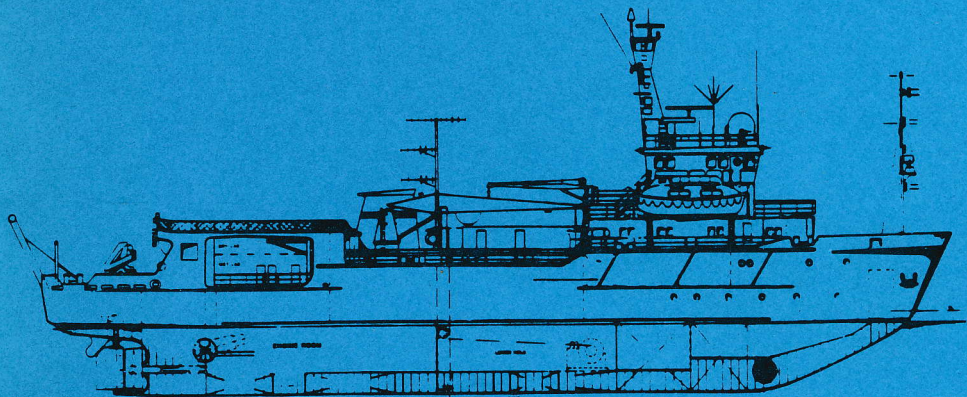




RESEARCH VESSEL

POLAR DUKE



ITT Antarctic Services, Inc.

621 Industrial Avenue

Paramus, New Jersey 07652

Telephone: (201) 967-0123

SEPTEMBER 1987

A RESEARCH SHIP FOR ANTARCTICA

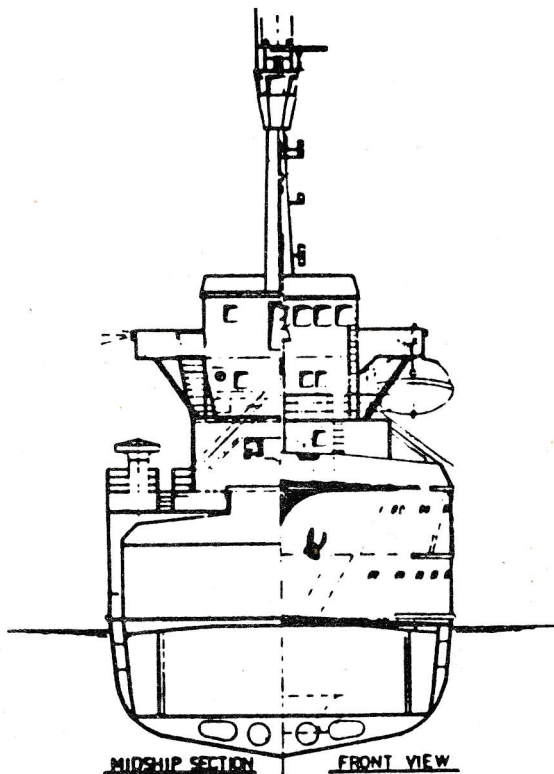
The 219-ft ice-strengthened Research Vessel POLAR DUKE has been chartered by the National Science Foundation for the use in the southern oceans and Antarctic regional waters. The Foundation invites U.S. scientists to propose to perform research and data collection aboard the ship. Grant funds also are available for evaluation of data and publication of results. Polar Duke replaces the Foundation's 125-ft wooden ship Hero, which was retired from Antarctic service in 1984; the new ship provides greater research capabilities.

Research objectives aboard Polar Duke are expected to fall in the disciplines of marine biology, physical and chemical oceanography, and marine geology and geophysics.

During the austral summer (October-April) the ship will work principally near the Antarctic Peninsula in conjunction with Palmer Station (operated year-round by the National Science Foundation as part of USAP, the United States Antarctic Program), in the Drake Passage and the Scotia Sea. Tents and other field equipment will be available from USAP for shore-based research tended by the ship. The ship will call at ports at the southern tip of South America to embark and disembark scientists several times each summer. During the austral winter (May-September) the ship continues to operate in the Antarctic and adjacent waters and support science at Palmer Station.

Built in 1983, Polar Duke was designed for science and transport expeditions in polar areas. The double hull has an ice classification the same as an icebreaker, but the engines are not as powerful as those of an icebreaker. The ship is thus permitted to perform science missions in moderate pack ice, but must stay clear of heavy ice and working pack to avoid besetment. Space formerly used for cargo has been converted to laboratories, including wet labs, dry labs, electronic workshops, core storage, and computer facilities. The ship has a helicopter deck and is capable of supporting helicopter operations.

For further information contact the Division of Polar Programs at (202) 357-7817, or ITT Antarctic Services, Inc. at (201) 967-2913.



Specifications

Built:1983

Beam:43 feet

Endurance:90 days

Range:25,000 nautical miles

Crew:14

Icebreaker classification:1AA

Engines:two diesels, each 2250 bhp

Propeller:controllable pitch 240 rpm, in shrouded Kort nozzle

Length:219 feet

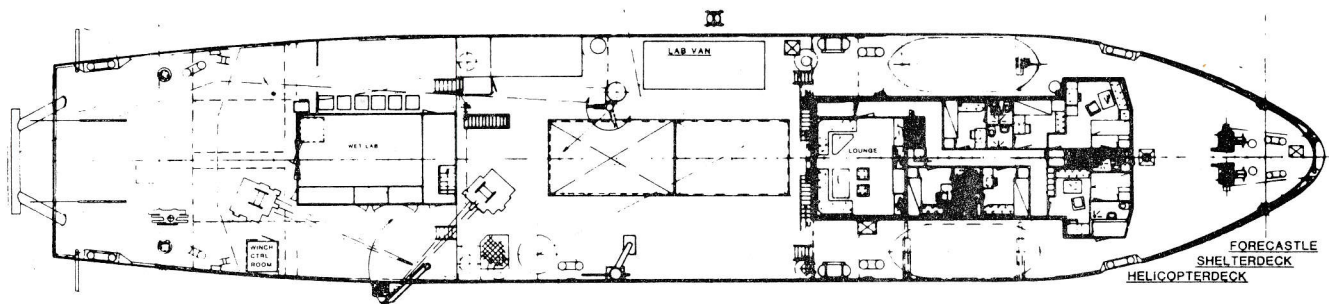
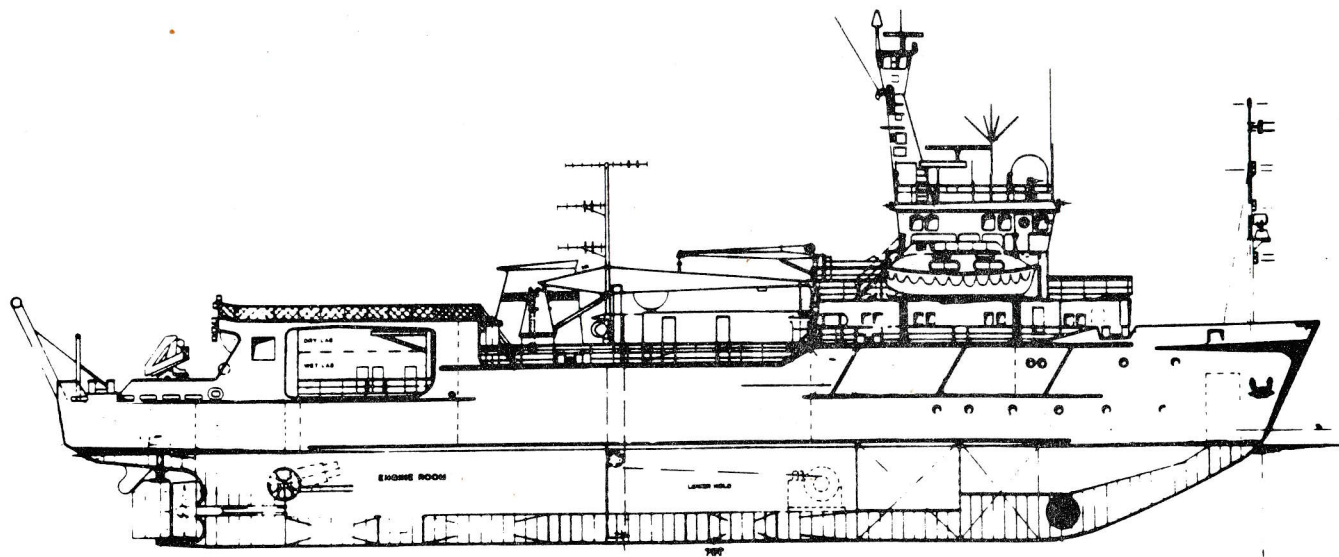
Draft:19 feet

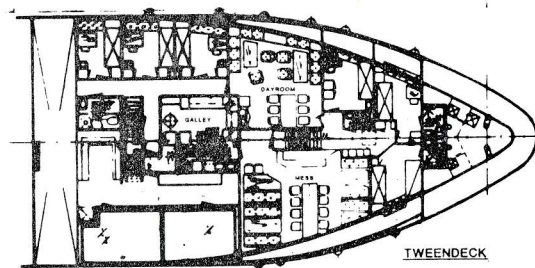
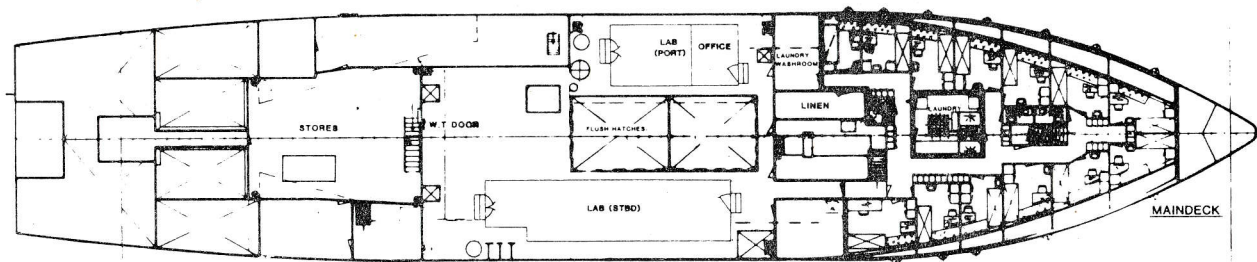
Gross tonnage:615 tons

Displacement:1,600 tons

Science personnel:26

Bow and stern thrusters





R/V POLAR DUKE

Major science equipment

Deep sea trawl winch, Markey DESH 6- 1/2" mechanical wire rope 5400 meter & .322 ctd 10000 meters.

Hydrographic winch, Markey DUSH 4- 1/4" mechanical wire rope, 5500 meters.

Hydrographic winch, Markey DUSH 3- .225 ctd, 4,500 meters.

Stern A-frame, 11 ton swl.

Starboard side hydro davit w/"Hero" type platform.

Crane: 22 ton @ 8 meter reach, 12 ton @ 15 meter reach.

Crane: 1.5 ton swl.

Aft deck sea crane, hiab articulating, 5 ton.

Permanent lab space, 900 sq. ft. w/fresh water, uncontaminated s.w., 110, 220, 440 volt 60 hz. electrical supply.

Isotope van, 8 x 20, removable.

Electronics workshop and storage area.

Deep sea coring system trigger and piston coring.

3.5 and 12 KHZ PDR system.

Sail loop acquisition system.

Teledyne/Litton streamer, single channel, variable spaced elements.

Water gun:1 ea. 340 cu. in. combo, Bolt, also has 125 in. air chamber.

Water guns:2 ea. 100 cu.in. Hamco.

Side scan sonar, hull mounted.

Freezer storage space:30 cu.ft.@ -20'C, 10 cu.ft.@ -70'C(ultra low) Dredge sampling equipment.

Bottom grab samplers.

Sonobouy receiver antenna.

Magnetometers - 2 ea. Geometrics G866 each w/500 ft. cables.

CTD systems - 2 ea. Applied Microsystems, 1 Seabird system Rosette sampler.

Nets/trawl gear, 1 KMWT, plankton, otter, blake.

Dive van - w/Mako compressor, bottle racks, drying area.

Specimen holding tanks, 8 ea. 2x3x4, continuous sea water supply.

Zodiacs, MK III, IV and outboards 6, 25, 40 HP.

Precision depth recorder.

Digital Single Channel Acquisition

Communication and navigation

Satellite communication:Racal SES-A1 (Comsat General
MCS-9000)

Satellite navigation receiver:Magnavox MX3102
MX1107--GPS

Radios:single sideband, vhf, portable uhf, aero vhf

Telephone:automatic, all cabins and mess rooms,
with hailing

Radar:Decca RM 916A/C--3 cm

Decca TMS 1230C--10 CM true motion

Doppler log:Simrad NL