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This *Pre-purchase Survey* has been prepared exclusively for the client listed below. It's purpose is to assist a prospective purchaser by outlining any deficiencies uncovered during our inspection and to determine the vessels current market value as well as to give recommendations as to what repairs may be needed to bring the vessel into conformance with all governing codes. This report is based on our physical inspection of the vessel, any pertinent documents provided by the vessels owner, the results of the sea trial, the haul out inspection and conformance with safety regulations and governing codes as set forth by one or more of the following organizations; The US Code of Federal Regulations titles 33 and 46, US Coast Guard minimum safety requirements, National Fire Protection Association 302, American Boat and Yacht Council and the Underwriters Laboratories.

***Our File #*** 04-102

***Our Client:***

Customer Info

Telephone

Email

***The Subject Vessel:***

The subject vessel is a 1984 Kadey-Krogen 42' trawler. The vessel bears hull identification number XXXXXXXXXX and Florida state registration # FL XXXX XX. This vessel is named "XXXXXX". It is powered by a single Ford/Lehman six cylinder, naturally aspirated, 120 horsepower, diesel engine. There is also an 8kw generator located in the engine room.



This particular vessel is laid out in the standard configuration offered by the builder where the galley lies to starboard and there are two exterior walkways to allow access from the after deck to the foredeck outside of the salon. The upper boat deck completely covers the aft deck and allows for a large outdoor seating area on the stern of this vessel. There are two double doors, which lead into the salon where teak parquet floors, teak countertops and teak cabinetry abounds. On both sides of the salon, large sliding windows are mounted, which allow a great amount of light and air into the vessel. There are six removable floor panels running down the center of the salon which, when removed, give excellent access to a 550 cubic foot engine compartment. There is also another smaller hatch at the forward end of the engine room, next to the galley, where one can gain access quickly to some of the vessel's vital systems without disturbing the furniture. This is where one would enter the engine room to check the oil and access the main electrical panel.

The galley is located on the starboard side, forward of the salon. It is a U shaped affair, where access to all the items is only a step away. This vessel's galley is equipped with a side by side refrigerator and freezer, a small microwave, a Princess 3 burner stove with oven, an under counter mounted toaster oven, an under counter mounted coffee pot, a rectangular, double bowl stainless sink and lots of cabinets and drawers for storage. The following photos show the layout of the salon and galley.



Starboard

port



Galley

Moving forward from the salon and down three steps is the corridor, which leads to the guest stateroom on the starboard side, the head on the port side and the master stateroom forward. This vessel is equipped with the optional main stateroom, which has a centerline mounted, queen size bed and large storage lockers forward and aft on the port and starboard sides of the entry door. There is a large area under the bed's pedestal where the waste holding tank, the waste pump and the shower sump systems are located. The guest stateroom is laid out den style, where there is a "Murphy" style bed forward, desk beneath it and a single berth along the outside hull and large closet aft. This vessel is equipped with one head compartment, which is located on the port side, directly across from the guest stateroom. It has a separate shower compartment with a hand held showerhead, a single stainless sink in a small vanity and a manually flushed head. There is also a small access panel on the aft bulkhead in the head for access to the back of the washer and dryer and the circuit breakers for the two air conditioner units. The washer and dryer are stacked on top of each other on the port side of the corridor stairs. There is also a central vacuum system whose attachments are stored in the guest stateroom closet. Beneath the corridor's floor is where

the vessel's 360-gallon water storage tanks are located. They can be accessed by removing the stairs and then lifting up the floorboard section which had been located under them. Very little of the tanks were visible due to their location and no other inspection points were noted during the survey. The central vacuum system is operated by plugging the hose into the suction port provided in the galley beneath the refrigerator. There is also a door, which opens, in the same panel to gain access to the filter bag.



Main stateroom



Guest Stateroom from corridor



Across from the galley on the port side is where one finds a set of upper and lower cabinets at the stairs, which lead to the pilothouse. The bottom cabinet houses the A/C and D/C circuit breaker panels. The upper cabinet houses a liquor cabinet and more storage area. On the aft facing side of this cabinetry is where the control panel is located for the Heart Interface system. Also located in the lower panel are the controls for the generator and shore power-to-generator switches. The following picture shows the electrical control panel.



Moving forward from the salon and up three stairs on the port side, shown in the picture above, is where access to the pilothouse is granted. This corridor is an interior walkway inside the pilothouse port side windows. The pilothouse is a large area and has a berth along the aft bulkhead where one can rest during a long passage and yet never be more than ten feet from the controls. The helm station is well laid out and access to all controls is very good. Visibility from this area is very good due to all the surrounding windows and the height above the deck. There is enough room on the dashboard to mount any and all electronics one would desire and still not run out of room. There are also full size chart drawers. Apparently the last owner had a desktop computer located there, as the keyboard drawer was left behind. There is also a rectangular hole over the helm where there must have been an AM/FM radio installed at one time. There are still speakers mounted in the salon and outside on the flybridge. Some of the electronics were inoperative when tested. These will be covered in the recommendations section later in this report. Unfortunately, most of these electronic devices are very dated and will probably need to be updated rather than to waste time on repairing them.



The foredeck is large and has a steep grade upward and crowned away from the centerline for water run-off purposes. The bow pulpit is a sturdy appendage on this vessel and it houses two different types of anchors, a Danforth and a Plow. There is a capstan type windlass mounted just

aft of the pulpit. There are also two large hawse pipes leading through the deck to the anchor rode locker, which is located forward of the two tier hanging locker in the master stateroom. The anchor locker does a superb job of keeping the two anchor rodes separated and tangle free. The decks on this vessel are reported to be 3/4" marine grade plywood, covered with two layers of fiberglass on the exterior side and then covered with 1/2" teak planks. The decks on this vessel are in rough shape in the exposed areas. There are plugs missing, sealer loose and all very weathered looking. This vessel also has the optional teak decking on the upper boat deck, which is in similar condition to the main deck. There is a storage locker in front of the pilothouse, which doubles as a large bench seat. Inside this locker is where docking lines were stored, and there is a freshwater wash-down hose.



This vessel also has a flybridge, which is accessed from a ladder on the aft deck. Six steps lead to a whole different point of view for navigating this vessel. From the upper bridge, the captain can really see the entire vessel and I would think this is where all the docking maneuvers would take place from. The only place not seen from this vantage point is the aft deck however, the boat deck length is such that it can be used to judge where the stern actually lies with amazing accuracy. This vessel has an 8' Avon inflatable dinghy powered by a 9.9 Yamaha stored on the upper deck. This dinghy can be raised and lowered by an 800# electric davit type boom, which looks almost new. The flybridge is one step above the boat deck. There is a central mounted helm chair and side facing bench seats on either side of it, which open for more storage. There is also a mast and boom, which could be used to launch a small boat or to raise a steadying sail if needed. Another nice feature on the boat deck is a 4 person, self-inflating life raft installed in 1996. There is also a set of aluminum boarding stairs stored on this deck.

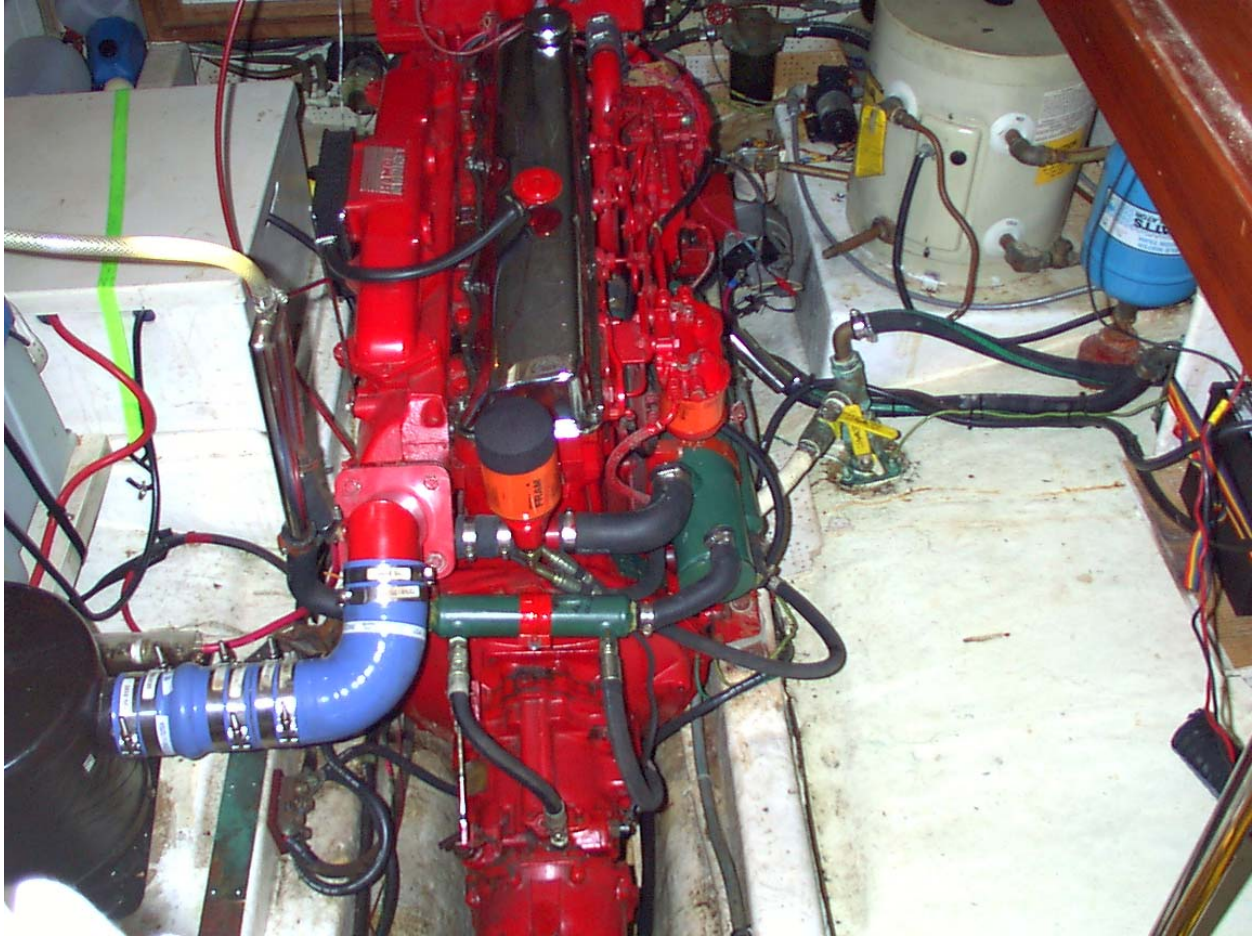


The engine room on this vessel is very large and can be moved around in fairly easily. The engine is the central point in this room. The Lehman engine has 8698.5 total running hours on it but looks as if it were almost new. The previous owners were meticulous in maintaining the heart of this vessel. This is the type of engine, which has given diesel engines their good name. It is a heavily cast, low horsepower, low rpm, non-turbocharged engine designed to run for thousands of hours without much of a break and it has done just that. I was in the engine room while the captain ran this vessel for sea trial and was amazed how well it actually ran. I removed the oil fill cap while the engine was running at full throttle and found no evidence of any crankcase blow-by, a situation which can be an indicator of high crankcase pressure caused by worn rings or valve guides. There were no rattles, no smoke, no ticks, nothing but a really good running engine. While doing my inspection of the pilothouse, I leafed through the THREE maintenance logs, which have been kept up since the vessel was new. Every thing ever done to this vessel is

in those books! Every detail, every repair, every upgrade. I can't recall ever seeing such documentation on a vessel. It is a real asset having all that information on a boat's history, It will really come in handy in the future when repairs and upkeep are necessary. I did notice there was a slight movement of the propeller shaft while the vessel was running in neutral, but I would not worry about it at this point. These transmissions tend to do that as they get older, especially when they have a 3:1 gear reduction. This engine has two alternators, 1 for the starting battery and 1 for the house bank of batteries. The starting battery is located on the starboard side of the engine room. On the port side of the engine is a bank of 10, 6-volt batteries. These batteries are tied together in series in groups of two and then all tied to each other in parallel. This makes 1 giant house battery bank. This bank is monitored by a Heart Interface inverter/charger system capable of producing 250 amps of D/C voltage *and* 2500 v.a. of A/C voltage, continuous. The log entries of maintaining the water level in these batteries is an incredible piece of documentation contained in the maintenance log.

In the aft portion of the engine room there is yet another piece of electrical producing equipment. It is an 8-kilowatt, Northern Lights, 3-cylinder generator. This was installed sometime in 2001 and has 356 running hours on it. It is enclosed in a sound deadening enclosure and mounted on rubber insulators so well, there is minimal noise and vibration for a diesel genset. This generator was test run during the survey and several items were used to verify the output capacity of this set. This generator also has it's own starting battery. That's 12 batteries total on board this vessel. There is also a very stout bonding system installed and a galvanic isolator.

Also located in the engine room are the two fuel tanks. These tanks are advertised as epoxy encapsulated steel and a capacity of 350 gallons each. The rigid fuel lines are all copper and all the flexible lines were replaced in 2002. There are three in-line fuel water separators in the main engine's fuel line. Two Racors appear to be original, mounted on the starboard stringer. The third is a huge 120-gallon per hour capacity Racor near the main fuel control manifold. There is also a smaller Racor filter for the genset. All the hydraulic lines on the engine were also reportedly replaced in 2002, as were the heat exchangers. There are boxes of new spare parts every where in this vessel. There is even a used, spare propeller shaft in the engine room. The propeller shaft is stainless steel and appears to be 2 1/4" in diameter and runs through a dripless stuffing box and out through the keel where it terminates with a 28", 3 blade bronze propeller. Engine speed and transmission direction are controlled by cable type Morse controls in a two station set-up. Steering is controlled by a hydraulic steering system routed through copper lines and automatically monitored by an auto pilot system, when in use. There is also a three piece back-up tiller located in the aft deck storage compartment, which can be used to steer the vessel, in case of hydraulic system failure. The rudder is a large stainless steel unit. The following series of photos show the items mentioned in this paragraph. Unfortunately, my camera had a software issue and failed to store 4 photos. 1 of the genset, 1 of the aft hull bottom, 1 of the main electrical distribution panel and 1 of the steering locker area. The main electrical distribution panel is located on the forward bulkhead in the engine room and is incredibly well marked. The engine compartment is protected by a Halon fire suppression system, which can be manually discharged from the pilothouse. There is also a 6-gallon water heater, accumulator and pump mounted in the engine room as well as many other systems.





### ***Our Findings:***

My survey of this vessel actually started with the haul out inspection. When I arrived at the marina, the vessel had been hauled the night before and cleaned for my inspection. It was obvious this vessel has been sitting unused for quite some time, judging by the amount of evidence of marine growth that had been cleaned off the running gear. There are several issues I have with both the underwater surfaces of this hull and the running gear. First of all, the bottom paint is near the end of its effective life and will need to have a bottom job done within the next eight to ten months or so. The running gear really needs to be done now.

On my first walk around the hull, I noticed there are a couple hundred dime-sized blisters in the gel coat in the waterline area and above, especially on the undersides of the rub strakes. There is also many of this same size blisters below the waterline however, the extent of them is unknown due to the thickness of several layers of bottom paint. There is also evidence of prior blister repairs in a couple of spots where the bottom paint has chipped off. I broke open 2 of these blisters to get an idea how deep they were and found them to be in the gel coat, just above the fiberglass laminate. Of course the liquid which seeped out had the familiar odor of Styrene, a solvent used in polyester resin. The fact that these blisters are above the waterline as well as

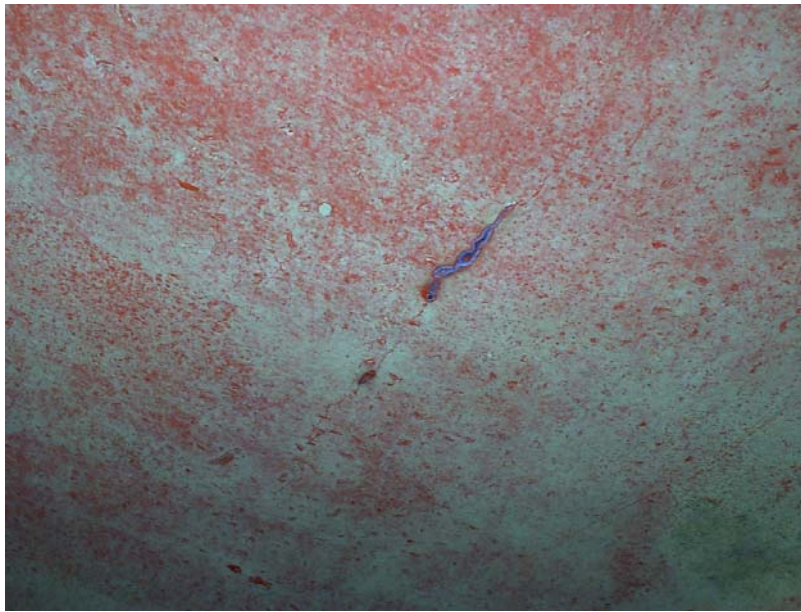
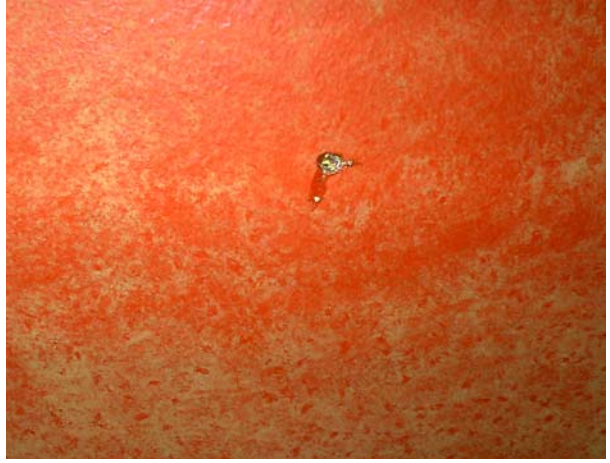
below, leads me to believe the builder had materials issues at the time of lay-up. These blisters are not structural in nature, due to their depth in the laminate. Due to the age of the vessel, I would not expect these to cause any alarm, just a slightly noticeable blemish, to those who would get close enough to notice.

There are two large, concave areas on the port and starboard bottom in an area between the salon and aft deck, which look like hull deformations or deflections. When sounding the hull with a phenolic hammer inside and outside, I noticed a definite difference in sound between these areas and the areas surrounding them. This prompted me to do a little research on the matter. I found that the builder had several issues with these deflections in the hulls of many of the 42's built in the 1980's. Apparently, the builder actually paid for the repair of several of these areas on various vessels under the hull warranty for some of their original owners. The real issue with this vessel and these areas is the fact these vessels were built with a cored hull below the waterline. This is generally accepted in the industry as a no-no due to the probability of water intrusion into the coring, by way of either osmosis or leaking fittings. This wet coring then breaks down over time through a process called "hydrolysis" which, is the action of the wet core becoming soft and allowing the inner and outer fiberglass skins work back and forth, grinding the core to a wet mush. This gives you two thin layers of fiberglass with no support between them.

Coring was originally used to provide strength to large expanses of fiberglass such as cabin roofs, the theory being by separating the laminate into two thinner layers and inserting a core of end grain balsa wood between them, the end result would be a lighter laminate yet stronger due to the similarity to an "I" beam. Over time plastics began to be thought of as the better material for coring because it can't rot, right? Well it doesn't rot but it does deteriorate. Get it wet and work it back and forth between two rough fiberglass panels and you get a whole lot of plastic dust or mush. Put it in the hull of a boat below the waterline, where thru hull fittings and pressures of waves against a 40,000 pound boat are working against you, and you are just asking for issues to develop. The builder of this boat calls it a "fiberglass sandwich construction method". The layup process is reported as; gel coat on the exterior hull, fiberglass cloth with vinylester resin built up to "x" thickness, PVC closed cell foam coring 1/2" thick, fiberglass cloth with polyester resin built up to "x" thickness on the inside hull and finally, gel coat. The stringers are reported as Mahogany and are glassed in during the final stages of layup.

My intent is not to scare you off from buying this boat, it is only to make sure you understand the issues at hand that we are dealing with. If you are aware of all of this already, I apologize for my ramblings. I just never know how informed my customer is.

Hull soundings usually provide one of the best indicators of the condition of the laminate. A solid fiberglass hull will sound almost like hitting a piece of steel with my plastic hammer that is unless you hit an area of delamination. Delamination usually sounds like a "thud". It is difficult to discern the condition of the hull on this vessel due to the coring. I can tell you most of the hull sounds fine on this vessel and I can also tell you the two areas in question near the stern, sound different. What I can't tell you is what the actual cause of the difference is, only speculation. It is also very possible the vessel came out of the mold this way. The following photos show a sampling of the blisters, a stress crack in the hull bottom on the port side at the bottom of one of the "hollows", a separation at the back of the keel, loose rudder bushings a cracked rudder tube and some of the damage to the propeller.



Keel →





The previous owner has notes in the log about shimming and adjusting the rudder. It doesn't specify what the problem was and why this was necessary. I think his modifications have transferred some stress to the fiberglass tube, which houses the rudder shaft. This in turn caused the crack you see in the left photo above, which then allowed the bushing to fall out. This problem has then caused another issue. This crack has allowed seawater to enter the keel and seep into the hull, as evidenced by the following photo. This picture shows a view inside the hull, looking aft at the area above the propeller shaft. This seep is not in a cored area of the laminate but it is still something which should be repaired and the rudder shaft inspected for damage. The separation in the keel should be repaired before it travels upward to the cutlass bearing area. The propeller has two blades, which have substantial damage, and one blade, which is bent forward by at least 1/4".



As for the hull bottom in the deflection areas, it is my belief that there is movement of the outer

laminates while under way which, has caused enough flex in the fiberglass to cause a stress crack at the bottom of the concave area on the port side. The cause of this movement remains unknown until, and if, a core sample is performed. Let me state that this vessel has a very thick inner laminate skin and a very thick outer laminate skin so even if the core was proven to be deteriorated, I would not be convinced it would be an issue with this vessel, based on its speed and hull design.

Moving on. I inspected the rest of the hull and found that most of the thru-hull fittings had a good amount of marine growth inside them and will need to be thoroughly cleaned for proper performance. At this point the vessel was re-launched and moored to a dock for the rest of my interior inspections.

I began my interior hull inspections at the stern and worked my way up and forward through the vessel. Below the aft deck there is a large storage compartment where access is afforded to the steering system. The Heart Interface system controller is also located in this area as are portions of the autopilot system. There were no issues noted in this area. This is where you would access the tiller for emergency steering operations, as needed.

Moving inside the salon, I began removing the floorboards to access the engine room. There are six large panels to remove, which give a good amount of accessibility, light and air to anyone having to work in the engine room. I immediately noticed that the amount of spare parts stored in this vessel rivals that of a small marine supply store. Not all of the items are new, but all are certainly usable, especially if one were to break down in a remote area. The next thing I noticed was how well everything was marked. Items which had been replaced recently were also all dated. It became evident early on, this vessel had a substantial amount of work done in 2001 and late 2002. The generator had been installed in 2001 and it appears all the hoses and thru-hull fittings were replaced in 2002. Also dated 2002 were the bank of house batteries and the engine charging system to maintain them as well as the engine starting battery and the generator starting battery. The heat exchangers were dated 2002. The "Algae X" system and 120 gallon per hour Racor fuel/water separator were dated 2002. The main electrical panel has all the circuits labeled and all labels coincide with the wiring diagram located in the owner's manual. Any systems, which have been re-wired, all have tags explaining what the new wires do and the reason for the substitution. The bonding system on this vessel is a simple system of copper tubing, wire and screening which, appears to do a very good job of linking all the vital systems and protecting them from electrolysis.

The fuel tanks on this vessel are very large and located to the port and starboard sides of the engine room. The builder reported these tanks are made of steel, coated in epoxy and hold 350 gallons of fuel each. I noted the tank on the port side had some fiberglass taping coming loose where it is attached to the hull. The starboard side has had the screw in inspection port sealed from the outside with a RTV type sealer. The following two pictures show these two items. Some other items of interest in the engine room follow. The seawater strainer bowl for the genset has been broken and repaired, the thru-hull seacock for the genset is leaking seawater at the hull. This leak is where the seacock passes through the cored hull. I also noted a large amount of barnacles growing inside the sea strainer for the air conditioner seawater pump.



I sounded the interior of the vessel's hull with the phenolic hammer as well as the engine bed stringers. I found the port side stringer delaminated at the forward bulkhead. This delamination could signify rot in the stringer, especially due to the fact there is a limber hole drilled through the stringer at the area in question. The area of delamination runs approximately 16" rearward from the front engine compartment bulkhead, below the electrical panel. This situation has apparently allowed some movement in the stringer, as evidenced in the following photo. Notice the crack in the gelcoat where it meets the bulkhead. This area is forward of the forward engine mount by roughly 3 feet.



This stringer will need to be monitored for progression of the problem. If the engine ever needs to be removed for servicing or for replacement, it would be a good time to repair this area due to its proximity to the problem area.

Overhead in the engine room there is a 32 pound Halon fire suppression system which can be discharged manually as well as automatically. It was installed in 2002 and has not been serviced since. The gauge reads full. Also located in the engine room is the water heater, accumulator tank, filter and pressure water pump. This water heater is the 4th one installed in this vessel, according to the log. Judging by the amount of time all the previous water heaters lasted in this vessel, I would tend to think this one is within a year or so of needing replacement however, it was working well when tested and shows no signs of leakage. The pressure water pump is rated at 4 gallons per minute and worked well. The cartridge type water filter is located under the galley. Age of the current cartridge is unknown.

There are two, 2000 gph, automatic bilge pumps in the keel area of this vessel, one under the transmission and one at the front engine room bulkhead. Both operate correctly when tested. There is also a high water alarm attached to the top of the rear bilge pump, which also operated when tested. Forward of the engine and under the main electrical distribution panel is where the seawater pump for the air conditioners is located. There is one pump for both air conditioners. This pump did not operate when tested. It is assumed, judging by the amount of barnacles in the strainer, there is enough marine growth in the impeller of this pump to keep it from turning. Condition of the pump motor is unknown and the air conditioners do not operate without it being operable. The air conditioner compressor and fans run and the controls seem to work, but the systems over heat without the needed sea water running through the heat exchangers, thereby causing the compressors to shut down. True operating condition of the air conditioning systems are therefore an unknown until this pump is repaired.

The house battery bank was inspected and service dates of the batteries were logged in the data section of this report. All cells were full when inspected. All the cables and wiring for this system appeared in order and in excellent condition. The charging system for the house batteries while under way is provided by a high amperage output alternator, located on the port side of the engine. This alternator, brackets and drive belt all appeared new. Output was good when tested. There is a main fusible link for this system, located on the port side stringer near the back of the engine. There were spare fusible links of various amperages noted under the pilothouse helm station. The following pic shows the fire suppression system and power distribution cabinet.



Getting out of the bilge, I moved forward and into the living quarters section of the vessel. The corridor, which runs down the centerline of the vessel, provides more than adequate headroom. Under the stairs at the aft end of this corridor is where the access hatch is located for the water tanks. There is very little of the tank showing and I could find no other place to view them from. The tank(s) is reported as having a capacity of 360 US gallons.

The guest stateroom was next. This vessel has been built with the “den style” guest stateroom. It has a desk against the forward bulkhead and a settee against the outside hull wall which, converts into a double berth. There is also, what I would call, a Murphy bed affixed to the forward bulkhead over the desk which can be lowered to provide another single bed. The walls and floor are all covered in teak and there are 2 portholes to allow some light and air into this space. There were 4 lamps located in this room but I could only get 2 of them to operate. All the electrical outlets tested OK in this room. There is also a hanging closet aft and a set of built in drawers. In the closet is where all the attachments were stored for the central vacuum system. Please forgive the photo of this room, it is not that good due to the limited space.



Across from the guest stateroom, on the port side, is where the single head is located on this vessel. There were two different layouts offered by the manufacturer in regards to the head when this vessel was built. The first layout offered two heads. A private one for the master stateroom and a second one where this one is located. When this two head option was ordered, the master stateroom was modified by moving the bed to the port side wall and reducing it's size to a full from a queen and deleting the hanging closet forward and on the starboard side. This made room for a shower forward and a head along the starboard wall.

This vessel has the single head layout, which allows a queen-size bed to be located on the centerline of the stateroom and plenty of storage possibilities. I would think this would be the more popular option for a couple who wants to spend extended periods aboard, due to the increased closets and larger bed. Under the bed pedestal is where the 60 gallon waste holding tank is located, as well as the overboard discharge pump, Y valve and shower drain sump system are all located. When I lifted the mattress and removed the compartment covers, I immediately knew there was a problem due to the smell. At some point, the waste discharge pump has been operated without first opening the thru-hull seacock. This made the pump build up enough

pressure to force the hose free from the barbed fitting and empty some of the contents of the waste holding tank into this compartment. There is a bilge pump in this compartment also which operated when tested. The following photo shows the mess, which has been there long enough to accumulate some mold.



The head on this vessel was originally an electrically operated unit but has been replaced on this vessel with a manual flush type. It was operable when tested. The separate, stand up shower is large enough to be functional and the faucet and drain all worked well when tested. The single bowl sink also worked well. There are ample storage possibilities in the head compartment. Built into the aft head bulkhead is a door behind which is located the circuit breakers for the air conditioner units and sea water pump as well as access to the back side of the washer and dryer. The washer and dryer are located on the port side of the corridor all the way aft at the stairs. These were both operable although I did not run them through all their cycles. All ground fault electrical outlets were tested throughout the salon, galley and head. All operated correctly except; the outlet at the port side aft in the salon was completely non-functional and the starboard side forward in the salon would not trip when tested.

Moving upstairs to the pilothouse, one finds a very bright and airy space. The pilothouse is large and uncluttered. There is ample room on the settee for a few passengers to sit and watch the waterway go by on an inclimate day or for the captain to catch 40 winks while on an extended cruise. Visibility is very good from the pilothouse to all areas except the stern. The helm is well

laid out and very simple. Several electrical items were mounted over the windshield including the loran, the depth meter and the VHF radio. Of these three, only the VHF radio operated. There is also a non-working, older GPS on the helm. There is a 21-mile RADAR mounted to the starboard side of the helm station, which operated very well, and a SSB radio next to the settee, which powered up when tested. The windshield wipers, horn, spreader lights, strobe light, running and anchor lights all worked when tested. There are volt gauges to monitor the state of the charging systems for both the starting battery and the house batteries, while underway. There are also full size chart drawers to the port side of the helm and a keyboard drawer to starboard.



The forward deck has a steep grade to it and the teak covering boards are in rough shape. The bow pulpit is solidly attached and provides a home for two anchors. The anchor to starboard has a 5/16" galvanized chain rode of approximately 200'. The port anchor has a 5/16" galvanized chain-to-rope rode, using 5/8" nylon line approximately 200' in length. The windlass operated well when tested. There is a washdown hose located in the pilothouse exterior bench seat, which worked when tested. There were also other miscellaneous items stored in this bench such as lines and fenders. I did not spend a lot of time going through this locker due to the wasp nest, which I had disturbed by opening it and causing a flurry of bees. One of the hazards of inspecting a vessel which has been sitting for a while!

Finally, moving up the aft deck ladder to the boat deck, I again found the teak floor covering to be in rough shape. There is quite a bit of room on this deck for outside storage. The deck is surrounded by a stainless steel railing of proper height, to guard against falling overboard. There is an 800-pound capacity, electric crane attached to this deck which operated when tested. This crane can be used to launch the 8', Avon inflatable dinghy that is powered by a 9.9 horsepower, Yamaha 2 stroke outboard engine. This engine was not tested. The inflatable appeared in good condition. The controls for the crane are stored in the port side storage seat on the flybridge. There is a set of aluminum boarding stairs stored on the deck for use when the dock being used is lower than the main deck height of the vessel. The flybridge helm is simple and weathered. There is a stainless steel destroyer style wheel and Morse controls. There are remote controls and displays for the depth meter and LORAN but were non-functional. The autopilot was functional when tested on our sea trial. As stated earlier, this would be the favored location for operation of this vessel, weather permitting, due to its unobstructed 360° view. The bimini top was in fair condition, but the straps, which hold it in place, were all broken. There was also a bridge cover,

which was not in use. There are storage lockers to the port and starboard sides of the flybridge helm. Fuel for the dinghy and other miscellaneous items were located in these lockers as well as more wasps.



There is a 4 person, self-inflating life raft mounted on the boat deck. Condition of this item is unknown and it is suggested this should be removed and serviced by a qualified lifeboat-servicing agency prior to any offshore usage. There is a mast and boom on this deck, which can be used to fly a staysail or to launch a small light boat. Currently the boom has been removed and tied to the starboard rail to make room for the inflatable and the crane to launch it. This mast can be lowered by removing the forward bolt and allowing the mast to pivot on the aft bolt. By lowering the mast one can reduce the bridge clearance to 14' from 22'9" with it up. There was a water leak noted during the inspection of the salon on the starboard side aft roof. While difficult to judge, it would appear to be coming from either the mast mounting area or the life raft mounting area. The flybridge has been painted at some point and that paint has worn through in several areas and is peeling in others. There was also a repaired area noted on the flybridge floor just forward of the mast.

This concludes the Layout and Findings sections of this report.

**DCH Marine Inc.**  
**141 Paddington Rd**  
**Venice, Fl. 34293**  
**(941) 485-0999**  
**Captain Don Hunter, MMS**  
**US Surveyors #40208H**

File # \_\_\_\_\_

Client: XXXXXXXXXXXXX \_\_\_\_\_

Date: \_\_\_\_\_

XXXXXX \_\_\_\_\_

Vessel Name: \_\_\_\_\_

***General Information:***

Reg # \_\_\_\_\_ Hull # \_\_\_\_\_ Type: \_\_\_\_\_

Hailing Port: \_\_\_\_\_

Registered Port: \_\_\_\_\_

Owner: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

Survey Location \_\_\_\_\_

LOA: \_\_\_\_\_ LWL: \_\_\_\_\_

Beam: \_\_\_\_\_ Draft: \_\_\_\_\_

Hull Manufacturer: \_\_\_\_\_

Gross Tonnage: \_\_\_\_\_

Year Built: \_\_\_\_\_ Year Rebuilt: \_\_\_\_\_ Main Generator Hours: \_\_\_\_\_

Engine Hours: \_\_\_\_\_ Port \_\_\_\_\_

Starboard \_\_\_\_\_

Stated Use: \_\_\_\_\_

Navigational Limits: \_\_\_\_\_

Vessel Location @ Time of Survey: \_\_\_\_\_

***Hull:***

Topsides: \_\_\_\_\_

Apparent Condition: \_\_\_\_\_

Bottom: \_\_\_\_\_

Apparent Condition: \_\_\_\_\_

Hull Sides: \_\_\_\_\_

Apparent Condition: \_\_\_\_\_

Decks: \_\_\_\_\_

Apparent Condition: \_\_\_\_\_

Superstructure: \_\_\_\_\_

Apparent Condition: \_\_\_\_\_

Keel: \_\_\_\_\_

Apparent Condition: \_\_\_\_\_

Bulkheads: \_\_\_\_\_

Apparent condition: \_\_\_\_\_

Stringers: \_\_\_\_\_

Apparent Condition: \_\_\_\_\_

Bilge Areas: \_\_\_\_\_

Apparent Condition: \_\_\_\_\_

Interior: \_\_\_\_\_

\_\_\_\_\_

*Covers, Spars and Rigging:*

Masts: \_\_\_\_\_

Apparent Condition: \_\_\_\_\_

Booms: \_\_\_\_\_

Apparent Condition: \_\_\_\_\_

Standing Rigging: \_\_\_\_\_

Apparent Condition: \_\_\_\_\_

Running Rigging: \_\_\_\_\_

Apparent Condition: \_\_\_\_\_

Sails: \_\_\_\_\_

\_\_\_\_\_ Apparent Condition: \_\_\_\_\_

Canvas Covers: \_\_\_\_\_

\_\_\_\_\_ Apparent Condition: \_\_\_\_\_

*Equipment, Hardware and fittings:*

Deck Hardware: \_\_\_\_\_

Searchlight: \_\_\_\_\_

Steering System: \_\_\_\_\_

Apparent Condition: \_\_\_\_\_

Ground Tackle: \_\_\_\_\_

Windlass: \_\_\_\_\_

Deck Winches: \_\_\_\_\_

Dinghies: \_\_\_\_\_

Life Rafts: \_\_\_\_\_

Compasses: \_\_\_\_\_

Deviation Card: \_\_\_\_\_

Loran-C: \_\_\_\_\_ Serial #: \_\_\_\_\_ Operational? \_\_\_\_\_

GPS: \_\_\_\_\_ Serial #: \_\_\_\_\_ Operational? \_\_\_\_\_

RDF: \_\_\_\_\_ Serial #: \_\_\_\_\_ Operational? \_\_\_\_\_

**RADAR:** \_\_\_\_\_ **Serial #:** \_\_\_\_\_ **Operational?** \_\_\_\_\_

**VHF Radio:** \_\_\_\_\_ **Serial #:** \_\_\_\_\_ **Operational?** \_\_\_\_\_

**Depth/Fishfinder:** \_\_\_\_\_ **Operational?** \_\_\_\_\_

**Other Electronics:** \_\_\_\_\_

**Horn:** \_\_\_\_\_ **Bell:** \_\_\_\_\_ **Searchlight:** \_\_\_\_\_

**Running Lights:** \_\_\_\_\_ **Operational?** \_\_\_\_\_

*Safety Equipment:*

**Personal Flotation Devices:** \_\_\_\_\_ **Type:** \_\_\_\_\_ **Apparent Condition:** \_\_\_\_\_

**Throwable PFD/Life ring:** \_\_\_\_\_ **Life Floats:** \_\_\_\_\_

**Flares:** \_\_\_\_\_ **Exp Date:** \_\_\_\_\_

**EPIRB:** \_\_\_\_\_ **Serial #** \_\_\_\_\_ **Last Tested?** \_\_\_\_\_

**Daytime Distress Device:** \_\_\_\_\_ **Sea Anchor** \_\_\_\_\_

**Fixed Fire Extinguishing System:** \_\_\_\_\_ **Type** \_\_\_\_\_ **Expires:** \_\_\_\_\_

**Portable Fire Extinguishers:**

**Qty.** \_\_\_\_\_ **Location** \_\_\_\_\_ **Type** \_\_\_\_\_ **Expires:** \_\_\_\_\_

**Qty.** \_\_\_\_\_ **Location** \_\_\_\_\_ **Type** \_\_\_\_\_ **Expires:** \_\_\_\_\_

**Qty.** \_\_\_\_\_ **Location** \_\_\_\_\_ **Type** \_\_\_\_\_ **Expires:** \_\_\_\_\_

**Qty.** \_\_\_\_\_ **Location** \_\_\_\_\_ **Type** \_\_\_\_\_ **Expires:** \_\_\_\_\_

**Auxiliary Fire Pump:** \_\_\_\_\_ **Location:** \_\_\_\_\_

**Bilge Pumps:**

**Location:** \_\_\_\_\_ **Automatic?** \_\_\_\_\_ **Operational?** \_\_\_\_\_

**Location:** \_\_\_\_\_ **Automatic?** \_\_\_\_\_ **Operational?** \_\_\_\_\_

**Location:** \_\_\_\_\_ **Automatic?** \_\_\_\_\_ **Operational?** \_\_\_\_\_

**Manual Bilge Pump:** \_\_\_\_\_ **Operational?** \_\_\_\_\_

**High Water Alarm:** \_\_\_\_\_ **Location:** \_\_\_\_\_ **Operational?** \_\_\_\_\_

Co2 Detector: \_\_\_\_\_ Location: \_\_\_\_\_ Tested? \_\_\_\_\_

***Galley and Equipment :***

Location: \_\_\_\_\_

Stove type: \_\_\_\_\_ Fuel Type: \_\_\_\_\_

Fuel Lines: \_\_\_\_\_ Wiring: \_\_\_\_\_

Ventilation: \_\_\_\_\_ Shut Offs: \_\_\_\_\_

Refridgeration: \_\_\_\_\_

Hot Water: \_\_\_\_\_ Apparent Condition: \_\_\_\_\_

Plumbing: \_\_\_\_\_ Sinks/Hardware: \_\_\_\_\_

Dockside Water: \_\_\_\_\_ Pressure Regulator: \_\_\_\_\_

Water Tank/s: \_\_\_\_\_ Location: \_\_\_\_\_ Apparent Condition: \_\_\_\_\_

Fill Pipe and Vents: \_\_\_\_\_

Pressure Water Pump: \_\_\_\_\_ GPM \_\_\_\_\_ Location: \_\_\_\_\_

Strainers/Filters etc: \_\_\_\_\_

Other Galley Equipment: \_\_\_\_\_

***Head:***

Location: \_\_\_\_\_ Layout: \_\_\_\_\_

Type: \_\_\_\_\_ Holding System: \_\_\_\_\_

Macerator: \_\_\_\_\_ Operational: \_\_\_\_\_ Overboard discharge: \_\_\_\_\_

Tank Location: \_\_\_\_\_ Apparent Condition: \_\_\_\_\_

Shower: \_\_\_\_\_ Type: \_\_\_\_\_ Drain System: \_\_\_\_\_

Other Head Equipment: \_\_\_\_\_

***Electrical:***

Shore Power Cord/s: \_\_\_\_\_ Amp Rating: \_\_\_\_\_ Apparent Condition: \_\_\_\_\_

A/C Electrical Panel: \_\_\_\_\_ Location: \_\_\_\_\_

Type of Disconnect: \_\_\_\_\_ GFI Outlets? \_\_\_\_\_

Reverse Polarity Indicator? \_\_\_\_\_ Bonding System? \_\_\_\_\_

Lightning Protection System Installed? \_\_\_\_\_ Cathode System? \_\_\_\_\_

Brief Lighting Description: \_\_\_\_\_

Batteries: \_\_\_\_\_ Location: \_\_\_\_\_

In Service Dates: \_\_\_\_\_

Vapor Proof Disconnect Switches? \_\_\_\_\_ Location: \_\_\_\_\_

Cables, Terminals, Visible Wiring Apparent Condition: \_\_\_\_\_

Circuit Protection: \_\_\_\_\_ Location: \_\_\_\_\_

Low Voltage Lighting: \_\_\_\_\_

Antennas: \_\_\_\_\_ Types \_\_\_\_\_

Location: \_\_\_\_\_

Auxiliary Generator: \_\_\_\_\_ Model \_\_\_\_\_

Serial #: \_\_\_\_\_ Location: \_\_\_\_\_

RPM: \_\_\_\_\_ Cooling: \_\_\_\_\_ Kilowatt Rating: \_\_\_\_\_

Exhaust: \_\_\_\_\_ Flame Arrestor: \_\_\_\_\_

Ventilation: \_\_\_\_\_ Filter: \_\_\_\_\_

Operational? \_\_\_\_\_

Battery Charger: \_\_\_\_\_ Location: \_\_\_\_\_ Apparent Condition \_\_\_\_\_

**Main Engine/s:**

**Fuel Type:** \_\_\_\_\_ **Location/Layout:** \_\_\_\_\_

**PORT ENGINE**

**STARBOARD ENGINE**

**Manufacturer:** \_\_\_\_\_

**Model #:** \_\_\_\_\_

**Serial #:** \_\_\_\_\_

**Year:** \_\_\_\_\_

**Hours:** \_\_\_\_\_

**# Cylinders/HP** \_\_\_\_\_

**Mounting:** \_\_\_\_\_

**Fuel Delivery:** \_\_\_\_\_

**Filters:** \_\_\_\_\_

**Flame Arrestors** \_\_\_\_\_

**Cooling:** \_\_\_\_\_

**Shut Downs:** \_\_\_\_\_

**Aux. Pumps** \_\_\_\_\_

**Exhaust Type:** \_\_\_\_\_

**Manifolds:** \_\_\_\_\_ **Risers:** \_\_\_\_\_

**Mufflers:** \_\_\_\_\_ **Strainers:** \_\_\_\_\_

**Engines Overhauled?** \_\_\_\_\_ **Date/Hours since:** \_\_\_\_\_

**Engine Room Blower/s:** \_\_\_\_\_ **Apparent condition:** \_\_\_\_\_

**Hoses, Louvers. Ducts:** \_\_\_\_\_

***Transmissions:***

**PORT**

**STARBOARD**

**Manufacturer:** \_\_\_\_\_

\_\_\_\_\_

**Model#:** \_\_\_\_\_

\_\_\_\_\_

**Serial #:** \_\_\_\_\_

\_\_\_\_\_

**Year:** \_\_\_\_\_

\_\_\_\_\_

**Reduction:** \_\_\_\_\_

\_\_\_\_\_

**Cooling:** \_\_\_\_\_

\_\_\_\_\_

**Fluid Level:** \_\_\_\_\_

\_\_\_\_\_

**Shafts:** \_\_\_\_\_

\_\_\_\_\_

**Wheels:** \_\_\_\_\_

\_\_\_\_\_

**Logs:** \_\_\_\_\_

\_\_\_\_\_

**Struts:** \_\_\_\_\_

\_\_\_\_\_

**Controls:** \_\_\_\_\_

\_\_\_\_\_

***Fuel Storage Tank/s:***

**Location:** \_\_\_\_\_

**Material:** \_\_\_\_\_ **Capacity:** \_\_\_\_\_ **Gauges:** \_\_\_\_\_

**Visible Hoses, Lines, Seals and Bedding:** \_\_\_\_\_

\_\_\_\_\_

**Apparent Tank Condition:** \_\_\_\_\_

**Vent Lines:** \_\_\_\_\_

***Miscellaneous Items:***

**Hand Rails, Ladders, Lifelines etc.:** \_\_\_\_\_

\_\_\_\_\_





### ***Recommendations and Remarks:***

Items in this section denoted with three asterisks (\*\*\*) signify either safety related items, compliance related items, or items of specific concern. These issues shall be resolved before operation of the vessel.

- 1) \*\*\* Day/Night visual distress devices found on board have all expired. Replace with required number of US Coast Guard approved devices to meet at least the minimum requirement and prove.
- 2) \*\*\* Adjust and/or repair propeller shaft stuffing box as required to stop the inflow of water into the bilge while underway.
- 3) \*\*\* Reconnect overboard discharge hose to waste pump and clean forward bilge area. Hose should be secured in a way to ensure it does not come loose again as it terminates below the vessel's waterline.
- 4) \*\*\* According to NFPA 302-8-14.11; "*Twist on wire connectors (wire nuts) shall not be used.*" Ensure wiring in forward hold pertaining to waste pump is wired in accordance with this cite.
- 5) \*\*\* Recondition/Replace vessel's propeller due to bent and chipped blades causing vibration in driveline while underway. This could cause other damage to driveline if operated uncorrected.
- 6) \*\*\* Repair/replace ground fault outlets in salon at the starboard salon-to-galley transition and the salon port side aft.
- 7) \*\*\* D/C voltmeters inoperative at main circuit breaker panel in salon. These should be repaired so one can see excessive drops in voltage while operating circuit breakers.
- 8) \*\*\* Repair leaking seacock for intake water to genset and inspect laminate for water intrusion into the core material. Repair as needed.
- 9) Ensure all thru-hull fittings are free from marine growth to allow for proper operation.
- 10) Replace sacrificial anode on rudder due to less than 50% remaining.
- 11) Repair rudder shaft guide tube and inspect rudder shaft for damage either from wear or electrolysis and repair as needed.
- 12) Diagnose and repair water leak in roof of salon.
- 13) Replace starboard salon aft sliding glass.

- 14) Replace torn screen and worn weatherstrips as needed on salon windows.
- 15) Develop a repair plan to restore the teak covered decks back to good condition.
- 16) Repair fiberglass taping on aft edge of port side fuel tank-to- hull joint.
- 17) Repair stress crack in port side hull bottom and keel seam aft in conjunction with a bottom job to ensure no seawater is allowed to enter into the coring material.
- 18) Repair/replace seawater pump for air conditioning system as needed and have system tested for proper operation. All intake air filters also needed to be cleaned or replaced.
- 19) Suggest replacing outdated, inoperative electronics on helm (depth meter, LORAN, GPS).
- 20) Repair all low voltage lighting as needed (guest stateroom, aft salon, overhead engine room).
- 21) Suggest having life raft serviced and updated as needed.
- 22) Suggest having all fire extinguishing systems serviced by qualified personnel.
- 23) Suggest formulating a repair plan for future repairs to port side stringer at forward engine room bulkhead.
- 24) Suggest carrying spare O-rings of the proper size for the inspection ports on the fuel tanks, none were found on board and some dry rot was noted on the port side.
- 25) Suggest adding a spot light as none was found on board.
- 26) Monitor gel coat blister situation and repair as needed to maintain vessel's value.

This concludes the recommendations section of this report.

***Fair Market Value Statement:***

It is our belief this vessel represents an average to good representation of this builders offering in the market. There are some cosmetic issues, which need to be resolved to bring the vessel back to top-notch condition such as the condition of the decks and the replacement of glass and screens etc. There is also the fact this vessel has almost 9000 running hours on it over the past 20 years. The best way to explain it is, cosmetic wear and tear is consistent with the age and hours of usage but the mechanical condition and tracking of service in the log is impeccable.

Therefore, when comparing this vessel to all the other current listings of comparable vessels, comparing to recent sales trends for this type of vessel, availability in the marketplace and consulting published price guides, then adjusting for condition, options and recommended services needed, we find this vessel to have a fair market value, at this time, to be **\$172,000.00**. This figure assumes the proper repair or replacement of all items denoted with three asterisks in the recommendations section of this report and a commitment to continued upkeep.

The preceding examination was made using visual, non-destructive means only. There was no removal of machinery, linings, bulkheads or decking unless specifically noted in this report. The vessel was judged for safety and compliance based on standards set forth by the NFPA code 302, ABYC, US Coast Guard, UL, and the US Code of Federal Regulations titles 33 and 46. The accuracy of this report is limited to the scope of the inspection.

This marine survey has been prepared and submitted in good faith and without prejudice. It is a visual description of said vessel in the opinion of DCH Marine, Inc., Captain Don Hunter, Master Marine Surveyor, as then found and to the best of his ability. The surveyor assumes no responsibility for any defects, errors or omissions and shall be held harmless for any subsequent condition, which may arise. This survey does not guarantee either expressed or implied, the condition of this vessel. Our opinion is derived after inspection of said vessel, any pertinent documents or statements provided by the vessel owner/client and the performance of all systems tested. This survey will only be considered complete and usable when full payment is received from owner/client, signed by the attending surveyor and the company seal embossed on this page. Payment for and or use of this report constitutes this agreement.

Thank you for your business and the trust you have placed in us.

Sincerely,

Captain Donald C. Hunter, MMS  
President DCH Marine, Inc.  
U.S. Surveyors Association Member #40208H