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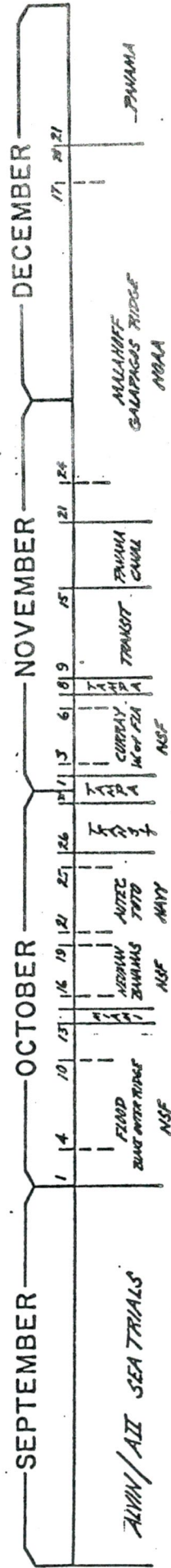
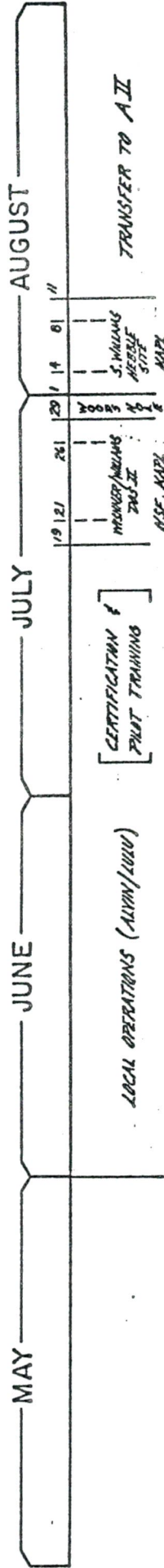
FEB 1 1982

UNOLS OFFICE

JAN 25 1983

1983

ALVIN OPERATIONS



ALVIN Film and Video Tape Policy

The Woods Hole Oceanographic Institution maintains an archive system for oceanographic data including that obtained with the DSRV ALVIN. The Deep Submergence Group's funding agencies support this system and require all meaningful ALVIN data to be included. The following policy is intended to allow archiving without unnecessarily compromising the Principal Investigator's right to sole use of the data for scientific purposes for a reasonable period of time.

I. All film taken from permanently mounted ALVIN cameras will be retained by the ALVIN Group for the archives with one set of duplicates provided to the Principal Investigator. The film will be processed and duplicated as quickly as possible. No one will be allowed to view the film without written authorization from the Principal Investigator for a period of one year from the date of the dive.

II. Video tapes and data log tapes taken using ALVIN supplied equipment will be duplicated on board the support ship during the cruise with the Principal Investigator receiving one copy. The originals will be archived with the same limited access as applied to the photographic film.

III. All other data and pictures will be archived at the Principal Investigator's (or funding agency's) discretion. IV. Commercial rights to film and tapes obtained with ALVIN equipment or by ALVIN Group personnel remain with the Woods Hole Oceanographic Institution.

V. Costs incurred in implementing this archiving policy will be paid by the ALVIN Project except in cases where unusually high quantities of film or tape are required by a particular science program. In these instances, the Investigator should request additional support from the sponsoring funding agency.

VI. The Principal Investigator is responsible for meeting the data dissemination requirements of his funding agency as well as any requirements imposed by international agreements i.e. requirements imposed as a prerequisite to obtaining clearance for work in foreign waters.

which ALVIN will be dedicated will be determined on the basis of the scientific quality of the individual proposals actually submitted and reviewed.

Prospective users are reminded that requests to UNOLS for ALVIN are for the use of the facility only, and no research or travel funding is implied. Associated research proposals should be made through usual channels to funding agencies. The ALVIN Review Committee urges that these proposals for research funding be submitted in time to allow funding decisions to be developed prior to the ALVIN review meeting.

Should you have any questions regarding ALVIN Review Committee procedures, or need additional information concerning our planning for this ALVIN program, please make inquiries to me through:

William D. Barbee
UNOLS Office, WB-15
School of Oceanography
University of Washington
Seattle, Washington 98195

Sincerely,

Robert W. Corell
Chairman, ALVIN Review Committee

Approved: Robert W. Corell

By direction,



William D. Barbee
Executive Secretary, UNOLS

WDB:gm

Attachment

UNIVERSITY-NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM

UNOLS Office, WB-15
School of Oceanography
University of Washington
Seattle, Washington 98195

An association of institutions
for the coordination and support
of university oceanographic facilities

30 December 1982

Dear Colleague:

This letter is to provide prospective ALVIN users and others interested in the ALVIN program with information on advanced planning for the ALVIN/ATLANTIS II.

To help them in planning for ALVIN/ATLANTIS II operations in the Pacific Ocean during 1984 and early 1985, the ALVIN Review Committee held a workshop in San Francisco on December 11. The Committee members join me in thanking the prospective investigators who made presentations on their ALVIN research interests.

On the basis of their assessments of the research investigations proposed (both in presentations at the workshop and as preliminary proposals submitted to UNOLS) the Committee is recommending that the ALVIN/ATLANTIS II be committed to Pacific operations for a period of approximately eighteen months beginning in January, 1984. Approximately two-thirds of this period would be devoted to operations in the eastern Pacific; proposals from the Galapagos to the Gorda-Juan de Fuca system will be considered. One-third of the eighteen month period would be devoted to transit to and from the western Pacific and research there; proposals will be considered for the Marianas region and for such other areas as might reasonably be accommodated either along the transits or within logistic range of the Marianas region. Additionally, the Committee notes that proposals for the use of ATLANTIS II capabilities other than ALVIN should be considered for the period of this western Pacific leg.

The ALVIN Review Committee will meet in spring 1983 to review individual proposals and to set a schedule for January, 1984 - June, 1985. Proposals to be considered at that review should be submitted to the UNOLS Office by March 1, 1983, in accordance with the announcement for ALVIN research opportunities first distributed in September, 1982 and attached to this letter. At the spring meeting, individual ALVIN requests will be reviewed for the purposes of recommending individual projects to be accomplished, establishing priorities and making scheduling recommendations for the period January 1984 - June 1985. Basic criteria in the review will include scientific merit and evaluation of ALVIN suitability and utility for the work. The actual areas to

R/V LULU 1982 Voyage Statistics continued

<u>Voyage</u>	<u>From</u>	<u>To</u>	<u>From</u>	<u>To</u>	<u>Ports</u>	<u>Location</u> <u>No. of Dives</u>	<u>Chief</u> <u>Scientist</u>	<u>Days</u> <u>at</u> <u>Sea</u>
112	8-25-82	9-3-82	Woods Hole	Woods Hole		Oceanographers Can. 6 dives	Cooper	10
113	9-9-82	9-20-82	Woods Hole	Woods Hole		Lydonia Canyon 8 dives	Hecker	12
114-1	10-9-82	10-17-82	Woods Hole	Freeport		Transit		9
114-2	10-18-82	10-27-82	Freeport	Freeport		Straits of Florida & N.W. Prov. Chan. 8 dives	Neumann	10
114-3	10-30-82	11-3-82	Freeport	Nassau		N.E. Prov. Channel 3 dives	Hecker	4
114-4	11-4-82	11-10-82	Nassau	F'sted		Transit		7
114-5	11-11-82	11-13-82	F'sted	F'sted		W. of F'sted 3 dives	NSF/ Walden	3
114-6	11-14-82	11-18-82	F'sted	F'sted		DOS III 5 dives	Grassle	5
114-7	11-21-82	11-28-82	F'sted	F'sted		N. of Frederiksted 8 dives	Ballard Akens S. Williams	8
114-8	12-1-82	12-4-82	F'sted	Ponce P.R.		S. of Puerto Rico 3 dives	D. Scasser (U. of P.R.)	4
114-9	12-5-82	12-16-82	Ponce P.R.	Woods Hole		Transit		12

R/V LULU 1982 Voyage Statistics

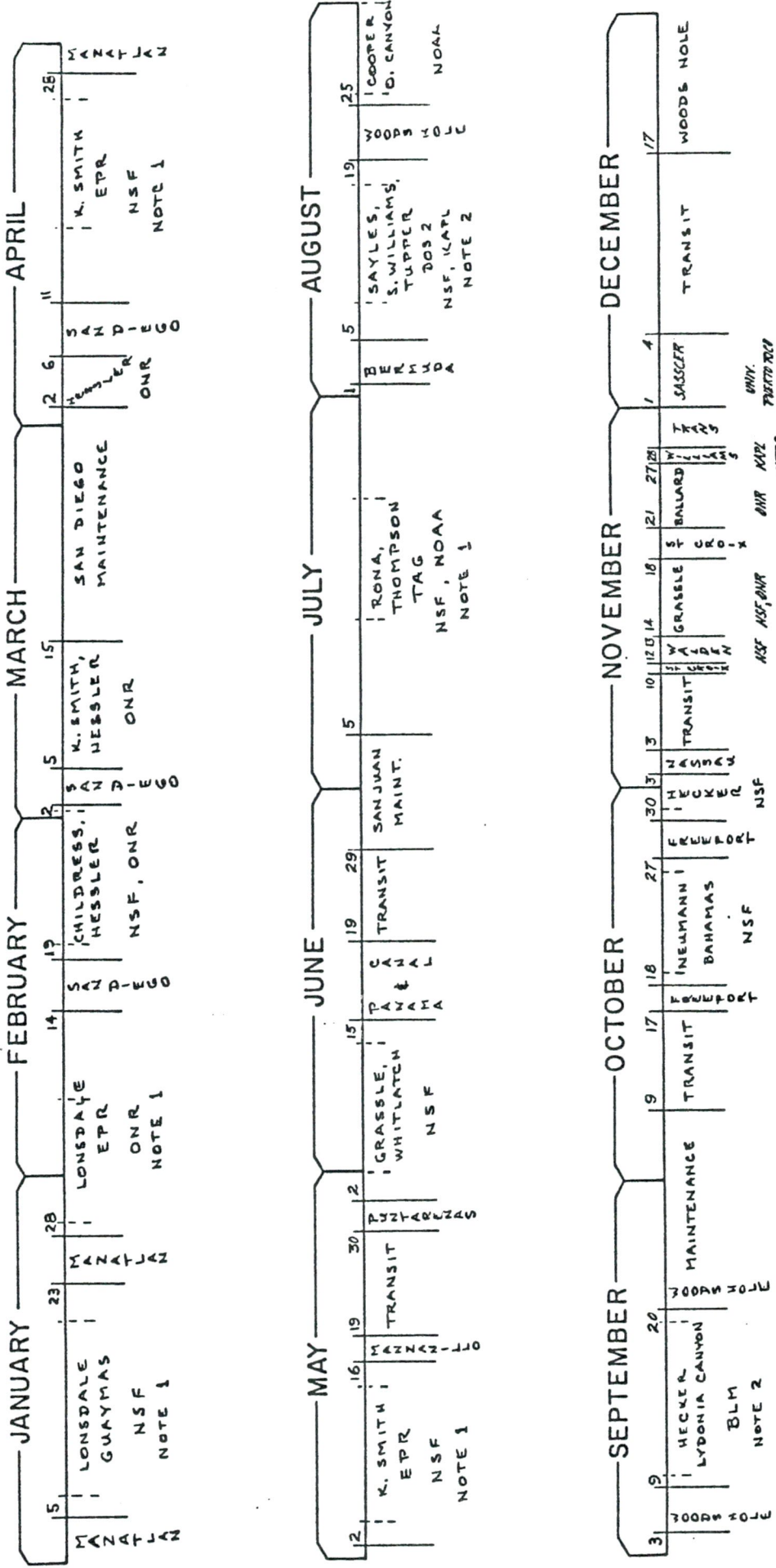
APPENDIX VII
Page Two

<u>Voyage</u>	<u>From</u>	<u>To</u>	<u>Ports</u>	<u>To</u>	<u>Location</u> <u>No. of Dives</u>	<u>Chief</u> <u>Scientist</u>	<u>Days</u> <u>at</u> <u>Sea</u>
111-8	1-5-82	1-23-82	Mazatlan	Mazatlan	Guaymas Basin 10 dives	Lonsdale	19
111-9	1-28-82	2-14-82	Mazatlan	San Diego	East Pacific Rise 10 dives	Lonsdale	18
111-10	2-19-82	3-2-82	San Diego	San Diego	Catalina Basin San Clemente Basin Cortes Basin 11 dives	Childress	12
111-11	3-5-82	3-15-82	San Diego	San Diego	Catalina Basin 9 dives	K. Smith	11
111-12	4-2-82	4-6-82	San Diego	San Diego	Santa Barbara Chan. 3 dives	C. Smith	5
111-13	4-11-82	4-28-82	San Diego	Mazatlan	East Pacific Rise 10 dives	K. Smith	18
111-14	5-2-82	5-16-82	Mazatlan	Manzanillo	East Pacific Rise 9 dives	K. Smith	15
111-15	5-19-82	5-30-82	Manzanillo	Puntarenas	Transit		12
111-16	6-2-82	6-16-82	Puntarenas	Panama	Panama Basin 10 dives	Grassle	14
111-17	6-19-82	6-29-82	Panama	San Juan	Transit		11
111-18	7-5-82	7-30-82	San Juan	Bermuda	Mid Atlantic Ridge 7 dives	Rona	24
111-19	8-5-82	8-19-82	Bermuda	Woods Hole	DOS II 8 dives	Sayles Tupper Williams	15

~~16 JUN 1981~~
~~6 OCT 1981~~
~~26 JAN 1982~~
~~6 MAY 1982~~
~~7 OCT 1982~~
~~8 DEC 1982~~

1982

ALVIN - LULU OPERATIONS



NOTE 1 ESCORT REQUIRED
 NOTE 2 FUNDED INDEPENDENTLY OF JOINT AGREEMENT

AGENDA
ALVIN Review Committee
December 12, 1982
Cathedral Hill Hotel
Room B, 8:30 a.m.
San Francisco, California

Welcome and Introduction. *Robert W. Cornell*

Interim report on 1982 ALVIN season. *Barrie B. Walden*

Acceptance of April, 1982 Meeting Report.

Review of Proposals for 1983. These proposals have been distributed. In general they consist of requested supplemental information to the proposals reviewed April, 1982.

Recommended ALVIN/ATLANTIS II schedule for 1983. The ARC's final recommendation.

Planning recommendations for 1984-1985. Summary of December 11, 1982 Workshop and tentative plan for 1984-1985.

Expanded Scientific Capabilities for ALVIN. Consideration of the Chairman's letter of November 5, 1982, and responses.

Other. Other business appropriate to the ARC. This may include a discussion of Terms of Reference for ARC reviews that will demonstrate the propriety of the process, avoid the appearance of conflict of interest, etc.

ALVIN SHIPTIME PROPOSALS RECEIVED

INVESTIGATOR	ASSOCIATES	AREA	PURPOSE	SPONSOR	DATE	ALTERNATE	ESCORT	DIVES	COMMITTEE ACTION
40. Anderson, R.N.	(6 listed on proposal)	Mariana Trough back-arc basin	To study Geology & Geophysics of Hydrothermal Vents & Ridge Axis-Transform Fault System.	NSF-1	1984-1985		Atlantis II Sunbeam, Argus	17	
41. Sayles, F.L.	(5 listed on proposal)	near Acapulco	To study Geochemistry and Geophysics of hydrothermal circulation in older oceanic crust. (letter of intent)	NSF-1	Open 1984		Atlantis II, Sunbeam, Argus	10-15	
42. Mottl		EPR; 13 N	Chemical processes in hydrothermal circulation in older oceanic crust. (letter of intent)	NSF-1	Open 1984				
43. Childress		Calif. Basins	Sample animals near bottom		1984				Proposal forthcoming
44. Lonsdale		Marianas Trough	Volcanology at back arc spreading center		1984				Proposal forthcoming 6-8
45. Ballard		Anywhere (off Hawaii preferred)	Engineering test of Argo-Jason	ONR-?	1984				Proposal forthcoming 5
46. Holland, H.D.	Lazar, B.	EPR near 12 50'N	To measure the flow rate of the hydrothermal solution	NSF-1	1984				Proposal forthcoming 4
47. Craig, H.		EPR	Nature of hydrothermal gases	NSF-1	1984				Proposal forthcoming 12

ALVIN SHIPTIME PROPOSALS RECEIVED

INVESTIGATOR	ASSOCIATES	AREA	PURPOSE	SPONSOR	DATE	ALTERNATE	ESCORT *	DIVES	COMMITTEE ACTION
33. Normark, W.R.	Various	44 40'N, 130 20'W	To study hydrothermal vents on the southern Juan de Fuca Ridge (letter of intent)	USGS	Aug.-Sept. 1984			15	
34. Hilde, T.W.C.	9 listed (see proposal)	25 N-32 N, 122 E-130 E (see map)	"Okinawa Trough" Determine stages, rates ages and motions of rifting.	ONR-2	July-Aug 1984	June/Sept 1984		10-15	
35. Edmond, J.M.	Lupton, J Simoneit, B. Gieskes, J. Scott, S.	Guaymas Basin; Larson's Sea Mounts	Chemistry of Hydrothermal Solution in the Guaymas, Gulf of California & Larson's Sea Mounts, 21 North, East Pacific Rise	NSF-1	April-Oct 1983 or 1984			17	
36. Hussong, D.M.	Fryer, P. Taylor, B.	Mariana fore-arc	Study of tectonic processes occurring in the oceanic convergence zone along the Mariana and Izu-Bonin arcs.	NSF-1	May-August 1984-1985			14	
37. Haymon, R.M.	Wise, Wm.S.	21 N, 109'W; East Pacific Rise site	A study of Sulfide Mineral Stabilities and Thermal Variability in Active East Pacific Rise Hydrothermal Vents. (letter of intent)	NSF-1	Open			4	
38. Heirtzler, J.R.	Veevers, J.	17 S, 117 30'E Australia	Dating of seismic horizons, e.g. like similar dives on the Blake Escarpment and the Bahama Escarpment.	NSF-1	Open		Atlantis II/ Seabeam, Satellite Nav., Dredging & Other Equipment	6-10	
39. Neumann, A.C.	Various (listed on preliminary summary - 7)	Straits of Florida	To test the idea of upstream accretion by sampling one mound in detail; to study the biotic boundaries to understand mechanisms of zonation.	NSF-1	Before ALVIN goes to the Pacific			3-4	

ALVIN SHIPTIME PROPOSALS RECEIVED

INVESTIGATOR	ASSOCIATES	AREA	PURPOSE	SPONSOR	DATE	ALTERNATE	ESCORT *	DIVES	COMMITTEE ACTION
26. Delaca, T.E.	--	Santa Catalina Basin	Distribution, Ecology and Physiology of Deep Benthic Rhizopods	NSF-1	1984			5	
27. Craig, H.	Various	Mariana Trough: near Saipan	Submersible Studies in the Mariana Trough: Hydrothermal Vents and Basalts	NSF-1	Late 1984 Early 1985		ATLANTIS II	10	
28. Kulm, L.D.	Suess, E. Lewis, B. Carson, B.	Off Central Oregon & Southern Washington	Processes of Sediment Lithification Induced by Subduction Accretion	NSF-2	Summer 1984			15	
29a Lonsdale, P. Spiess, F.N.	Hawkins, J.W. Hessler, R.R.	31°N, 122-125°W near San Diego	Fine-Scale Seafloor Studies: Young and Cratered Seamounts	ONR-2	Spring 1984			12	
29b Lonsdale, P.	Edmond, J. Mexican(s)	20°50'N, 109°20'W near Cabo San Lucas	Fine-Scale Seafloor Studies: Young and Cratered Seamounts	ONR-2	Nov. 1983			3	
30. Lonsdale, P.	Various	6°N, 103°W 9°N, 105°W	Studies of the offsets in the crest of the East Pacific Rise. (Letter of intent: final para of 10 Nov 82 letter)	NSF-1	Late 1984			?	
31. Hessler, R.	--	18°10'N, 144°40'E (near Guam, Sipan)	Megafauna of the Mariana Trough Hydrothermal Vents, Mariana Trough	NSF-1	contingent on geologists			7	
32. Fox, Paul J.	5 listed (see proposal)	Either Siqueiros or Clipperton Transform	The Tectonic and Petrologic Manifestations of a Fast Slipping Ridge Transform Intersection.	NSF-1	Spring or Autumn 1984-1985			14	

INVESTIGATOR	ASSOCIATES	AREA	PURPOSE	SPONSOR	DATE	ALTERNATE	ESCORT*	DIVES	COMMITTEE ACTION
17. Grassle, J. Frederick	Various	Panama Basin	In Situ Experiments on Animal-Sediment Relation	NSF- 2	1983-1984			12	
18. Karl, David M.	Epp, D. McMurty, G. Malahoff	Loihi Seamount East Rift Zone	Investigation of geothermal system on the East Rift zone of Kilauea & Loihi Seamount	NOAA-2	Aug. '84	March '85		10	
19. Childress, J.J.	Somero, G. Smith, K. et. al.	Galapagos Rift off Mazatlan	Physiological studies Hydrothermal Vent Animals	NSF-3	Late '83	Early '84	New Horizon	20	
20. Macdonald, K.C.	6 listed (see proposal)	Off Mazatlan, Acapulco	Investigation of a new form of plate boundary interaction; structural and sampling	ONR-3	Feb.-June Anytime 1984-85		Atlantis II/13		
21. Campbell, J.F. Schlienger, S.O. Premoli-Silva, I.	Various	Pacific Ocean, Marshall Islands	Study the Origin and Evolution of the Marshall Islands (Preproposal)	NSF-1	1984-1985			7	
22. Batiza, R.	6 listed (see proposal)	Eastern Pacific	Study of the origin & evolution of volcanic seamounts (preproposal)	NSF-1	Summer '84			25	
23. Honjo, Susumu Cole, Jonathan	Various	Panama Basin	The Fate of Biogenic Particulate Matter at the Deep Sea Floor	NSF-2	1983			6	
24. Craig, H.	Various	Loihi Seamount	Nature of hydrothermal gases.	NSF-1	1984			7	
25. Ballard/Bryan	Various	Eastern Pacific	(letter of intent)	NSF-1	1984			24	
					1985			12	

ALVIN SHIPTIME PROPOSALS RECEIVED

INVESTIGATOR	ASSOCIATES	AREA	PURPOSE	SPONSOR	DATE	ALTERNATE	ESCORT*	DIVES	COMMITTEE ACTION
11. Alldredge, Alice L.	Various	Southern California Basin	Studies of Marine Snow and Macroscopic particulate matter (letter of intent)	NSF-1	1984			8	
12. Mullins, Henry T.	Various	Bahama Escarpment	To investigate the rotation of the Bahama Platform (letter of intent)	NSF-1	1984			10	
13. Flood, Roger D.	Various	Atlantic Ocean Gulf of Mexico	(a) Blake Outer Ridge furrow studies (b) Amazon Cone Channel Studies (c) Mississippi Fan Channel Studies (d) Deep Hudson Canyon Studies (letter of intent)	NSF-1	1985			?	
14. Flood, Roger D.	Wimbush, Biscaye	Blake Outer Ridge, Caribbean	Studying the abyssal sedimentary furrows on the Blake Outer Ridge.	NSF-3	Aug. 1983			7	
15. Johnson, H.P. Delaney, J.R.	10 listed (see proposal)	NW Coast Juan de Fuca Ridge	Study of crustal formation processes on a hot spot/spreading center/propagating rift system; the Juan de Fuca Ridge	NSF-1	July, Aug., Sept. 1984-1985			26(1984) 23(1985/86)	
16. Gasolian, R.B. Grassle, J.F. Jannasch, H.W. Lonsdale, P.F.	7 listed (see proposal)	Guaymas Basin	Biology, Geochemistry & Geology of the Guaymas Basin Hydrothermal System	NSF-1	1983-1984			14	

ALVIN SHIPTIME PROPOSALS RECEIVED

INVESTIGATOR	ASSOCIATES	AREA	PURPOSE	SPONSOR	DATE	ALTERNATE	ESCORT*	DIVES	COMMITTEE ACTION
6. Malahoff, A. Embley, R. (Both NOS)	Fornari, D. Ballard, R. Hekinian, R.	85° 30' W, 0° 45' N Galapagos	Galapagos Polymetallic Sulfides - Extent Distribution, Mineralogy and Geological Setting on Sulfide Bodies	NOAA-3	Jan/Feb 1983	August 1983		15 (21 days)	
7. Malahoff, A. Embley, R. Hammond, S.	Rona, P. Fornari, D. McMurtry, G.	Gorda-Juan de Fuca	Rift Morphology and the Geology of potential hydrothermal deposits on the Gorda and Juan de Fuca Ridges	NOAA-3	August 1983/84	July 1983/84	ALNAV temp. probe	25	
8. Malahoff, A. Embley, R. Hammond, S.	Fornari, D. McMurtry, G. Moore, J.	Hilo, Hawaii	Loihi Submarine Volcano - Geology of Rifts and Hydrothermal Vents	NOAA-3	When ALVIN gets to Hawaii 1983/84			10	
9. Paul, C.K. Curray, J.R.	Hecker, B. Keir, R.	West Florida Escarpment	Macrobenthic Organisms Analysis of pH & Alkalinity (letter proposal)	NSF-2	1988/84			10	
10. Thistle, D.	Eckman, J.E.	San Diego Trough	Organization of a deep-sea harpacticoid caeponid community; experimental study	NSF-1	Autumn 1984			4	

ALVIN SHIPTIME PROPOSALS RECEIVED

INVESTIGATOR	ASSOCIATES	AREA	PURPOSE	SPONSOR	DATE	ALTERNATE	ESCORT*	DIVES	COMMITTEE ACTION
1. Hey, R.N.	Sinton, J. et al.	Galapagos spreading center 2.6°N, 95.5°W	Geological, Geophysical, Geochemical mapping	NSF-1	Spring- Summer 1984	Anytime	None	20	
2. Smith, Jr., Kenneth L.	Various	Off San Diego	Ecological Studies of Deep Scattering Layer Animals: In Situ Studies	ONR-2	Autumn 1983	Spring 1984		8 (56 hrs.)	
3. Smith, Jr., Kenneth L.	Various	Santa Catalina Basin	Ecological Energetics of the Deep-Sea Benthic Boundary Layer	NSF-3	Autumn 1983	Winter 1984		15 (90 hrs.)	
4. Richard W. Grigg	Various	150 miles S. of Oahu; 100 miles W. of Hawaii	Ecological In- vestigations of Hawaiian Seamounts	NOAA-2	1984- 1985				
5. Karen Wishner	Marcia Gowing	DOS 1 39°46'N 70°41'W, 1830 m depth	Grazing Rates and Food of Deep-Sea Benthic Boundary Layer Zooplankton	NSF-2	Summer 1983	Autumn 1983		3	

Sponsor Code:

1. Proposal to be submitted
2. Proposal submitted
3. Funded

*Escort preferred by P.I.

UNIVERSITY-NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM

DEEP SUBMERGENCE RESEARCH VEHICLE ALVIN

TIME REQUEST

DATE: _____

TO: Chairman, ALVIN Review Committee

UNOLS Office, WB-15

School of Oceanography

University of Washington

Seattle, WA 98195

USE OF THE ALVIN SUBMERGIBLE RESEARCH SYSTEM IS REQUESTED FOR _____ YEAR AS FOLLOWS:

PURPOSE (Project title and brief outline of program)

PRINCIPAL INVESTIGATOR (Name, Title, Address, Tel. No.) _____
OTHER INVESTIGATORS INVOLVED _____

PROPOSED CHIEF SCIENTIST _____
TOTAL NUMBER OF SHIPBOARD PERSONNEL _____

PROJECT REQUIREMENTS

NO. OF DIVES REQUESTED _____ PREFERRED DATES _____ ALTERNATE _____

AREA OF OPERATIONS: LAT. & LONG. (Attach page size chart showing location of dives & bathymetry)

NAME OF NEAREST PORT _____ DISTANCE _____ NAUT. MI

ATTACH BRIEF DESCRIPTION OF PROPOSED ESCORT/SURFACE SUPPORT SHIP IF ONE IS REQUIRED. LIST SPECIAL EQUIPMENT REQUIREMENTS (E.G., SENSING, SAMPLING AND NAVIGATION REQUIREMENTS).

Escort requirements are available from ALVIN Operations Manager

FUNDING STATUS

_____ FUNDED
_____ NOT-FUNDED

FUNDING AGENCY _____

GRANT NO: _____

AMOUNT OR ANNUAL RATE BEGIN DATE DURATION

NEW _____ or RENEWAL OF _____
PROPOSAL _____ GRANT NO: _____

ATTACH RESEARCH PROPOSAL OR PRELIMINARY PROPOSAL ADDRESSING POINTS LISTED ON OVERLEAF

SUBMITTED BY _____ SIGNATURE _____
APPROVED _____ DEPARTMENT CHAIRMAN _____
or _____ LABORATORY DIRECTOR _____

TITLE, ADDRESS & TELEPHONE NO. IF DIFFERENT FROM PRINCIPAL INVESTIGATOR

SUBMISSION OF ALVIN TIME REQUESTS

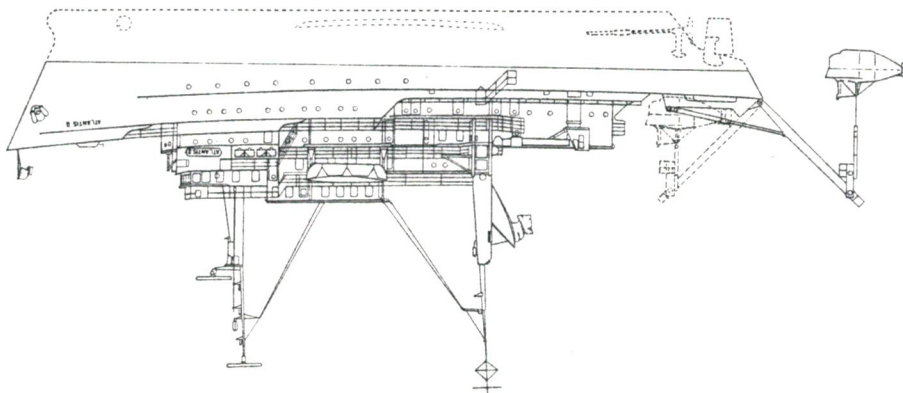
Requests for use of DSRV ALVIN should be initiated by sending a completed time request form (copy overleaf) to: Chairman, ALVIN Review Committee, c/o UNOLS Office, WB-15, School of Oceanography, University of Washington, Seattle, WA 98195. Requests may be made by scientists and engineers at any university or research institution in the United States, and should be supported by a research proposal (preferred length: 4-8 pages, single-spaced for items 1 to 6) which specifically addresses each of the following:

1. The nature and significance of the proposed research;
2. The scientific questions being asked and the approaches that would be used toward their resolution;
3. Justification of the need for ALVIN for this work;
4. The research site(s) and its justification;
5. Number of dives required, justification for the number of dives and any seasonal considerations;
6. Likely requirements for future ALVIN dives (not requested here) for completion of the research;
7. Proposed number of scientists and engineers in the party;
8. Curricula vitae of principal participants;
9. Potential or current support for the proposed research effort;
10. List of publications resulting from any previous ALVIN work;
11. Any special engineering required for dive operations.

- NOTE: 1) If operations are to be carried out in foreign waters, the required clearances should be requested as early as possible. Collaboration with foreign scientists is encouraged.
- 2) If the program is not already funded, a comprehensive proposal must be submitted by the investigator to his sponsoring agency in the conventional way. The ALVIN Review Committee will submit recommendations for consideration by the research sponsor. Final scheduling depends on approval by both the ALVIN Review Committee and the funding agency.

ALVIN Review Committee:

R.W. Corell, University of New Hampshire, Chairman
R.C. Aller, University of Chicago
D.E. Karig, Cornell University
G.T. Rowe, Brookhaven National Laboratory
F.L. Sayles, Woods Hole Oceanographic Institution
J.K. Weiszel, Lamont-Doherty Geological Observatory
A.A. Yavanos, Scripps Institution of Oceanography
G.D. Grice, Woods Hole Oceanographic Institution, *ex-officio*



DESCRIPTION OF R/V ATLANTIS II

Built: 1963
Length: 210 feet LOA (64 meters)
Beam 44 feet (13 meters)
Draft: 16 feet (5 meters)
Gross Tonnage: 1,529 tons
Displ.: 2,300 L tons
Crew: 25
Scientific Personnel: 25

Main Engines: Two GM 12-567E diesel engines driving through reduction gears with variable speed, hydraulic clutches. 2,000 shp.

*Bow Thruster: 250 hp transverse tunnel thruster. DC motor driving from main gear P.T.O.

Ships Service Generators: Two 480/120 volt AC 300-KW generators driven by CAT 353 diesel engines.

Propellers: Twin screw; 3 fixed blades; bronze.

Ownership: Built under grant from NSF. Conditional title rests with W.H.O.I.

Speed: Cruising: 11.5 knots
Full: 13.5 knots

Minimum: Dead slow

Endurance: 45 days
Range: 13,500 miles
*Fuel Capacity: 151,000 gallons

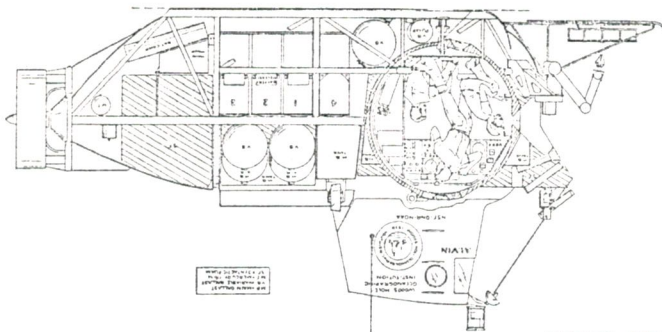
Laboratories: wet - 400 square feet
dry (4) - 4,300 square feet

Sewage System: Two type III holding tanks;
Five to ten days endurance.

Ship is equipped for full range of oceanographic observations and work. One trawl winch: 30,000 feet 1/2" cable. One hydrographic winch: 30,000 feet 3/16" wire. One CTD winch 27,000 feet 0.303" cable.

*A proposal pending to add a submersible handling system for ALVIN support, SEA BEAM system, and new 700 h.p. trainable bow thruster. If accomplished, fuel capacity will be reduced to 99,200 gallons and cruising range to 12,000 miles.

DSRV ALVIN:



DESCRIPTION OF DSRV ALVIN

Length: 7.6 meters (25 feet)

Beam: 2.4 meters (8 feet)

Draft: 2.1 meters (7 feet) surfaced

Full Speed: 1 1/2 knots

Cruising Speed: 1 knot

Cruising Range: 5 miles submerged

Displacement: 16 knots

Endurance: 72 hours

Normal Dive Duration: 6-10 hours

Depth Capacity: 4,000 meters (13,120 feet)

Complement: 1 pilot, 2 scientific observers

Population: Large stern propeller, 2 small side lift propellers which can be rotated and separately reversed.

Ownership: The submersible ALVIN is a Navy-owned national oceanographic facility jointly supported by the National Science Foundation, the Office of Naval Research and the National Oceanic and Atmospheric Administration and operated by the Woods Hole Oceanographic Institution.

Navigation: Gyro compass and gyro repeater; magnetic compass; nose mounted horizontal scanning sonar system; indicators for depth, speed, list, trim and variable ballast; echo sounder; battery voltmeters, ammeters and ground detector; five viewpoints.

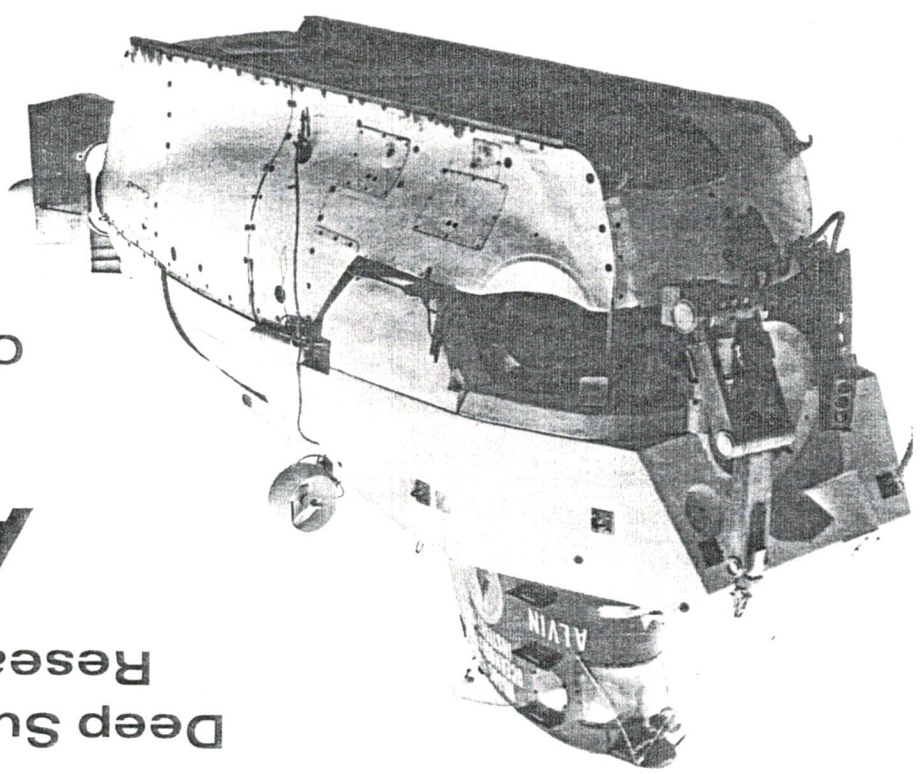
Electrical Power: Three banks of lead-acid batteries, 60 and 30 volt DC systems, 40.5 KWH total. Limited amount of 115 volt 60 cycle AC power.

Communication: Sonar telephone (voice or code); marine band (VHF) radio.

Other Features: The submersible is designed to be versatile with respect to the weight, space and power requirements of portable scientific equipment in order to meet the differing needs of scientists using the vehicle. Scientific equipment which remains on board most of the time includes two remotely controlled mechanical arms and associated sample trays, 35 mm film cameras and associated strobe and incandescent lights, closed circuit video system with recorder, water temperature monitor, current speed and precision depth indicator.

A precision navigation system is also available which will allow accurate positioning of the submersible at any time during a dive series. This system and other specialized equipment such as hard rock samplers, magnetometer, precision temperature sensors and analog or digital data logging equipment are available for use with ALVIN, but require some additional funding for installation and operation.

The University—National Oceanographic Laboratory System Opportunities for Oceanographic Research Deep Submergence Research Vehicle ALVIN at the Woods Hole Oceanographic Institution



REQUESTS FOR 1983 AND 1984

For 1984 and early 1985, proposals will be considered for ALVIN/ATLANTIS II use in the eastern Pacific. It is anticipated that preliminary proposals received by November, 1982 (responsive to the Chairman, ARC's letter) will justify an ALVIN schedule in that area. Diving locations will be contingent upon the number and quality of approved proposals received as well as logistical considerations.

Proposals for the use of ALVIN through UNOLS are for facility use only and no research or travel funding is implied. Associated research proposals should be made through usual channels to granting agencies.

Submersible time requests will be reviewed by a scientific review committee for the purpose of recommending projects to be accomplished and establishing priorities. Basic criteria include scientific merit as well as evaluation of suitability for ALVIN.

The principal investigator is expected to meet the pre and post cruise obligations, if any, of the coastal states. Requests for 1984 must be received by 1 March 1983 in the UNOLS Office. Requests should include the Request Form or a copy, and append additional information on the intended research as requested in this announcement. Failure to meet the deadline will jeopardize consideration of the proposal.

The Deep Submergence Research Vehicle ALVIN, based at the Woods Hole Oceanographic Institution is designated a National Oceanographic Facility. Diving time is available for qualified research projects selected on the basis of scientific merit and compatibility of the proposed research.

DSRV ALVIN is owned by the U.S. Navy under the purview of the Office of Naval Research and is operated by the Woods Hole Oceanographic Institution with support from NSF, NOAA and ONR.

At the conclusion of 1982 operations, pending the outcome of proposals that have been submitted to the funding agencies, the support vessel, LULU will be returned to the Navy and ALVIN and ATLANTIS II will be configured to function as a submersible - support ship facility not requiring an additional escort vessel. The ALVIN/ATLANTIS II combined facility would be available for operations beginning the latter half of 1983. A tentative schedule for 1983 includes diving operations in the western Atlantic to the eastern Pacific. The process to reach a final schedule for 1983 has already been described in a letter from the Chairman, ALVIN Review Committee, (ARC) dated June 2, 1982. This letter also expresses desire for preliminary proposals for 1984 use of ALVIN.

To obtain further information regarding ALVIN/LULU system capabilities, specialized equipment or the provision of escort services, contact:

Barrie B. Walden, Submersible Program Mgr.
Woods Hole Oceanographic Institution
Woods Hole, Massachusetts 02543
Telephone: (617) 548-1400, Ext. 2407

Proposal submissions should be addressed to:
Chairman, ALVIN Review Committee
UNOLS Office, WB-15
School of Oceanography
University of Washington
Seattle, Washington 98195
Telephone: (206) 543-2203

Galapagos

19 Childress

Guaymas Basin

16 Gagosian/Grassle/Jonmasch/Lonsdale
35 Edmond (Von Dam)

East Pacific Rise/East Pacific Seamounts*

1 Hey
29 a, b Lonsdale*
36 Haymon
20 MacDonald
30 Lonsdale
41 Sayles
22 Batiza*(Mottl)
32 Fox (Gallow)
47 Craig
25 Ballard/Bryon
35 Edmond*(Measures)
42 Mottl

California Basins

10 Thistle
Ballard (Presentation addressing
ALVIN/ATLANTIS capabilities and
need for effective utilization.)
11 Alldredge
26 Deluca
43 Childress

Gorda-Juan de Fuca/Washington-Oregon Cont. Slope

7 Malahoff
15 Johnson/Delaney
28 Kulm
33 Normark (Morton)

Hawaiian Seamounts

4 Grigg
8 Malahoff
18 Karl
24 Craig

Western Pacific

21 Campbell
27 Craig
31 Hessler
34 Hilde
36 Hussong and Taylor
40 Anderson, R.N. (Hobart)
38 Heirtzler
44 Lonsdale
45 Ballard

AGENDA
ALVIN/ATLANTIS II Workshop
December 11, 1982
Cathedral Hill Hotel
San Francisco, California

0900

1. Welcome and Introduction. Robert W. Corell, Chairman
ALVIN Review Committee

2. ALVIN/ATLANTIS II. An overview of the status of the modification and
system capabilities for worldwide research submersible
operations.

- a. ATLANTIS II: J. D. Donnelly
- b. ALVIN: Barrie B. Walden
- c. Navigational capabilities: W. M. Marquet

3. Projection of ALVIN Operations, 1983-1985. A general prospectus from the
perspective of the ALVIN Review Committee and the
UNOLS Advisory Council: Robert W. Corell

1030

4. Proposed ALVIN Research, 1984-1985. Presentations on research needs from
prospective investigators. (These presentations will
be from among investigators who have declared their
intentions to conduct research from ALVIN during 1984-
1985. Presentations will be grouped areally as
noted. See overleaf for prospective investigators.)

- a. Galapagos
- b. Guaymas Basin
- c. East Pacific Rise/East Pacific Seamounts
- d. California Basins
- e. Gorda-Juan de Fuca/Wash-Oregon Continental Slope
- f. Hawaiian Seamounts
- g. Western Pacific



Everyone with an interest in ALVIN operations and the ALVIN program is welcome. The Alvin Review Committee invites concise presentations especially from investigators who have recently submitted proposals or letters of intent for the use of ALVIN-ATLANTIS II during 1984/85. For further information contact: William D. Barbee UNOLS Office, WB-15 School of Oceanography University of Washington Seattle, Washington 98195 (Telephone 206-543-2203)

PLACE: JAPANESE PAVILLION
CATHEDRAL HILL HOTEL
SAN FRANCISCO, CALIFORNIA

TIME: SATURDAY, DECEMBER 11, 1982
9 - 5

in the
PACIFIC OCEAN
during 1984-1985

ALVIN-ATLANTIS II
DEEP SUBMERSIBLE SCIENCE

To generate Planning Information on

will hold an OPEN WORKSHOP

The
ALVIN REVIEW COMMITTEE
of the
UNIVERSITY-NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM

ANNOUNCEMENT

UNIVERSITY-NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM

- (3) Several specific issues need to be addressed by the ALVIN Review Committee, the Advisory Council of UNOLS, UNOLS, and the funding agencies. Please comment on the following:
Sonar information is vital to ALVIN operations and to science. What is your opinion concerning the needs for:
--Onboard recording (tape and paper display) of other acoustical data. Do we need VCR?
--Digital scanning sonar was proposed in the S3 report. Is it vital?
--Is a hand-held video camera adequate for recording data and images within the "sphere"?
If not, what is needed?
--How important is the need for microcomputer capability within the "sphere"? What specific needs exist to assist the science?
- (4) Scientists who have used ALVIN undoubtedly have specific suggestions. Please provide your views on those items of enhanced capability which you believe should be a part of the "standard" capabilities of the ALVIN/ATLANTIS II diving submersible system.
- (5) Your comments are also sought concerning the scientific requirements for diving submersible capabilities below 4000 meters.

AN OUTLINE

THOUGHTS TO STIMULATE COMMENTS FROM THE U.S. OCEAN SCIENCE
COMMUNITY FOR ENHANCING ALVIN SCIENTIFIC CAPABILITIES

(1) The submersible Science Study (S3 Report) of April, 1982 outlines a number of issues related to enhanced ALVIN capabilities. Your comments and the priorities you assign to specific recommendations drawn from this report are sought. What are the most important priorities and what are the least? Please refer to the report for a complete listing of recommendations; however, several of the most important are listed below:

- Improved scanning sonars and subbottom profiles
- Improved navigation in ALVIN and on surface ship
- Additional video cameras
- Additional on board electronic instrumentation and telemetry to the surface and to bottom landers
- Technological development of submersible and robotic vehicles
- Improved manipulator capabilities
- Systems to obtain 1:100,000 working maps
- Need to sample rocks from the face of outcrops
- Low light level color video
- An acoustic data link
- Enhanced sampling tools
- Soft sediment corers
- Box corers
- Percussion hammers
- Sturp gun
- Pry bars
- Rock drill for 2 cm x 10 cm rock borings
- Hydraulic anchor to attach ALVIN to steep slopes

(2) The Ocean Sciences Board (National Academy--NRC) Study entitled "Academic Research Vessels, 1985-90" also outlines a number of recommendations that relate to ALVIN scientific capabilities. Your comments and the priorities you assign to those are sought. Recommendations for submersibles are made on Page 36 of the Report and trends in the ocean sciences are discussed beginning on Page 45 of the Report. Your thoughts on enhanced ALVIN capabilities, stimulated by these sections of the report are sought, particularly your views of high priority needs within the ALVIN program.

The attached outline gives you some of the issues being addressed, but undoubtedly you can sharpen the essential capabilities you believe ALVIN/AII must have to significantly enhance submersible supported ocean sciences. We are looking for those general capabilities which ALVIN should provide to diving scientists, not for those unique or special to an individual scientific project.

Please give this matter your careful attention as a unique opportunity exists right now to act on a carefully planned program to enhance the scientific capabilities of the ALVIN/AII combination. Please forward your comments to:

William Barbee
UNOLS Office, WB-15
School of Oceanography
University of Washington
Seattle, Washington 98195

by November 24, 1982.

Thank you for your consideration.

Most Sincerely,

Robert W. Corell
Robert W. Corell

Robert W. Corell, Chairman
ALVIN Review Committee

Attachment (1)
MDB:gm

UNIVERSITY-NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM

An association of institutions for the coordination and support of university oceanographic facilities

November 5, 1982

Dear Colleagues:

The evolution and scientific accomplishment of U.S. submersible supported science in the oceans of the world has been dramatic, particularly in the past decade. The productivity of the scientific teams diving on ALVIN has been outstanding. The next step, vital to the future of oceanographic and related sciences, is to enhance the scientific capabilities of the submersible ALVIN and its surface support. It is a pleasure to indicate that the National Science Board of the National Science Foundation has approved the proposal to convert the ATLANTIS II as the support ship for ALVIN hence retiring the LULU after many years of outstanding service to the ocean science community.

The conversions are scheduled to be completed next summer and world-wide operations are projected to begin in September, 1983, with operations projected for the eastern Pacific in 1983 and early 1984, with other areas of the Pacific projected for late 1984 and early 1985. A schedule for submitting proposals for ALVIN diving during these periods has been previously circulated by the UNOLS Office (for additional copies contact William Barbee, Executive Secretary of UNOLS, phone 206-543-2203 or 2305). A special workshop has been scheduled for Saturday, December 11, 1982, in San Francisco, as an adjunct to the AGU/ASLO meetings. An announcement for that meeting is enclosed. This workshop is designed to address the specific research programs that can be significantly enhanced by ALVIN/AII in 1984-85.

The next step in the program to provide improved support to submersible science is to expand the scientific capabilities of the ALVIN submarine. ALVIN's record is almost legendary; however, recent discoveries and major scientific accomplishments suggest that a careful assessment be made to determine those capabilities for ALVIN that need to be added or enhanced, in order that the U.S. ocean science community can continue to contribute significantly to knowledge of the oceans, particularly the deep oceans.

The ALVIN Review Committee, the Advisory Council of UNOLS, and UNOLS itself seeks your insights as to those capabilities which you deem essential to the future of ALVIN supported science. Attached is an outline drawn from the Submersible Science Study, discussions with Woods Hole and the funding agencies (NSF, ONR and NOAA). Specifically, we are asking for your suggestions for instruments or new equipment, enhanced or

The ARC recognized that such a scenario is tentative and contingent on funding-agency acceptance both of proposals and this new operational concept. The Committee also recognizes that both ALVIN and other UNOLS fleet users may have interests that must be considered. Nevertheless, the ARC accepted the scenario as the probable outlook for ALVIN operations and used it as the basis for developing a tentative 1983 ALVIN operating schedule.

The tentative schedule for 1983 ALVIN/ATLANTIS II operations includes scientific program dives that can be accommodated during at-sea testing of new systems out of the Woods Hole and later, convenient to a transit to Panama Canal, all during July and August, 1983. Operations during September - December would be in the eastern Pacific, south of San Diego. The proposals accommodated in this tentative schedule are from among those received by ARC in response to the ALVIN flyer on research opportunities in 1983. (Individual responses are in preparation for all proposals received and considered.) The Committee next considered 1984 ALVIN/ATLANTIS II operations and recommended that they be scheduled in the eastern Pacific.

ARC Plans to Develop and Finalize Schedules

The ARC decided that because of the possible curtailed ALVIN season in 1983, the tentative status of ALVIN and ATLANTIS II modifications and uncertainties concerning the ALVIN/ATLANTIS II mode of operation that they could not publish even their provisional scheduling recommendations at this time. The Committee has set a meeting for December, 1982 (in conjunction with the winter AGU meeting) to finalize the 1983 operating schedule and to begin to formulate the ALVIN schedule for 1984. In addition, the Committee will hold a workshop to help generate information on which to develop the scientific diving program for 1984 and 1985. At the December ARC meeting new proposals for ALVIN operations, especially during 1984 in the eastern Pacific, will be welcome. The Committee's work will also be aided by the submission of supplemental information for the proposals that were submitted before March 1, 1982 ARC deadline. Information bearing on specific questions indicated in Committee responses to individual proposals will be especially helpful. Finally, the Committee will be aided by the submission of letters of intent indicating interest in ALVIN dives in the Pacific during early 1985.

A regular ALVIN Review Committee Scheduling Meeting will be held about April, 1983. The 1984 ALVIN operating schedule will be finalized at that time. The ARC will consider proposals received after the December, 1982 meeting in setting the 1984 schedule. However, potential ALVIN users should note that to receive consideration during the entire 1984 scheduling process, their proposals should reach UNOLS Office by November 1, 1982.

A revised ALVIN flyer will be distributed during summer, 1982. This revision will define the scheduling process above and will more sharply define the content and format desired of proposals for ALVIN use.

cc: ALVIN Review Committee

UNOLS Advisory Council

UNOLS Delegates

Submersible Science Study Members

UNIVERSITY-NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM

An association of institutions
for the coordination and support
of university oceanographic facilities

June 2, 1982

TO: ALVIN Users, ALVIN Sponsors and Interested Parties

FROM: *for* Robert W. Corell, Chairman
ALVIN Review Committee



SUBJECT: ALVIN Information

The ALVIN Review Committee (ARC) met in Woods Hole, Massachusetts on April 22, 23, 1982 to consider ALVIN operations and schedules for 1983 and beyond. Proposed changes in the mode of ALVIN operations, particularly concerning support vessels and the method of at-sea deployment, will probably result in an abbreviated schedule for 1983 operations and will be a factor in scheduling and operations for subsequent years. The ARC finds it essential that information on these changes and on the Committee's efforts to accommodate new factors in ALVIN scheduling promptly be made available to the community. Information is provided on the results of the April ARC meeting, on near-term committee plans to refine ALVIN schedules for 1983-1985 and on the probably mode of future ALVIN operations.

April ARC Meeting

Representatives from the federal funding agencies, NSF, ONR and NOAA gave reports that tentatively indicated 1983 funds for ALVIN would be roughly comparable to those available in 1982.

A review of 1981 and 1982 ALVIN operations to date was provided by WHOI ALVIN operations personnel. At the conclusion of 1982 operations, ALVIN/LULU will return to Woods Hole for periodic maintenance.

Robertson Dinsmore made a presentation on WHOI studies to support a proposal in preparation for ALVIN support. These studies and the proposal are for the modification and use of ATLANTIS II as ALVIN support vessel and for the modification of ALVIN to accommodate a single-point lifting mode of deployment and recovery. If funds are available and the proposal is accepted, work would be accomplished and testing completed during the period of March - August, 1983. Some scientific dives could be completed during at-sea testing, and ALVIN/ATLANTIS II could be available for extended operations beginning in September, 1983. This scenario envisions that a significant but not as yet specified portion of the ATLANTIS II operations would be devoted to ALVIN support in 1983 and beyond.

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CONFIDENTIAL

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William D. Barbee
Executive Secretary, UNOLS

The meeting was adjourned at 6:05 p.m.

A two-day meeting at Woods Hole in Spring, 1983 was agreed to. Exact dates will be determined later.

Discussion of terms of reference for ARC reviews was deferred until the Spring, 1983 meeting.

Letter setting out a film and data archiving policy. After discussion and modest revision the Committee endorsed the policy (Appendix IX).

ALVIN Film and Data Archiving policy: Barrie Walden introduced a draft

The Committee enthusiastically endorses and moves to foster an effort to enhance ALVIN capabilities.

Mr. W. M. Marquet related the need for enhanced ALVIN capabilities to recommendation 8.1.4 in *Submersible Science Study*, "A steady upgrade of ALVIN over a period of five years or more.....". Capabilities recommended for improvement include: navigation, viewing and television, data logging and microprocessors, acoustic telemetry, sampling tools and manipulators and payload and power ratios.

Expanded scientific capabilities for ALVIN: The Chairman noted his letter of November 5, 1982 describing the need to augment ALVIN capabilities and the opportunity to fill that need (Appendix II). Response to that letter has, so far, been disappointing. Prompt action is required if this opportunity to gain additional ALVIN equipment capability is to be realized.

The intense interest in and demand for ALVIN time together with the added complexity of interfacing ALVIN planning with that for ATLANTIS II gave rise to the Committee's concern that the existing planning process is not adequate. With the Committee's concurrence the Chairman appointed a subcommittee to examine the advanced planning process and to make suggestions for its improvement. Initially, the subcommittee is D. R. Karig, F. L. Sayles and A. A. Kayanos. They will meet first in January, 1983.

The Committee also noted that the ATLANTIS II has impressive capabilities both in support of ALVIN-related operations and independent of ALVIN. The need to provide effectively for full utilization of ALVIN/ATLANTIS II as well as for ATLANTIS II's other capabilities makes advanced planning more challenging.

The Committee saw scientific merit in the groups of proposals for each of the areas considered. They noted, however, that letters of intent or proposals already in hand request 450-500 dives or two to three times as many as can be scheduled.

The Chairman's letter, dated December 30, 1982 announces the Committee's recommendation and describes additional ARC planning and review procedures (Appendix VIII).

The ALVIN Review Committee recommended that ALVIN/ATLANTIS II be committed to Pacific operations for a period of approximately eighteen months beginning in January, 1984. Approximately two-thirds of this period would be devoted to operations in the eastern Pacific; proposals from the Galapagos to the Goda-Iuan de Fuca will be considered. One-third of the eighteen month period would be devoted to transit to and from the western Pacific and research there; proposals will be considered for the Marianas region and for such other areas as might reasonably be accommodated either along the transits or within logistic range of the Marianas region.

Planning recommendations for 1984-1985: The Committee discussed the 1984 and 1985 proposals that had been received (Appendix V) together with the presentations heard on December 11 (Appendix III). The scientific merit of individual proposals was not assessed. However, the Committee agreed that the group of proposals received represented sound and exciting scientific potential, and that the ALVIN/ATLANTIS II should be committed to work in the Pacific for an extended period.

The Chairman will form a working group to carry forth this effort.

It was the sense of the ALVIN Review Committee that their efforts to make SEA CLIFF and TURTLE capabilities available and useful to the scientific community should be continued.

In further discussion it was agreed that there remain many problems that must be solved if the SEA CLIFF and TURTLE are to be used effectively by the scientific community. These problems include administrative, operational and equipment difficulties. Nevertheless, use of the Navy-operated submersible remains an attractive possibility for augmenting the available capability for deep submergence research and, in the near future, to extend depth capabilities to 6000 meters.

R. Corell and K. Kaulum described the effort-to-date to foster use of the Navy's SEA CLIFF and TURTLE. The use of the two submersibles by researchers from the academic community was strongly endorsed by a letter from the Chief of Naval Research. Conferences were held among representatives of the Navy's SUBDEVEGROUPE 1, ALVIN operators and the ARC's working group. Terms for use of the SEA CLIFF and TURTLE were established, operational advice was exchanged and a tentative schedule was established wherein four projects that had been proposed for ALVIN would be done on the SEA CLIFF or TURTLE. The four projects included two under NSF sponsorship and two sponsored by ONR. They were all within convenient logistic range. However, because of funding decisions and considerations raised by some of the principal investigators involved, only one project (ONR-funded) remains scheduled on the Navy operated submersibles.

Use of Navy-operated research submersibles: The use of Navy-operated submersibles by academic researchers had been recommended by the ARC at their April 22, 23, 1982 meeting. Efforts to achieve effective use had been pursued during 1982. Because the results of these efforts have affected the 1983 ALVIN schedule, the issue was added to the Committee's agenda.

1. The first objective of the study was to determine the extent to which the respondents were aware of the various types of international trade agreements and their implications for the economy of the country.

2. The second objective was to identify the factors that influence the respondents' attitudes towards international trade agreements.

3. The third objective was to assess the respondents' perceptions of the benefits and challenges of international trade agreements.

4. The fourth objective was to explore the respondents' views on the role of the government in regulating international trade.

5. The fifth objective was to identify the respondents' suggestions for improving the country's trade policies.

6. The sixth objective was to determine the respondents' level of interest in international trade.

7. The seventh objective was to assess the respondents' knowledge of international trade agreements.

8. The eighth objective was to explore the respondents' views on the impact of international trade on the environment.

9. The ninth objective was to identify the respondents' concerns about international trade.

10. The tenth objective was to determine the respondents' level of support for international trade agreements.

Minutes of the ALVIN Review Committee meeting, December 12, 1983: R. W. Corell, Chairman, called the meeting to order at 8:30 a.m. In addition to ARC members, the funding agency representatives, W.H.O.I. operating personnel and UNOLS Office staff attended (as listed above). Committee business was addressed in the order shown on the agenda (Appendix VI).

ALVIN Operations: Barrie B. Walden distributed a summary of 1982 ALVIN/LULU operations (Appendix VII). Diving operations began in the Guaymas Basin in January, included work on the East Pacific Rise, California Basins, Panama Basin, Mid Atlantic Ridge, North Atlantic Deep Ocean Stations, Oceanographer and Lydonia canyons, Straits of Florida and N.W. Providence Channel and near the Virgin Islands and Puerto Rico. The 1982 season comprised:

317 operational days
257 sea days
209 use days
131 dives

This is the most ambitious ALVIN/LULU annual schedule yet accomplished. The large number of operational days—a consequence of the large number of use days and the extended period away from Woods Hole—led to some new scheduling problems. The standing need for training dives was, in some instances, disruptive to investigations. In the future, training dives will be scheduled explicitly. The Submersible Program Group will generate an ALVIN operating/scheduling policy document for review by the ALVIN Review Committee. In addition, the ALVIN User's Manual will be reinstated.

The minutes of the April 22, 23, 1983 ALVIN Review Committee meeting were accepted.

ALVIN/ATLANTIS II Schedule for 1983: It was noted that several factors had impinged on the tentative 1983 schedule recommended in April, 1982: modifications to the ATLANTIS II will not be completed until about September—two months later than estimated earlier, some proposals recommended for the ALVIN schedule were denied funding in 1983 and funding decisions have not yet been made for others, and some proposals that were not recommended for the ALVIN schedule were funded.

The sense of the Committee was that ALVIN should be returned to operations as soon as practical after the 1983 maintenance period and completion of modifications. To this end the Committee recommends that during the interval after ALVIN is available and before ATLANTIS II modifications are complete that operations near Woods Hole be undertaken using ALVIN/LULU.

The ARC then recommended a 1983 schedule that included operations during the late summer using ALVIN/LULU, operations in the northwest Atlantic during October using ALVIN/ATLANTIS II, transit to the Pacific during early November and Pacific operations during November, December using ALVIN/ATLANTIS II. Letters were directed to those principal investigators involved. A schedule is being developed by the Submersible Program Group, W.H.O.I.

Proposed ALVIN Research, 1984-1985: R. W. Corell, Chairman reiterated the ARC's intent in convening the workshop on proposed ALVIN research and the Committee's need for information on which to conduct advanced planning. He noted the intense community interest in ALVIN/ATLANTIS II, as manifested by the approximately 200 attendees at the workshop.

Presentations on research interests using ALVIN/ATLANTIS II, were made by prospective investigators who had declared their intentions to conduct research during 1984-1985 in the Pacific. Their intentions had been expressed to the ARC in response to announcements of opportunities for oceanographic research on ALVIN. Thirty-eight presentations were made during the times 10:15 a.m. to 12:10 p.m. and 1:30 p.m. until 6:55 p.m. The presentations were grouped areally, as noted on the agenda: Galapagos, Guaymas Basin, East Pacific Rise and East Pacific Seamounts, California Basins, Gorda-Juan de Fuca and Washington-Oregon Continental Slope, Hawaiian Seamounts and Western Pacific. Eight of the presentations emphasized biological investigations, eight chemical studies, twenty-one geological/geophysical and one concerned ALVIN/ATLANTIS II capabilities and the need for effective advanced planning and utilization. The proposals received (and the presentations thereof) are characterized by principal investigator, area and purpose in the Summary of ALVIN proposals received (Appendix V).

The workshop portion of the meeting was adjourned at 6:55 p.m.

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ALVIN/ATLANTIS II. Status of modifications and system capabilities for worldwide research submersible operations.

Mr. J. D. Donnelly discussed overall modifications and the status of work on the ATLANTIS II. Modifications have begun, with funding that became available October 1, 1982. According to current estimates, the ATLANTIS II will not be available in mid-1983 as previously estimated, but, more realistically, in September of that year. The ATLANTIS II's characteristics concerning range, speed, laboratory space, etc., will not be changed significantly by ALVIN-related modifications. (These characteristics are included in the latest announcement of ALVIN research opportunities, Appendix IV). It is anticipated that the ATLANTIS II will accommodate a scientific party of about 15 for ALVIN operations (in addition to ALVIN operating personnel).

In the brief discussion following Mr. Donnelly's presentation, interest centered on capabilities of the ATLANTIS II other than those in support of ALVIN and on plans for a navigational barge or buoy that would free the ship during ALVIN dives. Mr. Donnelly noted that modification of the ATLANTIS II would not impinge on any of her existing capabilities and that the addition of greater lifting capacity and a better bow thruster would enhance many on-station operations. He noted also that during 1983 the ship would gain swath-sounding capability that should be of great utility. Although some consideration has been given to designing and acquiring a navigation barge/buoy the concept remains tentative.

Mr. Barrie B. Walden, Submersible Program Manager, W.H.O.I., discussed ALVIN modification and their potential impact on diving operations. He noted that ALVIN was at present in operation and work to modify for single-point lift and suspension had not begun. Although preliminary design evaluations had indicated that ALVIN modification would be simple and straightforward, the adoption of an inverted-A carriage and more elaborate coupling mechanism on the A-frame will require a much stronger (and heavier) coupler/lift point on the ALVIN. This added mass could impinge on ALVIN's payload capacity. Alternatives, such as the addition of more external floatation are being examined; an engineering solution has not yet been reached.

During a brief discussion of new ALVIN capabilities, Mr. Walden noted that the Woods Hole Submersible Program is only funded to operate ALVIN and to maintain equipment and instruments that are directly a part of the operations project. It is important to realize that the Group is not funded for continuing development of new equipment or to maintain equipment used on ALVIN on a project basis. (This does not imply a change in the Group's traditionally cooperative attitude toward adapting to the use of principal investigator-supplied equipment and instrumentation.)

Mr. W. M. Marquet discussed ALVIN/ATLANTIS II navigational equipment in terms of requirements to find dive areas and targets, for launching, for ALVIN descent, for on bottom operations, for recovery tracking and for nighttime operations. These requirements were related to navigation recommendations in the report *Submersible Science Study, April, 1982*. He urged strong consideration for acquiring Global Positioning System (GPS) capability in the near future.

December 11, 1983 (Appendix 11)

Notes: that the order of business of the meeting would follow the agenda for the day. The Chairman outlined the business of the day and the agenda for the day.

- G. G. ZAKHAROV
- A. D. BUKHAROV
- В. В. ВАСИЛЬЕВ
- V. V. VASILYEV
- A. D. BUKHAROV
- I. M. MURAVYEV
- E. G. GAVRILIN
- G. I. GOLUB
- G. V. GILYEV, ex-officio
- D. E. KRYUK
- E. G. VITEL
- S. N. SOLOVYEV, Chairman
- УСТАВ РАБОТЫ КОМИТЕТА

- Z. ZAKHAROV
- A. A. KAZHAROV
- V. V. VASILYEV
- I. D. DOLGOVA
- И. Д. ДОЛГОВА
- A. MURAVYEV
- K. GAVRILIN, OM
- Z. MURAVYEV
- A. BUKHAROV
- B. GAVRILIN, OM
- I. G. GAVRILIN, OM
- E. I. KRYUKOV, OM
- УСТАВ РАБОТЫ КОМИТЕТА

The meeting was held on December 11, 1983, at the residence of the Chairman, S. N. Solov'yev, at the address: ... to order at 3 p.m. December 11, 1983, in the Chairman's office at ... minutes of the meeting. The agenda of the VAIN VAIN Committee ...

related to work presentation. ... December meeting to a ... VAIN ... was ... to ... work ... presentation ... to pass ... for ... to the work of ... VAIN II ...

December 2, 1983 (Appendix 11)

A ... VAIN VAIN II ... information ... 2, 1983 (Appendix 1) ... meeting was ... in the ... of the ... 1983 ... to ... VAIN VAIN II ... 1983 ... to ... (VAC) ... 1983 ... the ... of the ... 1983 ...

УСТАВ РАБОТЫ КОМИТЕТА
DECEMBER 11, 1983
CHAIRMAN: S. N. SOLOVYEV
VAIN VAIN COMMITTEE

ALVIN REVIEW COMMITTEE

Minutes of Meeting
 December 11, 12, 1982
 Cathedral Hill Hotel
 San Francisco, California

Forward: At its meeting on April 22, 23, 1982, the ALVIN Review Committee (ARC) determined the need for an additional meeting during winter, 1982. The twofold purposes for this winter meeting were to reach final schedule recommendations for ALVIN/ATLANTIS II operations during 1983 and to begin advanced planning for ALVIN/ATLANTIS II operations in 1984. The winter meeting was announced in the minutes of the April, 1982 ARC meeting, in an information letter from the Chairman, June 2, 1982 (Appendix I), and again in a Chairman's letter concerning capabilities for the ALVIN/ATLANTIS II dated November 5, 1982 (Appendix II).

The ARC was concerned that because of the tentative status of ALVIN and ATLANTIS II modifications together with their conviction that this new combination would result in significant changes in the mode of operation, they might not have adequate information on which to base recommendations for future ALVIN schedules. Hence, it was determined to devote the first day of their December meeting to a workshop on tentatively proposed ALVIN investigations. Investigators who had expressed an interest in conducting research investigations using ALVIN during 1983-1985, in the Pacific, were invited to make presentations.

Minutes of the Meeting. The meeting of the ALVIN Review Committee was called to order at 9 a.m. December 11, 1982 by the Chairman, Robert W. Corell. Members of the Committee, UNOLS Office staff and observer representatives of the funding agencies, NSF, ONR, and NOAA were introduced:

<u>ALVIN Review Committee</u>	<u>Agency Representatives</u>
R. W. Corell, Chairman	B. T. Malfait, NSF
R. C. Aller	J. G. McMillian, NSF
D. E. Karig	P. Penhale, NSF
G. D. Grice, <i>ex-officio</i>	M. Reeve, NSF
G. T. Rowe	R. Wall, NSF
F. L. Sayles	K. Kaulum, ONR
J. Weissel	W. Bush, NOAA
M. Wimbush	
A. A. Yayos	W. H. O. I.
<u>UNOLS OFFICE</u>	J. D. Donnelly
W. D. Barbee	B. B. Walden
G. L. Rufener-Morgan	W. M. Marquet
	R. Hollis

The Chairman outlined the purpose of the first day of the meeting and noted that the order of business and presentations would follow the agenda for December 11, 1982 (Appendix III).

- I. Chairman, ARC Information Letter, June 2, 1982
- II. Chairman, ARC ALVIN/ATLANTIS II capabilities letter, November 5, 1982
- III. Agenda, ALVIN/ATLANTIS II Workshop, December 11, 1982
- IV. Opportunities for Oceanographic Research, ALVIN 1984-1985
- V. Summary of ALVIN Shiptime Proposals received, December, 1982
- VI. Agenda ALVIN Review Committee, December 12, 1982
- VII. ALVIN/LULU Schedule and Statistics, 1982
- VIII. Chairman, ARC, Recommendations for 1984-1985 ALVIN/ATLANTIS II operations, December 30, 1982
- IX. Manager, ALVIN Operations, draft of film and data archiving policy
- X. Tentative Schedule, 1983 ALVIN Operations

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 San Francisco, California



- X. Tentative Schedule, 1983 ALVIN Operations
- IX. Manager, ALVIN Operations, draft of film and data archiving policy
- VIII. Chairman, ARC, Recommendations for 1984-1985 ALVIN/ATLANTIS II operations, December 30, 1982
- VII. ALVIN/LULU Schedule and Statistics, 1982
- VI. Agenda ALVIN Review Committee, December 12, 1982
- V. Summary of ALVIN Shiptime Proposals received, December, 1982
- IV. Opportunities for Oceanographic Research, ALVIN 1984-1985
- III. Agenda, ALVIN/ATLANTIS II Workshop, December 11, 1982
- II. Chairman, ARC ALVIN/ATLANTIS II capabilities letter, November 5, 1982
- I. Chairman, ARC information letter, June 2, 1982

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