

ALASKA REGION RESEARCH VESSEL (ARRV)

Preliminary Design Presentation September 2002



Alaska Region Research Vessel



Latest Design Modifications

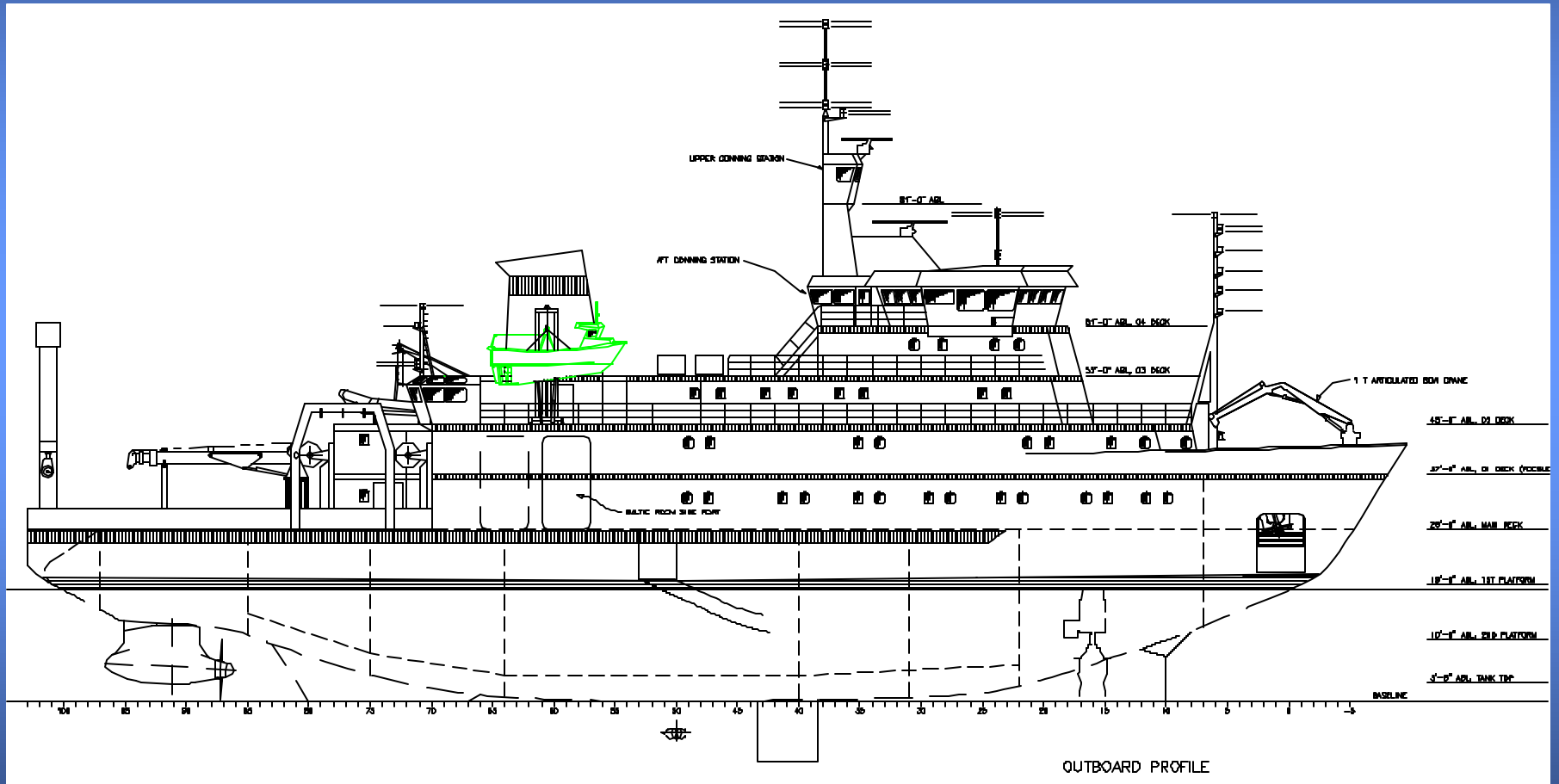
- Removed Helo Facility
- Rearranged Boats
- Relocated Mess / Galley
- Reduced Stateroom Size
- Segregated Crew / Scientist Staterooms



Alaska Region Research Vessel



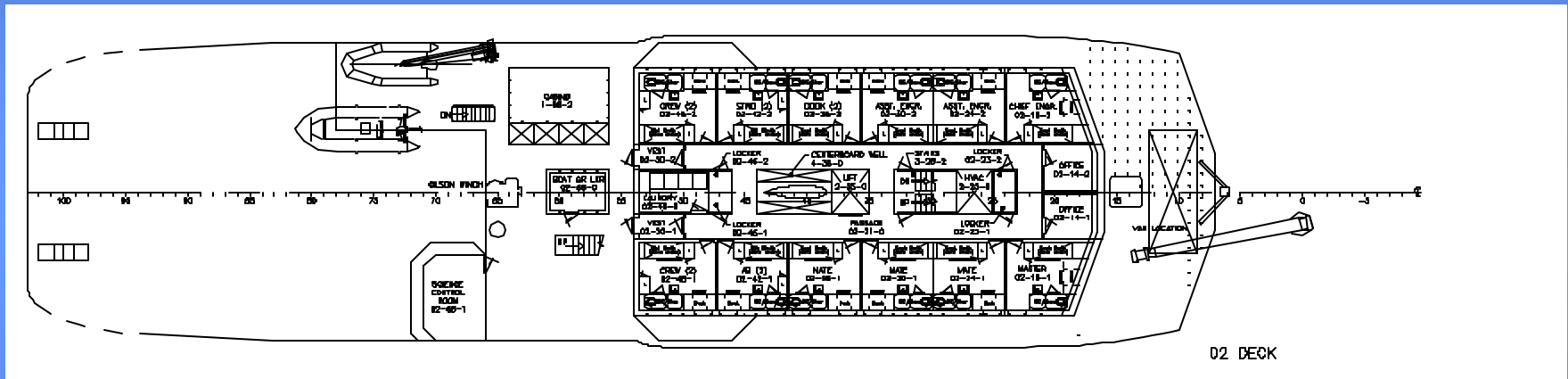
Outboard Profile



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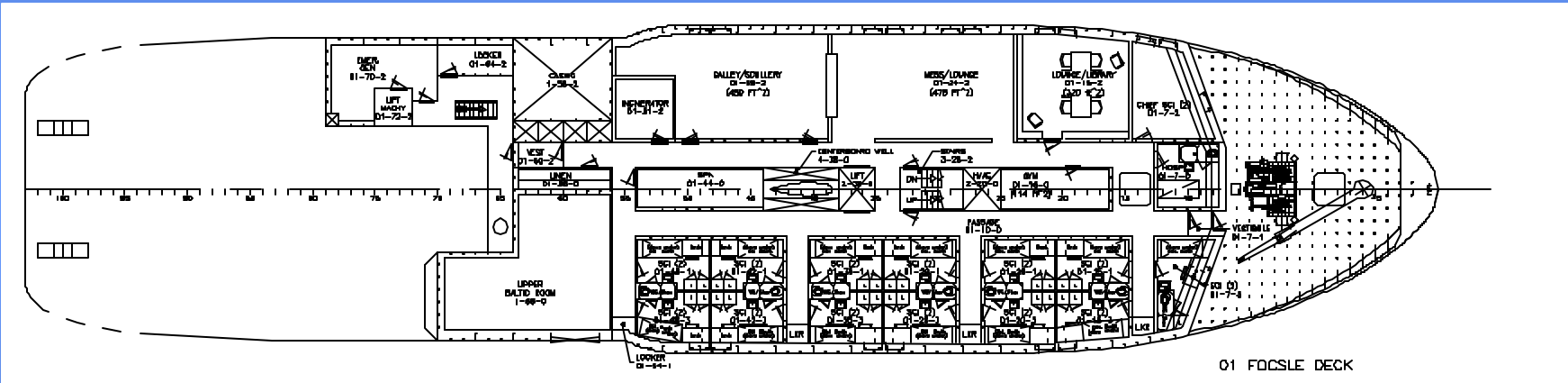
02 Deck



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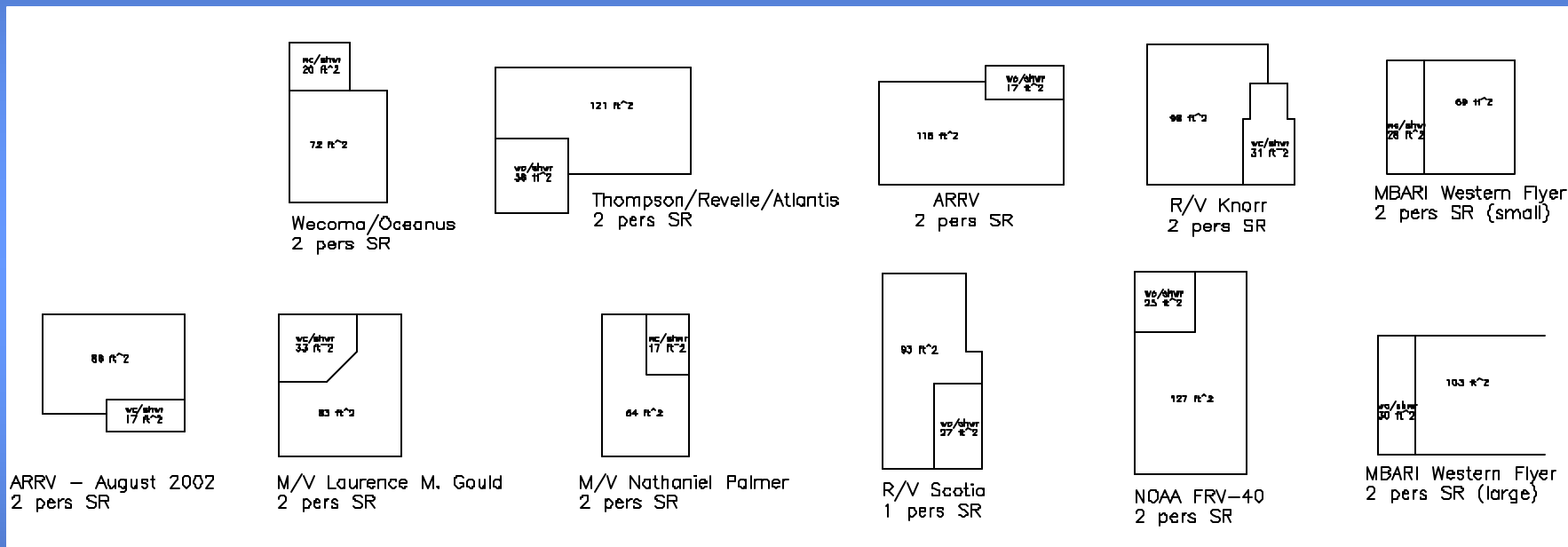
01 Deck (Fo'c'sle)



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Stateroom Comparison



Latest Design Modifications

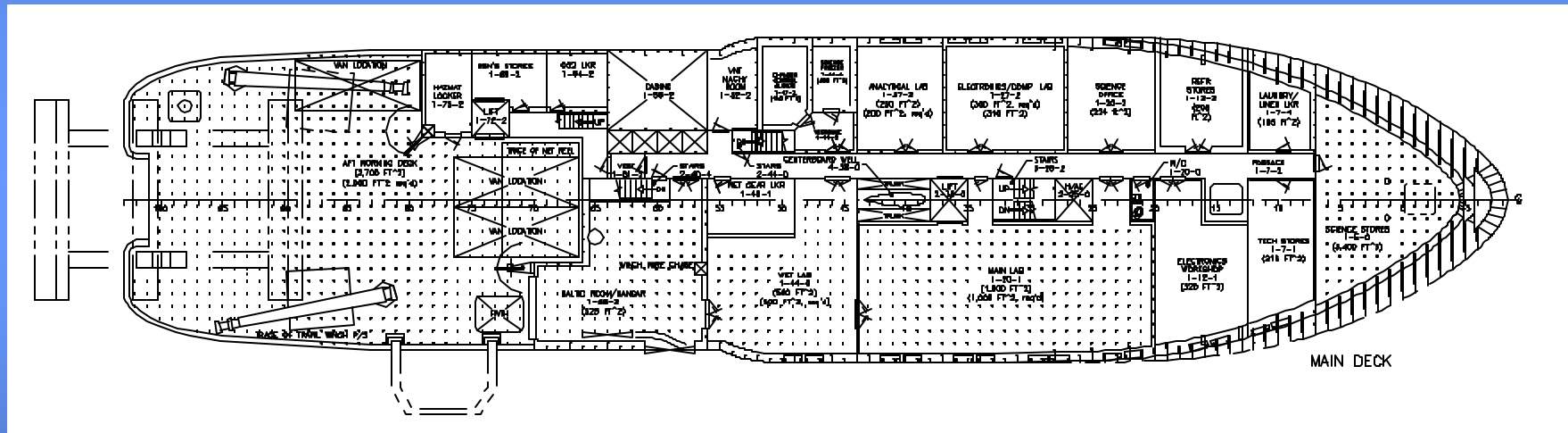
- Identified Moon Pool Location
- Long Coring Arrangement



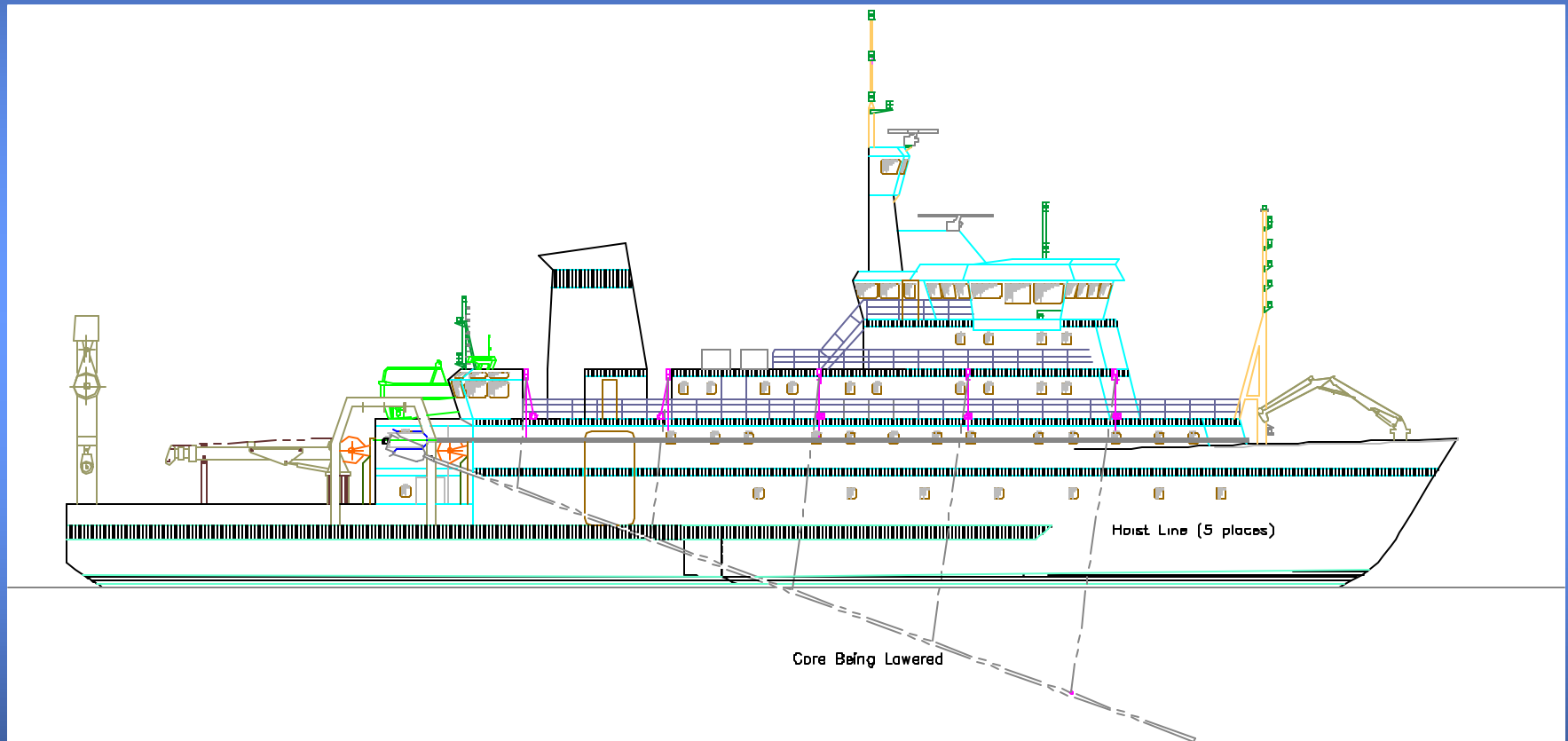
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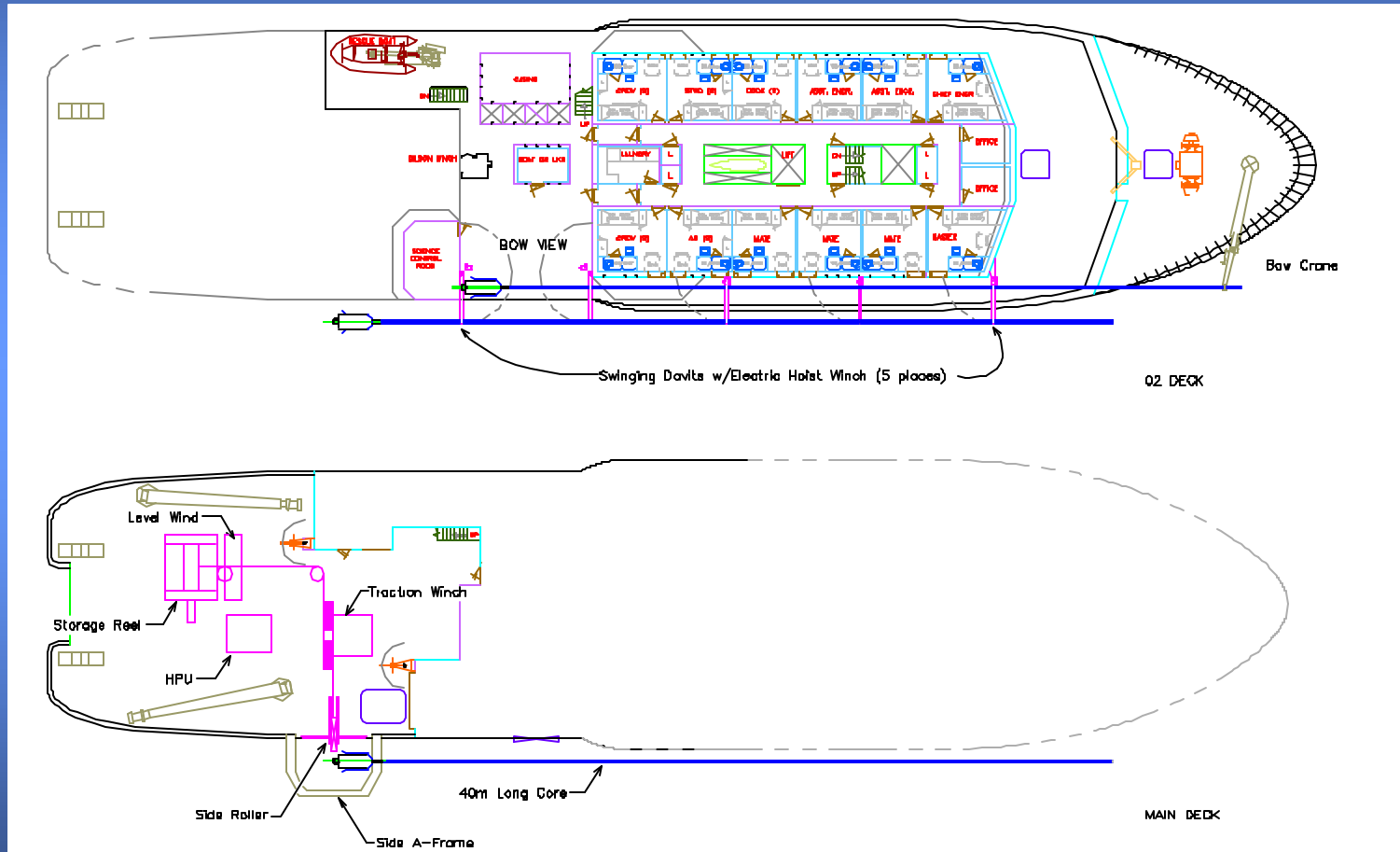
Main Deck Arrangement



Long Coring Arrangement



Long Coring Arrangement



Noise Investigation

- ABB data received
- Schottel Z-drive noise estimate
- Neither option meets ICES (preliminary)
- Further investigation required for comparative evaluation
- Z-drive presents adverse design impacts

Basic Vessel Characteristics

Dimensions

- Length, Overall 226'-0"
- Length, Waterline 200'-0"
- Beam, Maximum 52'-0"
- Depth, Hull 28'-0"
- Draft, Design Waterline 18'-0"
- Freeboard, Main Deck 10'-0"



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Basic Vessel Characteristics

Capacities - Consumables

- Fuel 148,000 gal
- Potable Water 6,000 gal
- SW Ballast 200,000 gal
- Provisions 60 days
- Holding Capacity 24 hours



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Basic Vessel Characteristics

Capacities - Science

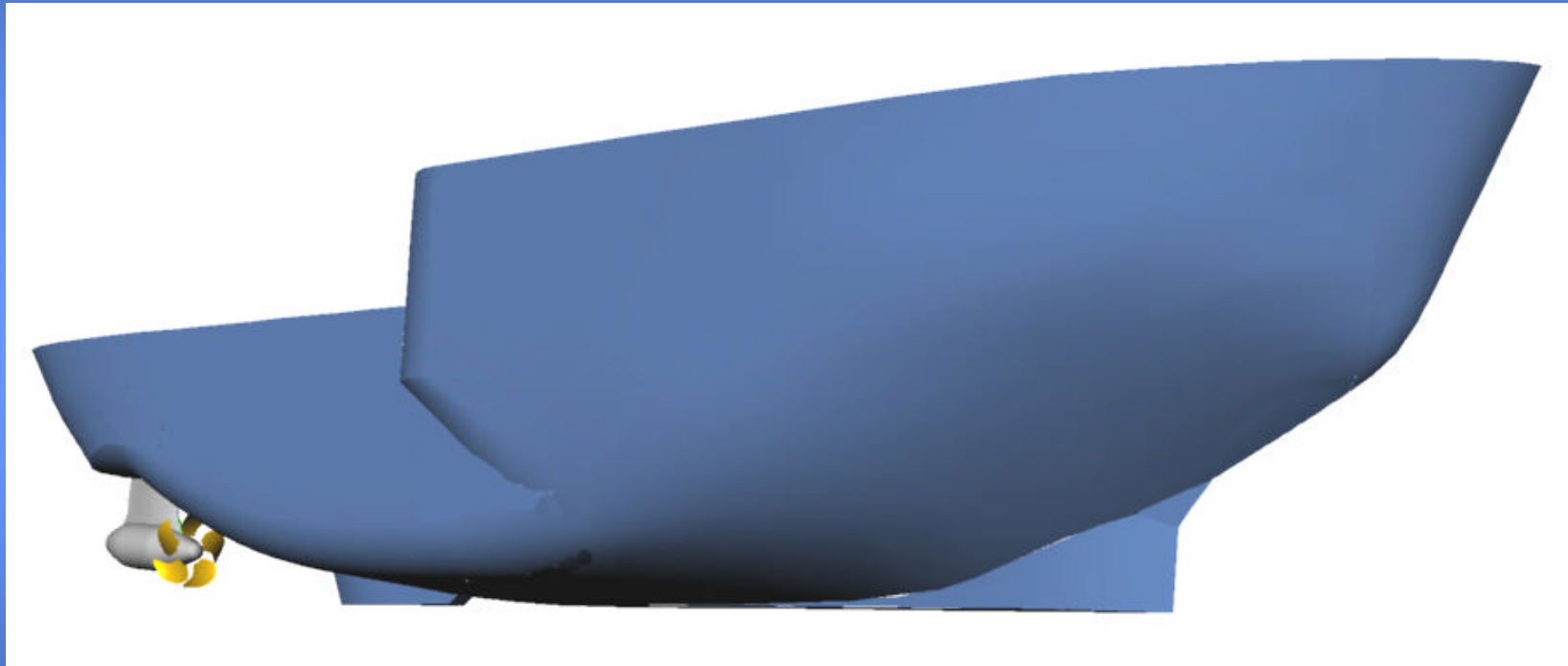
- Science Berths 27
- Science Labs 2,000 ft.²
- Deck Working Area 2,700 ft.²
- Science Storage Volume 8,000 ft.³
- Science Storage Load 100 LT



Alaska Region Research Vessel



Preliminary Hull Geometry



Basic Vessel Characteristics

Performance

- Speed, Max. 14 kts
- Speed, Cruising 12 kts
- Level Ice 2.5 ft
- Endurance 45 days
- Installed Power 5,750 hp



Alaska Region Research Vessel



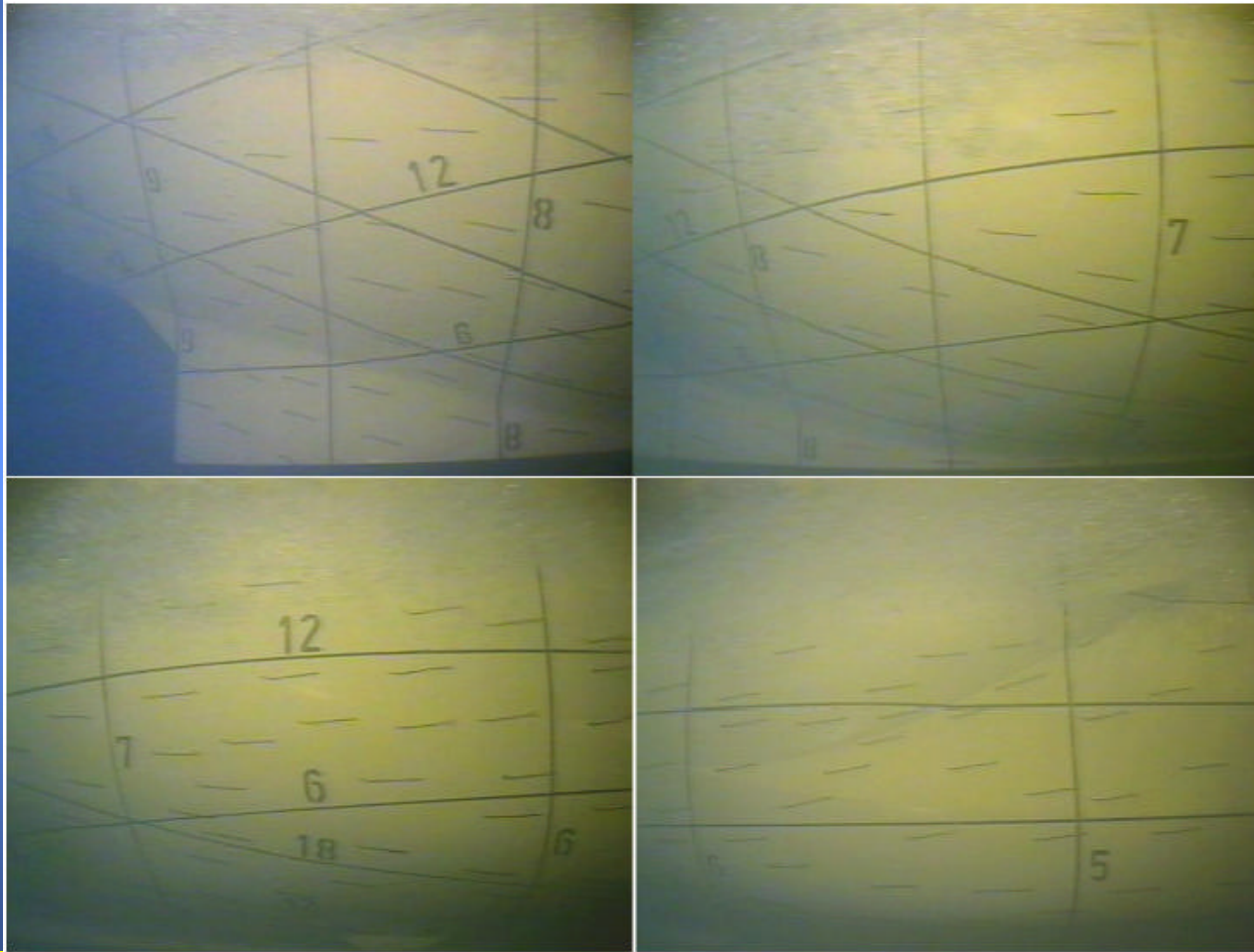
Model Test Report Status

- Draft resistance & propulsion report received
 - Flow Viz pictures
 - Wake Distribution
- Expect seakeeping report - end of September
- Final ice test report received



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