

## ENGINEERING EXP 371 July-Sept 2017. Townsville-Hobart

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### ENGINEERING

#### OVERVIEW:

No VIT or special down hole tool deployments were made. Planned and breakdown maintenance were performed and with help from College Station, various User Guides were updated.

#### VIT SYSTEM:

#### OPTICAL LINK INTEGRITY:

- OTDR measurements are periodically made on the spare Brown Fiber from DP to the VIT Frame J-Box. Compared against measurements from previous Expeditions, this could be an early indication of potential issues especially on the FORJ and Umbilical.

OTDR measurements, DP to Frame J-Box, BRN Fiber.

EXPEDITION	SUBSEA J-BOX (db)	FORJ (db)	Total (db)	Length (m)
Exp 362T	1.26	1.3	3.8	7513
Exp 362T 700m	1.6	1.54	4.12	7513
Exp 366 Start	1.12	1.02	3.66	7512
Exp 366 3670m	1.16	1.1	3.74	7511
Exp 366 End	1.59	1.48	4.11	7511
Exp 368 Start	1.35	1.17	3.88	7512
Exp 368 2780m	1.52	1.42	4.09	7511
Exp 371 Start	0.35	0.95	3.54	7512

- OTDR measurements on the BRN fiber shows no evidence of optical link degradation.
- All past measurements uploaded from OTDR, converted to .pdf and saved in Engineering server/VIT folder.

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## LCI-90I VIT WINCH DEPTH/SPEED METER:

- LCI-90i meter operational as Depth/Speed meter with comms to DOWComm.exe for remote display on DVR Overlay and Rigwatch.



- Created technical content and forwarded to CS to produce a User Guide. This integrated measurement solution for VIT Depth/Speed is ready to replace the old Veeder and Tach meters in Subsea.
- Temporary LCI-90i User Guide printed and hardcopy with instrument in Subsea.
- Awaiting spare LCI-90i meter from CS.

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## SONAR OPERATOR:

- Created a Sonar Operating Procedure with info from various sources. This document needs to be fine-tuned with practical experience on Exp 372 before release.

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## GENERAL MAINTENANCE:

- Periodically flushed connectors on VIT-frame with fresh water and sprayed with silicon water repellent/lubricator.
- Exercised FO Fusion splicing equipment and charged batteries.
- Awaiting brackets to fit Bowtek LED lights to VIT Frame holders for emergency use.
- Replaced temporary 5V Power Supply for Haivision video decoder in Ops-Office with new.
- HD-VIT software User Guide requires update. Requested from shore.
- Re-entry Cam serial control changed to Slot 2 on the NI-Max on VIT-PC and named "Re-entry Cam\_N15".
- RPO for a new Camera monitoring VIT Winch level wind.
- As Built Schematics and draft User Manual handed to Siem Electrical Supervisor.
- VIT winch VEEDER meter has a faulty serial RS 422 interface. No comms with DOWComm.exe. Siem has new VEEDER on order. LCI-90i can replace functionality.
- Upgraded VIT Schematic and forward to CS to upgrade User Guide.

- Pod S/N 1 now on the Frame and Pod S/N 2 as functional Spare in Subsea.
- Exercised VIT system to confirm serviceability for next expedition.

## RIGWATCH

### FAULTS:

- Pipe counter stopped working. Aligned optical switches with reflector which cleared the fault.
- Screen resolution issue: When Remote Desktopting into Krakatoa with a new Win10 machine, screen resolution gets altered in a way not compatible with old Win 7 machines. The only fix is to restart Rigwatch on Krakatoa. Work around: Remote Desktop into Krakatoa with either a Win7 or Win10 machine, not both.
- CORE WINCH Depth overlay on Rigfloor camera not working. Found Serial interface on CORE WINCH VEEDER meter faulty. Siem replaced with VIT WINCH VEEDER meter. Siem has a new VEEDER meter on order for the VIT meter that may or may not be in time.
- Overlay stopped working again some weeks later with no alarms/errors on DOWComm.exe. DOWComm polling and Veeder reply was visible on the RS-422 lines but data not valid. Terminating RS-422 lines with 160 ohm resistors cured the fault.
- At time of writing, Siem had an issue with Coreline-tension loadcell. Rigwatch calibration was altered to suit. At worst, calibration may be compromised somewhat.
- Concern raised by Drillers regarding RIS HEAVE calibration. Will compare with Siem and Schlumberger MRU's on Exp 372.

### GENERAL MAINTENANCE:

- Upgraded Schematics, wiring diagrams and User Guide technical content. Awaiting decision on Title Block format from shore to complete.
- Requested "From Us" codes and reset dongles on 24 Sept 2017.
- Cleaned up wiring in RIS Data Box in Subsea.
- Worked with Driller to reset Draw works encoder following line slip and cut.

## DOWNHOLE TOOLS

### APCT3

- S/N 009 stopped working following a deployment into sand. Probably due to a high shock event.
- S/N 034 thermistor got stuck in shoe and separated from electronics when removed. Shoe with stuck thermistor shipped to CS.
- Dimensional issue with new shoes, OP4375-9. Returned x 3 to shore for re-work. Machining detail to be added to drawing OP4375-9.

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## ERS

- Following the deployment on the transit, flushed both ERS S/N 1 & 2 with fresh water, lubricated and exercised mechanicals.
- Both electronics modules modified to support new Hall-effect proximity sensor design.
- Epoxy-cast 3x Proximity sensors.
- Schematics and User Guide updated to reflect above changes.
- RS Housing S/N 1 motor installed new on Exp 366 and waterfilled.
- RS Housing S/N 2 motor installed new on Exp 368 and waterfilled.
- Requested Engineering change on ERS/MDHDS fishneck (OT7084) to prevent sand from accumulating in cavity.
- Both tools serviceable, tested and ready for deployment.

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## JR TOOL INVENTORY

<b>APCT-3:</b>	<b>SET2:</b> S/N 539	<b>ERS:</b> S/N 1
1858002	S/N 540	S/N 2
1858007		
1858023	<b>SET:</b> S/N 05	
1858005		

## SHIPPING RECEIVED:

- APCT3's S/N 005 and S/N 009.
- 2 X SVS-209 Gbit Ethernet cards from Seaview.
- Draw works encoder,
- 1 x NTSC Video Gen. Newark 17C1204
- P/Tilt device S/N 3006.

## SHIPPING RETURNED:

- Faulty APCT3's S/N 034 and S/N 009.
- 1 x APCT3 shoe with thermistor stuck in cavity.

- 3 x new APCT3 Shoes with dimensional issues that requires re-working.

#### ORDERS PLACED:

- None.

#### ACTION ITEMS:

- Fit U/W coax connectors to Pod S/N 2 and both NTSC cameras. MikeM
- Pod S/N 1: Bypass thermal switch on the 2 x QUINT P-Supply fans. MikeM
- Replace draw works encoder connector. MikeM
- Sonar User training document to be finalized Exp 372. MikeM
- Ship repaired LCI-90i S/N 1121 to JR. BobA.
- Ship cross-over sub to allow the SET2 carrier (OM1610) to be deployed with CDS. BobA
- Upgrades to HD-VIT, and VIT DVR User Guide to be made, following addition of altimeter. JvH
- Upgrades to DOWComm.exe UG required. JvH
- Requested Engineering change on ERS/MDHDS fishneck (OT7084) to prevent sand from accumulating in cavity. JvH