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Lyons* YACHT DESIGNERS

& Technical Consultants

ATARA - RAPSCALLION - Team FUJITSU - CUCKOO'S NEST - WICKED - VALTAIR - DICTATOR - ROBERTSON 850 - Mount Gay 30 - DANCES WITH WAVES - COROBBOREE - BOX OFFICE - CRITICAL PATH - GONDWANA - ROBBOCOP - BUCK - LYONS 750 - Top-Hot-2-Trot - SKYBIRD - ADDICTION - BREAKAWAY - JARKAN 40 - PATRICE - SEABIRD - NAUGHTY CALL - NEWCASTLE AUSTRALIA/BALANCE BAR BOC50 - ALLUSIVE - EASTERN QUEEN - VANGUARD - PIANOLA V - LYONS 8000

Telefax

To: CYCA 1998 S/H Race Review Committee

Attention: Peter Bush, Chairman

Fax Number: 9362 1809

From: David Lyons

Date: 23rd January 1999

Number of pages: 11

Our Ref: c:\cyca\naiad\Final Report_230199

Re: Report on "Business Post Naiad"

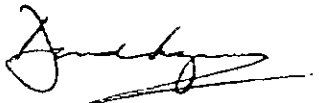
WITHOUT PREJUDICE

Dear Peter,

Please find attached, copy of report on "Business Post Naiad".

I would welcome its review and would suggest consideration of the Wolfson Unit at the University of Southampton, UK if a second opinion were felt to be warranted by your committee. They have particular expertise in the matter of the stability of offshore racing yachts.

Yours sincerely,



David Lyons

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measurement is the Measurement Inventory dated 18th July 1998 (Attachment 4). This document does not provide any explanation for the weight increase. Mr. Walker reported that several items of accommodation were added without being recorded, but it is the opinion of the author that this is unlikely to account for the entire difference.

To summarise:

Calculated increase in DSPM = 6287kg-6020kg = 267kg

whereas

Ballast removed (reduction in DSPM) = 300kg

IMS measurement requires bilges and tanks to be dry at the time of measurement afloat. Even if this requirement were not complied with, the inconsistency cannot be explained, unless the earlier certificate (Attachment 1) was wrong.

On balance, it is the opinion of the author that there could have been an error in the freeboards (FFM and FAM) on the IMS certificate (Attachment 2). Mr. Fisher believed them to be correct in a conversation the author had with him in the course of enquiries, but it is believed doubt remains.

The IMS certificate also records measured righting moment data (RM, RMC), which appear consistent with both IMS certificates considering the ballast removal.

In closing it is possible that if the freeboards were *incorrect* on the latter certificate (Attachment 2), but the RM and RMC data were correct, that the IMS calculated limit of positive stability and stability index (LPS and SI) would have been greater, perhaps in the order of 5-8°. It is stressed that this cannot be checked retrospectively.

Inspection of the yacht's IMS offset file (NAIAD.OFF) using Offshore Racing Council (ORC) software indicates that it could be considered to be a "poor" file, lacking in a more desirable level of surface definition of the hull and appendages (keel and rudder). There is a lack of the usual definition (by way of sufficient vertical stations measured port and starboard) in way of the keel, which makes keel volume measurement and yacht "roll" more approximate. In a case where calculated stability is critical, such departures can only add to the uncertainty in results, which may lean either in favour, or against, the yacht. Yacht "roll" and station definition is also not as refined as the author would consider satisfactory.

The size of the offset file is relatively small (11.94kB), which when compared to most contemporary files of 22-30kB indicates a further lack of measurement definition and certainty.

Naiad_Report (Without Prejudice), Page 3 of 4

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5. This system of stability assessment for offshore racing yachts has been in continuous operation for a decade in Australia (and for longer overseas), and in the opinion of the author, has lead to a general increase in the stability, and therefore safety, of IMS-rated yachts.
6. Stability assessment as required by the IMS has a beneficial effect on the resistance to knock-down and capsizes of offshore racing yachts.

3. IMS Stability of "Business Post Naiad"

It is reported that Attachment 1 accompanied the yacht's application for entry to the Race. As it accompanied other information deemed acceptable by the Race organisers, the yacht's entry was accepted.

Approximately 18 months ago, the yacht's owner, Mr. Bruce Guy, is reported to have removed all the remaining lead bilge ballast blocks from the yacht. In accordance with IMS requirements, he applied for a new IMS measurement afloat, which was completed by the IMS Measurer, Mr. Richard Fisher on 18th July 1998.

The data was transmitted to the AYF for processing of the new IMS certificate. Prior to final release of the new certificate, the Technical Manager of the AYF, Mr. Tony Mooney, contacted Mr. Fisher to advise that the yacht's IMS calculated stability was noticeably reduced. As a result, the issue of the certificate was delayed while Mr. Fisher conducted some checks. After further discussions, which included investigation as to whether there had been a typographical error in measurement data, it was confirmed that the data as entered on the IMS certificate (Attachment 2) was believed to be correct.

The certificate was sent to Mr. Guy, who in due course sent a signed copy to the Race organisers.

Both Mr. Fisher and Mr. Steve Walker, a crewmember on the yacht in the Race, upon learning of Attachment 2's contents, brought to Mr. Guy's attention the stability deficiency. They pointed out that it fell below the limit of acceptability for the Race. Notwithstanding this, the yacht proceeded to compete in the Race under this IMS certificate.

4. IMS Certificate Inconsistency

Mr. Walker located the lead believed to have been removed from the yacht, and forwarded the author a facsimile (Attachment 5) on 20th January 1999 with information about the weight of the ballast. Due to an oversight, the weight of the ballast had been omitted from the Measurement Inventory dated 18th November 1995 (Attachment 3) which was completed before the ballast was removed. This information is normally recorded in accordance with IMS requirements.

As can be seen from the facsimile, the weight was believed to be approximately 300kg. However, the IMS certificate (Attachment 1) records a measured displacement (DSPM) of 6020kg and the latest certificate (Attachment 2) a DSPM of 6287kg. This *increase* in the physical weight as calculated by the IMS lines processing software (LPP) is unexpected, and notwithstanding measurement tolerances, is believed to be incorrect, considering approximately 300kg was actually said to be *removed*. The only documentary evidence as to the outfit of the yacht including heavy items at the time of

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ATARA – RAPSCALLION – Team FUJITSU – CUCKOO'S NEST – WICKED – VALTAIR – DICTATOR – ROBERTSON 950 – Mount Gay
 30 – DANCES WITH WAVES – COROBBOREE – BOX OFFICE – CRITICAL PATH – GONDWANA – ROBOCOP – BUCK – LYONS 750
 – Tee-Hot-2-Trot – SKYBIRD – ADDICTION – BREAKAWAY – JARKAN 40 – PATRICE – SEABIRD – NAUGHTY CALL –
 NEWCASTLE AUSTRALIA/BALANCE BAR BOC50 – ALLUSIVE – EASTERN QUEEN – VANGUARD – PIANOLA V – LYONS 8000

Sailing Yacht “Business Post Naiad”**1998 Telstra Sydney to Hobart Yacht Race**

Disclaimer: This report was requested by the Chairman of the 1998 Telstra Sydney to Hobart Yacht Race Review Committee. It relies entirely on the veracity of the International Measurement System (IMS) Rating Certificates supplied and the information contained therein, as well as notes taken during discussions with a crew-member from the yacht, the yacht's IMS Measurer and the Technical Manager of the Australian Yachting Federation (AYF). No responsibility is accepted for the correctness of the information received. The opinions offered are based on the personal experience of the author, but are given without the assumption of any liability, and without prejudice to the author.

1. Scope

The Chairman of the 1998 Telstra Sydney to Hobart Yacht Race Review Committee requested the author to comment as far as possible, as to the material significance or otherwise, of the IMS stability information contained on the IMS Rating Certificate (Number 711500, issued 15th October 1998 – Attachment 2) of the yacht “(Business Post) Naiad”. Specifically, it has been recognised that the Limit of Positive Stability (LPS) and Stability Index (SI) recorded therein, being 104.7° and 102.8° respectively, were below the lower limit of acceptability for the 1998 Telstra Sydney to Hobart Yacht Race (“the Race”), which was 110° for yachts ‘grandfathered’ in accordance with the Notice of Race (NOR). Notwithstanding this, the yacht's entry was accepted and the yacht started the Race on 26th December 1998.

Recognising that this is so, and recalling the Disclaimer noted above, the following comments are made regarding the author's opinion on the material significance of this deficiency in stability requirement within the context of contemporary IMS practice.

2. Introductory Notes

The following notes will provide background information of an explanatory nature:

1. The IMS calculates certain information about a yacht's measured statical stability (useful in predicting resistance to gusts and capsize). The calculation methods embedded in the IMS software include classical naval architecture methods and endorsed stability indicators derived from ongoing research that had their main impetus from the 1979 Fastnet Race and subsequent technical meeting minutes and papers.
2. The calculations are subject to measurement tolerance. The IMS software is sufficiently well written to flag any gross errors in input data that could otherwise lead to major inaccuracy in calculated data. At a lower level, errors in input data must be identified by the personnel who have the responsibility for measurement in the field (accredited IMS Measurers), or the AYF which is the issuing authority in Australia.
3. Measurement variability and IMS certificate “quality” in Australia is representative of the standards of practice elsewhere in the world.
4. The LPS that is calculated on the IMS certificate is in most instances a conservatively low (safe) value, as its derivation disregards the added buoyancy of the yacht's decks and coach-roof.

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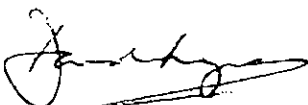
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5. Conclusions

1. It has been determined that there are irregularities with the yacht's IMS measurement that cannot now be physically checked.
2. It is possible bearing in mind the DSPM discrepancy, that the yacht's physical stability as determined by IMS methods was greater than indicated by its final IMS certificate. This could amount to approximately 5-8°. This cannot be confirmed, nor whether the consequent increase would have resulted in a value above the threshold of eligibility to the Race. Furthermore, if the explanation for the discrepancy lies in the former certificate (Attachment 1) being seriously flawed, with the latter (Attachment 2) being acceptably accurate, then the material significance of insufficient stability would be proven.
3. Comparing the two IMS certificates (Attachments 1 and 2), there is a deleterious reduction in resistance to capsize wave energy as determined by comparing the "Ratio of stability curve areas, positive/negative" of approximately 36%¹. The degree to which this percentage may be deleteriously overstated by measurement error cannot be determined. In a situation where the yacht was dismasted, depriving it of "roll inertia" (resistance to rolling upside down), any decrease in resistance to knock-down or capsize energy must be viewed as seriously prejudicial against safety in open ocean conditions. Attachment 6 shows the effect between 2° and 90° of heel where the area under the curve is an indication of the major part of the resistance to capsize energy.
4. The foregoing cannot rule out the possibility that even if the 300kg bilge ballast were still installed, the yacht may have been rolled given the reported conditions. Other yachts of similar size in the vicinity were rolled, in spite of the fact they met the stability criteria for the Race.
5. It is clear that Messrs Walker, Fisher and Mooney appeared to act very responsibly in pointing out to Mr. Guy, what appeared to be a case of an IMS stability deficiency based on the contents of Attachment 2. Mr. Walker said he was told that the yacht's entry to the Race was still accepted.
6. After considering points 1. to 4. above, and the foregoing discussion, it is felt that there is a reasonable likelihood of material significance associated with the stability decrease.



David Lyons, BE(Hons), AMSNAME, MNASNZ

23rd January 1999**Attachments**

1. IMS certificate 711500 issued 28th July 1997
2. IMS certificate 711500 issued 15th October 1998
3. Measurement Inventory completed 18th November 1995
4. Measurement Inventory completed 18th July 1998
5. Facsimile Steve Walker Sails dated 20th January 1999
6. Naiad IMS Righting Moment 2-90 degrees of Heel

Footnote 1.:

$$\frac{[(\text{Attachment 1 Ratio Stability Curve Areas, Pos/Neg}) - (\text{Attachment 2 Ratio Stability Curve Areas, Pos/Neg})]}{[\text{Attachment 1 Ratio Stability Curve Areas, Pos/Neg}] \times 100\%}$$

$$= [2.013 - 1.296] / 2.013 \times 100\% = 36\%$$

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IMS RATING CERTIFICATE No. 711500
Based on: FULL MEASUREMENT (Metric)

IMS AMENDED TO JANUARY 1997
Offshore Racing Council
19 St James's Place, London
Copyright 1997

IMS AMENDED TO JANUARY 1997 VPP: 28/JUL/97 21:30:56
Cert No 711500 7115.DAT 28/JUL/97 21:27:48
OFF Meas'd: 10/JAN/90 HAIAD.OFF 24/OCT/95 17:08:08

NOT VALID AFTER 30/06/98

CPH
620.B

YACHT DESCRIPTION
Name: MAJAO
Sail No: 5466
Class: FARR 40
LOA: 11.895m Beam(MD) 3.992m
Designer: FARR
Builder: MAUTECH SYSTEMS
Rig: FRACTIONAL SLOOP 150% Jib
Keel/CB: FIXED KEEL
PropInst: EXPOSED FEATHERING
AwdAccom: YES SPIN: SYMMETRIC
HullCnst: CORED RndCnst: STRHD
Forestay: ADJUST FWD BoomHtl: HEAVY
Spreadr: 2 Sets InrFaty: NONE
Runners: 1 Set Jumpers: YES
Dates: AGE: 12/1984

RATING OFFICE:
Issued: AUSTRALIAN YACHTING FED.
28/JUL/97
Measured: MCGEE BAG BOG,
11/MAR/97 NELSON'S POINT,
N.S.W. 2061

Revalidation Authority: AYL
Measurer: RICHARD FISHER

"I CERTIFY THAT I UNDERSTAND MY
RESPONSIBILITIES UNDER THE IMS."

OWNER: Bruce Guy
BRUCE GUY
19 PITTEN CREEK
LAUNCESTON
TAS. 7250
OLD MAIN NOT TO BE USED FOR IMS RACE

Fig data froa for cert.

LIMITS AND REGULATIONS

Limit of Positive Stability: MEETS REQ Measurement Inventory: 18/NOV/95
Minimum Displacem't 3123kg: MEETS REQ Accommodation Length: 11.895m
Maximum Crew Weight: 740 kg. Accred Certificate: C/R DA= 0.84%
Stability Index: 110.3 Plan Approval: NONE FILED

NOTE TO OWNER: The range available to revise crew weight is 430-794 kg.

TIME ALLOWANCES IN SEC/KI BY TRUE WIND VELOCITY & ANGLE

Wind Velocity:	6kt	8kt	10kt	12kt	14kt	16kt	20kt	CHECKSUM
BEAT ANGLES:	44.7°	43.7°	42.1°	41.1°	40.5°	40.5°	40.9°	(223.5)
BEAT VMS:	997.5	848.2	783.5	750.8	733.7	724.8	717.4	(5555.9)
52°:	640.0	553.1	524.1	509.9	501.8	496.2	489.0	(3714.1)
R 60°:	596.4	525.8	501.6	489.7	482.1	476.3	468.2	(3540.1)
E 75°:	564.3	506.0	479.7	464.8	456.5	449.9	439.9	(3361.1)
A 90°:	563.3	498.9	472.4	458.7	443.9	432.7	419.5	(3289.6)
C 110°:	577.9	507.0	474.1	451.5	434.6	421.7	404.7	(3271.5)
H 120°:	618.4	526.6	486.4	459.3	438.1	420.3	392.8	(3341.9)
135°:	730.8	589.4	520.6	485.0	459.2	437.2	398.9	(3621.1)
150°:	884.9	702.8	592.2	526.7	490.1	463.8	421.2	(4081.7)
RUN VMS:	1021.8	811.5	683.8	590.7	532.2	495.8	447.0	(4582.6)
GYBE ANGLES:	140.1°	143.7°	150.5°	165.4°	171.4°	174.4°	175.5°	(1121.0)

NOTE: To convert any time allowance above to speed in knots: Kt = 3600/TM

TIME ALLOWANCES FOR SELECTED COURSES

Wind/Lwd VMS	1900.2	883.3	764.6	693.6	648.8	619.4	583.7	(5293.6)
Olympic 6-leg	1028.4	834.3	731.5	672.8	636.9	613.9	585.3	(5102.9)
Circular Andm	839.1	684.8	603.4	556.7	528.0	509.0	484.3	(4205.3)
Non-Spinnaker	913.5	736.3	640.8	584.8	550.0	527.2	499.0	(4451.6)
Decm for Pts	971.3	763.0	645.8	573.2	525.0	490.7	443.1	(4412.1)
For Time-on-time method TMF = 0.9666								ILC Weighted Avg: 697.2

CENTERBOARD AND DRAFT
ECB 0.000 CBRC 0.000 CBMC 0.000 CBTC 0.000
WCDA 0.0 CBDA 0.000 KCDA 0.000 ECE 0.000
WCCB 0.0 CBDB 0.000 ENDPLATE ADJ (KEDA) 0.000

PROPELLER AND INSTALLATION
PRD 0.520 PBW 0.133 PHD 0.063 PHL 0.125 ESL 0.910
ST1 0.024 ST2 0.115 ST3 0.115 ST4 0.061 ST5 0.300
PSA 19.300 PSD 0.025 PIPA 0.0052

FLOTATION DATA
FFPS 1.102 AFPS 0.899 FGO 0.554 LBG 9.970
FFM 1.198 FAM 1.088 FFPV 0.000 AFPV 0.000
FF 1.198 FA 1.088 SG 1.027

INCLINING TESTS
M1 20.900 PD1 40.000 PLM 1625.000 PL 1618.769
M2 41.700 PD2 85.000 GSA 0.178 R3A 46.2
M3 62.600 PD3 133.000 SPS 7.043 WD 11.820
M4 83.500 PD4 187.000 RM 142.9 RMC 142.9
RM2 150.1 RM20 136.4 RM40 114.6 RM60 77.1
RM90 29.0 CREW ARM (CRA) 1.615

CALCULATED LIMIT OF POSITIVE STABILITY: 112.9 DEGREES

RATIO STABILITY CURVE AREAS, POSITIVE/NEGATIVE 2.013
HYDROSTATICS MEASUREMENT TRIM SAILING TRIM
KEEL DRAFT (DHKO) 2.247 (DHKA) 2.295
2ND MOMENT LENGTH (LSM0) 9.643 (LSM1) 9.835
DISPLACEMENT (WEIGHT) (DSP0) 6020 (DSP1) 6920
WETTED SURFACE (WSN) 25.72 (WS) 27.27
VCG FROM OFFSETS DATUM (For CLUB RM) (VCG0) -0.081
VCG FROM MEASUREMENT TRIM WATERLINE (VCG1) 0.064
INTEGRATED BEAM ATTENUATED WITH DEPTH (IB) 3.084
MAXIMUM SECTION AREA (AMS1) 1.461
BEAM/DEPTH RATIO (BTR) 4.535
EFFECTIVE DRAFT (D) 1.990
2° HEEL (LSM2) 9.837 25° HEEL (LSM3) 9.818
SINK (LSM4) 11.179 AVG LENGTH (L) 9.854
TRIM: 1mm/B, 450m-kg SINK: 1mm/19.332kg

SAIL AREA: MAIN + FORETRIANGLE + MIZZEN (SA) 79.00
MAIN: 49.25 SPIN: 99.09 GENOA: 46.35 MIZ'K: 0.00

FORETRIANGLE MAIN & SPARS
IC 14.381 SPL 4.108 HB 0.170 TL 4.130
MV 0.124 J 4.108 HGT 1.20 MD1 0.113
GO 0.153 LPS 6.09 MGV 2.06 MDL1 0.172
ISP 14.433 FBP 0.068 MGN 3.43 MGT2 0.058
IM 14.483 LP 6.16 MGL 4.52 MDL2 0.088
HBI 1.106 SFJ 0.070 MSH 30.9 MWT 0.0
MXSL 14.26 MXSNW 7.39 P 15.230 HCB 0.000
SL 14.20 SHW 7.39 E 5.595 BD 0.265
SP3 3.660 CPIS 0.00 EC 5.595 CPW 2.080
TH RD 0.00 BAR 1.820 BAL 0.150

MIZZEN
IY 0.000 PY 0.000 HBY 0.000 TLY 0.000
EB 0.000 EY 0.000 MGY 0.000 MD1Y 0.000
YSD 0.00 ECY 0.000 MGVY 0.000 MDL1Y 0.000
YSF 0.00 BSY 0.000 MSHY 0.000 MDL2Y 0.000
YSHG 0.00 BLY 0.000 MGLY 0.000 MDL2Y 0.000
HBY 0.000 BGY 0.000

Attachment 1

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IMS RACING CERTIFICATE No. 711500
Based on: FULL MEASUREMENT (Metric)

IMS AMENDED TO JANUARY 1997
Offshore Racing Council
19 St James's Place, London
Copyright 1997

IMS AMENDED TO JANUARY 1997 VPP: 28/JUL/97 21:30:56
Cert No 711500 7115.DAT 28/JUL/97 21:27:48
OFF Meas'd: 10/JAN/90 MALAD.OFF 26/OCT/95 17:08:08

NOT VALID AFTER 30/06/98

GPH
620.8

YACHT DESCRIPTION
Name: MAJAD
Sail No: 5466
Class: FARR 40
LOA: 11.895m Beam(MB) 3.992m
Designer: FARR
Builder: MAUTECH SYSTEMS
Rig: FRACTIONAL SLOOP 150% Jib
Keel/CB: FIXED KEEL
Propinst: EXPOSED FEATHERING
FwdAccom: YES SPIN: SYMMETRIC
RuddCrst: CORED RuddCrst: STNDRD
Forestay: ADJST FWD BoomRel: HEAVY
Spreader: 2 Sets InrFaty: NONE
Runners: 7 Set Jumpers: YES
Dates: AGE: 12/1984

RATING OFFICE:
Issued: AUSTRALIAN YACHTING FED.
28/JUL/97
Measured: MOORE BAG 806,
MILSON'S POINT,
11/MAR/97 N.S.W. 2061

Revalidation Authority: AYI
Measurer: RICHARD FISHER

"I CERTIFY THAT I UNDERSTAND MY
RESPONSIBILITIES UNDER THE IMS."

OWNER: BRUCE GUY
19 PITTS CREEK
LAUNCESTON
TAS. 7250
OLD MAIN NOT TO BE USED FOR IMS RACE

rig data from for cert.

LIMITS AND REGULATIONS

Limit of Positive Stability: MEETS REQ
Minimum Displacement: 3123kg: MEETS REQ
Maximum Crew Weight: 740 kg.
Stability Index: 130.3
Measurement Inventory: 18/NOV/95
Accommodation Length: 11.895m
Accom Certificate: C/R DA= 0.84X
Plan Approval: NONE FILED

NOTE TO OWNER: The range available to revise crew weight is 430- 794 kg.

TIME ALLOWANCES IN SEC/MI BY TRUE WIND VELOCITY & ANGLE

Wind Velocity:	6kt	8kt	10kt	12kt	14kt	16kt	20kt	CHECKSUM
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BEAT VMG:	997.5	848.2	783.5	750.8	733.7	724.8	717.4	(5555.9)
52°:	640.0	553.1	524.1	509.9	501.8	496.2	489.0	(3714.1)
60°:	596.4	525.8	501.6	489.7	482.1	476.3	468.2	(3540.1)
E 75°:	564.3	506.0	479.7	464.8	456.5	449.9	439.9	(3361.1)
A 90°:	563.3	498.9	472.6	458.7	443.9	432.7	419.5	(3289.6)
C 110°:	577.9	507.0	474.1	451.5	434.6	421.7	404.7	(3271.5)
H 120°:	618.4	526.6	486.4	459.3	438.1	420.3	392.8	(3341.9)
135°:	730.8	589.4	520.6	485.0	459.2	437.2	398.9	(3621.1)
150°:	884.9	702.8	592.2	526.7	490.1	463.8	421.2	(4081.7)
RUN VMG:	1021.8	811.5	683.8	590.7	532.2	495.6	447.0	(4582.6)
BYBE ANGLES:	140.1°	143.7°	150.3°	165.4°	171.4°	174.4°	175.5°	(1123.0)

NOTE: To convert any time allowance above to speed in knots: Kt = 3600/TM

TIME ALLOWANCES FOR SELECTED COURSES

Wind/Lwd VMG	1900.2	883.3	764.6	693.6	648.8	619.4	583.7	(5293.6)
Olympic 6-leg	1028.4	834.3	731.5	672.6	636.9	613.9	585.3	(3702.9)
Circular Anch	839.1	684.8	603.4	536.7	528.0	509.0	486.3	(4205.3)
Non-Spinmaker	913.5	736.3	640.8	584.8	550.0	527.2	499.0	(4451.6)
Open for PIS	971.3	763.0	645.8	573.2	525.0	490.7	443.1	(4412.1)
For Time-on-time method TMF = 0.9666								ILC Weighted Avg: 697.2

CENTERBOARD AND DRAFT
ECH 0.000 CBRC 0.000 CBHC 0.000 CBTC 0.000
WCDA 0.0 CBDA 0.000 KCDA 0.000 ECE 0.000
WCBB 0.0 CBDB 0.000 ENDPLATE ADJ (KEDA) 0.000

PROPELLER AND INSTALLATION
PRD 0.320 PBW 0.133 PHD 0.063 PHL 0.125 ESL 0.910
ST1 0.024 ST2 0.115 ST3 0.115 ST4 0.061 ST5 0.300
PSA 19.300 PSB 0.025 PIPA 0.0052

FLOTATION DATA
FFPS 1.102 AFPS 0.899 FGO 0.554 LBG 9.970
FFM 1.198 FAM 1.088 FFPV 0.000 AFPV 0.000
FF 1.198 FA 1.088 SG 1.027

INCLINING TESTS
M1 28.900 P01 40.000 PLM 1625.000 PL 1618.769
M2 41.700 P02 85.000 GSA 0.178 R3A 46.2
M3 62.600 P03 133.000 S2B 7.043 WD 11.820
M4 83.500 P04 187.000 RM 142.9 RMC 142.9
RMZ 150.1 RM20 136.4 RM40 114.6 RMD0 77.1
RM90 29.0 CREW ARM (CRA) 1.615

CALCULATED LIMIT OF POSITIVE STABILITY: 112.9 DEGREES
RATIO STABILITY CURVE AREAS, POSITIVE/NEGATIVE 2.073

HYDROSTATICS MEASUREMENT TRIM SAILING TRIM
KEEL DRAFT (DHKO) 2.247 (DHKA) 2.295
2ND MOMENT LENGTH (LSM0) 9.643 (LSH1) 9.835
DISPLACEMENT (HEIGHT) (DSPH) 6020 (DSPS) 6920
NETTED SURFACE (NSN) 25.72 (NSS) 27.27
VCG FROM OFFSETS DATUM (For CLUB RM) (VCGD) -0.081
VCG FROM MEASUREMENT TRIM WATERLINE (VCGW) 0.064
INTEGRATED BEAM ATTENUATED WITH DEPTH (B) 3.084
MAXIMUM SECTION AREA (AMS1) 1.461
BEAM/DEPTH RATIO (BTR) 4.535
EFFECTIVE DRAFT (D) 1.990
2° HEEL (LSM2) 9.837 25° HEEL (LSM3) 9.818
SUNK (LSM4) 11.179 AVG LENGTH (L) 9.854
TRIM: 1mm/8.450m-kg SINK: 1mm/19.332kg

SAIL AREA: MAIN + FORETRIANGLE + MIZZEN (SA) 79.00
MAIN: 49.25 SPIN: 99.08 GENOA: 46.35 H11W: 0.00

FORETRIANGLE MAIN & SPARS
IG 14.381 SPL 4.108 HB 0.170 TL 4.130
HW 0.124 J 4.108 HGT 1.20 MDT1 0.113
GO 0.153 LPE 6.09 NGU 2.06 MDL1 0.172
ISP 14.435 FBP 0.068 MGN 3.43 MOT2 0.058
IM 14.483 LP 6.16 MGL 4.52 MDL2 0.080
HBI 1.106 BFJ 0.070 NSW 30.9 HWT 0.0
MXSL 14.26 MXSKW 7.39 P 15.230 HCG 0.000
SL 14.20 SHW 7.39 E 5.595 BD 0.265
SPS 3.660 LPI5 0.00 EC 5.595 CPW 2.080
TH NO JR 0.00 BAR 1.820 BAL 0.150

MIZZEN
LY 0.000 PY 0.000 HBY 0.000 TLY 0.000
EB 0.000 EY 0.000 MGY 0.000 MDT1Y 0.000
YSD 0.00 ECY 0.000 MGUY 0.000 MDL1Y 0.000
YSF 0.00 BASY 0.000 MGRY 0.000 MDT2Y 0.000
YSHG 0.00 BALY 0.000 MGLY 0.000 MDL2Y 0.000
HBIY 0.000 BDY 0.000

Attachment 1

Copy 3 of 3

JMI RATING CERTIFICATE No. 711500
Based on: FULL MEASUREMENT (Metric)

INS AMENDED TO JANUARY 1998
Offshore Racing Council
Ariadne House, Southampton, UK
Copyright 1998

INS AMENDED TO JANUARY 1998 VPP: 15/OCT/98 15:48:40
Cert No 711500 7115.DAT 15/OCT/98 15:48:20
OFF Meas'd: 10/JAN/90 HALAD.OFF 24/OCT/95 17:08:08

NOT VALID AFTER 30/06/99

GPH
627.B

YACHT DESCRIPTION
Name: MAIAD
Sail No: S466
Class: FARR 40
LOA: 11.895m Beam(MB) 3.992m
Designer: FARR
Builder: NAUTECH SYSTEMS
Rig: FRACTIONAL SLOOP 148X Jib
Keel/CB: FIXED KEEL
Propinat: EXPOSED FEATHERING
FwdAccom: YES SPIN: SYMBIOTIC
HullCnst: CORED Rudder: SYMBIOTIC
Forestay: ADJUST FWD BoomHt: HEAVY
Spreads: 2 Sets Inrfaty: NONE
Runners: 1 Set Jumpers: YES
Dates: AGE: 12/1984
COMMENTS:

RATING OFFICE:
Issued: AUSTRALIAN YACHTING FED.
15/OCT/98
Measured: HILSON'S POINT,
18/SEP/98 N.S.V. 2061

Revalidation Authority: NYF
Measurer: RICHARD FISHER

"I CERTIFY THAT I UNDERSTAND MY
RESPONSIBILITIES UNDER THE INS."

OWNER: BRUCE GUY
19 FIFTEEN CRUIE
LAURICESTON
TAS. 7250

CENTERBOARD AND DRAFT
EDM 0.000 CBRC 0.000 CBMC 0.000 CBTC 0.000
WCBM 0.0 CDDA 0.000 KCDA 0.000 ECE 0.000
WCBZ 0.0 CDBB 0.000 ENOPLATE ADJ (MEDA) 0.000

PROPELLER AND INSTALLATION
PRD 0.520 PBW 0.133 PHD 0.063 PHL 0.125 ESL 0.910
ST1 0.024 ST2 0.115 ST3 0.115 ST4 0.061 ST5 0.300
PSA 19.300 PSD 0.025 PIPA 0.0052

FLOTATION DATA
FFPS 1.102 AFPS 0.899 YFFP 0.545 SAFF 10.543
FFN 1.211 FAN 1.037 FFPV 0.000 AFPV 0.000
FF 1.232 FA 1.037 SG 1.024

INCLINING TESTS
W1 16.800 PD1 44.000 PLM 1625.000 PL 1618.769
W2 33.600 PD2 88.000 GSA 0.178 RSA 46.2
W3 50.300 PD3 131.000 SMB 7.043 WD 12.100
W4 67.100 PD4 176.000 RH 130.7 RMC 130.7
RH2 137.6 RM2D 124.0 RH4D 101.9 RMGD 63.5
RH9D 16.9 CREW AMN (CRAB) 7.804

CALCULATED LIMIT OF POSITIVE STABILITY: 106.7 DEGREES
RATIO STABILITY CURVE AREAS, POSITIVE/NEGATIVE 1.296

HYDROSTATICS MEASUREMENT IRIN SAILING TRIM
KEEL DRAFT (DHKO) 2.263 (DHKA) 2.307
2ND MOMENT LENGTH (LSMO) 9.660 (LSHI) 9.859
DISPLACEMENT (HEIGHT) (DSPH) 6287 (DSPS) 7161
WETTED SURFACE (WSM) 26.19 (WSS) 27.82
VCG FROM OFFSETS DATUM (For CLUB RM) (VCGO) 0.106
VCG FROM MEASUREMENT IRIN WATERLINE (VCGM) 0.241
INTEGRATED BEAM ATTENUATED WITH DEPTH (B) 3.126
MAXIMUM SECTION AREA (AMST) 1.481
BEAM/DEPTH RATIO (BTR) 4.573
EFFECTIVE DRAFT (D) 1.999
2° HEEL (LSH2) 9.861 25° HEEL (LSM5) 9.818
SINK (LSN4) 11.432 AVG LENGTH (L) 9.950
TRIM: 1mm/8.733m-kg SINK: 1mm/19.744ku

SAIL AREA: MAIN + FORETRIANGLE + MIZZEN (SA) 79.00
MAIN: 49.25 SPIN: 99.40 GENOA: 45.98 MIZ'N: 0.00

FORETRIANGLE MAIN R SPARS
IG 14.381 SPL 4.108 MB 0.170 TL 4.130
MK 0.124 J 4.108 MGT 1.20 NPTT 0.113
GO 0.153 LMG 6.04 MGV 2.06 NML1 0.172
TSP 14.433 FSP 0.068 MGH 1.43 NDT2 0.058
IK 14.483 LP 6.11 MGL 4.52 NDL2 0.080
HDL 1.112 SFJ 0.070 MSW 30.9 ISWT 212.0
MSL 14.26 HSEW 7.39 P 15.230 HCG 6.675
SL 14.30 SHW 7.39 E 5.595 BD 0.265
SP3 3.660 LPIS 0.00 EC 5.595 CPW 2.080
TH NO JR 0.00 BAS 1.820 DML 0.150

MIZZEN
LY 0.000 PY 0.000 NBY 0.000 TLY 0.000
EB 0.000 EY 0.000 NGTY 0.000 HDTY 0.000
YSO 0.00 ECY 0.000 MGVY 0.000 HDLY 0.000
YSF 0.00 BASY 0.000 MGHY 0.000 MDTZY 0.000
YSMG 0.00 BAILY 0.000 MGLY 0.000 HDLY 0.000
HBIY 0.000 BBY 0.000

LIMITS AND REGULATIONS

Limit of Positive Stability: MEETS REQ Measurement Inventory: 18/JUL/90
Minimum Displacement: 3134kg: MEETS REQ Accommodation Length: 11.895m
Maximum Crew Weight: 766 kg Accom Certificate: C/R DA= 0.65X
Stability Index: 102.8 Plan Approval: NONE FILED

NOTE TO OWNER: The range available to revise crew weight is 415- 766 kg.

TIME ALLOWANCES IN SEC/KH BY TRUE WIND VELOCITY & ANGLE

Wind Velocity:	6kt	8kt	10kt	12kt	14kt	16kt	20kt	CHECKSUM
BEAT ANGLES:	44.0°	43.2°	41.9°	41.1°	40.8°	40.8°	41.6°	(293.4)
BEAT VMG:	995.2	857.4	796.5	766.3	751.3	745.2	745.6	(5637.5)
52°:	642.7	560.0	511.7	518.3	511.3	506.8	502.7	(3773.5)
R 60°:	600.6	530.7	508.1	497.1	490.5	485.8	480.4	(3593.2)
E 75°:	569.1	509.2	483.9	471.4	464.1	458.4	450.6	(3406.7)
A 90°:	567.9	502.2	477.7	462.0	448.4	438.9	429.1	(3326.2)
C 110°:	585.0	509.5	476.3	454.5	438.8	428.2	413.1	(3305.4)
H 120°:	628.1	530.2	488.1	460.9	440.2	423.3	398.6	(3369.4)
135°:	740.7	596.6	523.2	486.2	460.2	438.3	400.2	(3645.4)
150°:	896.6	710.7	597.5	529.0	491.2	464.6	422.4	(4112.0)
RUN VMG:	1035.3	820.7	690.0	595.7	535.8	498.2	449.5	(4625.2)
GYBE ANGLES:	140.2°	144.3°	150.3°	164.2°	169.9°	173.5°	174.9°	(1117.3)

NOTE: To convert any time allowance above to speed in knots: Kt = 3600/TA

Performance Line scoring - Time Factor: 0.771 Distance Factor: 84.7

	TIME ALLOWANCES FOR SELECTED COURSES
Vnd/Lwd VMG	1109.4 892.9 774.7 704.2 660.2 631.9 599.4 (5372.7)
Olympic 6-leg	1036.0 862.9 741.0 683.0 648.4 626.9 602.0 (5180.2)
Circular Rndm	844.3 691.6 610.3 564.0 536.0 518.0 495.8 (4262.0)
Non-Spinnaker	923.0 744.9 649.0 592.9 558.4 536.2 509.9 (4514.3)
Ocean for Pcs	980.9 771.4 653.7 581.0 532.9 499.0 452.3 (4471.2)
For Time-on-time method TME = 0.9533	LLC Weighted Avg: 708.1

Attachment 2

P. 1
13-JAN-99 WED 12:29

RATING CERTIFICATE MEASUREMENT INVENTORY
Page 2

7115
To be completed by
Measurer:
Violation Date
18/11/95

YACHT NAME NAIAD SAIL NUMBER S466

FOR THE INFORMATION OF OWNER AND CREW

With certain exceptions, the IOR requires the yacht to be measured with gear and fixtures aboard at which retro, in quantity, weight and location. The validity of the Rating Certificate is dependent on a true and proper completion of this inventory form and continued maintenance of the yacht in accordance with this inventory. The complete rules pertaining thereto are found in IOR 194, 107, 103, 109 and 302.1.

The owner shall complete this inventory and together with the measurer check and initial each item. Classification of any item may be made on the diagram at the bottom. If the owner is not present the following must be signed prior to measurement.

I authorize _____ as my representative and understand my responsibilities as laid down in the International Offshore Rule
Signed _____ (Owner)

1 Interior Ballast Rule 107.11

Description	Weight	Distance from stem	Initials Owner Measurer
LEAD INGOTS (GLASSED W)	62		BOY ✓

2 Anchor(s) at least one to be on board and chains

Description	Weight	Distance from stem	Initials
COOR	25	6.1	BOY ✓
DANFORTH	17	6.1	BOY ✓

3 Batteries

Description	Weight	Distance from stem	Initials
2x TRUCK	40	8.0	BOY ✓

4 Tools

Description	Weight	Distance from stem	Initials
TOOLS & SPARES	40	8.0	BOY ✓

5 Engine (or job in fixed storage)

Make	Model	HP	Initials
NANNI	4-CYLINDER	36 HP	BOY ✓

6 Tanks (including portable tanks) (Fuel, water, holding tanks, etc.)

Owner's declaration provided: Yes/No

Use	Typ	Capacity	Distance from stem	Condition at time of measurement
FUEL	315	60L	7.1	60lit
WAT	BALDR	150L	6.4	30lit
WAT	"	150L	6.4	30lit

7 List of items (excluding sails) normally forward but placed abaft the mast for measurement on the cabin sole

8 Portable deck equipment on the cabin sole abaft the mast for measurement. Refer to Rule 702.2A.

9 Other marine items and items unusual in weight, quantity or location

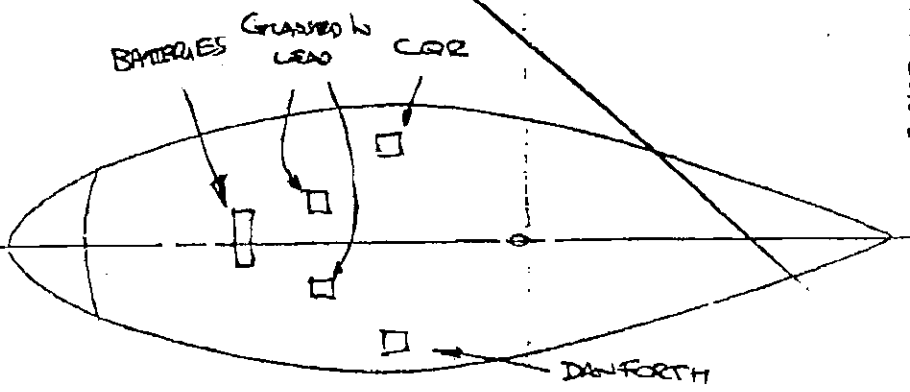
Description	Number	From stem Distance	Weight
[Crossed out]			

10 Sails on board for measurement. IOR (See IOR 107.2C)

11 I certify that this is a true record of moorage at the time of measurement.

Signed: _____ (Owner/Representative)
Date: 18/11/95

Measurer's Name and Signature: BOB DILL



7115

Attachment 3

APPENDIX 3

COOR 30L

MEASUREMENT INVENTORY (Rating Certificate - Page 2)

Measurement Inventory Date
Flotation
Measured: 18/7/98

YACHT NAME NAIAD
SAIL NUMBER 5466

FOR THE INFORMATION OF OWNER AND CREW:

With certain exceptions, the Rule requires the yacht to be measured with gear and fixtures aboard as when raced, in quantity, weight and location. The validity of the Rating Certificate is dependent on a true and proper completion of this inventory form and continued maintenance of the yacht in accordance with the Inventory. Rule references: 102.6, 301, 302, 303, 313, 314, 315 and 402.2

The owner shall complete this inventory together with the Measurer and check and initial each item. If the owner is not present the following must be signed prior to issuing the rating certificate.

I authorise _____ as my representative and understand my responsibilities under the Rule.

Signed _____ (Owner)

1. Interior Ballast (302.2(b) & 402.2(h))

Description	Weight	Distance from stem	Owner Initials	Measurer Initials
a. <u>NIL (PREVIOUS BALLAST REMOVED)</u>				
b. _____				
c. _____				
d. _____				
e. _____			<u>BGG</u>	<u>BS</u>
f. _____				

2. Anchor(s) at least one on board and chains (402.2(h))

Description	Weight	Distance from stem	Owner Initials	Measurer Initials
a. <u>CAR</u>	<u>25</u>	<u>6.1</u>		
b. <u>DANFORTH</u>	<u>17</u>	<u>6.1</u>	<u>BGG</u>	<u>BS</u>

3. Batteries (402.2(h))

Description	Weight	Distance from stem	Owner Initials	Measurer Initials
a. <u>2x TRUC</u>	<u>40</u>	<u>8.0</u>	<u>BGG</u>	<u>BS</u>
b. _____				

4. Tools

Description	Weight	Distance from stem	Owner Initials	Measurer Initials
a. _____	<u>40</u>	<u>8.0</u>	<u>BGG</u>	<u>BS</u>

5. Engine (or two in fixed moorage) (402.2(b))

Make	Model	Power	Owner Initials	Measurer Initials
<u>NANN</u>	<u>A-1104/HC</u>	<u>36HP</u>	<u>BGG</u>	<u>BS</u>

6. Tanks (including portable tanks, fuel, water, holding tanks, etc.) (402.2(f))

Use	Type	Capacity	Distance from stem	Condition at time of measurement	Yes / No
a. <u>FUEL</u>	<u>STS</u>	<u>60L</u>	<u>7.1</u>	<u>10L</u>	<u>ISD</u>
b. <u>WATER</u>	<u>BLADDER</u>	<u>150L</u>	<u>6.4</u>	<u>DRY</u>	<u>DRY</u>
c. <u>WATER</u>	<u>BLADDER</u>	<u>150L</u>	<u>6.4</u>	<u>DRY</u>	<u>DRY</u>
d. _____					
e. _____					
f. _____					

BGG BS

7. List of items normally forward box placed on the cabin sole abain the mast for measurement. (402.2(a) & 302.2(d))

Item	Owner Initials	Measurer Initials
a. _____		
b. _____		
c. _____		
d. _____		
Total Weight	<u>BGG</u>	<u>BS</u>

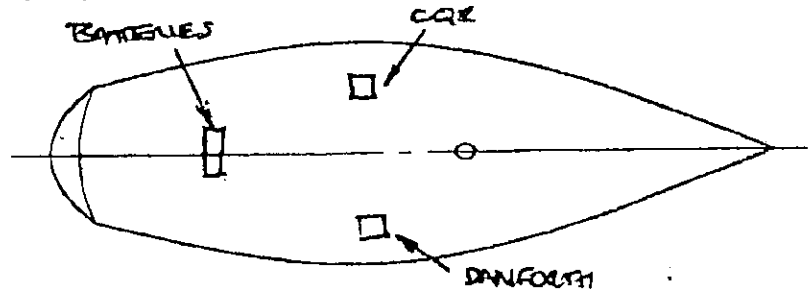
8. One set only of portable deck equipment on the cabin sole abain the mast for measurement. (402.2(a)(2))

Item	Owner Initials	Measurer Initials
a. _____		
Weight	<u>BGG</u>	<u>BS</u>

9. Other major items and items unusual in weight, quantity or location. (402.2(f))

Description	Number	Weight	Distance from stem	Owner Initials	Measurer Initials
a. _____					
b. _____					
c. _____					
d. _____					
e. _____				<u>BGG</u>	<u>BS</u>
f. _____					
g. _____					
h. _____					
i. _____					

10. Diagram major fixed items; ballast tanks, etc. using line codes 1th, 6a, etc.



11. I, the Owner / Representative, certify that this is a true record of the weight at the time of measurement and

Block letters:

BRUCE R. GUY

Signature:

BGG

Date:

18/7/98

Measurer's Name and Signature

BGG

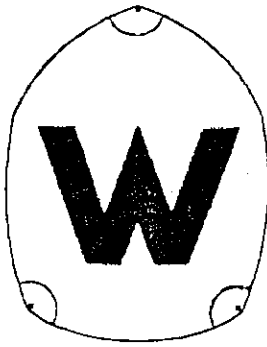
7006

7115

Initials
Owner Measurer

Attachment 5

copy 3 of 3



For performance and quality in your Sails, Awnings and Covers

Phone: (03) 6442 3641
Fax: (03) 6442 2816
Email: stwalker@tassie.net.au

Steve Walker Sails

PTY, LTD.
A.C.N. 009 519 403

5a Moore Street
(P.O. Box 397)
WYNYARD,
Tasmania 7325

To: David Lyons

Frank's Forest
N.S.W.

Fax No: 02 9975 5976

No. pages: 1

Date: 20/1/99

Message

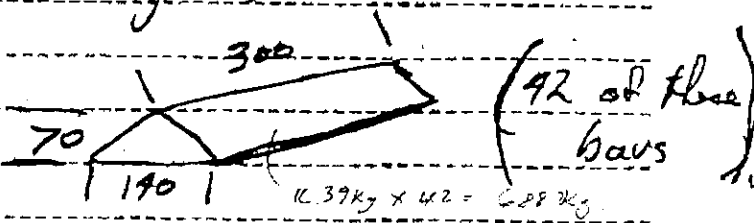
att: David.

Re: business Post "Naiad" - lead.

David the total amount of lead removed from her (approx 1/2 300kg) when he first acquired yacht 9 1/2 years ago - it was loose under compassing - the other 1/2 (300kg) some 18 months ago - gassed in new motor with water-diesel-oil contaminating it.

Total lead removed:

42 bars of lead
a total of 680kg by
my calculation.



Bear in mind the 1st 1/2 was removed before 1st IMS rating - the 2nd half prior to recent IMS certificate.

Hope this helps

Regards Steve Walker

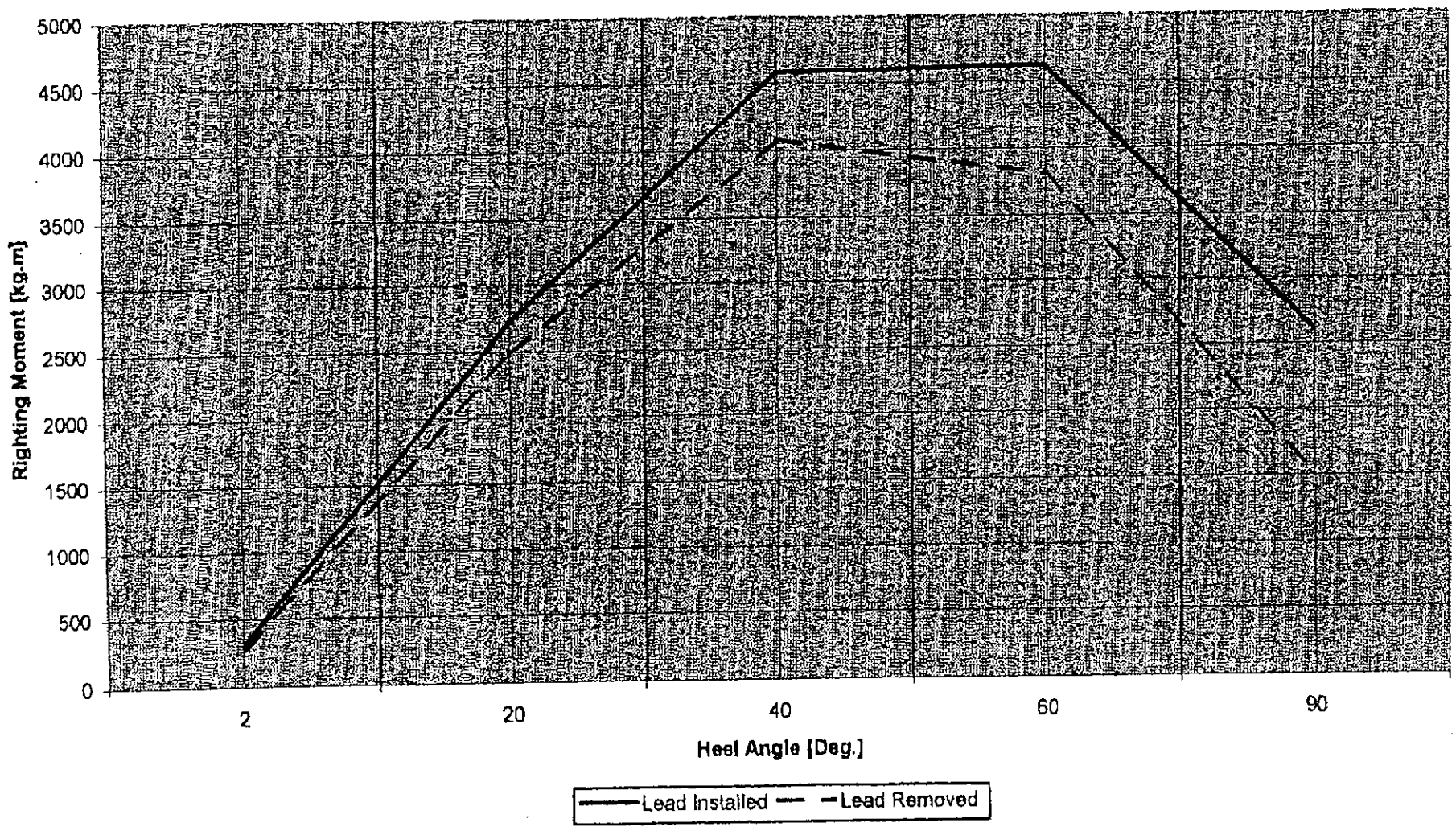
* P.S. the keel was never touched by Bruce - this was all international ballast.

"Wynyard Tasmania's Premier Tourist Town 1998"

Attachment 6

Copy 3063

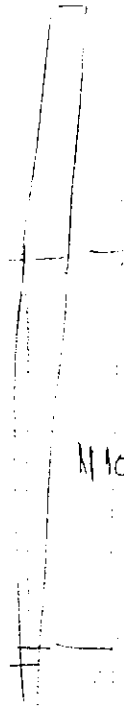
Naiad IMS RM 2-90degrees of Heel



<i>Naiad</i>		18/07/98				
INPUT	WEIGHTS	PEND. DIST	DO FIRST			
148	16.8	44	44	44	44	44
111	33.6	88	44	88	88	44
74	50.3	131	43	132	132	43
37	67.1	176	45	175	175	45
		LIMIT 156/181		220		
	PLM =1625		GSA =0.178		RSA =46.24	
	TUBE	1618.76635				
	WT. DIST.	12.1				
	RM1	130.743508				
	RM2	130.743508				
	RM3	131.74155				
	RM4	130.743508	TOLERANCE	LIMIT		
	RM	130.993018	6.54965091	137.542669		
				124.443367		

Bruce Guy

TL 4.13 26.9 lbs
W MAIN ~~67 lbs~~ 59 lbs
MDT1 ~~0.472~~ 0.413
MDL1 ~~0.113~~ 0.117
MDT2 0.058
MDL2 0.080



11100

F 12 12



1. Sluca's keel ✓
2. Gerald's Pole. - 3.06.7
3. Valken Cales ✓
4. Sluca's Cales
5. Sluca - w main S Sky
6. SB - ~~main~~ -
7. Crew - Sluca. S40 leg.
8. Sluca - to prop angle
9. Bruce - Prop Angle ✓
10. Bruce - Payments etc
11. Bruce - weight main
12. Bruce - crew weight. 740
13. Bruce - Track size. (Forestay)
14. Bruce - SFD. **0.070**
15. Bruce - CP. **2.080**

FB TRACK. = 0.033

John

16. Bruce - Spreaders 7 3
 Jumpers 1
 Forestay Fixed.
 C/Racer CLR.
 Hull coast covered.
 Accom fwd mast ^{yes}
 Rudder. Normal

① ISP - on 10R?
 MD1/2
 MD4/2) - ?
 TL

② Computer

new hull

1994
IMS MEASUREMENT DATA SHEET

Certificate No
KA 7115

Yacht Name NAIAD		Sail No(12) 5466		Owners Name (36) BRUCE GUY.	
Yacht Name (24) NAIAD		Builder (18) NAUTECH SYSTEMS		Address (36) 19 PITTEN CREEF,	
Designer (18) FARR		Class (18) FARR 40		Suburb (36) LAUNCESTON	
Measurer (18) RICHARD FISHER 7006					

CertNo(6) 711500	Reval Auth(12) AYF	Meas Date D M Y 30 9 95	Float Date D M Y 12 3 87	State TAS	Postcode 7250
----------------------------	------------------------------	--------------------------------------	---------------------------------------	---------------------	-------------------------

05! Comment (36)
NEW HULL MEASUREMENT ~~...~~ INCLINATIONS FROM IOR.

06! Comment (36)
RIG MEASUREMENTS FROM IOR CEFT - EXCEPT FOR NEW MAIN

07! File.Off(12) NAIAD.0FF	!ECH	!KCDA	!WCBA	!CBDA	!WCBB	!CBDB	!CBRC	!CBMC	!CBTC	!AGE DATE! 12/1984		
08! PT!PRD 2.0520	!ESL 0.910	!PSA 19.3⁸	!PHD 0.063	!PHL 0.125	!PSD 0.025	!ST1 0.024	!ST2/APH 0.115	!ST3/APT 0.115	!ST4/APB 0.061	!ST5 0.300	!PBW 0.133	
09! FFH 1.160	!FAM 1.132	!FGO 0.554	!LBG 9.970	!SG 1.027	!PLM 383³⁰	!WMAIN						
10! W1 250	!W2 6.042	!PD1 70.0	!W2 50.0	!ZERO 0.0	!PD2 6.042	!W3 137.0	!GSA 25.0	!PD3 6.042	!W4 68.0	!RSA 50.0	!PD4 6.042/383³⁰	
11! IG 14.381	!ISP 14.433	!MW 0.124	!GO 0.153	!SPS 3660	!J 4.108	!SPL 4.108	!LPG 6090	!FSP 0.068	!SMW 7.390	!SL 14.20	!HBS —	
12! BAS 1820	!P 15.230	!E 5.595	!BAL 0.150	!BD 0.265	!HB 0.21	!BLP 3.10	!BL1 1.700	!BL2 2.970	!BL3 3.89	!BL4 1.37	!BL5 —	
13! MDT1 = 113	!MDL1 = 172	!MDT2 = 058	!MDL2 = 050	!TL 4.13	!MDT1Y	!MDL1Y	!MDT2Y	!MDL2Y	!TLY	!MGU 1.96	!MGM 3.41	
14! BAY/BADS	!PY/PSF	!EY/EF	!BALY/BALF	!BDY/BDF	!HBY/HBF	!BLPY/BLPF	!BY1/BS1	!BY2/BS2	!BY3/BS3	!BY4/BS4	!BY5/BS5	
15! IY/BADX	!EB	!IS	!YSF/OF	!MGTY/GF	!MGLY/HF	!YSD/S4	!YSHG/S5	!S6	!MGT 1.09	!MGL 4.51		
16! CREW 740⁰	!SFJ 0.070	!CP 2080	!SPRD 2	!JMP 0	!IB 1	!IF 2	!FST 1	!REGS 2	!CNST 1	!ACCM 1	!ABS 0	!RUD 0

MEASURERS SIGNATURE
Richard Fisher 7006

TONY

AS DISCUSSED WITH BOTH JOHN HONEYSETT AND YOURSELF, WE HAVE NOT RE-INCLINED NAIAD. I HAVE TRANSFERRED THE INFO FROM IOR CERTIFICATE TO THE IMS DATA SHEET (ENCLOSED), APPART FROM SOME OF THE INCLINATION DATA. JOHN OR MYSELF DO NOT HAVE ANY OF THE OLD DATA SHEETS, SO PLEASE ACCEPT THE FOLLOWING INFORMATION TRANSCRIBED FROM THE IOR CERTIFICATE

$$AW = 25.0$$

$$BW = 50.0$$

$$CW = 25.0$$

$$DW = 50.0$$

$$AWD = 6.042$$

$$BWD = 6.042$$

$$CWD = 6.042$$

$$DWD = 6.042$$

$$\text{APD} = 70.0$$

$$BPD = 137.0$$

$$CPD = 68.0$$

$$DPD = 138.0$$

$$DL = 3830$$

I WILL SUPPLY YOU WITH WMAIN, MDT1, MDT2, MDL1, MDL2 & TL ASAP - I WAS UNDER THE BELIEF I WOULD BE ABLE TO TAKE THESE STRAIGHT OFF IOR CERT - BOAT IS NOW 100km AWAY.

REGARDS

RICHARD FISHER

YACHT NAME: NAIAD.

HMI LOG SHEET

CERTIFICATE No: -

MEASURER RICHARD FISHER	MEAS. NO 7006	CLASS FARR 40	DATE 30/9/95	COMPUTER FILE NAIAD.D0
PROP TYPE FEATHERING.	PROP INSTALL.	LOA 11.985	SFJ J	F'BOARDS

PORT				STARBOARD			
STRING LENGTH 0.611			TEMPERATURE 15°C	STRING LENGTH 0.611			TEMPERATURE 15°C
STN NO	INSTR. HEIGHT	DIST FROM STEM	COMMENT	STN NO	INSTR. HEIGHT	DIST FROM STEM	COMMENT
1.	0.227	0.545	FFB & ϕ	1.	0.467	0.545	FFB & ϕ
2.	0.231	0.785	Lower CWR Bow.	2.	0.467	1.700	
3.	0.231	2.300		3.	0.470	2.900	
4.	0.222	3.600		4.	0.468	4.210	
5.	0.214	4.925	ϕ & FRONT KEEL	5.	0.471	4.925	ϕ & FRONT KEEL
6.	0.213	5.300	MID FRONT EDGE KEEL	6.	0.471	5.725	BOTTOM FRONT KEEL (ALSO MAX CHORD)
7.	0.211	6.400	AFT EDGE KEEL & ESDS	7.	0.470	7.265	PRD.
8.	0.211	6.405	POKE THROUGH (NO KEEL)	8.	0.467	8.400	
9.	0.210	7.700		9.	0.459	9.604	
10.	0.212	9.000		10.	0.456	10.545	AFT FB & ϕ (NOTE. ϕ on RUDDER - RUDDER HELD FIXED)
11.	0.210	10.250		11.	0.458	11.225	Lower AFT TIP RUDDER
12.	0.210	10.545	AFT FB & ϕ (ϕ on RUDDER)	12.	0.556	11.810	+ 0.175 to LOA.
13.	0.210	10.855	Lower FRONT RUDDER	13.			
14.	0.210	10.975	AFT TOP RUDDER (CODE BOTTOM)	14.			
15.				15.			
16.				16.			
17.				17.			

PROP INSTALLATION

- ST1 PHD
- ST2 PHL
- ST3 PRD
- ST4 PRW
- ST5 PSD
- BSA - ESL

MAST

- MBT1
- MDL1
- MBT2
- MDT2
- TL

TASMANIAN YACHTING ASSOCIATION

P.O. Box 167, Sandy Bay, Tasmania. 7005.

Application for measurement International Offshore Rule (IOR)
International Measurement System (IMS)

Name: BRUCE GUY Address: 19 PITCHEL CREEK, LAUNCESTON

Telephone: Home 272394 Business: 44 2466 Postcode: 7250

I hereby apply for measurement of my yacht: NAIAD

Designer: FARR Builder: NAUTECH Class/Design: FARR 40 LOA: 11.985

Design Date: 82? Series Date 12/84 Launch Date 12/84

Sail Number: 5466 (Allocated by RYCT for Hobart yachts) Engine Make: NANNI

MEASUREMENT TYPE: Full ; Part ; Change of owner

Has the hull been modified since launch? NO Date: _____

The yacht will be available on: _____ (Date, or by arrangement with measurer) at: _____

Cheque, Payable to TYA for \$ _____ enclosed to cover fees scheduled below.

SIGNATURE: BRUCE GUY

DATE: _____

Note: All hull measurements require the yacht to be out of the water, trimmed level according to the waterline. Owners should read "Owners Responsibilities" IOR Rules 106-110 and 201-206.

MEASUREMENT FEES:

SEASON: 1995/1996

THE STATED AMOUNTS MUST ACCOMPANY THIS APPLICATION.

	Measuring	AYF	TYA	TOTAL
Full measure IOR	\$260 + \$15/m over 8m.	\$110	\$15	\$385 + \$15/m over 8m.
Hull measure IMS	\$150 + \$20/m over 8m.	\$110	\$15	\$275 + \$20/m over 8m.
Extra IMS for non IOR yachts.	\$150 + \$40/hour over 3 hours			

PART MEASURE: Measurements resulting in a new certificate require additional AYF and TYA fees currently \$100 and \$15 respectively. (see below).

Change of Ownership:	\$40	Inclination and freeboards:	\$150
Other measurements:	\$40 / hr.	or \$50 / hr with assistant.	
Sail measures	\$30 for 1 sail, \$10 for each extra sail.		

AYF CHARGES: Certificates only:

New Certificates, Revalidation, or changes to data (alteration of issue date)	\$110
Urgent process of a certificate (additional)	+\$20
Any process by FAX (additional)	+\$30
Test Certificates - IOR per Test	+\$30
IMS	\$75 for the 1st run + others + \$15 ea.
Measuring error	\$10

Important:- All yachts requiring either full measurement or inclination and freeboards measure must fill in a "Measurement Inventory and Check list" form prior to presenting the yacht to the Measurer. This form will later become Page 3 of the Rating Certificate.

NOTE:- The liability of the Tasmanian Yachting Association is limited to a re-measure in an event of an error during the measuring process.
additional

IMS RATING CERTIFICATE No. 711500
Based on: FULL MEASUREMENT (Metric)

IMS AMENDED TO JANUARY 1995
Offshore Racing Council
19 St James's Place, London
Copyright 1995

IMS AMENDED TO JANUARY 1995 VPP: 27/OCT/95 08:51:48
Cert No 711500 7115.DAT 27/OCT/95 08:48:38
OFF Meas'd: 10/JAN/90 NAIAD.OFF 24/OCT/95 17:08:08

NOT VALID AFTER 30/06/96

GPH
598.9

--- YACHT DESCRIPTION ---
Name: NAIAD
Sail No: 5466
Class: FARR 40
LOA: 11.895m Beam(NB) 4.013m
Designer: FARR
Builder: NAUTECH SYSTEMS
Rig: FRACTIONAL SLOOP 150% Jib
Keel/CB: FIXED KEEL
PropInst: EXPOSED FEATHERING
FwdAccom: YES SPIN: SYMMETRIC
HullCnst: CORED RndCnst: STNDRD
Forestay: ADJST FWD Inrfsty: NONE
Spreadrs: 2 Sets Jumpers: YES
Runners: 1 Set Battens: LONG
Dates: AGE:12/1984
COMMENTS:
RIG & INCLINATIONS FROM IOR CERT.

RATING OFFICE:
Issued: AUSTRALIAN YACHTING FED.
27/OCT/95 LOCKED BAG 806,
Measured: MILSON'S POINT,
30/SEP/95 N.S.W. 2061
Revalidation Authority: AYF
Measurer: RICHARD FISHER
"I CERTIFY THAT I UNDERSTAND MY
RESPONSIBILITIES UNDER THE IMS."
OWNER:.....
BRUCE GUY
19 PITTEN CRIEF
LAUNCESTON
TAS. 7250

LIMITS AND REGULATIONS

Limit of Positive Stability: MEETS REQ Measurement Inventory: 12/MAR/87
Minimum Displacem't 2947kg: MEETS REQ Accommodation Length: 11.895m
Maximum Crew Weight: 740 kg. Accom Certificate: CRUISER/RACER
Stability Index: 143.0 ABS Plan Approval: NONE FILED

NOTE TO OWNER: The range available to revise crew weight is 525- 968 kg.

----- TIME ALLOWANCES IN SEC/MI BY TRUE WIND VELOCITY & ANGLE -----

Wind Velocity:	6kt	8kt	10kt	12kt	14kt	16kt	20kt	CHECKSUM
BEAT ANGLES:	46.2°	43.7°	41.6°	39.8°	38.6°	37.9°	37.6°	(285.4)
BEAT VMG:	976.4	806.5	732.2	693.9	671.6	658.4	647.6	(5186.6)
52°:	620.5	530.8	498.9	483.2	473.5	466.7	458.6	(3532.2)
R 60°:	577.7	510.3	483.8	467.1	456.5	449.3	439.6	(3384.3)
E 75°:	547.5	496.8	471.6	452.5	436.8	424.2	408.8	(3238.2)
A 90°:	549.1	490.0	462.2	441.6	425.4	413.3	396.5	(3178.1)
C 110°:	559.9	499.1	470.3	447.4	426.6	407.9	378.3	(3189.5)
H 120°:	596.1	515.4	482.4	457.9	435.9	415.4	380.4	(3283.5)
135°:	715.1	573.1	511.8	482.0	459.0	438.0	398.5	(3577.5)
150°:	872.7	685.2	580.2	518.7	487.0	463.5	422.2	(4029.5)
RUN VMG:	1007.7	791.2	669.9	581.3	525.3	492.4	447.8	(4515.6)
GYBE ANGLES:	138.0°	142.4°	149.5°	165.4°	172.0°	175.3°	175.7°	(1118.3)

NOTE: To convert any time allowance above to speed in knots: Kt = 3600/TA

----- WIND-AVERAGED TIME ALLOWANCES FOR SELECTED COURSES -----

Windward VMG	1079.9	878.4	774.1	717.1	685.1	666.7	649.4	(5450.7)
Leeward VMG	1055.9	820.8	685.1	598.9	541.2	501.2	449.0	(4652.1)
Olympic 6-leg	997.3	802.2	697.9	637.7	600.9	576.9	546.9	(4859.8)
Circular Rndm	816.3	663.3	581.9	534.5	504.8	484.5	457.3	(4042.6)
Non-Spinnaker	897.8	720.4	623.7	566.4	530.3	506.4	476.7	(4321.7)
Ocean for PCS	940.9	737.0	621.8	550.4	502.9	469.2	422.3	(4244.5)

---CENTERBOARD AND DRAFT---
ECM 0.000 CBRC 0.000 CBMC 0.000 CBTC 0.000
WCBA 0.0 CBDA 0.000 KCDA 0.000 ECE 0.000
WCBB 0.0 CBDB 0.000 ENDPLATE ADJ (KEDA) 0.000

---PROPELLER AND INSTALLATION---
PRD 0.520 PBW 0.133 PHD 0.063 PHL 0.125 ESL 0.910
ST1 0.024 ST2 0.115 ST3 0.115 ST4 0.061 ST5 0.300
PSA 19.300 PSD 0.025 PIPA 0.0052

---FLOTATION DATA---
FFM 1.160 FFPS 1.102 FGO 0.554 SG 1.027
FAM 1.132 AFPS 0.899 LBG 9.970 PL 3830.000
AW 25.000 APD 70.000 AWD 6.042 RM 243.5
BW 50.000 BPD 137.000 BWD 6.042 RMC 243.5
CW 25.000 CPD 68.000 CWD 6.042
DW 50.000 DPD 38.000 DWD 6.042
RM2 252.7 RM20 237.0 RM40 209.7 RM60 163.8
RM90 96.6 CREW ARM (CRA) 1.570

CALCULATED LIMIT OF POSITIVE STABILITY: 146.4 DEGREES
RATIO STABILITY CURVE AREAS, POSITIVE/NEGATIVE 18.459

---HYDROSTATICS--- MEASUREMENT TRIM---SAILING TRIM---
KEEL DRAFT (DHKO) 2.237 (DHKA) 2.290
2ND MOMENT LENGTH (LSMO) 9.348 (LSM1) 9.583
DISPLACEMENT (WEIGHT) (DSPM) 5869 (DSPS) 6859
WETTED SURFACE (WSM) 25.36 (WSS) 26.98
VCG FROM OFFSETS DATUM (For CLUB RM) (VCGD) -1.124
VCG FROM MEASUREMENT TRIM WATERLINE (VCGH) -0.975
INTEGRATED BEAM ATTENUATED WITH DEPTH (B) 3.061
MAXIMUM SECTION AREA (AMS1) 1.472
BEAM/DEPTH RATIO (BTR) 4.455
EFFECTIVE DRAFT (D) 1.987
2° HEEL (LSM2) 9.583 25° HEEL (LSM3) 9.532
SUNK (LSM4) 10.958 AVG LENGTH (L) 9.622
TRIM: 1mm/8.193m-kg SINK: 1mm/19.023kg

SAIL AREA: MAIN + FORETRIANGLE + MIZZEN (SA) 78.43
MAIN: 48.68 SPIN: 99.09 GENOA: 46.35 MIZ'N: 0.00

---FORETRIANGLE--- ---MAIN--- ---MAST---BTNS---
IG 14.381 SPL 4.108 HB 0.210 TL 4.130
MW 0.124 J 4.108 MGT 1.09 MDT1 0.113
GO 0.153 LPG 6.09 MGU 1.96 MDL1 0.172
ISP 14.433 FSP 0.068 MGM 3.41 MDT2 0.058
IM 14.483 LP 6.16 MGL 4.51 MDL2 0.080
HBI 1.093 SFJ 0.070 MSW 26.8 BATX 1.988
MXSL 14.26 MXSMW 7.39 P 15.230 BL1 1.700
SL 14.20 SMW 7.39 E 5.595 BL2 2.970
SPS 3.660 BAL 0.150 BAS 1.820 BL3 3.890
LPIS 0.00 BD 0.265 BLP 3.10 BL4 1.370
CPW 2.080 BL5 0.000

---MIZZEN---
IY 0.000 PY 0.000 BY1 0.000 MDT1Y 0.000
EB 0.000 EY 0.000 BY2 0.000 MDL1Y 0.000
YSD 0.00 BAYD 0.000 BY3 0.000 MDT2Y 0.000
YSF 0.00 BAYL 0.000 BY4 0.000 MDL2Y 0.000
YSMG 0.00 BDY 0.000 BY5 0.000 TLY 0.000
HBIY 0.000 HBY 0.000 MGUY 0.000 MGHY 0.000

ILC WEIGHTED AVERAGE: 665.6

NAIAD

18/11/95

INPUT	WEIGHTS	PEND. DIST		DO FIRST	
184	20.9	40	40	8	40
138	41.7	85	45	48	45
92	62.6	133	48	93	48
46	83.5	187	54	141	54
		LIMIT 156/181		195	

PLM =1625 GSA =0.178 RSA =46.24

TUBE 1618.76635

WT. DIST. 11.82

RM1 174.663047

RM2 164.38875

RM3 157.590719

RM4 149.444318 TOLERANCE LIMIT

RM 161.521708 8.07608542 169.597794

153.445623



Chester G. Bullock and Associates

Consulting Engineers, Architectural Designers and Land Surveyors
A.C.N. 009 511 906 Phone (03) 6331 7100 Facsimile (03) 6331 7188

Facsimile Transmittal

To: TIFA FITTINGS
Attention: BRUCE GUY
From: RICHARD FISHER
Project:

Fax: 63430711
Pages:
Date:
Project No.:

Notes:

BRUCE

COPY OF CERTIFICATE
FROM AYF. PLEASE NOTE
THE CREW WEIGHT AND
STABILITIES. MAYBE YOU
NEEDS TO PUT SOME WEIGHT
BACK IN OR RE-POSITION SOME
EXISTING?

REGARDS

RICHARD

LAUNCESTON OFFICE
26B York Street, Launceston
Phone (03) 63317100
Fax (03) 63317188
Email cgb1@tassie.net.au

POSTAL ADDRESS
PO Box 63
Riverside
Tasmania 7250

DEVONPORT OFFICE
56 Best Street, Devonport
Phone (03) 64235121
Fax (03) 64235122
Email cgbd@tassie.net.au

IHS RATING CERTIFICATE No. 711500
Based on: FULL MEASUREMENT (Metric)

IHS AMENDED TO JANUARY 1998
Offshore Racing Council
Ariadne House, Southampton UK
Copyright 1998

IHS AMENDED TO JANUARY 1998 YPP: 15/OCT/98 15:48:40
Cert No 711500 7115.DAT 15/OCT/98 15:48:20
OFF Meas'd: 10/JAN/90 NAIAD.OFF 24/OCT/95 17:08:08

NOT VALID AFTER 30/06/99

GPH
627.8

YACHT DESCRIPTION

Name: NAIAD
Sail No: 5466
Class: FARR 40
LOA: 11.895m Deas(HB) 3.992m
Designer: FARR
Builder: NAUTECH SYSTEMS
Rig: FRACTIONAL SLOOP 148% Jib
Keel/CB: FIXED KEEL
PropInst: EXPOSED FEATHERING
FwdAccom: YES SPIN: SYMMETRIC
HullCnst: CORED RwdCnst: STNDRD
Forestay: ADJST FWD BoomMtl: HEAVY
Spreadrs: 2 Sets Inrfsty: NONE
Runners: 1 Set Jumpers: YES
Dates: AGE: 12/1984

RATING OFFICE:

Issued: AUSTRALIAN YACHTING FED.
15/OCT/98
Measured: LOCKER BAG 806,
18/SEP/98 HILSON'S POINT,
R.S.N. 2061

Revalidation Authority: AYP
Measurer: RICHARD FISHER

"I CERTIFY THAT I UNDERSTAND MY
RESPONSIBILITIES UNDER THE IHS."

OWNER:
BRUCE GUY
19 PITTEN CREEK
LAUNCESTON
TAS. 7250

CENTERBOARD AND DRAFT

ECM	0.000	CBRC	0.000	CBMC	0.000	CBTC	0.000
WCBA	0.0	CBDA	0.000	KCDA	0.000	ECE	0.000
WCBB	0.0	CBDB	0.000	ENDPLATE ADJ (KEDA)	0.000		

PROPELLER AND INSTALLATION

PRD	0.520	PBW	0.133	PHD	0.063	PHL	0.125	ESL	0.910
ST1	0.024	ST2	0.115	ST3	0.115	ST4	0.061	ST5	0.300
PSA	19.300	PSD	0.025	PIPA	0.0052				

FLOTATION DATA

FFPS	1.102	AFPS	0.899	SFFP	0.545	SAFP	10.545
FFM	1.231	FAM	1.037	FFPV	0.000	AFPV	0.000
FF	1.232	FA	1.037			SG	1.024

INCLINING TESTS

W1	16.800	PD1	44.000	PLN	1625.000	PL	1618.769
W2	33.600	PD2	88.000	6SA	0.178	6SA	46.2
W3	50.300	PD3	131.000	SMB	7.043	WD	12.100
W4	67.100	PD4	176.000	RH	130.7	RMC	130.7
RH2	137.6	RH2D	124.0	RH40	101.9	RH60	63.5
RH90	16.9			CREW ARM (CRA)	1.604		

CALCULATED LIMIT OF POSITIVE STABILITY: 104.7 DEGREES
RATIO STABILITY CURVE AREAS, POSITIVE/NEGATIVE 1.296

HYDROSTATICS MEASUREMENT TRIM SAILING TRIM

KEEL DRAFT	(DHKD)	2.263	(DHKA)	2.307
2ND MOMENT LENGTH	(LSM0)	9.660	(LSM1)	9.859
DISPLACEMENT (WEIGHT)	(DSPM)	6287	(DSPS)	7161
WETTED SURFACE	(WSM)	26.19	(WSS)	27.82
VCG FROM OFFSETS DATUM (For CLUB RM)	(VCGD)			0.106
VCG FROM MEASUREMENT TRIM WATERLINE	(VCGM)			0.241
INTEGRATED BEAM ATTENUATED WITH DEPTH (B)				3.126
MAXIMUM SECTION AREA	(AMS1)			1.481
BEAM/DEPTH RATIO	(BTR)			4.573
EFFECTIVE DRAFT	(D)			1.999
2° HEEL (LSM2)	9.861	25° HEEL (LSM3)		9.818
SUNK (LSM4)	71.432	AVG LENGTH (L)		9.950
TRIM: 1sa/8.738m-kg		SINK: 1sa/19.744kg		

SAIL AREA: MAIN + FORETRIANGLE + MIZZEN (SA) 79.00
MAIN: 49.25 SPIN: 99.40 GENDA: 45.98 MIZ'N: 0.00

FORETRIANGLE MAIN & SPARS

IG	14.381	SPL	4.108	HB	0.170	TL	4.130
MW	0.124	J	4.108	MGT	1.20	KDT1	0.113
GO	0.153	LPG	6.04	MGU	2.06	MOL1	0.172
ISP	14.433	FSP	0.068	MGM	3.43	MOT2	0.058
JN	14.483	LP	6.11	MGL	4.52	MOL2	0.080
HBJ	1.112	SFJ	0.070	MSW	30.9	MWT	212.0
MSL	14.26	HSMW	7.39	P	15.250	NCG	4.675
SL	14.30	SMW	7.39	E	5.595	BO	0.265
SPS	3.660	LPIS	0.00	EC	5.595	CPW	2.080
TH	NO	JR	0.00	BAS	1.820	BAL	0.150

MIZZEN

IY	0.000	PY	0.000	HBY	0.000	TLY	0.000
EB	0.000	EY	0.000	HSTY	0.000	MOTTY	0.000
YSB	0.000	ECY	0.000	NGUY	0.000	MOLTY	0.000
YSF	0.000	BASY	0.000	MGY	0.000	MOT2Y	0.000
YSMG	0.000	BALY	0.000	MGLY	0.000	MOL2Y	0.000
		HRIY	0.000	BDY	0.000		

LIMITS AND REGULATIONS

Limit of Positive Stability: MEETS REQ Measurement Inventory: 18/JUL/98
Minimum Displacement: 3134kg: MEETS REQ Accommodation Length: 11.895m
Maximum Crew Weight: 766 kg. Accom Certificate: C/R DA= 0.65%
Stability Index: 102.8 Plan Approval: NONE FILED

NOTE TO OWNER: The range available to revise crew weight is 415- 766 kg.

TIME ALLOWANCES IN SEC/MI BY TRUE WIND VELOCITY & ANGLE

Wind Velocity:	6kt	8kt	10kt	12kt	14kt	16kt	20kt	CHECKSUM
BEAT ANGLES:	44.0°	43.2°	41.9°	41.1°	40.8°	40.8°	41.6°	(293.4)
BEAT VMG:	095.2	057.4	796.5	766.3	751.3	745.2	745.6	(5657.5)
52°:	642.7	560.0	531.7	518.3	511.3	506.8	502.7	(3773.5)
R 60°:	600.6	530.7	508.1	497.1	490.5	485.8	480.4	(3593.2)
E 75°:	569.1	509.2	483.9	471.4	464.1	458.4	450.6	(3406.7)
A 90°:	567.9	502.2	477.7	462.0	448.4	438.9	429.1	(3326.2)
C 110°:	585.0	509.5	476.3	454.5	438.8	428.2	413.1	(3305.4)
H 120°:	628.1	530.2	488.1	460.9	440.2	423.3	398.6	(3369.4)
135°:	740.7	596.6	523.2	486.2	460.2	438.3	400.2	(3645.4)
150°:	896.6	710.7	597.5	529.0	491.2	464.6	422.4	(4112.0)
RUN VMG:	1035.3	820.7	690.0	595.7	535.8	498.2	449.5	(4625.2)
GYBE ANGLES:	140.2°	144.3°	150.3°	164.2°	169.9°	173.5°	174.9°	(1117.3)

NOTE: To convert any time allowance above to speed in knots: Kt = 3600/TA

Performance Line Scoring -- Time factor: 0.771 Distance factor: 84.7

TIME ALLOWANCES FOR SELECTED COURSES

Wind/Lwd VMG	1109.4	892.9	774.7	704.2	660.2	631.9	599.4	(5372.7)
Olympic 6-Leg	1036.0	842.9	741.0	683.0	648.4	626.9	602.0	(5120.2)
Circular Rndm	846.3	691.6	610.3	564.0	536.0	518.0	495.8	(4262.0)
Non-Spinnaker	923.0	744.9	649.0	592.9	558.4	536.2	509.9	(4514.3)
Ocean for PCS	980.9	771.4	653.7	581.0	532.9	499.0	452.3	(4471.2)
For Time-on-time method Inf = 0.9533								ILC Weighted Avg: 705.1

TEST 15 \$50-00
 TD: RICHARD FISHER
 (100)

Facsimile Transmittal

To: AYF

Attention: TONY MCDNEY

From: RICHARD FISHER

Project: NAIAO MEASUREMENT

Fax: 0299232883

Pages: 1

Date: 15-10-98

Project No.:

Notes:

TONY

LOOKS LIKE I MIS-READ TAPE.

NUMBERS SHOULD BE:

FPM 1.231

FAM 1.037

ALSO, ANOTHER OWNER HAS ENQUIRED
ABOUT COST OF TEST CERTIFICATES.
COULD YOU PLEASE FAX ME FEES?

REGARDS

RICHARD

LAUNCESTON OFFICE
268 York Street, Launceston
Phone (03) 63317100
Fax (03) 63317186
Email: cgb@tassie.net.au

POSTAL ADDRESS
PO Box 63
Riverside
Tasmania 7250

DEVONPORT OFFICE
56 Best Street, Devonport
Phone (03) 64235121
Fax (03) 64235122
Email: cgb.d@tassie.net.au

IMS RATING CERTIFICATE No. 711500
Based on: FULL MEASUREMENT (Metric)

NOT VALID AFTER 30/06/99

GPH
626.2

IMS AMENDED TO JANUARY 1998
Offshore Racing Council
Ariadne House, Southampton UK
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IMS AMENDED TO JANUARY 1998 VPP: 29/SEP/98 10:04:58
Cert No 711500 7115.DAT 29/SEP/98 10:03:06
OFF Meas'd: 10/JAN/90 WATAO.OFF 24/OCT/95 17:08:06

Aff Richard Fisher

YACHT DESCRIPTION
Name: NAIAD
Sail No: 5466
Class: FARR 40
LOA: 11.895m Beam(MB) 3.992m
Designer: FARR
Builder: NAUTECH SYSTEMS
Rig: FRACTIONAL SLOOP 148% Jib
Keel/CB: FIXED KEEL
PropInst: EXPOSED FEATHERING
FuelAccom: YES SPIN: SYMMETRIC
HullCnst: CORED RwdCnst: STNDRD
Forestay: ADJUST FWD BoomMtl: HEAVY
Spreadrs: 2 Sets InrFsty: NONE
Runners: 1 Set Jumpers: YES
Dates: AGE: 12/1984
COMMENTS:

RATING OFFICE:
Issued: AUSTRALIAN YACHTING FED.
29/SEP/98
Measured: COLEBAG 806,
18/SEP/98 KYLSON'S POINT,
N.S.W. 2061

Revalidation Authority: AYY
Measurer: RICHARD FISHER

"I CERTIFY THAT I UNDERSTAND MY
RESPONSIBILITIES UNDER THE IMS."

OWNER:
BRUCE GUY
19 PITMEN CRIEF
LAUNCESTON
TAS. 7250

LIMITS AND REGULATIONS

Limit of Positive Stability: MEETS REQ Measurement Inventory: 18/JUL/98
Minimum Displacement 2946kg: MEETS REQ Accommodation Length: 11.895m
Maximum Crew Weight: 758 kg. Accom Certificate: C/R DA= 0.26%
Stability Index: 105.6 Plan Approval: NONE FILED

NOTE TO OWNER: The range available to revise crew weight is 411- 758 kg.

TIME ALLOWANCES IN SEC/MI BY TRUE WIND VELOCITY & ANGLE

Wind Velocity:	6kt	8kt	10kt	12kt	14kt	16kt	20kt	CHECKSUM
BEAT ANGLES:	44.0°	43.2°	42.1°	41.5°	41.2°	41.4°	42.3°	(295.7)
BEAT WNG:	990.7	858.7	800.4	771.8	758.2	753.1	755.6	(5688.5)
52°:	640.0	560.6	532.5	519.2	512.3	507.9	504.4	(3776.9)
R 60°:	598.1	530.1	507.8	496.8	490.3	485.6	480.4	(3589.1)
E 75°:	566.3	507.3	482.1	469.9	462.5	456.7	448.7	(3393.5)
A 90°:	565.3	500.3	475.8	459.0	445.1	435.6	425.4	(3306.5)
C 110°:	581.4	507.0	473.5	451.3	435.3	424.3	407.9	(3280.7)
h 120°:	622.9	527.8	485.4	457.7	436.3	418.4	392.3	(3340.8)
135°:	732.8	592.9	520.8	483.5	456.9	434.1	393.3	(3614.3)
150°:	886.1	705.3	594.4	526.8	488.7	461.7	417.4	(4080.4)
RUN WNG:	1023.2	814.4	686.3	593.2	533.8	496.0	446.1	(4593.0)
GYBE ANGLES:	140.3°	144.7°	150.7°	164.3°	169.7°	173.3°	174.5°	(1117.5)

NOTE: To convert any time allowance above to speed in knots: Kt = 3600/TA

Performance Line Scoring -- Time Factor: 0.773 Distance Factor: 84.4

Wind/Load WNG	1103.8	850.6	774.5	705.4	662.3	634.6	602.7	(5373.9)
Olympic 6-leg	1031.6	841.4	741.3	684.6	650.7	629.5	605.1	(5184.2)
Circular Rndm	841.9	689.1	609.0	563.3	535.6	517.3	495.4	(4251.9)
Non-Spinmaxer	917.8	741.8	647.3	592.1	558.1	536.1	510.1	(4503.3)
Ocean for PCS	977.0	769.0	652.1	579.7	531.6	497.3	449.6	(4456.3)
For Time-on-Time method THF = 0.9535								ILC Weighted Avg: 707.9

CENTERBOARD AND DRAFT
ECY 0.000 CBRC 0.000 CBMC 0.000 CBTC 0.000
WCBA 0.0 CBDA 0.000 KCBA 0.000 ECE 0.000
WCBE 0.0 CBDB 0.000 ENDPLATE ADJ (KEDA) 0.000

PROPELLER AND INSTALLATION
PRD 0.520 PBW 0.133 PHD 0.063 PHL 0.125 ESL 0.910
ST1 0.024 ST2 0.115 ST3 0.115 ST4 0.061 ST5 0.300
PSA 19.300 PSD 0.025 PIPA 0.0052

FLOTATION DATA
FFPS 1.102 AFPS 0.899 FGO 0.554 LBG 9.970
FFM 1.321 FAM 1.037 FFPV 0.000 AFPV 0.000
FF 1.322 FA 1.037 SG 1.024

INCLINING TESTS
W1 16.800 PD1 44.000 PLN 1625.000 PL 1618.769
W2 33.600 PD2 88.000 GSA 0.178 RSA 46.2
W3 50.300 PD3 131.000 SMB 7.043 WD 12.100
W4 67.100 PD4 176.000 RM 130.7 RMC 130.7
RM2 138.9 RM20 124.3 RM40 102.5 RM60 67.4
RM90 21.9 CREW ARM (CRA) 1.602

CALCULATED LIMIT OF POSITIVE STABILITY: 109.5 DEGREES
RATIO STABILITY CURVE AREAS, POSITIVE/NEGATIVE 1.651

HYDROSTATICS MEASUREMENT TRIM SAILING TRIM
KEEL DRAFT (DHKO) 2.226 (DHKA) 2.270
2ND MOMENT LENGTH (LSM0) 9.355 (LSM1) 9.568
DISPLACEMENT (WEIGHT) (DSPM) 5546 (DSPS) 6405
WETTED SURFACE (WSM) 25.08 (WSS) 26.75
VCG FROM OFFSETS DATUM (FOR CLUB RM) (VEGD) 0.001
VCG FROM MEASUREMENT TRIM WATERLINE (VEGN) 0.176
INTEGRATED BEAM ATTENUATED WITH DEPTH (B) 3.073
MAXIMUM SECTION AREA (ANM1) 1.356
BEAM/DEPTH RATIO (BTR) 4.822
EFFECTIVE DRAFT (D) 1.976
2° HEEL (LSM2) 9.569 25° HEEL (LSM3) 9.538
SUNK (LSM4) 11.361 AVG LENGTH (L) 9.741
TRIM: 1mm/8.383m-kg SINK: 1mm/19.169kg

SAIL AREA: MAIN + FORETRIANGLE + MIZZEN (SA) 79.00
MAIN: 49.25 SPIN: 99.40 GENOA: 45.98 MIZ'N: 0.00

FORETRIANGLE MAIN & SPARS
IG 14.381 SPL 4.108 HB 0.170 TL 4.130
NW 0.124 J 4.108 MGT 1.20 MDT1 0.113
SO 0.153 LPG 6.04 HGU 2.06 MDL1 0.172
ISP 14.433 FSP 0.068 MGM 3.43 MDT2 0.058
IM 14.483 LP 6.11 MGL 4.52 MDL2 0.080
HBI 1.170 SFJ 0.070 HSW 30.9 MWT 212.0
KSL 14.26 MSMW 7.39 P 15.230 MCG 4.675
SL 14.30 SMW 7.39 E 5.595 BD 0.265
SPS 3.660 LPIs 0.00 EC 5.595 CPW 2.080
TH NO JR 0.00 BAS 1.820 BAL 0.150

MIZZEN
IY 0.000 PY 0.000 HBY 0.000 TLY 0.000
EB 0.000 EY 0.000 HGTY 0.000 NDT1Y 0.000
YSD 0.00 ECY 0.000 HGYU 0.000 MDL1Y 0.000
YSF 0.00 BASY 0.000 HGNV 0.000 NDT2Y 0.000
YSMG 0.00 BALLY 0.000 HGLY 0.000 MDL2Y 0.000
HBIY 0.000 HBY 0.000

IMS RATING CERTIFICATE No. 711500
Based on: FULL MEASUREMENT (Metric)

IMS AMENDED TO JANUARY 1997
Offshore Racing Council
19 St James's Place, London
Copyright 1997

IMS AMENDED TO JANUARY 1997 VPP: 28/JUL/97 21:30:56
Cert No 711500 7115.DAT 28/JUL/97 21:27:48
OFF Meas'd: 10/JAN/90 NAIAD.OFF 24/OCT/95 17:08:08

NOT VALID AFTER 30/06/98

GPH
620.6

Att RICHARD FISHER

63 317188

YACHT DESCRIPTION
Name: NAIAD
Sail No: 5466
Class: FARR 40
LOA: 11.895m Beam(MB) 3.992m
Designer: FARR
Builder: NAUTECH SYSTEMS
Rig: FRACTIONAL SLOOP 150% Jib
Keel/CB: FIXED KEEL
PropInst: EXPOSED FEATHERING
FwdAccom: YES SPIN: SYMMETRIC
MullCnst: CORED RodCnst: STNDRD
Forestay: ADJST FWD BoomAtt: HEAVY
Spreadrs: 2 Sets InrfSty: NONE
Runners: 1 Set Jumpers: YES
Dates: AGE:12/1984

RATING OFFICE:
Issued: AUSTRALIAN YACHTING FED.
28/JUL/97
Measured: KOGEEB BAG BOS,
11/MAR/97 MILLSON'S POINT,
N.S.W. 2061

Revalidation Authority: AYF
Measurer: RICHARD FISHER

"I CERTIFY THAT I UNDERSTAND MY
RESPONSIBILITIES UNDER THE IMS."

OWNER: *Richard Fisher*
BRUCE GUY
19 PITTEN CRIEF
LAUNCESTON
TAS. 7250
OLD MAIN NOT TO BE USED FOR IMS RACE

COMMENTS
rig.data from ior cert.

CENTERBOARD AND DRAFT
ECM 0.000 CBRC 0.000 CBMC 0.000 CBTC 0.000
WCBA 0.0 CBDA 0.000 KCDA 0.000 ECE 0.000
WCB8 0.0 CBDB 0.000 ENDPLATE ADJ (KEDA) 0.000

PROPELLER AND INSTALLATION
PRD 0.520 PBW 0.133 PHD 0.063 PHL 0.125 ESL 0.910
ST1 0.024 ST2 0.115 ST3 0.115 ST4 0.061 ST5 0.300
PSA 19.300 PSD 0.025 PIPA 0.0052

FLOTATION DATA
FFPS 1.102 AFPS 0.899 FGO 0.554 LBS 9.970
FFM 1.198 FAM 1.088 FFPV 0.000 AFFV 0.000
FF 1.198 FA 1.088 SG 1.027

INCLINING TESTS
W1 20.900 PD1 40.000 PLM 1625.000 PL 1618.769
W2 41.700 PD2 85.000 GSA 0.178 PSA 46.2
W3 62.600 PD3 135.000 SMB 7.043 WD 11.820
W4 83.500 PD4 187.000 RM 142.9 RMC 142.9
RM2 150.1 RM20 136.4 RM40 114.6 RM60 77.1
RM90 29.0 CREW ARM (GRA) 1.615

CALCULATED LIMIT OF POSITIVE STABILITY: 112.9 DEGREES
RATIO STABILITY CURVE AREAS, POSITIVE/NEGATIVE 2.013

HYDROSTATICS—MEASUREMENT TRIM—SAILING TRIM—
KEEL DRAFT (DHKO) 2.247 (DHKA) 2.295
2ND MOMENT LENGTH (LSM0) 9.643 (LSM1) 9.835
DISPLACEMENT (WEIGHT) (DSPH) 6020 (DSPS) 6920
WETTED SURFACE (WSM) 25.72 (WSS) 27.27
VCG FROM OFFSETS DATUM (For CLUB RM) (VCGD) -0.081
VCG FROM MEASUREMENT TRIM WATERLINE (VCGM) 0.064
INTEGRATED BEAM ATTENUATED WITH DEPTH (B) 3.084
MAXIMUM SECTION AREA (AMS1) 1.461
BEAM/DEPTH RATIO (BTR) 4.535
EFFECTIVE DRAFT (D) 1.990
2° HEEL (LSM2) 9.837 25° HEEL (LSM3) 9.818
SUNK (LSM4) 11.179 AVG LENGTH (L) 9.854
TRIM: 1mm/8.450kg SINK: 1mm/19.532kg

SAIL AREA: MAIN + FORETRIANGLE + MIZZEN (SA) 79.00
MAIN: 49.25 SPIN: 99.09 GFHOA: 46.35 MIZ*H: 0.00

FORETRIANGLE—MAIN & SPARS—
IG 14.381 SPL 4.108 HB 0.170 TL 4.130
HM 0.124 J 4.108 MGT 1.20 MDT1 0.113
GO 0.153 LPG 6.09 MGU 2.06 MDL1 0.172
ISP 14.433 FSP 0.068 MGN 3.43 MDT2 0.058
IM 14.483 LP 6.16 MGL 4.52 MDL2 0.060
HBI 1.106 SFJ 0.070 HSW 30.9 MWT 0.0
MXSL 14.26 MXSHW 7.39 P 15.230 MCG 0.000
SL 14.20 SHW 7.39 E 5.595 BD 0.265
SPS 3.640 LPIS 0.00 EC 5.595 CPW 2.080
TH HQ JR 0.00 BAS 1.820 BAL 0.150

MIZZEN
IY 0.000 PY 0.000 HBY 0.000 TLY 0.000
EB 0.000 EY 0.000 MGY 0.000 MDT1Y 0.000
YSO 0.00 ESY 0.000 MGUY 0.000 MDL1Y 0.000
YSF 0.00 BASY 0.000 MSNY 0.000 MDT2Y 0.000
YSMG 0.00 BAILY 0.000 MGLY 0.000 MDL2Y 0.000
HBYT 0.000 BDT 0.000

LIMITS AND REGULATIONS

Limit of Positive Stability: MEETS REQ Measurement Inventory: 18/NOV/95
Minimum Displacement 3123kg: MEETS REQ Accommodation Length: 11.895m
Maximum Crew Weight: 740 kg Accom Certificate: C/R DA= 0.84%
Stability Index: 110.3 Plan Approval: NONE FILED

NOTE TO OWNER: The range available to revise crew weight is 430-794 kg.

TIME ALLOWANCES IN SEC/MI BY TRUE WIND VELOCITY & ANGLE

Wind Velocity:	6kt	8kt	10kt	12kt	14kt	16kt	20kt	CHECKSUM
BEAT ANGLES:	44.7°	43.7°	42.1°	41.1°	40.5°	40.5°	40.9°	(293.5)
BEAT VMG:	997.5	848.2	783.5	750.8	733.7	724.8	717.4	(5555.9)
52°:	640.0	553.1	524.1	509.9	501.8	496.2	489.0	(3714.1)
R 60°:	596.4	525.8	501.6	489.7	482.1	476.3	468.2	(3540.1)
E 75°:	564.3	506.0	479.7	464.8	456.5	449.9	439.9	(3361.1)
A 90°:	563.3	498.9	472.6	458.7	443.9	432.7	419.5	(3289.6)
C 110°:	577.9	507.0	474.1	451.5	434.6	421.7	404.7	(3271.5)
H 120°:	618.4	526.6	486.4	459.3	438.1	420.3	392.8	(3341.9)
135°:	730.8	589.4	520.6	485.0	459.2	437.2	398.9	(3621.1)
150°:	884.9	702.8	592.2	526.7	490.1	463.8	421.2	(4081.7)
RUN VMG:	1021.8	811.5	683.8	590.7	532.2	495.6	447.0	(4582.6)
GYBE ANGLES:	140.1°	143.7°	150.5°	165.4°	171.4°	174.4°	175.5°	(1121.0)

NOTE: To convert any time allowance above to speed in knots: Kt = 3600/TA

TIME ALLOWANCES FOR SELECTED COURSES

Wind/Lwd VMG	1100.2	883.3	764.6	693.6	648.8	619.4	583.7	(5293.6)
Olympic 6-Leg	1028.4	834.3	731.5	672.6	636.9	613.9	585.3	(5102.9)
Circular Rwdm	839.1	684.8	603.4	556.7	528.0	509.0	484.3	(4205.3)
Non-Spinnaker	913.5	735.3	640.8	584.8	550.0	527.2	499.0	(4451.6)
Ocean for PCS	971.3	763.0	645.8	573.2	525.0	490.7	443.1	(4412.1)
For time-on-time method TME = 0.9666								ILC Weighted Avg: 697.2

IMS RATING CERTIFICATE No. 711500
Based on: FULL MEASUREMENT (Metric)

IMS AMENDED TO JANUARY 1998
Offshore Racing Council
10 St James's Place, London
Copyright 1995

IMS AMENDED TO JANUARY 1995 VPP: 27/OCT/95 08:51:48
Cert No 711500 7115.DAT 27/OCT/95 08:48:38
OFF Meas'd: 10/JAN/90 NAIAD.OFF 24/OCT/95 17:08:08

NOT VALID AFTER 30/05/96

GPH-
598.9

YACHT DESCRIPTION
Name: NAIAD
Sail No: 5466
Class: FARR 40
LOA: 11.895m Beam(NB) 4.013m
Designer: FARR
Builder: NAUTECH SYSTEMS
Rig: FRACTIONAL SLOOP 150% Jib
Keel/CB: FIXED KEEL
PropInst: EXPOSED FEATHERING
FwdAccom: YES SPIN: SYMMETRIC
HullCnst: CORED RwdCnst: STNDRD
Forestay: ADJST FWD InrfSty: NONE
Spreadrs: 2 Sets Jumpers: YES
Runners: 1 Set Battens: LONG
Dates: AGE: 12/1984

RATING OFFICE:
Issued: AUSTRALIAN YACHTING FED.
27/OCT/95 LOCKED BAG 806,
Measured: WILSON'S POINT,
30/SEP/95 N.S.W. 2061
Revalidation Authority: AYF
Measurer: RICHARD FISHER
"I CERTIFY THAT I UNDERSTAND MY
RESPONSIBILITIES UNDER THE IMS."
OWNER: BRUCE GUY
19 PITTEN CREEF
LAUNCESTON
TAS. 7250

COMMENTS - RIG & INCLINATIONS FROM 10R CERT.

LIMITS AND REGULATIONS

Limit of Positive Stability: MEETS REQ Measurement Inventory: 12/HAR/87
Minimum Displacement: 2947kg: MEETS REQ Accommodation Length: 11.895m
Maximum Crew Height: 740 kg. Accom Certificate: CRUISER/RACER
Stability Index: 143.0 ABS Plan Approval: NONE FILED

NOT TO OWNER: The range available to revise crew weight is 525- 902 kg.

TIME ALLOWANCES IN SEC/MI BY TRUE WIND VELOCITY & ANGLE

Wind Velocity:	6kt	8kt	10kt	12kt	14kt	16kt	20kt	CHECKSUM
BEAT ANGLES:	46.2°	43.7°	41.6°	39.8°	38.6°	37.9°	37.6°	(285.4)
BEAT WNG:	976.4	806.5	732.2	693.9	671.6	658.4	647.6	(5186.6)
52°:	620.5	530.8	498.9	483.2	473.5	466.7	458.6	(3532.2)
R 60°:	577.7	510.3	483.8	467.1	456.5	449.3	439.6	(3384.3)
E 75°:	547.5	496.8	471.6	452.5	436.8	424.2	408.8	(3238.2)
A 90°:	549.1	490.0	462.2	441.6	425.4	413.3	396.5	(3178.1)
C 110°:	559.9	499.1	470.3	447.4	426.6	407.9	378.3	(3189.5)
H 120°:	596.1	515.4	482.4	457.9	435.9	415.4	380.4	(3285.5)
135°:	715.1	573.1	511.8	482.0	459.0	438.0	398.5	(3577.5)
150°:	872.7	685.2	580.2	518.7	487.0	463.5	422.2	(4029.5)
RUN WNG:	1007.7	791.2	669.9	581.3	525.3	492.4	447.8	(4515.6)
GYBE ANGLES:	138.0°	142.4°	149.5°	165.4°	172.0°	175.3°	175.7°	(1118.3)

NOTE: To convert any time allowance above to speed in knots: Kt = 3600/TA

WIND-AVERAGED TIME ALLOWANCES FOR SELECTED COURSES

Windward WNG	1079.9	878.4	774.7	717.1	685.1	666.7	649.4	(5450.7)
Leeward WNG	1059.9	820.8	685.1	598.9	541.7	501.2	449.0	(4652.1)
Olympic 6-Leg	907.3	802.2	697.9	637.7	600.9	576.9	546.9	(4859.8)
Circular Rndm	816.3	663.3	581.9	534.5	504.8	484.5	457.3	(4042.6)
Non-Spinnaker	897.8	720.4	623.7	566.4	530.3	506.4	476.7	(4321.7)
Oceanic for POS	960.9	757.0	621.8	550.6	502.9	469.2	422.3	(4244.5)

CENTERBOARD AND DRAFT
ECM 0.000 CBRC 0.000 CBHC 0.000 CBTC 0.000
VCBA 0.0 CBDA 0.000 KCDA 0.000 ECE 0.000
VCBB 0.0 CDBB 0.000 ENDPLATE ADJ (KEDA) 0.000

PROPELLER AND INSTALLATION
PRD 0.520 PBM 0.133 PHD 0.063 P 0.125 ESL 0.910
ST1 0.024 ST2 0.115 ST3 0.115 ST4 0.061 ST5 0.300
PSA 19.300 PSD 0.025 PIPA 0.0052

FLOTATION DATA
FFM 1.160 FFPS 1.102 FGO 0.554 SG 1.027
FAM 1.132 AFPS 0.899 LBG 9.970 PL 3830.000
AW 25.000 APD 70.000 AND 6.042 RM 243.5
BW 50.000 BPD 137.000 BND 6.042 RMC 243.5
CN 25.000 CPD 68.000 CND 6.042
DW 50.000 DPD 38.000 DWD 6.042
RM2 252.7 RM20 237.0 RM40 209.7 RM60 163.8
RM90 96.6 CREW ARM (CRA) 1.570

CALCULATED LIMIT OF POSITIVE STABILITY: 146.4 DEGREES
RATIO STABILITY CURVE AREAS, POSITIVE/NEGATIVE 18.459

HYDROSTATICS MEASUREMENT TRIM SAILING TRIM
KEEL DRAFT (DHKO) 2.237 (DHKA) 2.290
2ND MOMENT LENGTH (LSM2) 9.348 (LSM1) 9.583
DISPLACEMENT (WEIGHT) (DSPM) 5869 (DSPS) 6859
WETTED SURFACE (WSM) 25.36 (WSS) 26.98
VCG FROM OFFSETS DATUM (For CLUB RM) (VCGD) -1.124
VCG FROM MEASUREMENT TRIM WATERLINE (VCGM) -0.975
INTEGRATED BEAM ATTENUATED WITH DEPTH (B) 3.061
MAXIMUM SECTION AREA (AMS1) 1.472
BEAM/DEPTH RATIO (BTR) 4.455
EFFECTIVE DRAFT (D) 1.987
2° HEEL (LSM2) 9.583 25° HEEL (LSM3) 9.532
SUNK (LSM4) 10.958 AVG LENGTH (L) 9.622
TRIM: 1mm/8.193m-kg SINK: 1mm/19.023kg

SAIL AREA: MAIN + FORETRIANGLE + MIZZEN (SA) 78.43
MAIN: 48.68 SPIN: 99.09 GENOA: 46.35 MIZ'N: 0.00

FORETRIANGLE		MAIN		MAST-BINS			
IG	14.381	SPL	4.108	HB	0.210	TL	4.130
MW	0.124	J	4.108	HGT	1.09	MDT1	0.113
GO	0.153	LPG	6.09	HGU	1.96	MDL1	0.172
LSP	14.435	FSP	0.068	HGM	3.41	MDT2	0.058
IM	14.483	LP	6.16	MGL	4.51	MDL2	0.080
HBI	1.093	SFJ	0.070	MSW	26.8	BATX	1.988
MXSL	14.26	HXSMW	7.39	P	15.230	BL1	1.700
SL	14.20	SMW	7.39	E	5.595	BL2	2.970
SPS	3.660	BAL	0.150	BAS	1.820	BL3	3.890
LPI3	0.00	BD	0.265	BLP	3.10	BL4	1.370
CPW	2.080					BL5	0.000

MIZZEN							
LY	0.000	PY	0.000	BY1	0.000	MDTY1	0.000
EB	0.000	EY	0.000	BY2	0.000	MDLY1	0.000
YSD	0.00	BADY	0.000	BY3	0.000	MDTY2	0.000
YSF	0.00	BALY	0.000	BY4	0.000	MDLY2	0.000
YSNG	0.00	HBY	0.000	BY5	0.000	TLY	0.000
HBY1	0.000	HBY	0.000	HBUY	0.00	HBY1	0.00

LLC WEIGHTED AVERAGE: 665.6

BRUCE
 PRELIMINARY ONLY FROM AYF
 ORIGINAL OVER CORRECT TO 705 500.
 GPH OF 598.9 CORRECTS WIND TO
 INSTRUMENT (599.0)
 FROM RICHARD.
 TO BRUCE GUY

430711

IMS RATING CERTIFICATE No. 711500
Based on: FULL MEASUREMENT (Metric)

IMS AMENDED TO JANUARY 1995
Offshore Racing Council
19 St James's Place, London
Copyright 1995

NOT VALID AFTER 30/06/96

GPH
609.4

YACHT DESCRIPTION

Name: NAJAD
Sail No: 5466
Class: FARR 40
LOA: 11.895m Beam(MB) 4.013m
Designer: FARR
Builder: NAUTECH SYSTEMS
Rig: FRACTIONAL SLOOP 150% Jib
Keel/CB: FIXED KEEL
PropInst: EXPOSED FEATHERING
FwdAccom: YES SPIN: SYMMETRIC
HullCnst: CORED RodCnst: STDROD
Forestay: ADJUST FWD Inrfsty: NONE
Spreadrs: 2 Sets Jumpers: YES
Runners: 1 Set Battens: LONG
Dates: AGE: 12/1984

RATING OFFICE:

Issued: AUSTRALIAN YACHTING FED.
30/NOV/95 LOCKED BAG 806.
Measured: MILSON'S POINT,
30/SEP/95 W.S.W. 2061

Revalidation Authority: ATF
Measurer: RICHARD FISHER

"I CERTIFY THAT I UNDERSTAND MY
RESPONSIBILITIES UNDER THE IMS."

OWNER: Bruce Guy
19 PITTEN CRUEE
LAUNCESTON
TAS. 7250

COMMENTS

rig data from ior cert.

LIMITS AND REGULATIONS

Limit of Positive Stability: MEETS REQ Measurement Inventory: 13/MOV/95
Minimum Displacement 2983kg: MEETS REQ Accommodation Length: 11.895m
Maximum Crew Weight: 740 kg. Accom Certificate: CRUISER/RACER
Stability Index: 117.9 ABS Plan Approval: NONE FILED

NOTE TO OWNER: The range available to revise crew weight is 446- 824 kg.

TIME ALLOWANCES IN SEC/MI BY TRUE WIND VELOCITY & ANGLE

Wind Velocity:	6kt	8kt	10kt	12kt	14kt	16kt	20kt	CHECKSUM
BEAT ANGLES:	46.3°	44.2°	42.3°	41.1°	40.5°	40.2°	40.5°	(295.1)
BEAT VMG:	985.2	827.7	761.9	728.5	710.6	701.5	694.7	(5410.1)
52°:	624.7	538.9	511.2	498.5	491.2	486.3	480.0	(3630.8)
R 60°:	580.0	514.3	492.1	481.2	474.1	468.9	461.4	(3472.0)
E 75°:	547.6	497.9	475.0	459.9	450.4	443.8	433.4	(3308.0)
A 90°:	548.9	491.9	467.6	452.7	441.7	429.3	411.6	(3243.7)
C 110°:	559.8	498.7	471.1	450.1	432.3	417.4	396.7	(3226.1)
H 120°:	596.8	514.7	482.1	458.4	438.0	419.3	389.2	(3298.5)
135°:	718.9	573.2	511.2	481.6	459.0	438.3	399.9	(3582.1)
150°:	877.9	686.4	580.2	518.0	486.5	463.3	422.4	(4034.7)
RUN VMG:	1013.7	792.6	669.9	581.1	524.8	491.9	447.7	(4521.7)
GYBE ANGLES:	137.8°	142.1°	149.0°	165.1°	171.9°	175.4°	175.7°	(1117.0)

NOTE: To convert any time allowance above to speed in knots: Kt = 3600/TA

WIND-AVERAGED TIME ALLOWANCES FOR SELECTED COURSES

Windward VMG	1102.2	904.7	804.8	752.0	723.2	708.7	696.0	(5692.2)
Leeward VMG	1059.7	822.5	685.6	598.8	540.9	500.9	448.9	(4657.3)
Olympic 6-Leg	1011.6	817.9	715.6	657.5	622.6	600.4	573.1	(4998.7)
Circular Rndm	824.2	672.1	592.3	546.8	519.0	500.5	476.1	(4131.0)
Non-Spinmaker	906.4	729.4	635.8	577.7	543.1	520.6	493.5	(4404.5)
Ocean for PCS	954.4	749.6	634.6	563.7	516.8	483.4	436.4	(4336.9)

IMS AMENDED TO JANUARY 1995 VPP: 30/NOV/95 14:01:53
Cert No 711500 7115_DAT 30/NOV/95 14:01:24
OFF Meas'd: 10/JAN/90 NAJAD.OFF 24/OCT/95 17:08:08

CENTERBOARD AND DRAFT

ECN 0.000 CBRC 0.000 CBRC 0.000 CBTC 0.000
VCBA 0.0 CBDA 0.000 KCDA 0.000 ECE 0.000
WCBB 0.0 CBDB 0.000 ENDPLATE ADJ (KEDA) 0.000

PROPELLER AND INSTALLATION

PRD 0.520 PBW 0.133 PHD 0.063 PHL 0.125 ESL 0.910
ST1 0.024 ST2 0.115 ST3 0.115 ST4 0.061 ST5 0.300
PSA 19.300 PSD 0.025 PIFA 0.0052

FLOTATION DATA

FFM 1.198 FFPS 1.102 FGO 0.554 SG 1.027
FAM 1.088 AFP5 0.899 LBG 9.970 WD 11.820
W1 20.900 PD1 40.000 PLM 1625.000 PL 1618.769
W2 41.700 PD2 85.000 GSA 0.178 RSA 46.2
W3 62.600 PD3 133.000 RM 161.6 RMC 161.6
W4 83.500 PD4 187.000
RM2 169.8 RM20 155.8 RM40 132.6 RM60 93.1
RM90 41.1 CREW ARM (CRA) 1.560

CALCULATED LIMIT OF POSITIVE STABILITY: 120.9 DEGREES
RATIO STABILITY CURVE AREAS, POSITIVE/NEGATIVE 3.175

HYDROSTATICS MEASUREMENT TRIM SAILING TRIM

KEEL DRAFT (DHK0) 2.247 (DHKA) 2.297
2ND MOMENT LENGTH (LSM0) 9.407 (LSM1) 9.623
DISPLACEMENT (WEIGHT) (DSPM) 6020 (DSPS) 6959
WETTED SURFACE (WSM) 25.72 (WSS) 27.35
YCG FROM OFFSETS DATUM (FOR CLUB RM) (YCGD) -0.259
YCG FROM MEASUREMENT TRIM WATERLINE (YCGM) -0.114
INTEGRATED BEAM ATTENUATED WITH DEPTH (B) 3.091
MAXIMUM SECTION AREA (AMS1) 1.476
BEAM/DEPTH RATIO (BTR) 4.497
EFFECTIVE DRAFT (D) 1.991
2° HEEL (LSM2) 9.626 25° HEEL (LSM3) 9.568
SUNK (LSM4) 11.058 AVG LENGTH (L) 9.680
TRIM: 1mm/8.450m-kg SINK: 1mm/19.332kg

SAIL AREA: MAIN + FORETRIANGLE + MIZZEN (SA) 78.43
MAIN: 48.68 SPIN: 99.09 GENOA: 46.35 MIZ'N: 0.00

FORETRIANGLE		MAIN		MAST		BTNS	
IG	14.381	SPL	4.108	HB	0.210	TL	4.130
MW	0.124	J	4.108	HGT	1.09	MDT1	0.113
GO	0.153	LPG	6.09	MGU	1.96	MDL1	0.172
ISP	14.433	FSP	0.068	MGM	3.41	MDT2	0.058
IM	14.483	LP	6.16	HGL	4.51	MDL2	0.080
MSI	1.105	SFJ	0.070	MSW	26.8	BATX	1.988
MXSL	14.26	MXSMW	7.39	P	15.230	BL1	1.700
SL	14.20	SMW	7.39	E	5.595	BL2	2.970
SPS	3.660	BAL	0.150	BAS	1.820	BL3	3.890
LPLS	0.00	BD	0.265	BLP	3.10	BL4	1.370
CPW	2.080					BL5	0.000

MIZZEN

IY 0.000 FY 0.000 BY1 0.000 MDTY 0.000
EB 0.000 EY 0.000 BY2 0.000 MDLY 0.000
YSD 0.00 SBDY 0.000 BY3 0.000 MDLY 0.000
YSF 0.00 SALLY 0.000 BY4 0.000 MDLY 0.000
YSMG 0.00 BDY 0.000 BY5 0.000 TLY 0.000
HBYL 0.000 HBY 0.000 MBUY 0.00 MGY 0.00

ILC WEIGHTED AVERAGE: 683.6

IMS RATING CERTIFICATE No. 711500
Based on: FULL MEASUREMENT (Metric)

IMS AMENDED TO JANUARY 1996
Offshore Racing Council
19 St James's Place, London.
Copyright 1996

IMS AMENDED TO JANUARY 1996 VPP: 10/JUL/96 11:37:10
Cert No 711500 7115.DAT 30/NOV/95 14:01:24
OFF Meas'd: 10/JAN/90 HAIAD.OFF 24/OCT/95 17:08:08

NOT VALID AFTER 30/06/97

GPH
616.3

YACHT DESCRIPTION

Name: NAIAD
Sail No: 5466
Class: FARR 40
LOA: 11.895m Beam(MB) 4.003m
Designer: FARR
Builder: NAUTECH SYSTEMS
Rig: FRACTIONAL SLOOP 150% Jib
Keel/CB: FIXED KEEL
PropInst: EXPOSED FEATHERING
PwAccom: YES SPIN: SYMMETRIC
HullCnst: CORED PwdCnst: STNDRD
Forestay: ADJST FWD Inrfsty: NONE
Spreadrs: 2 Sets Jumpers: YES
Runners: 1 Set Battens: LONG
Dates: AGE: 12/1984

RATING OFFICE:

Issued: AUSTRALIAN YACHTING FED.
10/JUL/96 LOCKED BAG 806
Measured: MILSON'S POINT,
30/SEP/95 N.S.W. 2061

Revalidation Authority: AYE
Measurer: RICHARD FISHER

"I CERTIFY THAT I UNDERSTAND MY
RESPONSIBILITIES UNDER THE IMS."

OWNER:
BRUCE GUY
19 PITTEN CRIEF
LAUNCESTON
TAS. 7250

COMMENTS
rig data from ior cert.

LIMITS AND REGULATIONS

Limit of Positive Stability: MEETS REQ Measurement Inventory: 18/NOV/95
Minimum Displacement: 2979kg MEETS REQ Accommodation Length: 11.895m
Maximum Crew Weight: 740 kg. Accom Certificate: CRUISER/RACER
Stability Index: 110.4 Plan Approval: NONE FILED

NOTE TO OWNER: The range available to revise crew weight is 425- 785 kg.

TIME ALLOWANCES IN SEC/MI BY TRUE WIND VELOCITY & ANGLE

Wind Velocity:	6kt	8kt	10kt	12kt	14kt	16kt	20kt	CHECKSUM
BEAT ANGLES:	45.6°	43.7°	42.3°	41.3°	40.9°	40.9°	41.3°	(296.0)
BEAT VMG:	993.1	841.2	778.1	746.2	729.8	721.0	713.6	(5523.0)
52°:	633.3	547.7	519.0	505.7	498.4	493.1	486.5	(3683.7)
R 60°:	589.8	520.1	497.6	486.7	479.7	474.2	466.5	(3514.6)
E 75°:	557.5	501.2	477.0	462.8	454.7	448.2	438.2	(3339.6)
A 90°:	557.5	494.6	470.0	456.6	442.0	430.7	417.3	(3268.7)
C 110°:	570.1	501.6	471.4	449.6	432.6	419.5	402.3	(3247.1)
H 120°:	608.9	519.8	482.9	457.2	436.1	417.9	390.5	(3313.3)
135°:	726.1	581.8	514.5	481.8	457.2	435.4	396.5	(3593.3)
150°:	882.9	694.2	586.0	521.1	486.8	461.8	419.2	(4052.0)
RUN VMG:	1019.5	801.6	676.6	585.6	527.5	492.5	445.5	(4548.8)
GYBE ANGLES:	139.4°	143.0°	149.7°	165.1°	171.3°	174.8°	175.4°	(1118.7)

NOTE: To convert any time allowance above to speed in knots: Kt = 3600/TA

WIND-AVERAGED TIME ALLOWANCES FOR SELECTED COURSES

Windward VMG	1156.2	919.7	821.1	769.5	742.2	727.6	714.5	(5811.1)
Leeward VMG	1067.2	828.9	690.7	602.4	542.9	501.3	466.7	(4680.1)
Olympic 6-leg	1032.6	828.7	726.4	668.1	633.0	610.4	589.3	(5071.3)
Circular Rndm	834.2	679.7	599.0	553.0	524.8	506.2	481.8	(4177.7)
Non-Spanaker	907.6	731.3	636.4	580.9	546.5	524.2	496.7	(4423.6)
Ocean for PCS	964.9	757.9	641.5	569.6	521.9	488.0	440.6	(4384.4)

CENTERBOARD AND DRAFT

ECM 0.000 CBRC 0.000 CBRC 0.000 CBTC 0.000
WCBA 0.0 CBPA 0.000 KCDA 0.000 ECE 0.000
WCBS 0.0 CBDB 0.000 ENDPLATE ADJ (KEDA) 0.000

PROPELLER AND INSTALLATION

PRD 0.520 PBW 0.133 PHD 0.063 PHL 0.125 ESL 0.910
ST1 0.024 ST2 0.115 ST3 0.115 ST4 0.061 ST5 0.300
PSA 19.300 PSD 0.025 PIPA 0.0052

FLOTATION DATA

FFM 1.198 FFPS 1.102 FGO 0.554 SG 1.027
FAM 1.088 AFPS 0.899 LBG 9.970 WD 19.820
W1 20.900 PD1 40.000 PLM 1625.000 PL 1618.769
W2 41.700 PD2 85.000 GSA 0.178 RSA 46.2
W3 62.600 PD3 135.000 RM 142.9 RMC 142.9
W4 83.500 PD4 187.000 SMB 7.038
RM2 150.4 RM20 136.8 RM40 114.9 RM60 77.6
RMS0 29.4 CREW ARM (CRA) 1.616

CALCULATED LIMIT OF POSITIVE STABILITY: 113.3 DEGREES
RATIO STABILITY CURVE AREAS, POSITIVE/NEGATIVE 2.051

HYDROSTATICS MEASUREMENT TRIM SAILING TRIM

KEEL DRAFT (DHKD) 2.247 (DHKA) 2.294
2ND MOMENT LENGTH (LSM2) 9.405 (LSM1) 9.606
DISPLACEMENT (WEIGHT) (DSPM) 6020 (DSPS) 6902
WETTED SURFACE (WSM) 25.72 (WSS) 27.23
VCG FROM OFFSETS DATUM (For CLUB RM) (VCGD) -0.081
VCG FROM MEASUREMENT TRIM WATERLINE (VCGM) 0.064
INTEGRATED BEAM ATTENUATED WITH DEPTH (B) 3.083
MAXIMUM SECTION AREA (AMST) 1.459
BEAM/DEPTH RATIO (BTR) 4.570
EFFECTIVE DRAFT (D) 1.990
2° HEEL (LSM2) 9.608 25° HEEL (LSM3) 9.553
SUNK (LSM4) 11.081 AVG LENGTH (L) 9.676
TRIM: 1mm/8.450kg SINK: 1mm/19.332kg

SAIL AREA: MAIN + FORETRIANGLE + MIZZEN (SA) 78.43
MAIN: 48.68 SPIN: 99.09 GENOA: 46.35 MIZEN: 0.00

FORETRIANGLE		MAIN		MAST--BTNS--			
IG	14.381	SPL	4.108	HB	0.210	TL	4.130
MW	0.124	J	4.108	MGT	1.09	MDT1	0.113
GO	0.153	LPG	6.09	MGU	1.96	MDL1	0.172
ISP	14.433	FSP	0.068	MGM	3.41	MDT2	0.058
IM	14.483	LP	6.16	MGL	4.51	MDL2	0.080
MB1	1.106	SF3	0.070	MSW	26.8	BATX	1.988
MXSL	14.26	MXSMW	7.39	P	15.230	BL1	1.700
SL	14.20	SMW	7.39	E	5.595	BL2	2.970
SPS	3.660	BAL	0.150	BAS	1.820	BL3	3.890
LPIS	0.00	BD	0.265	BLP	3.10	BL4	1.370
CPW	2.030	MWT	0.00	MCG	0.000	BL5	0.000

MIZZEN

LY 0.000 PY 0.000 BY1 0.000 MDT1Y 0.000
EB 0.000 EY 0.000 BY2 0.000 MDT2Y 0.000
YS0 0.000 BABY 0.000 BY3 0.000 MDT3Y 0.000
YSF 0.000 BALLY 0.000 BY4 0.000 MDT4Y 0.000
YSMG 0.000 BDY 0.000 BY5 0.000 TLY 0.000
MB1Y 0.000 MBY 0.000 MGUY 0.000 MGY 0.000

I/O WEIGHTED AVERAGE: 693.1

IMS RATING CERTIFICATE No. 711500
Based on: FULL MEASUREMENT (Metric)

IMS AMENDED TO JANUARY 1996
Offshore Racing Council
19 St James's Place, London
Copyright 1996

NOT VALID AFTER 30/06/97

GPR
616.3

YACHT DESCRIPTION
Name: NAIAD
Sail No: 5466
Class: FARR 40
LOA: 11.895m Beam(MB) 4.003m
Designer: FARR
Builder: NAUTECH SYSTEMS
Rig: FRACTIONAL SLOOP 150% Jib
Keel/CB: FIXED KEEL
PropInst: EXPOSED FEATHERING
FwdAccom: YES SPIN: SYMMETRIC
HullCnst: CORED RndCnst: STNDRD
Forestay: ADJST FWD Inrfsty: NONE
Spreadrs: 2 Sets Jumpers: YES
Runners: 1 Set Battens: LONG
Dates: AGE: 12/1984

RATING OFFICE: *Oliver*
Issued: AUSTRALIAN YACHTING FED.
10/JUL/96 LOCKED BAG 806,
Measured: HILSON'S POINT,
30/SEP/95 N.S.W. 2061

Revalidation Authority: AYF
Measurer: RICHARD FISHER

"I CERTIFY THAT I UNDERSTAND MY
RESPONSIBILITIES UNDER THE IMS."

OWNER: *Bruce Guy*
BRUCE GUY
19 PITTEN CRIEF
LAUNCESTON
TAS. 7250

COMMENTS
rig data from ior cert.

LIMITS AND REGULATIONS

Limit of Positive Stability: MEETS REQ Measurement Inventory: 18/NOV/95
Minimum Displacement: 2979kg: MEETS REQ Accommodation Length: 11.895m
Maximum Crew Weight: 740 kg. Accred Certificate: CRUISER/RACER
Stability Index: 110.4 Plan Approval: NONE FILED

NOTE TO OWNER: The range available to revise crew weight is 425- 785 kg.

TIME ALLOWANCES IN SEC/MI BY TRUE WIND VELOCITY & ANGLE

Wind Velocity:	6kt	8kt	10kt	12kt	14kt	16kt	20kt	CHECKSUM
BEAT ANGLES:	45.6°	43.7°	42.3°	41.3°	40.9°	40.9°	41.3°	(296.0)
BEAT VMG:	993.1	841.2	778.1	746.2	729.8	721.0	713.6	(5523.0)
52°:	633.3	547.7	519.0	505.7	498.4	493.1	486.5	(3683.7)
R 60°:	589.8	520.1	497.6	486.7	479.7	474.2	466.5	(3514.6)
E 75°:	557.5	501.2	477.0	462.8	454.7	448.2	438.2	(3339.6)
A 90°:	557.5	494.6	470.0	456.6	442.0	430.7	417.3	(3268.7)
C 110°:	570.1	501.6	471.4	449.6	432.6	419.5	402.3	(3247.1)
H 120°:	608.9	519.8	482.9	457.2	436.1	417.9	390.5	(3313.3)
135°:	726.1	581.8	514.5	481.8	457.2	435.4	396.5	(3593.3)
150°:	882.9	694.2	586.0	521.1	486.8	461.8	419.2	(4052.0)
RUN VMG:	1019.5	801.6	676.6	585.6	527.5	492.5	445.5	(4548.8)
GYBE ANGLES:	139.4°	143.0°	149.7°	165.1°	171.3°	174.8°	175.4°	(1118.7)

NOTE: To convert any time allowance above to speed in knots: Kt = 3600/TA

WIND-AVERAGED TIME ALLOWANCES FOR SELECTED COURSES

Windward VMG	1116.2	919.7	821.1	769.5	742.2	727.6	714.8	(5811.1)
Leeward VMG	1067.2	828.9	690.7	602.4	542.9	501.3	446.7	(4680.1)
Olympic 6-leg	1022.6	828.7	726.4	668.1	633.0	610.4	582.3	(5071.5)
Circular Rndm	833.2	679.7	599.0	553.0	524.8	506.2	481.8	(4177.7)
Non-Spinnaker	907.6	731.3	636.4	580.9	546.5	524.2	496.7	(4423.6)
Ocean for PCS	964.9	757.9	641.5	569.6	521.9	488.0	440.6	(4384.4)

IMS AMENDED TO JANUARY 1996 VPP: 10/JUL/96 11:37:10
Cert No 711500 7115.DAT 30/NOV/95 14:01:24
OFF Meas'd: 10/JAN/90 NAIAD.OFF 24/OCT/95 17:08:08

CENTERBOARD AND DRAFT

ECM 0.000 CBRC 0.000 CBMC 0.000 CBTC 0.000
WCBA 0.0 CBDA 0.000 KCDA 0.000 ECE 0.000
WCBB 0.0 CBDB 0.000 ENOPLATE ADJ (KEDA) 0.000

PROPELLER AND INSTALLATION

PRD 0.520 PSW 0.133 PHD 0.063 PHL 0.125 ESL 0.910
ST1 0.024 ST2 0.115 ST3 0.115 ST4 0.061 ST5 0.300
PSA 19.300 PSD 0.025 PIPA 0.0052

FLOTATION DATA

FFM 1.198 FFPS 1.102 FGO 0.554 SG 1.027
FAM 1.088 AFPS 0.899 LBG 9.970 WD 11.820
W1 20.900 PD1 40.000 PLM 1625.000 PL 1618.769
W2 41.700 PD2 85.000 GSA 0.178 RSA 46.2
W3 62.600 PD3 133.000 RM 742.9 RMC 142.9
W4 83.500 PD4 187.000 SMB 7.038
RM2 150.4 RM20 136.8 RM40 114.9 RM60 77.6
RM90 29.4 CREW ARM (CRA) 1.616

CALCULATED LIMIT OF POSITIVE STABILITY: 113.3 DEGREES
RATIO STABILITY CURVE AREAS, POSITIVE/NEGATIVE 2.051

HYDROSTATICS MEASUREMENT TRIM SAILING TRIM

KEEL DRAFT (DHKO) 2.247 (DHKA) 2.294
2ND MOMENT LENGTH (LSM0) 9.405 (LSM1) 9.606
DISPLACEMENT (WEIGHT) (DSPM) 6020 (DSPS) 6902
WETTED SURFACE (WSM) 25.72 (WSS) 27.23
VCG FROM OFFSETS DATUM (For CLUB RM) (VCGD) -0.081
VCG FROM MEASUREMENT TRIM WATERLINE (VCGM) 0.064
INTEGRATED BEAM ATTENUATED WITH DEPTH (B) 3.083
MAXIMUM SECTION AREA (AMS1) 1.459
BEAM/DEPTH RATIO (BTR) 4.570
EFFECTIVE DRAFT (D) 1.990
2° HEEL (LSN2) 9.608 25° HEEL (LSM3) 9.553
SUNK (LSM4) 11.081 AVG LENGTH (L) 9.676
TRIM: 1mm/8.450m-kg SINK: 1mm/19.332kg

SAIL AREA: MAIN + FORETRIANGLE + MIZZEN (SA) 78.43
MAIN: 48.68 SPIN: 99.09 GENOA: 46.35 MIZ'N: 0.00

FORETRIANGLE MAIN MAST-BTNS

IG 14.381 SPL 4.108 HB 0.210 TL 4.130
MW 0.124 J 4.108 MGT 1.09 MDT1 0.113
GO 0.153 LPG 6.09 MGU 1.96 MDL1 0.172
ISP 14.433 FSP 0.068 MGM 3.41 MDT2 0.058
IM 14.483 LP 6.16 MGL 4.51 MDL2 0.080
HBI 1.106 SFJ 0.070 NSW 26.8 BATX 1.988
MXSL 14.26 MXSMW 7.39 P 15.230 BL1 1.700
SL 14.20 SNW 7.39 E 5.595 BL2 2.970
SPS 3.660 BAL 0.150 BAS 1.820 BL3 3.890
LPIS 0.00 BD 0.265 BLP 3.10 BL4 1.370
CPW 2.080 MWT 0.00 MCG 0.000 BL5 0.000

MIZZEN

IY 0.000 PY 0.000 BY1 0.000 MDTTY 0.000
EB 0.000 EY 0.000 BY2 0.000 MDL1Y 0.000
YSD 0.00 BAYD 0.000 BY3 0.000 MDT2Y 0.000
YSF 0.00 BAYL 0.000 BY4 0.000 MDL2Y 0.000
YSMG 0.00 BDY 0.000 BY5 0.000 TLY 0.000
MBIY 0.000 HBY 0.000 MGUY 0.000 MGYM 0.000

ILC WEIGHTED AVERAGE: 693.1

THE AYF RECOMMENDS
THIS YACHT BE GIVEN A
1.67 %
ALLOWANCE



Chester G Bullock & Associates

Consulting Engineers, Architectural Designers and Land Surveyors

Facsimile transmittal

To : AYF
Attention : Tony Mooney
From : Richard Fisher

Fax : 02 99232883

Date : 6 October 1998

Project : NAIAD Measurement

Project No. : -

Pages 1

Notes:

TONY

SORRY ABOUT ALL THE FAMILG AROUND WITH NAIAD (7115). OWNER FAXED ME A COPY OF HIS CERTIFICATE. AND ASKED QUESTION WHY CREW WT WAS 758 NOT 780. THOUGHT AT FIRST YOU HAD COCKED UP. I WAS WRONG. LOOKS LIKE FLOTATION DATA HAS LIMITED IT TO THAT. THEN I NOTICED STABILITY INDEX WHICH IS VASTLY DIFFERENT TO PREVIOUS. COULD YOU PLEASE CHECK INPUT DATA FOR ME? I HAVE A SUSPENSION THAT I HAVE THE TWO FREEBOARD MEASUREMENTS TRANSPOSED! ANY CHANCE OF RUNNING A TRST CERTIFICATE WITH THEM THE OTHER WAY AROUND? ie FFM=1.037, FAM=1.321. I CAN CONFIRM THIS BY RE-MEASUREMENT THIS SUNDAY AT OPENING DAY!

SORRY ABOUT STUFFING YOU AROUND.

REGARDS

RICHARD FISHER

Document1

LAUNCESTON OFFICE
268 York Street, Launceston
Phone (03) 63317100
Fax (03) 63317188
Email cqb.l@tassie.net.au

POSTAL ADDRESS
PO Box 63
Riverside
Tasmania 7250

DEVONPORT OFFICE
56 Best Street, Devonport
Phone (03) 64235121
Fax (03) 64235122
Email cqb.d@tassie.net.au

MEASUREMENT INVENTORY (Rating Certificate - Page 2)

Measurement Inventory Date
Flotation
Measured: 18/7/98

YACHT NAME NAIAD
SAIL NUMBER 5466

FOR THE INFORMATION OF OWNER AND CREW:

With certain exceptions, the Rule requires the yacht to be measured with gear and fixtures aboard as when raced, in quantity, weight and location. The validity of the Rating Certificate is dependent on a true and proper completion of this inventory form and continued maintenance of the yacht in accordance with this Inventory. Rule references: 102.6, 301, 302, 303, 313, 314, 315 and 402.2

The owner shall complete this inventory together with the Measurer and check and initial each item. If the owner is not present the following must be signed prior to issuing the rating certificate.

I authorise _____ as my representative and understand my responsibilities under the Rule.

Signed _____ (Owner)

1. Interior Ballast [302.2(b) & 402.2(h)]

	Description	Weight	Distance from stem	Initials	
				Owner	Measurer
a	<u>NIL (PREVIOUS BALLAST REMOVED)</u>				
b					
c					
d					
e					
f					
2.	Anchor(s) at least one on board and chains [402.2(h)]				
a	<u>CQR</u>	<u>25</u>	<u>6.1</u>		
b	<u>DANFORTH</u>	<u>17</u>	<u>6.1</u>		
3.	Batteries [402.2(h)]				
a	<u>2x TRUCK</u>	<u>40</u>	<u>8.0</u>		
b					
4.	Tools	<u>40</u>	<u>8.0</u>		
5.	Engine (or o/b in fixed stowage) [402.2(o)]	Make <u>NANW</u> Model <u>A-1104/HC</u> <u>35HP</u>			
6.	Tanks (including portable tanks, fuel, water, holding tanks, etc.) [402.2(i)]	Owners declaration provided:	Yes / No		
	Use	Type	Capacity	Distance from stem	Condition at time of measurement
a	<u>FUEL</u>	<u>S/S</u>	<u>60L</u>	<u>7.1</u>	<u>IDL</u>
b	<u>WATER</u>	<u>BLADDER</u>	<u>150L</u>	<u>6.4</u>	<u>DRY</u>
c	<u>WATER</u>	<u>BLADDER</u>	<u>150L</u>	<u>6.4</u>	<u>DRY</u>
d					
e					
f					

7. List of items normally forward but placed on the cabin sole abaft the mast for measurement. [402.2(a) & 402.2(d)]

a _____
b _____
c _____
d _____
Total Weight _____

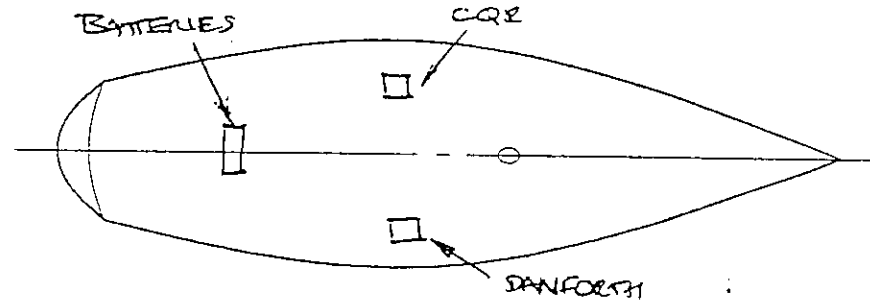
8. One set only of portable deck equipment on the cabin sole abaft the mast for measurement. [402.2(a)2]

Weight _____

9. Other major items and items unusual in weight, quantity or location [402.2(f)]

	Description	Number	Weight	Distance from stem
a				
b				
c				
d				
e				
f				
g				
h				
i				

10. Diagram major fixed items; ballast, tanks, etc. using line codes 1h, 6a, etc.



11. I, the Owner / Representative, certify that this is a true record of stowage at the time of measurement affixed

Block letters: BRUCE R. GUY

Signature: [Handwritten Signature]

Date: 18/7/98

Initials
Owner _____
Measurer _____

[Handwritten Initials]

[Handwritten Initials]

[Handwritten Initials]

Measurer's Name and Signature
[Handwritten Signature]
7006

APPENDIX 2 -- MEASUREMENT CONDITION CHECK LIST & INVENTORY

This check list is intended to help the owner prepare the yacht for measurement. Each item checked will be initialed by the owner and Measurer. The completed document will be returned to the Rating Office for retention. The yacht shall be completed and equipped for sailing. There shall be no sails aboard at the time of the check below deck.

	Initials	
	Owner	Measurer
1. All sails removed from the yacht.	BBY	B
2. Ballast sealed to hull structure and anchors, chain and batteries fixed in clearly marked stowage.	BBY	B
3. Heads, bowls, sinks, etc. are dry.	BBY	B
4. Bilges and other possible areas where water may collect are dry	BBY	B
5. Tankage and voids condition checked.	BBY	B
6. Navigational and cooking equipment stowed as specified.	BBY	B
7. No clothing, bedding, food or stores on board	BBY	B
8. Mattresses, cushions and pillows stowed in normal position (dry)	BBY	B
9. No portable equipment in front of the mast	BBY	B
10. Safety equipment stowed in normal position but not forward of the mast	BBY	B
11. All stowages opened and checked	BBY	B
12. No liferaft or dinghy on board	BBY	B
13. Centreboards raised unless to be locked down whilst racing	BBY	N/A.
14. Sheets, guys, etc. on cabin sole abaft the mast in accordance with 402.2(a)2.	BBY	B
15. Measurement bands PAINTED on spars	BBY	B
16. All standing rigging tight	BBY	B
17. Running rigging tight. Halyards led to the foot of the mast and tails to their normal operating position	BBY	B
18. Running backstays aft and tight, running forestays to the mast	BBY	B
19. Masts raked aft to the limit of adjustment, not forward of vertical	BBY	B
20. Boom at low point, horizontal, centred and secured against movement	BBY	B
21. Spinnaker pole(s) on deck in normal stowage. (No.) (If a yacht's poles are not being used for inclination, they must be removed when inclining)	BBY	B

Signed BBY (Owner) BBY (Measurer)

Dated: 18/7/98

Anderson Mr Fisher

7115

7115

RATING CERTIFICATE MEASUREMENT INVENTORY
Page 2

To be completed by
Measurer
Flotation Date
18/11/95

YACHT NAME NAIAD SAIL NUMBER S466

FOR THE INFORMATION OF OWNER AND CREW

With certain exceptions, the IOR requires the yacht to be measured with gear and fixtures aboard at which rated, in quantity, weight and location. The validity of the Rating Certificate is dependent on a true and proper completion of this inventory form and continued maintenance of the yacht in accordance with this inventory. The complete rules pertaining are found in IOR 134, 147, 149, 149 and 201.2.

The owner shall complete this inventory and together with the measurer check and initial each item. Clarification of any item may be made on the diagram at the bottom. If the owner is not present the following must be signed prior to measurement.

I authorize _____ at my representative and understand my responsibilities as laid down in the International Offshore Rule
Signed _____ (Owner)

1 Interior Ballast Rule 107.2B

Description	Weight	Distance from stem	Initials Owner Measurer
LEAD INGOTS (GLASSED IN) 62			BDF Z

2 Anchors at least one to be on board and chains

CQR	25	6.1	BDF Z
DANFOORTH	17	6.1	

3 Batteries

2x TRUCK	40	8.0	BDF Z
----------	----	-----	-------

4 Tools

TOOLS & SPARES	40	8.0	BDF Z
----------------	----	-----	-------

5 Engine (or o/b in fixed stowage)

Make <u>NANNI</u> Model <u>4.110HHE</u> 36 HP			BDF Z
--	--	--	-------

6 Tanks (including portable tanks) (Fuel, water, holding tanks, etc)

Use	Type	Capacity	Distance from stem	Condition at time of measurement	Owner's declaration provided: Yes/No
FUEL	S/S	60L	7.1	60Llt	
WATER	BADDER	150L	6.4	30Llt	
WATER	"	150L	6.4	30Llt	

7 List of items (excluding GUN) normally forward but placed abaft the mast for measurement on the cabin sole

			BDF Z
--	--	--	-------

8 Portable deck equipment on the cabin sole abaft the mast for measurement. Refer in Rule 202.2A

Description	Number	from stem Distance	Weight	Initials Owner Measurer
				BDF Z

9 Other major items and items unusual in weight, quantity or location

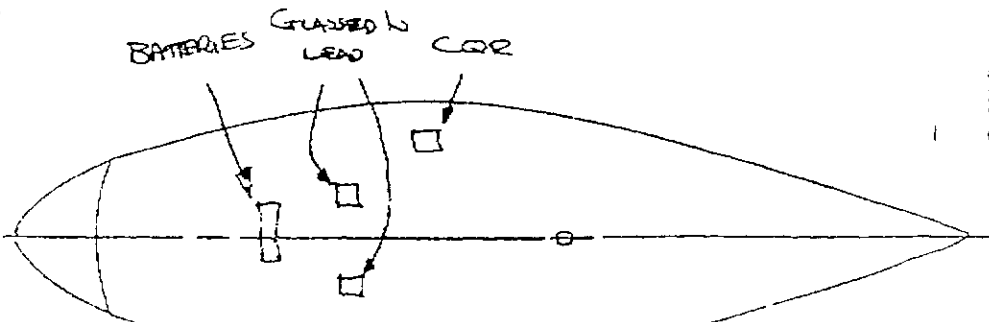
Description	Number	from stem Distance	Weight	Initials Owner Measurer
				BDF Z

10 Sails on board for measurement, list: (See IOR 202.2C)

				BDF Z
--	--	--	--	-------

11 I certify that this is a true record of stowage at the time of measurement above

Signed _____ (Owner/Representative) Date 18/11/95
Measurer's Name and Signature Bob Dill



F.01

FAX NO. 99232833

HULL YACHTING FEEL

10-February 1996 HUN 1703

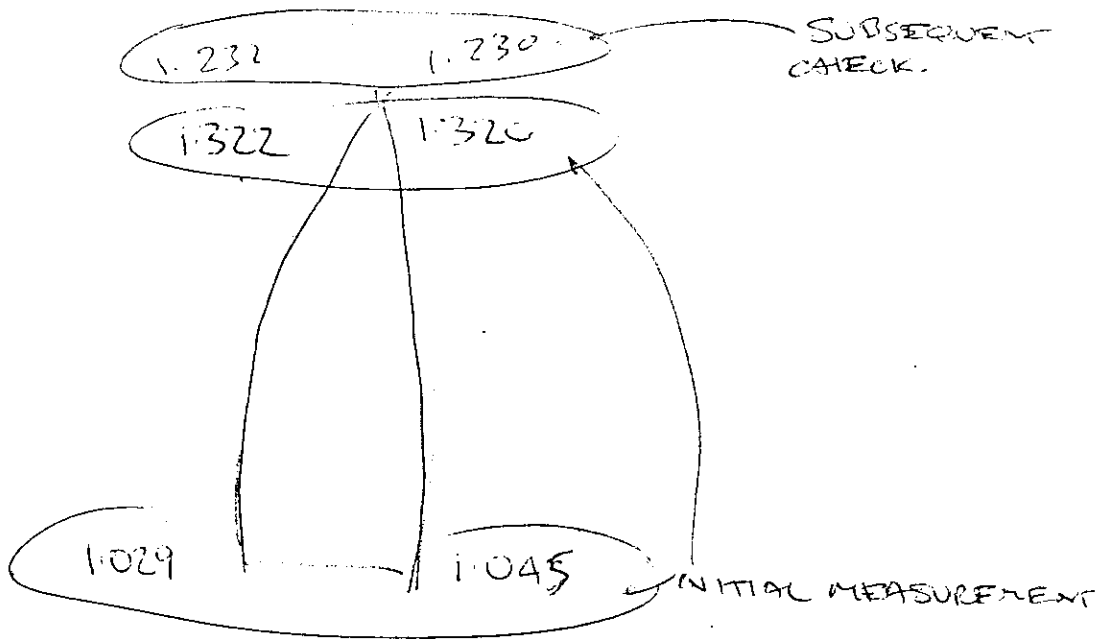
APPENDIX 3

11-100

10-7-98

PI	SI	ASX	
4x37lbs	-	220	45
3	1	175	43
2	2	132	44
1	3	88	44
-	4	44	

WD 1210



Feed lead weights removed

1995

IMS MEASUREMENT DATA SHEET

Certificate No

KA 711500

Yacht Name		Sail No(12)		Owners Name (36)	
NAIAD		5466		BRUCE GUY	
Yacht Name (24)		Builder (18)		Address (36)	
NAIAD		NAUTECH SYSTEMS		19 PITTEN CRIEF	
Designer (18)		Class (18)		Suburb (36)	
FARR		FARR 40		LANCASTON	
Measurer (18)		Meas Date		Float Date	
RICHARD FISHER 7006		11 3 97		D M Y	
CertNo(6)		Reval Auth(12)		State	
711500				TAS	
Postcode		Comment (36)		Comment (36)	
7250		NEW MAINSAIL			
Comment (36)		Comment (36)		Comment (36)	
File.off(12)		!ECH		!KCDA	
!PCBA		!CBDA		!WCBB	
!CBDB		!CBRC		!CBMC	
!CBTC		!AGE DATE			
!OPT!PRD		!ESL		!PSA	
!PHD		!PHL		!PSD	
!ST1		!ST2/APH		!ST3/APT	
!ST4/APB		!ST5		!PBW	
!FFM		!FAM		!FGO	
!LGG		!SG		!PLM	
!WMAIN					
				30.9	
!W1		!WD		!PD1	
!W2		!ZERO		!PD2	
		0.0			
!W3		!GSA		!P03	
!W4		!RSA		!PD4	
!IG		!ISP		!MW	
!GO		!SPS		!J	
!SPL/TPS		!LPG		!FSP	
!SMW		!SL		!HBS	
!BAS		!P		!E	
!BAL		!BD		!HB	
!BLP		!BL1		!BL2	
!BL3		!BL4		!BL5	
0.170		2.65		1.60	
2.56		3.39		4.15	
4.82					
!HDT1		!MDL1		!HDT2	
!MDL2		!TL		!HDT1Y	
!MDL1Y		!HDT2Y		!MDL2Y	
!TLY		!HGU		!HGH	
2.06		3.43			
!BAY/BADS		!PY/PSF		!EY/EF	
!BALY/BALF		!BOY/BOF		!HBY/HBF	
!BLPY/BLPF		!BY1/BS1		!BY2/BS2	
!BY3/BS3		!BY4/BS4		!BY5/BS5	
!IY/BADX		!EB		!IS	
!YSF/OF		!HGTY/GF		!HGLY/HF	
!YSD/S4		!YSMG/S5		!HGUY	
!HNGY		!HGT		!HGL	
1.20		4.52			
!CREW		!SFJ		!CPV	
!SPR!JHP!IB		!IF		!FST!REG!CNS!ACC!ABS!RUD!AGE!SPI!RIG!TWSC!	
				!LOA	

MEASURERS SIGNATURE

Richard Fisher 7006

NAIAD (NEW MAINSAIL)

11-3-97.

HTB 0.170
BLP 2.650
MGT 1.20
MGV ~~2.09~~ 2.06
MGM 3.43
MGL 4.52
MSWEIGHT. 63 lbs 30.9 kg

BL1 1.60
BL2 2.56
BL3 3.390
BL4 4.150
BL5 4.820





To AYF

FAX NO. 02 923 2883 REF NO. _____

ATTENTION TONY MOONEY SENT BY RICHARD FISHER

TRANSMITTED 1 SHEETS INCLUDING THIS PAGE DATE 26-10-95

PROJECT NAIAD MEASUREMENT

REMARKS

TONY

I HAVE MANAGED TO GET TO NAIAD THIS MORNING (6:00am!) & HAVE TAKEN FOLLOWING (HOPEFULLY FINAL) MEASUREMENTS.

TL = 4.130

MDT1 = 0.113

MDL1 = 0.172

MDT2 = 0.058

MDL2 = 0.080

W MAIN = 26.8 kg's.

BRUCE GUY NEEDS HIS GERT BY NEXT WEDNESDAY. WHAT ARE HIS CHANCES?

(WEDNESDAY IS WHEN HE LEAVES FOR MELBOURNE FOR MELB - BURNIE START ON FRIDAY)

MANY THANKS
Richard Fisher

1994
IMS MEASUREMENT DATA SHEET

Certificate No
KA -

Yacht Name NAIAD		Sail No(12) 5466		Owners Name (36) BRUCE GUY.								
Designer (18) FARR		Builder (18) NAUTECH SYSTEMS		Address (36) 19 PITTEN CREEF,								
Measurer (18) RICHARD FISHER 7006		Class (18) FARR 40		Suburb (36) LAUNCESTON								
CertNo(6)	Reval Auth(12)	Meas Date	Float Date	M	State	Postcode						
	AYF	30 9 95	12 3 87		TAS	7250						
Comment (36) NEW HULL MEASUREMENT RECALCULATION INCLINATIONS FROM IOR.			Comment (36)									
Comment (36) RIG MEASUREMENTS FROM IOR CERT - EXCEPT FOR NEW MAIN			Comment (36)									
File.off(12)	!ECH	!KODA	!WCBA	!CBDA	!WCBB	!CBDB	!CBRC	!CBMC	!CBTC	!AGE DATE		
NAIAD										1984		
!PT!PRD	!ESL	!PSA	!PHD	!PHL	!PSD	!ST1	!ST2/APH	!ST3/APT	!ST4/APB	!ST5	!PBW	
2.0520	0.910	19.3°	0.063	0.125	0.025	0.024	0.115	0.115	0.061	0.300	0.133	
!FFM	!FAM	!FGO	!LBG	!SG	!PLM	!WMAIN						
1.160	1.132	0.554	9.970	1.027	-							
!W1	!WD	!PD1	!W2	!ZERO	!PD2	!W3	!GSA	!PD3	!W4	!RSA	!PD4	
-	-	-	-	0.0	-	-	-	-	-	-	-	
!IG	!ISP	!MW	!GO	!SPS	!J	!SPL	!LPG	!FSP	!SMW	!SL	!HBS	
14.381	14.433	0.124	0.153	3660	4.108	4.108	6.090	0.068	7.390	4.20	-	
!BAS	!P	!E	!BAL	!BD	!HB	!BLP	!BL1	!BL2	!BL3	!BL4	!BL5	
1.820	15.230	5.595	0.150	0.265	0.21	3.10	1.700	2.970	3.89	1.37	-	
!HDT1	!HDL1	!HDT2	!HDL2	!TL	!HDT1Y	!HDL1Y	!HDT2Y	!HDL2Y	!TLY	!MGU	!MGM	
										1.96	3.41	
!BADY/BADS	!PY/PSF	!EY/EF	!BALY/BALF	!BDY/BDF	!HBY/HBF	!BLPY/BLPF	!BY1/BS1	!BY2/BS2	!BY3/BS3	!BY4/BS4	!BY5/BS5	
!IY/BADX	!EB	!IS	!YSF/OF	!MGTY/GF	!MGLY/HF	!YSD/S4	!YSMG/S5	!S6		!MGT	!MGL	
										1.09	4.51	
!CREW	!SFJ	!CP	!SPRD	!JMP	!IB	!IF	!FST	!REGS	!CNST	!ACCM	!ABS	!RUD
740kg	0.070	2080	2	0	1	2	1	2	1	1	0	0

MEASURERS SIGNATURE

Richard Fisher 7006

IOR AMENDED TO JANUARY 1995

 * SMUZZLEBUBBLE VI *
 * 5466 *
 * RATING 30.06 FEET *

 I CERTIFY THAT I UNDERSTAND
 MY RESPONSIBILITIES AS
 COVERED IN THE IOR
 SIGNED:

CERTIFICATE NO. KA2685B (PAGE 1)
 MEASUREMENTS: METRES & KILOGRAMS
 CLASS : STD.
 DESIGNER : FARR
 BUILDER : NAUTECH SYSTM
 RIG : FRACTIONAL
 KEEL : FIXED
 PROPELLER: FEATHERING
 INSTALLED: EXP SHAFT

REVAL AUTHORITY:-
 NOT VALID AFTER: 30/06/96
 ISSUED: 19/10/95
 BY:-

C. BOYLE
 14 BRUCE STREET
 KOGARAH BAY 2217

AUSTRALIAN YACHTING FED.
 LOCKED BAG 806,
 MILSON'S POINT,
 N.S.W. 2061

MEASUREMENT INVENTORY TO FORM PAGE 3
 FLOTATION DATE: 12/ 3/87
 SPECIFIC GRAVITY (SG): 1.027

---COMMENTS----- DATES-----

MOD HULL 0/ 0
 SERIES 0/ 0
 RIG 0/1984
 AGE 12/1984

HULL & APPENDAGES		SGFI	-0.008						
LOA	11.992	BMAX	4.046	FF	1.151	AW	25.000	APD	70.000
FGO	0.554	B	3.706	FFI	1.140	BW	50.000	BPD	137.000
AGO	1.468	BWL	3.044	FFD	1.116	CW	25.000	EPD	68.000
LBG	9.970	BF	0.530	FMD	1.113	DW	50.000	DPD	138.000
GSDA	0.468	BFI	0.862	FBN	1.121	AWD	6.042	PL	3830.000
GLAI	0.000	BAI	3.080	FAI	1.124	BWD	6.042	SBMAX	6.970
GSDF	0.416	BA	2.867	FA	1.125	CWD	6.042	SPD	7.269
FD	1.519	GD	0.968	VHAI	1.033	DWD	6.042	SOM	6.970
CMD	1.016	Y	1.468	VHA	0.886	MAW1	0.000	KAN2	0.000
MD	1.490	GDFI	0.000	BHAI	1.027	MACG1	0.000	MACG2	0.000
OND	1.135	DM	2.256	BHA	0.880	MACL	0.000	MACO	0.000
WLH1	1.010	BHT	3.372	PDT	1.919	MD	0.799	ESD	0.529
TWL1	3.234	TWL2	3.159	TWL3	3.079	TWL4	2.986	TNL5	2.846
EW	265.000	EWD	0.650	ESL	0.830	ESC	0.353	PRD	0.515
PSD	0.000	ST1	0.025	ST2	0.115	ST3	0.115	PBW	0.140
CD	0.000	WCBA	0.000	CBDA	0.000	CBLDA	0.000	PHD	0.000
DHC	0.000	WCBB	0.000	CBDB	0.000	CBLDB	0.000		

HEADSAIL		MAINSAIL							
I	14.433	SPL	4.108	P _{main}	15.230	BL1	0.895	PC	15.230
J	4.108	SL	14.200	E _{main}	5.595	BL2	0.895	TC	14.433
LAG	6.000	SNW	7.390	BAL	0.150	B13	1.007	JE	4.108
LPIS	0.000	HRS	0.000	BD	0.265	BL4	1.007	EC	5.595
PSP	0.068	SPS	3.660	BNS	1.821	BL5	0.000	HXSL	14.256
FJ	1.164	SFJ	0.055	HB	0.190	BLP	3.170	HXSMW	7.394
FBI	1.114	ISP	14.456	MW	0.124	MGB	1.990	HXLPB	6.094
IG	14.381	ICI	0.098	GO	0.153	MGM	3.420	HXJL	14.956

MEASURED ON: 11/12/87 BY: BRTHUR/MUREA/ANDER

TRIALS HAS UNABLE INFLECTION

CERTIFICATE NO. KA2685B SMUZZLEBUBBLE VI
 5466 (PAGE 2)

FREEBOARDS		RM		PROP			
FJS	1.776	BMS	1.638	ARM	144.63	PF	0.950
FFS	1.760	PDS	0.180	BRM	147.80	PS	0.515
FFIS	1.750	ESDS	-0.089	CRM	148.88	DF	0.029
FFDS	1.729	MDIAS	0.000	DRM	146.73	ENF	0.002
FBIS	1.728	BBS	0.674	RN	147.01	PROG	0.500
FBMS	1.739	BSC	0.000	RNC	147.01	PDC	0.799
FNDS	1.729	CFFI	0.000	TR	29.892	RD	2.256
FAIS	1.747	FFM	1.160	SV	-1.163		
FAS	1.748	FAN	1.132	W	183.383		

L/FC		D		DC			
FOC	0.116	AGSL	2.472	FDI	0.403	DB	2.074
ADC	-0.172	APSL	3.177	FDIC	0.393	DD	0.183
AOCC	-0.172	BAPSL	3.303	ICMDI	0.000	DSPL	5461.7
AACP	0.137	APSLE	3.303	EMDI	0.503		
AOCG	-0.481	ACG1	-0.434	IMDI	0.000		
YLOR	0.000	ACG2	-0.481	MDI	0.377		
FB	0.937	HGLA	1.874	IOMDI	0.000	ICMD	0.000
FM	1.140	HGL1	2.105	OMDI	0.022	IMD	0.000
CCAI	0.000	BDR	1.025	MDIA	0.287	IOMD	0.000

HEAD/MAIN		PENALTY		MIZZEN & PEN		SCH & PEN	
LP	6.16	SL	0.000	RSAY	0.00	RSAB	0.00
RSAF	43.71	SPS	0.000	RSAK	0.00	RSAG	0.00
SAM	34.34	HBS	0.000	YSAC	0.00		
MSAM	18.90	HB	0.000	RSAC	0.00	HBF	0.000
RSAN	33.15	BD	0.000			BDF	0.000
RGF	0.9652	BAS	0.000	HBY	0.000	BADS	0.000
SATC	-0.37	I/P	0.000	BDY	0.000	I/PSF	0.000
RSAT	76.49	BLP	0.000	BADY	0.000	BLPS	0.000
RSAL	43.10	BTNS	0.000	I/PY	0.000	BTNSF	0.000
SPIN	59.15	MG	0.000	BLPY	0.000		
SHR	15.7119			BTNY	0.000		
S	8.7459	SCF	1.0000				

LIMITS		RATING VALUES		III A			
BL1	1.175	BL3	1.902	BLP	3.046		
BL2	1.399	BL4	1.902	HB	0.224		
L	10.0254	SC	8.7459	MAF	1.0000	SCA	9.1957
B	3.7060	DC	0.0618	DLF	1.0037	DLFA	1.0282
D	1.1906	FC	-0.0507	LRP	1.0000	CBFA	1.0000
CGF	0.9680	CBF	1.0000	HR	9.7770	CGFA	0.9680
EPF	0.9681	SHF	1.0000	R	9.1622	MRA2	10.2101
TFP	1.0000	CSF	1.0000			RA	30.0596

SAIL LIMITS R=30.1 FT. JIBS OVER 1.1J: 3 SPINNAKERS: 4
 MAXIMUM CREW: WEIGHT LIMIT= 782

ID: RICHARD FISHER

14-3



TO

AYF

FAX NO.

02 9232883 REF NO.

ATTENTION

Tony Money

SENT BY

RICHARD FISHER

TRANSMITTED

1 SHEETS INCLUDING THIS PAGE DATE

PROJECT

NAIAD MEASUREMENT

REMARKS

TONY

WITH REGARD TO THE MEASUREMENT
OF THE FARACO 'NAIAD' (EX
SUZZLEBUBBLE VI), THE OWNER
COULD ONLY SUPPLY ME WITH
WHAT COULD ONLY BE DESCRIBED
AS A POOR QUALITY COPY OF
ITS OLD IOR CERTIFICATE
(KA26858). IS THERE ANY CHANCE
OF SENDING (FAXING) ME A
BETTER COPY OF IT SO I CAN
TRANSFER DATA TO MY SHEET?
MANY THANKS.

RICHARD -

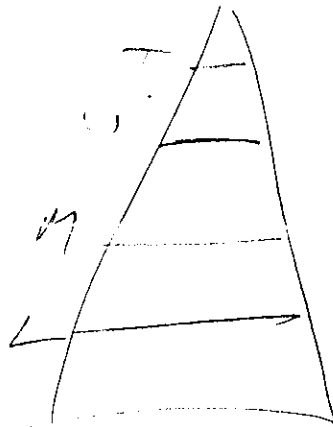
~~PS~~ I DON'T THINK MY FREEBOARD HULL
MEASUREMENT STATIONS AGREE TO IOR ONES.
IS THIS OK OR DO I NOW NEED TO DO
NEW INCLINATIONS?

7 Denis Drive, Riverside, Launceston, Tasmania 7250
Telephone (003) 273 840 Facsimile (003) 271 783

Beauf Guy.

4/10/95

HIB	0.210
BL1	1.700
BL2	2.970
BL3	3.89
BL4	1.37
BL5	—
BLP	3.100
MGT	1.09
MGV	1.96
MGM	3.41
MGL	4.51



YACHT: NAIAAD
 DATE: 30/9/95

PRD : 0.520 PRD x 3 =

PBW : 0.133

PSD : 0.025

ESL : 0.910

ST1 : 0.024

ST2 : 0.115

ST3 : 0.115

ST4 : 0.061

ST5 : 0.300

PSA : 19.3°

PHD : 0.063

PHL : 0.125

EDL :

PROP. TYPE = PT ?

SOLID = 1

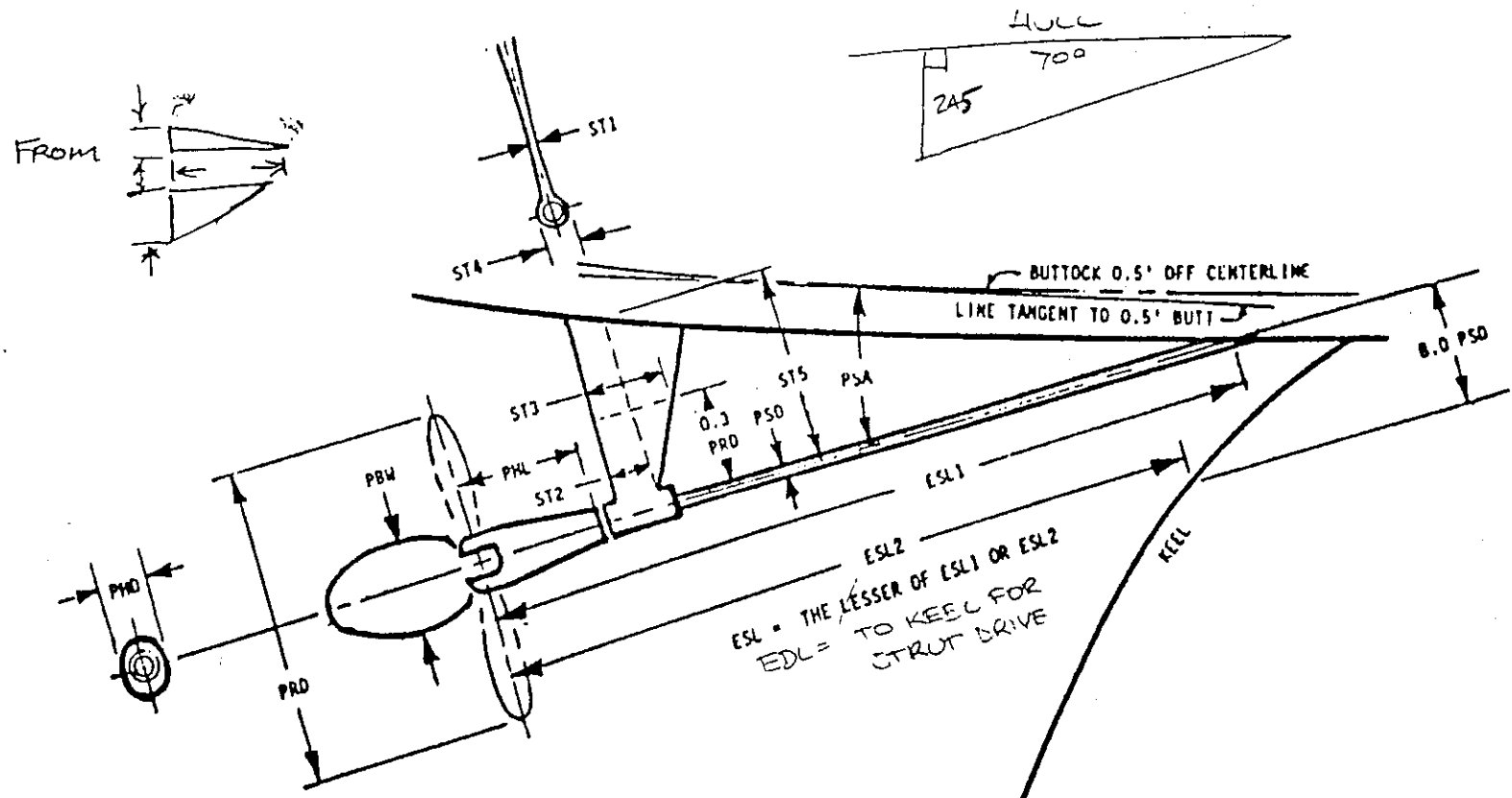
FEATH. = 2

FOLDING = 3

OR STRUT DRIVE

PSA = -1

MEASUREMENT DIAGRAM FOR FOLDING PROPELLER INSTALLATION



NOTE
 PSA (PROP. SHAFT ANGLE) MAY BE MEASURED IN TWO STEPS.
 1. ANGLE BETWEEN SHAFT & A LEVEL LINE
 2. ANGLE BETWEEN BUTTOCK TANGENT & A LEVEL LINE
 ADD THESE ANGLES TO GET PSA

YACHT NAME: -

HMI LOG SHEET

CERTIFICATE No: -

MEASURER R FISHER	MEAS NO 7000	CLASS FA	DATE 30/9/95	COMPUTER FILE NAIAD.D0
PROP TYPE	PROP INSTALL	LOA 11.985	SFJ J	F/BOARDS

PORT				STARBOARD			
STRING LENGTH		TEMPERATURE		STRING LENGTH		TEMPERATURE	
0.611		15°C		0.611		15°C	
STN NO	INSTR HEIGHT	DIST FROM STEM	COMMENT	STN NO	INSTR HEIGHT	DIST FROM STEM	COMMENT
1.	0.227	0.545	FFB # 4	1.	0.467	0.545	FFB # 4
2.	0.231	0.785	@ Cur Bow (lower)	2.	0.467	1.700	
3.	0.231	2.300		3.	0.470	2.900	
4.	0.222	3.600		4.	0.468	4.210	
5.	0.214	4.925	4 Front Keel	5.	0.471	4.925	4 Front Top Keel
6.	0.213	5.300	Mid Front edge Keel	6.	0.471	5.725	(Also mid keel chum) Bottom Front Keel
7.	0.211	6.400	AFT EDGE KEEL & TSDS	7.	0.470	7.265	PRD Prop Centre
8.	0.211	6.905	Pike Through	8.	0.467	8.400	
9.	0.210	7.700		9.	0.459	9.604	
10.	0.212	9.000		10.	0.456	10.545	AFT FB # 4 (Rudder Hold Pin)
11.	0.210	10.200		11.	0.458	11.225	Lower Aft tip Extder
12.	0.210	10.545	AFT FB # 4	12.	0.556	11.810	+0.175 TO LOA
13.	0.210	10.855	Lower front Rudder	13.			
14.	0.210	10.975	Aft top Rudder (Cock button)	14.			
15.				15.			
16.				16.			
17.				17.			

PROP INSTALLATION

ST1 9.100
 ST2 10.855 + 120 = 11.075
 ST3 10.975 + 150 = 11.225
 ST4 11.755
 ST5 11.000
 PSH 11.000
 11.4

PHD 10.545
 PHL 11.500
 PRD 11.225
 PRW 11.975
 PSD 11.350
 PSL 11.275

MAST 11.810
 0.175
 MBT1 11.985
 MDL1
 MBT2
 MDL2
 TL

BRUCE GUY

IOR AMENDED TO JANUARY 1990

* BUBBLEBURBLE VI *
* 5466 *
* RATING 30.04 FEET *

I CERTIFY THAT I UNDERSTAND
MY RESPONSIBILITIES AS
COVERED IN THE IOR
BIONEDI-

CERTIFICATE NO. KA2685B PAGE 1
MEASUREMENTS: METRES & KILOGRAMS
CLASS : STD. 0
DESIGNER IFARR
BUILDER INAUTECH SYSTM
RIG IFRACTIONAL
KEEL IFIXED
PROPELLER:FEATHERING
INSTALLED:EXP SHAFT

REVAL AUTHORITY:-
NOT VALID AFTER 30 JUNE 1991
ISSUED 2/ 1/90
BY:-

C. BOYLE
14 BRUCE STREET
KOGARAH BAY 2217

AUSTRALIAN YACHTING
FEDERATION
33 PEEL STREET,
MILSONS POINT,
N.S.W. 2061

MEASUREMENT INVENTORY TO FORM PAGE THREE
FLOTATION DATE: 12/ 3/87
SPECIFIC GRAVITY 1.027

---COMMENTS--- DATES---

HULL INCLINED BY TWO MEASURERS
DETAILS TAKEN FROM CERTIFICATE NZ 70380
FOR AUSTRALIAN YCF

MDD HULL 0/ 0
SERIES 0/ 0
RIG 1984
AGE 12/1984

---HULL & APPENDAGES--- BOFI ---,000---

LOA	11.992	BHAX	4.046	FP	1.151	AW	25.000	APD	70.000
FGD	.554	B	3.706	FFI	1.140	RW	50.000	BPD	137.000
AGO	1.468	BWL	3.044	FFD	1.116	CW	23.000	CPD	68.000
LBG	9.970	BF	.530	FMD	1.113	DW	50.000	DPD	138.000
GEDA	.468	BFI	.862	FDM	1.121	AWD	6.042	PL	3830.000
GLAI	.000	BAI	3.080	FAI	1.124	RWD	6.042	SBMAX	6.970
GRDF	.416	BA	2.867	FA	1.125	CWD	6.042	SPD	7.269
FD	1.519	GD	.968	VHAI	1.033	DWD	6.042	SDM	6.970
CMD	1.616	Y	1.468	VHA	.886	MAW1	.000	MAW2	.000
HD	1.490	GDFI	.000	BHAI	1.027	MACB1	.000	MACB2	.000
DMD	1.135	DM	2.256	BHA	.880	MACL	.000	MACH	.000
WLH1	1.010	DNT	3.872	PDT	1.919	PD	.799	EBD	.529
TWL1	3.234	TWL2	3.159	TWL3	3.079	TWL4	2.786	TWL5	2.846
EW	265.000	EWD	.650	ESL	.830	ESC	.353	PRD	.515
P8D	.000	ST1	.025	ST2	.115	ST3	.115	PBW	.140
CD	.000	WCBA	.000	CBDA	.000	CBLDA	.000	PHD	.000
DMC	.000	WCBB	.000	CBDB	.000	CBLDB	.000	SYA	.000

---HEADSAIL---

---MAINSAIL---

I	14.433	SPL	4.108	P	15.230	BL1	.895	PC	15.230
J	4.108	SL	14.200	E	5.595	BL2	.895	IC	14.433
LPG	6.090	BNW	7.390	BAL	.150	BL3	1.007	JC	4.108
LP1B	.000	HBS	.000	BD	.265	BL4	1.007	EC	5.295
FSP	.068	BPS	3.660	BAS	1.820	BL5	.000	MXBL	14.200
FJ	1.164	SFJ	.055	HB	.190	BLP	3.170	MXBMW	7.394
FBI	1.114	IBP	14.456	MW	.120	HGU	1.990	MXLPG	6.094
ID	14.381	TCI	.098	GO	.158	MM	3.420	MXJL	14.956

MEASURED ON:- 11/12/87 BY:- BRTWCK/MUREA/ANDRN 2015

CERTIFICATE NO. A2685B SWUZZLEBOBBLE VI
PAGE 2 5486

---FREEBOARDS---RM---PROP & CR---
 FJB 1.776 DMB 1.638 ARH 144.630 PF .950
 FFS 1.760 PDB .180 BRH 147.797 PS .515
 FFIB 1.750 ESDS -.089 CRM 148.884 UF .029
 FFDB 1.729 MDIAS .000 DRH 146.726 ENF .002
 FBIB 1.728 HRB .674 RM 147.010 PRDC .500
 FDMB 1.739 BSC .000 RMC 147.010 PDC .799
 FNDB 1.729 CFFI .000 TR 29.892 RD 2.256
 FAIS 1.747 FFM 1.180 BV -1.163
 FAB 1.748 FAM 1.132 W 183.383

---L/FC---D---DC---
 FDC .116 ABSL 2.472 FDI .403 DB 2.074
 AOC -.172 APBL 3.177 FDIC .393 DD .183
 AOCB -.172 BAPBL 3.303 ICMDI .000 DBPL 5462.
 AOCF .137 APSLC 3.303 CMDI .503
 AOCG -.481 ACO1 -.434 IMDI .000
 YCOR .000 ACG2 -.481 MDI .377
 FB .937 HOLA 1.874 IOMDI .000 ICMD .000
 FM 1.140 HOLI 2.105 OMDI .022 IMD .000
 CCAI .000 BOR 1.025 MDIA .287 IOMD .000

---HEAD/MAIN---PENALTY---MIZZEN & PEN---SCH & PEN---
 LP 6.16 BL .000 RBAY .00 RSAR .00
 RDAF 43.71 SPS .000 RBAK .00 RSAG .00
 BAH 34.34 HDB .000 YBAC .00
 MBAM 19.58 HB .000 RBAC .00 HBF .000
 RBAM 33.15 BD .000 HBY .000 BDF .000
 RGF .9652 BAB .000 HDY .000 BABS .000
 BADC -.37 I/P .000 BDY .000 I/PSE .000
 RBAT 76.49 RLP .000 BAMY .000 BLPS .000
 RBAL 43.10 BTNS .000 I/PY .000 BTNSF .000
 SPIN 39.15 MG .000 BLPY .000
 SHR 15.7119 BTNY .000
 S 8.7459 BCF 1.0000

---LIMITS---
 BL1 1.178 BL3 1.902 BLP 3.046
 BL2 1.399 BL4 1.902 MB .224

---RATING VALUES---III A---
 L 10.0254 SC 8.7459 MAF 1.0000 SCA 9.1957
 B 3.7060 DC .0618 DLF 1.0000 DLFA 1.0282
 D 1.1906 FC -.0807 LRP 1.0000 CBFA 1.0000
 CDF .9680 CBF 1.0000 MR 9.7770 CBFA .9680
 EPF .9681 BMF 1.0000 R 9.1622 HRA2 10.2101
 TPF 1.0000 CBF 1.0000 RA 9.1622

SAIL LIMITS R=30.1 FT. JIBS OVER 1.1J: 3 SPINNAKERS: 4
 MAXIMUM CREW: WEIGHT LIMIT= 841 NUMBER=10

AGE ALLOWANCE BASE DATE 1984.


T.C.F. FROM 1/7/90 .7937 AUSTRALIAN T.C.F. .7928

WARWICK J. HOOD AO

DATE: 3 September 1999
MEMO TO: Sen. Const. David Upston
FROM: Warwick Hood
SUBJECT: "Business Post Naiad" - Removal of Internal Ballast

1. Three (3) consecutive certificates up to that of 28/7/97 inclusive (issue dates) show displacement (measured) of 6020 kilograms.
2. Certificate issued 28/7/97 was for yacht measured on 11/3/97.
3. Certificate issued 28/9/98 was for yacht measured on 18/9/98.
4. Elapsed time between measurement dates of 2 & 3 above is 18 months. This may be the "some 18 months ago" to which Steve Walker refers in his fax to David Lyons.
5. Colin Boyle is certain there was no other internal ballast except that glassed in and that under the (old) engine.
6. It would be reasonable, in my view, that, having just bought a new yacht you would remove the loose ballast under the companionway because it's dangerous to have loose ballast.
7. In my report I suggested that a reasonable view of the ballast removal was that the inside loose ballast (as in 6 above) was removed by the owner as soon as he got the boat and the rest removed - all the glassed-in internal ballast, sometimes within the 18 months between the '97 and '98 measurings.
8. This does not fit with all of Steve Walker's recollections but it does satisfy good yachting practice and Walker's recollection about time.

Hope this helps.


Warwick

WARWICK J. HOOD AO

3 September 1999

Sydney Water Police
(Attention: Sen. Const. David Upston)

Statement of Fees for Naval Architectural Service Rendered to 31 August 1999

In connection with Sydney-Hobart Yacht Race 1998 Enquiry and yacht "Business Post Naiad".

For naval architecture services rendered to 31 August 1999.

Statement of Fees

Date	Hours	Particulars
April 23	1/2	Conference with MR Hill, barrister and Ms Tazzarini, solicitor at Kirribilli.
May 28	1	Conference at Mr Hill's chambers, including Sen. Con. Upston.
31	1	Examination of "Business Post Naiad" drawings supplied.
June 1	7	Compilation of extensive offset file from yacht's lines plan and commence input.
2	6½	Complete input hull lines, compile offsets for keel and input, run program, compare output with AYF certificate.
3	4½	Estimate vertical centre of gravity of BPN mast and rigging both intact and damaged. Calculate effect on yacht's vertical centre of gravity. Add more offsets to computer file and recompute.

2/134 Station Street, Blackheath NSW 2785

Phone: 02 4787 5100 Facsimile: 02 4787 6157

All mail to: PO Box 277, Blackheath NSW 2785

	4	1½	Preliminary Report and visit to Sen. Con. Upston at Sydney Water Police base.
July	12	1	Obtaining BPN offset file and discussion with Tony Mooney, AYF.
	20	1/2	Discussion with Tony Mooney.
	22	1½	Visit and Discussion with Snr. Const. Upston.
	23	1/2	Visit and Discussion with Snr. Const. Upston.
	26	2	Evaluations of rating certificates supplied.
	27	2½	Evaluations of rating certificates supplied.
Aug	2	6	Compile, tidy up, compute AYF offset file.
	3	1	Discussions with Colin Boyle, previous owner.
	4	2	Writing report.
	5	2	Writing report.
	13	4½	Finish, proof, compile report for word processing.

TOTAL HOURS 45½

45½ hours at \$145.00 (including computer service)

\$6,597.50

Please pay in 7 days as this account is for work done over a period of more than four months.