

#21 PMT Meeting Memo
3 December 2011
Serrano Hotel, San Francisco, USA

1. Meeting Participant:

Harold Tobin	Co-Chief Project Scientist, University of Wisconsin
Masa Kinoshita	Co-Chief Project Scientist, IFREE, JAMSTEC
Demian Saffer	Specialty Coordinator, Pennsylvania State University
Gaku Kimura	Specialty Coordinator, University of Tokyo
Geoff Wheat	Specialty Coordinator, Monterey BARI
Greg Moore	Exp.338 Co-chief & SC, University of Hawaii
Mike Underwood	Specialty Coordinator, University of Missouri
Ryota Hino	PMT member, Tohoku University
Toshi Kanamatsu	Specialty Coordinator, IFREE JAMSTEC
Michael Strasser	Exp.338 Co-chief, ETH Zurich, Switzerland
Wataru Azuma	CDEX
Nobu Eguchi	CDEX
Ikuo Sawada	CDEX
Moe Kyaw Thu	CDEX
Sean Toczko	CDEX
Jamie Allan	NSF
Thomas Janecek	NSF
Issa Kagaya	IODP-MI
Yoshi Kawamura	IODP-MI

2. Agenda and Discussion Points:

1. Review action items from previous PMT (including "mini-PMT" from August, 2011 in Tokyo)
 - Yoshi Kawamura presented the review of last meeting action items. All action items were completed or be presented by CDEX later in this meeting.

2. Status of Exp.338 planning:

A. CDEX schedule and operational plan update

- CDEX confirmed FY12 operation schedule as follows;
Non-IODP period: till mid/end of Mar 2012
JFAST operation window: early April to late May (1.5month)
Repair (dry dock) & sea trial: June 2012 (1.0month)
Exp.337 (Shimokita): early July to early September 2012 (2.0month)
Exp. 338 (NanTroSEIZE) C0002F: 19 September 2012 to 31 January 2013 (4.2 month)
 - *126-operation-days do not include contingency days for wait-on-weather. In case of typhoon, it requires 2 weeks from the day of evacuation to the day of resuming the operation.*
- CDEX presented five contingency operation options (the feasibility & the time estimation) for Exp.338.
 - C0010A Genius Plug replacement:
A possible/feasible contingency plan, the time estimation is 12.5 days. This plan requires a specific engineer to retrieve and set the plug by requesting his mobilization in 3 to 4 weeks advance.
 - ◇ Scientifically (observatory science point of view), it does not have high value, nor high priority.
 - C0010A LTBMS observatory installation:
Financially impossible in FY12, the time estimation is 20 days. This plan requires long lead time purchasing items such as swellable packer, special cement and flat pack, and equipment rental such as batch mixer, winches and 6-3/4" OD LWD with high cost.
 - Deepening C0002F by LWD after setting 13-3/8" casing at 3,600mbsf:
A possible operation, the time estimation is 30 days (for 1,000m deepening) however, it is not recommendable. It will require plugging back the hole by cement for hole-suspension, and sidetracking (changing hole-track) for the deepening the hole in 2013 operation.
 - ◇ Deepening 13-3/8" casing shoe (bottom) is impossible, due to mechanical limitation (casing strength, hanging weight etc.)
 - Logging on C0012 with 8-1/2"OD LWD tools:
A feasible option, the time estimation is 6 days (500m survey). LWD tools (Geo-vision) will be available during the whole operation.

- ✧ Wireline Logging operation is not feasible, due to establishing a new contract and additional cost. The time estimation is 17days.
- C0009A Genius Plug (memory temp. & press.) installation:
It is not feasible option. From CDEX safety point of view, this operation will require Drill-Stem-Test, including perforation on the existing casing by riser operation mode. It causes financial issues as well. The time estimation is 26days.

As the conclusion, only one option (Logging on C0012 by LWD) is feasible and scientifically valuable for Exp.338 contingency.

C. Any PMT-level issues for operational priorities or contingencies

- Other contingency options had been discussed and raised by PMT members.
 - Conduct C0009 Drill-Stem-Test:
Financially impossible in FY12, the time estimation is 21days. It is compulsory for the future observatory installation but difficult to identify the scientific value.
 - Coring at the frontal thrust:
A feasible operation/option, operating duration is flexible depend on coring interval. (C0007 site area) It is a hot scientific/research subject, after Tohoku Earth Quakes.
 - LWD logging at C0007 (frontal thrust):
A feasible option/operation, the time estimation is 6days. Add missing data to the previous expeditions. It is a hot scientific/research subject, after Tohoku Earth Quakes.
 - C0006, C0007 simple observatory installation:
Financially impossible in FY12, also there will be no preparation time. It is important subject but the water depth (>3,000m) will be an issue. C0010, C0009 observatory installation has higher priority.
 - Increase the coring interval at C0002F; 2,300 – 3,600mbsf section:
Among coring contingency options, it is highly recommended/highest priority, especially if the small time-window will be left on expedition, and it will be difficult to conduct either above contingency options.

After the discussion, PMT reached their consensus for the prioritization of contingency operation options for FY2012. (See Consensus statement)
Additional discussion may be required at Exp.338 pre-expedition meeting

in February 2012.

B. Science party planning (CCs, applicants, staffing positions)

- CDEX invited and the invitation has been accepted by the following four scientists as Co-Chiefs on Exp.338.
 - Gregory Moore
 - Brandon Dugan
 - Kyuichi Kanagawa
 - Michael Strasser
- CDEX presented science party staffing rotation plan of Exp.338 (Fig. 1)

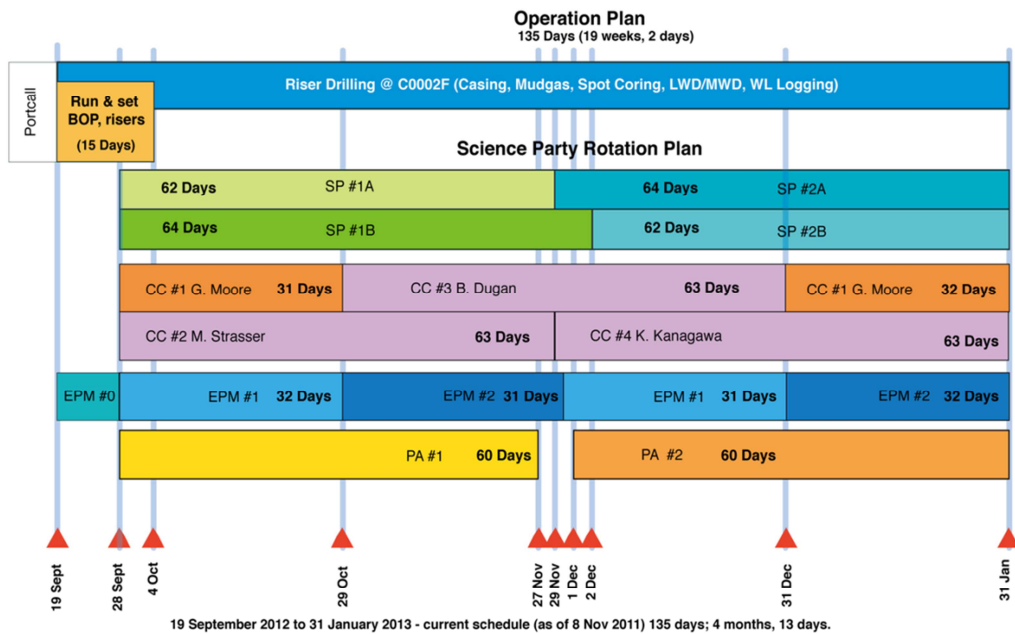


Fig.1: Exp.338 Science Party Staffing Rotation Plan

- There will be one EPM with no Co-chiefs, science party onboard, while the BOP and riser setting operation.
- An EPM has been assigned, but two other EPMS are not assigned yet.
- It is difficult to predict the actual operation progress; therefore it is difficult to put the certain/suitable science party onboard to match the ongoing operation/science activities. However, this plan provides both science parties an opportunity to work on the actual cores.
- Chikyu has enough number of berths (50 berths for science related) to make a few days overlap (hand-over) at the middle of the expedition.

- If it is necessary (will be), the Specialty Coordinators may join the science party on board at the beginning of the expedition, overlap period and the end of the expedition to set standard of the scientific measurements, core description, logging interpretation etc.
- CDEX presented science party specialty balance of Exp.338 and PMT had some discussions.
 - Total number of Science Party on board will be around 25.
 - To meet the target of total number of Science Party on board, some of the position should take/have multiple specialties, especially logging scientists. Need to know Logging scientist's particular sub interest and their specialty on log data, such as image, structure geology, physical property, hydrogeology, etc.
 - PMOs will close their call for Exp.338 before the early January 2012, and CDEX will receive their nomination lists by the early in February 2012.
 - Up to today, it is not enough application being submitted by PMOs, due to three similar theme expeditions ongoing at same time, PMT may need to take some actions. It may be needed to contact scientists who applied to JFAST or CRISP but were not selected.
 - On board paleontologist will be an issue, it is difficult to fill the position. May need to take same approach as Exp.319, to find a researcher who is willing to help and work the task on shore base.

3. 2013 expedition advance planning:

A. Overall operational plan

- CDEX presented FY13 operation plan, and confirmed 6-month operation window for NanTroSEIZE from Jun 2013.
- 2nd phase of C0002F Ultra Deep Riser operation has been estimated about 5 months to set 11-3/4" casing (liner) at 4,700mbsf, LWD-Coring-WL logging to 5,200mbsf (through Mega-Splay Fault), and plug-back (suspend the hole).
 - 3D-walkaway seismic survey included. (3D VSP)
- Remaining 1-month operation window can be used for observatory installation.
 - C0010 Riserless LTBMS
 - C0007 Riserless LTBMS or simple CORK type:

For C0007 site, the water depth (>3,000m) will be an issue.

After the discussion, PMT reached their consensus for the operation plan for FY2013. (See Consensus statement)

B. 3D VSP in 2013

- Ryota Hino presented 3D-walkaway seismic survey (3D VSP) operation plan.
 - Best 3D VSP survey timing is the beginning of FY13 C0002F Ultra Deep Riser operation. The timing satisfies all important factors to image the area of mega-splay fault and plate boundary with ~ 5 km in diameter, as follows;
 - ◇ Sensor Depth; 2,600 – 3,600mbsf (80-channel configuration)
 - ◇ Single casing in the hole; 13-3/8" casing only, CBL (cement bond log) prior to the survey
 - ◇ Able to fix the starting date of the survey; the coordination with shooting vessel schedule easier
 - ◇ The time estimation is 7days
- Masa Kinoshita may submit JAMSTEC Kairei (shooting vessel) proposal for this survey in April 2012.
- *Greg Moore and Nathan Bangs submitted a proposal to NSF for processing of the 3D VSP. NSF confirmed that the proposal will be funded AFTER the end of 2012-2013 operations, presuming that the planned TD is reached and casing is installed.*
- PMT confirmed that the 3D-walkaway seismic survey (3D VSP) operation should be conducted at the beginning of FY13 NanTroSEIZE expedition, and recommended to take necessary actions. (See Consensus statement)

C. If riserless C0010 LTBMS is not installed in 338

- CDEX confirmed C0010 LTBMS is not included in Exp.338, nor an option for its contingency.
- There is 1-month operation window in FY13 NanTroSEIZE operation. This operation will be the one of the candidate.
- PMT agreed this operation has very high priority for FY13 plan.

4. NanTroSEIZE after September 30, 2013:

A. Expedition status after September 30, 2013

- The expedition will stay as IODP till the end of documentation/reporting,

although it will pass the 1st of October 2013. FY13 SOC fund will continuously cover the expedition science cost till the end, if it will be available.

- USSSP will continue scientist travel support, salary support and post-cruise research funding to US participation for CHIKYU, MSP and JR, beyond FY13.
- ESSAC and J-DESC have not announced their clear statement regarding researcher support.
- NSF grants program will continue funding for expedition related research, post-cruise research, developing down-hole observatory instrumentation and site survey.

B. PMT status after September 30, 2013

- IODP-MI will continue supporting NanTroSEIZE PMT activity to end of the current IODP expedition, including documentation/reporting by IODP legacy fund.
- Under new IODP (beyond FY13), PMTs will be formed under each IOs, based on IOs requirement and their responsibilities including financial support.

5. Long-term completion of NanTroSEIZE objectives after 2013:

A. Riser LTBMS plans

- PMT discussed LTBMS status for C0002F (Ultra Deep Riser Hole).
 - CDEX observatory team conducted part of feasible study a few years ago about Christmas-Tree (well head) and telemetry system under high temperature. But the LTBMS development for C0002F has been suspended.
 - Currently, there is no sensor available for C0002F LTBMS (5kmbf, temp 120-130C).
 - The scientific requirements had been identified and had not changed, but the sensor's technical development has no progress.
 - CDEX will not start further technical development on the Christmas-Tree (well head) and the telemetry system, without further technical information on the sensors.
 - Need to newly build riser-observatory team with revising its tasks and members. By holding face to face meeting, the team needs to create a timeline for the engineering development and its installation.

B. Other unfinished goals?

- C0009 LTBMS?

6. Post-expedition reports:

A. Stage 2 2nd PE meeting -- assessment?

- Harold and Mike reported Exp. 319/322 post-expedition meeting in Barcelona, 25 - 28 September 2011.
 - The meeting had very active discussion. PMT believes scientific outcome will be strong in future.
 - However, Exp.319 and Exp. 322 science parties and their researches are quite disconnected, independent. The meeting format for combined PE needs to be considered.
- PMT discussed post-expedition meeting plan for Exp.332 and Exp.333.
 - Exp.332 has only the observatory data from C0002 Smart Plug and kind of technical-expedition. It makes sense not to combine Exp.332 and 333 PE.
 - Exp.332 PE meeting is good opportunity to schedule with observatory WS to discuss additional observatory installation such as frontal thrust area.
 - PMT agreed to hold Exp.332 PE meeting in around June 2012 with observatory WS leading by the observatory team and not to combine with Exp.333 PE meeting. PMT will ask Demian and Araki to start coordinating the WS.

B. Publications update and status

- CDEX reported publication update and PMT discussed the status.
 - 45 papers have been published from entire NanTroSEIZE expeditions till August 2011 SPC meeting. Need to update the record, expected over 50 papers.
 - There are some papers submitted to the journals but rejected. PMT needs to follow those rejected papers and encourage the authors to submit it as a data report, if its data was acquired after the preliminary expedition report.

7. Other Issues:

- Next meeting schedule:

- The main meeting discussion will be 1) FY13 NanTroSEIZE operation plan, 2) beyond FY13 NanTroSEIZE project as well as Exp.338 readiness.
- Consider to set next PMT meeting with observatory team meeting on 27 February 2012 in Kochi, day before Kaname meeting.
- A PMT meeting should be prior to Exp.338, in summer 2012.

3. Consensus and Action times:

1. Consensus PMT21-01:

The PMT identified feasible and valuable contingency operations for FY12 expedition as follows with priority;

- Increase the coring interval at C0002F; 2,300 – 3,600mbsf hole section
- Logging on C0012 with 8-1/2"OD LWD tools
- LWD logging at C0007 (frontal thrust)

2. Consensus PMT21-02:

PMT recommends the following operation in FY13 6-month operation window for NanTroSEIZE project:

- 5 months; C0002F Ultra Deep Riser hole operation, including
 - 3D-walkaway seismic survey (3D VSP): 2,600 – 3,600mbsf sensor interval in 13-3/8" single casing
 - Drilling, Coring ahead and to set 11-3/4" casing (liner) at 4,700mbsf
 - LWD-Coring-WL logging to 5,200mbsf (through Mega-Splay Fault)
 - Plug-back to 11-3/4" casing shoe (suspend the hole)
- 1 month; C0010 Riserless LTBMS, and/or C0007 Riserless LTBMS or simple CORK type

Action item PMT21-01

Masa Kinoshita may submit JAMSTEC Kairei (shooting vessel) proposal for 3D VSP in April 2012.

Action item PMT21-02

CDEX conducts feasibility study for installing LTBMS over 3,000m water depth.

3. Consensus PMT20-03:

PMT recognized the need to newly build riser-observatory team with revising its tasks and members. By holding face to face meeting, the team needs to create a timeline for the engineering development and its installation.

Action item PMT21-03

Demian Saffer organizes observatory team and the meeting in conjunction with Exp.338 pre-expedition meeting in Feb. 2012.

4. Consensus PMT20-04:

PMT agreed to hold Exp.332 PE meeting in around June 2012 with observatory WS leading by the observatory team and not to combine with Exp.333 PE meeting. PMT will ask Demian and Araki to start coordinating the WS.

5. Consensus PMT20-05:

PMT identified the needs to follow rejected papers by journal and encourage the authors to submit it as a data report, if its data was acquired after the preliminary expedition report.