IODP-MI Operations Committee

September 30- October 1, 2004

Lincoln Suites Hotel –1823 L Street, NW

Washington, D.C.

OPCOM ATTENDEES

OPCOM members

Jack Baldauf	JOI Alliance, Texas A&M University, USA
Mike Coffin	Ocean Research Institute, University of Tokyo, Japan
Dan Evans	ECORD Science Operator (ESO), British Geol Survey, United Kingdom
Thomas Janecek	IODP Management International, Inc., Washington, D.C., USA
Yoshihisa Kawamura	Center for Deep Earth Exploration (CDEX), JAMSTEC, Japan
Shin'ichi Kuramoto	Center for Deep Earth Exploration (CDEX), JAMSTEC, Japan
Chris MacLeod	Department of Earth Seiences, Cardiff University, UK
Terry Quinn	College of Marine Science, University of South Florida, USA
Frank Rack	JOI Alliance, Joint Oceanographic Institutions, Inc., USA
Mary Reagan	JOI Alliance, Lamont Doherty Earth Observatory, USA
Ursula Roehl	ECORD Science Operator (ESO), Bremen University, Germany

Observers

Jamie Allan	National Science Foundation (NSF), USA
Andy Baker	United States Science Support Program (USSSP), Washington, D.C., USA
Rodey Batiza	National Science Foundation (NSF), USA
Kenji Kimura	Ministry of Education, Culture, Sports, Science and Technology (MEXT)
Kelly Kryc	JOI Alliance, Joint Oceanographic Institutions, Inc., USA
Yoichiro Otsuka	IODP Management International, Inc. (IMI), Washington, D.C.,
Manik Talwani	IODP Management International, Inc. (IMI), Washington, D.C., USA

MEETING AGENDA

Thursday, September 30th, 2004 **08:30-17:00**

1) Review OPCOM meeting agenda / logistics

2) FY05/06 Program Plan Budget Guidance from Lead Agencies/IODP-MI representatives

3) General Operator issues for OPCOM to consider
   a. JOI Alliance representative
   b. ESO representative
   c. CDEX representative

4) Scheduling FY05/06 JR/MSP Operations

Friday, October 1st, 2004 **08:30-15:00**

5) Continued Discussion of JR/MSP Operations

6) Update and Implementation
   Expedition Assessment
   Scoping Group Status
   IODP Core Distribution
   HSE Document
   Other?

7) All Other Business
   OPCOM – next meeting date and location

MEETING REPORT

1) Review OPCOM meeting agenda / logistics

The meeting was opened with welcoming remarks by the Chair, followed by self-introductions by each participant and a review of meeting logistics by the Chair. A request for additional agenda items was made by the Chair, and no new items were suggested.

2) FY05/06 Program Plan Budget Guidance from Lead Agencies/IODP-MI representatives

Jamie Allan (NSF) provided new budget guidance for OPCOM to consider while planning new operations in FY05.

(1) The Lead Agencies have determined, based upon estimated FY05 IODP Program Plan costs and available funds, that $10M in POC and $2M in SOC will be available for an additional 4 months of *JOIDES Resolution* operations.

(2) NSF has informally determined that there are sufficient POC and SOC funds to operate the JOIDES Resolution until February, 2006, with last port call in US.

(3) NSF requests that a provisional schedule for JOIDES Resolution operations be produced for the balance of FY06.

See Item #4 for committee discussion of this advice with respect to generating scheduling options for the JOIDES Resolution.

3) General Operator issues for OPCOM to consider

a. JOI Alliance

Jack Baldauf provided the Committee with an update of USIO operations to date (301), planning for Expeditions 301T-306, "Lessons learned" to date, status of Phase 2 SODV operations and co-chief staffing. See **Appendix A** for detailed powerpoint presentation.

b. ESO

Dan Evans first provided brief updates of ESO operations and issues regarding the ACEX expedition

Discussion then focused on the need to establish staffing and attendance guidelines for the onshore portion of the MSP operations. Protocols need to be established for determining the length of stay of participants. The main purpose of the onshore party is to ensure that a

minimum set of measurements is collected on all cores and the onshore party should be considered as "part of the cruise". Thus committee members felt that scientists should be committed to fully participate for the entire length of the onshore party. However, some flexibility is need for strong mitigating circumstances (health, family issues, etc).

Evans next updated the committee members on the status of Tahiti Sea level operations. A ship tender will be issued in October. Co-chief scientists (Yasufumi Iryu [Japan] and Gilbert Camoin [France]) have been selected as co-chiefs and will meet in Leicester on Oct 14-15 to begin expedition planning. A logistics meeting with Tahiti authorities will be held in December. Evans explained that no action had yet been taken toward planning with respect to the Tahiti Imaging APL as they were awaiting word from the proponents on the status of funding for the APL. Current plans are for Offshore work during the June-August 2005 time period with and Onshore party in October 2005.

c. CDEX

Yoshi Kawamura provided a brief update to the committee. There will be no international IODP operations for the Chikyu in FY05 or FY06. The ship will enter international operations most likely towards the end of FY07. Kawamura-san further outlined the training schedule for Chikyu as well as Site Survey plans for the NanTroSEIZE operation

4) Scheduling FY05/06 JR Operations

<u>Scheduling Options generated by OPCOM</u>

The committee discussed the new budget guidance provided by the Lead Agencies and decided on a three-part strategy for scheduling. The Committee would develop a set of options for:

(1) The remainder of FY05
(2) The first 4 months of FY06 (Oct –Jan)
(3) A "conceptual model" for the last 8 months of FY06 (Feb-Sept).

The OPCOM scheduling strategy for non-riser operations involved the following:

- Determining operations required for each proposal
- Developing time estimates for operations
- Determining environmental constraints
- Developing a matrix that combines science plan with operational and environmental constraints and risk, operational days at sea, and transits
- Adding fiscal reality to determine viable options to forward to SPC

See **Appendix B** for a more detailed JOI Alliance powerpoint presentation of the assessment of proposals and the development of initial scheduling options for OPCOM to consider. Below is a summary of this processe.

Defining Operations

The Operator developed a table that listed the operations for each proposal and, for some proposals, a modified (more limited) set of operations. Modifications are often made to proposals for several reasons including: (1) to fit operations into a single expedition; (2) to limit operations for safety reasons; (3) lack of technological capability; and (4) lack of lead time to procure equipment. **Table 1** (below) shows the major operations proposed for the proposals that OPCOM considered.

PROPOSAL		OPERATIONS
522	Superfast Spreading	Reenter 1256D and RCB Core to total depth (752 -1750 mbsf), Logs w/ WST, UBI
603A	NanTroSeize	APC/XCB/RCB (3 sites), Reentry (3), VSP
	NanTroSeize ®	APC/XCB (3 sites), Reentry (3), VSP, LWD
603B	nantroseize	APC/XCB (4 sites), Reentry (2), CORK IIs (2), VSP
	NanTroSeize ®	APC/XCB (4 sites), Reentry (4), XCB, LWD, CORK-II (1)
477	Okhotsk/Bering	APC/XCB (11 sites), Logs w/ MGT
	Bering Sea ®	APC/XCB (6 sites), Logs w/ MGT
482	Wilkes	APC,XCB,RCB, WST (3 sites), Logs w/ MGT
553	Cascadia	APC/XCB (7sites), Reentry (7) ACORKS (3), VSP, Logs w/ WST-3, LWD (31days)
	Cascadia ®	APC/XCB (7sites), Reentry (4), Logs w/ WST-3, LWD (11days)
600	Canterbury	APC/XCB/RCB (5sites), Logs w/ MGT
621	Monterey	3 reentry holes CORK (1), ACORK (1), Seismometer, LWD
	GOM	APC/XCB (4 sites) into blue sands w/ weighted mud
	GOM ®	APC/XCB (4 sites) to above blue sand
	Juan de Fuca	ACORKS (2), Pump tests, Logs w/ WST-3, UBI
	IRM sites	4 APC (1 site)
595	Indus	APC/XCB/RCB (1 site - 1500 mbsf)
547	Biosphere	APC/XCB/RCB (4 sites), Reentry cones (4), ACORK (4)
	Biosphere ®	APC/XCB/RCB 150m basement (4 sites)
557	Storegga	APC/XCB (7 sites), CORK II (1), PCS, HYACE, IWS, Logs w/ WST-3, LWD (23 days)
	Storegga ®	APC/XCB (2 sites), Logs w/ WST-3, LWD (5 days)
584	TAG II	RCB, ADCB (5 sites) w/HRRS, HDIC, LWD
555	Cretan Margin	APC/XCB/RCB (3 sites), CORK (1)
573	Porcupine Basin	3x APC/XCB (13 sites), Logs w/ UBI
	Porcupine ®	3x APC/XCB (4 sites), Logs w/ UBI

***Table 1**: Details of the operations for each of the proposals residing at OPCOM. An "®" indicates the proposal is modified from its original form. The proposals are grouped according to SPC priority (Green and Blue=highest, Yellow=second priority, Red third priority).*

Developing Time Estimates

Next, a preliminary estimate for the coring and logging operations shown was developed (see **Table 2; below**). To determine a preliminary estimate of time required for each expedition five days of port call activities and (an estimated) seven days of transit to and from port were added to the coring and logging time estimates. In addition, proposed operations were spread between the Atlantic, Pacific, Southern, and Indian Oceans. The transit times to from one area of operations to another are

substantial, potentially adding 20-30 days of transit (with no coring/science operations) between expeditions. Thus, OPCOM members felt that every effort should be made to minimize the transit between expeditions, even if this meant selecting some lower priority proposals for scheduling.

		Time Total	On Site Total	Core	Log	Transit Total	Between sites	To/from	Portcall
522	Superfast Spreading	63.4	51.4	45.6	5.8	7	0	7	5
603A	NanTroSeize	107.6	94.6	75.8	18.8	8	1	7	5
	NanTroSeize ®	90.7	76.1	60.3	15.8	9.6	2.6	7	5
603B	nantroseize	179.2	166.2	144.3	21.9	8	1	7	5
	NanTroSeize ®	91.6	78.6	65.4	13.2	8	1	7	5
477	Okhotsk/Bering	84.8	59.2	53.8	5.4	20.6	13.6	7	5
	Bering Sea ®	53.5	36.1	32.7	3.4	12.4	5.4	7	5
482	Wilkes	54.5	36.5	31.2	5.3	13	1	12	5
553	Cascadia	127.7	114.7	92.5	22.2	8	1	7	5
	Cascadia ®	118.5	105.5	83.3	22.2	8	1	7	5
600	Canterbury	69.6	57.1	46.1	11	7.5	0.5	7	5
621	Monterey	40.4	28.2	24.3	3.9	7.2	0.2	7	5
	GOM	53.9	38.1	32	6.1	10.8	3.8	7	5
	GOM ®	38.5	23.8	17.7	6.1	9.7	2.7	7	5
	Juan de Fuca	56.3	44.1	39.3	4.8	7.2	0.2	7	5
	IRM sites	36.4	24.1	21.7	2.4	7.3	0.3	7	5
595	Indus	42.9	30.9	27.5	3.4	7	0	7	5
547	Biosphere	87	74.5	70	4.5	7.5	0.5	7	5
	Biosphere ®	56.1	43.6	39.2	4.4	7.5	0.5	7	5
557	Storegga	71.2	56.7	42.7	14	9.5	2.5	7	5
	Storegga ®	34.5	21.9	15.3	6.6	7.6	0.6	7	5
584	TAG II	92.8	80.3	61.7	18.6	7.5	0.5	7	5
555	Cretan Margin	50.1	37.9	34.8	3.1	7.2	0.2	7	5
573	Porcupine Basin	68.9	55.8	43	12.8	8.1	1.1	7	5
	Porcupine ®	30.8	18.6	14.4	4.2	7.2	0.2	7	5

Table 2: Details of the preliminary estimates of operation and transit times for each of the proposals residing at OPCOM. An "®" indicates that operations in the proposal are modified from its original form. The proposals are grouped according to SPC priority (Green and Blue=highest, Yellow=second priority, Red third priority).

Incorporating Environmental Constraints

Environmental constraints are an important consideration in scheduling. **Table 3** provides examples of the various environmental issues affecting the different proposals.

Environmental Constraint	Affected Proposals
Ice	Bering Sea, Wilkes, IRM, Storegga
Ice bergs	IRM
Winter storms	IRM, Storegga
Hurricanes/typhoons	GOM, TAG, NanTroSEIZE
Monsoons	Indus
Currents	NanTroSEIZE
Shallow water	Canterbury, Porcupine

Table 3: *Potential environmental factors taken into account by the Operator and OPCOM when scheduling expeditions.*

The time windows for the various environmental constraints were determined by the Operator and the weather windows prioritized for each proposal (**Table 4**). Some proposed operations (e.g., Superfast Spreading, Cretan Margin) could be conducted at any time during the calendar year. Others such as Wilkes Land, Canterbury, and Bering/Okhotsk Sea can only be conducted during a very restricted interval during the summer months in each hemisphere.

Table 4: *Estimates of prime weather windows for proposed operations. For proposals listed in the left-hand column an "®" indicates that operations in the proposal are modified from its original form. The proposals are also grouped according to SPC priority (Green and Blue=highest, Yellow=second priority, Red third priority). On the right hand side of the table, green=optimal weather window, purple=potential but not prime weather window, red=operations not proposed for that time period.*

Initial Scheduling Options

These weather windows are superimposed with the operational times to determine an initial set of schedules for FY05 (**Figure 1**). OPCOM examined this initial set of options in more detail. Some proposals required long lead times for planning or procurement and OPCOM felt they should not be scheduled in FY05 (e.g., NanTroSEIZE, Biosphere, Cascadia). Weather windows and/or transit times eliminated others from FY05 consideration (e.g., Wilkes, Canterbury, Indus, IRM, among others).

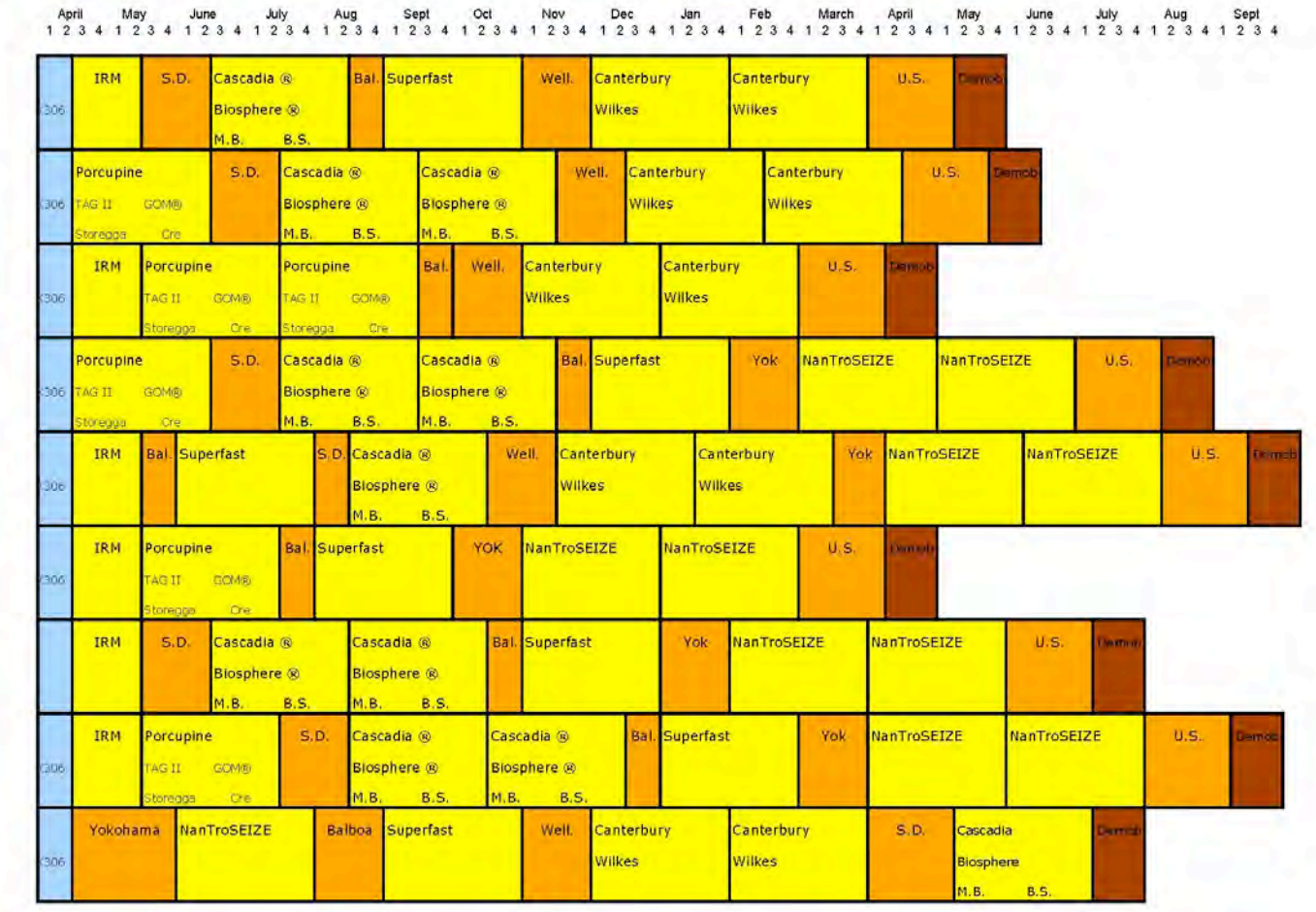


Figure 1: *Initial set of scheduling options presented at OPCOM.*

From this initial set of options, OPCOM then generated three models (**Figure 2**) that it felt would be feasible given the budgetary and operational constraints:

- Model 1: Porcupine Carbonate Mounds, Gulf of Mexico and Superfast Spreading
- Model 2: Bering Sea (one expedition) and Monterey
- Model 3: Okhotsk/Bering Sea (two expeditions)

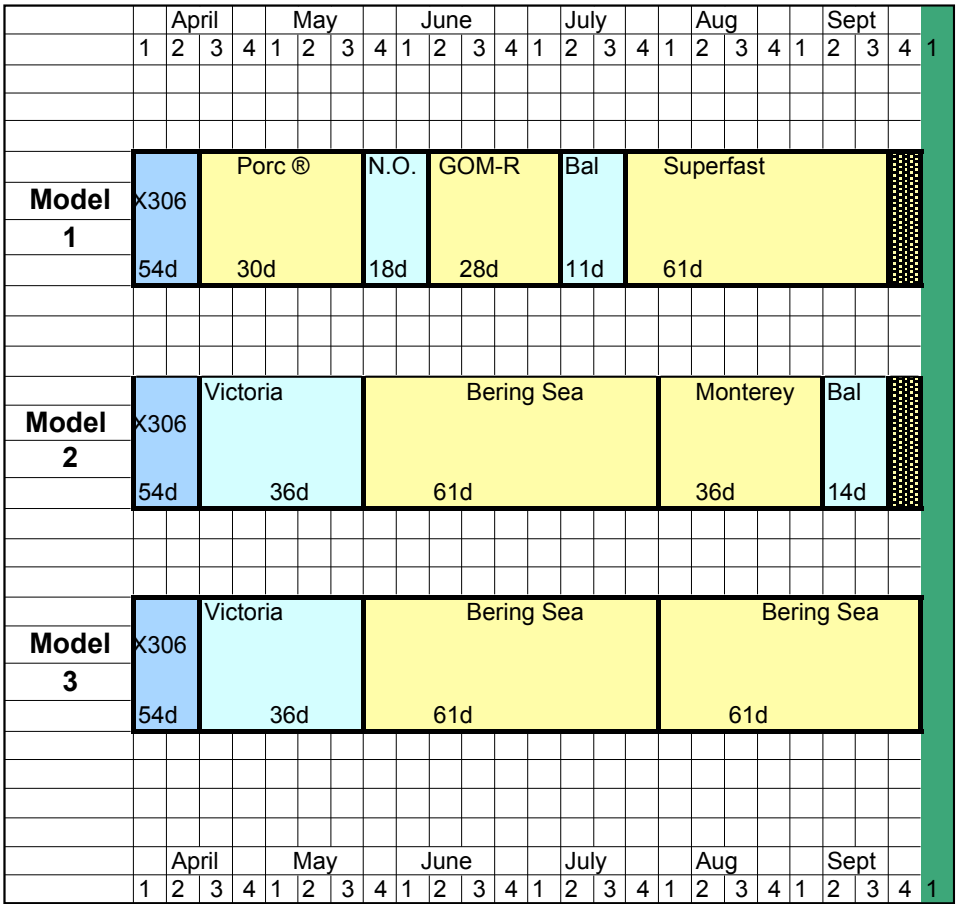


Figure 2: *Scheduling options fo the remainder of FY05. OPCOM members narrowed these option down to three models: one that minimized between expedition transits, a second that concentrated on both high-prior science and the development of engineering and observatory tes beds, and a third low-cost optio (i.e., an expedition that does not require significant new hardwar or supplies).*

Model 1 (**Figure 2**) was developed as an option that minimized transits and maximized the total amount of science (see Expedition Descriptions for more details on the operations proposed for these expeditions). Model 2 presented SPC with an option for highly ranked science (Bering Sea) and the option to establish an engineering test site (Monterey Bay Observatory). Model 3 was presented as the lowest cost option as the Bering/Okhotsk Sea operations do not require significant new hardware or supplies.

Each of the proposed models for the remainder of FY05 left SPC with numerous FY06 options (e.g., to go north or south in the Pacific Ocean, depending on the mission forecast and budget projections). **Figure 3** (below) shows conceptually the options that SPC could consider in developing a science plan for FY06. Regardless of the options chosen for FY05 and FY06, the majority of the highest-ranked proposals would be completed by the end of FY06 operations.

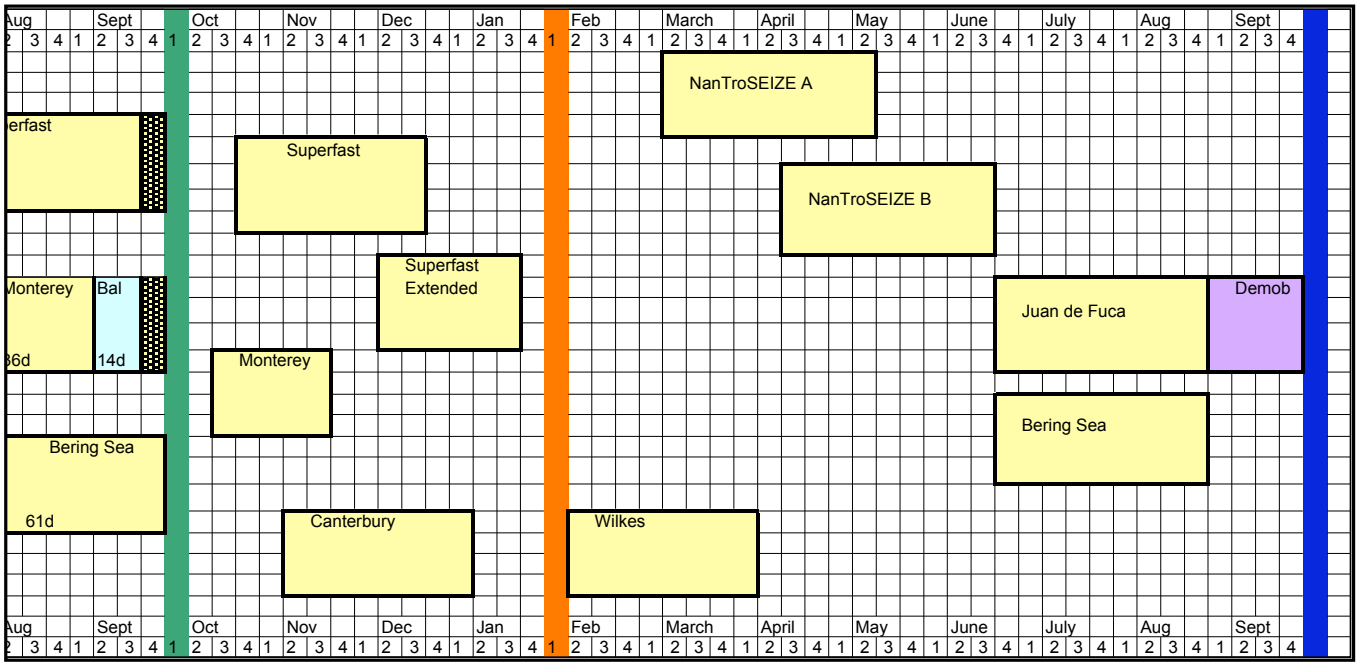


Figure 3: *Scheduling options prepared by OPCOM for SPC to consider for FY06. Options for the first part of FY06 (Oct-Jan) would depend on which model was chosen for FY05 (Figure_2).*

5) Other Business

A) Expedition Reviews

The Chair provided a brief update to the committee about the expedition review process established by IODP-MI. This review process is divided into two parts, an **operational** review and a **science** review.

The expedition-based science review falls into two phases: An initial review to be included in the Preliminary Report and a later second phase conducted by the Science Advisory Structure in conjunction with the IODP-MI VP Science Planning and Deliverables, Hans Christian Larsen. This second phase will be held well after the Expedition Report has been completed to more properly assess the long-term science impact from the expedition or a group of related expeditions. The Co-chief report to the SAS Science Planning Committee 9-12 month post expedition will be part of the second-phase science review.

The operational review is conducted by the IODP-MI Expedition Review Task Force and is generally conducted 1-3 months post-expedition. Each Review Task Force meeting consists of IODP-MI personnel (the president of IODP-MI and the Vice President of Operations), the expedition co-chiefs, representatives of the operators, three industry experts, and three non-expedition scientists

knowledgeable about the expedition objectives or goals. These reviews will focus on "lessons learned" and "How do we do things better in the future". Areas of discussion will include pre-cruise planning, syn-cruise drilling operations, communications between scientists and operators, roles and responsibilities of scientists and operators, general procedures and policies (e.g., curation, communications), laboratory operations, etc. The Task Force will develop specific recommendations for the Implementing Organization, for IODP-MI, and for the Science Advisory Structure and publish these recommendations on the IODP-MI website.

B) Project Scoping

The Chair provided a brief update on the establishment of a Project Scoping Group (PSG) for the NanTroSEIZE program. The first full meeting will be held in October at JAMSTEC. The chair provided a description of the membership of the Scoping group and the preliminary agenda for the meeting. Agenda topics will include;

- Mandate of NanTroSEIZE PSG
- Brief Overview of Science Proposals
- Site Survey Status and Future Plan
- Strategy for Riser-less Drilling
- Preparation for Riser Drilling
- Long-Term Observatory Development
- Operation and Management

C) Next Meeting

The next meeting has been tentative scheduled for February 2005. At this time OPCOM will have FY06 budget guidance from the Lead Agencies and can utilize that information to develop more formal FY06 scheduling options for SPC to consider at its March meeting.

APPENDIX A
TO
OPCOM Meeting
Sep 31-Oct 01, 04

USIO UPDATE

U.S. Implementing Organization (USIO)

OPCOM Overview

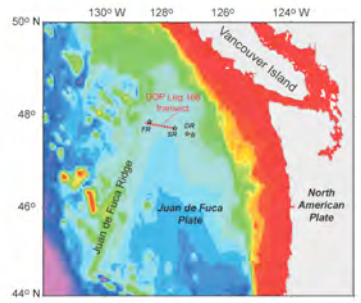
September 2004

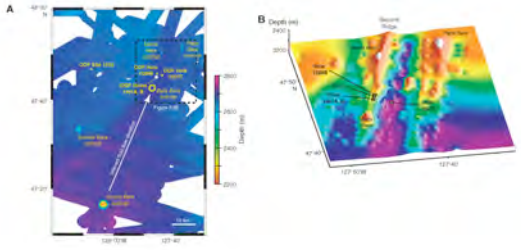
USIO Operations

- Operations
  - Ex 301
  - EX 301 transit
  - EX 303/306
  - EX 304/305
  - Schedule adjustment
- Other
  - SODV (Phase 2) status
  - Expedition assessment
  - Staffing

EX 301 Objectives

- Evaluate formation-scale hydrological properties
  - Fluid pathways
  - Linkages between fluid circulation, alteration, geomicrobial processes
  - Relationship between seismic and hydrological anisotropy





EX 301 Operational Strategy

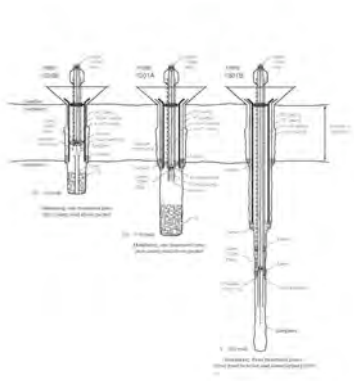
- Replace two existing subseafloor observatories
  - Holes 1026B and 1027C
- Install two new observatories
  - Sites 1301A and 1301 B (Proposed site SR-1A)
- Coring, sampling and downhole measurements
- APC coring in offset hole for microbiological samples

EX 301 Operational Results

- Two CORK-II installed at Sites 1301 A/B (SR-1A)
  - Shallow basement sampling installation w/ single packer
  - Deep basement installation with two casing packers
- Hole 1026B CORK replaced
  - CORK-II w/ 4 ½" casing to 201.5 mbsf, single packer
  - Osmosamplers (3), temperature loggers (2)
- Cored basement 110 m and 320 m (Sites 1301 A/B)
- Packer experiments completed
- APC coring completed
- Wireline logging completed

Site 1301 Results

- Hole A, Sediments (262 m), Basement (108 m) hydrological testing (packer), CORK-II (single level w/osmosamplers)
- Hole B, Sediments (265 m), Basement (318 m), hydrological testing (packers), logging, CORK-II (3 intervals w/osmosamplers)
- Hole C, non-continuously APC cores to 265 mbsf, APCT/DVTP measurements
- Hole D, APC spot cored



EX 301 Results

- 1027C CORK not replaced
  - Casing packers and some plumbing hardware used for Hole 1301B CORK-II installation
  - Time limitations
- Limited basement penetration in 1301B
  - Time limitations

EX 301 Milestones

Oct 03	**Pre-precruise meeting**
Nov	Continued opts planning
Dec/Jan	RFQ for packers/wellheads
Jan 04	Defined microbio hose material
Feb	PO issued for packers
	Two hole approach accepted
	Seal requested for shallow hole
	PO issued for umbilical and hose
Mar	**Precruise meeting**
April	**CORK mtg. at MBARI**
	PI's supply CORK plumbing requirements
	Design fixed
	Seal assembly RFQ and PO sent out
May	**Microbiology procedures finalized**
June	JR arrives Astoria

Site 1301 Challenges

- Hole A: Installed short 10 ¾"casing string into upper 15 m basement versus planned 100 m
  - Consequences: proposed deep hole became shallow hole
- Hole B: Lower 8 joints of 10 ¾" casing backed off while coring with first RCB bit
  - Resulted in 6 m gap and the need to run bow-spring centralizers
  - 4 ½" casing hung up in hole resulted in loss of 4 ½" casing/umbilical at seafloor
  - Re-deployed CORK using packers from 1027C system and with BHA weight at end of string
  - Consequences: 1027C CORK not replaced

Site 1301 Challenges

- Hole B: Reentry cone was below seafloor requiring raising the CORK-II assembly 2m
  - Consequences: Helicopter rendezvous required
- Cementing of casing had minimal success
  - Cement failed to form solid bond with formation around casing
  - Cement flowed or was sucked into formation
  - Consequences: Annulus seals marginally effective, Return to Site 1301 for further cementing in reentry cone in attempt to supplement seal

Lessons Learned

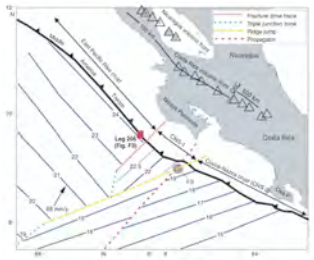
- Ensure appropriate resources and time to adequately plan, implement and deliver proposed science
- Fix design at time of final pre-cruise meeting or a minimum of 9-12 months pre-cruise
- Formalize internal review of deliverables through development cycle
- Utilize an experienced cementer to custom design cement jobs on CORK installations

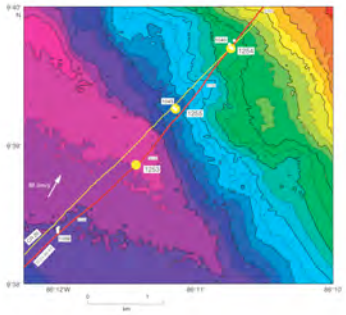
Lessons Learned

- Weld 10 ¾" casing joints not just lower 4 as has been practice
- Design circulation/seal assembly for casing annulus
- Deploy 4 ½" casing with adequate end weight to keep casing string in tension during deployment and evaluate alternatives

EX 301T Objectives

- Replace CORK downhole instrument strings at Sites 1253 and 1255.
  - OsmoSamplers, designed to collect a time series of samples for fluid and gas analyses over a 2 year period
  - Temperature loggers, data collection until 6 October 2004
  - Unsuccessful recover of system by Alvin





EX 301T Results

- Site 1253
  - Spectra line parted during initial fishing operations
  - OsmoSampler package dropped to seafloor,
  - Clean hole allowed installation of replacement system
  - Upper osmosampler recovered, lower osmosampler not found
- Site 1255
  - OsmoSampler recovered and replaced
- Total Operational time 3.8 days

EX 301T Other

- Astoria port call
  - Customs and Border Protection changes resulted in no offloading of items other than personnel and personal effects
  - Microbiological samples remained on vessel and were off loaded in Panama.

Schedule Adjustment

- Delayed arrival in St. John's
  - Scheduled 0600 22 Sept
  - Arrival 0600 25 Sept
  - Result from delay through canal
  - Course change resulting from Hurricanes
- Revised Port Call dates
  - EX 304, Azores 17-22 November
  - EX 305, Azores 8-13 January 05
  - EX 306, Azores 2-7 March
  - EX 307/Demob TBD

IODP USIO Riserless Vessel Schedule

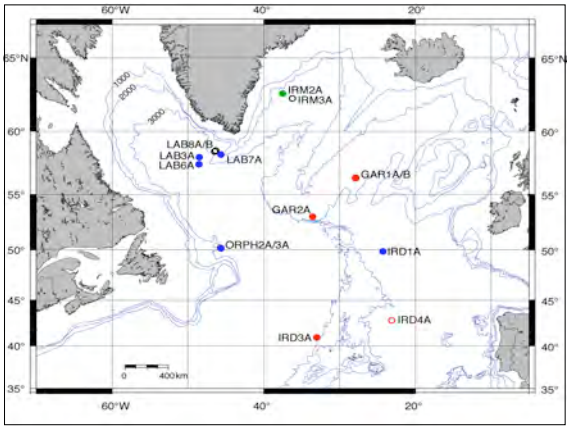
Cruise*		Port (Origin)	Dates[1,2]	Total Days (Port/Sea)	Days at Sea (Transit[3]/Ops[4])	Co-Chief Scientists	Alliance Contact(s)
Transit		Gamagori, Japan	1 - 20 June '04	19 (2/17)	17/0	N/A	N/A
Mobilization		Astoria	20 - 27 June	7 (7/0)	(0/0)	N/A	N/A
Juan de Fuca Hydrogeology	1	Astoria	27 June - 21 August	55 (1/54)	2/52	Andrew Fisher Tetsuro Urabe	TAMU: A. Klaus LDEO: G. Iturrino
Costa Rica Hydrogeology/Transit		Astoria	21 August - 22 September	32 (1/31)	28/3	TBN	TAMU: M. Malone
North Atlantic Climate 1	2	St. John's Newfoundland	22 September - 14 November	53 (5/48)	5/43	James Channell Tokiyuki Sato	TAMU: M. Malone LDEO: S. Robinson
Oceanic Core Complex 1	3	Ponta Delgada	14 November - 5 January '05	52 (5/47)	7/40	Chris MacLeod Barbara John	TAMU: J. Miller LDEO: F. Einaudi
Oceanic Core Complex 2	4	Ponta Delgada	5 January - 27 February	53 (5/48)	7/41	Donna Blackman Yasuhiko Ohara	TAMU: J. Miller LDEO: H. Dellus
North Atlantic Climate 2	5	Ponta Delgada	27 February - 22 April	54 (5/49)	4/45	Rudiger Stein Toshiya Kanamatsu	TAMU: M. Malone LDEO: B. Rea
Transit		Reykjavik	22 April - 10 May	18 (3/15)	15/0	N/A	N/A
Demobilization		Galveston	10 May - 1 June	22 (22/0)	0/0	N/A	N/A

Notes:
Acceptance of the vessel will take place 31 May 2004.
*Expedition nomenclature will be adjusted in the future to reflect naming protocols to be established by IODP-MI.
[1] Ship is scheduled to arrive 0600 hr on first day of port call.
[2] Initial cruise date reflects first day of port call, ship sails when ready.
[3] Transit = Estimated time to/from port to the operating area.
[4] Ops = Operations (includes both on-site and between-site time).

7 May 2004

EX 303/ EX 306 status

- Clearance
  - Canada and Greenland received for EX 303/306
  - Norway submitted (EX 306)
- Alternate sites
  - Requested/approved based on review by EPSP and TAMU EPSP
  - Lab 8V, 8X, 8Y, and 8Z alt
- Staffing
  - Mitch Malone will sail as Staff Scientist
  - Staff Scientist for 306 Carlos Zarikian
  - Staffing for EX 306 to commence



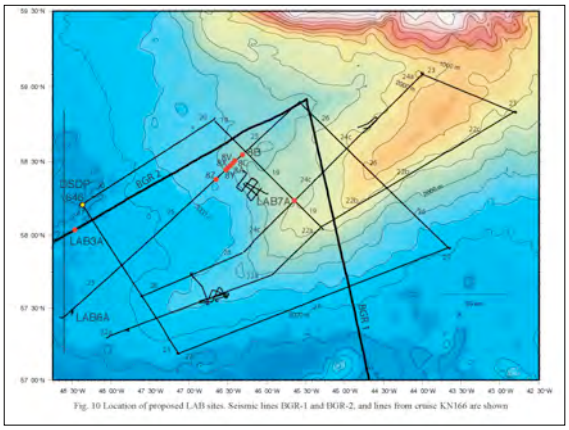
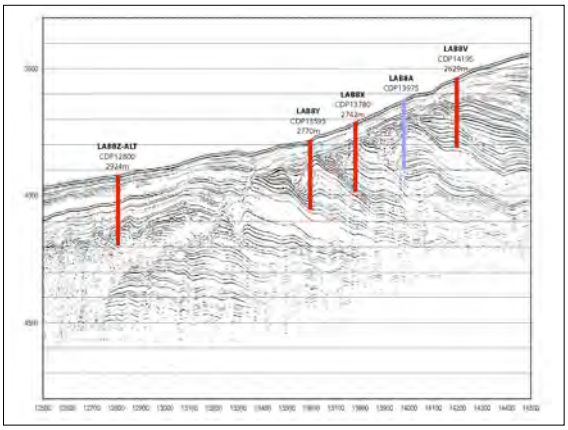


Fig. 10 Location of proposed LAB sites. Seismic lines BGR-1 and BGR-2, and lines from cruise KN166 are shown



EX 304/EX 305

- Staffing
  - Jay Miller will sail as Staff Scientist (EX 304)
  - Staff Scientist for 305 TBD
  - Staffing for EX 305 is being finalized
- Shipment
  - Hammer system shipped to Azores for 304

Additional Items

- Phase 2
- Expedition assessment
- Staffing

Phase 2

- Potential vessel Extension
  - Notification of vessel extension required by 1 December 2004 with official agreement completed by 1 February 2005.
- SODV RFP to be issues by 14 October
- Briefing Book to be circulated to community in October
- SAS comments to be coordinated by IODP-MI
- Project positions
  - Program Director — Stu Williams
  - Program Manager — TBD
  - Science Facilities — Bill Mills
  - Engineering Facilities — TBD

Post-Expedition Assessment

1) Cruise evaluation completed by participants
2) Expedition Team Initial assessment
   - Review Cruise evaluations, identify issues, recommend action items
   - Focus on implementation and operational issues
   - Initial assessment Report prepared by Expedition Project Manager
   - Response of substantial issues sent to respondents from appropriate Manager

Post-Expedition Assessment

3) JOT assessment
- Review Initial Assessment report and respond to issues raised
- Focus on broader issues
  - Operational success and limitations
  - Unanticipated events
  - Budget vs. actual costs
  - Expedition creep
  - Planning and scheduling
  - Science, proposed vs. attained
- Prepare final Assessment Report for submission to IODP-MI and NSF

Co-Chief Staffing

EX 303	James E.T. Channell Univ. of Florida	Tokiyuki Sato Akita University
Ex 304	Barbara E. John Univ. of Wyoming	Christopher MacLeod Cardiff University
EX 305	Donna Blackman UCSD	Yasuhiko Ohara Hydrographic Dept., Japan
EX 306	Toshiya Kanamatsu Japan MS&TC	Ruediger Stein Alfred-Wegener

U.S. Implementing Organization (USIO)

OPCOM Overview

September 2004

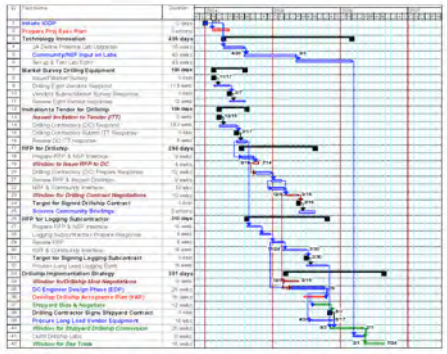


Figure 7. Timeline for Scientific Ocean Drilling Vessel Acquisition, Conversion, Acceptance and Commissioning Process

APPENDIX B
TO
OPCOM Meeting
Sep 31-Oct 01, 04

USIO Project Assessments

Preliminary Assessment of FY05-FY06 Proposals

1

Introduction

- Project assessment
- SPC ranked proposals
- Proposal limitations
- Assumptions
  - –Seafloor observatories
  - –Microbiology requirements
- Operational constraints
- Environmental constraints
- Procurement/long lead times
- Estimated budget strategy

2

Project Assessment

- Science objectives & priorities
- Risk evaluation
- Safety & security
- Operational strategy
- Recovery
- Time estimates
- Hardware & equipment requirements
- Supply requirements (i.e. bulk, liners, bits)
- Tool requirements
- Shipping
- Estimated cost

3

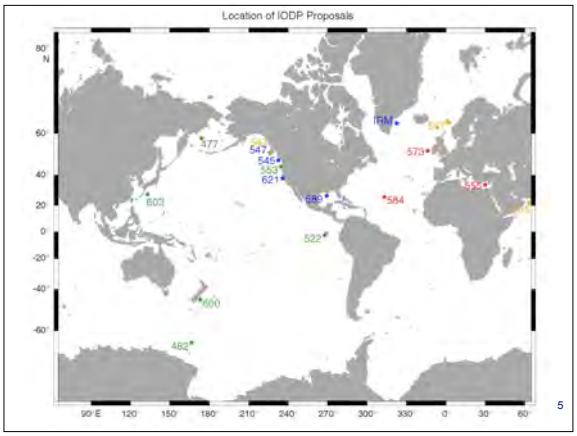
SPC Ranked Proposals

522 Superfast
477 Okhotsk/Bering
553 Cascadia
621 Monterey
545 Juan de Fuca
595 Indus
557 Storegga
581 Coralgal
555 Cretan

603A/B NanTroSeize
482 Wilkes
600 Canterbury
589 GOM
572 IRM
547 Biosphere

584 TAG II
573 Porcupine

4



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Proposals "as proposed"

- Superfast Spreading
- Okhotsk/Bering Sea
- Wilkens
- Cascadia
- Canterbury Basin
- Monterey Bay
- IRM
- Biosphere
- TAG II
- Cretan Margin

6

Proposals "modified"

NanTroSEIZE A	Replaced NT1-03A w/NT2-04A
NanTroSEIZE B	Reduced t.d. from 3500 to 2000 mbsf
Juan de Fuca	3 CORK IIs (2 CORKS)
Storegga	2 sites (7 sites)
Indus	Murray Ridge to 2 km (3.7 km)
Porcupine	4 sites w/o CORK (13 sites)

Proposals "options"

Bering Sea®	Bering Sea only
Cascadia®	7 sites w/3 reentry (7), no CORKS
GOM®	Normal pressure sites (no CORKs)
IRM®	1 site
Biosphere®	5 sites w/o reentry (5) or ACORKS (5)
Expedition 306®	(CORK/IRM/Storegga)

8

Proposal Limitations

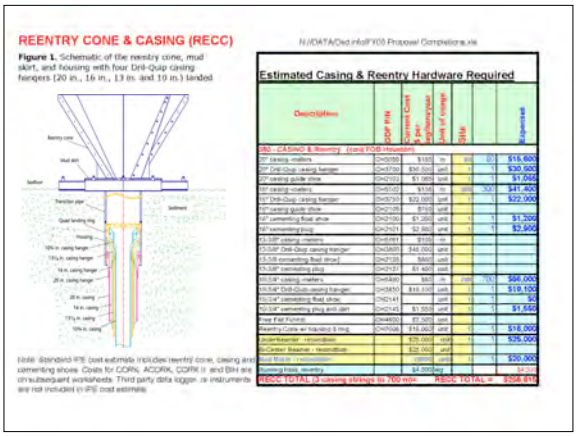
- Operations vaguely defined (holes, tools, T.D.)
- Special equipment vaguely defined (PCS, MDCB, DVTP)
- Completions vaguely defined (zones/depths)
- Microbiology deliverables vaguely defined
- Space limitations (i.e. van requirements, reentry cones)
- Multiple expeditions required

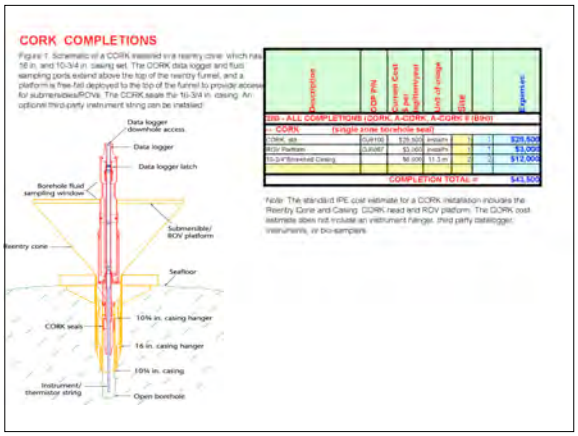
9

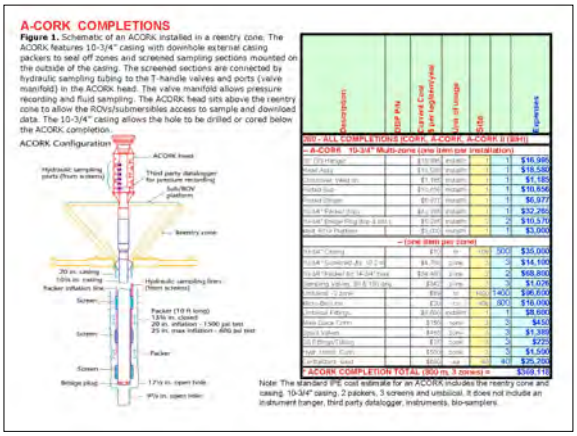
Seafloor Observatories Assumptions

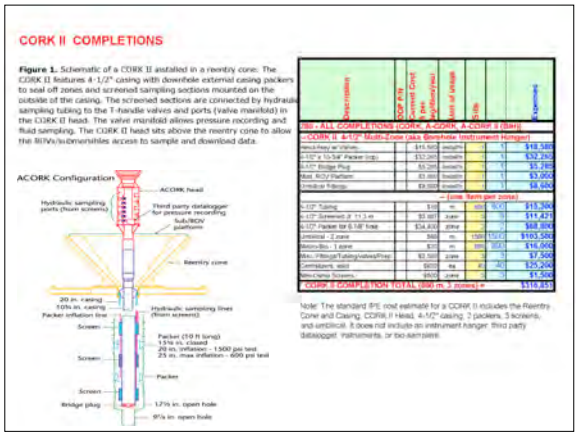
- Systems require Reentry Cone, Casing, CORK, packers, umbilicals and third party dataloggers, instruments, bio-samplers
- CORK - 10 3/4" casing to 70 mbsf
- ACORK – 10 3/4" casing. Drill through capability. Assume completion of 800 m, 2 packers, 3 screens (3 zones)
- CORK II – 4 ½" casing, improved hole stability, better seal, fragile. No drill through. Assume completion of 800 m, 2 packers, 3 screens (3 zones)

10









Microbiology Assumptions

- Special microbiological sampling lines (special coating and titanium) are not included in cost estimate
- Self-contained microbiological sampling devices can be run inside CORK casing as required under the CORK system, but not connected into the CORK system
- Laboratory activity similar to that for Leg 201
- Rad van will not be used

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Operational Constraints

- Environment
  Ice, ice bergs, winter storms, hurricanes, typhoons, monsoons, current, shallow water

Operations	Wave Height (ft.)
•CORK completions	9-12
•RCB core	12-15
•LWD log	12-15
•XCB core	15-18
•APC core	18-21

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Project Fuel Costs

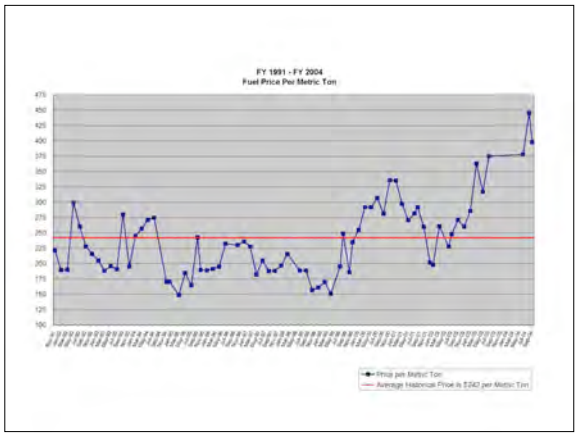
Assume 1,300 metric ton @ $415 mT=$540K

High (last 6 refuelings) @ $448
Low (last 6 refuelings) @ $317

Average (last 6 refuelings) @ $380
Average (last 2 refuelings) @ $423

per 61 day expedition:
$385 – $500K $450 – $585K

17



Equipment Procurement

External review	1-2 months
Finalize operations	1-2
Vendor options	0.5-1
Specifications	1.5-2.5
Bid	0.5-1.0
Procure/fabricate	3 – 6
QC/QA	0.5-1.0
Ship to vessel	1-2
Contingency	1
Total (min.)	10 – 15 months

Lead Time

•Casing	6 months
•CORK, CORK II, ACORKS	9-12
•Hammer System	9-12
•LWD	6
•Planning	15-24

Consequences:
•Requires min. 15 month (prefer 24 months) lead time
•FY06 items require procurement during FY05

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Budget Estimates

- •Uncertainty of available funding
  - –2 additional FY05 cruises
    - •($12M - $10M POC/$2M SOC)
  - – Up to 6 expeditions in FY06
    - •(To be determined)
- •Estimated program plan costs
  - –Hardware, laboratory, logging, shipping
  - –Vessel costs

Note: Costs are only estimated until schedule is fixed

22

POC Definition

- •Safely make and complete a hole
- •Installation of seafloor hardware
- •Safe delivery of the core to the core lab
- •Management and administrative effort in support of above

23

Costs Estimates (POC)

- •Hardware – Hole completions, i.e. casing, reentry, CORKS
- •Laboratory – Safety related supplies and equipment
- •Logging – Safety related items, i.e. Heave Comp., Wireline
- •Shipping – Hardware, tools, bulk, casing (60%)

24

Slide deleted…confidential budgetary information

25

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26

Assessment Results

- Operational Risks
- Environmental Constraints
- Estimated Expedition Costs
- Potential Expedition Strategies

27

Operations

Coring Tools

PCS
Retrieves core sample w/near in situ pressures up to 10,000 psi

DVTPP
Heat-flow and pressure measurements

HRRS
Hard Rock Reentry System to install a 13-3/8 in. casing with reentry capability

HYACE
HYACE Rotary Corer (HRC) and Fugro Pressure Corer (FPC)

IWS
Water Sampler deployed through the drill string

APCM
Temperature, pressure, and conductivity conditions while cutting and retrieving an APC core

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Logging Tools

Triple Combo
Formation density, porosity, resistivity, natural gamma, hole size, fluid temperature

FMS/SONIC
Oriented images of microresistivity, sonic data

WST/WST-3
Single and 3 axis geophones

UBI
360º acoustic images

VDN
Porosity, bulk density, photoelectric (LWD)

RAB
Resistivity images (LWD)

MGT
Natural gamma

30

Operational Risks

- •Hole stability
- •Overpressure
- •Environmental constraints
- •Clearances
- •Microbiology
- •Procurement/long lead items

Risks

522	Superfast Spreading	Hole Stability, Microbiology?
603A	NanTroSeize	Current, Weather Window, Clearance (Japan), Gas, Hole stability
	NanTroSeize ®	Current, Weather Window, Clearance (Japan), Gas, Hole stability
603B	nantroseize	Current, Weather Window, Clearance (Japan), Gas, Hole stability
	NanTroSeize ®	Current, Weather Window, Clearance (Japan), Gas, Hole stability
477	Okhotsk/Bering	Clearance (US/Russia), Weather Window
	Bering Sea ®	Clearance (US/Russia), Weather Window
482	Wilkes	Antarctic Treaty, Marine Mammals, Weather Window
553	Cascadia	Clearance (Canada), Hydrates, H2S, Hole stability, Microbiology?, Procurement
	Cascadia ®	Clearance (Canada), Hydrates, H2S, Hole stability, Microbiology?
600	Canterbury	SWG, Currents? Weather window, Clearance (NZ), Gas,
621	Monterey	Hydrocarbons, Marine Sanctuary Permit, Clearance (US/Calif), Procurement
	GOM	Hydrocarbon, Overpressure "waterflow", Geohazard(US), Procurement
	GOM ®	Hydrocarbons, Clearance (US)
	Juan de Fuca	Clearance (Canada, US), Procurement
	IRM sites	Clearance (Greenland), Weather Window
595	Indus	Clearance (India)
547	Biosphere	Clearance (US/Canada), Hole stability, Procurement
	Biosphere ®	Clearance (US/Canada), Hole stability
557	Storegga	Hydrate, Clearance (Norway), heatflow, microbiology?, Weather window, H2S, gas
	Storegga ®	Hydrate, Clearance (Norway), heatflow, microbiology?, Weather window, H2S, gas
584	TAG II	Hole Stability, Microbiology?
558	Cretan Margin	Hydrocarbons, Clearance (Crete), Microbiology?
573	Porcupine Basin	SWG, Clearance (Ireland), Environmental issues
	Porcupine revised	SWG, Clearance (Ireland), Environmental issues

GOM - Proposal 589-Full3

- •Characterize Pressure/Stress, Test flow-focusing model
  - –Brazos-Trinity Basin, normally pressured reference section
    - •(2 sites,197 and 311 mbsf, normal pressure)
  - –Ursa Basin, overpressure section
    - •Hole D (URS-1B) - Set reentry cone with 80 m 16 in. and 600 m 10-3/4 in. casing, penetrate ~30 m into the Blue Sand, and set a Cork and instrument string
    - •Hole E (Ursa site URS-1B) - Set reentry cone with 80 m 16 in. and 200 m 10-3/4 in. casing, penetrate ~30 m into overlying mudstone, and set a Cork and instrument string
    - •Complete by "controlled riserless drilling" technique

GOM Concerns

- •Overpressure - Potential for water, oil, or gas flow(s)
- •Inability to monitor during coring
- •Inability to eliminate flow, if started
- •Lease damage - The Ursa sites are on an existing oil and gas lease (MARS TLP is 7 nmi east)

GOM Implementation Strategy

- •JR complete a modified GOM proposal
  - –Brazos Trinity Sites and uppermost 300 m section of URSA site (well above Blue sand interval)
  - –Complete 85% of the science
- •Completed EDP for attaining blue sand target
  - –Platform specific (IO Lead)
  - –Platform nonspecific (IODP-MI Lead)

Engineering Design Plan

- •Glean industrial experience and techniques
- •Review seismic to confirm depths
- •Determine mud weights to control flow
- •Prepare an operations plan
- •Prepare contingency procedures
- •Complete platform risk assessment
- •Review operations plan and contingency procedures with lease owner and MMS

GOM® Science

- 85% science achieved
  - –Establish reference properties
  - –Test of flow focus model by mapping spatial variations
  - –Determine in-situ slope stability
  - –Long term monitoring of pressure in the mudrock unit
  - –Establish stratigraphic model for turbidite systems
- Not achieved
  - –In-situ pressure in the Blue sands
  - –Pressure monitoring in the Blue sands

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Environmental Constraints

- Ice
  - –Bering Sea, Wilkes, IRM, Storegga
- Ice bergs
  - –IRM
- Winter storms
  - –IRM, Storegga
- Hurricanes/typhoons
  - –GOM, TAG, NanTroSIEZE
- Monsoons
  - –Indus
- Currents
  - –NanTroSIEZE
- Shallow water
  - –Canterbury, Porcupine

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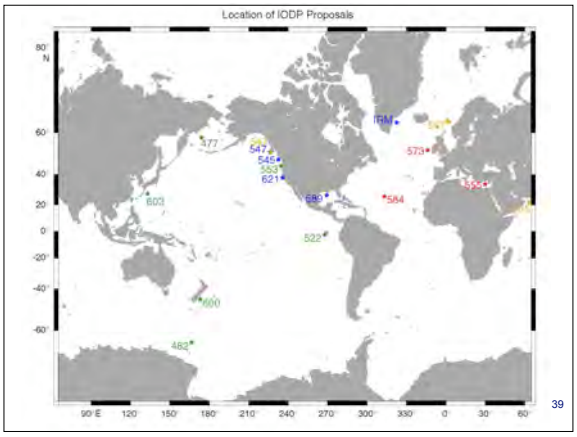

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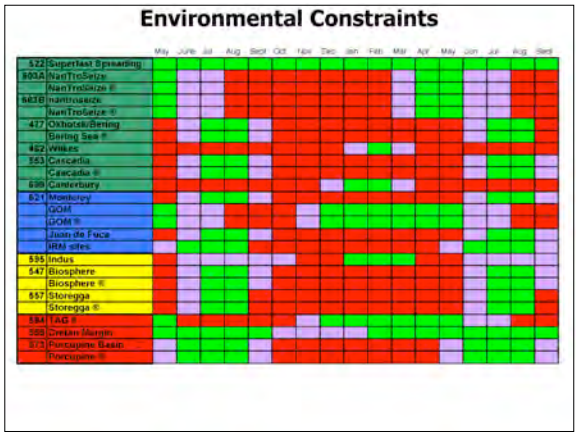
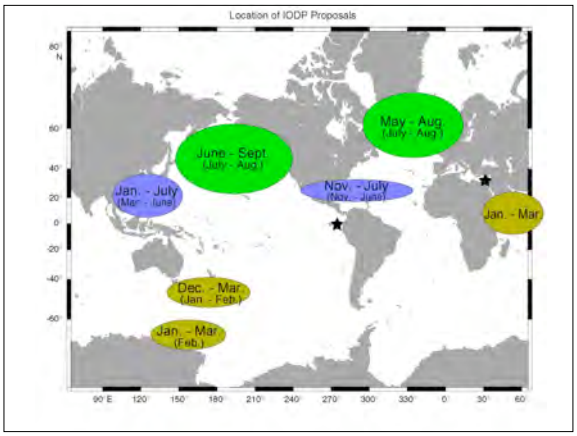
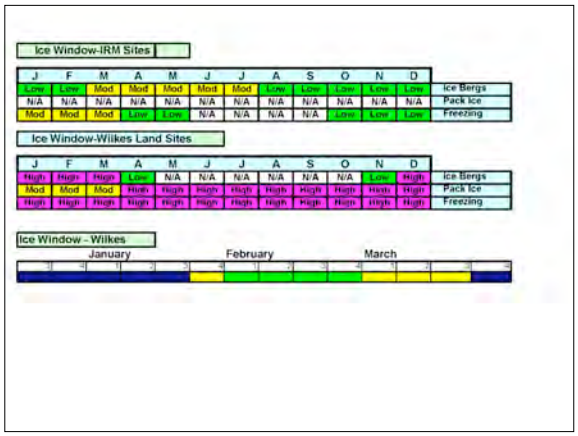
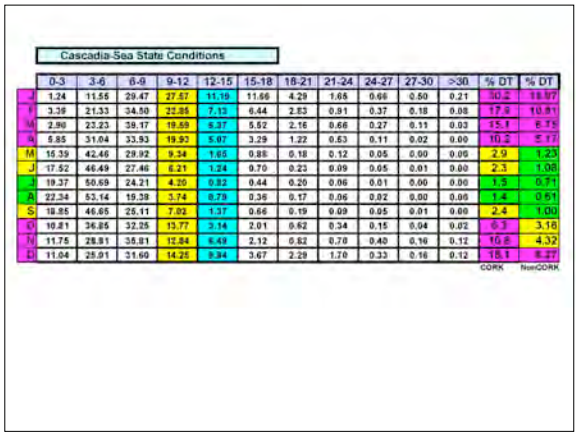






Operational Limitations

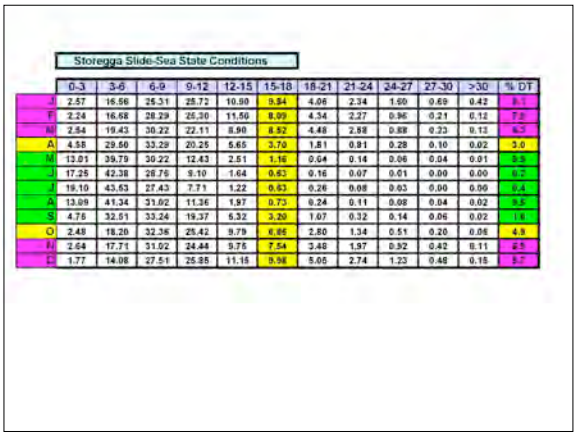
Operations	Wave Height
•Observatories	9-12 ft.
•RCB	12-15 ft.
•LWD	12-15 ft.
•XCB	15-18 ft.
•APC	18-21 ft.



Cascadia-Sea State Conditions

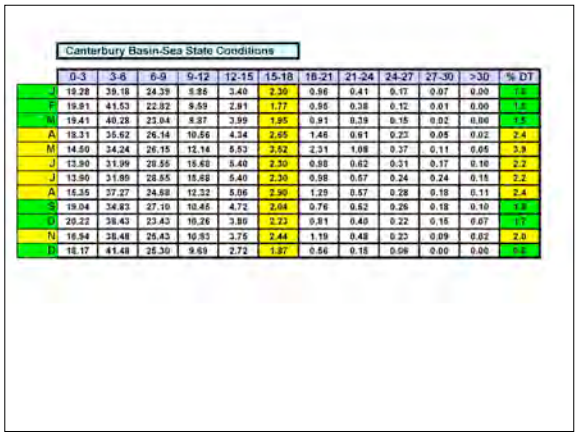
	0-3	3-6	6-9	9-12	12-15	15-18	18-21	21-24	24-27	27-30	>30	% DT	% DT
J	1.24	11.55	29.47	27.67	11.19	11.66	4.29	1.65	0.66	0.50	0.21	30.2	18.97
F	3.39	21.33	34.50	22.85	7.13	6.44	2.83	0.91	0.37	0.18	0.08	17.9	10.91
M	2.90	23.23	39.17	19.59	6.37	5.52	2.16	0.66	0.27	0.11	0.03	15.1	8.75
A	5.85	31.04	33.93	19.93	5.07	3.29	1.22	0.53	0.11	0.02	0.00	10.2	5.17
M	15.39	42.46	29.92	9.34	1.65	0.88	0.18	0.12	0.05	0.00	0.05	2.9	1.23
J	17.52	46.49	27.46	6.21	1.24	0.70	0.23	0.09	0.05	0.01	0.00	2.3	1.08
J	19.37	50.59	24.21	4.20	0.82	0.44	0.26	0.06	0.01	0.00	0.00	1.5	0.71
A	22.34	53.14	19.38	3.74	0.79	0.36	0.17	0.06	0.02	0.00	0.00	1.4	0.61
S	18.85	46.65	25.11	7.02	1.37	0.66	0.19	0.09	0.05	0.01	0.00	2.4	1.00
O	10.81	36.85	32.25	13.77	3.14	2.01	0.62	0.34	0.15	0.04	0.02	6.3	3.16
N	11.75	28.81	35.81	12.84	6.49	2.12	0.82	0.70	0.40	0.16	0.12	10.8	4.32
D	11.04	25.91	31.69	14.25	9.94	3.67	2.29	1.70	0.33	0.16	0.12	15.1	8.27

CORK NonCORK



Storegga Slide-Sea State Conditions

	0-3	3-6	6-9	9-12	12-15	15-18	18-21	21-24	24-27	27-30	>30	% DT
J	2.57	16.56	25.31	25.72	10.90	9.84	4.06	2.34	1.60	0.69	0.42	8.1
F	2.24	16.68	28.29	25.30	11.50	8.09	4.34	2.27	0.96	0.21	0.12	7.0
M	2.54	19.43	30.22	22.11	8.90	8.52	4.48	2.58	0.88	0.23	0.13	6.3
A	4.58	29.50	33.29	20.25	5.65	3.70	1.81	0.91	0.28	0.10	0.02	3.0
M	13.01	39.79	30.22	12.43	2.51	1.16	0.64	0.14	0.06	0.04	0.01	0.9
J	17.25	42.38	28.76	9.10	1.64	0.63	0.16	0.07	0.01	0.00	0.00	0.2
J	19.10	43.63	27.43	7.71	1.22	0.63	0.26	0.08	0.03	0.00	0.00	0.4
A	13.09	41.34	31.02	11.36	1.97	0.73	0.24	0.11	0.08	0.04	0.02	0.5
S	4.76	32.51	33.24	19.37	5.32	3.20	1.07	0.32	0.14	0.06	0.02	1.6
O	2.48	18.20	32.36	25.42	9.79	6.86	2.80	1.34	0.51	0.20	0.06	4.9
N	2.64	17.71	31.02	24.44	9.76	7.54	3.48	1.97	0.92	0.42	0.11	6.5
D	1.77	14.08	27.51	25.85	11.15	9.98	5.05	2.74	1.23	0.48	0.15	9.7



Canterbury Basin-Sea State Conditions

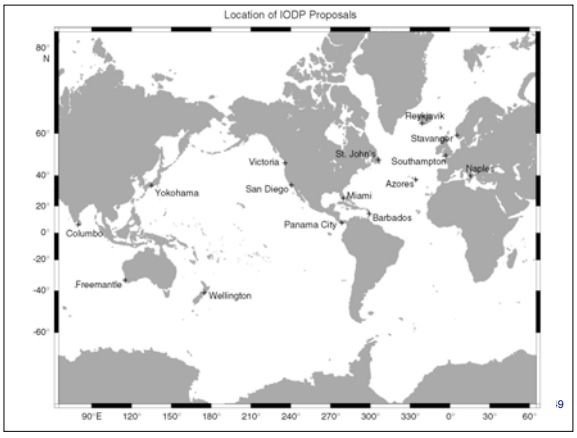
	0-3	3-6	6-9	9-12	12-15	15-18	18-21	21-24	24-27	27-30	>30	% DT
J	19.28	39.18	24.39	8.86	3.40	2.30	0.96	0.41	0.17	0.07	0.00	7.8
F	19.91	41.53	22.82	9.59	2.91	1.77	0.95	0.38	0.12	0.01	0.00	7.5
M	19.41	40.28	23.04	8.37	3.99	1.95	0.91	0.39	0.15	0.02	0.00	7.5
A	18.31	35.62	26.14	10.56	4.34	2.65	1.46	0.91	0.23	0.05	0.02	2.4
M	14.50	34.24	26.15	12.14	5.53	3.52	2.31	1.08	0.37	0.11	0.05	3.9
J	13.90	31.99	28.55	13.60	5.40	2.30	0.98	0.62	0.31	0.17	0.16	2.2
J	13.90	31.89	28.55	13.68	5.40	2.30	0.98	0.57	0.24	0.24	0.15	2.2
A	15.35	37.27	24.68	12.32	5.06	2.90	1.29	0.57	0.28	0.18	0.11	2.4
S	19.04	34.83	27.10	10.45	4.72	2.04	0.76	0.52	0.26	0.18	0.10	1.8
O	20.22	38.43	23.43	10.26	3.80	2.23	0.81	0.40	0.22	0.15	0.07	1.7
N	16.94	38.48	25.43	10.93	3.75	2.44	1.19	0.48	0.23	0.09	0.02	2.0
D	18.17	41.48	25.30	9.69	2.72	1.87	0.56	0.15	0.09	0.00	0.00	0.5

Shallow Water Guidelines

- •0-75 m
  - –Operations will not be conducted
- •76-300 m
  - –Coring will be terminated if
    - •Heave comp stroke exceeds 1.0 m
    - •Wind > 35 kts or roll >3 degrees
    - •Deteriorating weather, sea state
    - •Floating ice present
- •301-650 m
  - –Coring will be terminated if
    - •Heave comp stroke exceeds 2.0 m
    - •Wind > 50 kts or roll >5 degrees
    - •Deteriorating weather, sea state
    - •Floating ice present
- •651+

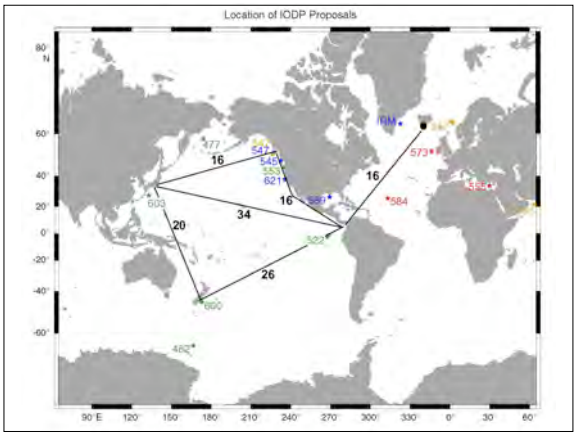
Jurisdictional Clearances

Wilkes	Antarctic Treaty
Juan de Fuca	Canada
Cretan	Crete
IRM	Greenland
Porcupine	Ireland
NanTROSEIZE	Japan
Canterbury	New Zealand
Storegga	Norway
Indus	India
Sea Of Okhotsh	Russia
Bering Sea, Biosphere	USA
Cascadia, GOM, Monterey	USA USA, Marine Sanctuary



Potential Transits

Stavanger – Balboa	16 days
Balboa – Wellington	26 days
Wellington – Yokohama	20 days
Yokohama – Balboa	34 days
Balboa – Victoria	16 days
Yokohama – Victoria	16 days



Time Estimates

		Time Total	On Site Total	Core	Log	Transit Total	Between sites	To/from	Portcall
522	Superfast Spreading	63.4	51.4	45.6	5.8	7	0	7	5
503A	NanTroSeize	107.6	94.6	75.8	18.8	8	1	7	5
	NanTroSeize ®	90.7	76.1	60.3	15.8	9.6	2.6	7	5
583B	nanTroSeize	179.2	166.2	144.3	21.9	8	1	7	5
	NanTroSeize ®	91.6	78.6	65.4	13.2	8	1	7	5
477	Okhotsk/Bering	84.3	59.2	53.8	5.4	20.6	13.6	7	5
	Bering Sea ®	53.5	36.1	32.7	3.4	12.4	5.4	7	5
482	Wilkes	54.5	36.5	31.2	5.3	13	1	12	5
553	Cascadia	127.7	114.7	92.5	22.2	8	1	7	5
	Cascadia ®	118.5	105.8	83.3	22.2	8	1	7	5
600	Canterbury	69.6	57.1	46.1	11	7.5	0.5	7	5
621	Monterey	40.4	25.2	24.3	3.9	7.2	0.2	7	5
	GOM	63.9	36.1	32	6.1	10.8	3.8	7	5
	GOM ®	38.5	23.8	17.7	6.1	9.7	2.7	7	5
	Juan de Fuca	56.3	44.1	39.3	4.8	7.2	0.2	7	5
	IRIS sites	36.4	24.1	21.7	2.4	7.3	0.3	7	5
595	Indus	42.9	30.9	27.5	3.4	7	0	7	5
547	Biosphere	87	74.5	70	4.5	7.5	0.5	7	5
	Biosphere ®	56.1	43.6	39.2	4.4	7.5	0.5	7	5
557	Storegga	71.3	56.7	42.7	14	9.5	2.5	7	5
	Storegga ®	34.5	21.9	15.3	6.6	7.6	0.6	7	5
534	TAG ®	92.8	80.3	61.7	18.6	7.5	0.5	7	5
555	Cretan Margin	50.1	37.9	34.8	3.1	7.2	0.2	7	5
573	Porcupine Basin	68.9	55.8	43	12.8	8.1	1.1	7	5
	Porcupine ®	30.8	16.6	14.4	4.2	7.2	0.2	7	5

Procurement/Long-Lead

•Finalize expeditions	1 Nov 04
•Finalize completions	15 Jan 05
•Complete ED and bids	March 05
•Complete fabrication/OC	Dec 05
•Shipping	Jan 06
•Available	Feb 06

Consequences: GOM, Biosphere, Monterey, Cascadia, Juan de Fuca limited to FY06

Cost Escalations

•10 ¾" casing	72%
•4 ½" casing	90%
•Trucking	29%
•Air travel	8%
•Fuel	~10%
•Salaries	3%
•Day rate	2%
•Services	26%

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Estimated Expedition Costs

- Hardware – All POC
- Laboratory – 93% (SOC) / 7% (POC)
- Logging – 56% (SOC) / 44% (POC)
  - –Special tools all SOC
- Shipping – 40% (SOC) / 60% (POC)
- Vessel
  - –Payroll – Direct (POC)
  - –Payroll – Indirect 50% (POC) / 50% SOC
  - –Related training, recruiting, M&R, travel (POC)

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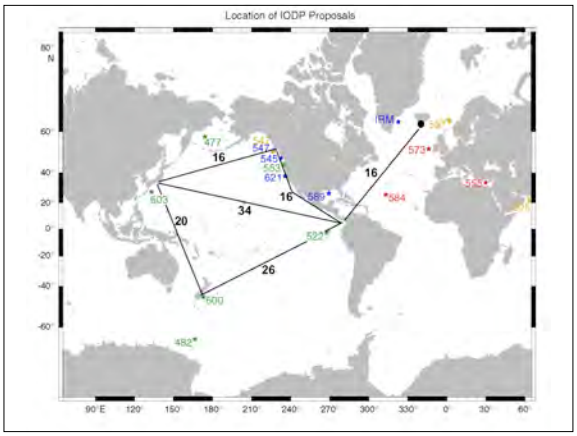
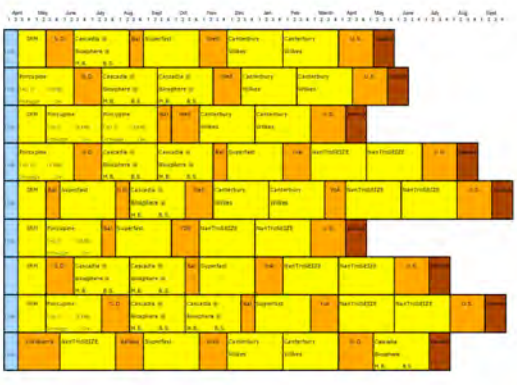
IODP USIO Riserless Vessel Schedule

Cruise*		Port (Origin)	Dates*,†	Total Days (Port/Sea)	Days at Sea (Transit‡/Ops‖)	Co-Chief Scientists	Alliance Contact(s)
Transit		Gamagori, Japan	1 - 20 June '04	19 (2/17)	17/0	N/A	N/A
Mobilization		Astoria	20 – 27 June	7 (7/0)	(0/0)	N/A	N/A
Juan de Fuca Hydrogeology	1	Astoria	27 June – 21 August	55 (1/54)	2/52	Andrew Fisher Tetsuro Urabe	TAMU: A. Klaus LDEO: G. Iturrino
Costa Rica Hydrogeology/Transit		Astoria	21 August - 22 September	32 (1/31)	28/3	TBN	TAMU: M. Malone
North Atlantic Climate 1	2	St. John's Newfoundland	22 September – 14 November	53 (5/48)	5/43	James Channell Tokiyuki Sato	TAMU: M. Malone LDEO: S. Robinson
Oceanic Core Complex 1	3	Ponta Delgada	14 November – 5 January '05	52 (5/47)	7/40	Chris MacLeod Barbara John	TAMU: J. Miller LDEO: F. Einaudi
Oceanic Core Complex 2	4	Ponta Delgada	5 January – 27 February	53 (5/48)	7/41	Donna Blackman Yasuhiko Ohara	TAMU: J. Miller LDEO: H. Dellus
North Atlantic Climate 2	5	Ponta Delgada	27 February – 22 April	54 (5/49)	4/45	Rudiger Stein Toshiya Kanamatsu	TAMU: M. Malone LDEO: B. Rea
Transit		Reykjavik	22 April – 10 May	18 (3/15)	15/0	N/A	N/A
Demobilization		Galveston	10 May – 1 June	22 (22/0)	0/0	N/A	N/A

Notes:
Acceptance of the vessel will take place 31 May 2004.
* Expedition nomenclature will be adjusted in the future to reflect naming protocols to be established by IODP-MI.
† Ship is scheduled to arrive 0600 hr on first day of port call.
* Initial cruise date reflects first day of port call; ship sails when ready.
‡ Transit = Estimated time to/from port to the operating area.
‖ Ops = Operations (includes both on-site and between-site time).

7 May 2004





Recommendations

Minimize science creep by only scheduling expeditions with well defined deliverables

Rec01 - Review and modify available operational planning guides

Rec02 - Define science deliverables and priorities prior to ranking

Rec03 - Establish mechanism to ensure Seafloor Observatory and Microbiology elements are well defined prior to ranking/scheduling

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Recommendations

Maximize deliverables through resource management

Rec04 – Complete engineering design plan for complex programs prior to scheduling

Rec05 – Balance annual science program with simple and complex expeditions

Rec06 – Standardize borehole completions and microbiology requirements

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Recommendations

Provide adequate lead time for planning and implementation of a complex program

Rec07 –Provide a minimum of 15 months, preferably 24 months (pending level of complexity)

Rec08 – Implementation plan should be fixed a minimum of 9-12 months prior to sailing

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Preliminary Assessment of FY05-FY06 Proposals

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Mud Requirements

- Mud Volume for 4 normal pressure sites – 3352 bbls
- Minimum mud volume to kill hole if Blue Sand penetrated – 7064 bbls
- JR mud capacity is 8331 bbls

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