Marine Surveys UK

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Survey Report no: [redacted]

Name of Vessel: "[redacted]"

Type of Vessel: Bavaria 39, FRP (fibre reinforced plastic), Bermudan sloop mono hull sailing vessel.

Type of survey: Pre-purchase

At the request of:

[redacted]

This survey was carried out on the [redacted] June, 2011 at Mercury Yacht Harbour, Hamble, Hampshire, UK. The above named being a prospective purchaser of the vessel.

Limitations:

- Where access is restricted by fixed panels, linings etc. it was not possible to examine and I cannot say those areas are free from defects.
- This report has been prepared for the use of the commissioning client and no liability is extended to others who may see it.
- In some cases it is not possible to detect latent and hidden defects without destructive testing which is not possible without the Owner's consent.

Scope of Survey:

- This is a Pre-Purchase Survey and its purpose is to establish the structural and general condition of the vessel. Where items of equipment have been tested this will be stated in the text.
- Camera equipment was used in places to view normally inaccessible areas and the pictures analysed to identify any issues.
- A general inspection of the engine and installation will be made; this is a visual inspection. The engine was run and seen operating under load during the sea trial. It should be appreciated that some components may appear serviceable but found to be defective when the engine is run for a long period of time.
- The vessel was surveyed in and out of the water and tests carried out as described to ascertain any possible sources of water ingress.
- The hatches and port lights were not leak tested with a hose.

Recommendations and advisory notes:

- Recommendations will be restricted to those defects which should be rectified before vessel is used, (or within a given time span if specified), and items which may affect insurability. These will not be made concerning cosmetic or other minor defects, although relevant suggestions may be made in the text.
- ***Recommendations will be printed in bold italics for quick reference.***
- The recommendations are contained in the body of report in order that they may be read in context, and are also listed as part of the conclusions at the end of this Report.
- **Advisory notes** are suggestions to prevent a problem getting worse or general advice and do not have to be carried out before the vessel is used nor should affect the boats current insurability.

Conditions of Survey:

Vessel was examined tied to the dock and hanging in slings. The weather was sunny and dry. The purchaser attended part of the survey.

No special conditions affected the survey other than as described in the text.

Information is reported in the Sections below, followed by recommendations and conclusions.

Hull, Deck and Structure.

1. Details of Subject Vessel, (General Description, Dimensions, Registration etc.).
2. Keel.
3. Hull below Waterline.
4. Topsides above Waterline including Rubbing Strake etc.
5. Deck Moulding.
6. Coach roof.
7. Cockpit.
8. Hull/Deck Join.
9. Bulkheads and Structural Stiffening including Internal Mouldings.

Steering, Stern Gear, anodes and Skin Fittings

10. Rudder and Steering.
11. Stern Gear.
12. Cathodic Protection.
13. Skin Fittings and other through Hull Apertures.

On Deck.

14. Main Companionway and other accesses to accommodation.
15. Ports Windows etc.
16. Pulpit, Stanchions, Pushpit, Lifelines and Jackstays.
17. Rigging attachment points.
18. Ground Tackle and Mooring Arrangements.
19. Other Deck Gear and Fittings.
20. Davits and Boarding Ladders.

Rig.

21. Spars.
22. Standing Rigging.
23. Running Rigging.
24. Sails and Covers etc.

Safety.

25. Navigation Lights.
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27. Fire fighting Equipment.
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29. Engine and Installation.
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31. Accommodation General.
32. Gas Installation.
33. Fresh Water Tanks and Delivery.
34. Heads.
35. Electrical Installation.
36. Electronic and Navigation Equipment.
37. Heating & Refrigeration

1. Details of subject vessel:

Designed by J & J designs and built by Bavaria Yachtbau GmbH, Giebelstadt, Germany, the Bavaria 39 was a popular model for both private individuals and charter companies. She is a Bermudan sloop rig, mono hull sailing vessel with sail drive and fin keel.

Manufacturers' information from brokers details (not verified by measurement)

Length Overall	12.14 M
Length of waterline	10.71 M
Beam:	3.97 M
Draft:	1.85 M
Displacement	8,300 KG
CE Specification	A, 8 people, 1000KG CE0609

The CE category is a rating system used in the EU to rate the seaworthiness of a (sailing / motor) boat. This CE category is mainly used by European boat builders although some US sailboat builders start to build boats to this specification. The European Directive specifying the CE Categories for recreational boats between 2.5 and 24 meter in length is the EU Recreational Craft Directive (RCD).

The CE category A: Ocean.

Designed for extended voyages where conditions may exceed wind force 8 (Beaufort) and wave height of 4 meter (13' ft).

Boat specific information

Registration	SSR 2115 9
Hin Number	DE-BAVF39[redacted]L506
Year of Build	December 2005 2006 model

2. Keel

a) This is an iron fin keel, attached to the hull with stainless steel studs and nuts. These have large washers below the nuts. The keel has anti-fouling and primer coatings.
b) I was able to access four pairs of studs and a single stud aft. These were struck with a hammer and found secure. There is some minor corrosion under the washers. There is no signs of leaks around the studs.
c) The vessel was seen hanging in slings with the keel in tension and there was no gap where it attached to the hull. I was not able to insert a spike at any point along the joint.

3. Hull below Waterline:

a) Construction of the hull below the waterline is solid FRP finished in white gelcoat. It is coated in two layers of the anti-fouling and grey primer.

b) Light hammer sounding was carried out (not heavy enough to damage the anti-fouling) of the hull at regular intervals approximately 500mm spacing all over.

c) The antifouling was removed in 20 patches approximately 50mm x 50mm at random around the hull below the water line. While scraping I was looking for evidence of wicking or blistering and once removed all patches were checked with 10x magnification.

d) Moisture readings were taken where the antifouling was removed using a capacitance type moisture meter of Sovereign Quantum type, operating in both shallow and deep reading modes. The meter was first checked for correct calibration.
The readings recorded below are from the meter operating in the shallow and also deep mode on the relative scale 0-100.

The readings are relative and **do not** express moisture content as a percentage of dry weight. High moisture content is not generally a structural defect, and is to be expected in older boats. However where some moisture has been absorbed the likelihood of moisture related problems occurring is higher, and the actual state of the laminate cannot be completely guaranteed without destructive testing followed by chemical analysis. The opinion given in this survey is based on all the evidence available at the time but without destructive testing.

The conditions prevailing when the readings were taken were as follows:

Air Temperature:	**26.8°C**
Relative Humidity:	**46.7%**
Time ashore	**20 minutes**
In summary the weather conditions for obtaining moisture readings were **good**	

Readings were as follows:

Meter	**Range below waterline.**	**Range above waterline.**
Sovereign Quantum, Scale A, 0-100 Shallow mode	**18 to 22**	**11 to 13**
Deep Mode	**16 to 19 with one area 24**	**11 to 13**

These readings need to be considered in conjunction with the period the vessel has been ashore and the weather conditions when obtained. As a rule of thumb you can expect the levels to drop by one range after a few weeks ashore.

The difference between readings above the water line (normally dry) and below should be noted.

The interpretation of the readings in shallow mode range;

- 0 – 15 : For all practical purposes may be considered dry.
- 16 - 20: Some moisture present at low levels but of no great concern.
- 21 - 30: Considered medium, but those at the top of the range i.e 30 are at the point where the risk of moisture related defects developing is significant.
- 31- 45 Considered high and at a level where the risk of moisture related defects being present but not yet physically detectable is significant.
- 46 – 60 Very High and will usually be accompanied by physically detectable signs. Likely to be accompanied by a significant increase when switching to deep mode.
- 61 – 100 extremely high and indicative of possible laminate damage in addition to osmotic blistering. Likely to be accompanied by a significant increase when switching to deep mode.

Advisory note:- I have no issues with this hull and expect the levels would all go below 15 after a week or so ashore. Always storing the boat ashore out of season to allow some natural drying out to occur will contribute significantly to maintaining condition.

4. Topsides above Waterline including Rubbing Strake:

(This is the area above the waterline and below the deck)

a) Constructed of foam or balsa cored FRP finished in white gelcoat.
b) Top side moulding found without any significant defect in its appearance and with no signs of major damage or repair.
c) The topsides were lightly hammer sounded and no indication of voids found. Moisture readings were taken and recorded as above.

5. Deck moulding:

a) The deck is of foam or balsa cored FRP finished in white gelcoat with moulding in non slip pattern.
b) Access to the underside was greatly restricted by fixed panels.
c) The whole deck was carefully tested underfoot for signs of delaminating or other structural defects. Moisture readings were taken of 11 both deep and shallow.
d) No significant defects were found

6. Coachroof:

a) Constructed as part of the deck moulding and finished in the same way.
e) The whole area was carefully tested underfoot for signs of delaminating or other structural defects.
f) Moisture readings were taken around the mast and were the same as the deck and can be considered dry.
g) The shrouds were flexed to test for deflection at the mast base. None was noted.
b) Hand rails were tested and found secure.

7.Cockpit:

a) Constructed as part of the deck moulding. The seating surface has teak faced ply bonded to it.
b) Drainage is via the open transom. There are 2 shallow lockers either side with secure means of fastening and securely hinged.
c) The cockpit sole was tested underfoot and found secure and the wheel and table pedestal were also heavily leant on and found secure.
d) The teak is in good condition with no major signs of damage.

8. Hull/Deck Join:

a) This is a mechanical joint with the deck screwed to the hull through the toerail. Bonding paste is between joint.
b) Access was restricted to the lockers and the transom and also in the head lockers.
c) There is no sign of significant damage to the toerail nor any sign of leaks internally.

9. Bulkheads and Structural Stiffening including Internal Mouldings:

This is a Monocoque (single box) construction and a number of components contribute to the overall structure.

a) The hull and deck mouldings are robust in the first place. There is an inner liner bonded to the hull which forms longitudinal and transverse box sections strength.
b) Bulkheads were carefully hammer sounded near the deck, hull and floors for signs of debonding.
c) All possible access was checked, lockers, under berths and the floors and inner mouldings for signs of delamination and cracks
d) The masts loadings are transferred through the deck down a wooden King post on to the FRP box section floor below. The forward toilet door sticks a little when the boat is both in the water and also hanging in the slings.
e) At the base of the forward bulkhead the grey gelcoat has cracked on the aft side. I was not able to insert a spike on the starboard side, I was able to insert a steel rule partially on the port side of the only as far as the laminate.



The pictures above are the aft side of the bulkhead. There are no other signs of any movement in any of the structure that was seen.

Advisory notes: while there has been some movement of the bulkhead, I believe this to be minor shifting. I suggest the base can either be painted over and if further movement happens then the base of this bulkhead could delaminating to the floor. The toilet door could be adjusted by a carpenter.

10. Rudder and Steering:

a) Steering is via a stainless steel Lewmar wheel, connected by a chain and solid stainless steel rod to an arm bolted to the rudder stock.
b) The rudder blade is moulded FRP around an alloy rudder stock.
c) The rudder was leant on with full body weight in either direction and did not give or any split open up.
d) There was no play noted in any of the rudder bushes. Moisture readings were taken and these were 26 to 31 shallow 27 to 31 deep.
e) Secondary steering via Raymarine ST6001 Autopilot – operated on +10 – 10 correctly.
f) The emergency Tiller mounts directly on rudder stock under lid in transom area and is stowed in the cockpit locker.

Advisory note: These readings are higher than the hull however is not unusual for rudder blades and these readings are not particularly high. They could be checked again when the boat was lifted next year.

11. Stern Gear:

a) The stern gear is a Volvo Penta sail drive. Type MS 130 S. It has a 3 bladed propeller secured with a cone nut. This is all painted with white finish antifouling.
b) There was no play found in the sail drive bearing and no signs of damage.
c) The rudder edge is slightly worn but not significantly.

12. Cathodic Protection:

a) There is a there is a hull anode bolted to the hull and a ring anode in front of the propeller.
b) The anodes were tested for continuity to the propeller, stern gland and rudder stock.
c) The anodes were working and in good condition. They should be checked annually.

13. Skin Fittings and other through Hull Apertures:

Some thru hulls may not be reported below but will be with relevant systems sections.
No skin fittings or valves were dismantled as part of this survey but the following routine tests were carried out:

- Examination from outside and inside the boat. Checked for de-zincification
- All valves open and closed to their full extent where possible.
- Any fixing bolts hammer tested where accessible.
- Bodies of metal valves or sea cocks tested with a hammer inside the boat and external parts hammer tested outside the boat.
- Fittings aggressively tested inside the boat for security in the hull.
- Hose clips inspected and hoses aggressively tested for security. 2 clips correctly fitted below water line on outlet spigot unless noted.
- Lying fair to hull unless noted

Important note: Some of the ball valves used in this boat are made from forged brass to the European standard CW617N. Whilst these valves are in very common marine use ordinary brass such as this is subject to dezincification in seawater.
The ISO standard relating to metallic valves and skin fittings below the waterline, ISO 9093-1, only requires the valves and associated fittings to have a service life of 5 years in terms of corrosion resistance. The valves and fittings here passed all the tests described above but consideration should be given to replacing them with DZR (dezincification resistant brass) or bronze both of which have a much longer potential lifespan. The through hull fittings to which the valves are attached have minor dezincification but scraped back to bright metal.

Below Waterline:

a) Port side holding tank outlet, yellow metal skin fitting with bronze ball valve.
b) Port side toilet inlet water pipe, yellow metal skin fitting was silver coloured ball valve.
c) Starboard side holding tank outlet, yellow metal skin fitting with bronze ball valve.
d) Starboard side toilet inlet water pipe, yellow metal skin fitting was silver coloured ball valve.
e) Engine seawater intake mounted on the sail drive, there is a minor corrosion at the hose fitting.

Above waterline

a) Port side shower pump, silver coloured metal skin fitting was silver coloured ball valve. The handle is a little loose.
b) Port side head sink outlet, silver coloured metal skin fitting with silver coloured ball valve.
c) Starboard side shower pump, silver coloured metal skin fitting was silver coloured ball valve.
d) Starboard side head sink outlet, silver coloured metal skin fitting was silver coloured ball valve.

e) Port side of galley sink outlet silver coloured metal skin fitting was silver coloured ball valve.
f) Manual bilge pump outlet is white plastic skin fitting in the transom.
g) Electric bilge pump outlet is white plastic skin sitting in the transom.
h) Diesel and water fillers are chrome plated mounted on the deck.
i) Bronze exhaust outlet.

Advisory know: while there is very little signs of corrosion on any of the ball valves I suggest to budget to replace them in the next two years. Tighten handle on shower valve.

14. Main Companionway and other Access to Accommodation:

These were all checked;

- to be lying fair to the deck
- fixings were randomly tested with screw driver for tightness
- frames checked for damage
- a secure method of closure
- correctly fitted hinges
- glazing checked for damage
- gaskets checked
- All opened where possible.

All found ok unless noted. The hatches were not hose tested for leaks.

a) Companion way is a sliding Plexiglas hatch, with two Plexiglas wash boards.
b) The forward hatch is Lewmar aluminium framed with Plexiglas, it hinges aft with two catches to secure it and is large enough to be an escape hatch.

15. Ports, Windows etc.:

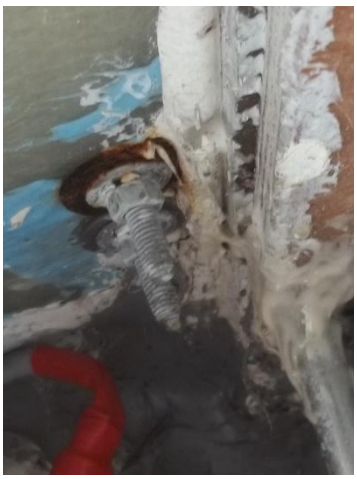
The same checks as section 14. above were carried out. All found ok unless noted. The ports and windows were not hose tested for leaks.

a) There are six fixed Lewmar Plexiglas windows below the deck level.
b) Six opening Lewmar Plexiglas port lights in the coach roof.
c) Five Lewmar deck hatches.
d) Two fixed windows in the coach roof deck.

16. Pulpit, Stanchions, Pushpit, Lifelines and Jackstays:

These are tested under full body weight where practical, terminal ends checked, type of wire tested. Life line attachment points are tested with a crow bar levered against a wooden block.

a) The pulpit, pushpit and side gate rails are stainless steel tubing bolted through the deck.
b) The guard rails are stainless steel 1x19 wire with plastic coating.
c) There are four harness attachment points in the cockpit.
d) There are stainless steel 1x19 wire with plastic coated jackstays (life lines) either side of the coach roof
e) Stainless steel stanchion posts in Alloy bases.



Advisory note: It was noted that some of the washers securing their fittings were mild steel and starting to corrode. See photo above. This is not currently an issue but would be wise to start to replace these when spotted.

17. Rigging Attachment Points:

- All attachment points were tested visually with 10 x magnification
- Nuts and bolts struck with hammer against sheer where possible
- Checked with magnet for quality of steel where possible
- Fittings tested with a substantial crowbar on wood block

Unless noted below, no movement found. No sign of seepage via deck fittings.

a) The split backstay secures to stainless steel attaching points on the transom which are through bolted with a plate behind.

b) The lower and main shrouds attached to a stainless steel plate bolted to the deck which in turn attaches to a stainless steel tie bar which is bolted to an FRP fixing laminated to the hull. (Called a Knee).

c) The forestay attaches to a stainless steel chain plate bolted through the stem. There is a small corrosion stain in the anchor locker from this fitting.

Advisory note: the fixings was secure however this staining would suggest that a lower grade of stainless steel has been used and these fixing should be checked periodically and if the situation worsens then replace the bolts and nuts with 316 grade stainless steel.

18. Ground Tackle and Mooring Arrangements:

a) Main Anchor is a 22 KG plough type attached to chain only. There were no signs of corrosion on the chain or anchor and the shackles were secure.
b) There is an electric Lewmar windlass that was operating in both up and down mode.
c) There is a second plough anchor of similar size in the cockpit locker. There was no chain attached to this.
d) Six mooring cleats were tested with a crowbar and found secure.

Advisory note: the second anchor will work better with 10 metres of 8mm chain attached and warp.

19. Other Deck Gear and Fittings:

a) Turning blocks and jammers all found of adequate size and securely through bolted, although inspection from under limited by linings.
b) The genoa and coachroof winches fitted were all tested as far as possible but not under load and found no play on base and were free to turn.
c) Genoa and main sheet tracks and cars operated correctly. No faults found.
d) The spray hood and cockpit cover frames were securely fitted and the canvas was in good condition. The zips that were used were all intact.

20. Davits and Boarding Ladders:

a) Vessel has permanently attached stainless steel boarding ladder which extends below the waterline and is securely attached.

21. Spars:

a) The mast is made by Selden, it is a one piece extrusion and is silver anodised. It is deck stepped and could only be tested and checks made to just above head height.
b) It has a Furlex in mast furling system fitted. This was not operated because of the wind. No signs of corrosion or damage were noted to the mast.
c) The boom is in a similar good condition to the mast as is the solid boom vang.
d) No signs of wear were noted at the goosekneck

22. Standing Rigging:

a) The rigging is 1 x 19 stainless steel wire with roll pressed terminals.
b) Rigging was examined where the wire enters the terminals under 10x magnification, no broken strands visible nor excess corrosion seen. The angles they enter the mast appears in line with rigging.
c) The 5/8th open bodied rigging screws were examined under 10 x magnifications except where noted.

d) The forestay has a furling system fitted which was free to turn and all fixings secure where seen.

23. Running Rigging:

a) Running rigging was in good condition for its age.

24. Sails and Covers etc:

a) The mainsail is an in-mast furling sail made by Elvstrom.
b) The foresail is also made by Elvstrom.
c) Because the boat was examined in slings, the sails were not unfurled, the purchaser was advised to get the broker to show them when back in the water

25. Navigation Lights:

Vessel fitted with lights of correct size, securely mounted and seen working unless noted.

a) White on stern
b) Bicolour on pulpit
c) Steaming light on mast.
d) A hoist up mooring light .
e) The mast head light could not be seen.

26. Bilge Pumping Arrangements:

a) Electric submersible pump, Rule 2000 type, is mounted in the main bilge. This was operated in Manual mode, there is an automatic setting too.
b) A Plastimo Manual bilge pump is mounted at the back of the cockpit, and picks up from the main bilge where it has a strum box fitted to it. This was operated dry as there was no water in the bilge.
c) Both bilge pumps exit the transom through the plastic skin fittings noted above.

27. Fire-fighting Equipment:

The following is noted aboard;

a) Fire blanket in port aft cabin
b) 600g aerosol type extinguisher in starboard aft cabin
c) A 2KG Powder 13A 70B mounted under the chart table. Manufactured 2011.
d) 2 x 2KG Powder 13A 70B mounted one in each cockpit locker. Manufactured 2005.
e) Carbon dioxide alarm in the saloon

Recommendations; there are no fire regulations for private vessels at sea, however fire extinguishers should be serviced or replaced every five years. The fire blanket should be mounted by the galley for use with the cooker.

28. Lifesaving and Emergency Equipment:

The following was noted aboard

a) 5 x CrewFit Manual/ gas life jackets. The cylinders have not been operated and were not corroded.
b) 4 safety lines
c) 3 white hand flares, 4 red hand flares, 4 parachute flares, two orange smoke flares all dated 2013.
d) A man overboard sling and throwing line.
e) Horseshoe life buoy and floating light. The batteries would need replacing.
f) 6 person life raft in canister mounted on pushpit– no service date noted on casing

Advisory notes

- The RNLI operate an excellent free inspection and advice service concerning levels of safety equipment (SEA Check) and can be contacted on 08003280600 or via the RNLI website, www.rnli.org.uk.
- The RYA also publishes a booklet, G16, "The Boat Safety Handbook" and this specifies levels of Safety Equipment for different categories of use. Booklet is obtainable from nautical bookshops or direct from the RYA, www.rya.org.uk.

Recommendation - this vessel be equipped with safety equipment to the level appropriate to proposed use.

29. Engine and Installation:

a) Volvo Penta D2 55 four cylinder marine diesel engine, with freshwater cooling. Engine number 868971-510393 6953. Engine hours 470.
b) The engine is rubber mounted, these are bolted to the FRP engine bearers. These were checked with a crowbar and found in good condition.
c) The engine is very clean and there were no signs of oil or water leaks except a little oil around the dipstick.
d) The engine started at first button push with no smoke from the exhaust or sooty deposits on the water. The engine was allowed to heat up to operating temperature and then shut off and restarted immediately.
e) The engine engaged gear forward and astern smoothly.
f) The exhaust is correct marine grade hose with a water trap and then loops to the deck before exiting the port side.
g) The oil was checked and was reasonably clean.

Advisory note: There is no record that the seal around the sail drive (often called the god seal) has been changed. Volvo Penta recommends this is done every seven years.

30. Fuel System:

a) A "plastic" tank is mounted in the starboard aft cabin under the berth. The hoses are correctly fitted and marked ISO 7840 which is marine grade fuel line.

b) A shut off valve is mounted in front of the tank and a water separator and filter in engine compartment.
c) The filler and breather are secure, as is the diesel take off for the heater.
d) There are no signs or smells of leaks noted.

31. Accommodation General:

The accommodation is in good condition with no smell of damp noted, and no significant damage noted.

a) The mirrors in the forward head compartment are losing their finish around the edges and the starboard aft mirror is loose.

32. Gas Installation:

This vessel has not been MCA coded. It was built RCD/CE compliant.

Irrespective of the above all gas systems are subject to the checks listed below as part of this survey. Recommendations will be made where there is an obvious serious safety issue and these must be carried out before use. Suggestions will also be made where appropriate to enhance safety criteria, particularly with systems where there is no mandatory requirement to conform to a standard. It must be understood however that some Insurance companies require a declaration from the assured that the gas system conforms to ***current*** standards and if that is the case here upgrading may be required as a condition of the insurance policy.

Sources of further information:

www.calormarineshop.co.uk/rules-regs-answer.htm Comprehensive information on standards and best practice. www.boatsafetyscheme.com Even if your boat is not required to comply with this standard it contains much sensible advice and the manual can be downloaded.

Gas Observation and action table

Item	**Result**	**Action required.**
Condition and efficiency of self draining bottle storage	Separate locker in the cockpit which drains directly out the transom	
Age and condition of flexible hose at bottle.	Condition is good marked to the replaced in 2011	***Replace gas hose at the end of season***
Age and condition of regulator	Good - age unknown	
Connection to copper pipe	This is correct	
Condition of copper pipe where accessible	Seen in aft area with no corrosion	
Is pipework adequately supported and not under stress where accessible?	Yes fully clipped were seen	
Connections and Flexible pipe to cooker and other appliances	Correctly fitted – no date presumed 2011 as with bottle	***Replace gas hose at the end of season***
Are all appliances fitted with flame failure devices on all burners, and did these work	FFD's on burners and oven. Heard working	

properly under test?		
Is a gas alarm fitted?	Yes	
Is each appliance fitted with an isolating tap	Yes in locker by cooker	
If fitted did leak bubble tester function?	None fitted	

Additional Observations: None

Please note this survey is not a gas safety certificate, that is only obtainable after comprehensive pressure testing and assessment by a qualified person listed on the Gas safe register (formally CORGI) www.gassaferegister.co.uk

33. Fresh Water Tanks and Delivery.

a) "Plastic" tanks in port aft cabin under berth and in forepeak.
b) Flexible push fit piping in red and blue is fitted, a pressure pump is mounted in the heads aft.
c) A QT water heater from the engine and 240 volts is mounted in the aft cabin to port.
d) No signs of leaks and all taps operated.

34. Heads:

a) Both toilets are manually operated Jabsco seawater flush with FRP Holding tanks that can emptied by gravity or through deck pump out. Macerator pumps have been removed.
b) All clips were found secure with no signs of leaks.
c) Both shall pumps operated although dry as no water in the trays.

35. Electrical Installation:

DC circuits

a) 1x 135ah domestic lead acid battery and 55ah gel filled engine battery are mounted under the starboard saloon berth. They are securely fitted and have installation caps on the terminal's.
b) They are charged from the engine alternator via an electronic isolator as well as a 240 volt charger.
c) All circuits go through the switch panel and have circuit breakers.

240v Circuits

d) A shore power cable can connect on the starboard cockpit coaming via correct fitting. There is a main RCCB and 3 circuit breakers for battery charger, sockets, hot water and fridge.
e) All wiring appears to be professionally installed.

36. Electronic and Navigation Equipment:

The following was seen aboard operating

a) VHF - DSC Raymarine 215 E
b) Chart Plotter C70
c) Navtex weather
d) Chartplotter C80
e) Depth ST60
f) Log ST 60
g) Windspeed and Direction ST60
h) Binnacle compass
i) Fog horn- gas canister type
j) Radar reflector on mast and backstay.
k) Raymarine Radar

37. Heating and refrigeration

a) Webasto hot air heater, diesel fuelled. This was operated.
b) A Danfoss fridge 240V and 12V operated with chiller plate in coolbox. Operated on both voltages.

RECOMMENDATIONS and CONCLUSIONS:

List of Recommendations:

The Recommendations made in the Report are listed below with their respective section numbers. ***All Recommendations should be carried out before use of vessel or as stated.***

27. Fire-fighting Equipment:

Recommendations; there are no fire regulations for private vessels at sea, however fire extinguishers should be serviced or replaced every five years. The fire blanket should be mounted by the galley for use with the cooker.

28. Lifesaving and Emergency Equipment:

Recommendation - this vessel be equipped with safety equipment to the level appropriate to proposed use.

32. Gas Installation:

Replace gas hose at the end of season at cooker and bottle.

Conclusions:

Nomadic Star is in very good condition for her age both cosmetically and structurally and is very well equipped with good quality equipment.

There are a few advisory notes that should not be ignored but dealt with as required.