

# *Alvin Overhaul*

**Dudley Foster**



DESSC  
13-14 June 2005



# General Overhaul Information

- This will be a “routine” overhaul
- No major system changes or significant new fabrication requiring engineering design changes are planned
- This WILL NOT be an “abbreviated” overhaul. The present *Alvin* is expected to be in service for a full service interval (3-5 years) before another overhaul would be due.
- The new HOV is expected to be placed in service by the next overhaul window (early 2009)
- If required, *Alvin* could be overhauled in the future and continue with the present capabilities and configuration
- Scientific instrumentation upgrades over the next several years are generally not limited by the vehicle infrastructure and could be added as required



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# Specific Overhaul Information

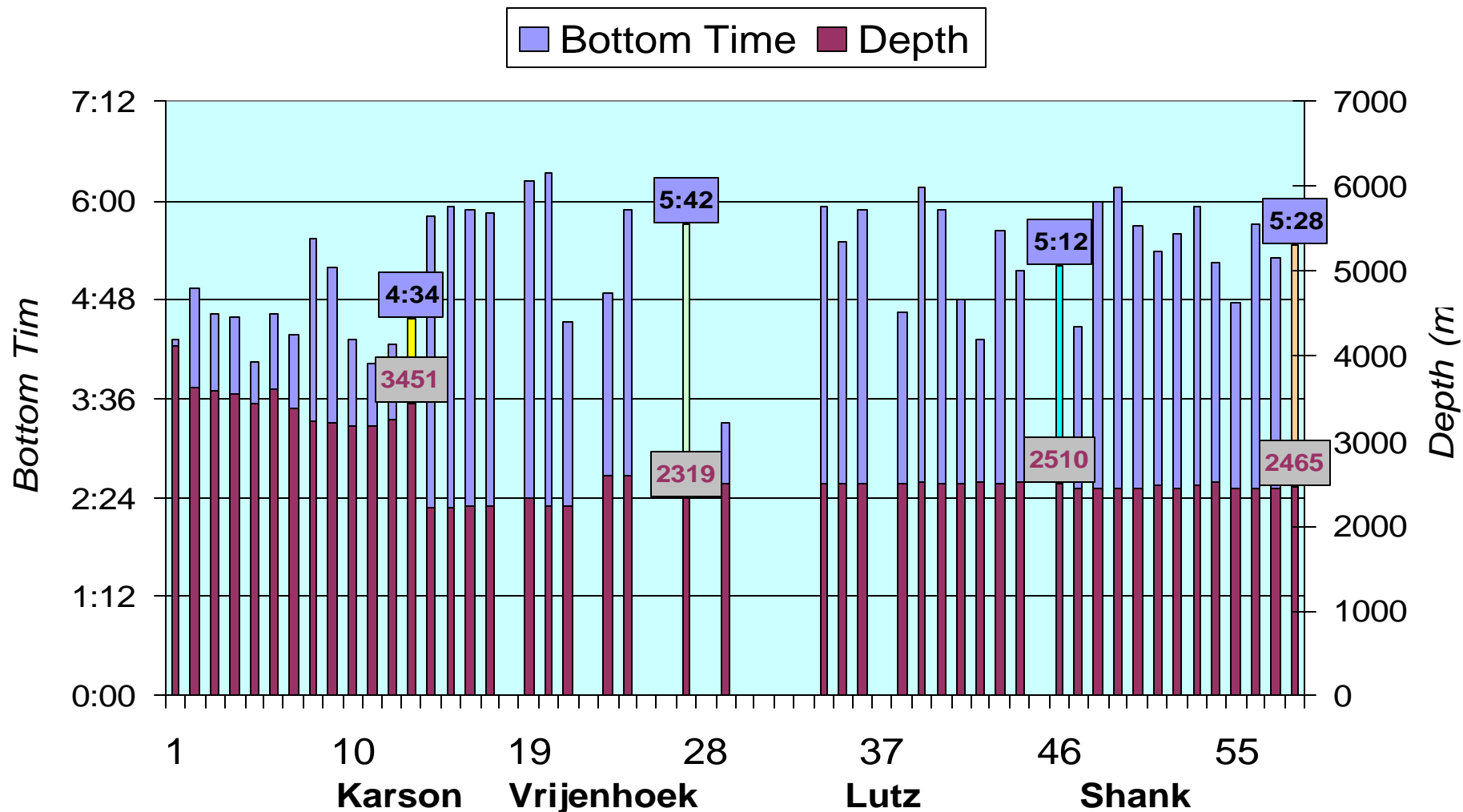
- Start overhaul on arrival at WHOI ~ 1 November 2005
- Overhaul primary tasks:
  - Complete disassembly, inspection, testing (webcam coverage)
  - Replace/refurbish components as necessary
  - Major changes:
    - New motor controller for evaluation (upper aft only)
    - Develop inertial navigation system (PHINS DVLNAV enhancement)
    - Fiber optic penetrator certification and test
    - Build and install new VB seawater valve
    - Schilling Titan 4 if suitable and funded (replaces Kraft)
    - Evaluate SM2000 installation (may require structural change)
    - Being considered: Frangibolt releases, hull window stud repairs, increased hydraulic power
- New lead-acid batteries were installed Mar/Apr 2005. We expect those to remain in service for another year after the overhaul. Another new set may be required prior to another overhaul window (or new HOV delivery in 2008/9).
- Re-assemble vehicle and test systems
- Sea trials and certification dives April 2006



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# 2005 Alvin Bottom Time & Depth (to June)



Data excludes weather and abbreviated dives  
All cruises averaged 8:10-8:20 dive duration



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