APPENDIX XII

DSOG Unmanned Vehicle Status

Jason/Medea

- Control Van Rewire - completed
- Medea Replacement - completed
- Debug Telemetry Lockups - completed
- Documentation - underway
- Manipulator Testing - underway
- Revise design of lower payload skid - underway
- Improve self rescue capability - underway

Argo II

- Improved Obstacle Avoidance Forward Looking Sonar
- Determine Source of Video Camera Focus Problems
- Thrusters for Heading Control - underway
- Resolve Noise on LBL Transducer - underway
- Single Van Operations - completed
- Documentation - underway

DSL 120

- Replace Depressor - underway
- Refine Low Speed Tow Dynamics - underway
- Design and Install Weight Dropper - postponed
- Determine suitable Upgrade Path for Surface Processing proposal submitted
- Documentation - underway

DSOG Sonar Upgrade Proposal

- Standard Sparcstation and peripherals to replace unique embedded system developed in 1991.
- Digital Signal Processing card to decode sonar telemetry.
- Limited hardware development
- Engineering time for development by specialist non- DSOG personnel.
- Post processing enhancements by D. Scheirer of Brown.
- Primary goal: eliminate many potentially catastrophic reliability problems and streamline data pipeline from collection to map making and analysis by the scientist.

DSOG Acoustic Navigation Upgrade

Two Phase Implementation of DESSC Subcommittee Recommendations

Phase One:

- Purchase three copies of Pelagos Inc. Winphrog software

- Purchase two computers (PCs) to support Winphrog
- Install and test on Atlantis II for Alvin surface control
- Integrate into portable navigation and control
- Test Winphrog as in hull navigation processor and display
- Determine preferred technical approach for permanent in hull installation to be proposed in phase two
- Review DESSC subcommittee recommendations and incorporate in future upgrade proposals (ie. ACDP/USBL/DR)

Jason Manipulator Development Program

Objectives

- Improve reliability
- Test at maximum rated pressure
- Develop techniques for handling and triggering "double major" hydrothermal vent fluid samplers
- Design and test new elevator system
- Redesign gripper
- Improve spares and documentation
- Demonstrate ability to work with temperature probes and "bio. boxes"