

FACT FILE

NAME: MFV ENDEAVOUR V
 REGISTRATION: BF515
 HOME PORT: WHITEHILLS
 SKIPPER: PETER LOVIE
 CREW: CAN ACCOMMODATE 12
 YARD: MACDUFF SHIPYARDS LIMITED
 DESIGNER: MACDUFF SHIP DESIGN
 TYPE: TWIN RIGGER
 LENGTH OVERALL: 34.00 M
 LENGTH REGISTERED: 30.25 M
 BEAM: 10.50 M
 DEPTH: 4.90 M
 HOLD CAPACITY: 2200 BOXES

ENDEAVOUR V

Another Great Endeavour for Whitehills



“The **Macduff team** have been delighted to work with Peter and crew of the **ENDEAVOUR V**”

It has been a fantastic project for the yard, we are very grateful for the order and hope the vessel serves them well for many years.”

www.macduffshipyards.com

Macduff Shipyards Limited have recently signed over their latest new build, ‘ENDEAVOUR V’, to Knockhead LLP of Whitehills. The fishing vessel is the fifth to be built by the yard for skipper Peter Lovie, compounding a working relationship of over thirty-five years to culminate in the largest vessel ever delivered by the yard.

The project began in the summer of 2017 when the owner expressed an interest to build a new fishing vessel with a desire to improve fuel efficiency, service speed and sea keeping from their existing vessel. An early study between the yard and Macduff Ship Design concluded that to achieve this a longer ship, free from the constraints of registered length, would likely be required. It was at this point that the yard first reached out to the Wolfson Unit based in Southampton and an initial trial was carried out using CFD technology to assess the differences in calm water hull resistance between the existing model and a new longer concept model. As expected, the data showed that a significant reduction in hull resistance could be achieved with a longer hull form, however, the computational based analysis could not assess the difference in sea keeping qualities. To answer this question the Wolfson Unit conducted a further trial but this time towing representative scale models in the Solent University Towing Tank facility. Both hull forms were assessed at a range of speeds in both calm water and head seas with

wave properties reflecting those found in the north Atlantic where the owner typically operates. As well as confirming the reduction in hull resistance between the two models the tank testing also enabled sea keeping to be measured and it was conclusive that longer hull experienced considerably less pitching motions along with lower bow impact from wave force.

With the research complete the yard and Macduff Ship Design took one final review of the hull form and the decision was made to lengthen the hull by a metre to seek further improvements in hull efficiency as well as affording a little more space within the vessel.

Layout

With the hull lines faired and stability assessed by Macduff Ship Design the construction plans were then drawn up and submitted to Bureau Veritas classification for approval along with the outfitting and engineering drawings. These were then supplied to Finomar Shipyard based in Szezcin, Poland who were sub-contracted to fabricate the hull and wheelhouse which upon completion was towed to Macduff in November 2019. The full outfitting was completed in Macduff to MCA and BV regulations with the vessel departing Macduff less than one year after arriving to Fraserburgh where it was docked for a final paint.

Davidson’s Marine and Industrial Painters prepared and repainted the Hull/Topsides and applied a 2 full



Wheelhouse



MAK Main Engine

coat polyurethane paint system.

The net deck and fish handling area all had a 3 coat epoxy/polyurethane paint system applied along with 3 coat paint system applied to the engine room.

Insulation of the fish room was carried out by Davidson’s previously. Sea and fishing trials were conducted in the Moray Firth before the vessel was signed over to the new owners just before Christmas who departed on boxing day for their maiden trip, fishing off the west coast of Scotland. Early indications are that the hull is performing as anticipated with increased speed and improved sea keeping evident.

The hull form is of round bilge with a streamlined bulbous bow, flared stem, beam carried full length to the transom and possesses two complete decks, as well as shelter and bridge decks. A ballast box keel is fitted along with deep ‘V’ bilge keels and a roll reduction tank to dampen roll motion.

Endeavour V features four deck levels which apart from the bridge deck all run the full length of the ship. The arrangement is based closely on the successful Endeavour IV which has proven itself well over the years but makes use of the additional space to increase crew comfort, fish hold capacity and working deck areas.

Below main deck is separated into four compartments; aft peak, engine room, fish hold and fore peak.

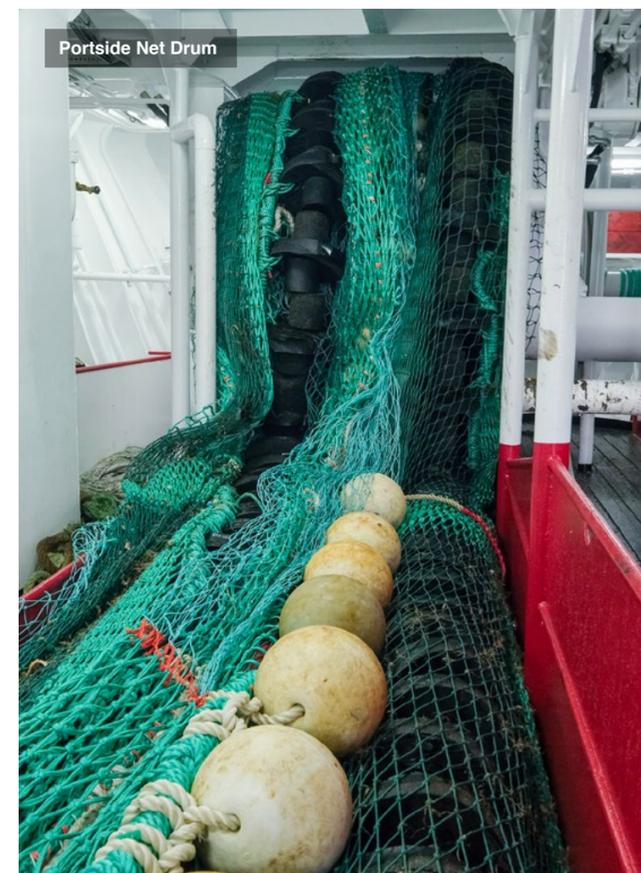
The aft peak features numerous tanks used to house both fresh water and ships services such as lubrication and hydraulic oil.

At the stem of the vessel the fore peak is divided into four compartments with three large

freshwater tanks which are used for ice making along with a bow thruster access compartment on the centreline.

Above the main deck the vessel is generally divided along the centreline with working areas to port and accommodation to starboard. To the port side there is a steering gear compartment combined with engineer’s workshop aft, fish handling area amidships and dry locker forward. To the starboard side there is a laundry/pantry/galley aft, followed by a large mess/lounge amidships and four two-man cabins forward. A large 20 m³ hopper is fitted on the centreline.

A deck up features the trawl deck where most of the deck machinery is installed and fishing takes place. The deck features twin ramps aft with hydraulic stern gates fitted to the top of each ramp for crew protection. Forward of these are two flush mounted hopper hatches where the catch is taken onboard. The deck is then open all the way to the stem where three sweep winches are fitted to allow maximum deck length for storing and mending nets. Fitted amidships immediately above the net tracks are three separate bagging winches. Three split winches are fitted amidships, two to starboard and the third to port and lead directly aft to large trawl blocks which are capable of sliding forward up to 1.2m from the transom to alleviate the pressure on the steering gear when towing an edge in deep water. Numerous casings are fitted either side of the tracks and serve various functions such as a gear store, air handling unit room, two-man cabin and unloading trunk.



Portside Net Drum



ENDEAVOUR V

“**CONGRATULATIONS** to the Owners & Crew with their new vessel”

We are delighted and proud to have delivered the full range of hydraulic deck machinery to the Endeavour V. Wishing Skipper Peter Lovie & crew many years of safe fishing”

Phone +44 (0) 1779 490044
 sales.peterhead@macgregor.com

MAGREGOR

ELECTRONICS

The high specification electronics package for Endeavour V was supplied and fitted onboard by Woodsons Marine Electronics Limited of Aberdeen

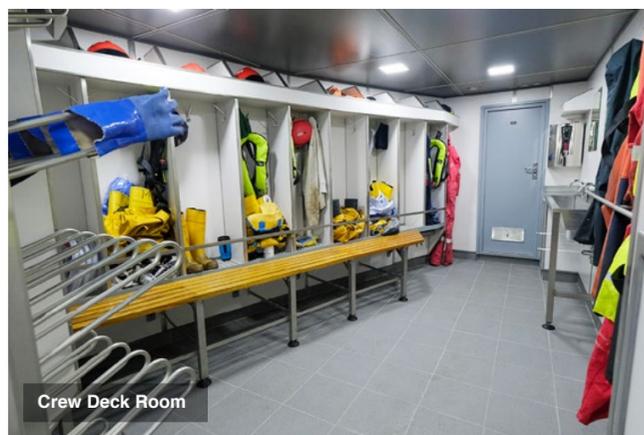
BRIDGE VIDEO WALL AND CONTROL 1 X QUAD VIEW VIDEO WALL WITH INTEGRATED TOUCH SCREEN CONTROL SYSTEM 7 X NEOVO X24 WIDE SCREEN 3 X 55" 4K BRIDGE MONITORS 2 X AG NEOVO X15	1 X JRC JLR21 SATELLITE COMPASS ECHOSOUNDER 1 X KAIJO KSE310 DUAL FREQUENCY 38/70KHZ SPLIT BEAM FISH SIZING ECHOSOUNDER NAVIGATION 2 X SODENA EASYWIN PLOTTING SYSTEM 1 X OLEX 3D SEABED MAPPING SYSTEM WIND SENSOR 1 X ULTRASONIC WIND SPEED AND DIRECTION SENSOR AUTO PILOT 1 X SIMRAD AP70MK2 AUTOPILOT SYSTEM TALK-BACK 1 X PHONTECH 3102 20 WAY SYSTEM TALKBACK CCTV 1 X CCTV SYSTEM C/W	24 CAMERAS 1 X PROP CAM SATELLITE TELEVISION 1 X E-SEA 80 SATELLITE TV SYSTEM SATELLITE COMMUNICATIONS 1 X E-SEA60KA INTERNET COMMUNICATIONS SYSTEM 1 X PILOT IRIIDIUM COMMUNICATIONS SYSTEM EMERGENCY 1 X JOTRON TRON 60GPS EPIRB 2 X SAILOR SP3520 PORTABLE VHF GMDSS 1 X JOTRON TRON SART 20 RADAR TRANSPONDER 1 X JRC NCR333 NAVTEX RECEIVER MARINE SCALES 1 VCU CATCH MANAGEMENT SYSTEM
RADAR 1 X JRC JMA-5410-6XBB RADAR 1 X JRC JMA-5206-4BB RADAR RADIO-TELEPHONES 1 X SAILOR 6310/2 150W GMDSS MF/HF SSB 1 X SAILOR 6210 VHF 1 X SAILOR 6222 CLASS A VHF/DSC 1 X JOTRON CLASS A AIS C/W GPS/GPS GYRO 2 X FURUNO GP39 GPS 1 X GC80 COMPACT GYRO		



Trawl Station



Fish Room



Crew Deck Room

DAVIDSONS SHIP PAINTERS

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E: info@davidsonspainters.co.uk W: www.davidsonships-painters.co.uk

BEST WISHES
TO PETER,
FAMILY & CREW
WITH THE
ENDEAVOUR V



MARINE AND INDUSTRIAL PAINTERS SINCE 1976

SERVICES PROVIDED
Hydrojetting Specialists - Grit Blasting - Hot Zinc Spraying - High Pressure Cleaning
Foam Injection Insulation - Fish room Refurbishment - Specialist plastic coatings
Specialist resin deck coatings - Vacuum blasting

FACILITIES/LOCATIONS
Peterhead, Fraserburgh, Macduff - Covered shiplift for vessels up to 40m

The shelter deck runs from stern to stem. Aft it is mainly open and provides a walkway around the perimeter of the trawl deck as well as shelter for those working on the trawl deck. Amidships features a full breadth casing where three two-man cabins are fitted along with an electronics room. Forward is arranged for mooring and anchoring and features a three-barrel winch fitted within a weathertight compartment and is used to stow the two anchor warps along with a spare barrel for mooring rope.

A bridge deck is where a large wheelhouse is situated which is nearly the full breadth of the hull to provide great visibility when manoeuvring in restricted areas. Large windows are also fitted aft on the centreline and provide a commanding view of the trawl deck to enhance crew safety.

Engine Room

The engine room houses the main propulsion machinery which is provided by a MAK 8M20C engine rated at 1060 kW at 900 rpm close coupled to a Mekanord 650HS reversing gearbox with reduction ratio of 6.47:1 which drives the large 3.3 m diameter controllable pitch propeller. A low drag high thrust nozzle is fitted in way of the propeller and incorporates a triple rudder system to provide high turning force. Two Caterpillar C9.3 generator sets are fitted to the port side of the engine room, each delivering 250 kW of power along

with the hydraulic standby pumps and fuel filters. To the starboard side of the engine room the large main switchboard is fitted within a dedicated enclosure along with a small workstation to provide a place for the ships engineer to monitor and record system performance. Forward of the switchboard room the fish hold refrigeration is fitted along with the standby engine cooling pumps. The main engine and generators are cooled via freshwater box coolers.

Bow and stern thruster power is supplied by 2 KT250 units with 2700 kg thrust from Kort Propulsion. Auxillary power is supplied by 2 CATERPILLAR C9.3 power packs producing 250 kW each through a switchboard and complete electrical system designed and installed by RD Downie + Nu Design Ltd

Deck Machinery

The RAPP deck machinery package for Endeavour V has been supplied by MacGregor (GBR) Ltd and consists of;

- 3 x TWS-4521 Split trawl winches with 30.0 t core pull, lebus spooling sleeves, electric remote controls and a MacGregor Trawl Computer with Pentagon CbusHF Autotrawl system
- 6 x SW2300 Sweep winches with 19.4 t core pull
- 3 x ND1200/IAM5400 Bagging winches with 12.5 t core pull
- 2 x GWB680 Cod End lifting

- winches with 10.3 t core pull
- 2 x M25 Gilson winches with 13.5 t core pull
- 2 x H8 Gear handling winches with 5.9 t core pull
- 1 x M12 Gear handling winches with 7.7 t core pull
- 1 x PL5 Fish room handling winch with 2.9 t core pull
- 1 x Anchor Mooring Winch AWW-1800

into the sub flooring. The fish hold refrigerant is liquid based which poses no danger to life if a leak occurs and can be easily mended onboard. Ice lockers are arranged in the hold and can house up to 10 t of flake ice

Fishing Gear

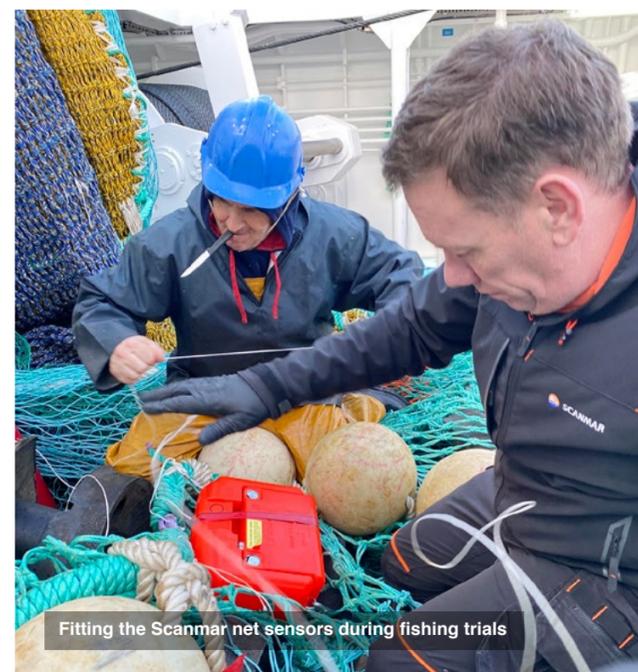
Endeavour V will trawl with a suite of nets supplied by Jackson Trawls of Peterhead using a set of Vonin Storm 4.5 Sq mtr 1700 kg trawl doors and a Morgere 2500 kg clump.

Scanmar UK Ltd carried out the full installation of the Scanmar catch control system utilising the ScanBas 365 System with Trawl Eye Software.

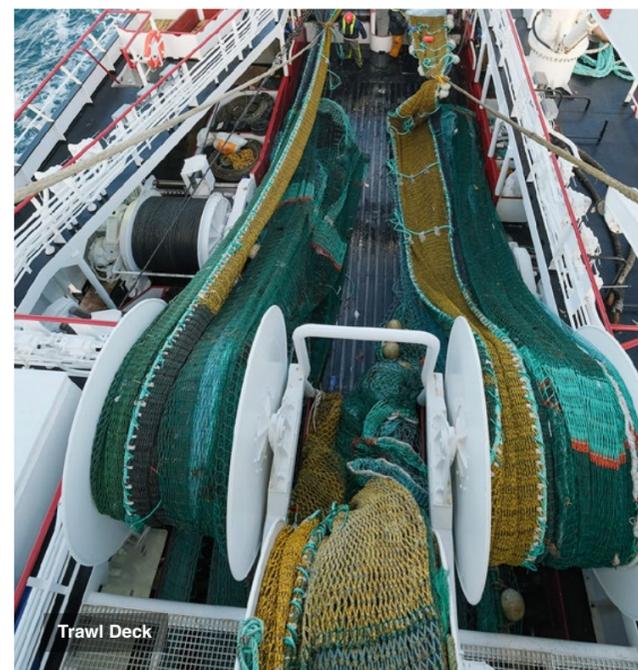
The array of sensors deployed with the trawl gear includes SS4 Double Door Distance/Door Angle, SS4 Clump Sensor, SS4 Slave Door Distance/Door Angle, 2 X SS4 Catch Sensors, Trawl Eye Headline Sensor complete with batteries and a Trawl Sounder Headline Sensor.

Endeavour V is insured with Sunderland Marine and will land its catch through Don Fishing Ltd, UK.

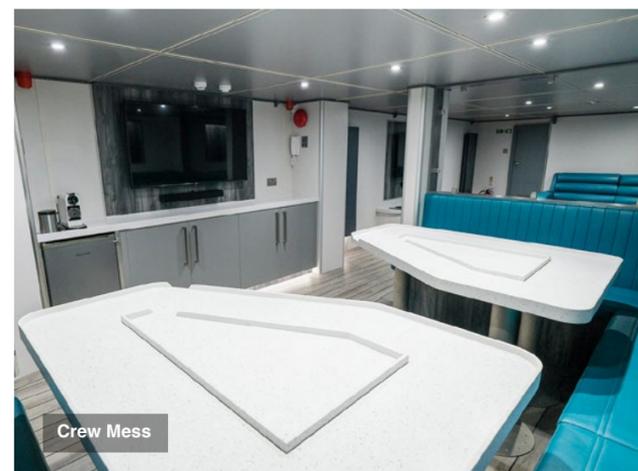
The Skipper would like to wish Peter, his family and Crew all success with Endeavour V. Mat you have Fair Winds and Full Boxes!



Fitting the Scanmar net sensors during fishing trials



Trawl Deck



Crew Mess

Killybegs based SeaQuest supplied the 2.2 tonne @ 12m landing crane complete with 2.5 tonne winch.

Other hydraulic equipment manufactured/supplied by the yard include two stern gates which can be lowered when shooting and hauling with rollers fitted on top, two flush hatches into the hopper and three rams connected to the trawl blocks for changing longitudinal position.

Fish Handling

Macduff designed and installed the fish handling system to the owners specification and installed a KMS gutting machine

Airo-Tech fitted out the 2,200 box capacity fish room with 2 4.5 t Buss ice machines that can supply both flake and slush ice for optimum catch quality.

Refrigeration was achieved with chilling pipes fitted to the ceiling of the hold as well as below the floor where they were incorporated

MACDUFF SHIP DESIGN LIMITED

NAVAL ARCHITECTS
MARINE SURVEYORS

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DESIGNING TO DELIVER

Macduff Ship Design were pleased to
work alongside Macduff Shipyards
delivering "ENDEAVOUR V"



Congratulations and wishing
future success
to Peter and Crew
aboard the ENDEAVOUR V

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