APPENDIX III

SUBJECT AREAS

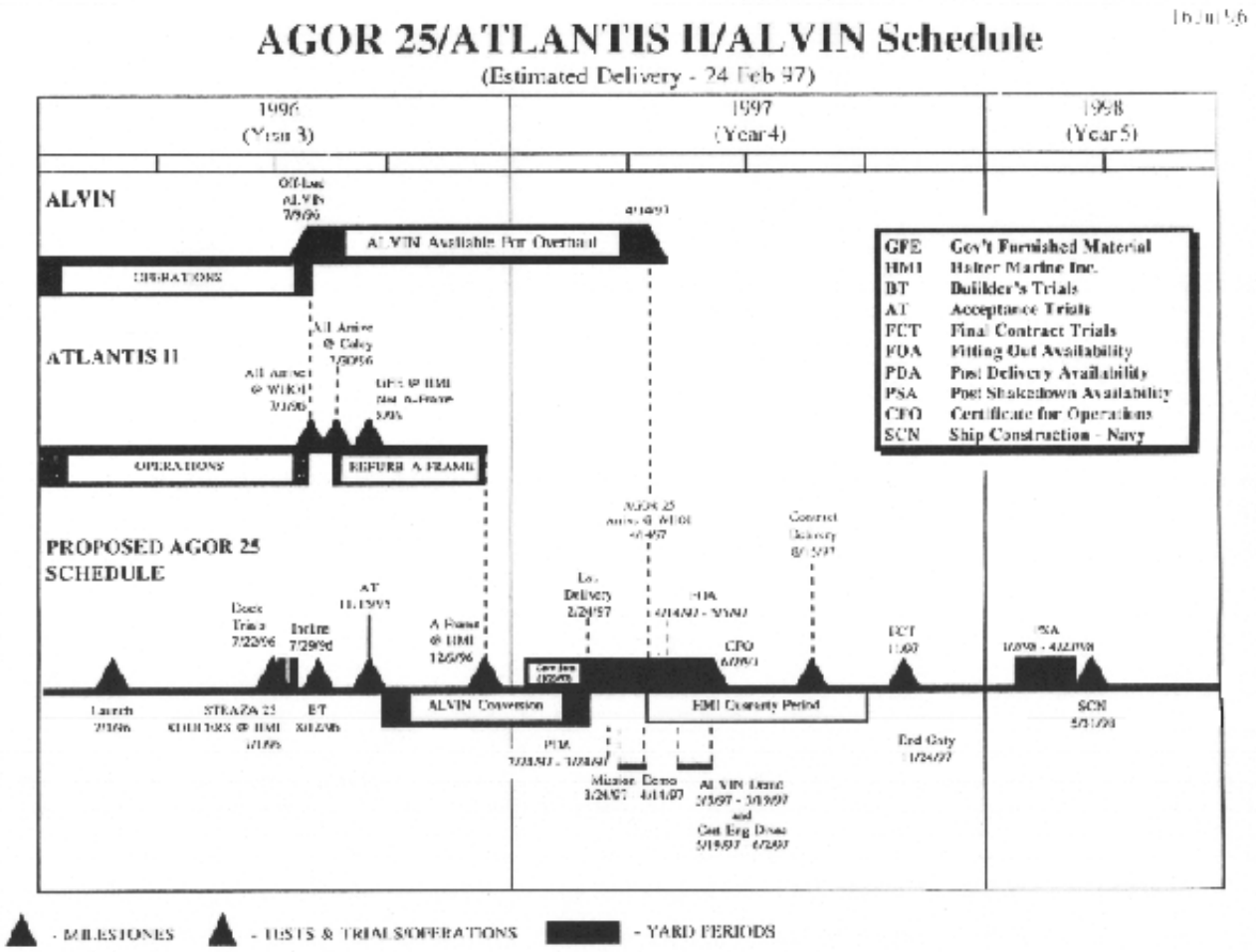
1. ATLANTIS/ATLANTIS II/ALVIN Schedules and Overhaul

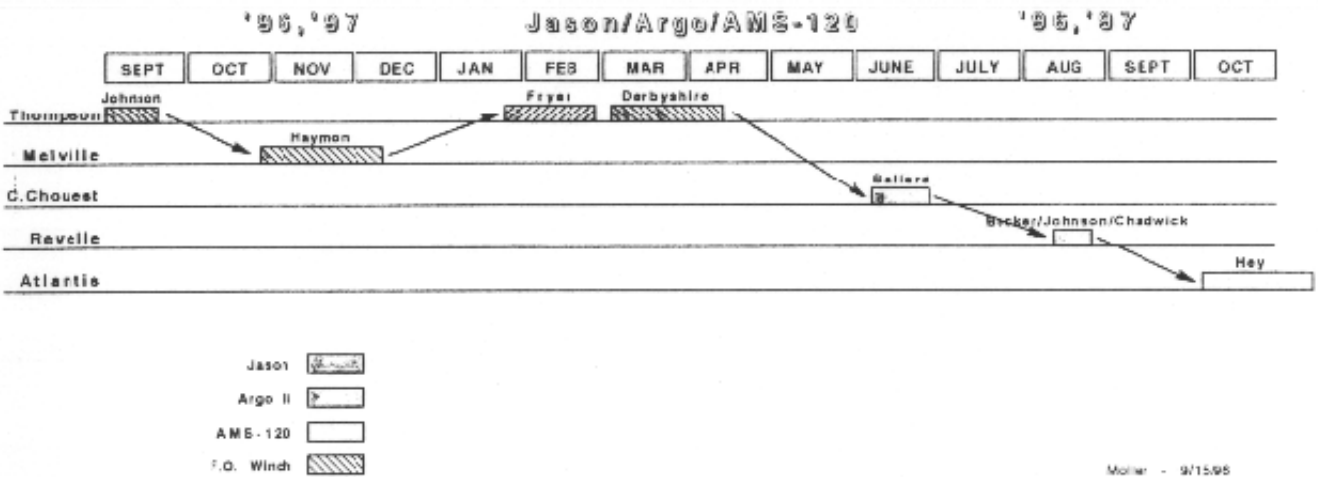
2. ALVIN UPGRADE/OVERHAUL - ITEMS AND ISSUES

3. Summary of LUSTRE 96 Operations

APPENDIX III

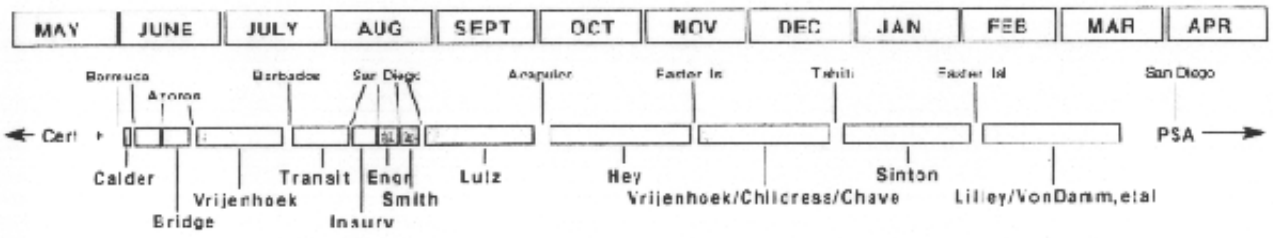
ATLANTIS/AII/ALVIN SCHEDULES



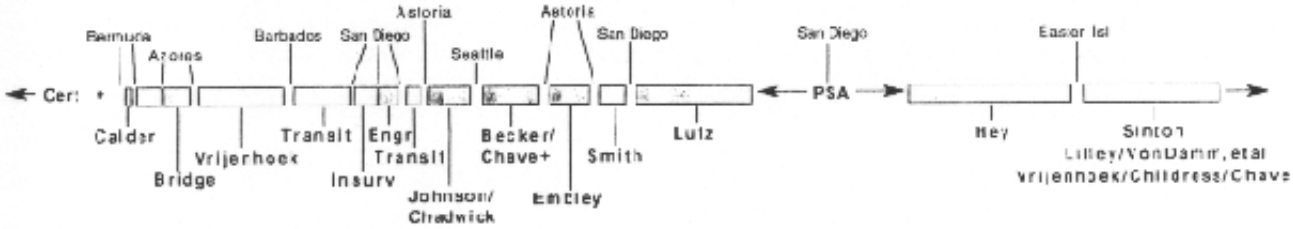


1997 ATLANTIS 1997 (Revised: 15 Sept. '96)

- OPTION A -

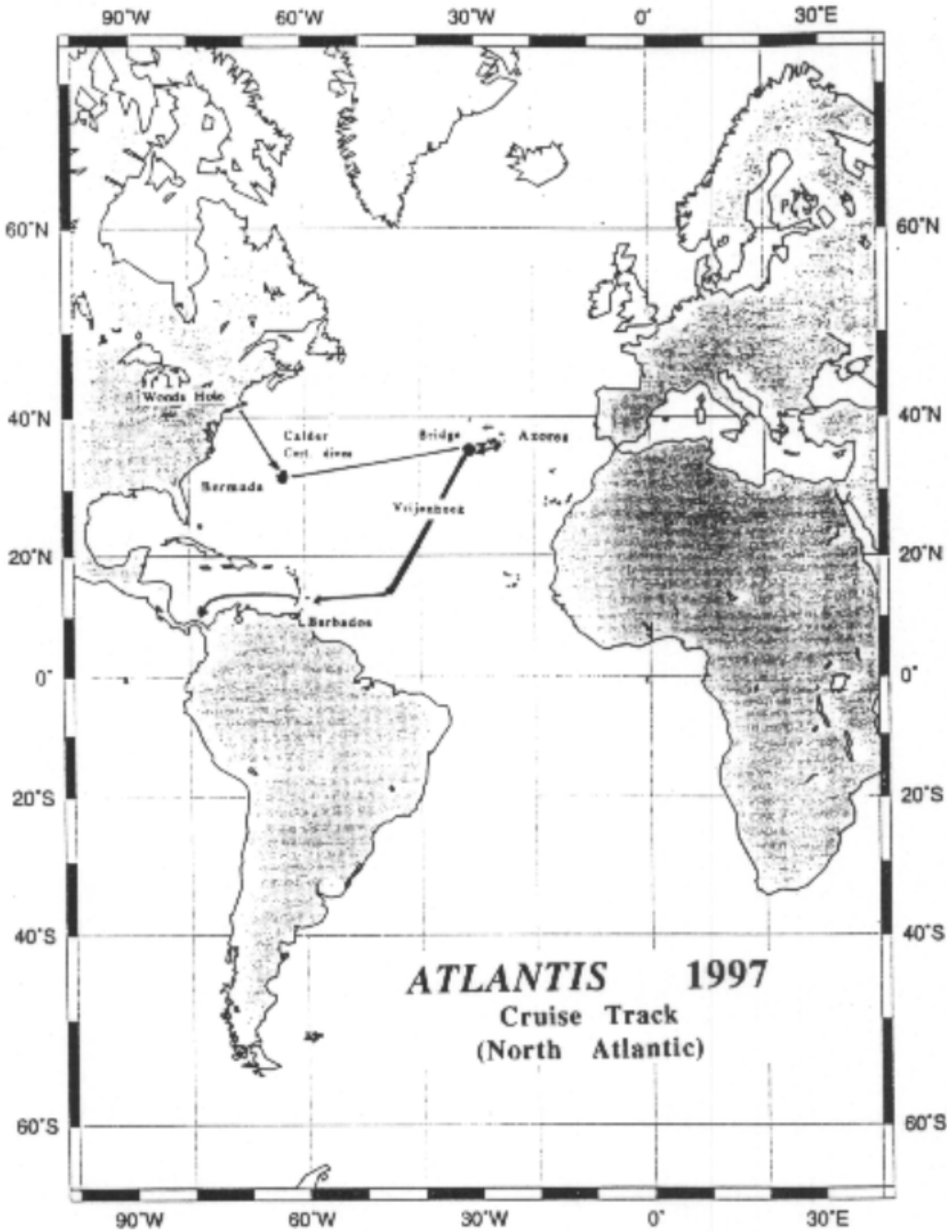


- OPTION B -

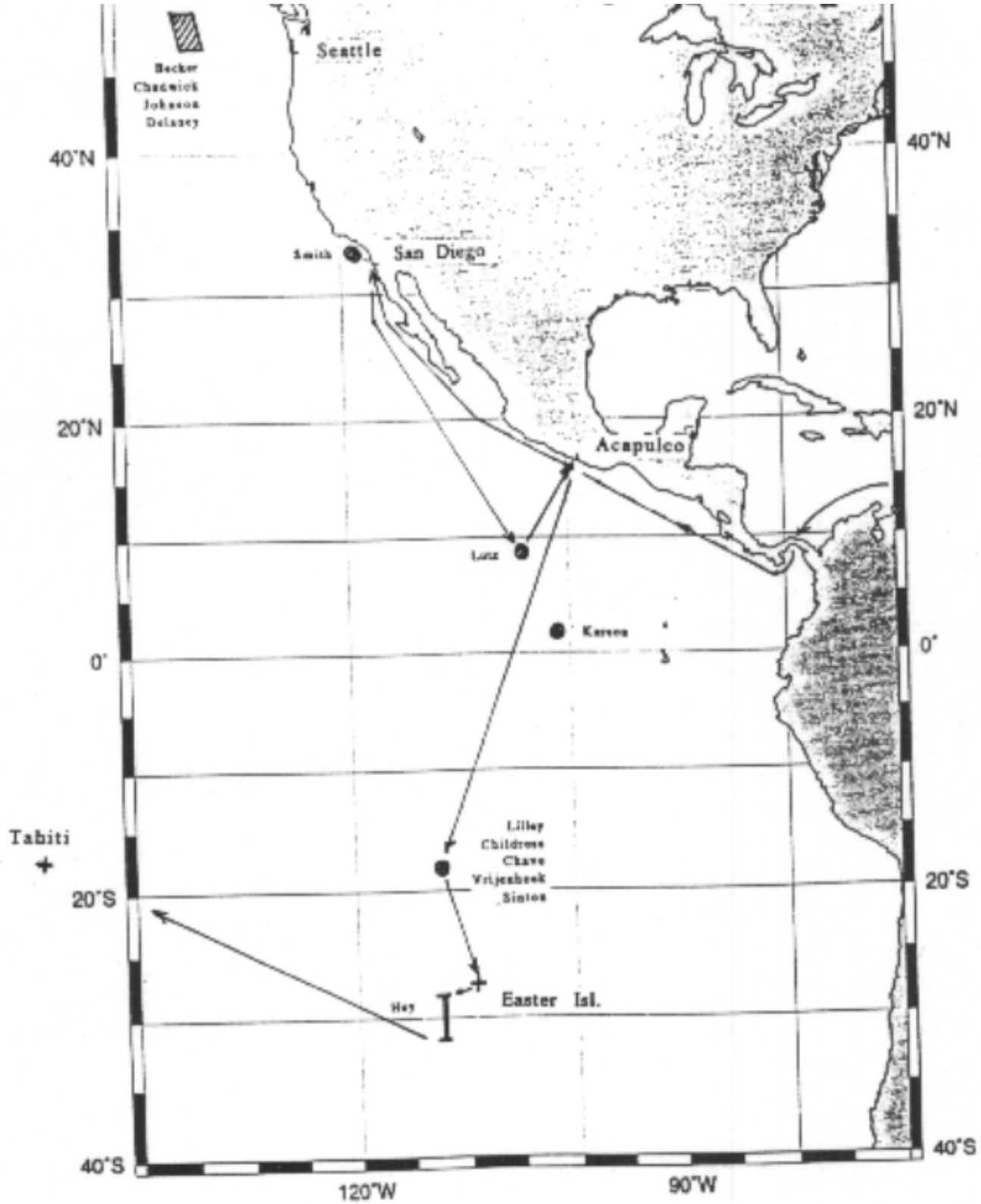


Jason
Argo II
AMS-120
Alvin

D.Moller - 9/15/96


90°W
60°W
30°W
0°
30°E
60°N
40°N
20°N
0°
20°S
40°S
60°S
Woods Hole
Calder
Cert dives
Bridge
Azores
Bermuda
Barbados
ATLANTIS 1997
Cruise Track
(North Atlantic)

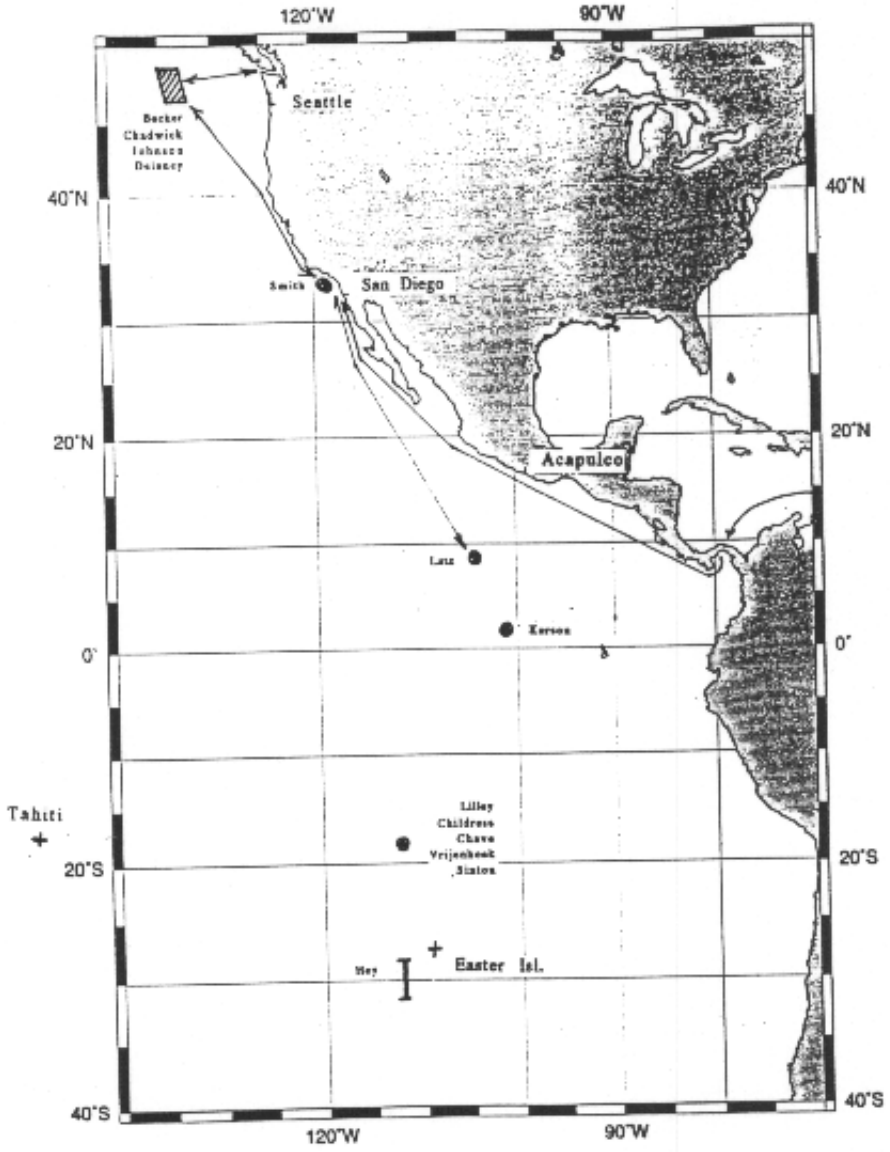

120°W
90°W



ATLANTIS 1997

Cruise Track

OPTION A

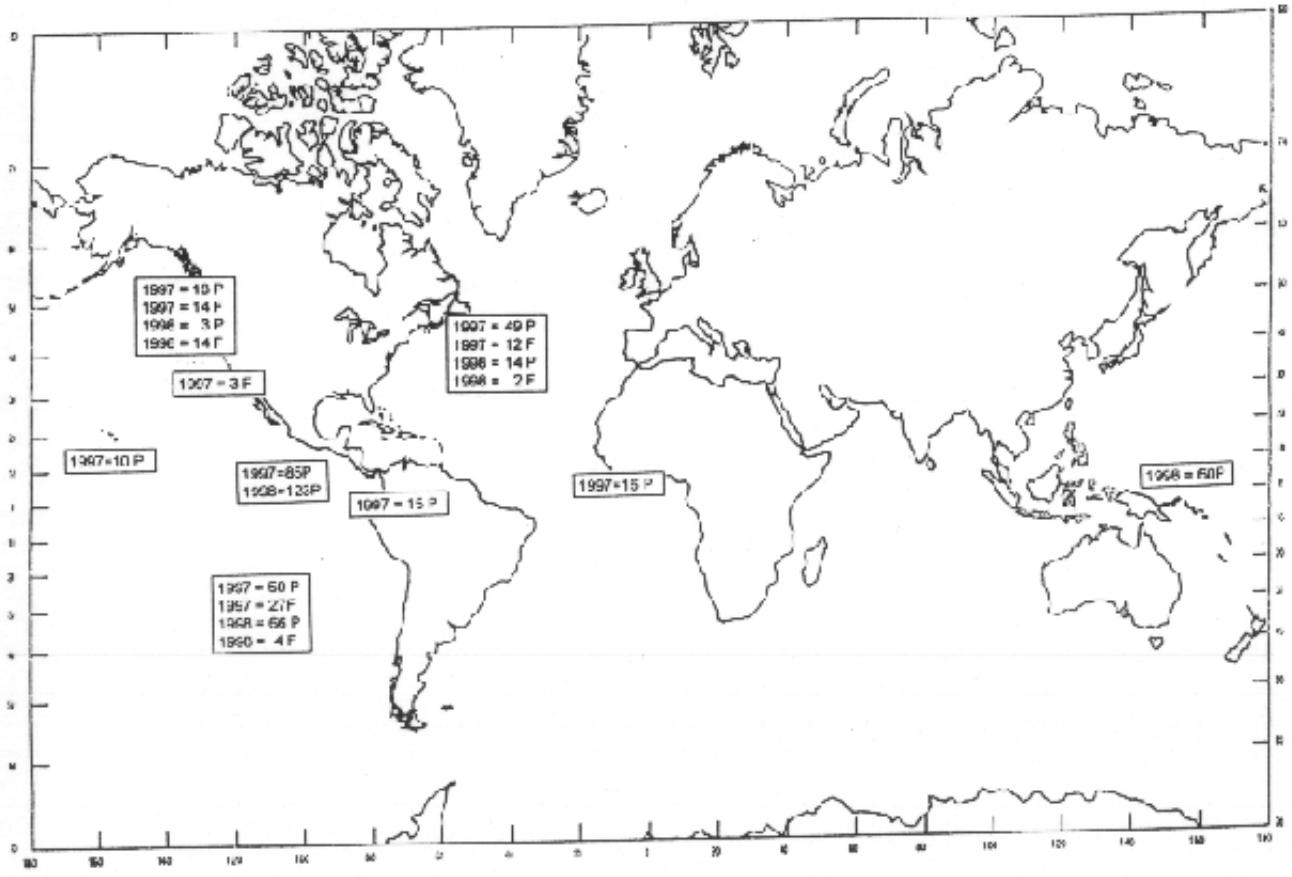


***ATLANTIS* 1997**

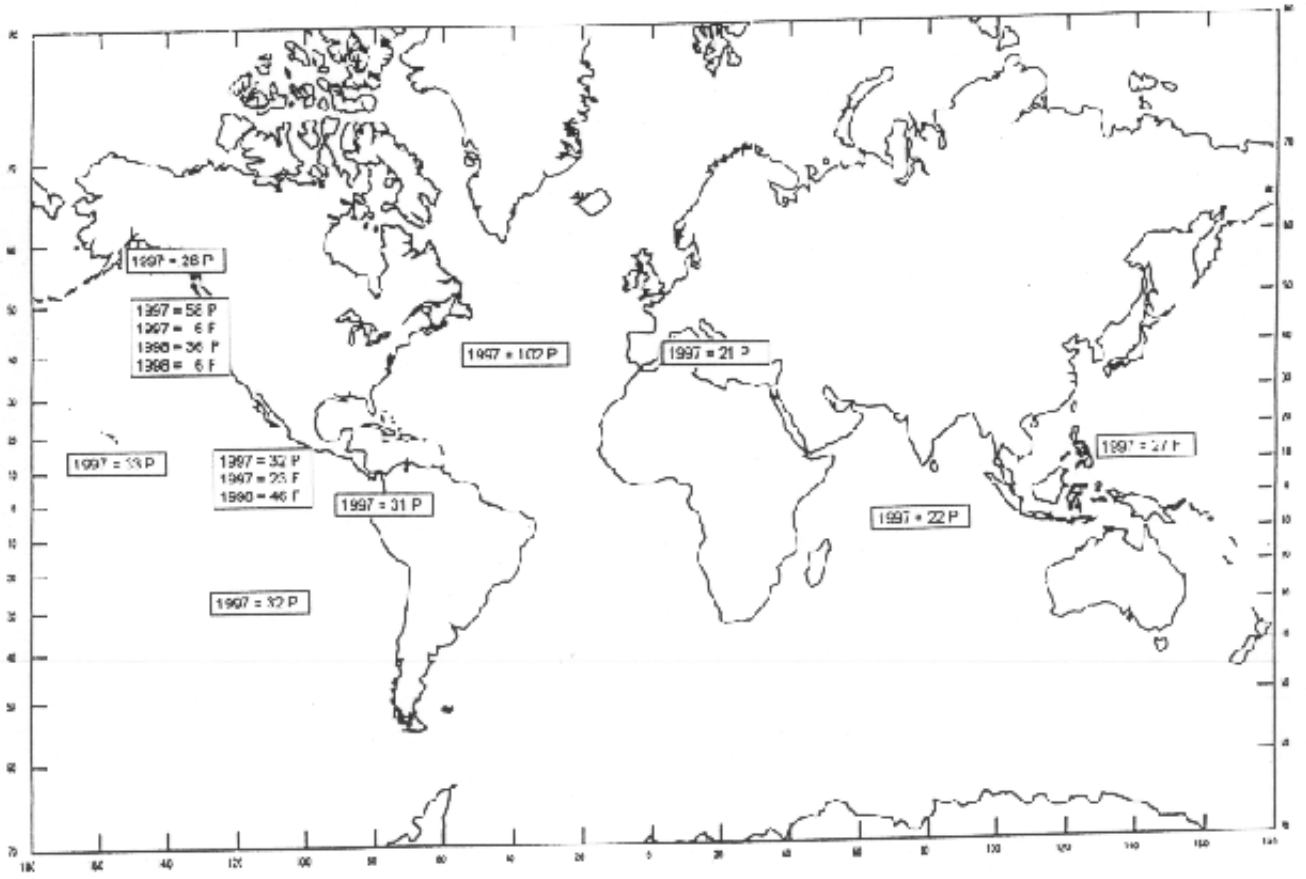
Cruise Track

OPTION B

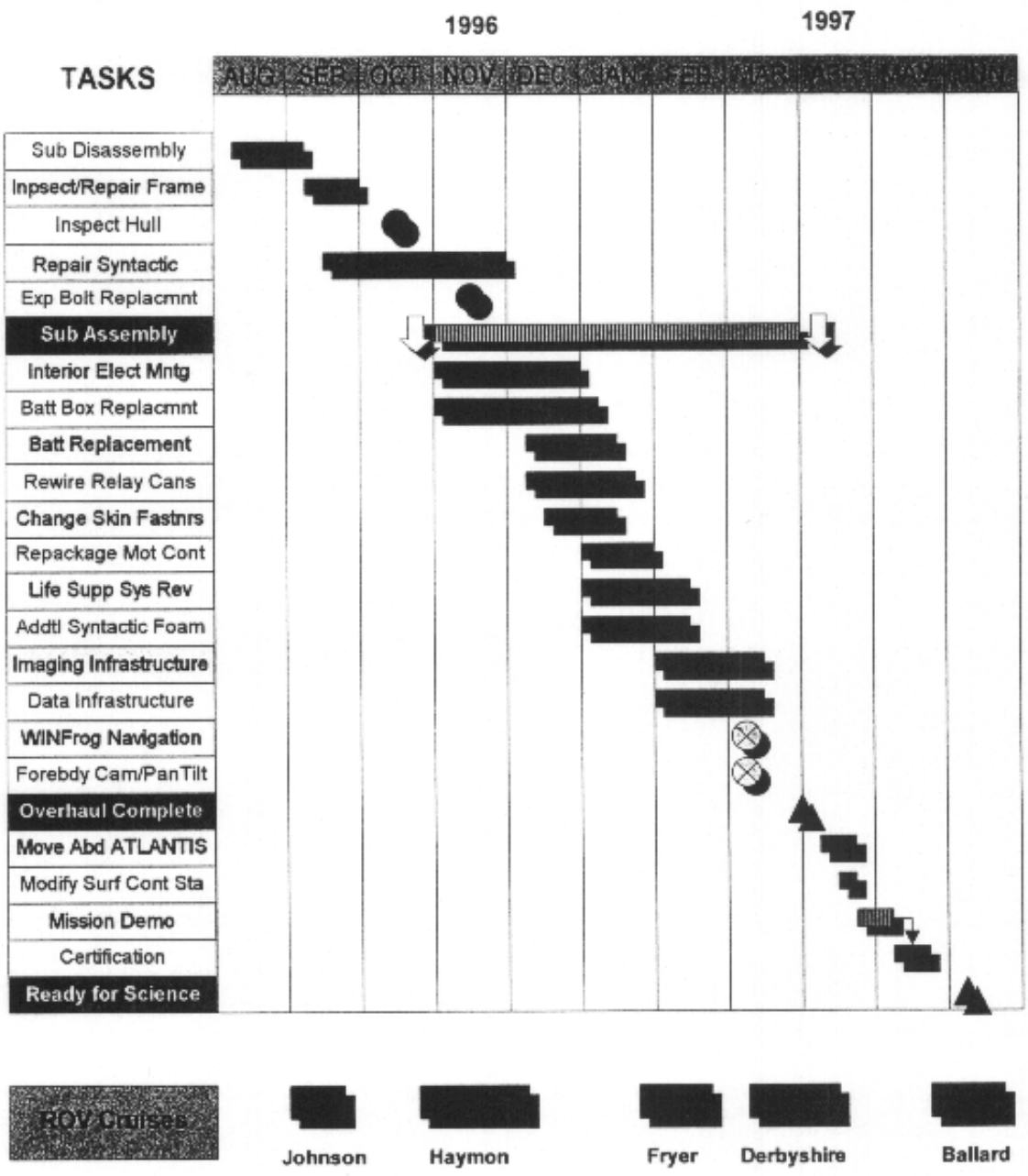
ALVIN AREAS OF INTEREST - 1997 AND BEYOND



ROV AREAS OF INTEREST - 1997 AND BEYOND



ALVIN OVERHAUL SCHEDULE



ALVIN UPGRADE/OVERHAUL - ITEMS AND ISSUES

Dan Orange and Cindy Van Dover
17 September 1996

HISTORY

June '95 Discussion at DeSSC Meeting - early overhaul and integration with Atlantis present an opportunity to increase functionality/upgrade systems.

Fall '95 Solicitation to community for input. Responses to Van Dover and Orange by Jan '96.

Feb '96 Preliminary list to WHOI for comment. Replies incorporated.

Spring '96 DeSSC (Perfit) discussions with funding agencies, DeSSC.

May '96 Prioritized list to DeSSC. Lengthy discussion at DeSSC meeting with operator, agencies.

Aug. '96 Schedule special DeSSC meeting with agencies, operator to discuss overhaul opportunities.

Sept. '96 Revised priority list, suggestions.

PRIORITIES (in order of importance)

1. Datalogger/video upgrade.

This is essential for ALL kinds of science using ALVIN and needs to be matched to JASON. Data format needs to be user friendly, overlays for all video need to be standardized (with inherent flexibility), delivery to scientists needs to be routine and flexible, there needs to be a minimum standard of training for science users so that all scientists and pilots, including new users and trainees, are aware of all capabilities.

2. Add syntactic foam.

This is my second priority because available science payload often does not match demand. This is an upgrade that ALL scientists can use to advantage -- no discriminating by discipline here. One of several #1 priorities of original DESSC list.

3. Power.

Add wiring as needed to 3rd battery compartment. Power limitation is a big issue -- having a test bed seems valuable from both science and operator's view. DSOG also needs to collate post-dive data: (why were dives terminate? Pilot/battery stats?) to allow for power analysis.

4. (tie) Obtain dual head scanning sonar

4. (tie) Obtain 4 slurp pumps with chambers

Relatively low costs put these items higher on our list than they otherwise might be -- big gain, small bucks.

5. Laser ring gyroscope.

The existing gyro is archaic, and all scientists depend on good heading information.

6. Image infrastructure.

Incorporate the infrastructure (wiring, beta deck at no cost, etc.) necessary to upgrade imaging over the next three years (digital cameras, etc.).

7. Improve the in-hull 35 mm cameras.

All users identified that this is an essential component of the post-dive data, and that the present system needs upgrading. Although digital photography is on the horizon, the need for basic film photography will remain for some time.

8. Homer Probes

Obtain and incorporate Homer Beacon and 2-5 Responders. These allow a trivial return to a site of interest. Batteries last for 5 years.

9. Pencil cameras

Obtain 2 pencil video cameras and wiring for flexible placement on the sub.

10. (tie) Obtain an improved CTD pump

10. (tie) Obtain a flat LCD monitor

11. Obtain a new set of push cores with core catchers

Van Dover/Orange Essential List

Items 1-7 must be incorporated at a minimum. 8-9 offer substantial capabilities at a relatively low cost. 10-11 are important, and should be included if the work is required during overhaul.

Comments/Other Issues:

Power training sessions.

DeSSC strongly recommends that the operator and the committee utilize the AGU meeting to raise the issue of power usage with the community. Furthermore, a power training video would be a great benefit to the scientists, and could be viewed in the galley immediately following the exposure suit video at the beginning of the cruise.

VB System

The VB system will need to be upgraded in the near future, although we hope that the current system works until the next overhaul. DSOG needs to design and plan for VB replacement this overhaul.

Navigation

The number of transponders available "free" (transparent cost) to science needs to be increased. The current number of 4 for 15 dives is inadequate. This may require the purchase of some transponders now.

In-Hull Navigation Receiver

The existing receiver is a custom-built box, and is outdated and difficult to repair. We need to replace this with an off-the-shelf, well-documented and supported system. This was identified as a high priority among the community and the committee. This may not be covered in the navigation proposal and needs

to address during this overhaul.

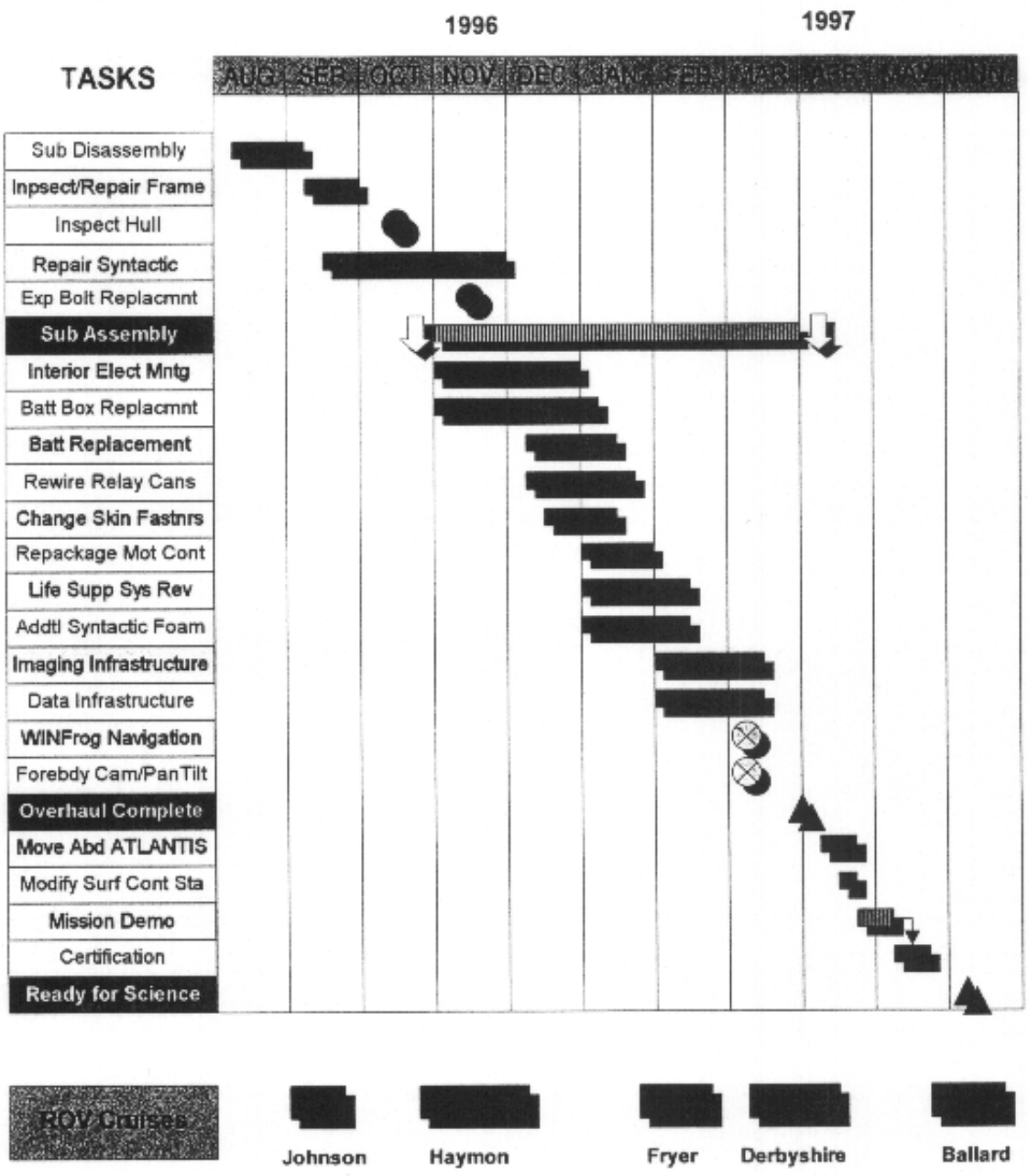
Already paid for; to be incorporated during overhaul:

- pan and tilt
- new 3 chip video camera
- Domed housing for video cameras (Ballard to acquire, available to DSOG?)

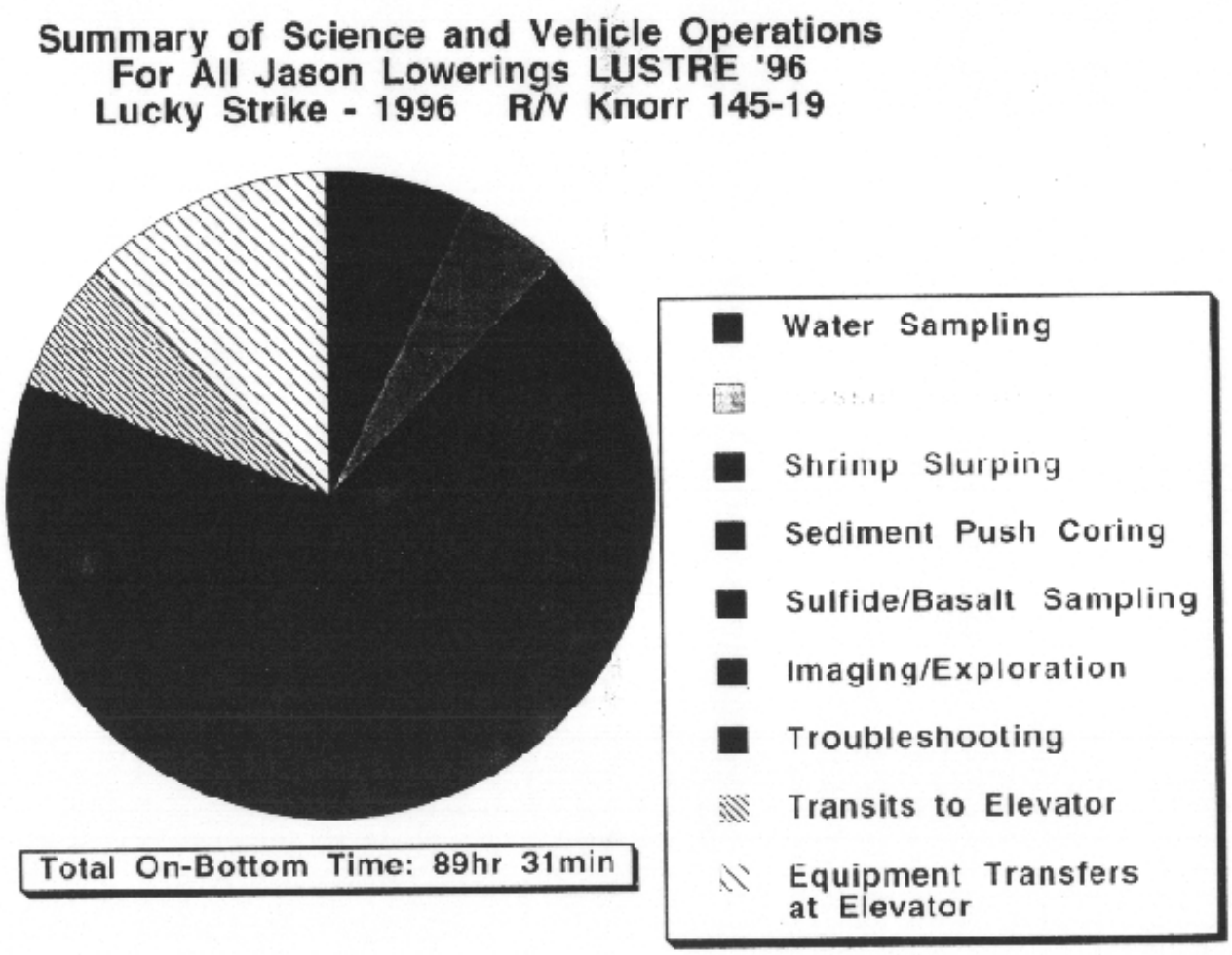
Other items discussed at the May '96 DeSSC meeting:

- Digital imaging for ALVIN/Jason/ARGO (separate proposal)
- Remote data logging via inductive coupling (see Fornari memo)
- Acquire next-generation GeoCompass (utilizes fluxgate magnetometer)

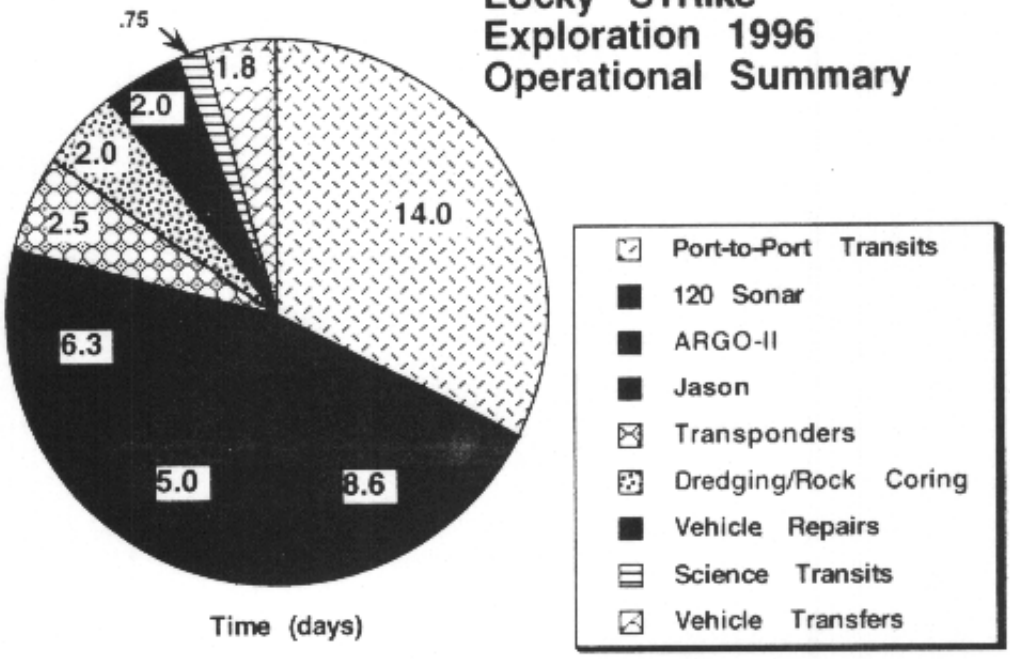
ALVIN OVERHAUL SCHEDULE

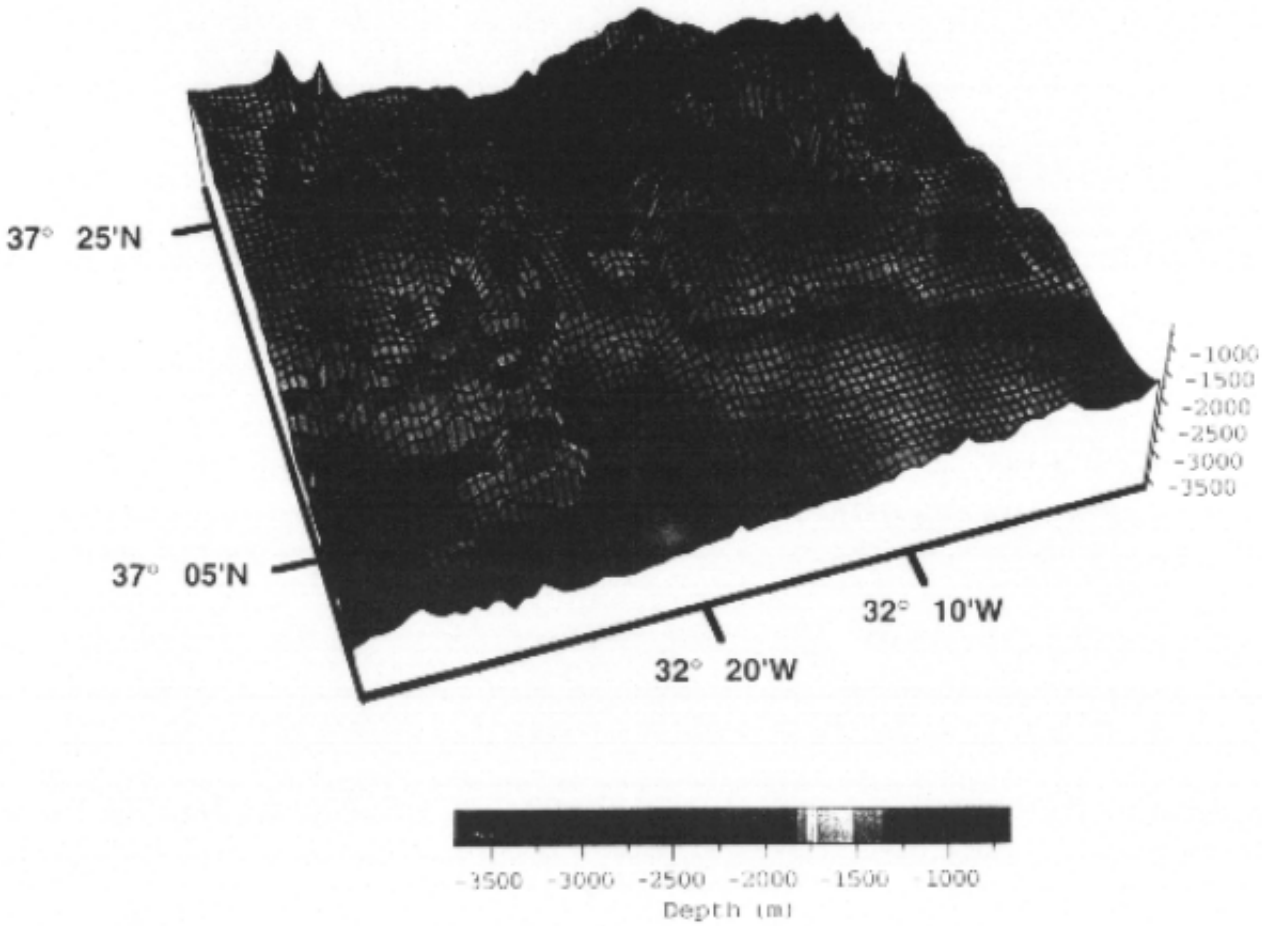


SUMMARY OF LUSTRE '96 OPERATIONS



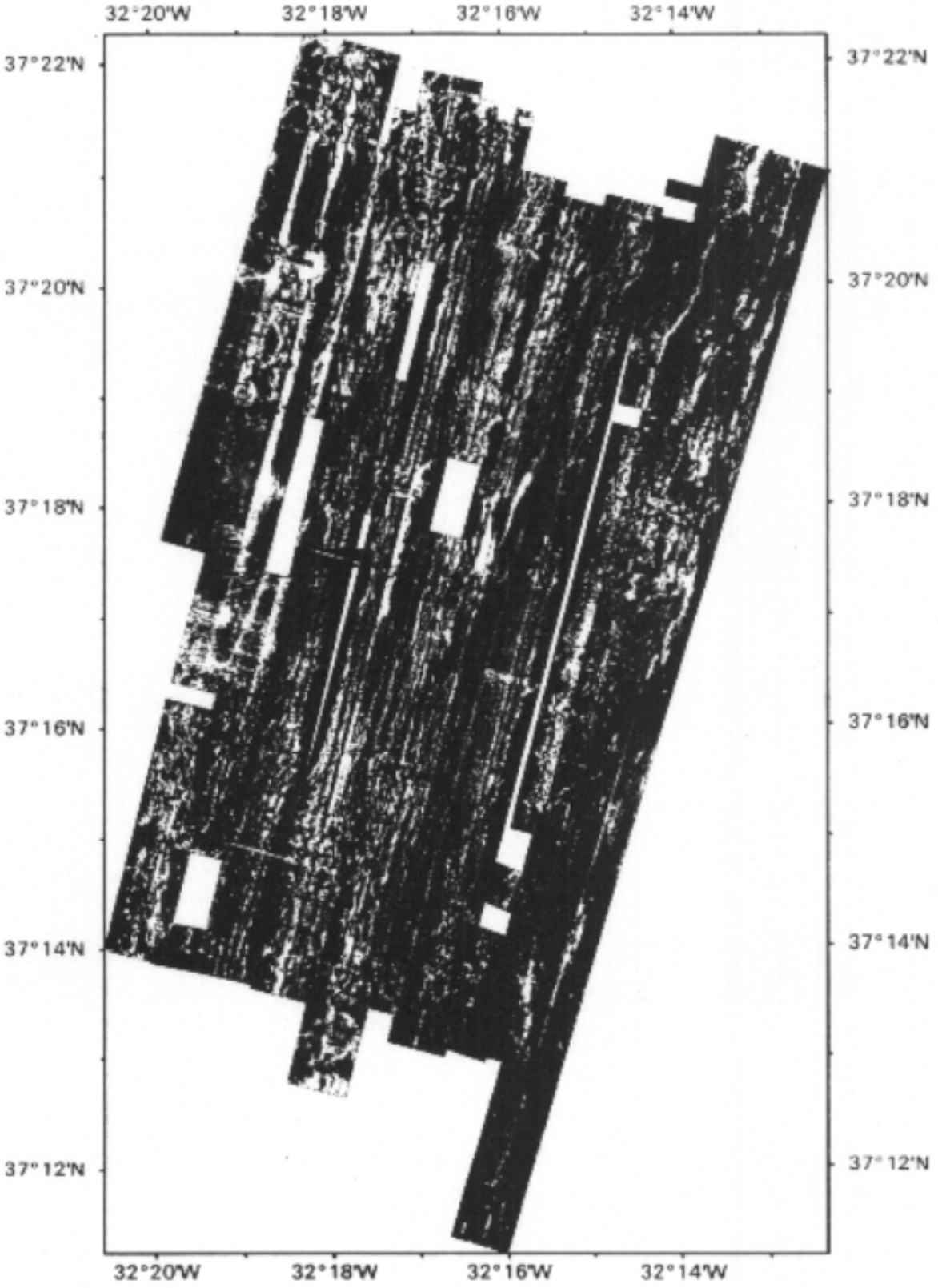
LUSTRE '96
LUcky STRike
Exploration 1996
Operational Summary





LUSTRE '96

DSL120 Northern Survey - Along Axis



Scale 1:100000

2000 0 2000 4000 6000 8000 10000 Meters