	56	1.84	2981	98.16
186	3040	59	1.94	2981	98.06
187	3039	56	1.84	2983	98.16
188	3040	63	2.07	2977	97.93
189	3041	61	2.01	2980	97.99

190	3039	59	1.94	2980	98.06
191	3038	59	1.94	2979	98.06
192	3037	55	1.81	2982	98.19
193	3038	50	1.65	2988	98.35
194	3036	47	1.55	2989	98.45
195	3032	45	1.48	2987	98.52
196	3035	45	1.48	2990	98.52
197	3038	44	1.45	2994	98.55
198	3033	41	1.35	2992	98.65
199	3036	45	1.48	2991	98.52
200	3040	47	1.55	2993	98.45
201	3043	48	1.58	2995	98.42
202	3041	49	1.61	2992	98.39
203	3040	45	1.48	2995	98.52
204	3041	30	0.99	3011	99.01
205	3041	29	0.95	3012	99.05
206	3037	29	0.95	3008	99.05
207	3039	33	1.09	3006	98.91
208	3037	26	0.86	3011	99.14
209	3040	27	0.89	3013	99.11
210	3040	29	0.95	3011	99.05
211	3041	30	0.99	3011	99.01
212	3040	32	1.05	3008	98.95
213	3037	36	1.19	3001	98.81
214	3031	35	1.15	2996	98.85
215	3026	34	1.12	2992	98.88
216	3023	35	1.16	2988	98.84
217	3024	43	1.42	2981	98.58
218	3035	47	1.55	2988	98.45
219	3033	43	1.42	2990	98.58
220	3028	41	1.35	2987	98.65
221	3031	45	1.48	2986	98.52
222	3033	44	1.45	2989	98.55
223	3032	48	1.58	2984	98.42
224	3034	45	1.48	2989	98.52
225	3031	44	1.45	2987	98.55
226	3030	46	1.52	2984	98.48
227	3034	47	1.55	2987	98.45
228	3032	49	1.62	2983	98.38
229	3032	45	1.48	2987	98.52
230	3033	44	1.45	2989	98.55
231	3033	41	1.35	2992	98.65
232	3029	38	1.25	2991	98.75
233	3026	28	0.93	2998	99.07
234	3026	26	0.86	3000	99.14
235	3022	26	0.86	2996	99.14
236	3024	23	0.76	3001	99.24
237	3018	22	0.73	2996	99.27
238	3018	18	0.60	3000	99.40
239	3002	14	0.47	2988	99.53
240	2989	18	0.60	2971	99.40

Classification report 3 of 3

IHO statistics a/b are : 1.000 0.023

User#	Total	# fail	% fail	# pass	% pass
1	3014	86	2.85	2928	97.15
2	3020	83	2.75	2937	97.25
3	3028	81	2.68	2947	97.32
4	3031	76	2.51	2955	97.49
5	3043	72	2.37	2971	97.63
6	3047	68	2.23	2979	97.77
7	3041	64	2.10	2977	97.90
8	3044	59	1.94	2985	98.06
9	3047	60	1.97	2987	98.03
10	3044	58	1.91	2986	98.09
11	3050	65	2.13	2985	97.87
12	3049	66	2.16	2983	97.84
13	3043	64	2.10	2979	97.90
14	3038	61	2.01	2977	97.99
15	3047	64	2.10	2983	97.90
16	3050	57	1.87	2993	98.13
17	3045	57	1.87	2988	98.13
18	3044	55	1.81	2989	98.19
19	3051	46	1.51	3005	98.49
20	3053	50	1.64	3003	98.36
21	3048	51	1.67	2997	98.33
22	3053	49	1.60	3004	98.40
23	3054	51	1.67	3003	98.33
24	3048	51	1.67	2997	98.33
25	3055	50	1.64	3005	98.36
26	3049	50	1.64	2999	98.36
27	3049	48	1.57	3001	98.43
28	3049	43	1.41	3006	98.59
29	3047	45	1.48	3002	98.52
30	3045	43	1.41	3002	98.59
31	3046	45	1.48	3001	98.52
32	3046	44	1.44	3002	98.56
33	3046	47	1.54	2999	98.46
34	3047	47	1.54	3000	98.46
35	3047	42	1.38	3005	98.62
36	3042	42	1.38	3000	98.62
37	3042	43	1.41	2999	98.59
38	3045	44	1.44	3001	98.56
39	3043	44	1.45	2999	98.55
40	3047	45	1.48	3002	98.52
41	3045	46	1.51	2999	98.49
42	3049	47	1.54	3002	98.46
43	3050	48	1.57	3002	98.43
44	3051	52	1.70	2999	98.30
45	3048	52	1.71	2996	98.29
46	3048	58	1.90	2990	98.10
47	3048	58	1.90	2990	98.10
48	3048	57	1.87	2991	98.13
49	3049	58	1.90	2991	98.10
50	3050	58	1.90	2992	98.10
51	3046	56	1.84	2990	98.16
52	3048	50	1.64	2998	98.36
53	3052	52	1.70	3000	98.30
54	3050	55	1.80	2995	98.20
55	3055	50	1.64	3005	98.36
56	3052	49	1.61	3003	98.39
57	3053	44	1.44	3009	98.56
58	3048	44	1.44	3004	98.56
59	3052	47	1.54	3005	98.46

60	3049	46	1.51	3003	98.49
61	3047	49	1.61	2998	98.39
62	3046	50	1.64	2996	98.36
63	3050	50	1.64	3000	98.36
64	3053	50	1.64	3003	98.36
65	3051	53	1.74	2998	98.26
66	3051	54	1.77	2997	98.23
67	3049	53	1.74	2996	98.26
68	3046	56	1.84	2990	98.16
69	3047	58	1.90	2989	98.10
70	3050	57	1.87	2993	98.13
71	3051	59	1.93	2992	98.07
72	3053	58	1.90	2995	98.10
73	3054	59	1.93	2995	98.07
74	3054	58	1.90	2996	98.10
75	3054	57	1.87	2997	98.13
76	3053	58	1.90	2995	98.10
77	3054	56	1.83	2998	98.17
78	3051	57	1.87	2994	98.13
79	3052	58	1.90	2994	98.10
80	3049	55	1.80	2994	98.20
81	3049	54	1.77	2995	98.23
82	3051	54	1.77	2997	98.23
83	3051	50	1.64	3001	98.36
84	3052	50	1.64	3002	98.36
85	3049	49	1.61	3000	98.39
86	3051	48	1.57	3003	98.43
87	3051	47	1.54	3004	98.46
88	3050	45	1.48	3005	98.52
89	3048	43	1.41	3005	98.59
90	3047	42	1.38	3005	98.62
91	3050	40	1.31	3010	98.69
92	3048	43	1.41	3005	98.59
93	3048	44	1.44	3004	98.56
94	3046	43	1.41	3003	98.59
95	3043	42	1.38	3001	98.62
96	3046	41	1.35	3005	98.65
97	3047	42	1.38	3005	98.62
98	3055	46	1.51	3009	98.49
99	3052	44	1.44	3008	98.56
100	3050	43	1.41	3007	98.59
101	3046	41	1.35	3005	98.65
102	3044	41	1.35	3003	98.65
103	3042	39	1.28	3003	98.72
104	3047	39	1.28	3008	98.72
105	3044	35	1.15	3009	98.85
106	3044	36	1.18	3008	98.82
107	3042	34	1.12	3008	98.88
108	3046	34	1.12	3012	98.88
109	3043	33	1.08	3010	98.92
110	3039	33	1.09	3006	98.91
111	3038	31	1.02	3007	98.98
112	3041	29	0.95	3012	99.05
113	3047	28	0.92	3019	99.08
114	3042	26	0.85	3016	99.15
115	3045	26	0.85	3019	99.15
116	3041	25	0.82	3016	99.18
117	3039	23	0.76	3016	99.24
118	3034	21	0.69	3013	99.31
119	3037	24	0.79	3013	99.21
120	3032	23	0.76	3009	99.24
121	3034	26	0.86	3008	99.14
122	3031	23	0.76	3008	99.24
123	3034	26	0.86	3008	99.14
124	3032	25	0.82	3007	99.18

125	3034	25	0.82	3009	99.18
126	3031	25	0.82	3006	99.18
127	3035	23	0.76	3012	99.24
128	3041	25	0.82	3016	99.18
129	3035	22	0.72	3013	99.28
130	3034	21	0.69	3013	99.31
131	3031	21	0.69	3010	99.31
132	3031	22	0.73	3009	99.27
133	3033	25	0.82	3008	99.18
134	3031	21	0.69	3010	99.31
135	3032	21	0.69	3011	99.31
136	3033	21	0.69	3012	99.31
137	3032	21	0.69	3011	99.31
138	3031	20	0.66	3011	99.34
139	3032	22	0.73	3010	99.27
140	3032	21	0.69	3011	99.31
141	3035	19	0.63	3016	99.37
142	3031	19	0.63	3012	99.37
143	3030	19	0.63	3011	99.37
144	3033	20	0.66	3013	99.34
145	3030	19	0.63	3011	99.37
146	3029	18	0.59	3011	99.41
147	3033	21	0.69	3012	99.31
148	3036	21	0.69	3015	99.31
149	3034	20	0.66	3014	99.34
150	3033	21	0.69	3012	99.31
151	3029	20	0.66	3009	99.34
152	3027	17	0.56	3010	99.44
153	3026	17	0.56	3009	99.44
154	3029	18	0.59	3011	99.41
155	3030	18	0.59	3012	99.41
156	3036	21	0.69	3015	99.31
157	3035	22	0.72	3013	99.28
158	3032	23	0.76	3009	99.24
159	3030	22	0.73	3008	99.27
160	3034	24	0.79	3010	99.21
161	3036	23	0.76	3013	99.24
162	3036	19	0.63	3017	99.37
163	3034	19	0.63	3015	99.37
164	3036	21	0.69	3015	99.31
165	3036	23	0.76	3013	99.24
166	3029	23	0.76	3006	99.24
167	3032	30	0.99	3002	99.01
168	3031	36	1.19	2995	98.81
169	3029	38	1.25	2991	98.75
170	3032	39	1.29	2993	98.71
171	3032	41	1.35	2991	98.65
172	3028	41	1.35	2987	98.65
173	3029	45	1.49	2984	98.51
174	3037	50	1.65	2987	98.35
175	3032	50	1.65	2982	98.35
176	3035	52	1.71	2983	98.29
177	3032	52	1.72	2980	98.28
178	3032	44	1.45	2988	98.55
179	3034	38	1.25	2996	98.75
180	3028	32	1.06	2996	98.94
181	3032	34	1.12	2998	98.88
182	3033	31	1.02	3002	98.98
183	3035	33	1.09	3002	98.91
184	3040	31	1.02	3009	98.98
185	3037	30	0.99	3007	99.01
186	3040	35	1.15	3005	98.85
187	3039	37	1.22	3002	98.78
188	3040	43	1.41	2997	98.59
189	3041	43	1.41	2998	98.59

190	3039	42	1.38	2997	98.62
191	3038	37	1.22	3001	98.78
192	3037	37	1.22	3000	98.78
193	3038	35	1.15	3003	98.85
194	3036	32	1.05	3004	98.95
195	3032	26	0.86	3006	99.14
196	3035	26	0.86	3009	99.14
197	3038	28	0.92	3010	99.08
198	3033	26	0.86	3007	99.14
199	3036	28	0.92	3008	99.08
200	3040	25	0.82	3015	99.18
201	3043	24	0.79	3019	99.21
202	3041	19	0.62	3022	99.38
203	3040	18	0.59	3022	99.41
204	3041	19	0.62	3022	99.38
205	3041	18	0.59	3023	99.41
206	3037	17	0.56	3020	99.44
207	3039	17	0.56	3022	99.44
208	3037	15	0.49	3022	99.51
209	3040	13	0.43	3027	99.57
210	3040	13	0.43	3027	99.57
211	3041	15	0.49	3026	99.51
212	3040	15	0.49	3025	99.51
213	3037	14	0.46	3023	99.54
214	3031	13	0.43	3018	99.57
215	3026	14	0.46	3012	99.54
216	3023	15	0.50	3008	99.50
217	3024	17	0.56	3007	99.44
218	3035	17	0.56	3018	99.44
219	3033	18	0.59	3015	99.41
220	3028	22	0.73	3006	99.27
221	3031	24	0.79	3007	99.21
222	3033	27	0.89	3006	99.11
223	3032	26	0.86	3006	99.14
224	3034	26	0.86	3008	99.14
225	3031	27	0.89	3004	99.11
226	3030	30	0.99	3000	99.01
227	3034	34	1.12	3000	98.88
228	3032	32	1.06	3000	98.94
229	3032	28	0.92	3004	99.08
230	3033	25	0.82	3008	99.18
231	3033	25	0.82	3008	99.18
232	3029	18	0.59	3011	99.41
233	3026	12	0.40	3014	99.60
234	3026	11	0.36	3015	99.64
235	3022	10	0.33	3012	99.67
236	3024	8	0.26	3016	99.74
237	3018	6	0.20	3012	99.80
238	3018	5	0.17	3013	99.83
239	3002	5	0.17	2997	99.83
240	2989	7	0.23	2982	99.77

R4RE_2003 DN115

Quality Control Report for file : C:\Temp\2003_Patch_tests\R4RE_2\checkline

Surface lines: 003_2208

Checkline lines: 003_2219

Elevation Range is : -59.573(m) -46.323(m)

Total number of 3D points used: 204750

Starting Time: 25-APR-2003 22:19:12.00
Ending Time: 25-APR-2003 22:24:01.61

Minimum tidal reduction: 1279 (mm)
Maximum tidal reduction: 1335 (mm)

User#	Total	Max(+)	Max(-)	Mean	Std.	3dm(%)	5dm(%)	1%(%)	1.6%(%)
1	28	0.033	-0.857	-0.330	0.2286	53.6	78.6	78.6	96.4
2	69	0.489	-0.748	-0.258	0.2246	46.4	89.9	91.3	100.0
3	111	0.290	-0.937	-0.312	0.2477	48.6	76.6	77.5	97.3
4	159	0.524	-0.981	-0.267	0.2613	56.6	79.2	80.5	97.5
5	232	0.389	-1.072	-0.269	0.2122	55.6	87.1	87.5	99.6
6	344	0.446	-0.908	-0.257	0.2426	55.2	83.7	85.2	100.0
7	489	0.396	-0.965	-0.267	0.2133	57.3	86.9	88.3	99.6
8	623	0.389	-0.894	-0.283	0.2055	54.1	85.4	87.8	99.8
9	714	0.445	-1.081	-0.294	0.2061	49.2	84.9	88.4	99.7
10	779	0.338	-1.021	-0.278	0.1953	56.0	87.5	90.5	99.5
11	795	0.392	-1.174	-0.287	0.1848	55.6	89.1	91.2	99.7
12	804	0.332	-0.956	-0.287	0.1681	58.7	90.2	92.7	99.8
13	813	0.207	-0.946	-0.264	0.1585	63.7	92.9	95.3	99.9
14	824	0.175	-0.921	-0.267	0.1535	64.3	92.4	95.0	100.0
15	826	0.333	-0.800	-0.263	0.1519	66.0	93.2	95.2	100.0
16	842	0.320	-0.721	-0.247	0.1279	70.9	96.4	97.6	100.0
17	836	0.224	-0.842	-0.245	0.1343	72.7	95.0	96.8	100.0
18	851	0.170	-0.788	-0.243	0.1308	72.3	95.3	97.6	100.0
19	862	0.072	-0.650	-0.229	0.1187	76.8	96.4	99.0	100.0
20	873	0.141	-0.631	-0.226	0.1206	79.4	96.4	99.3	100.0
21	865	0.070	-0.723	-0.211	0.1170	80.9	96.9	99.4	100.0
22	877	0.065	-0.762	-0.203	0.1097	84.2	98.3	99.4	100.0
23	878	0.070	-0.607	-0.195	0.1049	87.1	98.5	99.9	100.0
24	876	0.074	-0.708	-0.194	0.1075	85.3	98.9	99.8	100.0
25	873	0.231	-0.732	-0.179	0.1102	87.7	98.5	99.4	100.0
26	878	0.101	-0.642	-0.169	0.0973	91.1	99.7	99.9	100.0
27	880	0.134	-0.500	-0.165	0.0923	91.4	100.0	100.0	100.0
28	880	0.222	-0.629	-0.158	0.0910	92.3	99.9	99.9	100.0
29	880	0.060	-0.636	-0.159	0.0924	91.6	99.8	99.9	100.0
30	883	0.060	-0.753	-0.148	0.0833	94.9	99.9	99.9	100.0
31	883	0.067	-0.450	-0.141	0.0808	95.1	100.0	100.0	100.0
32	884	0.063	-0.486	-0.135	0.0767	95.4	100.0	100.0	100.0
33	885	0.069	-0.454	-0.138	0.0792	94.8	100.0	100.0	100.0
34	885	0.070	-0.594	-0.130	0.0758	96.3	99.9	99.9	100.0
35	885	0.066	-0.450	-0.127	0.0743	95.9	100.0	100.0	100.0
36	884	0.041	-0.452	-0.123	0.0752	96.4	100.0	100.0	100.0
37	887	0.082	-0.446	-0.119	0.0731	96.6	100.0	100.0	100.0
38	888	0.035	-0.461	-0.115	0.0716	96.8	100.0	100.0	100.0
39	888	0.050	-0.419	-0.109	0.0719	97.3	100.0	100.0	100.0
40	888	0.043	-0.416	-0.113	0.0689	98.0	100.0	100.0	100.0
41	888	0.067	-0.452	-0.108	0.0701	97.4	100.0	100.0	100.0
42	889	0.071	-0.415	-0.103	0.0657	98.3	100.0	100.0	100.0
43	888	0.054	-0.426	-0.099	0.0654	98.9	100.0	100.0	100.0
44	889	0.047	-0.355	-0.099	0.0644	98.4	100.0	100.0	100.0
45	890	0.050	-0.404	-0.097	0.0631	98.7	100.0	100.0	100.0

46	890	0.089	-0.380	-0.092	0.0627	99.2	100.0	100.0	100.0
47	888	0.069	-0.360	-0.090	0.0593	99.2	100.0	100.0	100.0
48	890	0.050	-0.368	-0.093	0.0598	98.9	100.0	100.0	100.0
49	891	0.044	-0.398	-0.090	0.0600	98.9	100.0	100.0	100.0
50	890	0.048	-0.405	-0.088	0.0583	99.1	100.0	100.0	100.0
51	893	0.078	-0.399	-0.088	0.0595	99.1	100.0	100.0	100.0
52	894	0.056	-0.400	-0.088	0.0568	99.1	100.0	100.0	100.0
53	894	0.055	-0.376	-0.087	0.0568	99.3	100.0	100.0	100.0
54	894	0.087	-0.365	-0.088	0.0566	99.1	100.0	100.0	100.0
55	894	0.067	-0.302	-0.087	0.0526	99.9	100.0	100.0	100.0
56	896	0.062	-0.309	-0.088	0.0519	99.9	100.0	100.0	100.0
57	896	0.052	-0.350	-0.087	0.0514	99.6	100.0	100.0	100.0
58	895	0.061	-0.329	-0.089	0.0499	99.9	100.0	100.0	100.0
59	896	0.063	-0.324	-0.089	0.0512	99.9	100.0	100.0	100.0
60	896	0.064	-0.299	-0.088	0.0511	100.0	100.0	100.0	100.0
61	897	0.044	-0.274	-0.087	0.0494	100.0	100.0	100.0	100.0
62	897	0.089	-0.318	-0.084	0.0517	99.9	100.0	100.0	100.0
63	896	0.090	-0.281	-0.085	0.0521	100.0	100.0	100.0	100.0
64	900	0.070	-0.275	-0.083	0.0477	100.0	100.0	100.0	100.0
65	900	0.075	-0.344	-0.082	0.0489	99.9	100.0	100.0	100.0
66	900	0.066	-0.302	-0.080	0.0492	99.9	100.0	100.0	100.0
67	900	0.044	-0.303	-0.082	0.0470	99.9	100.0	100.0	100.0
68	900	0.036	-0.300	-0.079	0.0493	100.0	100.0	100.0	100.0
69	901	0.046	-0.318	-0.077	0.0477	99.7	100.0	100.0	100.0
70	901	0.066	-0.272	-0.076	0.0475	100.0	100.0	100.0	100.0
71	900	0.070	-0.329	-0.073	0.0494	99.8	100.0	100.0	100.0
72	901	0.084	-0.346	-0.074	0.0503	99.8	100.0	100.0	100.0
73	901	0.088	-0.350	-0.073	0.0520	99.6	100.0	100.0	100.0
74	902	0.071	-0.348	-0.071	0.0525	99.6	100.0	100.0	100.0
75	902	0.063	-0.323	-0.071	0.0509	99.3	100.0	100.0	100.0
76	902	0.071	-0.347	-0.070	0.0519	99.4	100.0	100.0	100.0
77	902	0.072	-0.346	-0.069	0.0539	99.6	100.0	100.0	100.0
78	902	0.069	-0.369	-0.072	0.0539	99.3	100.0	100.0	100.0
79	903	0.078	-0.396	-0.070	0.0573	99.2	100.0	100.0	100.0
80	903	0.109	-0.361	-0.068	0.0554	99.1	100.0	100.0	100.0
81	902	0.093	-0.385	-0.069	0.0566	99.1	100.0	100.0	100.0
82	903	0.083	-0.391	-0.065	0.0547	99.3	100.0	100.0	100.0
83	904	0.059	-0.348	-0.065	0.0540	99.1	100.0	100.0	100.0
84	904	0.089	-0.369	-0.064	0.0565	99.1	100.0	100.0	100.0
85	905	0.098	-0.337	-0.065	0.0538	99.6	100.0	100.0	100.0
86	905	0.061	-0.395	-0.063	0.0577	99.0	100.0	100.0	100.0
87	905	0.084	-0.351	-0.065	0.0565	99.1	100.0	100.0	100.0
88	905	0.115	-0.367	-0.062	0.0569	99.1	100.0	100.0	100.0
89	905	0.064	-0.358	-0.063	0.0561	99.3	100.0	100.0	100.0
90	905	0.088	-0.377	-0.062	0.0564	99.3	100.0	100.0	100.0
91	905	0.076	-0.354	-0.063	0.0561	99.1	100.0	100.0	100.0
92	905	0.068	-0.360	-0.059	0.0573	98.9	100.0	100.0	100.0
93	905	0.090	-0.349	-0.060	0.0569	99.7	100.0	100.0	100.0
94	905	0.092	-0.338	-0.058	0.0553	99.4	100.0	100.0	100.0
95	905	0.105	-0.376	-0.058	0.0562	99.8	100.0	100.0	100.0
96	905	0.071	-0.309	-0.058	0.0549	99.8	100.0	100.0	100.0
97	903	0.116	-0.305	-0.056	0.0556	99.7	100.0	100.0	100.0
98	904	0.074	-0.305	-0.053	0.0570	99.9	100.0	100.0	100.0
99	905	0.094	-0.324	-0.055	0.0577	99.7	100.0	100.0	100.0
100	905	0.068	-0.370	-0.056	0.0563	99.9	100.0	100.0	100.0
101	902	0.069	-0.398	-0.056	0.0570	99.7	100.0	100.0	100.0
102	904	0.096	-0.287	-0.053	0.0569	100.0	100.0	100.0	100.0
103	905	0.068	-0.341	-0.054	0.0579	99.9	100.0	100.0	100.0
104	905	0.093	-0.333	-0.054	0.0574	99.7	100.0	100.0	100.0
105	905	0.083	-0.320	-0.054	0.0584	99.7	100.0	100.0	100.0
106	904	0.082	-0.300	-0.053	0.0580	100.0	100.0	100.0	100.0
107	905	0.105	-0.311	-0.054	0.0595	99.9	100.0	100.0	100.0
108	904	0.082	-0.286	-0.055	0.0597	100.0	100.0	100.0	100.0
109	905	0.097	-0.291	-0.057	0.0621	100.0	100.0	100.0	100.0
110	902	0.067	-0.291	-0.056	0.0614	100.0	100.0	100.0	100.0

111	902	0.102	-0.378	-0.057	0.0646	99.4	100.0	100.0	100.0
112	902	0.092	-0.330	-0.059	0.0632	99.7	100.0	100.0	100.0
113	889	0.107	-0.374	-0.057	0.0643	99.6	100.0	100.0	100.0
114	899	0.083	-0.319	-0.057	0.0626	99.9	100.0	100.0	100.0
115	894	0.089	-0.385	-0.059	0.0660	99.6	100.0	100.0	100.0
116	898	0.102	-0.343	-0.056	0.0619	99.9	100.0	100.0	100.0
117	899	0.112	-0.317	-0.054	0.0660	99.8	100.0	100.0	100.0
118	903	0.107	-0.336	-0.054	0.0645	99.9	100.0	100.0	100.0
119	900	0.117	-0.449	-0.055	0.0660	99.3	100.0	100.0	100.0
120	896	0.130	-0.499	-0.055	0.0683	99.3	100.0	100.0	100.0
121	898	0.135	-0.335	-0.052	0.0622	99.8	100.0	100.0	100.0
122	899	0.129	-0.342	-0.053	0.0605	99.9	100.0	100.0	100.0
123	897	0.132	-0.293	-0.052	0.0606	100.0	100.0	100.0	100.0
124	898	0.125	-0.366	-0.054	0.0609	99.9	100.0	100.0	100.0
125	900	0.133	-0.289	-0.055	0.0598	100.0	100.0	100.0	100.0
126	900	0.133	-0.342	-0.054	0.0608	99.8	100.0	100.0	100.0
127	901	0.112	-0.307	-0.054	0.0590	99.9	100.0	100.0	100.0
128	903	0.113	-0.255	-0.052	0.0564	100.0	100.0	100.0	100.0
129	905	0.122	-0.332	-0.050	0.0566	99.9	100.0	100.0	100.0
130	903	0.116	-0.280	-0.049	0.0567	100.0	100.0	100.0	100.0
131	904	0.111	-0.255	-0.049	0.0551	100.0	100.0	100.0	100.0
132	905	0.126	-0.246	-0.051	0.0556	100.0	100.0	100.0	100.0
133	905	0.129	-0.274	-0.050	0.0548	100.0	100.0	100.0	100.0
134	904	0.158	-0.265	-0.047	0.0558	100.0	100.0	100.0	100.0
135	903	0.181	-0.286	-0.049	0.0559	100.0	100.0	100.0	100.0
136	905	0.143	-0.313	-0.047	0.0572	99.9	100.0	100.0	100.0
137	903	0.113	-0.259	-0.048	0.0563	100.0	100.0	100.0	100.0
138	905	0.137	-0.318	-0.048	0.0579	99.8	100.0	100.0	100.0
139	904	0.137	-0.279	-0.046	0.0576	100.0	100.0	100.0	100.0
140	904	0.140	-0.263	-0.047	0.0579	100.0	100.0	100.0	100.0
141	904	0.115	-0.276	-0.049	0.0583	100.0	100.0	100.0	100.0
142	904	0.126	-0.260	-0.047	0.0589	100.0	100.0	100.0	100.0
143	904	0.146	-0.271	-0.048	0.0580	100.0	100.0	100.0	100.0
144	905	0.140	-0.255	-0.050	0.0568	100.0	100.0	100.0	100.0
145	904	0.135	-0.255	-0.051	0.0580	100.0	100.0	100.0	100.0
146	905	0.120	-0.256	-0.050	0.0590	100.0	100.0	100.0	100.0
147	904	0.115	-0.250	-0.051	0.0567	100.0	100.0	100.0	100.0
148	905	0.134	-0.301	-0.052	0.0583	99.9	100.0	100.0	100.0
149	905	0.116	-0.229	-0.053	0.0581	100.0	100.0	100.0	100.0
150	905	0.148	-0.224	-0.053	0.0592	100.0	100.0	100.0	100.0
151	905	0.139	-0.243	-0.054	0.0593	100.0	100.0	100.0	100.0
152	905	0.135	-0.205	-0.057	0.0597	100.0	100.0	100.0	100.0
153	905	0.116	-0.247	-0.056	0.0579	100.0	100.0	100.0	100.0
154	903	0.148	-0.217	-0.056	0.0588	100.0	100.0	100.0	100.0
155	905	0.131	-0.248	-0.055	0.0616	100.0	100.0	100.0	100.0
156	905	0.196	-0.240	-0.058	0.0613	100.0	100.0	100.0	100.0
157	905	0.159	-0.253	-0.058	0.0609	100.0	100.0	100.0	100.0
158	905	0.155	-0.258	-0.060	0.0614	100.0	100.0	100.0	100.0
159	904	0.142	-0.247	-0.058	0.0620	100.0	100.0	100.0	100.0
160	905	0.133	-0.246	-0.058	0.0625	100.0	100.0	100.0	100.0
161	905	0.133	-0.329	-0.059	0.0642	99.9	100.0	100.0	100.0
162	904	0.128	-0.258	-0.062	0.0630	100.0	100.0	100.0	100.0
163	905	0.166	-0.282	-0.062	0.0657	100.0	100.0	100.0	100.0
164	905	0.145	-0.330	-0.063	0.0638	99.9	100.0	100.0	100.0
165	905	0.156	-0.330	-0.063	0.0673	99.7	100.0	100.0	100.0
166	903	0.174	-0.335	-0.062	0.0676	99.8	100.0	100.0	100.0
167	904	0.129	-0.332	-0.062	0.0682	99.8	100.0	100.0	100.0
168	905	0.138	-0.323	-0.064	0.0680	99.8	100.0	100.0	100.0
169	905	0.112	-0.385	-0.063	0.0701	99.4	100.0	100.0	100.0
170	905	0.155	-0.327	-0.065	0.0686	99.6	100.0	100.0	100.0
171	905	0.152	-0.340	-0.068	0.0684	99.8	100.0	100.0	100.0
172	904	0.121	-0.388	-0.067	0.0709	99.0	100.0	100.0	100.0
173	905	0.120	-0.413	-0.063	0.0690	99.8	100.0	100.0	100.0
174	905	0.132	-0.336	-0.066	0.0694	99.4	100.0	100.0	100.0
175	904	0.129	-0.335	-0.064	0.0716	99.3	100.0	100.0	100.0

176	905	0.135	-0.341	-0.064	0.0719	99.4	100.0	100.0	100.0
177	905	0.128	-0.316	-0.067	0.0729	99.4	100.0	100.0	100.0
178	905	0.128	-0.356	-0.068	0.0690	99.4	100.0	100.0	100.0
179	905	0.229	-0.317	-0.062	0.0734	99.6	100.0	100.0	100.0
180	903	0.131	-0.330	-0.065	0.0724	99.9	100.0	100.0	100.0
181	904	0.132	-0.315	-0.065	0.0693	99.9	100.0	100.0	100.0
182	904	0.120	-0.359	-0.067	0.0713	99.4	100.0	100.0	100.0
183	905	0.136	-0.312	-0.062	0.0702	99.8	100.0	100.0	100.0
184	903	0.136	-0.308	-0.063	0.0689	99.9	100.0	100.0	100.0
185	905	0.119	-0.329	-0.063	0.0703	99.7	100.0	100.0	100.0
186	903	0.121	-0.333	-0.063	0.0687	99.8	100.0	100.0	100.0
187	905	0.142	-0.389	-0.062	0.0688	99.4	100.0	100.0	100.0
188	905	0.155	-0.336	-0.061	0.0691	99.6	100.0	100.0	100.0
189	904	0.110	-0.343	-0.064	0.0709	99.1	100.0	100.0	100.0
190	904	0.172	-0.402	-0.060	0.0710	99.2	100.0	100.0	100.0
191	904	0.108	-0.385	-0.061	0.0695	99.2	100.0	100.0	100.0
192	903	0.130	-0.376	-0.061	0.0729	98.8	100.0	100.0	100.0
193	905	0.134	-0.391	-0.062	0.0719	98.9	100.0	100.0	100.0
194	905	0.136	-0.335	-0.059	0.0719	99.0	100.0	100.0	100.0
195	903	0.130	-0.347	-0.059	0.0713	99.0	100.0	100.0	100.0
196	904	0.105	-0.352	-0.061	0.0704	98.9	100.0	100.0	100.0
197	902	0.095	-0.369	-0.059	0.0720	98.7	100.0	100.0	100.0
198	903	0.115	-0.372	-0.056	0.0721	98.7	100.0	100.0	100.0
199	903	0.115	-0.374	-0.059	0.0740	98.0	100.0	100.0	100.0
200	902	0.118	-0.425	-0.058	0.0749	98.0	100.0	100.0	100.0
201	905	0.094	-0.412	-0.062	0.0756	98.0	100.0	100.0	100.0
202	903	0.133	-0.434	-0.057	0.0769	98.0	100.0	100.0	100.0
203	904	0.106	-0.447	-0.061	0.0787	98.1	100.0	100.0	100.0
204	905	0.100	-0.411	-0.060	0.0790	97.8	100.0	100.0	100.0
205	905	0.131	-0.417	-0.059	0.0795	97.7	100.0	100.0	100.0
206	904	0.145	-0.515	-0.059	0.0805	97.7	99.9	100.0	100.0
207	903	0.118	-0.442	-0.059	0.0797	97.7	100.0	100.0	100.0
208	903	0.093	-0.424	-0.063	0.0787	98.0	100.0	100.0	100.0
209	905	0.118	-0.450	-0.061	0.0807	97.7	100.0	100.0	100.0
210	903	0.115	-0.449	-0.064	0.0807	97.5	100.0	100.0	100.0
211	903	0.183	-0.469	-0.066	0.0830	97.1	100.0	100.0	100.0
212	902	0.108	-0.415	-0.067	0.0801	97.2	100.0	100.0	100.0
213	901	0.201	-0.446	-0.067	0.0858	97.6	100.0	100.0	100.0
214	900	0.172	-0.462	-0.065	0.0883	97.2	100.0	100.0	100.0
215	894	0.262	-0.611	-0.079	0.1038	95.5	99.6	99.8	100.0
216	903	0.204	-0.516	-0.083	0.0935	96.5	99.9	100.0	100.0
217	895	0.199	-0.512	-0.080	0.0935	96.4	99.8	100.0	100.0
218	893	0.281	-0.683	-0.092	0.1041	95.3	99.4	99.7	100.0
219	892	0.292	-0.670	-0.083	0.1039	95.7	99.7	99.8	100.0
220	892	0.238	-0.743	-0.089	0.1157	94.3	98.8	99.7	100.0
221	897	0.228	-0.690	-0.093	0.1107	94.9	99.1	99.4	100.0
222	888	0.283	-0.723	-0.092	0.1176	94.3	98.9	99.3	100.0
223	890	0.367	-0.890	-0.106	0.1269	93.1	98.8	99.1	99.9
224	881	0.332	-0.830	-0.107	0.1338	93.1	98.0	98.5	100.0
225	869	0.421	-0.903	-0.109	0.1487	91.3	97.7	98.2	99.8
226	875	0.542	-0.940	-0.113	0.1552	90.4	97.8	98.2	99.9
227	866	0.414	-0.751	-0.105	0.1492	90.0	98.2	98.8	100.0
228	847	0.542	-0.908	-0.087	0.1718	89.4	97.4	98.5	99.9
229	847	0.567	-0.900	-0.110	0.1807	86.3	96.6	97.8	99.9
230	837	0.709	-1.123	-0.116	0.1823	85.1	97.0	98.2	99.9
231	821	0.605	-1.005	-0.099	0.1976	84.5	97.0	97.4	99.8
232	779	0.795	-0.970	-0.084	0.2246	82.2	95.6	97.2	99.5
233	708	0.596	-1.431	-0.098	0.2310	79.0	95.5	96.9	99.7
234	621	0.801	-1.118	-0.072	0.2440	78.7	95.8	96.9	99.8
235	485	0.730	-0.730	-0.028	0.2476	76.7	94.8	95.9	100.0
236	366	0.886	-0.715	-0.011	0.2751	73.8	92.3	94.0	99.7
237	219	0.833	-0.585	-0.019	0.2635	73.5	95.9	96.8	100.0
238	141	0.622	-0.628	0.014	0.2642	69.5	96.5	95.7	100.0
239	78	0.870	-0.513	0.007	0.2958	67.9	93.6	93.6	100.0
240	49	0.423	-0.609	-0.010	0.2298	83.7	95.9	95.9	100.0

Classification report 1 of 3

IHO statistics a/b are : 0.250 0.008

User#	Total	# fail	% fail	# pass	% pass
1	28	7	25.00	21	75.00
2	69	10	14.49	59	85.51
3	111	30	27.03	81	72.97
4	159	41	25.79	118	74.21
5	232	42	18.10	190	81.90
6	344	72	20.93	272	79.07
7	489	88	18.00	401	82.00
8	623	122	19.58	501	80.42
9	714	135	18.91	579	81.09
10	779	133	17.07	646	82.93
11	795	113	14.21	682	85.79
12	804	109	13.56	695	86.44
13	813	85	10.46	728	89.54
14	824	75	9.10	749	90.90
15	826	77	9.32	749	90.68
16	842	37	4.39	805	95.61
17	836	46	5.50	790	94.50
18	851	44	5.17	807	94.83
19	862	32	3.71	830	96.29
20	873	33	3.78	840	96.22
21	865	29	3.35	836	96.65
22	877	17	1.94	860	98.06
23	878	14	1.59	864	98.41
24	876	12	1.37	864	98.63
25	873	14	1.60	859	98.40
26	878	3	0.34	875	99.66
27	880	1	0.11	879	99.89
28	880	1	0.11	879	99.89
29	880	2	0.23	878	99.77
30	883	1	0.11	882	99.89
31	883	0	0.00	883	100.00
32	884	0	0.00	884	100.00
33	885	0	0.00	885	100.00
34	885	1	0.11	884	99.89
35	885	0	0.00	885	100.00
36	884	0	0.00	884	100.00
37	887	0	0.00	887	100.00
38	888	0	0.00	888	100.00
39	888	0	0.00	888	100.00
40	888	0	0.00	888	100.00
41	888	0	0.00	888	100.00
42	889	0	0.00	889	100.00
43	888	0	0.00	888	100.00
44	889	0	0.00	889	100.00
45	890	0	0.00	890	100.00
46	890	0	0.00	890	100.00
47	888	0	0.00	888	100.00
48	890	0	0.00	890	100.00
49	891	0	0.00	891	100.00
50	890	0	0.00	890	100.00
51	893	0	0.00	893	100.00
52	894	0	0.00	894	100.00
53	894	0	0.00	894	100.00
54	894	0	0.00	894	100.00
55	894	0	0.00	894	100.00
56	896	0	0.00	896	100.00
57	896	0	0.00	896	100.00
58	895	0	0.00	895	100.00
59	896	0	0.00	896	100.00

60	896	0	0.00	896	100.00
61	897	0	0.00	897	100.00
62	897	0	0.00	897	100.00
63	896	0	0.00	896	100.00
64	900	0	0.00	900	100.00
65	900	0	0.00	900	100.00
66	900	0	0.00	900	100.00
67	900	0	0.00	900	100.00
68	900	0	0.00	900	100.00
69	901	0	0.00	901	100.00
70	901	0	0.00	901	100.00
71	900	0	0.00	900	100.00
72	901	0	0.00	901	100.00
73	901	0	0.00	901	100.00
74	902	0	0.00	902	100.00
75	902	0	0.00	902	100.00
76	902	0	0.00	902	100.00
77	902	0	0.00	902	100.00
78	902	0	0.00	902	100.00
79	903	0	0.00	903	100.00
80	903	0	0.00	903	100.00
81	902	0	0.00	902	100.00
82	903	0	0.00	903	100.00
83	904	0	0.00	904	100.00
84	904	0	0.00	904	100.00
85	905	0	0.00	905	100.00
86	905	0	0.00	905	100.00
87	905	0	0.00	905	100.00
88	905	0	0.00	905	100.00
89	905	0	0.00	905	100.00
90	905	0	0.00	905	100.00
91	905	0	0.00	905	100.00
92	905	0	0.00	905	100.00
93	905	0	0.00	905	100.00
94	905	0	0.00	905	100.00
95	905	0	0.00	905	100.00
96	905	0	0.00	905	100.00
97	903	0	0.00	903	100.00
98	904	0	0.00	904	100.00
99	905	0	0.00	905	100.00
100	905	0	0.00	905	100.00
101	902	0	0.00	902	100.00
102	904	0	0.00	904	100.00
103	905	0	0.00	905	100.00
104	905	0	0.00	905	100.00
105	905	0	0.00	905	100.00
106	904	0	0.00	904	100.00
107	905	0	0.00	905	100.00
108	904	0	0.00	904	100.00
109	905	0	0.00	905	100.00
110	902	0	0.00	902	100.00
111	902	0	0.00	902	100.00
112	902	0	0.00	902	100.00
113	889	0	0.00	889	100.00
114	899	0	0.00	899	100.00
115	894	0	0.00	894	100.00
116	898	0	0.00	898	100.00
117	899	0	0.00	899	100.00
118	903	0	0.00	903	100.00
119	900	0	0.00	900	100.00
120	896	1	0.11	895	99.89
121	898	0	0.00	898	100.00
122	899	0	0.00	899	100.00
123	897	0	0.00	897	100.00
124	898	0	0.00	898	100.00

125	900	0	0.00	900	100.00
126	900	0	0.00	900	100.00
127	901	0	0.00	901	100.00
128	903	0	0.00	903	100.00
129	905	0	0.00	905	100.00
130	903	0	0.00	903	100.00
131	904	0	0.00	904	100.00
132	905	0	0.00	905	100.00
133	905	0	0.00	905	100.00
134	904	0	0.00	904	100.00
135	903	0	0.00	903	100.00
136	905	0	0.00	905	100.00
137	903	0	0.00	903	100.00
138	905	0	0.00	905	100.00
139	904	0	0.00	904	100.00
140	904	0	0.00	904	100.00
141	904	0	0.00	904	100.00
142	904	0	0.00	904	100.00
143	904	0	0.00	904	100.00
144	905	0	0.00	905	100.00
145	904	0	0.00	904	100.00
146	905	0	0.00	905	100.00
147	904	0	0.00	904	100.00
148	905	0	0.00	905	100.00
149	905	0	0.00	905	100.00
150	905	0	0.00	905	100.00
151	905	0	0.00	905	100.00
152	905	0	0.00	905	100.00
153	905	0	0.00	905	100.00
154	903	0	0.00	903	100.00
155	905	0	0.00	905	100.00
156	905	0	0.00	905	100.00
157	905	0	0.00	905	100.00
158	905	0	0.00	905	100.00
159	904	0	0.00	904	100.00
160	905	0	0.00	905	100.00
161	905	0	0.00	905	100.00
162	904	0	0.00	904	100.00
163	905	0	0.00	905	100.00
164	905	0	0.00	905	100.00
165	905	0	0.00	905	100.00
166	903	0	0.00	903	100.00
167	904	0	0.00	904	100.00
168	905	0	0.00	905	100.00
169	905	0	0.00	905	100.00
170	905	0	0.00	905	100.00
171	905	0	0.00	905	100.00
172	904	0	0.00	904	100.00
173	905	0	0.00	905	100.00
174	905	0	0.00	905	100.00
175	904	0	0.00	904	100.00
176	905	0	0.00	905	100.00
177	905	0	0.00	905	100.00
178	905	0	0.00	905	100.00
179	905	0	0.00	905	100.00
180	903	0	0.00	903	100.00
181	904	0	0.00	904	100.00
182	904	0	0.00	904	100.00
183	905	0	0.00	905	100.00
184	903	0	0.00	903	100.00
185	905	0	0.00	905	100.00
186	903	0	0.00	903	100.00
187	905	0	0.00	905	100.00
188	905	0	0.00	905	100.00
189	904	0	0.00	904	100.00

190	904	0	0.00	904	100.00
191	904	0	0.00	904	100.00
192	903	0	0.00	903	100.00
193	905	0	0.00	905	100.00
194	905	0	0.00	905	100.00
195	903	0	0.00	903	100.00
196	904	0	0.00	904	100.00
197	902	0	0.00	902	100.00
198	903	0	0.00	903	100.00
199	903	0	0.00	903	100.00
200	902	0	0.00	902	100.00
201	905	0	0.00	905	100.00
202	903	0	0.00	903	100.00
203	904	0	0.00	904	100.00
204	905	0	0.00	905	100.00
205	905	0	0.00	905	100.00
206	904	1	0.11	903	99.89
207	903	0	0.00	903	100.00
208	903	0	0.00	903	100.00
209	905	0	0.00	905	100.00
210	903	0	0.00	903	100.00
211	903	0	0.00	903	100.00
212	902	0	0.00	902	100.00
213	901	0	0.00	901	100.00
214	900	0	0.00	900	100.00
215	894	5	0.56	889	99.44
216	903	6	0.66	897	99.34
217	895	3	0.34	892	99.66
218	893	5	0.56	888	99.44
219	892	6	0.67	886	99.33
220	892	12	1.35	880	98.65
221	897	9	1.00	888	99.00
222	888	13	1.46	875	98.54
223	890	17	1.91	873	98.09
224	881	18	2.04	863	97.96
225	869	27	3.11	842	96.89
226	875	24	2.74	851	97.26
227	866	19	2.19	847	97.81
228	847	26	3.07	821	96.93
229	847	34	4.01	813	95.99
230	837	32	3.82	805	96.18
231	821	28	3.41	793	96.59
232	779	43	5.52	736	94.48
233	708	39	5.51	669	94.49
234	621	37	5.96	584	94.04
235	485	39	8.04	446	91.96
236	366	33	9.02	333	90.98
237	219	21	9.59	198	90.41
238	141	8	5.67	133	94.33
239	78	8	10.26	70	89.74
240	49	2	4.08	47	95.92

Classification report 2 of 3

IHO statistics a/b are : 0.500 0.013

User#	Total	# fail	% fail	# pass	% pass
1	28	1	3.57	27	96.43
2	69	0	0.00	69	100.00
3	111	3	2.70	108	97.30
4	159	3	1.89	156	98.11
5	232	1	0.43	231	99.57
6	344	1	0.29	343	99.71
7	489	3	0.61	486	99.39
8	623	1	0.16	622	99.84
9	714	3	0.42	711	99.58
10	779	4	0.51	775	99.49
11	795	4	0.50	791	99.50
12	804	2	0.25	802	99.75
13	813	1	0.12	812	99.88
14	824	1	0.12	823	99.88
15	826	0	0.00	826	100.00
16	842	0	0.00	842	100.00
17	836	0	0.00	836	100.00
18	851	0	0.00	851	100.00
19	862	0	0.00	862	100.00
20	873	0	0.00	873	100.00
21	865	0	0.00	865	100.00
22	877	0	0.00	877	100.00
23	878	0	0.00	878	100.00
24	876	0	0.00	876	100.00
25	873	0	0.00	873	100.00
26	878	0	0.00	878	100.00
27	880	0	0.00	880	100.00
28	880	0	0.00	880	100.00
29	880	0	0.00	880	100.00
30	883	0	0.00	883	100.00
31	883	0	0.00	883	100.00
32	884	0	0.00	884	100.00
33	885	0	0.00	885	100.00
34	885	0	0.00	885	100.00
35	885	0	0.00	885	100.00
36	884	0	0.00	884	100.00
37	887	0	0.00	887	100.00
38	888	0	0.00	888	100.00
39	888	0	0.00	888	100.00
40	888	0	0.00	888	100.00
41	888	0	0.00	888	100.00
42	889	0	0.00	889	100.00
43	888	0	0.00	888	100.00
44	889	0	0.00	889	100.00
45	890	0	0.00	890	100.00
46	890	0	0.00	890	100.00
47	888	0	0.00	888	100.00
48	890	0	0.00	890	100.00
49	891	0	0.00	891	100.00
50	890	0	0.00	890	100.00
51	893	0	0.00	893	100.00
52	894	0	0.00	894	100.00
53	894	0	0.00	894	100.00
54	894	0	0.00	894	100.00
55	894	0	0.00	894	100.00
56	896	0	0.00	896	100.00
57	896	0	0.00	896	100.00
58	895	0	0.00	895	100.00
59	896	0	0.00	896	100.00

60	896	0	0.00	896	100.00
61	897	0	0.00	897	100.00
62	897	0	0.00	897	100.00
63	896	0	0.00	896	100.00
64	900	0	0.00	900	100.00
65	900	0	0.00	900	100.00
66	900	0	0.00	900	100.00
67	900	0	0.00	900	100.00
68	900	0	0.00	900	100.00
69	901	0	0.00	901	100.00
70	901	0	0.00	901	100.00
71	900	0	0.00	900	100.00
72	901	0	0.00	901	100.00
73	901	0	0.00	901	100.00
74	902	0	0.00	902	100.00
75	902	0	0.00	902	100.00
76	902	0	0.00	902	100.00
77	902	0	0.00	902	100.00
78	902	0	0.00	902	100.00
79	903	0	0.00	903	100.00
80	903	0	0.00	903	100.00
81	902	0	0.00	902	100.00
82	903	0	0.00	903	100.00
83	904	0	0.00	904	100.00
84	904	0	0.00	904	100.00
85	905	0	0.00	905	100.00
86	905	0	0.00	905	100.00
87	905	0	0.00	905	100.00
88	905	0	0.00	905	100.00
89	905	0	0.00	905	100.00
90	905	0	0.00	905	100.00
91	905	0	0.00	905	100.00
92	905	0	0.00	905	100.00
93	905	0	0.00	905	100.00
94	905	0	0.00	905	100.00
95	905	0	0.00	905	100.00
96	905	0	0.00	905	100.00
97	903	0	0.00	903	100.00
98	904	0	0.00	904	100.00
99	905	0	0.00	905	100.00
100	905	0	0.00	905	100.00
101	902	0	0.00	902	100.00
102	904	0	0.00	904	100.00
103	905	0	0.00	905	100.00
104	905	0	0.00	905	100.00
105	905	0	0.00	905	100.00
106	904	0	0.00	904	100.00
107	905	0	0.00	905	100.00
108	904	0	0.00	904	100.00
109	905	0	0.00	905	100.00
110	902	0	0.00	902	100.00
111	902	0	0.00	902	100.00
112	902	0	0.00	902	100.00
113	889	0	0.00	889	100.00
114	899	0	0.00	899	100.00
115	894	0	0.00	894	100.00
116	898	0	0.00	898	100.00
117	899	0	0.00	899	100.00
118	903	0	0.00	903	100.00
119	900	0	0.00	900	100.00
120	896	0	0.00	896	100.00
121	898	0	0.00	898	100.00
122	899	0	0.00	899	100.00
123	897	0	0.00	897	100.00
124	898	0	0.00	898	100.00

125	900	0	0.00	900	100.00
126	900	0	0.00	900	100.00
127	901	0	0.00	901	100.00
128	903	0	0.00	903	100.00
129	905	0	0.00	905	100.00
130	903	0	0.00	903	100.00
131	904	0	0.00	904	100.00
132	905	0	0.00	905	100.00
133	905	0	0.00	905	100.00
134	904	0	0.00	904	100.00
135	903	0	0.00	903	100.00
136	905	0	0.00	905	100.00
137	903	0	0.00	903	100.00
138	905	0	0.00	905	100.00
139	904	0	0.00	904	100.00
140	904	0	0.00	904	100.00
141	904	0	0.00	904	100.00
142	904	0	0.00	904	100.00
143	904	0	0.00	904	100.00
144	905	0	0.00	905	100.00
145	904	0	0.00	904	100.00
146	905	0	0.00	905	100.00
147	904	0	0.00	904	100.00
148	905	0	0.00	905	100.00
149	905	0	0.00	905	100.00
150	905	0	0.00	905	100.00
151	905	0	0.00	905	100.00
152	905	0	0.00	905	100.00
153	905	0	0.00	905	100.00
154	903	0	0.00	903	100.00
155	905	0	0.00	905	100.00
156	905	0	0.00	905	100.00
157	905	0	0.00	905	100.00
158	905	0	0.00	905	100.00
159	904	0	0.00	904	100.00
160	905	0	0.00	905	100.00
161	905	0	0.00	905	100.00
162	904	0	0.00	904	100.00
163	905	0	0.00	905	100.00
164	905	0	0.00	905	100.00
165	905	0	0.00	905	100.00
166	903	0	0.00	903	100.00
167	904	0	0.00	904	100.00
168	905	0	0.00	905	100.00
169	905	0	0.00	905	100.00
170	905	0	0.00	905	100.00
171	905	0	0.00	905	100.00
172	904	0	0.00	904	100.00
173	905	0	0.00	905	100.00
174	905	0	0.00	905	100.00
175	904	0	0.00	904	100.00
176	905	0	0.00	905	100.00
177	905	0	0.00	905	100.00
178	905	0	0.00	905	100.00
179	905	0	0.00	905	100.00
180	903	0	0.00	903	100.00
181	904	0	0.00	904	100.00
182	904	0	0.00	904	100.00
183	905	0	0.00	905	100.00
184	903	0	0.00	903	100.00
185	905	0	0.00	905	100.00
186	903	0	0.00	903	100.00
187	905	0	0.00	905	100.00
188	905	0	0.00	905	100.00
189	904	0	0.00	904	100.00

190	904	0	0.00	904	100.00
191	904	0	0.00	904	100.00
192	903	0	0.00	903	100.00
193	905	0	0.00	905	100.00
194	905	0	0.00	905	100.00
195	903	0	0.00	903	100.00
196	904	0	0.00	904	100.00
197	902	0	0.00	902	100.00
198	903	0	0.00	903	100.00
199	903	0	0.00	903	100.00
200	902	0	0.00	902	100.00
201	905	0	0.00	905	100.00
202	903	0	0.00	903	100.00
203	904	0	0.00	904	100.00
204	905	0	0.00	905	100.00
205	905	0	0.00	905	100.00
206	904	0	0.00	904	100.00
207	903	0	0.00	903	100.00
208	903	0	0.00	903	100.00
209	905	0	0.00	905	100.00
210	903	0	0.00	903	100.00
211	903	0	0.00	903	100.00
212	902	0	0.00	902	100.00
213	901	0	0.00	901	100.00
214	900	0	0.00	900	100.00
215	894	0	0.00	894	100.00
216	903	0	0.00	903	100.00
217	895	0	0.00	895	100.00
218	893	0	0.00	893	100.00
219	892	0	0.00	892	100.00
220	892	0	0.00	892	100.00
221	897	0	0.00	897	100.00
222	888	0	0.00	888	100.00
223	890	1	0.11	889	99.89
224	881	0	0.00	881	100.00
225	869	2	0.23	867	99.77
226	875	2	0.23	873	99.77
227	866	0	0.00	866	100.00
228	847	1	0.12	846	99.88
229	847	2	0.24	845	99.76
230	837	2	0.24	835	99.76
231	821	2	0.24	819	99.76
232	779	4	0.51	775	99.49
233	708	2	0.28	706	99.72
234	621	2	0.32	619	99.68
235	485	0	0.00	485	100.00
236	366	1	0.27	365	99.73
237	219	0	0.00	219	100.00
238	141	0	0.00	141	100.00
239	78	0	0.00	78	100.00
240	49	0	0.00	49	100.00

Classification report 3 of 3

IHO statistics a/b are : 1.000 0.023

User#	Total	# fail	% fail	# pass	% pass
1	28	0	0.00	28	100.00
2	69	0	0.00	69	100.00
3	111	0	0.00	111	100.00
4	159	0	0.00	159	100.00
5	232	0	0.00	232	100.00
6	344	0	0.00	344	100.00
7	489	0	0.00	489	100.00
8	623	0	0.00	623	100.00
9	714	0	0.00	714	100.00
10	779	0	0.00	779	100.00
11	795	0	0.00	795	100.00
12	804	0	0.00	804	100.00
13	813	0	0.00	813	100.00
14	824	0	0.00	824	100.00
15	826	0	0.00	826	100.00
16	842	0	0.00	842	100.00
17	836	0	0.00	836	100.00
18	851	0	0.00	851	100.00
19	862	0	0.00	862	100.00
20	873	0	0.00	873	100.00
21	865	0	0.00	865	100.00
22	877	0	0.00	877	100.00
23	878	0	0.00	878	100.00
24	876	0	0.00	876	100.00
25	873	0	0.00	873	100.00
26	878	0	0.00	878	100.00
27	880	0	0.00	880	100.00
28	880	0	0.00	880	100.00
29	880	0	0.00	880	100.00
30	883	0	0.00	883	100.00
31	883	0	0.00	883	100.00
32	884	0	0.00	884	100.00
33	885	0	0.00	885	100.00
34	885	0	0.00	885	100.00
35	885	0	0.00	885	100.00
36	884	0	0.00	884	100.00
37	887	0	0.00	887	100.00
38	888	0	0.00	888	100.00
39	888	0	0.00	888	100.00
40	888	0	0.00	888	100.00
41	888	0	0.00	888	100.00
42	889	0	0.00	889	100.00
43	888	0	0.00	888	100.00
44	889	0	0.00	889	100.00
45	890	0	0.00	890	100.00
46	890	0	0.00	890	100.00
47	888	0	0.00	888	100.00
48	890	0	0.00	890	100.00
49	891	0	0.00	891	100.00
50	890	0	0.00	890	100.00
51	893	0	0.00	893	100.00
52	894	0	0.00	894	100.00
53	894	0	0.00	894	100.00
54	894	0	0.00	894	100.00
55	894	0	0.00	894	100.00
56	896	0	0.00	896	100.00
57	896	0	0.00	896	100.00
58	895	0	0.00	895	100.00
59	896	0	0.00	896	100.00

60	896	0	0.00	896	100.00
61	897	0	0.00	897	100.00
62	897	0	0.00	897	100.00
63	896	0	0.00	896	100.00
64	900	0	0.00	900	100.00
65	900	0	0.00	900	100.00
66	900	0	0.00	900	100.00
67	900	0	0.00	900	100.00
68	900	0	0.00	900	100.00
69	901	0	0.00	901	100.00
70	901	0	0.00	901	100.00
71	900	0	0.00	900	100.00
72	901	0	0.00	901	100.00
73	901	0	0.00	901	100.00
74	902	0	0.00	902	100.00
75	902	0	0.00	902	100.00
76	902	0	0.00	902	100.00
77	902	0	0.00	902	100.00
78	902	0	0.00	902	100.00
79	903	0	0.00	903	100.00
80	903	0	0.00	903	100.00
81	902	0	0.00	902	100.00
82	903	0	0.00	903	100.00
83	904	0	0.00	904	100.00
84	904	0	0.00	904	100.00
85	905	0	0.00	905	100.00
86	905	0	0.00	905	100.00
87	905	0	0.00	905	100.00
88	905	0	0.00	905	100.00
89	905	0	0.00	905	100.00
90	905	0	0.00	905	100.00
91	905	0	0.00	905	100.00
92	905	0	0.00	905	100.00
93	905	0	0.00	905	100.00
94	905	0	0.00	905	100.00
95	905	0	0.00	905	100.00
96	905	0	0.00	905	100.00
97	903	0	0.00	903	100.00
98	904	0	0.00	904	100.00
99	905	0	0.00	905	100.00
100	905	0	0.00	905	100.00
101	902	0	0.00	902	100.00
102	904	0	0.00	904	100.00
103	905	0	0.00	905	100.00
104	905	0	0.00	905	100.00
105	905	0	0.00	905	100.00
106	904	0	0.00	904	100.00
107	905	0	0.00	905	100.00
108	904	0	0.00	904	100.00
109	905	0	0.00	905	100.00
110	902	0	0.00	902	100.00
111	902	0	0.00	902	100.00
112	902	0	0.00	902	100.00
113	889	0	0.00	889	100.00
114	899	0	0.00	899	100.00
115	894	0	0.00	894	100.00
116	898	0	0.00	898	100.00
117	899	0	0.00	899	100.00
118	903	0	0.00	903	100.00
119	900	0	0.00	900	100.00
120	896	0	0.00	896	100.00
121	898	0	0.00	898	100.00
122	899	0	0.00	899	100.00
123	897	0	0.00	897	100.00
124	898	0	0.00	898	100.00

125	900	0	0.00	900	100.00
126	900	0	0.00	900	100.00
127	901	0	0.00	901	100.00
128	903	0	0.00	903	100.00
129	905	0	0.00	905	100.00
130	903	0	0.00	903	100.00
131	904	0	0.00	904	100.00
132	905	0	0.00	905	100.00
133	905	0	0.00	905	100.00
134	904	0	0.00	904	100.00
135	903	0	0.00	903	100.00
136	905	0	0.00	905	100.00
137	903	0	0.00	903	100.00
138	905	0	0.00	905	100.00
139	904	0	0.00	904	100.00
140	904	0	0.00	904	100.00
141	904	0	0.00	904	100.00
142	904	0	0.00	904	100.00
143	904	0	0.00	904	100.00
144	905	0	0.00	905	100.00
145	904	0	0.00	904	100.00
146	905	0	0.00	905	100.00
147	904	0	0.00	904	100.00
148	905	0	0.00	905	100.00
149	905	0	0.00	905	100.00
150	905	0	0.00	905	100.00
151	905	0	0.00	905	100.00
152	905	0	0.00	905	100.00
153	905	0	0.00	905	100.00
154	903	0	0.00	903	100.00
155	905	0	0.00	905	100.00
156	905	0	0.00	905	100.00
157	905	0	0.00	905	100.00
158	905	0	0.00	905	100.00
159	904	0	0.00	904	100.00
160	905	0	0.00	905	100.00
161	905	0	0.00	905	100.00
162	904	0	0.00	904	100.00
163	905	0	0.00	905	100.00
164	905	0	0.00	905	100.00
165	905	0	0.00	905	100.00
166	903	0	0.00	903	100.00
167	904	0	0.00	904	100.00
168	905	0	0.00	905	100.00
169	905	0	0.00	905	100.00
170	905	0	0.00	905	100.00
171	905	0	0.00	905	100.00
172	904	0	0.00	904	100.00
173	905	0	0.00	905	100.00
174	905	0	0.00	905	100.00
175	904	0	0.00	904	100.00
176	905	0	0.00	905	100.00
177	905	0	0.00	905	100.00
178	905	0	0.00	905	100.00
179	905	0	0.00	905	100.00
180	903	0	0.00	903	100.00
181	904	0	0.00	904	100.00
182	904	0	0.00	904	100.00
183	905	0	0.00	905	100.00
184	903	0	0.00	903	100.00
185	905	0	0.00	905	100.00
186	903	0	0.00	903	100.00
187	905	0	0.00	905	100.00
188	905	0	0.00	905	100.00
189	904	0	0.00	904	100.00

190	904	0	0.00	904	100.00
191	904	0	0.00	904	100.00
192	903	0	0.00	903	100.00
193	905	0	0.00	905	100.00
194	905	0	0.00	905	100.00
195	903	0	0.00	903	100.00
196	904	0	0.00	904	100.00
197	902	0	0.00	902	100.00
198	903	0	0.00	903	100.00
199	903	0	0.00	903	100.00
200	902	0	0.00	902	100.00
201	905	0	0.00	905	100.00
202	903	0	0.00	903	100.00
203	904	0	0.00	904	100.00
204	905	0	0.00	905	100.00
205	905	0	0.00	905	100.00
206	904	0	0.00	904	100.00
207	903	0	0.00	903	100.00
208	903	0	0.00	903	100.00
209	905	0	0.00	905	100.00
210	903	0	0.00	903	100.00
211	903	0	0.00	903	100.00
212	902	0	0.00	902	100.00
213	901	0	0.00	901	100.00
214	900	0	0.00	900	100.00
215	894	0	0.00	894	100.00
216	903	0	0.00	903	100.00
217	895	0	0.00	895	100.00
218	893	0	0.00	893	100.00
219	892	0	0.00	892	100.00
220	892	0	0.00	892	100.00
221	897	0	0.00	897	100.00
222	888	0	0.00	888	100.00
223	890	0	0.00	890	100.00
224	881	0	0.00	881	100.00
225	869	0	0.00	869	100.00
226	875	0	0.00	875	100.00
227	866	0	0.00	866	100.00
228	847	0	0.00	847	100.00
229	847	0	0.00	847	100.00
230	837	0	0.00	837	100.00
231	821	0	0.00	821	100.00
232	779	0	0.00	779	100.00
233	708	0	0.00	708	100.00
234	621	0	0.00	621	100.00
235	485	0	0.00	485	100.00
236	366	0	0.00	366	100.00
237	219	0	0.00	219	100.00
238	141	0	0.00	141	100.00
239	78	0	0.00	78	100.00
240	49	0	0.00	49	100.00

R4RE_2003 DN159

Quality Control Report for file : C:\Temp\2003_Patch_tests\R4RE_3\checkline

Surface lines: 001_2019, 002_2024, 003_2029, 004_2011, 004_2015, 005_2007

Checkline lines: 006_2033, 008_2038, 009_2042, 010_2046

Elevation Range is : -63.243(m) -39.997(m)

Total number of 3D points used: 506757

Starting Time: 8-JUN-2003 20:33:46.00
Ending Time: 8-JUN-2003 20:49:34.15

Minimum tidal reduction: 224 (mm)
Maximum tidal reduction: 291 (mm)

User#	Total	Max(+)	Max(-)	Mean	Std.	3dm(%)	5dm(%)	1%(%)	1.6%(%)
1	531	1.621	-5.106	-0.314	0.6653	38.0	59.7	59.5	80.2
2	695	1.650	-4.740	-0.309	0.6361	38.3	59.3	60.7	79.3
3	879	1.747	-4.813	-0.324	0.6339	40.8	58.4	59.4	78.2
4	1107	1.910	-4.527	-0.287	0.6057	41.1	60.6	61.3	79.9
5	1275	1.897	-4.417	-0.284	0.5832	42.0	60.8	61.9	80.8
6	1450	1.826	-4.181	-0.280	0.5757	42.8	60.9	62.2	82.0
7	1624	2.110	-4.167	-0.278	0.5772	43.9	61.1	62.1	80.2
8	1763	2.005	-4.160	-0.271	0.5755	44.2	63.4	63.9	80.8
9	1878	1.746	-4.054	-0.276	0.5666	44.2	62.5	63.8	82.1
10	1970	1.911	-3.943	-0.288	0.5580	44.9	63.0	64.4	82.2
11	2041	1.878	-3.815	-0.286	0.5581	44.9	62.5	64.0	81.9
12	2078	1.976	-3.769	-0.301	0.5658	44.2	62.1	63.9	81.6
13	2127	2.052	-3.705	-0.307	0.5542	45.3	63.0	65.0	81.1
14	2152	2.006	-3.633	-0.337	0.5595	43.5	61.0	63.0	81.1
15	2154	2.006	-3.483	-0.342	0.5579	42.6	61.1	63.6	81.2
16	2164	1.957	-3.479	-0.354	0.5547	41.8	61.2	63.1	80.9
17	2171	2.170	-3.461	-0.359	0.5486	42.5	61.1	63.0	80.1
18	2173	2.133	-3.473	-0.356	0.5409	41.7	60.3	62.2	79.8
19	2176	2.033	-3.458	-0.364	0.5427	41.8	59.9	62.4	80.2
20	2171	2.167	-3.422	-0.353	0.5440	42.0	60.6	62.3	80.4
21	2173	2.106	-3.200	-0.346	0.5486	42.8	61.8	62.9	79.7
22	2169	2.104	-3.329	-0.351	0.5577	43.4	61.5	62.8	80.1
23	2175	2.066	-3.213	-0.336	0.5572	44.2	62.0	63.3	80.9
24	2179	2.028	-3.153	-0.341	0.5596	45.3	62.3	63.5	80.5
25	2179	1.924	-3.032	-0.339	0.5543	44.5	61.9	63.3	80.0
26	2185	1.827	-3.102	-0.339	0.5544	44.3	61.7	64.0	80.1
27	2185	1.838	-3.162	-0.336	0.5484	43.7	62.0	63.6	80.2
28	2187	1.826	-3.219	-0.335	0.5487	43.6	61.5	63.9	80.4
29	2185	1.791	-3.281	-0.343	0.5505	44.0	61.3	63.6	79.8
30	2185	1.778	-3.076	-0.340	0.5475	45.7	62.1	64.0	80.4
31	2186	1.745	-3.273	-0.340	0.5504	45.3	61.4	62.7	80.7
32	2186	1.733	-3.072	-0.341	0.5486	45.4	62.3	63.9	80.6
33	2188	1.752	-3.290	-0.345	0.5530	45.3	60.7	62.8	80.2
34	2189	1.837	-3.260	-0.342	0.5570	46.4	60.4	61.9	79.8
35	2191	1.792	-3.171	-0.340	0.5631	47.0	61.3	62.5	79.2
36	2191	3.047	-3.208	-0.341	0.5653	46.7	61.4	62.6	80.4
37	2190	1.755	-3.255	-0.344	0.5610	46.7	61.6	62.6	79.5
38	2189	1.728	-3.176	-0.343	0.5571	46.4	62.0	63.3	79.0
39	2193	1.633	-3.105	-0.346	0.5463	46.5	61.8	63.6	80.1
40	2191	1.614	-3.032	-0.354	0.5479	45.4	61.3	62.8	78.9
41	2188	1.676	-3.020	-0.360	0.5483	45.2	61.2	62.5	79.0
42	2191	1.628	-2.977	-0.371	0.5518	44.2	60.7	62.3	78.3
43	2192	1.553	-2.963	-0.373	0.5520	44.6	60.8	62.4	77.6
44	2192	1.787	-2.830	-0.385	0.5489	43.9	59.9	62.0	77.4
45	2191	1.752	-2.583	-0.394	0.5449	44.0	59.5	61.0	77.3

46	2194	2.236	-2.538	-0.395	0.5482	44.2	58.8	60.9	77.4
47	2192	2.084	-2.564	-0.404	0.5476	43.6	59.3	60.9	77.1
48	2192	2.372	-2.504	-0.414	0.5528	43.2	58.9	60.5	76.4
49	2192	2.398	-2.576	-0.418	0.5611	43.3	59.0	60.0	76.4
50	2194	2.309	-2.908	-0.428	0.5722	42.9	58.0	59.5	75.3
51	2194	2.273	-2.910	-0.433	0.5789	41.9	57.8	59.1	75.7
52	2193	2.211	-2.825	-0.441	0.5803	40.9	57.5	58.5	75.6
53	2194	2.139	-2.738	-0.449	0.5840	40.7	56.4	58.0	74.6
54	2194	2.088	-2.913	-0.452	0.5824	41.5	56.6	57.8	74.5
55	2194	1.973	-2.990	-0.453	0.5775	41.8	56.4	57.9	74.6
56	2194	1.843	-3.076	-0.449	0.5742	41.8	56.7	57.8	74.1
57	2194	1.703	-3.147	-0.447	0.5725	42.5	56.7	58.6	74.6
58	2194	1.740	-3.163	-0.439	0.5703	42.4	56.5	58.3	76.2
59	2194	2.440	-3.163	-0.430	0.5701	42.4	56.8	58.9	76.4
60	2194	2.036	-3.196	-0.427	0.5568	42.0	56.4	58.5	77.2
61	2195	2.043	-2.948	-0.425	0.5532	41.4	56.8	58.8	76.9
62	2195	1.865	-2.952	-0.420	0.5436	41.7	56.8	58.7	77.9
63	2195	2.000	-3.004	-0.422	0.5393	41.3	57.4	58.9	78.3
64	2195	2.069	-2.727	-0.420	0.5362	41.6	57.2	59.0	78.6
65	2195	2.099	-2.603	-0.420	0.5290	42.2	57.0	59.3	78.4
66	2195	2.028	-2.709	-0.416	0.5272	43.6	58.4	60.3	78.1
67	2195	1.813	-2.716	-0.420	0.5273	42.3	58.4	60.9	78.3
68	2195	2.065	-2.621	-0.418	0.5311	42.7	59.5	61.5	78.4
69	2195	2.134	-2.722	-0.422	0.5301	44.1	59.0	61.6	78.0
70	2194	2.180	-2.651	-0.428	0.5311	42.9	59.2	61.1	77.2
71	2194	2.291	-2.663	-0.432	0.5352	42.9	58.8	60.8	76.7
72	2195	2.247	-2.662	-0.434	0.5375	43.8	58.5	60.5	76.6
73	2195	2.215	-2.668	-0.432	0.5408	43.7	58.5	60.5	76.4
74	2195	2.304	-2.708	-0.437	0.5409	44.1	58.8	60.2	75.3
75	2194	2.376	-2.700	-0.437	0.5396	42.4	57.7	59.8	74.7
76	2195	2.507	-2.694	-0.434	0.5384	41.6	57.3	59.0	75.6
77	2195	2.432	-2.687	-0.436	0.5353	42.1	56.2	58.2	75.8
78	2195	2.492	-2.685	-0.434	0.5329	42.2	56.6	58.8	76.4
79	2195	2.503	-2.686	-0.429	0.5313	42.5	58.1	59.7	75.8
80	2194	2.714	-2.693	-0.429	0.5296	43.1	57.9	59.4	75.8
81	2195	2.633	-2.725	-0.428	0.5286	41.8	57.5	59.2	75.9
82	2192	2.750	-2.335	-0.426	0.5303	42.2	57.7	59.4	75.8
83	2191	2.777	-2.362	-0.423	0.5318	43.1	57.8	59.7	76.1
84	2193	2.856	-2.209	-0.425	0.5297	42.6	57.6	59.3	76.7
85	2189	2.860	-2.061	-0.424	0.5280	43.0	57.8	59.4	76.4
86	2191	2.842	-2.143	-0.421	0.5257	43.6	57.6	59.7	76.4
87	2181	2.829	-2.359	-0.423	0.5289	43.8	58.2	59.9	76.9
88	2188	2.891	-2.127	-0.422	0.5257	43.5	58.4	60.1	77.0
89	2193	2.829	-2.157	-0.430	0.5256	43.4	58.0	59.8	76.7
90	2191	2.590	-2.258	-0.429	0.5255	43.7	57.5	59.7	77.7
91	2193	2.392	-2.278	-0.425	0.5218	44.0	58.2	59.8	78.2
92	2194	2.274	-2.223	-0.424	0.5185	44.3	58.3	59.4	78.6
93	2192	2.114	-2.433	-0.424	0.5187	44.5	58.2	59.7	78.5
94	2188	2.039	-2.210	-0.426	0.5184	44.2	58.4	60.1	78.3
95	2195	2.136	-2.369	-0.427	0.5161	44.0	58.5	60.3	78.5
96	2194	2.046	-2.449	-0.427	0.5124	44.0	58.4	59.8	79.7
97	2192	1.826	-2.786	-0.431	0.5130	43.5	58.5	59.7	79.4
98	2194	1.887	-2.812	-0.432	0.5134	43.8	58.6	59.6	78.7
99	2195	2.257	-2.781	-0.434	0.5173	43.8	57.4	59.5	78.7
100	2194	2.296	-2.813	-0.436	0.5174	42.9	58.2	59.8	78.2
101	2195	2.446	-2.794	-0.440	0.5235	43.2	57.9	59.2	77.6
102	2195	2.454	-2.925	-0.443	0.5275	43.6	57.8	59.1	77.3
103	2195	2.457	-2.954	-0.447	0.5300	43.7	57.5	58.8	77.3
104	2195	2.396	-2.931	-0.451	0.5321	43.1	56.8	58.3	77.0
105	2195	2.481	-2.822	-0.449	0.5346	43.4	56.9	57.9	77.8
106	2195	2.435	-2.790	-0.452	0.5370	44.1	56.7	58.3	76.8
107	2195	2.455	-2.701	-0.454	0.5418	44.0	57.1	58.0	76.1
108	2195	2.423	-2.648	-0.456	0.5472	44.1	57.2	58.4	75.4
109	2195	2.618	-2.604	-0.456	0.5492	43.6	57.9	58.7	75.5
110	2195	2.785	-2.678	-0.453	0.5528	44.3	57.8	58.8	76.3

111	2195	2.872	-2.700	-0.451	0.5545	43.0	58.9	60.0	76.9
112	2195	2.917	-2.832	-0.449	0.5537	43.7	58.6	59.9	77.7
113	2195	2.927	-2.743	-0.451	0.5551	43.3	58.7	59.4	77.8
114	2195	2.955	-2.785	-0.451	0.5554	43.5	57.9	59.4	77.5
115	2193	2.893	-2.879	-0.451	0.5540	43.3	58.1	59.1	77.3
116	2193	2.821	-2.859	-0.448	0.5524	42.0	57.4	58.9	77.9
117	2193	2.869	-2.821	-0.445	0.5532	42.5	57.7	59.2	78.0
118	2194	2.737	-2.779	-0.440	0.5492	42.5	58.9	60.6	78.5
119	2194	2.919	-2.686	-0.436	0.5471	43.6	59.8	60.6	78.8
120	2193	2.870	-2.682	-0.434	0.5472	43.0	60.0	60.9	78.9
121	2192	2.845	-2.666	-0.435	0.5466	42.9	60.2	61.2	78.8
122	2195	2.832	-2.811	-0.435	0.5459	42.4	59.9	60.9	78.5
123	2194	2.716	-2.766	-0.434	0.5448	41.6	60.0	61.4	78.2
124	2193	2.653	-2.771	-0.432	0.5451	42.9	59.4	60.4	78.4
125	2194	2.750	-2.724	-0.435	0.5437	43.3	59.8	61.2	77.9
126	2194	2.661	-2.800	-0.436	0.5400	43.5	60.7	61.6	78.3
127	2193	2.638	-2.743	-0.435	0.5424	44.8	59.9	61.2	79.1
128	2195	2.643	-2.758	-0.432	0.5439	44.6	60.9	62.3	78.7
129	2193	2.663	-2.748	-0.431	0.5414	45.2	60.1	61.2	79.2
130	2193	2.574	-2.726	-0.429	0.5408	45.0	60.4	61.5	79.2
131	2193	2.517	-2.745	-0.434	0.5411	44.3	59.9	61.1	78.8
132	2194	2.446	-2.733	-0.438	0.5385	43.8	58.6	59.1	79.4
133	2194	2.162	-2.614	-0.443	0.5342	43.6	57.5	58.3	78.2
134	2195	2.095	-2.534	-0.445	0.5367	44.0	58.0	58.9	77.5
135	2193	2.199	-2.490	-0.449	0.5364	44.6	57.8	58.6	76.4
136	2193	2.161	-2.584	-0.452	0.5335	43.3	57.5	58.6	76.4
137	2193	2.136	-2.626	-0.452	0.5303	43.1	57.5	58.4	76.2
138	2192	2.158	-2.633	-0.456	0.5240	43.7	57.1	57.9	76.2
139	2193	2.065	-2.614	-0.461	0.5178	42.8	56.6	58.0	76.1
140	2194	1.976	-2.491	-0.461	0.5164	42.3	56.3	57.2	75.7
141	2193	1.883	-2.303	-0.461	0.5109	42.6	56.6	57.6	76.1
142	2193	5.450	-2.225	-0.460	0.5214	42.0	56.8	57.2	76.1
143	2191	1.848	-2.173	-0.464	0.5054	41.9	56.8	57.9	76.4
144	2193	1.698	-2.176	-0.467	0.5050	41.8	56.9	58.1	75.9
145	2193	1.578	-2.386	-0.468	0.5114	41.7	56.7	58.7	76.1
146	2192	1.552	-2.288	-0.470	0.5115	41.1	56.5	58.2	76.2
147	2189	1.137	-2.231	-0.469	0.5127	40.1	56.7	58.0	75.8
148	2188	1.050	-2.319	-0.466	0.5203	40.4	56.9	58.5	75.8
149	2188	1.005	-2.431	-0.465	0.5206	40.1	55.9	58.1	76.6
150	2187	1.146	-2.273	-0.463	0.5198	39.4	56.9	58.2	76.6
151	2189	1.285	-2.302	-0.465	0.5147	40.0	56.6	58.0	77.4
152	2179	1.393	-2.237	-0.465	0.5109	40.2	56.3	57.3	77.3
153	2181	1.453	-2.258	-0.456	0.5059	40.6	56.6	57.8	77.8
154	2186	1.470	-2.275	-0.455	0.5054	41.3	58.0	59.1	77.7
155	2179	1.406	-2.886	-0.452	0.5148	40.4	57.4	58.3	77.5
156	2161	1.091	-3.231	-0.456	0.5201	40.8	57.0	58.0	77.7
157	2182	1.138	-3.137	-0.456	0.5270	41.1	57.9	59.6	77.5
158	2176	1.166	-3.131	-0.455	0.5380	40.9	57.8	58.7	77.5
159	2181	1.207	-2.975	-0.458	0.5397	41.0	57.5	58.3	77.5
160	2183	1.333	-2.931	-0.453	0.5404	40.9	57.3	58.0	78.1
161	2182	1.236	-3.084	-0.450	0.5448	41.2	57.1	58.0	78.1
162	2182	1.137	-2.995	-0.446	0.5497	40.3	57.4	58.5	77.8
163	2182	1.156	-2.938	-0.442	0.5513	40.4	57.1	58.7	77.9
164	2181	1.102	-2.946	-0.442	0.5536	39.9	57.3	58.6	78.6
165	2180	1.241	-2.927	-0.443	0.5529	39.4	57.0	57.9	78.4
166	2181	1.312	-3.057	-0.442	0.5544	39.1	56.3	57.6	78.5
167	2180	1.301	-2.979	-0.442	0.5555	39.1	55.8	57.4	78.0
168	2180	1.359	-2.961	-0.438	0.5506	39.4	56.7	58.2	78.3
169	2179	1.367	-2.917	-0.442	0.5460	39.0	57.1	58.9	78.4
170	2180	1.449	-2.918	-0.444	0.5389	39.9	57.3	59.1	78.2
171	2180	1.580	-3.101	-0.447	0.5363	40.3	57.2	58.7	77.6
172	2180	1.532	-3.136	-0.446	0.5357	41.3	56.6	58.0	78.3
173	2179	1.287	-3.129	-0.448	0.5358	41.6	56.8	58.0	77.7
174	2179	1.321	-3.099	-0.452	0.5333	41.9	56.3	57.9	78.1
175	2177	1.169	-3.025	-0.454	0.5215	41.6	57.0	58.6	78.0

176	2175	1.113	-2.895	-0.453	0.5209	42.2	57.3	58.0	77.8
177	2176	1.193	-2.883	-0.455	0.5243	42.6	56.8	58.5	77.6
178	2177	1.281	-2.799	-0.458	0.5275	41.9	57.5	58.8	77.2
179	2176	0.817	-2.743	-0.458	0.5268	42.0	57.8	58.8	77.3
180	2176	0.904	-2.700	-0.458	0.5253	40.8	57.4	58.4	77.4
181	2175	1.053	-2.695	-0.456	0.5251	41.2	57.5	58.7	77.1
182	2174	1.054	-2.915	-0.455	0.5260	40.8	57.4	58.4	76.5
183	2175	1.071	-3.089	-0.455	0.5211	41.5	56.7	58.1	77.1
184	2175	1.218	-2.936	-0.453	0.5199	41.1	57.1	58.5	77.3
185	2174	1.279	-2.931	-0.451	0.5170	40.0	57.5	58.8	78.5
186	2174	0.967	-2.945	-0.449	0.5133	40.5	57.2	58.8	77.8
187	2174	1.005	-2.802	-0.442	0.5145	40.7	57.3	58.1	77.9
188	2172	1.077	-2.886	-0.437	0.5144	41.0	58.6	59.8	78.2
189	2176	1.256	-2.709	-0.431	0.5180	41.6	58.7	59.2	77.8
190	2174	1.225	-2.399	-0.429	0.5242	42.2	58.6	59.4	78.0
191	2175	1.227	-2.387	-0.430	0.5278	42.4	58.8	59.6	77.0
192	2174	1.171	-2.111	-0.427	0.5313	41.5	58.1	59.0	76.5
193	2174	1.009	-2.135	-0.430	0.5359	41.4	58.1	58.7	77.1
194	2174	1.104	-2.262	-0.424	0.5377	42.7	58.8	59.2	76.3
195	2174	1.039	-2.138	-0.425	0.5448	43.2	58.5	59.2	76.3
196	2172	1.040	-2.435	-0.433	0.5543	42.8	58.1	58.9	75.3
197	2174	1.075	-2.271	-0.434	0.5528	42.2	57.9	58.4	74.6
198	2174	1.063	-2.253	-0.432	0.5523	42.1	57.9	58.6	75.0
199	2174	1.080	-2.244	-0.431	0.5543	42.4	58.6	59.2	75.4
200	2173	1.044	-2.253	-0.435	0.5614	42.8	58.7	59.0	75.3
201	2172	1.101	-2.759	-0.436	0.5606	41.4	57.6	58.9	74.8
202	2171	1.173	-2.505	-0.433	0.5578	40.7	57.0	57.8	74.9
203	2170	1.190	-2.426	-0.428	0.5600	40.6	57.4	58.6	75.6
204	2172	1.198	-2.338	-0.424	0.5614	39.5	58.0	58.9	75.3
205	2171	1.287	-2.308	-0.421	0.5617	42.0	57.4	58.5	74.5
206	2173	1.244	-2.291	-0.423	0.5580	41.4	57.8	58.5	74.7
207	2171	1.249	-2.261	-0.424	0.5624	39.7	56.2	57.3	74.7
208	2171	1.225	-2.688	-0.423	0.5667	39.4	55.6	57.0	75.8
209	2173	1.218	-2.615	-0.415	0.5646	38.8	56.5	58.0	75.7
210	2167	1.370	-2.531	-0.411	0.5628	40.1	56.7	58.0	77.0
211	2165	1.402	-2.454	-0.416	0.5615	39.5	58.0	59.0	76.8
212	2167	1.276	-2.600	-0.418	0.5543	40.4	58.2	58.9	77.2
213	2167	1.378	-2.638	-0.416	0.5516	39.4	58.7	59.4	77.1
214	2161	1.411	-2.803	-0.424	0.5448	40.1	58.4	59.7	77.1
215	2162	1.392	-3.051	-0.431	0.5448	39.8	58.3	59.7	77.5
216	2160	1.105	-3.088	-0.446	0.5416	39.2	58.0	59.2	76.5
217	2157	0.999	-3.034	-0.448	0.5371	39.3	57.8	58.8	76.4
218	2156	1.043	-2.928	-0.460	0.5403	39.1	57.4	58.9	75.5
219	2155	1.075	-2.974	-0.469	0.5387	37.9	55.8	57.4	75.4
220	2157	1.032	-3.157	-0.465	0.5408	38.5	55.1	56.2	75.6
221	2155	1.127	-3.106	-0.467	0.5394	37.6	55.3	56.3	75.7
222	2152	1.081	-3.101	-0.467	0.5318	37.9	56.2	57.2	76.3
223	2146	1.022	-3.113	-0.467	0.5252	36.8	56.6	57.6	77.0
224	2139	0.890	-3.128	-0.465	0.5225	37.0	56.4	57.9	76.9
225	2134	0.871	-3.946	-0.472	0.5263	37.1	55.4	56.7	76.1
226	2118	0.903	-4.006	-0.472	0.5195	36.7	54.7	56.2	76.8
227	2108	0.843	-3.997	-0.467	0.5234	37.4	55.0	56.9	76.2
228	2090	1.031	-4.093	-0.467	0.5339	37.6	54.4	56.2	75.9
229	2061	1.192	-4.505	-0.470	0.5537	36.2	54.2	55.7	75.5
230	2036	1.301	-4.401	-0.475	0.5450	35.1	52.8	54.1	75.2
231	1999	1.197	-4.753	-0.488	0.5587	34.7	52.5	53.8	72.6
232	1932	1.208	-4.788	-0.482	0.5496	34.1	51.0	51.6	73.3
233	1831	1.259	-4.935	-0.484	0.5615	32.0	50.6	51.8	72.3
234	1712	1.187	-5.169	-0.487	0.5708	31.8	49.0	50.5	72.5
235	1561	1.233	-4.749	-0.473	0.5694	32.3	48.7	49.6	71.2
236	1389	1.412	-4.572	-0.464	0.5638	32.4	48.7	49.5	72.4
237	1169	1.593	-3.587	-0.461	0.5731	31.7	48.3	49.0	71.1
238	970	1.206	-2.077	-0.464	0.5450	28.2	49.1	49.8	73.3
239	773	1.389	-2.409	-0.474	0.5616	27.8	47.2	48.3	71.3
240	574	1.323	-2.265	-0.504	0.5610	27.2	44.3	45.1	69.9

Classification report 1 of 3

IHO statistics a/b are : 0.250 0.008

User#	Total	# fail	% fail	# pass	% pass
1	531	238	44.82	293	55.18
2	695	306	44.03	389	55.97
3	879	391	44.48	488	55.52
4	1107	476	43.00	631	57.00
5	1275	544	42.67	731	57.33
6	1450	626	43.17	824	56.83
7	1624	678	41.75	946	58.25
8	1763	702	39.82	1061	60.18
9	1878	759	40.42	1119	59.58
10	1970	784	39.80	1186	60.20
11	2041	821	40.23	1220	59.77
12	2078	838	40.33	1240	59.67
13	2127	851	40.01	1276	59.99
14	2152	903	41.96	1249	58.04
15	2154	902	41.88	1252	58.12
16	2164	900	41.59	1264	58.41
17	2171	893	41.13	1278	58.87
18	2173	908	41.79	1265	58.21
19	2176	920	42.28	1256	57.72
20	2171	914	42.10	1257	57.90
21	2173	902	41.51	1271	58.49
22	2169	894	41.22	1275	58.78
23	2175	895	41.15	1280	58.85
24	2179	877	40.25	1302	59.75
25	2179	877	40.25	1302	59.75
26	2185	895	40.96	1290	59.04
27	2185	892	40.82	1293	59.18
28	2187	897	41.02	1290	58.98
29	2185	904	41.37	1281	58.63
30	2185	897	41.05	1288	58.95
31	2186	900	41.17	1286	58.83
32	2186	882	40.35	1304	59.65
33	2188	915	41.82	1273	58.18
34	2189	915	41.80	1274	58.20
35	2191	904	41.26	1287	58.74
36	2191	902	41.17	1289	58.83
37	2190	895	40.87	1295	59.13
38	2189	883	40.34	1306	59.66
39	2193	901	41.09	1292	58.91
40	2191	912	41.62	1279	58.38
41	2188	908	41.50	1280	58.50
42	2191	919	41.94	1272	58.06
43	2192	910	41.51	1282	58.49
44	2192	929	42.38	1263	57.62
45	2191	944	43.09	1247	56.91
46	2194	954	43.48	1240	56.52
47	2192	949	43.29	1243	56.71
48	2192	951	43.39	1241	56.61
49	2192	948	43.25	1244	56.75
50	2194	970	44.21	1224	55.79
51	2194	976	44.48	1218	55.52
52	2193	976	44.51	1217	55.49
53	2194	1004	45.76	1190	54.24
54	2194	994	45.31	1200	54.69
55	2194	999	45.53	1195	54.47
56	2194	989	45.08	1205	54.92
57	2194	993	45.26	1201	54.74
58	2194	1000	45.58	1194	54.42
59	2194	994	45.31	1200	54.69

60	2194	1010	46.03	1184	53.97
61	2195	1019	46.42	1176	53.58
62	2195	1002	45.65	1193	54.35
63	2195	1008	45.92	1187	54.08
64	2195	995	45.33	1200	54.67
65	2195	986	44.92	1209	55.08
66	2195	968	44.10	1227	55.90
67	2195	957	43.60	1238	56.40
68	2195	945	43.05	1250	56.95
69	2195	938	42.73	1257	57.27
70	2194	953	43.44	1241	56.56
71	2194	956	43.57	1238	56.43
72	2195	962	43.83	1233	56.17
73	2195	957	43.60	1238	56.40
74	2195	947	43.14	1248	56.86
75	2194	971	44.26	1223	55.74
76	2195	993	45.24	1202	54.76
77	2195	1013	46.15	1182	53.85
78	2195	998	45.47	1197	54.53
79	2195	972	44.28	1223	55.72
80	2194	987	44.99	1207	55.01
81	2195	978	44.56	1217	55.44
82	2192	980	44.71	1212	55.29
83	2191	980	44.73	1211	55.27
84	2193	994	45.33	1199	54.67
85	2189	985	45.00	1204	55.00
86	2191	987	45.05	1204	54.95
87	2181	959	43.97	1222	56.03
88	2188	968	44.24	1220	55.76
89	2193	973	44.37	1220	55.63
90	2191	982	44.82	1209	55.18
91	2193	970	44.23	1223	55.77
92	2194	970	44.21	1224	55.79
93	2192	974	44.43	1218	55.57
94	2188	968	44.24	1220	55.76
95	2195	960	43.74	1235	56.26
96	2194	964	43.94	1230	56.06
97	2192	964	43.98	1228	56.02
98	2194	971	44.26	1223	55.74
99	2195	992	45.19	1203	54.81
100	2194	980	44.67	1214	55.33
101	2195	977	44.51	1218	55.49
102	2195	985	44.87	1210	55.13
103	2195	986	44.92	1209	55.08
104	2195	999	45.51	1196	54.49
105	2195	999	45.51	1196	54.49
106	2195	995	45.33	1200	54.67
107	2195	985	44.87	1210	55.13
108	2195	988	45.01	1207	54.99
109	2195	972	44.28	1223	55.72
110	2195	969	44.15	1226	55.85
111	2195	960	43.74	1235	56.26
112	2195	954	43.46	1241	56.54
113	2195	965	43.96	1230	56.04
114	2195	978	44.56	1217	55.44
115	2193	975	44.46	1218	55.54
116	2193	983	44.82	1210	55.18
117	2193	991	45.19	1202	54.81
118	2194	962	43.85	1232	56.15
119	2194	937	42.71	1257	57.29
120	2193	933	42.54	1260	57.46
121	2192	937	42.75	1255	57.25
122	2195	951	43.33	1244	56.67
123	2194	954	43.48	1240	56.52
124	2193	952	43.41	1241	56.59

125	2194	952	43.39	1242	56.61
126	2194	935	42.62	1259	57.38
127	2193	941	42.91	1252	57.09
128	2195	927	42.23	1268	57.77
129	2193	940	42.86	1253	57.14
130	2193	939	42.82	1254	57.18
131	2193	945	43.09	1248	56.91
132	2194	976	44.48	1218	55.52
133	2194	990	45.12	1204	54.88
134	2195	980	44.65	1215	55.35
135	2193	982	44.78	1211	55.22
136	2193	987	45.01	1206	54.99
137	2193	1005	45.83	1188	54.17
138	2192	1002	45.71	1190	54.29
139	2193	1016	46.33	1177	53.67
140	2194	1019	46.44	1175	53.56
141	2193	1019	46.47	1174	53.53
142	2193	1013	46.19	1180	53.81
143	2191	1011	46.14	1180	53.86
144	2193	995	45.37	1198	54.63
145	2193	1005	45.83	1188	54.17
146	2192	1019	46.49	1173	53.51
147	2189	1011	46.19	1178	53.81
148	2188	1009	46.12	1179	53.88
149	2188	1019	46.57	1169	53.43
150	2187	1009	46.14	1178	53.86
151	2189	1021	46.64	1168	53.36
152	2179	1012	46.44	1167	53.56
153	2181	1001	45.90	1180	54.10
154	2186	996	45.56	1190	54.44
155	2179	979	44.93	1200	55.07
156	2161	997	46.14	1164	53.86
157	2182	974	44.64	1208	55.36
158	2176	965	44.35	1211	55.65
159	2181	989	45.35	1192	54.65
160	2183	999	45.76	1184	54.24
161	2182	1010	46.29	1172	53.71
162	2182	1005	46.06	1177	53.94
163	2182	1000	45.83	1182	54.17
164	2181	1000	45.85	1181	54.15
165	2180	1011	46.38	1169	53.62
166	2181	1023	46.91	1158	53.09
167	2180	1033	47.39	1147	52.61
168	2180	1018	46.70	1162	53.30
169	2179	1004	46.08	1175	53.92
170	2180	1002	45.96	1178	54.04
171	2180	1005	46.10	1175	53.90
172	2180	1012	46.42	1168	53.58
173	2179	1002	45.98	1177	54.02
174	2179	1013	46.49	1166	53.51
175	2177	990	45.48	1187	54.52
176	2175	994	45.70	1181	54.30
177	2176	990	45.50	1186	54.50
178	2177	985	45.25	1192	54.75
179	2176	983	45.17	1193	54.83
180	2176	986	45.31	1190	54.69
181	2175	997	45.84	1178	54.16
182	2174	990	45.54	1184	54.46
183	2175	1009	46.39	1166	53.61
184	2175	994	45.70	1181	54.30
185	2174	988	45.45	1186	54.55
186	2174	995	45.77	1179	54.23
187	2174	985	45.31	1189	54.69
188	2172	968	44.57	1204	55.43
189	2176	967	44.44	1209	55.56

190	2174	961	44.20	1213	55.80
191	2175	961	44.18	1214	55.82
192	2174	980	45.08	1194	54.92
193	2174	971	44.66	1203	55.34
194	2174	955	43.93	1219	56.07
195	2174	953	43.84	1221	56.16
196	2172	955	43.97	1217	56.03
197	2174	974	44.80	1200	55.20
198	2174	970	44.62	1204	55.38
199	2174	954	43.88	1220	56.12
200	2173	958	44.09	1215	55.91
201	2172	981	45.17	1191	54.83
202	2171	983	45.28	1188	54.72
203	2170	981	45.21	1189	54.79
204	2172	974	44.84	1198	55.16
205	2171	975	44.91	1196	55.09
206	2173	975	44.87	1198	55.13
207	2171	1015	46.75	1156	53.25
208	2171	1025	47.21	1146	52.79
209	2173	1003	46.16	1170	53.84
210	2167	983	45.36	1184	54.64
211	2165	969	44.76	1196	55.24
212	2167	966	44.58	1201	55.42
213	2167	952	43.93	1215	56.07
214	2161	954	44.15	1207	55.85
215	2162	968	44.77	1194	55.23
216	2160	967	44.77	1193	55.23
217	2157	968	44.88	1189	55.12
218	2156	976	45.27	1180	54.73
219	2155	1015	47.10	1140	52.90
220	2157	1017	47.15	1140	52.85
221	2155	1019	47.29	1136	52.71
222	2152	1012	47.03	1140	52.97
223	2146	1004	46.78	1142	53.22
224	2139	990	46.28	1149	53.72
225	2134	1024	47.99	1110	52.01
226	2118	1028	48.54	1090	51.46
227	2108	993	47.11	1115	52.89
228	2090	1010	48.33	1080	51.67
229	2061	1009	48.96	1052	51.04
230	2036	1027	50.44	1009	49.56
231	1999	1018	50.93	981	49.07
232	1932	1016	52.59	916	47.41
233	1831	977	53.36	854	46.64
234	1712	924	53.97	788	46.03
235	1561	847	54.26	714	45.74
236	1389	757	54.50	632	45.50
237	1169	634	54.23	535	45.77
238	970	528	54.43	442	45.57
239	773	437	56.53	336	43.47
240	574	338	58.89	236	41.11

Classification report 2 of 3

IHO statistics a/b are : 0.500 0.013

User#	Total	# fail	% fail	# pass	% pass
1	531	105	19.77	426	80.23
2	695	140	20.14	555	79.86
3	879	192	21.84	687	78.16
4	1107	216	19.51	891	80.49
5	1275	241	18.90	1034	81.10
6	1450	256	17.66	1194	82.34
7	1624	314	19.33	1310	80.67
8	1763	329	18.66	1434	81.34
9	1878	329	17.52	1549	82.48
10	1970	348	17.66	1622	82.34
11	2041	368	18.03	1673	81.97
12	2078	378	18.19	1700	81.81
13	2127	395	18.57	1732	81.43
14	2152	406	18.87	1746	81.13
15	2154	399	18.52	1755	81.48
16	2164	413	19.09	1751	80.91
17	2171	423	19.48	1748	80.52
18	2173	434	19.97	1739	80.03
19	2176	426	19.58	1750	80.42
20	2171	419	19.30	1752	80.70
21	2173	437	20.11	1736	79.89
22	2169	430	19.82	1739	80.18
23	2175	412	18.94	1763	81.06
24	2179	419	19.23	1760	80.77
25	2179	422	19.37	1757	80.63
26	2185	434	19.86	1751	80.14
27	2185	436	19.95	1749	80.05
28	2187	419	19.16	1768	80.84
29	2185	434	19.86	1751	80.14
30	2185	425	19.45	1760	80.55
31	2186	417	19.08	1769	80.92
32	2186	423	19.35	1763	80.65
33	2188	429	19.61	1759	80.39
34	2189	435	19.87	1754	80.13
35	2191	452	20.63	1739	79.37
36	2191	428	19.53	1763	80.47
37	2190	448	20.46	1742	79.54
38	2189	452	20.65	1737	79.35
39	2193	429	19.56	1764	80.44
40	2191	459	20.95	1732	79.05
41	2188	449	20.52	1739	79.48
42	2191	476	21.73	1715	78.27
43	2192	479	21.85	1713	78.15
44	2192	489	22.31	1703	77.69
45	2191	493	22.50	1698	77.50
46	2194	495	22.56	1699	77.44
47	2192	498	22.72	1694	77.28
48	2192	511	23.31	1681	76.69
49	2192	518	23.63	1674	76.37
50	2194	535	24.38	1659	75.62
51	2194	536	24.43	1658	75.57
52	2193	538	24.53	1655	75.47
53	2194	556	25.34	1638	74.66
54	2194	554	25.25	1640	74.75
55	2194	558	25.43	1636	74.57
56	2194	571	26.03	1623	73.97
57	2194	556	25.34	1638	74.66
58	2194	531	24.20	1663	75.80
59	2194	511	23.29	1683	76.71

60	2194	499	22.74	1695	77.26
61	2195	502	22.87	1693	77.13
62	2195	488	22.23	1707	77.77
63	2195	479	21.82	1716	78.18
64	2195	471	21.46	1724	78.54
65	2195	479	21.82	1716	78.18
66	2195	477	21.73	1718	78.27
67	2195	478	21.78	1717	78.22
68	2195	480	21.87	1715	78.13
69	2195	483	22.00	1712	78.00
70	2194	504	22.97	1690	77.03
71	2194	518	23.61	1676	76.39
72	2195	515	23.46	1680	76.54
73	2195	525	23.92	1670	76.08
74	2195	545	24.83	1650	75.17
75	2194	549	25.02	1645	74.98
76	2195	534	24.33	1661	75.67
77	2195	530	24.15	1665	75.85
78	2195	519	23.64	1676	76.36
79	2195	535	24.37	1660	75.63
80	2194	525	23.93	1669	76.07
81	2195	525	23.92	1670	76.08
82	2192	527	24.04	1665	75.96
83	2191	530	24.19	1661	75.81
84	2193	515	23.48	1678	76.52
85	2189	518	23.66	1671	76.34
86	2191	512	23.37	1679	76.63
87	2181	505	23.15	1676	76.85
88	2188	507	23.17	1681	76.83
89	2193	515	23.48	1678	76.52
90	2191	489	22.32	1702	77.68
91	2193	476	21.71	1717	78.29
92	2194	465	21.19	1729	78.81
93	2192	468	21.35	1724	78.65
94	2188	481	21.98	1707	78.02
95	2195	474	21.59	1721	78.41
96	2194	456	20.78	1738	79.22
97	2192	454	20.71	1738	79.29
98	2194	460	20.97	1734	79.03
99	2195	472	21.50	1723	78.50
100	2194	473	21.56	1721	78.44
101	2195	485	22.10	1710	77.90
102	2195	490	22.32	1705	77.68
103	2195	494	22.51	1701	77.49
104	2195	493	22.46	1702	77.54
105	2195	496	22.60	1699	77.40
106	2195	506	23.05	1689	76.95
107	2195	525	23.92	1670	76.08
108	2195	535	24.37	1660	75.63
109	2195	537	24.46	1658	75.54
110	2195	514	23.42	1681	76.58
111	2195	514	23.42	1681	76.58
112	2195	487	22.19	1708	77.81
113	2195	488	22.23	1707	77.77
114	2195	490	22.32	1705	77.68
115	2193	497	22.66	1696	77.34
116	2193	484	22.07	1709	77.93
117	2193	483	22.02	1710	77.98
118	2194	470	21.42	1724	78.58
119	2194	464	21.15	1730	78.85
120	2193	471	21.48	1722	78.52
121	2192	473	21.58	1719	78.42
122	2195	476	21.69	1719	78.31
123	2194	484	22.06	1710	77.94
124	2193	485	22.12	1708	77.88

125	2194	487	22.20	1707	77.80
126	2194	475	21.65	1719	78.35
127	2193	466	21.25	1727	78.75
128	2195	473	21.55	1722	78.45
129	2193	459	20.93	1734	79.07
130	2193	459	20.93	1734	79.07
131	2193	473	21.57	1720	78.43
132	2194	459	20.92	1735	79.08
133	2194	472	21.51	1722	78.49
134	2195	498	22.69	1697	77.31
135	2193	520	23.71	1673	76.29
136	2193	521	23.76	1672	76.24
137	2193	523	23.85	1670	76.15
138	2192	514	23.45	1678	76.55
139	2193	525	23.94	1668	76.06
140	2194	528	24.07	1666	75.93
141	2193	533	24.30	1660	75.70
142	2193	522	23.80	1671	76.20
143	2191	514	23.46	1677	76.54
144	2193	519	23.67	1674	76.33
145	2193	523	23.85	1670	76.15
146	2192	521	23.77	1671	76.23
147	2189	532	24.30	1657	75.70
148	2188	528	24.13	1660	75.87
149	2188	517	23.63	1671	76.37
150	2187	506	23.14	1681	76.86
151	2189	510	23.30	1679	76.70
152	2179	493	22.63	1686	77.37
153	2181	490	22.47	1691	77.53
154	2186	493	22.55	1693	77.45
155	2179	490	22.49	1689	77.51
156	2161	477	22.07	1684	77.93
157	2182	489	22.41	1693	77.59
158	2176	491	22.56	1685	77.44
159	2181	495	22.70	1686	77.30
160	2183	481	22.03	1702	77.97
161	2182	477	21.86	1705	78.14
162	2182	474	21.72	1708	78.28
163	2182	472	21.63	1710	78.37
164	2181	459	21.05	1722	78.95
165	2180	466	21.38	1714	78.62
166	2181	466	21.37	1715	78.63
167	2180	481	22.06	1699	77.94
168	2180	480	22.02	1700	77.98
169	2179	471	21.62	1708	78.38
170	2180	473	21.70	1707	78.30
171	2180	482	22.11	1698	77.89
172	2180	479	21.97	1701	78.03
173	2179	485	22.26	1694	77.74
174	2179	478	21.94	1701	78.06
175	2177	476	21.86	1701	78.14
176	2175	485	22.30	1690	77.70
177	2176	491	22.56	1685	77.44
178	2177	505	23.20	1672	76.80
179	2176	497	22.84	1679	77.16
180	2176	494	22.70	1682	77.30
181	2175	492	22.62	1683	77.38
182	2174	506	23.28	1668	76.72
183	2175	493	22.67	1682	77.33
184	2175	496	22.80	1679	77.20
185	2174	465	21.39	1709	78.61
186	2174	479	22.03	1695	77.97
187	2174	489	22.49	1685	77.51
188	2172	473	21.78	1699	78.22
189	2176	485	22.29	1691	77.71

190	2174	480	22.08	1694	77.92
191	2175	488	22.44	1687	77.56
192	2174	503	23.14	1671	76.86
193	2174	490	22.54	1684	77.46
194	2174	510	23.46	1664	76.54
195	2174	513	23.60	1661	76.40
196	2172	524	24.13	1648	75.87
197	2174	546	25.11	1628	74.89
198	2174	536	24.66	1638	75.34
199	2174	533	24.52	1641	75.48
200	2173	525	24.16	1648	75.84
201	2172	540	24.86	1632	75.14
202	2171	542	24.97	1629	75.03
203	2170	530	24.42	1640	75.58
204	2172	530	24.40	1642	75.60
205	2171	550	25.33	1621	74.67
206	2173	552	25.40	1621	74.60
207	2171	545	25.10	1626	74.90
208	2171	524	24.14	1647	75.86
209	2173	508	23.38	1665	76.62
210	2167	494	22.80	1673	77.20
211	2165	504	23.28	1661	76.72
212	2167	481	22.20	1686	77.80
213	2167	488	22.52	1679	77.48
214	2161	482	22.30	1679	77.70
215	2162	478	22.11	1684	77.89
216	2160	496	22.96	1664	77.04
217	2157	499	23.13	1658	76.87
218	2156	521	24.17	1635	75.83
219	2155	525	24.36	1630	75.64
220	2157	520	24.11	1637	75.89
221	2155	520	24.13	1635	75.87
222	2152	503	23.37	1649	76.63
223	2146	492	22.93	1654	77.07
224	2139	490	22.91	1649	77.09
225	2134	507	23.76	1627	76.24
226	2118	496	23.42	1622	76.58
227	2108	495	23.48	1613	76.52
228	2090	494	23.64	1596	76.36
229	2061	496	24.07	1565	75.93
230	2036	500	24.56	1536	75.44
231	1999	542	27.11	1457	72.89
232	1932	517	26.76	1415	73.24
233	1831	509	27.80	1322	72.20
234	1712	463	27.04	1249	72.96
235	1561	448	28.70	1113	71.30
236	1389	376	27.07	1013	72.93
237	1169	332	28.40	837	71.60
238	970	255	26.29	715	73.71
239	773	220	28.46	553	71.54
240	574	172	29.97	402	70.03

Classification report 3 of 3

IHO statistics a/b are : 1.000 0.023

User#	Total	# fail	% fail	# pass	% pass
1	531	14	2.64	517	97.36
2	695	19	2.73	676	97.27
3	879	27	3.07	852	96.93
4	1107	28	2.53	1079	97.47
5	1275	24	1.88	1251	98.12
6	1450	34	2.34	1416	97.66
7	1624	33	2.03	1591	97.97
8	1763	42	2.38	1721	97.62
9	1878	36	1.92	1842	98.08
10	1970	38	1.93	1932	98.07
11	2041	46	2.25	1995	97.75
12	2078	57	2.74	2021	97.26
13	2127	54	2.54	2073	97.46
14	2152	61	2.83	2091	97.17
15	2154	63	2.92	2091	97.08
16	2164	68	3.14	2096	96.86
17	2171	58	2.67	2113	97.33
18	2173	51	2.35	2122	97.65
19	2176	61	2.80	2115	97.20
20	2171	59	2.72	2112	97.28
21	2173	56	2.58	2117	97.42
22	2169	62	2.86	2107	97.14
23	2175	57	2.62	2118	97.38
24	2179	61	2.80	2118	97.20
25	2179	54	2.48	2125	97.52
26	2185	57	2.61	2128	97.39
27	2185	51	2.33	2134	97.67
28	2187	57	2.61	2130	97.39
29	2185	56	2.56	2129	97.44
30	2185	55	2.52	2130	97.48
31	2186	57	2.61	2129	97.39
32	2186	65	2.97	2121	97.03
33	2188	62	2.83	2126	97.17
34	2189	57	2.60	2132	97.40
35	2191	56	2.56	2135	97.44
36	2191	56	2.56	2135	97.44
37	2190	57	2.60	2133	97.40
38	2189	52	2.38	2137	97.62
39	2193	47	2.14	2146	97.86
40	2191	54	2.46	2137	97.54
41	2188	55	2.51	2133	97.49
42	2191	56	2.56	2135	97.44
43	2192	61	2.78	2131	97.22
44	2192	64	2.92	2128	97.08
45	2191	65	2.97	2126	97.03
46	2194	63	2.87	2131	97.13
47	2192	69	3.15	2123	96.85
48	2192	67	3.06	2125	96.94
49	2192	77	3.51	2115	96.49
50	2194	82	3.74	2112	96.26
51	2194	87	3.97	2107	96.03
52	2193	91	4.15	2102	95.85
53	2194	87	3.97	2107	96.03
54	2194	89	4.06	2105	95.94
55	2194	87	3.97	2107	96.03
56	2194	78	3.56	2116	96.44
57	2194	74	3.37	2120	96.63
58	2194	74	3.37	2120	96.63
59	2194	86	3.92	2108	96.08

60	2194	86	3.92	2108	96.08
61	2195	77	3.51	2118	96.49
62	2195	73	3.33	2122	96.67
63	2195	76	3.46	2119	96.54
64	2195	70	3.19	2125	96.81
65	2195	71	3.23	2124	96.77
66	2195	74	3.37	2121	96.63
67	2195	71	3.23	2124	96.77
68	2195	82	3.74	2113	96.26
69	2195	77	3.51	2118	96.49
70	2194	75	3.42	2119	96.58
71	2194	74	3.37	2120	96.63
72	2195	80	3.64	2115	96.36
73	2195	83	3.78	2112	96.22
74	2195	76	3.46	2119	96.54
75	2194	62	2.83	2132	97.17
76	2195	57	2.60	2138	97.40
77	2195	61	2.78	2134	97.22
78	2195	60	2.73	2135	97.27
79	2195	64	2.92	2131	97.08
80	2194	60	2.73	2134	97.27
81	2195	57	2.60	2138	97.40
82	2192	64	2.92	2128	97.08
83	2191	63	2.88	2128	97.12
84	2193	59	2.69	2134	97.31
85	2189	59	2.70	2130	97.30
86	2191	58	2.65	2133	97.35
87	2181	61	2.80	2120	97.20
88	2188	60	2.74	2128	97.26
89	2193	58	2.64	2135	97.36
90	2191	61	2.78	2130	97.22
91	2193	60	2.74	2133	97.26
92	2194	62	2.83	2132	97.17
93	2192	59	2.69	2133	97.31
94	2188	60	2.74	2128	97.26
95	2195	57	2.60	2138	97.40
96	2194	60	2.73	2134	97.27
97	2192	62	2.83	2130	97.17
98	2194	62	2.83	2132	97.17
99	2195	59	2.69	2136	97.31
100	2194	55	2.51	2139	97.49
101	2195	55	2.51	2140	97.49
102	2195	62	2.82	2133	97.18
103	2195	64	2.92	2131	97.08
104	2195	62	2.82	2133	97.18
105	2195	70	3.19	2125	96.81
106	2195	68	3.10	2127	96.90
107	2195	68	3.10	2127	96.90
108	2195	75	3.42	2120	96.58
109	2195	76	3.46	2119	96.54
110	2195	79	3.60	2116	96.40
111	2195	85	3.87	2110	96.13
112	2195	84	3.83	2111	96.17
113	2195	96	4.37	2099	95.63
114	2195	97	4.42	2098	95.58
115	2193	87	3.97	2106	96.03
116	2193	88	4.01	2105	95.99
117	2193	91	4.15	2102	95.85
118	2194	89	4.06	2105	95.94
119	2194	84	3.83	2110	96.17
120	2193	88	4.01	2105	95.99
121	2192	84	3.83	2108	96.17
122	2195	84	3.83	2111	96.17
123	2194	83	3.78	2111	96.22
124	2193	82	3.74	2111	96.26

125	2194	83	3.78	2111	96.22
126	2194	86	3.92	2108	96.08
127	2193	85	3.88	2108	96.12
128	2195	78	3.55	2117	96.45
129	2193	81	3.69	2112	96.31
130	2193	83	3.78	2110	96.22
131	2193	84	3.83	2109	96.17
132	2194	86	3.92	2108	96.08
133	2194	81	3.69	2113	96.31
134	2195	80	3.64	2115	96.36
135	2193	82	3.74	2111	96.26
136	2193	84	3.83	2109	96.17
137	2193	70	3.19	2123	96.81
138	2192	65	2.97	2127	97.03
139	2193	61	2.78	2132	97.22
140	2194	58	2.64	2136	97.36
141	2193	54	2.46	2139	97.54
142	2193	54	2.46	2139	97.54
143	2191	60	2.74	2131	97.26
144	2193	64	2.92	2129	97.08
145	2193	75	3.42	2118	96.58
146	2192	75	3.42	2117	96.58
147	2189	69	3.15	2120	96.85
148	2188	68	3.11	2120	96.89
149	2188	66	3.02	2122	96.98
150	2187	76	3.48	2111	96.52
151	2189	67	3.06	2122	96.94
152	2179	67	3.07	2112	96.93
153	2181	62	2.84	2119	97.16
154	2186	64	2.93	2122	97.07
155	2179	62	2.85	2117	97.15
156	2161	71	3.29	2090	96.71
157	2182	78	3.57	2104	96.43
158	2176	95	4.37	2081	95.63
159	2181	98	4.49	2083	95.51
160	2183	96	4.40	2087	95.60
161	2182	95	4.35	2087	95.65
162	2182	100	4.58	2082	95.42
163	2182	97	4.45	2085	95.55
164	2181	102	4.68	2079	95.32
165	2180	100	4.59	2080	95.41
166	2181	98	4.49	2083	95.51
167	2180	93	4.27	2087	95.73
168	2180	92	4.22	2088	95.78
169	2179	87	3.99	2092	96.01
170	2180	86	3.94	2094	96.06
171	2180	79	3.62	2101	96.38
172	2180	85	3.90	2095	96.10
173	2179	81	3.72	2098	96.28
174	2179	78	3.58	2101	96.42
175	2177	66	3.03	2111	96.97
176	2175	66	3.03	2109	96.97
177	2176	72	3.31	2104	96.69
178	2177	77	3.54	2100	96.46
179	2176	72	3.31	2104	96.69
180	2176	72	3.31	2104	96.69
181	2175	70	3.22	2105	96.78
182	2174	73	3.36	2101	96.64
183	2175	67	3.08	2108	96.92
184	2175	67	3.08	2108	96.92
185	2174	72	3.31	2102	96.69
186	2174	66	3.04	2108	96.96
187	2174	64	2.94	2110	97.06
188	2172	63	2.90	2109	97.10
189	2176	61	2.80	2115	97.20

190	2174	60	2.76	2114	97.24
191	2175	68	3.13	2107	96.87
192	2174	65	2.99	2109	97.01
193	2174	71	3.27	2103	96.73
194	2174	69	3.17	2105	96.83
195	2174	75	3.45	2099	96.55
196	2172	80	3.68	2092	96.32
197	2174	79	3.63	2095	96.37
198	2174	79	3.63	2095	96.37
199	2174	81	3.73	2093	96.27
200	2173	98	4.51	2075	95.49
201	2172	86	3.96	2086	96.04
202	2171	80	3.68	2091	96.32
203	2170	88	4.06	2082	95.94
204	2172	86	3.96	2086	96.04
205	2171	78	3.59	2093	96.41
206	2173	70	3.22	2103	96.78
207	2171	63	2.90	2108	97.10
208	2171	67	3.09	2104	96.91
209	2173	79	3.64	2094	96.36
210	2167	76	3.51	2091	96.49
211	2165	85	3.93	2080	96.07
212	2167	86	3.97	2081	96.03
213	2167	82	3.78	2085	96.22
214	2161	69	3.19	2092	96.81
215	2162	72	3.33	2090	96.67
216	2160	75	3.47	2085	96.53
217	2157	65	3.01	2092	96.99
218	2156	75	3.48	2081	96.52
219	2155	72	3.34	2083	96.66
220	2157	71	3.29	2086	96.71
221	2155	69	3.20	2086	96.80
222	2152	75	3.49	2077	96.51
223	2146	71	3.31	2075	96.69
224	2139	64	2.99	2075	97.01
225	2134	55	2.58	2079	97.42
226	2118	54	2.55	2064	97.45
227	2108	57	2.70	2051	97.30
228	2090	59	2.82	2031	97.18
229	2061	68	3.30	1993	96.70
230	2036	60	2.95	1976	97.05
231	1999	64	3.20	1935	96.80
232	1932	54	2.80	1878	97.20
233	1831	47	2.57	1784	97.43
234	1712	48	2.80	1664	97.20
235	1561	41	2.63	1520	97.37
236	1389	33	2.38	1356	97.62
237	1169	31	2.65	1138	97.35
238	970	20	2.06	950	97.94
239	773	23	2.98	750	97.02
240	574	21	3.66	553	96.34

R4EL_2003 DN168

Quality Control Report for file : C:\Temp\2003_Patch_tests\R4EL_2003\checkline

Surface lines: 20030617171525_003, 20030617171929_004, 20030617172735_005

Checkline lines: 20030617170500_001, 20030617170917_002, 20030617174238_007

Elevation Range is : -146.988(m) -114.470(m)

Total number of 3D points used: 33676

Starting Time: 17-JUN-2003 17:04:47.52
Ending Time: 17-JUN-2003 17:45:18.84

Minimum tidal reduction: -648 (mm)
Maximum tidal reduction: -490 (mm)

User#	Total	Max(+)	Max(-)	Mean	Std.	3dm(%)	5dm(%)	1%(%)	1.6%(%)
19	361	1.102	-3.223	-1.214	1.0110	15.2	23.5	49.3	86.4
20	366	1.049	-3.329	-1.332	0.9918	16.1	25.1	48.6	82.0
21	375	1.172	-3.235	-1.167	0.9835	20.8	28.8	50.7	88.5
22	375	0.784	-3.443	-1.447	1.0179	15.7	25.1	42.7	76.3
23	377	0.777	-3.439	-1.418	0.9925	15.1	24.1	40.3	79.6
24	369	0.824	-3.290	-1.341	0.9100	13.6	22.2	45.8	85.9
25	376	0.358	-3.450	-1.569	0.8082	6.9	12.2	38.6	78.2
26	377	0.394	-3.020	-1.502	0.7098	4.0	9.5	44.3	86.7
27	377	0.707	-3.088	-1.416	0.6632	5.3	8.8	47.5	92.3
28	377	0.035	-3.569	-1.682	0.6640	2.4	4.2	34.0	79.8
29	376	0.201	-3.422	-1.655	0.6610	2.7	4.3	35.6	81.6
30	378	0.555	-3.230	-1.433	0.6602	5.3	9.3	46.6	89.9
31	376	0.630	-3.348	-1.566	0.6552	2.1	4.5	43.4	86.4
32	375	0.388	-3.343	-1.490	0.6593	3.7	6.4	45.9	89.3
33	378	0.552	-3.073	-1.394	0.6722	5.8	9.5	50.0	91.0
34	377	0.399	-2.989	-1.520	0.6338	2.9	6.4	41.9	89.9
35	376	0.498	-3.033	-1.376	0.5977	5.3	8.8	51.3	93.6
36	378	0.779	-2.582	-1.284	0.6158	5.8	10.1	57.9	97.4
37	378	0.779	-3.103	-1.343	0.6196	5.3	9.5	54.5	95.0
38	378	0.604	-2.631	-1.251	0.5907	6.6	11.6	57.9	97.4
39	378	0.532	-2.620	-1.162	0.5632	9.0	13.5	66.1	99.5
40	378	0.440	-2.483	-1.235	0.5624	6.3	10.8	57.9	98.7
41	378	0.451	-2.433	-1.180	0.5603	9.0	12.7	60.8	99.2
42	378	0.553	-2.344	-1.117	0.5741	7.7	14.3	69.3	99.2
43	378	0.393	-2.452	-1.200	0.5380	5.3	11.6	62.7	98.1
44	378	0.460	-2.599	-1.178	0.5617	8.7	12.7	64.8	98.9
45	378	0.566	-2.433	-1.072	0.5942	9.8	15.9	72.8	98.7
46	378	0.487	-2.731	-1.132	0.5690	8.5	14.8	68.8	98.4
47	378	0.520	-2.487	-1.065	0.5670	10.6	15.9	74.3	98.4
48	378	1.078	-2.514	-0.978	0.5998	13.5	20.6	77.5	98.9
49	378	0.704	-2.670	-1.023	0.5606	10.6	16.9	76.2	97.9
50	378	0.476	-2.706	-0.952	0.5473	11.6	18.3	82.5	99.2
51	377	0.726	-2.353	-0.888	0.5292	12.5	21.5	86.7	99.7
52	378	0.411	-2.618	-0.895	0.5676	13.0	21.2	83.9	98.9
53	378	0.653	-2.635	-0.857	0.5477	13.0	24.3	86.8	98.9
54	378	0.444	-2.394	-0.756	0.5467	18.5	30.7	89.2	99.5
55	378	0.567	-2.291	-0.667	0.5296	21.2	38.4	92.1	99.7
56	378	0.890	-2.292	-0.598	0.5246	24.9	41.8	93.1	99.7
57	378	1.046	-2.095	-0.527	0.5123	26.7	46.0	95.2	100.0
58	377	0.685	-2.356	-0.579	0.5211	27.6	45.6	93.6	99.5
59	377	0.890	-2.211	-0.492	0.5212	34.0	53.6	95.0	100.0
60	377	0.942	-1.940	-0.386	0.5200	35.5	54.1	97.3	100.0
61	378	1.377	-1.966	-0.364	0.5128	37.3	56.3	97.6	100.0
62	378	1.151	-1.730	-0.287	0.4798	43.4	60.8	99.5	100.0
63	378	1.172	-1.353	-0.180	0.4448	49.7	68.5	100.0	100.0

64	378	1.245	-1.591	-0.204	0.4714	50.5	68.5	98.9	100.0
65	378	1.008	-2.408	-0.444	0.4625	31.0	51.1	98.1	99.7
66	378	1.285	-1.622	-0.535	0.4464	19.0	39.2	99.5	100.0
67	378	1.498	-1.755	-0.336	0.5003	35.7	55.3	98.4	100.0
68	378	1.301	-1.509	-0.406	0.4506	31.2	54.2	99.5	100.0
69	378	1.033	-1.659	-0.549	0.4523	19.3	39.2	98.4	100.0
70	378	1.238	-1.276	-0.253	0.4431	41.0	64.0	100.0	100.0
71	378	1.434	-1.436	-0.364	0.4504	32.8	56.3	98.9	100.0
72	378	1.156	-1.763	-0.543	0.4263	23.0	40.2	98.9	100.0
73	378	1.017	-1.615	-0.270	0.4166	38.4	66.1	99.7	100.0
74	378	1.015	-1.422	-0.335	0.4250	37.8	64.3	99.7	100.0
75	378	1.040	-1.733	-0.398	0.4215	34.1	58.5	98.9	100.0
76	377	1.392	-1.367	-0.266	0.4607	40.3	62.1	99.5	100.0
77	378	0.953	-1.698	-0.345	0.4433	32.5	58.5	99.2	100.0
78	377	1.049	-1.670	-0.362	0.4264	32.9	57.3	99.5	100.0
79	376	1.075	-1.200	-0.163	0.4181	47.6	71.5	100.0	100.0
80	378	0.990	-1.537	-0.245	0.4291	44.7	68.3	99.7	100.0
81	378	1.120	-1.688	-0.329	0.4427	36.5	60.3	99.2	100.0
82	378	1.072	-1.126	-0.167	0.3692	51.3	77.5	100.0	100.0
83	378	0.832	-1.335	-0.214	0.3810	50.3	75.1	100.0	100.0
84	378	0.788	-1.340	-0.309	0.3872	43.1	67.7	99.7	100.0
85	378	1.194	-1.235	-0.141	0.4103	48.1	75.9	100.0	100.0
86	378	1.548	-1.179	-0.141	0.3983	52.4	75.7	99.7	100.0
87	378	0.928	-1.404	-0.230	0.3909	47.4	72.5	99.7	100.0
88	378	1.244	-1.046	-0.095	0.3933	56.6	76.7	100.0	100.0
89	378	1.174	-1.251	-0.144	0.4264	45.8	75.4	100.0	100.0
90	378	1.443	-1.397	-0.212	0.4612	42.6	68.3	98.7	100.0
91	378	1.489	-1.388	-0.105	0.4835	50.5	72.2	98.7	100.0
92	378	1.371	-1.713	-0.164	0.4770	45.5	70.9	98.7	100.0
93	378	1.376	-1.950	-0.226	0.5030	42.1	63.8	98.4	100.0
94	378	1.987	-1.311	-0.094	0.4944	46.0	70.1	98.7	100.0
95	376	1.496	-1.370	-0.132	0.4953	44.1	69.9	98.1	100.0
96	378	1.453	-1.657	-0.104	0.5122	46.3	68.5	98.9	100.0
97	378	1.820	-1.310	0.070	0.5285	45.2	70.4	97.9	100.0
98	378	1.799	-1.790	0.034	0.5489	45.2	69.3	97.6	100.0
99	378	1.808	-1.275	-0.033	0.5625	44.7	65.1	97.6	100.0
100	378	1.984	-1.254	0.342	0.5697	37.3	55.3	94.7	100.0
101	373	2.459	-1.161	0.271	0.6197	34.0	56.6	94.4	99.7
102	361	2.772	-1.137	0.339	0.6218	39.9	58.7	92.5	98.9
103	364	2.691	-0.918	0.542	0.6441	29.7	47.8	87.4	98.4
104	350	2.429	-1.285	0.455	0.6623	31.4	50.0	88.6	98.9
105	343	2.583	-2.025	0.576	0.7105	25.4	42.6	86.6	98.0
106	329	2.962	-3.706	0.757	0.8156	21.9	35.9	76.6	94.5
107	322	3.741	-2.736	0.746	0.7703	23.0	38.2	79.8	94.7
108	308	5.873	-1.233	0.984	0.9124	16.6	26.6	72.4	90.3

Classification report 1 of 3

IHO statistics a/b are : 0.250 0.008

User#	Total	# fail	% fail	# pass	% pass
19	361	216	59.83	145	40.17
20	366	220	60.11	146	39.89
21	375	215	57.33	160	42.67
22	375	239	63.73	136	36.27
23	377	238	63.13	139	36.87
24	369	229	62.06	140	37.94
25	376	265	70.48	111	29.52
26	377	265	70.29	112	29.71
27	377	264	70.03	113	29.97
28	377	319	84.62	58	15.38
29	376	306	81.38	70	18.62
30	378	267	70.63	111	29.37
31	376	287	76.33	89	23.67
32	375	279	74.40	96	25.60
33	378	264	69.84	114	30.16
34	377	288	76.39	89	23.61
35	376	273	72.61	103	27.39
36	378	252	66.67	126	33.33
37	378	264	69.84	114	30.16
38	378	247	65.34	131	34.66
39	378	227	60.05	151	39.95
40	378	241	63.76	137	36.24
41	378	233	61.64	145	38.36
42	378	223	58.99	155	41.01
43	378	232	61.38	146	38.62
44	378	237	62.70	141	37.30
45	378	204	53.97	174	46.03
46	378	217	57.41	161	42.59
47	378	190	50.26	188	49.74
48	378	159	42.06	219	57.94
49	378	173	45.77	205	54.23
50	378	149	39.42	229	60.58
51	377	140	37.14	237	62.86
52	378	127	33.60	251	66.40
53	378	110	29.10	268	70.90
54	378	92	24.34	286	75.66
55	378	65	17.20	313	82.80
56	378	55	14.55	323	85.45
57	378	48	12.70	330	87.30
58	377	49	13.00	328	87.00
59	377	45	11.94	332	88.06
60	377	31	8.22	346	91.78
61	378	30	7.94	348	92.06
62	378	19	5.03	359	94.97
63	378	8	2.12	370	97.88
64	378	18	4.76	360	95.24
65	378	27	7.14	351	92.86
66	378	34	8.99	344	91.01
67	378	27	7.14	351	92.86
68	378	23	6.08	355	93.92
69	378	38	10.05	340	89.95
70	378	13	3.44	365	96.56
71	378	17	4.50	361	95.50
72	378	34	8.99	344	91.01
73	378	7	1.85	371	98.15
74	378	19	5.03	359	94.97
75	378	17	4.50	361	95.50
76	377	20	5.31	357	94.69
77	378	13	3.44	365	96.56

78	377	16	4.24	361	95.76
79	376	4	1.06	372	98.94
80	378	10	2.65	368	97.35
81	378	16	4.23	362	95.77
82	378	2	0.53	376	99.47
83	378	6	1.59	372	98.41
84	378	7	1.85	371	98.15
85	378	4	1.06	374	98.94
86	378	5	1.32	373	98.68
87	378	5	1.32	373	98.68
88	378	3	0.79	375	99.21
89	378	6	1.59	372	98.41
90	378	15	3.97	363	96.03
91	378	21	5.56	357	94.44
92	378	20	5.29	358	94.71
93	378	21	5.56	357	94.44
94	378	21	5.56	357	94.44
95	376	19	5.05	357	94.95
96	378	22	5.82	356	94.18
97	378	24	6.35	354	93.65
98	378	27	7.14	351	92.86
99	378	26	6.88	352	93.12
100	378	46	12.17	332	87.83
101	373	44	11.80	329	88.20
102	361	44	12.19	317	87.81
103	364	73	20.05	291	79.95
104	350	63	18.00	287	82.00
105	343	82	23.91	261	76.09
106	329	114	34.65	215	65.35
107	322	102	31.68	220	68.32
108	308	127	41.23	181	58.77

Classification report 2 of 3

IHO statistics a/b are : 0.500 0.013

User#	Total	# fail	% fail	# pass	% pass
19	361	109	30.19	252	69.81
20	366	133	36.34	233	63.66
21	375	95	25.33	280	74.67
22	375	158	42.13	217	57.87
23	377	144	38.20	233	61.80
24	369	117	31.71	252	68.29
25	376	154	40.96	222	59.04
26	377	120	31.83	257	68.17
27	377	87	23.08	290	76.92
28	377	133	35.28	244	64.72
29	376	135	35.90	241	64.10
30	378	96	25.40	282	74.60
31	376	120	31.91	256	68.09
32	375	105	28.00	270	72.00
33	378	81	21.43	297	78.57
34	377	113	29.97	264	70.03
35	376	66	17.55	310	82.45
36	378	68	17.99	310	82.01
37	378	70	18.52	308	81.48
38	378	43	11.38	335	88.62
39	378	29	7.67	349	92.33
40	378	41	10.85	337	89.15
41	378	22	5.82	356	94.18
42	378	24	6.35	354	93.65
43	378	33	8.73	345	91.27
44	378	32	8.47	346	91.53
45	378	30	7.94	348	92.06
46	378	31	8.20	347	91.80
47	378	22	5.82	356	94.18
48	378	25	6.61	353	93.39
49	378	21	5.56	357	94.44
50	378	18	4.76	360	95.24
51	377	12	3.18	365	96.82
52	378	21	5.56	357	94.44
53	378	18	4.76	360	95.24
54	378	10	2.65	368	97.35
55	378	8	2.12	370	97.88
56	378	5	1.32	373	98.68
57	378	2	0.53	376	99.47
58	377	9	2.39	368	97.61
59	377	5	1.33	372	98.67
60	377	1	0.27	376	99.73
61	378	1	0.26	377	99.74
62	378	0	0.00	378	100.00
63	378	0	0.00	378	100.00
64	378	0	0.00	378	100.00
65	378	1	0.26	377	99.74
66	378	0	0.00	378	100.00
67	378	0	0.00	378	100.00
68	378	0	0.00	378	100.00
69	378	0	0.00	378	100.00
70	378	0	0.00	378	100.00
71	378	0	0.00	378	100.00
72	378	0	0.00	378	100.00
73	378	0	0.00	378	100.00
74	378	0	0.00	378	100.00
75	378	0	0.00	378	100.00
76	377	0	0.00	377	100.00
77	378	0	0.00	378	100.00

78	377	0	0.00	377	100.00
79	376	0	0.00	376	100.00
80	378	0	0.00	378	100.00
81	378	0	0.00	378	100.00
82	378	0	0.00	378	100.00
83	378	0	0.00	378	100.00
84	378	0	0.00	378	100.00
85	378	0	0.00	378	100.00
86	378	0	0.00	378	100.00
87	378	0	0.00	378	100.00
88	378	0	0.00	378	100.00
89	378	0	0.00	378	100.00
90	378	0	0.00	378	100.00
91	378	0	0.00	378	100.00
92	378	0	0.00	378	100.00
93	378	1	0.26	377	99.74
94	378	1	0.26	377	99.74
95	376	0	0.00	376	100.00
96	378	0	0.00	378	100.00
97	378	1	0.26	377	99.74
98	378	0	0.00	378	100.00
99	378	1	0.26	377	99.74
100	378	1	0.26	377	99.74
101	373	3	0.80	370	99.20
102	361	9	2.49	352	97.51
103	364	13	3.57	351	96.43
104	350	9	2.57	341	97.43
105	343	22	6.41	321	93.59
106	329	34	10.33	295	89.67
107	322	28	8.70	294	91.30
108	308	45	14.61	263	85.39

Classification report 3 of 3

IHO statistics a/b are : 1.000 0.023

User#	Total	# fail	% fail	# pass	% pass
19	361	0	0.00	361	100.00
20	366	0	0.00	366	100.00
21	375	0	0.00	375	100.00
22	375	1	0.27	374	99.73
23	377	2	0.53	375	99.47
24	369	0	0.00	369	100.00
25	376	1	0.27	375	99.73
26	377	0	0.00	377	100.00
27	377	0	0.00	377	100.00
28	377	1	0.27	376	99.73
29	376	1	0.27	375	99.73
30	378	0	0.00	378	100.00
31	376	0	0.00	376	100.00
32	375	0	0.00	375	100.00
33	378	0	0.00	378	100.00
34	377	0	0.00	377	100.00
35	376	0	0.00	376	100.00
36	378	0	0.00	378	100.00
37	378	0	0.00	378	100.00
38	378	0	0.00	378	100.00
39	378	0	0.00	378	100.00
40	378	0	0.00	378	100.00
41	378	0	0.00	378	100.00
42	378	0	0.00	378	100.00
43	378	0	0.00	378	100.00
44	378	0	0.00	378	100.00
45	378	0	0.00	378	100.00
46	378	0	0.00	378	100.00
47	378	0	0.00	378	100.00
48	378	0	0.00	378	100.00
49	378	0	0.00	378	100.00
50	378	0	0.00	378	100.00
51	377	0	0.00	377	100.00
52	378	0	0.00	378	100.00
53	378	0	0.00	378	100.00
54	378	0	0.00	378	100.00
55	378	0	0.00	378	100.00
56	378	0	0.00	378	100.00
57	378	0	0.00	378	100.00
58	377	0	0.00	377	100.00
59	377	0	0.00	377	100.00
60	377	0	0.00	377	100.00
61	378	0	0.00	378	100.00
62	378	0	0.00	378	100.00
63	378	0	0.00	378	100.00
64	378	0	0.00	378	100.00
65	378	0	0.00	378	100.00
66	378	0	0.00	378	100.00
67	378	0	0.00	378	100.00
68	378	0	0.00	378	100.00
69	378	0	0.00	378	100.00
70	378	0	0.00	378	100.00
71	378	0	0.00	378	100.00
72	378	0	0.00	378	100.00
73	378	0	0.00	378	100.00
74	378	0	0.00	378	100.00
75	378	0	0.00	378	100.00
76	377	0	0.00	377	100.00
77	378	0	0.00	378	100.00

78	377	0	0.00	377	100.00
79	376	0	0.00	376	100.00
80	378	0	0.00	378	100.00
81	378	0	0.00	378	100.00
82	378	0	0.00	378	100.00
83	378	0	0.00	378	100.00
84	378	0	0.00	378	100.00
85	378	0	0.00	378	100.00
86	378	0	0.00	378	100.00
87	378	0	0.00	378	100.00
88	378	0	0.00	378	100.00
89	378	0	0.00	378	100.00
90	378	0	0.00	378	100.00
91	378	0	0.00	378	100.00
92	378	0	0.00	378	100.00
93	378	0	0.00	378	100.00
94	378	0	0.00	378	100.00
95	376	0	0.00	376	100.00
96	378	0	0.00	378	100.00
97	378	0	0.00	378	100.00
98	378	0	0.00	378	100.00
99	378	0	0.00	378	100.00
100	378	0	0.00	378	100.00
101	373	0	0.00	373	100.00
102	361	0	0.00	361	100.00
103	364	0	0.00	364	100.00
104	350	0	0.00	350	100.00
105	343	0	0.00	343	100.00
106	329	2	0.61	327	99.39
107	322	1	0.31	321	99.69
108	308	6	1.95	302	98.05

R5RE_2003 DN085

Quality Control Report for file : C:\Temp\2003_Patch_tests\Shilshole_surface\r5_dn085

Surface lines: used Shilshole reference surface

Checkline lines: 001_2046_pitchB_8_az294, 002_2034_pitch_8_az132, 004_2055_hdgB_7_az132, 005_2057_hdgB_7_az132

Elevation Range is : -27.579(m) -8.425(m)

Total number of 3D points used: 121570

Starting Time: 26-MAR-2003 20:34:27.72
Ending Time: 26-MAR-2003 20:58:51.22

Minimum tidal reduction: 2267 (mm)
Maximum tidal reduction: 2417 (mm)

User#	Total	Max(+)	Max(-)	Mean	Std.	3dm(%)	5dm(%)	1%(%)	1.6%(%)
1	334	3.443	-6.490	-0.216	0.8798	74.0	88.0	50.3	73.4
2	457	2.759	-7.232	-0.272	0.8985	77.2	90.8	51.2	78.6
3	511	2.740	-6.719	-0.285	0.9093	83.0	93.2	56.0	86.1
4	560	3.337	-7.298	-0.259	0.8500	88.4	94.6	63.9	87.7
5	595	3.793	-6.650	-0.164	0.6498	91.9	94.3	71.1	91.8
6	624	3.703	-7.046	-0.149	0.6006	90.9	95.0	71.3	91.3
7	637	3.414	-5.364	-0.143	0.5453	92.5	95.8	77.9	93.2
8	643	2.013	-6.337	-0.190	0.6598	91.6	95.8	81.6	92.2
9	656	2.216	-6.529	-0.195	0.7250	90.5	94.4	78.4	91.0
10	748	1.495	-4.658	-0.130	0.4465	92.0	96.0	84.9	92.4
11	1081	3.091	-7.918	-0.080	0.4334	93.7	96.6	88.4	93.8
12	1308	3.144	-7.397	-0.085	0.4945	94.6	95.9	89.9	94.6
13	1380	3.516	-6.996	-0.085	0.4771	93.6	95.3	89.3	93.8
14	1383	3.435	-5.237	-0.089	0.3967	92.8	94.5	90.4	93.1
15	1382	3.792	-3.816	-0.086	0.3740	93.4	95.1	91.5	93.8
16	1381	3.930	-3.890	-0.087	0.3926	93.1	94.9	91.0	93.3
17	1382	4.132	-4.517	-0.081	0.4334	93.1	94.6	91.3	93.2
18	1384	3.906	-5.365	-0.078	0.4425	93.7	95.4	90.3	93.8
19	1385	4.096	-6.377	-0.083	0.4949	94.4	96.0	90.5	94.6
20	1382	3.916	-6.214	-0.107	0.5449	94.1	95.8	89.9	94.4
21	1385	1.378	-5.984	-0.114	0.5310	94.2	96.2	90.5	94.3
22	1385	2.902	-5.106	-0.100	0.4638	94.1	95.9	91.3	94.0
23	1385	2.420	-4.091	-0.087	0.4082	94.0	95.7	91.5	94.2
24	1386	2.226	-2.732	-0.066	0.3215	94.3	95.7	91.7	94.1
25	1386	2.268	-2.231	-0.067	0.2816	94.6	95.5	91.1	94.6
26	1386	2.324	-2.477	-0.068	0.3068	93.6	95.3	91.3	93.7
27	1386	2.402	-2.244	-0.061	0.2946	95.0	95.9	91.8	95.2
28	1386	2.509	-2.025	-0.058	0.2833	95.2	96.0	92.3	95.2
29	1386	2.577	-2.591	-0.052	0.2680	95.6	96.3	92.6	95.5
30	1386	2.162	-3.228	-0.051	0.2657	95.5	96.2	93.0	95.6
31	1386	1.904	-3.847	-0.050	0.2781	95.2	96.2	93.8	95.3
32	1386	1.875	-5.014	-0.047	0.3221	94.5	96.4	93.3	94.9
33	1386	2.085	-5.379	-0.042	0.3360	94.8	97.0	92.4	95.5
34	1386	2.147	-5.576	-0.047	0.3643	94.2	96.8	92.3	94.8
35	1386	2.159	-5.970	-0.053	0.3771	94.0	95.7	92.1	94.2
36	1385	2.193	-3.973	-0.052	0.3310	93.2	95.2	91.3	93.8
37	1386	2.337	-4.946	-0.048	0.3829	92.9	94.8	90.8	93.1
38	1386	2.269	-5.859	-0.051	0.4150	92.7	94.9	90.7	92.7
39	1385	2.357	-5.677	-0.039	0.4018	93.1	95.1	90.8	93.1
40	1386	2.192	-5.644	-0.037	0.4002	92.9	95.2	90.7	93.1
41	1386	3.013	-4.779	-0.038	0.3751	93.1	95.4	91.3	93.4
42	1385	2.154	-5.621	-0.043	0.3958	93.6	95.2	91.4	93.6
43	1386	2.096	-5.695	-0.042	0.3948	93.4	95.2	91.2	93.6
44	1386	2.096	-5.833	-0.052	0.4153	92.9	94.7	91.3	93.0

45	1385	3.003	-5.510	-0.054	0.4145	92.3	94.4	91.0	92.6
46	1382	2.033	-5.858	-0.054	0.4338	92.7	94.9	90.9	92.8
47	1385	2.077	-5.892	-0.059	0.4362	92.6	94.7	90.0	92.9
48	1386	2.328	-6.199	-0.067	0.4505	92.9	94.7	90.1	92.9
49	1386	2.333	-6.364	-0.064	0.4495	92.5	94.9	90.1	92.6
50	1385	3.227	-6.551	-0.051	0.4282	93.0	95.0	90.1	92.6
51	1384	2.508	-5.604	-0.044	0.4203	92.8	95.2	90.3	92.8
52	1378	2.610	-5.580	-0.052	0.4291	92.4	94.5	90.1	92.4
53	1383	3.624	-5.753	-0.046	0.4021	92.9	94.4	90.5	92.8
54	1384	2.550	-5.937	-0.055	0.4189	93.4	94.7	90.8	93.4
55	1386	2.478	-6.167	-0.050	0.4140	93.4	95.1	91.2	93.4
56	1386	2.339	-6.069	-0.045	0.4072	93.4	95.7	91.7	93.6
57	1386	2.238	-6.343	-0.046	0.4362	93.9	96.0	92.2	94.1
58	1386	2.595	-6.713	-0.037	0.4163	94.2	96.2	92.1	94.6
59	1383	2.286	-6.891	-0.040	0.4395	94.9	96.5	93.2	94.9
60	1384	2.848	-6.924	-0.040	0.4190	94.9	96.2	93.1	95.2
61	1381	2.165	-7.068	-0.046	0.4393	95.1	96.3	93.8	95.1
62	1384	2.072	-7.161	-0.041	0.4444	95.0	96.1	93.9	95.2
63	1386	2.065	-7.254	-0.045	0.4462	95.5	96.4	94.2	95.5
64	1386	2.045	-7.363	-0.050	0.4448	95.5	96.6	95.0	95.7
65	1385	2.102	-7.327	-0.046	0.4391	95.4	96.6	94.5	95.7
66	1382	2.187	-7.457	-0.045	0.4416	95.7	96.7	95.1	95.8
67	1379	2.219	-7.672	-0.045	0.4403	96.2	97.3	95.4	96.5
68	1381	2.374	-6.655	-0.040	0.3920	96.4	97.4	95.4	96.5
69	1382	2.546	-7.014	-0.043	0.4014	96.3	97.5	94.7	96.5
70	1384	2.562	-6.972	-0.047	0.3959	96.5	97.8	95.2	96.6
71	1382	2.597	-7.194	-0.047	0.4056	96.9	98.0	95.7	97.0
72	1384	2.442	-7.250	-0.048	0.4095	97.0	98.0	95.5	97.3
73	1383	2.570	-7.115	-0.050	0.4100	96.7	97.8	94.5	96.9
74	1380	2.863	-7.401	-0.054	0.4270	96.6	97.8	94.5	96.6
75	1382	2.928	-7.624	-0.062	0.4484	96.1	97.4	93.6	96.4
76	1383	3.138	-7.389	-0.075	0.4627	95.7	97.0	91.9	96.0
77	1382	3.276	-7.509	-0.091	0.4916	95.2	95.9	91.2	94.7
78	1380	3.376	-7.099	-0.094	0.4880	94.3	95.9	91.1	93.9
79	1381	3.615	-7.567	-0.101	0.5233	94.3	95.6	91.0	94.2
80	1379	3.834	-8.007	-0.100	0.5285	94.0	95.0	90.9	93.7
81	1379	3.972	-8.097	-0.091	0.5339	94.1	95.5	90.9	93.7
82	1381	4.151	-8.268	-0.085	0.5649	94.2	95.7	89.6	93.9
83	1380	3.624	-7.885	-0.079	0.5314	94.3	95.9	89.7	93.6
84	1378	4.096	-8.699	-0.085	0.5894	94.0	95.3	89.6	93.7
85	1376	4.529	-7.657	-0.072	0.5141	94.0	95.1	89.5	93.8
86	1373	3.498	-8.203	-0.098	0.5469	93.7	95.9	90.2	93.1
87	1370	3.729	-7.691	-0.091	0.4880	94.9	97.4	91.2	94.9
88	1370	4.090	-6.822	-0.086	0.4473	94.7	97.5	90.0	94.6
89	1357	3.889	-7.395	-0.088	0.4980	94.7	97.2	89.1	94.6
90	1330	3.110	-7.164	-0.092	0.4784	94.7	97.5	88.4	94.9
91	1182	3.011	-7.718	-0.116	0.5589	94.2	97.2	87.1	94.5
92	839	3.178	-7.699	-0.134	0.6323	94.3	97.4	80.3	94.2
93	593	2.193	-7.430	-0.161	0.6255	93.8	96.1	70.5	93.9
94	496	1.935	-5.447	-0.144	0.4450	95.0	96.8	65.1	93.8
95	475	1.897	-2.186	-0.125	0.2538	93.1	97.1	61.9	91.2
96	433	4.737	-2.262	-0.111	0.4201	92.4	96.8	55.2	90.8
97	388	3.910	-1.377	-0.117	0.3639	90.2	96.9	52.1	84.0
98	357	3.730	-0.927	-0.144	0.3782	83.8	94.1	45.7	75.4
99	326	3.349	-1.128	-0.146	0.4350	73.6	90.8	40.8	66.6
100	294	3.510	-1.185	-0.172	0.4819	56.1	79.9	28.9	52.0
101	227	1.040	-1.345	-0.176	0.4935	39.2	63.0	27.8	40.5

Classification report 1 of 3

IHO statistics a/b are : 0.250 0.008

User#	Total	# fail	% fail	# pass	% pass
1	334	92	27.54	242	72.46
2	457	111	24.29	346	75.71
3	511	89	17.42	422	82.58
4	560	75	13.39	485	86.61
5	595	52	8.74	543	91.26
6	624	63	10.10	561	89.90
7	637	49	7.69	588	92.31
8	643	55	8.55	588	91.45
9	656	66	10.06	590	89.94
10	748	62	8.29	686	91.71
11	1081	73	6.75	1008	93.25
12	1308	75	5.73	1233	94.27
13	1380	90	6.52	1290	93.48
14	1383	102	7.38	1281	92.62
15	1382	91	6.58	1291	93.42
16	1381	98	7.10	1283	92.90
17	1382	97	7.02	1285	92.98
18	1384	92	6.65	1292	93.35
19	1385	80	5.78	1305	94.22
20	1382	84	6.08	1298	93.92
21	1385	82	5.92	1303	94.08
22	1385	86	6.21	1299	93.79
23	1385	84	6.06	1301	93.94
24	1386	83	5.99	1303	94.01
25	1386	80	5.77	1306	94.23
26	1386	91	6.57	1295	93.43
27	1386	71	5.12	1315	94.88
28	1386	68	4.91	1318	95.09
29	1386	63	4.55	1323	95.45
30	1386	66	4.76	1320	95.24
31	1386	66	4.76	1320	95.24
32	1386	76	5.48	1310	94.52
33	1386	72	5.19	1314	94.81
34	1386	84	6.06	1302	93.94
35	1386	84	6.06	1302	93.94
36	1385	94	6.79	1291	93.21
37	1386	99	7.14	1287	92.86
38	1386	104	7.50	1282	92.50
39	1385	99	7.15	1286	92.85
40	1386	105	7.58	1281	92.42
41	1386	95	6.85	1291	93.15
42	1385	91	6.57	1294	93.43
43	1386	96	6.93	1290	93.07
44	1386	99	7.14	1287	92.86
45	1385	107	7.73	1278	92.27
46	1382	103	7.45	1279	92.55
47	1385	104	7.51	1281	92.49
48	1386	101	7.29	1285	92.71
49	1386	107	7.72	1279	92.28
50	1385	106	7.65	1279	92.35
51	1384	103	7.44	1281	92.56
52	1378	108	7.84	1270	92.16
53	1383	101	7.30	1282	92.70
54	1384	93	6.72	1291	93.28
55	1386	93	6.71	1293	93.29
56	1386	92	6.64	1294	93.36
57	1386	87	6.28	1299	93.72
58	1386	82	5.92	1304	94.08
59	1383	73	5.28	1310	94.72

60	1384	71	5.13	1313	94.87
61	1381	70	5.07	1311	94.93
62	1384	71	5.13	1313	94.87
63	1386	65	4.69	1321	95.31
64	1386	63	4.55	1323	95.45
65	1385	64	4.62	1321	95.38
66	1382	60	4.34	1322	95.66
67	1379	52	3.77	1327	96.23
68	1381	51	3.69	1330	96.31
69	1382	51	3.69	1331	96.31
70	1384	48	3.47	1336	96.53
71	1382	43	3.11	1339	96.89
72	1384	42	3.03	1342	96.97
73	1383	46	3.33	1337	96.67
74	1380	48	3.48	1332	96.52
75	1382	56	4.05	1326	95.95
76	1383	63	4.56	1320	95.44
77	1382	73	5.28	1309	94.72
78	1380	84	6.09	1296	93.91
79	1381	81	5.87	1300	94.13
80	1379	84	6.09	1295	93.91
81	1379	87	6.31	1292	93.69
82	1381	83	6.01	1298	93.99
83	1380	85	6.16	1295	93.84
84	1378	86	6.24	1292	93.76
85	1376	83	6.03	1293	93.97
86	1373	90	6.55	1283	93.45
87	1370	74	5.40	1296	94.60
88	1370	80	5.84	1290	94.16
89	1357	72	5.31	1285	94.69
90	1330	73	5.49	1257	94.51
91	1182	72	6.09	1110	93.91
92	839	49	5.84	790	94.16
93	593	39	6.58	554	93.42
94	496	31	6.25	465	93.75
95	475	45	9.47	430	90.53
96	433	44	10.16	389	89.84
97	388	50	12.89	338	87.11
98	357	78	21.85	279	78.15
99	326	104	31.90	222	68.10
100	294	144	48.98	150	51.02
101	227	142	62.56	85	37.44

Classification report 2 of 3

IHO statistics a/b are : 0.500 0.013

User#	Total	# fail	% fail	# pass	% pass
1	334	32	9.58	302	90.42
2	457	34	7.44	423	92.56
3	511	30	5.87	481	94.13
4	560	28	5.00	532	95.00
5	595	32	5.38	563	94.62
6	624	26	4.17	598	95.83
7	637	25	3.92	612	96.08
8	643	25	3.89	618	96.11
9	656	33	5.03	623	94.97
10	748	28	3.74	720	96.26
11	1081	37	3.42	1044	96.58
12	1308	51	3.90	1257	96.10
13	1380	60	4.35	1320	95.65
14	1383	73	5.28	1310	94.72
15	1382	65	4.70	1317	95.30
16	1381	66	4.78	1315	95.22
17	1382	70	5.07	1312	94.93
18	1384	60	4.34	1324	95.66
19	1385	51	3.68	1334	96.32
20	1382	54	3.91	1328	96.09
21	1385	48	3.47	1337	96.53
22	1385	53	3.83	1332	96.17
23	1385	57	4.12	1328	95.88
24	1386	57	4.11	1329	95.89
25	1386	59	4.26	1327	95.74
26	1386	62	4.47	1324	95.53
27	1386	55	3.97	1331	96.03
28	1386	53	3.82	1333	96.18
29	1386	51	3.68	1335	96.32
30	1386	49	3.54	1337	96.46
31	1386	51	3.68	1335	96.32
32	1386	42	3.03	1344	96.97
33	1386	34	2.45	1352	97.55
34	1386	40	2.89	1346	97.11
35	1386	52	3.75	1334	96.25
36	1385	61	4.40	1324	95.60
37	1386	66	4.76	1320	95.24
38	1386	68	4.91	1318	95.09
39	1385	65	4.69	1320	95.31
40	1386	64	4.62	1322	95.38
41	1386	59	4.26	1327	95.74
42	1385	62	4.48	1323	95.52
43	1386	63	4.55	1323	95.45
44	1386	67	4.83	1319	95.17
45	1385	70	5.05	1315	94.95
46	1382	64	4.63	1318	95.37
47	1385	71	5.13	1314	94.87
48	1386	70	5.05	1316	94.95
49	1386	69	4.98	1317	95.02
50	1385	66	4.77	1319	95.23
51	1384	65	4.70	1319	95.30
52	1378	72	5.22	1306	94.78
53	1383	74	5.35	1309	94.65
54	1384	69	4.99	1315	95.01
55	1386	63	4.55	1323	95.45
56	1386	57	4.11	1329	95.89
57	1386	48	3.46	1338	96.54
58	1386	47	3.39	1339	96.61
59	1383	46	3.33	1337	96.67

60	1384	48	3.47	1336	96.53
61	1381	42	3.04	1339	96.96
62	1384	45	3.25	1339	96.75
63	1386	45	3.25	1341	96.75
64	1386	42	3.03	1344	96.97
65	1385	42	3.03	1343	96.97
66	1382	40	2.89	1342	97.11
67	1379	36	2.61	1343	97.39
68	1381	35	2.53	1346	97.47
69	1382	33	2.39	1349	97.61
70	1384	28	2.02	1356	97.98
71	1382	24	1.74	1358	98.26
72	1384	23	1.66	1361	98.34
73	1383	25	1.81	1358	98.19
74	1380	29	2.10	1351	97.90
75	1382	32	2.32	1350	97.68
76	1383	39	2.82	1344	97.18
77	1382	52	3.76	1330	96.24
78	1380	55	3.99	1325	96.01
79	1381	58	4.20	1323	95.80
80	1379	66	4.79	1313	95.21
81	1379	60	4.35	1319	95.65
82	1381	58	4.20	1323	95.80
83	1380	56	4.06	1324	95.94
84	1378	62	4.50	1316	95.50
85	1376	61	4.43	1315	95.57
86	1373	54	3.93	1319	96.07
87	1370	35	2.55	1335	97.45
88	1370	31	2.26	1339	97.74
89	1357	31	2.28	1326	97.72
90	1330	26	1.95	1304	98.05
91	1182	25	2.12	1157	97.88
92	839	21	2.50	818	97.50
93	593	21	3.54	572	96.46
94	496	14	2.82	482	97.18
95	475	12	2.53	463	97.47
96	433	14	3.23	419	96.77
97	388	12	3.09	376	96.91
98	357	17	4.76	340	95.24
99	326	25	7.67	301	92.33
100	294	48	16.33	246	83.67
101	227	68	29.96	159	70.04

Classification report 3 of 3

IHO statistics a/b are : 1.000 0.023

User#	Total	# fail	% fail	# pass	% pass
1	334	20	5.99	314	94.01
2	457	22	4.81	435	95.19
3	511	22	4.31	489	95.69
4	560	26	4.64	534	95.36
5	595	25	4.20	570	95.80
6	624	21	3.37	603	96.63
7	637	19	2.98	618	97.02
8	643	20	3.11	623	96.89
9	656	22	3.35	634	96.65
10	748	17	2.27	731	97.73
11	1081	20	1.85	1061	98.15
12	1308	29	2.22	1279	97.78
13	1380	35	2.54	1345	97.46
14	1383	41	2.96	1342	97.04
15	1382	40	2.89	1342	97.11
16	1381	41	2.97	1340	97.03
17	1382	40	2.89	1342	97.11
18	1384	39	2.82	1345	97.18
19	1385	36	2.60	1349	97.40
20	1382	31	2.24	1351	97.76
21	1385	30	2.17	1355	97.83
22	1385	32	2.31	1353	97.69
23	1385	37	2.67	1348	97.33
24	1386	37	2.67	1349	97.33
25	1386	35	2.53	1351	97.47
26	1386	35	2.53	1351	97.47
27	1386	33	2.38	1353	97.62
28	1386	34	2.45	1352	97.55
29	1386	28	2.02	1358	97.98
30	1386	23	1.66	1363	98.34
31	1386	15	1.08	1371	98.92
32	1386	20	1.44	1366	98.56
33	1386	19	1.37	1367	98.63
34	1386	20	1.44	1366	98.56
35	1386	21	1.52	1365	98.48
36	1385	33	2.38	1352	97.62
37	1386	41	2.96	1345	97.04
38	1386	45	3.25	1341	96.75
39	1385	40	2.89	1345	97.11
40	1386	40	2.89	1346	97.11
41	1386	37	2.67	1349	97.33
42	1385	37	2.67	1348	97.33
43	1386	33	2.38	1353	97.62
44	1386	39	2.81	1347	97.19
45	1385	46	3.32	1339	96.68
46	1382	43	3.11	1339	96.89
47	1385	41	2.96	1344	97.04
48	1386	41	2.96	1345	97.04
49	1386	43	3.10	1343	96.90
50	1385	39	2.82	1346	97.18
51	1384	37	2.67	1347	97.33
52	1378	41	2.98	1337	97.02
53	1383	37	2.68	1346	97.32
54	1384	34	2.46	1350	97.54
55	1386	30	2.16	1356	97.84
56	1386	30	2.16	1356	97.84
57	1386	29	2.09	1357	97.91
58	1386	29	2.09	1357	97.91
59	1383	27	1.95	1356	98.05

60	1384	30	2.17	1354	97.83
61	1381	28	2.03	1353	97.97
62	1384	28	2.02	1356	97.98
63	1386	28	2.02	1358	97.98
64	1386	28	2.02	1358	97.98
65	1385	25	1.81	1360	98.19
66	1382	27	1.95	1355	98.05
67	1379	25	1.81	1354	98.19
68	1381	26	1.88	1355	98.12
69	1382	23	1.66	1359	98.34
70	1384	20	1.45	1364	98.55
71	1382	20	1.45	1362	98.55
72	1384	19	1.37	1365	98.63
73	1383	20	1.45	1363	98.55
74	1380	24	1.74	1356	98.26
75	1382	27	1.95	1355	98.05
76	1383	33	2.39	1350	97.61
77	1382	36	2.60	1346	97.40
78	1380	43	3.12	1337	96.88
79	1381	47	3.40	1334	96.60
80	1379	46	3.34	1333	96.66
81	1379	40	2.90	1339	97.10
82	1381	42	3.04	1339	96.96
83	1380	37	2.68	1343	97.32
84	1378	35	2.54	1343	97.46
85	1376	35	2.54	1341	97.46
86	1373	26	1.89	1347	98.11
87	1370	20	1.46	1350	98.54
88	1370	20	1.46	1350	98.54
89	1357	20	1.47	1337	98.53
90	1330	22	1.65	1308	98.35
91	1182	19	1.61	1163	98.39
92	839	18	2.15	821	97.85
93	593	19	3.20	574	96.80
94	496	10	2.02	486	97.98
95	475	8	1.68	467	98.32
96	433	11	2.54	422	97.46
97	388	8	2.06	380	97.94
98	357	7	1.96	350	98.04
99	326	9	2.76	317	97.24
100	294	7	2.38	287	97.62
101	227	3	1.32	224	98.68

R5RE_2003 DN188

Quality Control Report for file : C:\Temp\2003_Patch_tests\R5RE_DN188\checkline

Surface lines: 012_2131, 013_2138, 014_2059, 014_2107

Checkline lines: 015_2116, 016_2123

Elevation Range is : -165.320(m) -114.240(m)

Total number of 3D points used: 88242

Starting Time: 7-JUL-2003 21:16:17.10
Ending Time: 7-JUL-2003 21:29:17.25

Minimum tidal reduction: 444 (mm)
Maximum tidal reduction: 495 (mm)

User#	Total	Max(+)	Max(-)	Mean	Std.	3dm(%)	5dm(%)	1%(%)	1.6%(%)
10	6	1.525	-0.303	0.625	0.7526	16.7	33.3	83.3	100.0
11	28	1.647	-2.234	0.402	0.9553	25.0	32.1	82.1	100.0
12	90	2.403	-1.909	0.585	0.9326	20.0	28.9	78.9	98.9
13	197	2.377	-2.246	0.533	0.9470	16.2	28.4	80.7	99.5
14	416	3.057	-3.308	0.490	0.9894	13.7	25.5	82.0	97.6
15	641	2.871	-2.712	0.361	0.9419	18.6	28.9	86.6	98.9
16	829	2.725	-2.619	0.282	0.7990	22.3	38.4	92.0	99.4
17	1013	2.339	-3.322	0.190	0.7977	23.9	41.8	92.4	99.6
18	1133	2.878	-3.073	0.045	0.7692	29.8	51.2	93.0	99.2
19	1175	2.766	-2.397	0.027	0.6889	32.3	58.1	95.2	99.7
20	1197	1.929	-2.780	-0.093	0.6313	39.7	61.6	96.0	99.7
21	1222	1.559	-2.343	-0.113	0.6188	37.8	62.8	96.7	99.9
22	1232	1.335	-2.505	-0.164	0.6343	40.2	63.6	95.9	99.6
23	1236	1.101	-2.991	-0.217	0.6384	40.4	64.7	95.0	99.4
24	1234	1.035	-3.294	-0.286	0.6370	45.1	64.0	93.8	99.4
25	1238	1.016	-3.174	-0.352	0.6317	45.3	63.7	92.6	99.3
26	1236	1.012	-3.156	-0.391	0.6204	44.2	63.4	92.2	99.3
27	1237	0.882	-2.841	-0.424	0.6051	44.2	62.0	92.1	99.2
28	1235	0.634	-2.952	-0.472	0.5919	43.0	59.8	92.5	98.9
29	1236	1.076	-2.629	-0.470	0.5838	44.1	60.0	91.8	99.1
30	1237	0.900	-2.514	-0.484	0.5803	41.5	58.9	91.2	99.4
31	1232	0.974	-2.581	-0.483	0.5756	39.9	56.3	91.6	99.6
32	1236	0.815	-2.844	-0.511	0.5614	37.1	54.2	92.2	99.4
33	1235	0.961	-2.394	-0.540	0.5706	36.8	53.8	91.5	99.4
34	1245	0.833	-2.477	-0.582	0.5831	36.5	51.6	90.4	99.5
35	1242	0.783	-2.526	-0.626	0.5862	34.6	49.4	88.8	99.3
36	1244	0.483	-2.530	-0.634	0.6039	33.6	50.2	87.9	99.1
37	1244	0.749	-2.727	-0.628	0.6217	32.8	50.0	87.1	98.4
38	1247	0.601	-2.910	-0.639	0.6440	33.0	51.2	87.5	97.4
39	1249	0.776	-3.007	-0.650	0.6548	31.6	49.3	87.4	96.7
40	1253	1.051	-3.078	-0.661	0.6627	29.8	45.7	87.0	97.3
41	1254	1.064	-2.915	-0.679	0.6661	28.8	43.8	85.8	97.4
42	1254	1.195	-2.730	-0.675	0.6724	28.4	45.4	84.8	97.8
43	1255	1.044	-2.549	-0.677	0.6619	28.2	43.8	84.5	98.3
44	1254	1.267	-2.621	-0.686	0.6420	26.8	42.8	84.7	98.2
45	1255	0.912	-2.539	-0.688	0.6421	28.8	42.7	85.7	97.5
46	1254	0.962	-2.699	-0.685	0.6536	28.6	42.9	86.8	96.3
47	1253	0.816	-3.181	-0.690	0.6648	28.1	43.5	88.2	95.5
48	1253	0.815	-3.875	-0.703	0.6758	28.6	43.5	88.4	95.5
49	1252	0.593	-5.081	-0.709	0.6944	28.8	45.5	88.3	96.1
50	1254	0.504	-4.726	-0.702	0.6790	27.2	45.9	88.1	96.7
51	1255	0.662	-4.571	-0.680	0.6454	29.5	47.6	88.5	97.8
52	1257	0.757	-3.844	-0.657	0.6042	31.3	47.9	88.1	98.0
53	1255	0.877	-2.673	-0.633	0.5734	30.4	50.1	89.1	98.4
54	1254	0.827	-2.623	-0.620	0.5641	31.5	52.2	90.0	98.4

55	1253	0.814	-2.651	-0.616	0.5717	31.2	52.4	89.7	98.4
56	1253	0.636	-2.638	-0.613	0.5810	34.1	52.5	89.2	98.1
57	1253	0.545	-2.755	-0.605	0.5802	34.2	52.8	90.2	98.3
58	1256	0.972	-2.643	-0.591	0.5878	35.0	53.5	90.2	98.3
59	1255	0.893	-2.642	-0.588	0.6035	37.4	53.5	89.8	98.0
60	1257	0.940	-2.712	-0.594	0.6338	39.7	54.1	89.0	97.1
61	1255	0.781	-3.128	-0.607	0.6613	39.0	54.8	88.8	96.0
62	1256	1.229	-3.285	-0.615	0.7043	39.6	55.8	87.1	95.7
63	1257	1.139	-3.548	-0.608	0.7207	40.3	57.1	88.3	95.1
64	1255	1.133	-3.140	-0.565	0.6703	41.0	58.2	89.1	97.1
65	1254	1.263	-2.720	-0.516	0.6245	40.9	59.6	89.8	98.4
66	1253	1.261	-2.477	-0.480	0.6068	40.7	57.2	91.1	98.8
67	1251	1.129	-2.484	-0.447	0.6078	42.0	56.8	92.2	98.6
68	1252	1.162	-2.521	-0.411	0.6096	43.4	58.5	93.6	98.6
69	1252	1.143	-2.380	-0.380	0.6031	43.8	62.1	93.1	99.4
70	1249	0.921	-2.583	-0.357	0.6027	43.4	61.9	92.3	99.8
71	1245	0.931	-2.653	-0.340	0.6200	45.9	63.3	92.0	99.4
72	1238	1.197	-2.678	-0.296	0.6388	42.8	63.5	93.0	98.9
73	1239	1.460	-2.479	-0.213	0.6524	40.8	61.8	93.9	99.2
74	1239	1.497	-2.373	-0.166	0.6434	40.8	62.6	95.6	99.5
75	1242	1.245	-2.262	-0.115	0.5828	39.0	63.8	97.4	100.0
76	1242	1.335	-2.174	-0.121	0.5485	42.6	65.9	97.7	100.0
77	1241	1.211	-2.000	-0.128	0.5636	41.4	65.1	96.7	100.0
78	1242	1.162	-2.163	-0.095	0.5818	42.3	66.3	96.3	100.0
79	1241	2.409	-2.295	-0.063	0.6109	40.5	64.5	95.1	99.9
80	1241	1.851	-2.390	0.009	0.6494	38.3	59.8	95.3	99.8
81	1223	2.006	-3.463	0.002	0.7130	33.5	54.2	95.1	99.7
82	1205	2.205	-2.689	0.113	0.7098	31.5	49.5	94.8	99.7
83	1144	2.599	-3.844	0.233	0.7524	26.5	44.5	93.9	99.2
84	1006	2.863	-3.381	0.401	0.8170	23.3	37.6	89.9	99.5
85	781	2.987	-2.397	0.454	0.7749	22.8	38.0	88.9	99.0
86	569	3.220	-3.020	0.517	0.8081	21.8	34.8	86.3	97.9
87	403	3.886	-2.100	0.602	0.9100	18.4	30.0	76.9	94.8
88	239	3.540	-2.349	0.660	0.9450	19.2	29.7	72.8	95.8
89	101	2.783	-2.260	0.795	1.0590	16.8	31.7	64.4	85.1
90	35	4.096	-1.401	1.082	1.4051	11.4	28.6	71.4	77.1
91	10	3.116	-0.612	0.677	1.0731	20.0	30.0	90.0	90.0
92	1	0.000	-0.458	-0.458	0.0000	0.0	100.0	100.0	100.0

Classification report 1 of 3

IHO statistics a/b are : 0.250 0.008

User#	Total	# fail	% fail	# pass	% pass
10	6	1	16.67	5	83.33
11	28	11	39.29	17	60.71
12	90	31	34.44	59	65.56
13	197	69	35.03	128	64.97
14	416	143	34.38	273	65.62
15	641	168	26.21	473	73.79
16	829	163	19.66	666	80.34
17	1013	171	16.88	842	83.12
18	1133	157	13.86	976	86.14
19	1175	119	10.13	1056	89.87
20	1197	105	8.77	1092	91.23
21	1222	110	9.00	1112	91.00
22	1232	130	10.55	1102	89.45
23	1236	139	11.25	1097	88.75
24	1234	143	11.59	1091	88.41
25	1238	159	12.84	1079	87.16
26	1236	163	13.19	1073	86.81
27	1237	166	13.42	1071	86.58
28	1235	165	13.36	1070	86.64
29	1236	163	13.19	1073	86.81
30	1237	167	13.50	1070	86.50
31	1232	171	13.88	1061	86.12
32	1236	175	14.16	1061	85.84
33	1235	201	16.28	1034	83.72
34	1245	229	18.39	1016	81.61
35	1242	249	20.05	993	79.95
36	1244	258	20.74	986	79.26
37	1244	239	19.21	1005	80.79
38	1247	241	19.33	1006	80.67
39	1249	249	19.94	1000	80.06
40	1253	263	20.99	990	79.01
41	1254	281	22.41	973	77.59
42	1254	282	22.49	972	77.51
43	1255	281	22.39	974	77.61
44	1254	280	22.33	974	77.67
45	1255	274	21.83	981	78.17
46	1254	277	22.09	977	77.91
47	1253	272	21.71	981	78.29
48	1253	275	21.95	978	78.05
49	1252	290	23.16	962	76.84
50	1254	277	22.09	977	77.91
51	1255	277	22.07	978	77.93
52	1257	276	21.96	981	78.04
53	1255	273	21.75	982	78.25
54	1254	263	20.97	991	79.03
55	1253	270	21.55	983	78.45
56	1253	263	20.99	990	79.01
57	1253	253	20.19	1000	79.81
58	1256	226	17.99	1030	82.01
59	1255	230	18.33	1025	81.67
60	1257	230	18.30	1027	81.70
61	1255	235	18.73	1020	81.27
62	1256	261	20.78	995	79.22
63	1257	252	20.05	1005	79.95
64	1255	232	18.49	1023	81.51
65	1254	213	16.99	1041	83.01
66	1253	205	16.36	1048	83.64
67	1251	185	14.79	1066	85.21
68	1252	179	14.30	1073	85.70

69	1252	161	12.86	1091	87.14
70	1249	152	12.17	1097	87.83
71	1245	148	11.89	1097	88.11
72	1238	142	11.47	1096	88.53
73	1239	131	10.57	1108	89.43
74	1239	118	9.52	1121	90.48
75	1242	75	6.04	1167	93.96
76	1242	76	6.12	1166	93.88
77	1241	91	7.33	1150	92.67
78	1242	99	7.97	1143	92.03
79	1241	99	7.98	1142	92.02
80	1241	99	7.98	1142	92.02
81	1223	123	10.06	1100	89.94
82	1205	133	11.04	1072	88.96
83	1144	155	13.55	989	86.45
84	1006	220	21.87	786	78.13
85	781	175	22.41	606	77.59
86	569	146	25.66	423	74.34
87	403	131	32.51	272	67.49
88	239	97	40.59	142	59.41
89	101	43	42.57	58	57.43
90	35	18	51.43	17	48.57
91	10	4	40.00	6	60.00
92	1	0	0.00	1	100.00

Classification report 2 of 3

IHO statistics a/b are : 0.500 0.013

User#	Total	# fail	% fail	# pass	% pass
10	6	0	0.00	6	100.00
11	28	1	3.57	27	96.43
12	90	8	8.89	82	91.11
13	197	12	6.09	185	93.91
14	416	23	5.53	393	94.47
15	641	41	6.40	600	93.60
16	829	14	1.69	815	98.31
17	1013	15	1.48	998	98.52
18	1133	24	2.12	1109	97.88
19	1175	14	1.19	1161	98.81
20	1197	11	0.92	1186	99.08
21	1222	13	1.06	1209	98.94
22	1232	19	1.54	1213	98.46
23	1236	21	1.70	1215	98.30
24	1234	24	1.94	1210	98.06
25	1238	27	2.18	1211	97.82
26	1236	29	2.35	1207	97.65
27	1237	33	2.67	1204	97.33
28	1235	47	3.81	1188	96.19
29	1236	41	3.32	1195	96.68
30	1237	48	3.88	1189	96.12
31	1232	43	3.49	1189	96.51
32	1236	40	3.24	1196	96.76
33	1235	44	3.56	1191	96.44
34	1245	48	3.86	1197	96.14
35	1242	55	4.43	1187	95.57
36	1244	60	4.82	1184	95.18
37	1244	65	5.23	1179	94.77
38	1247	76	6.09	1171	93.91
39	1249	89	7.13	1160	92.87
40	1253	98	7.82	1155	92.18
41	1254	90	7.18	1164	92.82
42	1254	93	7.42	1161	92.58
43	1255	91	7.25	1164	92.75
44	1254	78	6.22	1176	93.78
45	1255	79	6.29	1176	93.71
46	1254	91	7.26	1163	92.74
47	1253	87	6.94	1166	93.06
48	1253	82	6.54	1171	93.46
49	1252	74	5.91	1178	94.09
50	1254	73	5.82	1181	94.18
51	1255	68	5.42	1187	94.58
52	1257	55	4.38	1202	95.62
53	1255	39	3.11	1216	96.89
54	1254	37	2.95	1217	97.05
55	1253	40	3.19	1213	96.81
56	1253	45	3.59	1208	96.41
57	1253	45	3.59	1208	96.41
58	1256	53	4.22	1203	95.78
59	1255	62	4.94	1193	95.06
60	1257	69	5.49	1188	94.51
61	1255	81	6.45	1174	93.55
62	1256	90	7.17	1166	92.83
63	1257	96	7.64	1161	92.36
64	1255	87	6.93	1168	93.07
65	1254	55	4.39	1199	95.61
66	1253	40	3.19	1213	96.81
67	1251	33	2.64	1218	97.36
68	1252	32	2.56	1220	97.44

69	1252	29	2.32	1223	97.68
70	1249	21	1.68	1228	98.32
71	1245	25	2.01	1220	97.99
72	1238	28	2.26	1210	97.74
73	1239	23	1.86	1216	98.14
74	1239	19	1.53	1220	98.47
75	1242	11	0.89	1231	99.11
76	1242	7	0.56	1235	99.44
77	1241	3	0.24	1238	99.76
78	1242	8	0.64	1234	99.36
79	1241	17	1.37	1224	98.63
80	1241	27	2.18	1214	97.82
81	1223	32	2.62	1191	97.38
82	1205	16	1.33	1189	98.67
83	1144	16	1.40	1128	98.60
84	1006	36	3.58	970	96.42
85	781	20	2.56	761	97.44
86	569	22	3.87	547	96.13
87	403	38	9.43	365	90.57
88	239	24	10.04	215	89.96
89	101	24	23.76	77	76.24
90	35	8	22.86	27	77.14
91	10	1	10.00	9	90.00
92	1	0	0.00	1	100.00

Classification report 3 of 3

IHO statistics a/b are : 1.000 0.023

User#	Total	# fail	% fail	# pass	% pass
10	6	0	0.00	6	100.00
11	28	0	0.00	28	100.00
12	90	0	0.00	90	100.00
13	197	0	0.00	197	100.00
14	416	0	0.00	416	100.00
15	641	0	0.00	641	100.00
16	829	0	0.00	829	100.00
17	1013	0	0.00	1013	100.00
18	1133	1	0.09	1132	99.91
19	1175	0	0.00	1175	100.00
20	1197	0	0.00	1197	100.00
21	1222	0	0.00	1222	100.00
22	1232	0	0.00	1232	100.00
23	1236	0	0.00	1236	100.00
24	1234	0	0.00	1234	100.00
25	1238	0	0.00	1238	100.00
26	1236	0	0.00	1236	100.00
27	1237	0	0.00	1237	100.00
28	1235	0	0.00	1235	100.00
29	1236	0	0.00	1236	100.00
30	1237	0	0.00	1237	100.00
31	1232	0	0.00	1232	100.00
32	1236	0	0.00	1236	100.00
33	1235	0	0.00	1235	100.00
34	1245	0	0.00	1245	100.00
35	1242	0	0.00	1242	100.00
36	1244	0	0.00	1244	100.00
37	1244	0	0.00	1244	100.00
38	1247	0	0.00	1247	100.00
39	1249	0	0.00	1249	100.00
40	1253	0	0.00	1253	100.00
41	1254	0	0.00	1254	100.00
42	1254	0	0.00	1254	100.00
43	1255	0	0.00	1255	100.00
44	1254	0	0.00	1254	100.00
45	1255	0	0.00	1255	100.00
46	1254	0	0.00	1254	100.00
47	1253	0	0.00	1253	100.00
48	1253	4	0.32	1249	99.68
49	1252	11	0.88	1241	99.12
50	1254	11	0.88	1243	99.12
51	1255	8	0.64	1247	99.36
52	1257	1	0.08	1256	99.92
53	1255	0	0.00	1255	100.00
54	1254	0	0.00	1254	100.00
55	1253	0	0.00	1253	100.00
56	1253	0	0.00	1253	100.00
57	1253	0	0.00	1253	100.00
58	1256	0	0.00	1256	100.00
59	1255	0	0.00	1255	100.00
60	1257	0	0.00	1257	100.00
61	1255	0	0.00	1255	100.00
62	1256	0	0.00	1256	100.00
63	1257	1	0.08	1256	99.92
64	1255	0	0.00	1255	100.00
65	1254	0	0.00	1254	100.00
66	1253	0	0.00	1253	100.00
67	1251	0	0.00	1251	100.00
68	1252	0	0.00	1252	100.00

69	1252	0	0.00	1252	100.00
70	1249	0	0.00	1249	100.00
71	1245	0	0.00	1245	100.00
72	1238	0	0.00	1238	100.00
73	1239	0	0.00	1239	100.00
74	1239	0	0.00	1239	100.00
75	1242	0	0.00	1242	100.00
76	1242	0	0.00	1242	100.00
77	1241	0	0.00	1241	100.00
78	1242	0	0.00	1242	100.00
79	1241	0	0.00	1241	100.00
80	1241	0	0.00	1241	100.00
81	1223	0	0.00	1223	100.00
82	1205	0	0.00	1205	100.00
83	1144	1	0.09	1143	99.91
84	1006	1	0.10	1005	99.90
85	781	0	0.00	781	100.00
86	569	0	0.00	569	100.00
87	403	2	0.50	401	99.50
88	239	1	0.42	238	99.58
89	101	0	0.00	101	100.00
90	35	5	14.29	30	85.71
91	10	0	0.00	10	100.00
92	1	0	0.00	1	100.00

R6EL_2003 DN142

Quality Control Report for file : C:\Temp\2003_Patch_tests\RA6EL_2003\checkline

Surface lines: 20030522222809_013, 20030522223207_014, 20030522223543_015

Checkline lines: 20030522221651_010, 20030522222029_011, 20030522222354_012

Elevation Range is : -144.602(m) -119.322(m)

Total number of 3D points used: 24303

Starting Time: 22-MAY-2003 22:16:40.09
Ending Time: 22-MAY-2003 22:26:02.35

Minimum tidal reduction: 354 (mm)
Maximum tidal reduction: 400 (mm)

User#	Total	Max(+)	Max(-)	Mean	Std.	3dm(%)	5dm(%)	1%(%)	1.6%(%)
19	178	0.796	-1.614	-0.260	0.4639	52.2	68.5	98.9	100.0
20	175	0.589	-1.660	-0.566	0.4278	26.3	40.6	98.9	100.0
21	182	0.734	-1.661	-0.385	0.4360	40.7	60.4	98.9	100.0
22	186	2.259	-1.906	-0.389	0.6342	28.5	51.1	92.5	98.9
23	195	2.249	-1.468	-0.129	0.6757	44.1	62.1	92.8	99.0
24	226	1.984	-1.569	0.014	0.6395	46.0	65.9	93.4	99.6
25	246	1.189	-1.395	-0.014	0.4700	45.9	70.7	100.0	100.0
26	259	1.744	-1.462	-0.002	0.4242	56.0	78.8	98.8	100.0
27	274	1.347	-1.499	-0.015	0.4249	53.6	80.3	99.6	100.0
28	281	0.871	-1.650	-0.160	0.4143	55.2	77.6	99.6	100.0
29	282	1.057	-1.628	-0.223	0.3833	57.1	80.1	99.3	100.0
30	282	0.736	-1.718	-0.154	0.4086	54.3	78.4	98.6	100.0
31	283	0.712	-1.458	-0.150	0.3904	59.0	83.0	98.9	100.0
32	283	0.862	-1.265	-0.158	0.3567	62.5	83.0	100.0	100.0
33	281	0.805	-1.865	-0.099	0.3957	59.8	81.5	98.9	100.0
34	280	0.656	-1.506	-0.152	0.3701	56.1	79.3	99.3	100.0
35	282	0.809	-1.941	-0.176	0.4341	55.3	78.4	98.9	100.0
36	283	0.867	-2.083	-0.159	0.3964	62.2	81.3	98.6	100.0
37	282	0.741	-1.478	-0.129	0.3477	59.9	80.1	99.6	100.0
38	284	0.612	-1.381	-0.128	0.3507	63.0	83.5	100.0	100.0
39	284	0.801	-1.272	-0.069	0.3252	67.6	87.3	100.0	100.0
40	285	0.657	-1.149	-0.129	0.3062	61.8	87.4	100.0	100.0
41	285	0.814	-2.457	-0.098	0.3415	67.0	91.2	99.6	99.6
42	285	0.790	-1.565	-0.044	0.3178	70.2	88.4	99.6	100.0
43	282	0.751	-1.618	-0.181	0.3285	59.2	83.3	99.3	100.0
44	282	0.603	-1.389	-0.093	0.3164	70.6	88.3	100.0	100.0
45	282	0.855	-1.561	-0.054	0.3435	67.0	85.5	99.6	100.0
46	285	0.562	-1.262	-0.125	0.3131	60.0	85.6	100.0	100.0
47	284	0.729	-1.183	-0.081	0.3158	68.0	88.4	100.0	100.0
48	284	0.685	-1.014	-0.054	0.2935	70.8	90.1	100.0	100.0
49	284	0.577	-1.083	-0.137	0.2948	63.0	85.2	100.0	100.0
50	284	0.620	-1.452	-0.094	0.3103	70.4	90.5	99.6	100.0
51	285	0.583	-1.300	-0.042	0.2495	77.9	96.1	100.0	100.0
52	281	0.523	-1.968	-0.180	0.2836	69.0	92.9	99.6	100.0
53	281	0.714	-1.582	-0.158	0.3121	66.5	86.8	99.6	100.0
54	281	0.668	-1.829	-0.126	0.3164	69.4	90.7	99.6	100.0
55	284	0.551	-0.981	-0.088	0.2355	77.1	96.5	100.0	100.0
56	285	1.115	-1.047	-0.008	0.2556	82.5	95.1	100.0	100.0
57	283	0.828	-0.728	0.022	0.2471	80.2	95.4	100.0	100.0
58	285	0.697	-0.794	-0.047	0.2549	78.6	94.7	100.0	100.0
59	285	1.159	-0.835	-0.027	0.2453	81.1	96.8	100.0	100.0
60	285	0.791	-0.615	0.023	0.2443	79.6	95.4	100.0	100.0
61	280	0.926	-1.163	-0.050	0.2405	82.9	96.1	100.0	100.0
62	281	0.632	-1.160	-0.028	0.2277	83.6	98.6	100.0	100.0
63	281	0.880	-1.612	-0.003	0.2747	74.4	95.0	99.6	100.0

64	283	0.755	-0.869	0.027	0.2596	76.3	95.8	100.0	100.0
65	284	0.493	-1.117	-0.249	0.3008	57.4	81.3	100.0	100.0
66	284	0.380	-1.353	-0.383	0.2831	38.0	68.7	100.0	100.0
67	285	0.414	-2.353	-0.236	0.3411	55.4	76.8	99.6	99.6
68	284	0.416	-1.485	-0.232	0.2792	63.0	83.8	99.6	100.0
69	285	0.205	-1.047	-0.364	0.2237	40.0	72.6	100.0	100.0
70	284	0.737	-0.862	-0.107	0.2886	71.5	87.3	100.0	100.0
71	283	0.382	-1.601	-0.240	0.2957	61.1	82.3	99.6	100.0
72	284	0.487	-0.963	-0.322	0.2372	45.8	78.2	100.0	100.0
73	285	1.175	-1.044	-0.074	0.2931	68.8	90.9	100.0	100.0
74	285	1.259	-0.937	-0.120	0.2760	71.9	90.9	100.0	100.0
75	285	0.647	-1.478	-0.236	0.3139	57.5	80.7	99.6	100.0
76	283	0.727	-1.391	-0.174	0.3175	61.1	83.7	100.0	100.0
77	285	0.571	-1.239	-0.195	0.3293	59.6	84.2	100.0	100.0
78	284	0.401	-1.087	-0.252	0.2855	51.1	83.1	100.0	100.0
79	284	0.734	-1.036	-0.122	0.3235	65.8	84.5	100.0	100.0
80	285	0.737	-1.333	-0.146	0.3317	62.5	84.9	100.0	100.0
81	285	0.581	-1.169	-0.257	0.3201	51.6	77.2	100.0	100.0
82	285	0.677	-1.051	-0.169	0.3510	55.8	81.1	100.0	100.0
83	282	0.943	-1.434	-0.182	0.3482	62.8	81.2	99.6	100.0
84	284	0.643	-1.173	-0.267	0.3465	48.9	74.3	100.0	100.0
85	285	0.735	-1.190	-0.182	0.3264	64.6	81.8	100.0	100.0
86	285	0.763	-1.299	-0.166	0.3065	63.2	84.9	100.0	100.0
87	285	0.815	-1.620	-0.289	0.3588	47.0	70.2	99.6	100.0
88	284	0.566	-1.252	-0.197	0.3174	60.2	84.5	100.0	100.0
89	285	0.729	-1.321	-0.228	0.3322	53.7	81.8	100.0	100.0
90	285	0.851	-1.460	-0.359	0.3438	44.9	65.6	99.6	100.0
91	284	0.828	-1.428	-0.332	0.3636	44.7	69.0	99.6	100.0
92	284	0.539	-1.479	-0.307	0.3537	47.5	73.9	99.6	100.0
93	285	0.773	-1.339	-0.397	0.3779	36.8	60.4	100.0	100.0
94	285	0.582	-1.314	-0.315	0.3307	48.4	71.2	100.0	100.0
95	284	0.539	-1.437	-0.314	0.3215	47.9	75.7	100.0	100.0
96	284	0.643	-1.314	-0.368	0.3663	36.3	61.3	100.0	100.0
97	285	0.590	-1.367	-0.270	0.3792	53.0	74.4	100.0	100.0
98	283	0.555	-1.382	-0.336	0.3786	41.0	68.6	100.0	100.0
99	283	0.516	-1.519	-0.401	0.3764	35.7	59.4	98.9	100.0
100	276	1.067	-1.760	-0.260	0.4061	48.6	71.7	98.9	100.0
101	280	0.735	-1.824	-0.308	0.4041	45.0	71.1	99.3	100.0
102	278	0.892	-1.646	-0.429	0.4877	32.4	54.7	97.8	100.0
103	229	0.793	-1.565	-0.412	0.4506	35.4	57.6	98.7	100.0
104	197	0.473	-1.593	-0.675	0.3951	16.2	29.4	99.0	100.0
105	192	0.663	-1.998	-0.659	0.4810	22.9	41.7	94.8	100.0
106	162	0.216	-2.276	-0.906	0.5165	14.2	22.8	86.4	99.4
107	163	0.376	-2.959	-0.926	0.5668	10.4	20.2	81.0	98.8
108	185	0.972	-1.700	-0.356	0.5854	39.5	56.8	96.2	100.0

Classification report 1 of 3

IHO statistics a/b are : 0.250 0.008

User#	Total	# fail	% fail	# pass	% pass
19	178	10	5.62	168	94.38
20	175	22	12.57	153	87.43
21	182	11	6.04	171	93.96
22	186	29	15.59	157	84.41
23	195	29	14.87	166	85.13
24	226	23	10.18	203	89.82
25	246	7	2.85	239	97.15
26	259	5	1.93	254	98.07
27	274	4	1.46	270	98.54
28	281	6	2.14	275	97.86
29	282	9	3.19	273	96.81
30	282	8	2.84	274	97.16
31	283	8	2.83	275	97.17
32	283	6	2.12	277	97.88
33	281	4	1.42	277	98.58
34	280	3	1.07	277	98.93
35	282	9	3.19	273	96.81
36	283	6	2.12	277	97.88
37	282	1	0.35	281	99.65
38	284	4	1.41	280	98.59
39	284	2	0.70	282	99.30
40	285	1	0.35	284	99.65
41	285	4	1.40	281	98.60
42	285	2	0.70	283	99.30
43	282	5	1.77	277	98.23
44	282	4	1.42	278	98.58
45	282	3	1.06	279	98.94
46	285	1	0.35	284	99.65
47	284	1	0.35	283	99.65
48	284	0	0.00	284	100.00
49	284	0	0.00	284	100.00
50	284	2	0.70	282	99.30
51	285	1	0.35	284	99.65
52	281	3	1.07	278	98.93
53	281	2	0.71	279	99.29
54	281	2	0.71	279	99.29
55	284	0	0.00	284	100.00
56	285	1	0.35	284	99.65
57	283	0	0.00	283	100.00
58	285	0	0.00	285	100.00
59	285	1	0.35	284	99.65
60	285	0	0.00	285	100.00
61	280	1	0.36	279	99.64
62	281	1	0.36	280	99.64
63	281	1	0.36	280	99.64
64	283	0	0.00	283	100.00
65	284	3	1.06	281	98.94
66	284	5	1.76	279	98.24
67	285	3	1.05	282	98.95
68	284	2	0.70	282	99.30
69	285	0	0.00	285	100.00
70	284	0	0.00	284	100.00
71	283	4	1.41	279	98.59
72	284	0	0.00	284	100.00
73	285	1	0.35	284	99.65
74	285	1	0.35	284	99.65
75	285	1	0.35	284	99.65
76	283	2	0.71	281	99.29
77	285	4	1.40	281	98.60

78	284	2	0.70	282	99.30
79	284	0	0.00	284	100.00
80	285	2	0.70	283	99.30
81	285	1	0.35	284	99.65
82	285	0	0.00	285	100.00
83	282	4	1.42	278	98.58
84	284	3	1.06	281	98.94
85	285	2	0.70	283	99.30
86	285	1	0.35	284	99.65
87	285	5	1.75	280	98.25
88	284	2	0.70	282	99.30
89	285	4	1.40	281	98.60
90	285	4	1.40	281	98.60
91	284	5	1.76	279	98.24
92	284	7	2.46	277	97.54
93	285	17	5.96	268	94.04
94	285	2	0.70	283	99.30
95	284	8	2.82	276	97.18
96	284	9	3.17	275	96.83
97	285	10	3.51	275	96.49
98	283	10	3.53	273	96.47
99	283	11	3.89	272	96.11
100	276	8	2.90	268	97.10
101	280	11	3.93	269	96.07
102	278	29	10.43	249	89.57
103	229	20	8.73	209	91.27
104	197	29	14.72	168	85.28
105	192	34	17.71	158	82.29
106	162	66	40.74	96	59.26
107	163	63	38.65	100	61.35
108	185	25	13.51	160	86.49

Classification report 2 of 3

IHO statistics a/b are : 0.500 0.013

User#	Total	# fail	% fail	# pass	% pass
19	178	0	0.00	178	100.00
20	175	0	0.00	175	100.00
21	182	0	0.00	182	100.00
22	186	4	2.15	182	97.85
23	195	7	3.59	188	96.41
24	226	3	1.33	223	98.67
25	246	0	0.00	246	100.00
26	259	0	0.00	259	100.00
27	274	0	0.00	274	100.00
28	281	0	0.00	281	100.00
29	282	0	0.00	282	100.00
30	282	0	0.00	282	100.00
31	283	0	0.00	283	100.00
32	283	0	0.00	283	100.00
33	281	1	0.36	280	99.64
34	280	0	0.00	280	100.00
35	282	1	0.35	281	99.65
36	283	3	1.06	280	98.94
37	282	0	0.00	282	100.00
38	284	0	0.00	284	100.00
39	284	0	0.00	284	100.00
40	285	0	0.00	285	100.00
41	285	1	0.35	284	99.65
42	285	0	0.00	285	100.00
43	282	0	0.00	282	100.00
44	282	0	0.00	282	100.00
45	282	0	0.00	282	100.00
46	285	0	0.00	285	100.00
47	284	0	0.00	284	100.00
48	284	0	0.00	284	100.00
49	284	0	0.00	284	100.00
50	284	0	0.00	284	100.00
51	285	0	0.00	285	100.00
52	281	1	0.36	280	99.64
53	281	0	0.00	281	100.00
54	281	0	0.00	281	100.00
55	284	0	0.00	284	100.00
56	285	0	0.00	285	100.00
57	283	0	0.00	283	100.00
58	285	0	0.00	285	100.00
59	285	0	0.00	285	100.00
60	285	0	0.00	285	100.00
61	280	0	0.00	280	100.00
62	281	0	0.00	281	100.00
63	281	0	0.00	281	100.00
64	283	0	0.00	283	100.00
65	284	0	0.00	284	100.00
66	284	0	0.00	284	100.00
67	285	1	0.35	284	99.65
68	284	0	0.00	284	100.00
69	285	0	0.00	285	100.00
70	284	0	0.00	284	100.00
71	283	0	0.00	283	100.00
72	284	0	0.00	284	100.00
73	285	0	0.00	285	100.00
74	285	0	0.00	285	100.00
75	285	0	0.00	285	100.00
76	283	0	0.00	283	100.00
77	285	0	0.00	285	100.00

78	284	0	0.00	284	100.00
79	284	0	0.00	284	100.00
80	285	0	0.00	285	100.00
81	285	0	0.00	285	100.00
82	285	0	0.00	285	100.00
83	282	0	0.00	282	100.00
84	284	0	0.00	284	100.00
85	285	0	0.00	285	100.00
86	285	0	0.00	285	100.00
87	285	0	0.00	285	100.00
88	284	0	0.00	284	100.00
89	285	0	0.00	285	100.00
90	285	0	0.00	285	100.00
91	284	0	0.00	284	100.00
92	284	0	0.00	284	100.00
93	285	0	0.00	285	100.00
94	285	0	0.00	285	100.00
95	284	0	0.00	284	100.00
96	284	0	0.00	284	100.00
97	285	0	0.00	285	100.00
98	283	0	0.00	283	100.00
99	283	0	0.00	283	100.00
100	276	0	0.00	276	100.00
101	280	0	0.00	280	100.00
102	278	0	0.00	278	100.00
103	229	0	0.00	229	100.00
104	197	0	0.00	197	100.00
105	192	3	1.56	189	98.44
106	162	3	1.85	159	98.15
107	163	9	5.52	154	94.48
108	185	0	0.00	185	100.00

Classification report 3 of 3

IHO statistics a/b are : 1.000 0.023

User#	Total	# fail	% fail	# pass	% pass
19	178	0	0.00	178	100.00
20	175	0	0.00	175	100.00
21	182	0	0.00	182	100.00
22	186	0	0.00	186	100.00
23	195	0	0.00	195	100.00
24	226	0	0.00	226	100.00
25	246	0	0.00	246	100.00
26	259	0	0.00	259	100.00
27	274	0	0.00	274	100.00
28	281	0	0.00	281	100.00
29	282	0	0.00	282	100.00
30	282	0	0.00	282	100.00
31	283	0	0.00	283	100.00
32	283	0	0.00	283	100.00
33	281	0	0.00	281	100.00
34	280	0	0.00	280	100.00
35	282	0	0.00	282	100.00
36	283	0	0.00	283	100.00
37	282	0	0.00	282	100.00
38	284	0	0.00	284	100.00
39	284	0	0.00	284	100.00
40	285	0	0.00	285	100.00
41	285	0	0.00	285	100.00
42	285	0	0.00	285	100.00
43	282	0	0.00	282	100.00
44	282	0	0.00	282	100.00
45	282	0	0.00	282	100.00
46	285	0	0.00	285	100.00
47	284	0	0.00	284	100.00
48	284	0	0.00	284	100.00
49	284	0	0.00	284	100.00
50	284	0	0.00	284	100.00
51	285	0	0.00	285	100.00
52	281	0	0.00	281	100.00
53	281	0	0.00	281	100.00
54	281	0	0.00	281	100.00
55	284	0	0.00	284	100.00
56	285	0	0.00	285	100.00
57	283	0	0.00	283	100.00
58	285	0	0.00	285	100.00
59	285	0	0.00	285	100.00
60	285	0	0.00	285	100.00
61	280	0	0.00	280	100.00
62	281	0	0.00	281	100.00
63	281	0	0.00	281	100.00
64	283	0	0.00	283	100.00
65	284	0	0.00	284	100.00
66	284	0	0.00	284	100.00
67	285	0	0.00	285	100.00
68	284	0	0.00	284	100.00
69	285	0	0.00	285	100.00
70	284	0	0.00	284	100.00
71	283	0	0.00	283	100.00
72	284	0	0.00	284	100.00
73	285	0	0.00	285	100.00
74	285	0	0.00	285	100.00
75	285	0	0.00	285	100.00
76	283	0	0.00	283	100.00
77	285	0	0.00	285	100.00

78	284	0	0.00	284	100.00
79	284	0	0.00	284	100.00
80	285	0	0.00	285	100.00
81	285	0	0.00	285	100.00
82	285	0	0.00	285	100.00
83	282	0	0.00	282	100.00
84	284	0	0.00	284	100.00
85	285	0	0.00	285	100.00
86	285	0	0.00	285	100.00
87	285	0	0.00	285	100.00
88	284	0	0.00	284	100.00
89	285	0	0.00	285	100.00
90	285	0	0.00	285	100.00
91	284	0	0.00	284	100.00
92	284	0	0.00	284	100.00
93	285	0	0.00	285	100.00
94	285	0	0.00	285	100.00
95	284	0	0.00	284	100.00
96	284	0	0.00	284	100.00
97	285	0	0.00	285	100.00
98	283	0	0.00	283	100.00
99	283	0	0.00	283	100.00
100	276	0	0.00	276	100.00
101	280	0	0.00	280	100.00
102	278	0	0.00	278	100.00
103	229	0	0.00	229	100.00
104	197	0	0.00	197	100.00
105	192	0	0.00	192	100.00
106	162	0	0.00	162	100.00
107	163	0	0.00	163	100.00
108	185	0	0.00	185	100.00

RAHF_2003 DN120

Quality Control Report for file : C:\Temp\2003_Patch_tests\RAHF\checkline

Surface lines: 004_1533, 005_1522, 006_1513

Checkline lines: 001_1638, 002_1624, 003_1547

Elevation Range is : -258.825(m) -202.220(m)

Total number of 3D points used: 29472

Starting Time: 30-APR-2003 15:47:40.98
Ending Time: 30-APR-2003 16:44:24.36

Minimum tidal reduction: 8 (mm)
Maximum tidal reduction: 319 (mm)

User#	Total	Max(+)	Max(-)	Mean	Std.	3dm(%)	5dm(%)	1%(%)	1.6%(%)
10	37	4.897	-4.503	0.357	2.6038	0.0	2.7	51.4	83.8
11	126	2.737	-9.069	-0.567	2.0521	15.1	24.6	80.2	92.1
12	125	2.307	-7.336	-2.698	1.9275	3.2	5.6	34.4	69.6
13	104	6.896	-7.906	0.441	1.9078	18.3	29.8	83.7	96.2
14	183	5.339	-8.603	-0.511	2.1541	18.0	26.8	76.5	91.3
15	213	4.005	-10.834	-1.648	2.4149	8.5	15.5	54.9	80.8
16	242	6.248	-6.127	0.167	1.8817	12.8	22.7	83.1	91.3
17	256	6.909	-8.574	-0.874	2.3343	7.4	13.7	71.9	89.1
18	265	7.035	-11.206	-1.766	2.7297	3.4	6.4	46.0	78.5
19	287	6.825	-13.096	-0.952	2.5121	7.3	11.8	68.3	89.5
20	300	7.153	-20.931	-0.863	2.8045	9.7	16.3	67.0	88.0
21	305	8.271	-23.396	-1.138	2.8919	8.9	14.1	65.9	84.9
22	305	7.218	-8.727	-0.993	2.2344	7.9	13.8	65.2	85.6
23	308	6.882	-6.474	-0.606	2.1303	10.7	16.6	76.3	90.3
24	309	7.806	-5.281	-0.741	2.1372	8.7	15.9	72.5	86.7
25	306	6.098	-6.301	-1.199	1.8800	9.8	15.4	66.3	90.8
26	304	6.210	-8.710	-0.585	1.7244	13.2	22.4	85.2	92.4
27	312	7.000	-8.476	-0.723	1.9390	13.5	23.7	77.2	91.7
28	313	6.925	-8.075	-1.669	1.7782	6.7	11.5	58.8	91.1
29	307	7.259	-5.484	-1.099	1.5647	11.7	20.8	77.9	93.8
30	312	5.911	-7.216	-1.134	1.4725	15.7	24.7	79.2	95.5
31	311	4.638	-6.589	-1.847	1.5286	6.8	11.9	57.6	90.7
32	311	4.094	-4.779	-1.208	1.3354	11.6	19.6	80.1	94.9
33	310	4.376	-5.207	-1.289	1.3989	14.8	21.3	77.4	92.9
34	311	3.583	-5.741	-1.514	1.4146	7.4	13.5	68.8	93.9
35	311	5.286	-6.329	-1.061	1.5133	12.9	23.2	81.7	94.5
36	309	2.220	-5.162	-1.170	1.3132	16.2	26.2	81.6	95.5
37	311	3.729	-6.407	-1.259	1.5940	6.4	13.5	69.1	94.5
38	310	3.251	-4.409	-1.020	1.2155	14.8	24.5	83.2	98.4
39	311	4.603	-4.068	-0.940	1.4428	12.9	22.5	77.8	97.7
40	310	3.573	-4.529	-1.177	1.2986	9.7	18.7	79.4	96.8
41	309	5.890	-4.645	-0.981	1.4631	12.9	23.9	76.4	96.4
42	309	6.026	-4.593	-1.130	1.5297	11.7	20.1	73.5	94.5
43	311	4.652	-4.096	-0.833	1.3346	15.1	24.1	82.6	99.0
44	311	5.664	-4.674	-0.737	1.4619	15.1	23.2	82.0	97.7
45	309	4.987	-3.331	-0.602	1.2841	18.8	28.8	87.1	99.4
46	312	4.535	-4.971	-0.707	1.4581	14.1	22.1	80.8	98.7
47	308	4.813	-5.874	-0.888	1.4256	13.6	25.6	84.1	96.1
48	311	3.264	-4.508	-0.937	1.3136	14.5	23.8	83.6	98.1
49	312	3.848	-5.456	-0.569	1.3225	17.9	29.5	87.2	98.7
50	311	3.460	-4.996	-0.539	1.3021	18.0	30.9	87.8	98.7
51	310	4.313	-4.850	-0.576	1.2045	24.8	36.8	91.6	97.4
52	312	4.333	-3.535	-0.402	1.0879	20.2	32.4	93.6	99.7
53	312	5.824	-3.606	-0.363	1.1907	21.2	32.4	92.6	99.7
54	310	4.169	-4.194	-0.797	1.2012	17.1	27.4	89.4	97.7

55	312	2.458	-3.767	-0.659	1.1924	16.7	26.9	89.7	98.7
56	310	2.812	-4.037	-0.492	1.3071	18.7	31.6	88.4	98.1
57	311	3.396	-4.561	-1.258	1.2950	7.7	14.5	76.2	97.4
58	314	2.896	-4.840	-0.744	1.3538	15.0	22.3	87.3	98.4
59	312	3.591	-6.414	-0.770	1.4693	10.9	19.9	81.4	99.0
60	311	3.306	-3.912	-1.131	1.2248	10.9	20.3	81.7	98.1
61	313	3.277	-4.827	-0.702	1.2957	16.6	25.9	85.9	99.4
62	313	2.628	-6.418	-0.643	1.3971	15.3	25.6	85.0	99.0
63	308	3.265	-3.491	0.212	1.3781	15.6	27.9	87.7	100.0
64	311	3.505	-2.575	0.780	1.1996	11.6	18.6	89.1	99.7
65	311	3.424	-3.550	0.721	1.1023	14.8	22.5	92.9	99.7
66	312	4.087	-5.829	0.777	1.2238	16.3	26.0	86.9	99.0
67	294	4.476	-3.675	0.779	1.1123	14.6	24.5	90.5	99.0
68	293	6.514	-4.678	0.891	1.2900	13.3	23.9	87.7	97.6
69	299	4.344	-4.532	0.666	1.2711	16.1	29.1	88.0	98.3
70	307	3.352	-3.743	0.497	1.1214	18.2	26.4	93.5	99.7
71	310	3.095	-4.020	0.392	1.2855	15.2	22.6	91.6	99.7
72	309	3.074	-3.176	0.317	1.1089	20.4	35.0	94.8	100.0
73	307	2.134	-4.272	0.063	1.0864	23.8	40.1	96.4	99.3
74	306	3.451	-2.976	0.268	1.1203	15.4	32.0	96.1	99.7
75	303	2.859	-2.741	0.141	1.0998	20.1	35.3	96.7	100.0
76	293	4.166	-5.965	0.041	1.2073	18.1	35.5	93.5	98.6
77	288	3.159	-6.040	0.489	1.1267	17.4	28.8	95.1	99.0
78	287	3.425	-4.971	0.110	1.2808	17.1	26.8	91.3	99.3
79	286	2.275	-3.995	0.136	1.0554	22.4	36.4	96.5	99.7
80	286	3.246	-5.128	0.289	1.1272	25.2	36.7	94.1	99.3
81	284	2.732	-5.374	0.204	1.2407	25.4	39.4	93.7	97.9
82	283	3.349	-5.428	0.156	1.2336	19.1	37.8	93.6	98.9
83	281	2.556	-4.908	0.065	1.2122	23.1	36.3	94.7	98.9
84	277	3.022	-5.353	0.064	1.3071	16.2	28.2	91.3	98.6
85	280	2.869	-6.122	0.289	1.1494	25.0	40.0	92.9	99.3
86	277	2.891	-5.974	-0.124	1.1913	23.1	41.2	93.1	98.6
87	276	3.133	-5.904	-0.010	1.3159	19.9	34.4	92.4	99.3
88	277	3.855	-8.119	0.211	1.4181	22.7	37.2	93.9	97.1
89	276	2.806	-11.087	-0.072	1.5242	22.5	38.8	94.9	97.5
90	277	4.054	-5.669	-0.114	1.2907	20.9	34.7	93.1	97.8
91	276	3.092	-6.632	0.146	1.2631	29.3	43.1	93.5	98.2
92	275	4.039	-5.614	-0.069	1.2367	24.0	33.8	94.5	97.8
93	275	3.583	-6.063	-0.273	1.4193	16.7	27.6	90.2	97.8
94	276	2.527	-5.399	0.018	1.3003	19.9	35.1	93.5	97.1
95	274	3.315	-6.312	-0.152	1.3655	24.5	37.2	93.8	97.1
96	274	3.009	-7.849	-0.464	1.5399	20.4	29.6	88.7	98.2
97	276	3.066	-9.451	0.215	1.3813	20.7	34.1	93.1	98.2
98	276	2.568	-8.398	-0.165	1.2954	20.7	31.9	95.7	98.6
99	274	2.130	-5.898	-0.579	1.3227	19.3	29.9	90.5	97.1
100	274	2.851	-5.736	0.302	1.1324	22.3	36.9	94.5	99.3
101	274	2.608	-4.819	-0.120	1.0680	22.3	37.6	94.5	99.6
102	268	3.666	-7.146	-0.356	1.2006	19.8	38.8	91.8	99.3
103	267	4.608	-4.896	0.209	1.2652	25.5	35.6	93.6	98.9
104	259	3.371	-3.469	0.059	1.0699	27.4	43.2	94.6	100.0
105	236	2.684	-4.290	-0.271	1.1364	22.0	32.6	95.3	99.6
106	224	4.462	-1.987	0.393	1.1778	28.1	39.7	91.1	98.2
107	205	2.416	-4.134	-0.096	1.0080	25.4	36.1	96.1	99.5
108	204	3.178	-2.916	0.308	0.8616	24.0	33.8	99.0	100.0
109	205	5.428	-3.101	0.270	1.3621	19.0	32.2	91.7	97.1
110	203	3.373	-3.308	0.217	1.1159	21.7	40.9	93.6	100.0
111	183	3.816	-7.093	1.174	1.5711	9.3	16.4	76.0	96.2
112	201	3.932	-5.302	-0.902	1.7228	16.4	24.9	75.6	91.5
113	194	4.091	-7.034	0.630	1.7273	16.0	22.7	79.4	95.4
114	90	5.946	-4.903	2.534	2.3306	4.4	4.4	20.0	61.1
115	185	9.167	-4.808	-0.294	2.1369	13.0	18.4	69.2	94.1
116	119	6.870	-1.237	2.841	1.5264	1.7	2.5	34.5	72.3
117	40	8.818	0.000	4.344	1.6671	0.0	0.0	10.0	32.5

Classification report 1 of 3

IHO statistics a/b are : 0.250 0.008

User#	Total	# fail	% fail	# pass	% pass
10	37	26	70.27	11	29.73
11	126	36	28.57	90	71.43
12	125	95	76.00	30	24.00
13	104	33	31.73	71	68.27
14	183	63	34.43	120	65.57
15	213	118	55.40	95	44.60
16	242	59	24.38	183	75.62
17	256	107	41.80	149	58.20
18	265	184	69.43	81	30.57
19	287	155	54.01	132	45.99
20	300	139	46.33	161	53.67
21	305	155	50.82	150	49.18
22	305	150	49.18	155	50.82
23	308	121	39.29	187	60.71
24	309	123	39.81	186	60.19
25	306	156	50.98	150	49.02
26	304	80	26.32	224	73.68
27	312	101	32.37	211	67.63
28	313	182	58.15	131	41.85
29	307	113	36.81	194	63.19
30	312	106	33.97	206	66.03
31	311	183	58.84	128	41.16
32	311	111	35.69	200	64.31
33	310	110	35.48	200	64.52
34	311	142	45.66	169	54.34
35	311	106	34.08	205	65.92
36	309	100	32.36	209	67.64
37	311	146	46.95	165	53.05
38	310	89	28.71	221	71.29
39	311	109	35.05	202	64.95
40	310	110	35.48	200	64.52
41	309	107	34.63	202	65.37
42	309	117	37.86	192	62.14
43	311	92	29.58	219	70.42
44	311	96	30.87	215	69.13
45	309	78	25.24	231	74.76
46	312	94	30.13	218	69.87
47	308	87	28.25	221	71.75
48	311	94	30.23	217	69.77
49	312	74	23.72	238	76.28
50	311	69	22.19	242	77.81
51	310	56	18.06	254	81.94
52	312	44	14.10	268	85.90
53	312	57	18.27	255	81.73
54	310	69	22.26	241	77.74
55	312	69	22.12	243	77.88
56	310	67	21.61	243	78.39
57	311	140	45.02	171	54.98
58	314	98	31.21	216	68.79
59	312	95	30.45	217	69.55
60	311	103	33.12	208	66.88
61	313	82	26.20	231	73.80
62	313	92	29.39	221	70.61
63	308	79	25.65	229	74.35
64	311	87	27.97	224	72.03
65	311	66	21.22	245	78.78
66	312	69	22.12	243	77.88
67	294	62	21.09	232	78.91
68	293	80	27.30	213	72.70

69	299	66	22.07	233	77.93
70	307	50	16.29	257	83.71
71	310	64	20.65	246	79.35
72	309	51	16.50	258	83.50
73	307	31	10.10	276	89.90
74	306	43	14.05	263	85.95
75	303	44	14.52	259	85.48
76	293	34	11.60	259	88.40
77	288	41	14.24	247	85.76
78	287	47	16.38	240	83.62
79	286	35	12.24	251	87.76
80	286	38	13.29	248	86.71
81	284	39	13.73	245	86.27
82	283	47	16.61	236	83.39
83	281	43	15.30	238	84.70
84	277	43	15.52	234	84.48
85	280	38	13.57	242	86.43
86	277	28	10.11	249	89.89
87	276	50	18.12	226	81.88
88	277	39	14.08	238	85.92
89	276	31	11.23	245	88.77
90	277	46	16.61	231	83.39
91	276	35	12.68	241	87.32
92	275	37	13.45	238	86.55
93	275	56	20.36	219	79.64
94	276	39	14.13	237	85.87
95	274	38	13.87	236	86.13
96	274	69	25.18	205	74.82
97	276	37	13.41	239	86.59
98	276	33	11.96	243	88.04
99	274	55	20.07	219	79.93
100	274	34	12.41	240	87.59
101	274	30	10.95	244	89.05
102	268	40	14.93	228	85.07
103	267	49	18.35	218	81.65
104	259	32	12.36	227	87.64
105	236	36	15.25	200	84.75
106	224	30	13.39	194	86.61
107	205	13	6.34	192	93.66
108	204	8	3.92	196	96.08
109	205	33	16.10	172	83.90
110	203	31	15.27	172	84.73
111	183	84	45.90	99	54.10
112	201	67	33.33	134	66.67
113	194	64	32.99	130	67.01
114	90	75	83.33	15	16.67
115	185	82	44.32	103	55.68
116	119	98	82.35	21	17.65
117	40	38	95.00	2	5.00

Classification report 2 of 3

IHO statistics a/b are : 0.500 0.013

User#	Total	# fail	% fail	# pass	% pass
10	37	8	21.62	29	78.38
11	126	14	11.11	112	88.89
12	125	57	45.60	68	54.40
13	104	5	4.81	99	95.19
14	183	31	16.94	152	83.06
15	213	65	30.52	148	69.48
16	242	29	11.98	213	88.02
17	256	38	14.84	218	85.16
18	265	94	35.47	171	64.53
19	287	52	18.12	235	81.88
20	300	59	19.67	241	80.33
21	305	63	20.66	242	79.34
22	305	69	22.62	236	77.38
23	308	42	13.64	266	86.36
24	309	57	18.45	252	81.55
25	306	56	18.30	250	81.70
26	304	32	10.53	272	89.47
27	312	39	12.50	273	87.50
28	313	60	19.17	253	80.83
29	307	39	12.70	268	87.30
30	312	30	9.62	282	90.38
31	311	68	21.86	243	78.14
32	311	33	10.61	278	89.39
33	310	36	11.61	274	88.39
34	311	46	14.79	265	85.21
35	311	27	8.68	284	91.32
36	309	35	11.33	274	88.67
37	311	40	12.86	271	87.14
38	310	23	7.42	287	92.58
39	311	27	8.68	284	91.32
40	310	36	11.61	274	88.39
41	309	24	7.77	285	92.23
42	309	36	11.65	273	88.35
43	311	17	5.47	294	94.53
44	311	24	7.72	287	92.28
45	309	8	2.59	301	97.41
46	312	20	6.41	292	93.59
47	308	24	7.79	284	92.21
48	311	22	7.07	289	92.93
49	312	11	3.53	301	96.47
50	311	11	3.54	300	96.46
51	310	15	4.84	295	95.16
52	312	5	1.60	307	98.40
53	312	5	1.60	307	98.40
54	310	16	5.16	294	94.84
55	312	13	4.17	299	95.83
56	310	13	4.19	297	95.81
57	311	21	6.75	290	93.25
58	314	12	3.82	302	96.18
59	312	17	5.45	295	94.55
60	311	24	7.72	287	92.28
61	313	13	4.15	300	95.85
62	313	15	4.79	298	95.21
63	308	9	2.92	299	97.08
64	311	6	1.93	305	98.07
65	311	6	1.93	305	98.07
66	312	16	5.13	296	94.87
67	294	6	2.04	288	97.96
68	293	13	4.44	280	95.56

69	299	13	4.35	286	95.65
70	307	4	1.30	303	98.70
71	310	9	2.90	301	97.10
72	309	3	0.97	306	99.03
73	307	6	1.95	301	98.05
74	306	2	0.65	304	99.35
75	303	0	0.00	303	100.00
76	293	8	2.73	285	97.27
77	288	6	2.08	282	97.92
78	287	7	2.44	280	97.56
79	286	3	1.05	283	98.95
80	286	6	2.10	280	97.90
81	284	7	2.46	277	97.54
82	283	5	1.77	278	98.23
83	281	7	2.49	274	97.51
84	277	7	2.53	270	97.47
85	280	5	1.79	275	98.21
86	277	5	1.81	272	98.19
87	276	6	2.17	270	97.83
88	277	10	3.61	267	96.39
89	276	7	2.54	269	97.46
90	277	12	4.33	265	95.67
91	276	7	2.54	269	97.46
92	275	6	2.18	269	97.82
93	275	10	3.64	265	96.36
94	276	9	3.26	267	96.74
95	274	9	3.28	265	96.72
96	274	12	4.38	262	95.62
97	276	6	2.17	270	97.83
98	276	5	1.81	271	98.19
99	274	11	4.01	263	95.99
100	274	4	1.46	270	98.54
101	274	3	1.09	271	98.91
102	268	5	1.87	263	98.13
103	267	9	3.37	258	96.63
104	259	3	1.16	256	98.84
105	236	2	0.85	234	99.15
106	224	9	4.02	215	95.98
107	205	3	1.46	202	98.54
108	204	1	0.49	203	99.51
109	205	11	5.37	194	94.63
110	203	3	1.48	200	98.52
111	183	15	8.20	168	91.80
112	201	30	14.93	171	85.07
113	194	17	8.76	177	91.24
114	90	56	62.22	34	37.78
115	185	24	12.97	161	87.03
116	119	57	47.90	62	52.10
117	40	29	72.50	11	27.50

Classification report 3 of 3

IHO statistics a/b are : 1.000 0.023

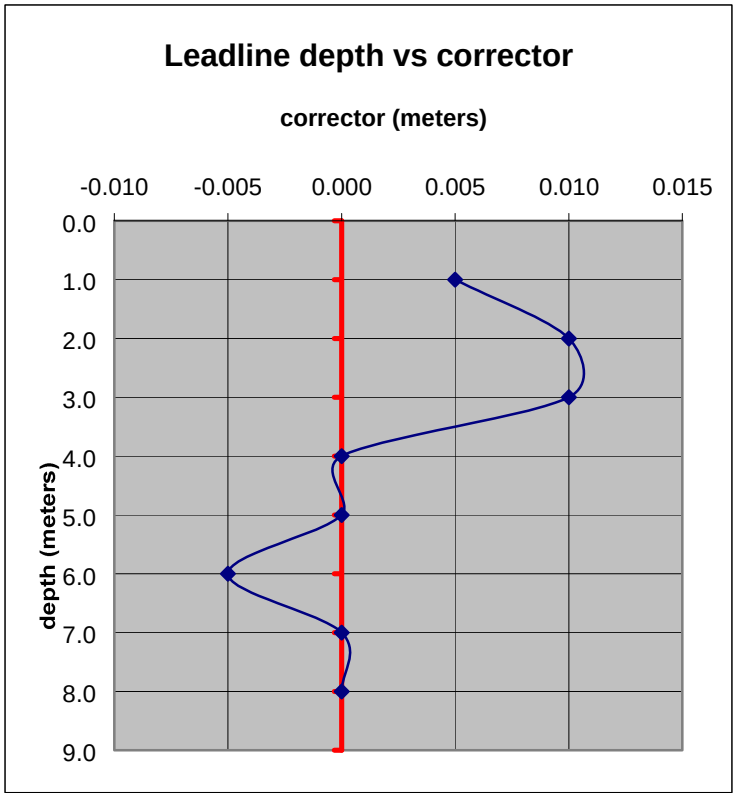
User#	Total	# fail	% fail	# pass	% pass
10	37	0	0.00	37	100.00
11	126	5	3.97	121	96.03
12	125	13	10.40	112	89.60
13	104	3	2.88	101	97.12
14	183	5	2.73	178	97.27
15	213	11	5.16	202	94.84
16	242	5	2.07	237	97.93
17	256	18	7.03	238	92.97
18	265	26	9.81	239	90.19
19	287	14	4.88	273	95.12
20	300	15	5.00	285	95.00
21	305	24	7.87	281	92.13
22	305	12	3.93	293	96.07
23	308	13	4.22	295	95.78
24	309	11	3.56	298	96.44
25	306	5	1.63	301	98.37
26	304	4	1.32	300	98.68
27	312	13	4.17	299	95.83
28	313	11	3.51	302	96.49
29	307	4	1.30	303	98.70
30	312	4	1.28	308	98.72
31	311	5	1.61	306	98.39
32	311	0	0.00	311	100.00
33	310	0	0.00	310	100.00
34	311	2	0.64	309	99.36
35	311	6	1.93	305	98.07
36	309	0	0.00	309	100.00
37	311	1	0.32	310	99.68
38	310	0	0.00	310	100.00
39	311	0	0.00	311	100.00
40	310	0	0.00	310	100.00
41	309	1	0.32	308	99.68
42	309	2	0.65	307	99.35
43	311	0	0.00	311	100.00
44	311	1	0.32	310	99.68
45	309	0	0.00	309	100.00
46	312	0	0.00	312	100.00
47	308	2	0.65	306	99.35
48	311	0	0.00	311	100.00
49	312	1	0.32	311	99.68
50	311	0	0.00	311	100.00
51	310	0	0.00	310	100.00
52	312	0	0.00	312	100.00
53	312	1	0.32	311	99.68
54	310	0	0.00	310	100.00
55	312	0	0.00	312	100.00
56	310	0	0.00	310	100.00
57	311	0	0.00	311	100.00
58	314	0	0.00	314	100.00
59	312	1	0.32	311	99.68
60	311	0	0.00	311	100.00
61	313	0	0.00	313	100.00
62	313	1	0.32	312	99.68
63	308	0	0.00	308	100.00
64	311	0	0.00	311	100.00
65	311	0	0.00	311	100.00
66	312	1	0.32	311	99.68
67	294	0	0.00	294	100.00
68	293	1	0.34	292	99.66

69	299	0	0.00	299	100.00
70	307	0	0.00	307	100.00
71	310	0	0.00	310	100.00
72	309	0	0.00	309	100.00
73	307	0	0.00	307	100.00
74	306	0	0.00	306	100.00
75	303	0	0.00	303	100.00
76	293	1	0.34	292	99.66
77	288	1	0.35	287	99.65
78	287	0	0.00	287	100.00
79	286	0	0.00	286	100.00
80	286	0	0.00	286	100.00
81	284	0	0.00	284	100.00
82	283	1	0.35	282	99.65
83	281	0	0.00	281	100.00
84	277	0	0.00	277	100.00
85	280	1	0.36	279	99.64
86	277	1	0.36	276	99.64
87	276	2	0.72	274	99.28
88	277	4	1.44	273	98.56
89	276	4	1.45	272	98.55
90	277	1	0.36	276	99.64
91	276	2	0.72	274	99.28
92	275	1	0.36	274	99.64
93	275	3	1.09	272	98.91
94	276	1	0.36	275	99.64
95	274	4	1.46	270	98.54
96	274	4	1.46	270	98.54
97	276	2	0.72	274	99.28
98	276	2	0.72	274	99.28
99	274	3	1.09	271	98.91
100	274	1	0.36	273	99.64
101	274	0	0.00	274	100.00
102	268	1	0.37	267	99.63
103	267	0	0.00	267	100.00
104	259	0	0.00	259	100.00
105	236	0	0.00	236	100.00
106	224	0	0.00	224	100.00
107	205	0	0.00	205	100.00
108	204	0	0.00	204	100.00
109	205	1	0.49	204	99.51
110	203	0	0.00	203	100.00
111	183	3	1.64	180	98.36
112	201	0	0.00	201	100.00
113	194	3	1.55	191	98.45
114	90	2	2.22	88	97.78
115	185	3	1.62	182	98.38
116	119	9	7.56	110	92.44
117	40	12	30.00	28	70.00

Leadline RA 6S

calibrated 4/2/2003

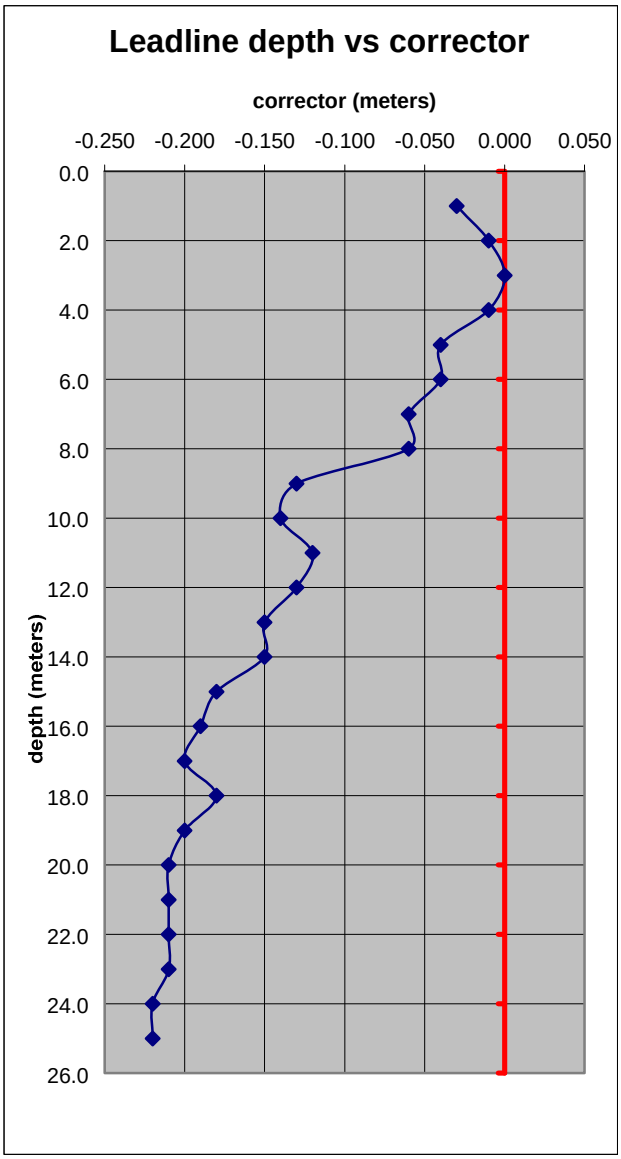
Meter Marks	Measurement	Corrector
1.0	0.995	0.005
2.0	1.990	0.010
3.0	2.990	0.010
4.0	4.000	0.000
5.0	5.000	0.000
6.0	6.005	-0.005
7.0	7.000	0.000
8.0	8.000	0.000
	Average correction	0.002
	Standard deviation	0.005



Leadline RA204

calibrated 4/2/2003

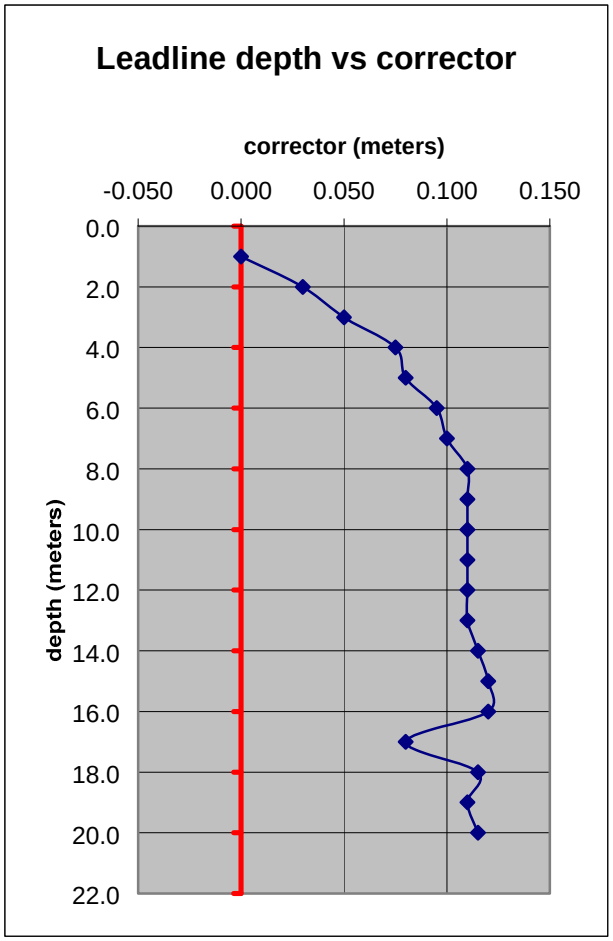
Meter Mark	Measurement	Corrector
1.0	1.030	-0.030
2.0	2.010	-0.010
3.0	3.000	0.000
4.0	4.010	-0.010
5.0	5.040	-0.040
6.0	6.040	-0.040
7.0	7.060	-0.060
8.0	8.060	-0.060
9.0	9.130	-0.130
10.0	10.140	-0.140
11.0	11.120	-0.120
12.0	12.130	-0.130
13.0	13.150	-0.150
14.0	14.150	-0.150
15.0	15.180	-0.180
16.0	16.190	-0.190
17.0	17.200	-0.200
18.0	18.180	-0.180
19.0	19.200	-0.200
20.0	20.210	-0.210
21.0	21.210	-0.210
22.0	22.210	-0.210
23.0	23.210	-0.210
24.0	24.220	-0.220
25.0	25.220	-0.220
	Average Correction	-0.031
	Standard deviation	0.023



Lead Line RA107

calibrated 4/2/2003

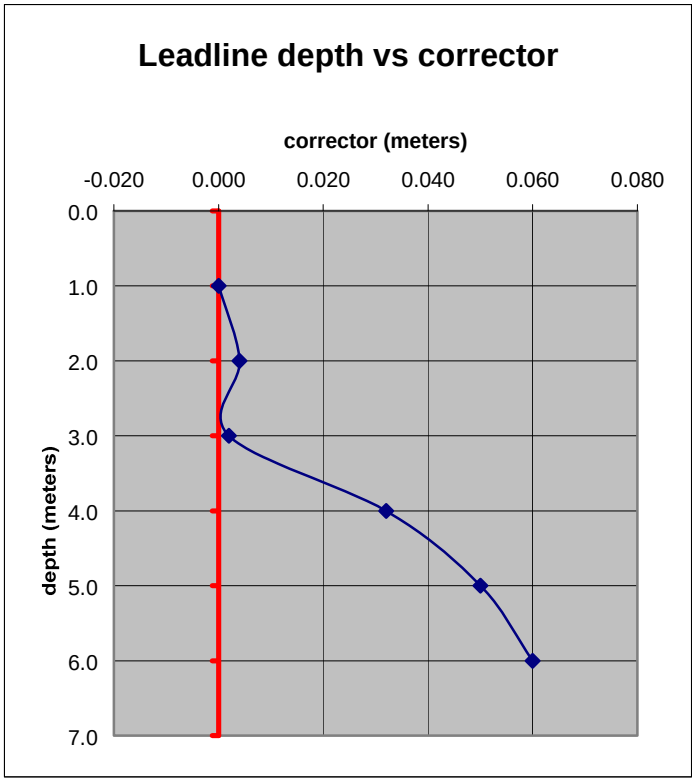
Meter Mark	Measurement	Corrector
1.0	1.000	0.000
2.0	1.970	0.030
3.0	2.950	0.050
4.0	3.925	0.075
5.0	4.920	0.080
6.0	5.905	0.095
7.0	6.900	0.100
8.0	7.890	0.110
9.0	8.890	0.110
10.0	9.890	0.110
11.0	10.890	0.110
12.0	11.890	0.110
13.0	12.890	0.110
14.0	13.885	0.115
15.0	14.880	0.120
16.0	15.880	0.120
17.0	16.920	0.080
18.0	17.885	0.115
19.0	18.890	0.110
20.0	19.885	0.115
Average Correction		0.110
Standard deviation		0.033



Lead Line RA201

calibrated 4/2/2003

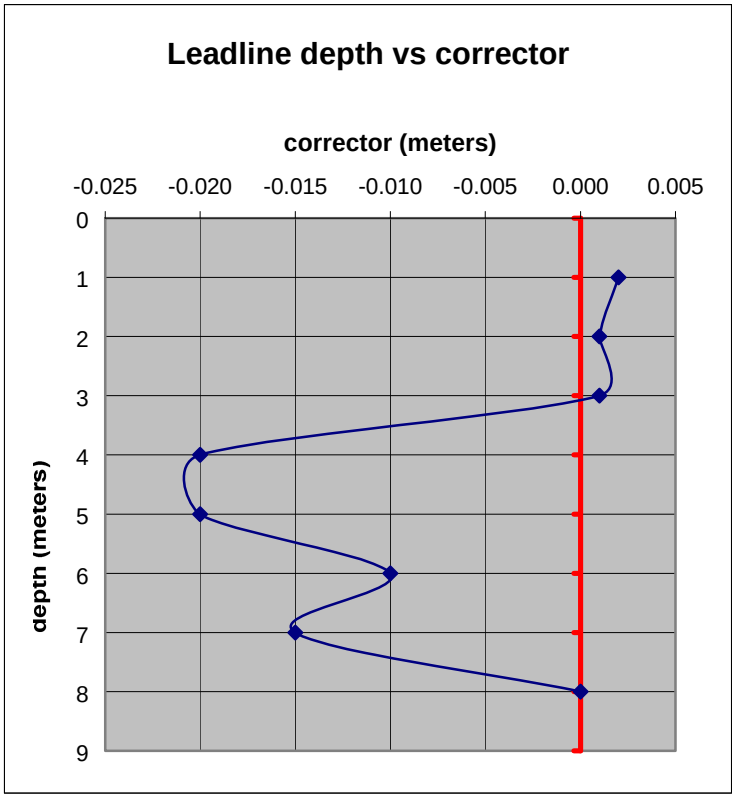
Meter Mark	Measurement	Corrector
1.0	1.000	0.000
2.0	1.996	0.004
3.0	2.998	0.002
4.0	3.968	0.032
5.0	4.950	0.050
6.0	5.940	0.060
	Average Correction	0.025
	Standard deviation	0.026



Lead Line RA36

calibrated 4/2/2003

Meter Marks	Measurement	Corrector
1	0.998	0.002
2	1.999	0.001
3	2.999	0.001
4	4.020	-0.020
5	5.020	-0.020
6	6.010	-0.010
7	7.015	-0.015
8	8.000	0.000
	Average Correction	-0.008
	Standard deviation	0.010



Lead Line RA203

calibrated 4/2/2003

Meter Mark	Measurement	Corrector
1.0	1.020	-0.020
2.0	2.020	-0.020
3.0	3.030	-0.030
4.0	4.020	-0.020
5.0	5.025	-0.025
6.0	6.030	-0.030
7.0	7.035	-0.035
8.0	8.025	-0.025
9.0	9.025	-0.025
10.0	10.030	-0.030
11.0	11.020	-0.020
12.0	12.015	-0.015
13.0	13.025	-0.025
14.0	14.025	-0.025
15.0	15.025	-0.025
16.0	16.030	-0.030
17.0	17.040	-0.040
18.0	18.035	-0.035
19.0	19.035	-0.035
20.0	20.105	-0.105
	Average Correction	-0.031
	Standard deviation	0.019