

RV *Investigator* Final Trial Voyage Plan

Voyage:	IN2015_E05
Equipment Champions:	Scott Nichol, Geoscience Australia Tom Hubble, University of Sydney
Voyage title:	Trial voyage – Geoscience, testing equipment and developing procedures
Start port:	Hobart
Finish port:	Hobart



VOYAGE MANAGER	
Name	Max McGuire
Title	MNF Operations Officer
Email	Max.mcguire@csiro.au

EQUIPMENT CHAMPIONS	
Name	Scott Nichol
Affiliation	Geoscience Australia
Contact details	Scott.Nichol@ga.gov.au
Name	Tom Hubble
Affiliation	University of Sydney
Contact details	tom.hubble@sydney.edu.au

ITINERARY	
Mobilisation:	Hobart, 0800 Thursday, 30 April 2015
Depart:	Hobart, 0800 Friday, 1 May 2015
Return:	Hobart, 1300 Tuesday, 5 May 2015
Demobilisation:	Hobart, 1300 Tuesday, 5 May 2015

Voyage objectives

Marine National Facility:

- Introduce key stakeholders and science teams to Investigator, MNF and ASP operations;
- Undertaking as many operations and processes using as much of Investigator's equipment, facilities and capabilities as possible to train and familiarise MNF staff and visiting science teams;
- Develop and implement procedures and JHAs for scientific operations
- Identify any problems, issues and conflicts and include these in a voyage report;
- Collect and process data and samples as for a research voyage to test laboratories, facilities and on board systems;
- Undertake opportunistic testing and checks as per outstanding SFR list.

Equipment Champion (science party):

- Opportunistically collect physical seabed samples and deploy instruments on the outer shelf and slope to the east of Freycinet Peninsula, with a focus on reefs and submarine canyons;
- Opportunistically acquire multibeam sonar, sub-bottom profiles, magnetometer and gravity data across the outer shelf and slope, with a focus on reefs and submarine canyons;
- Deploy and recover two ocean bottom seismometers at lower slope to abyssal depths to the east of Freycinet Peninsula.

Operational Risk Management

Deployment and recovery of the OBS instruments carries risk as this will be a first time deployment for the vessel. Operational procedures to mitigate risk include tool box meeting between MNF crew and OBS team (GA, ESS Earth Sciences personnel) and provision of SOP documents for review ahead of deployment.

Overall activity plan including details for first 24 hours of voyage

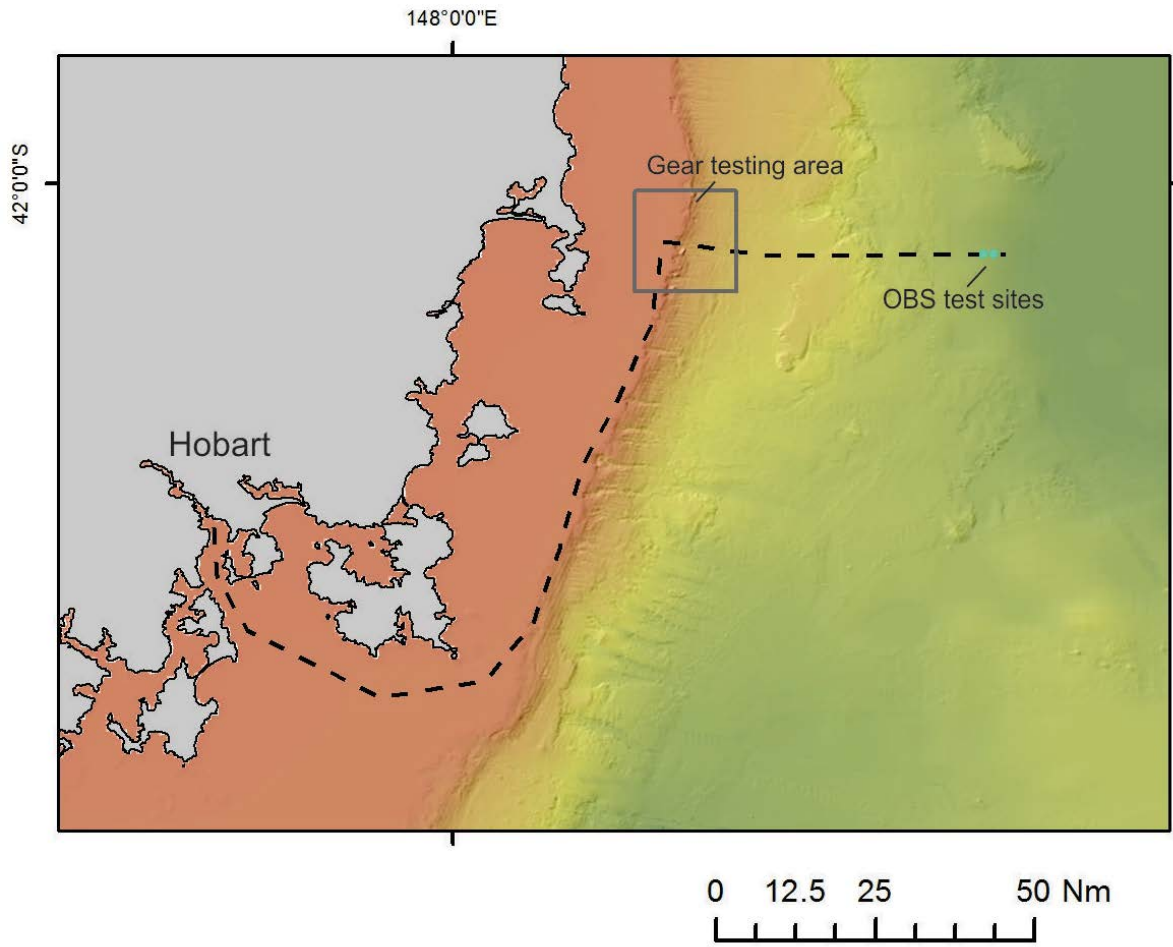
Activities for the first 24 hours:

- Transiting to the OBS deployment stations (est 13 hrs)
- Deploy magnetometer during transit (when ready)
- Deployment of OBS instruments (est 7 hrs)
- Transit to shelf mapping area (est 4 hrs)

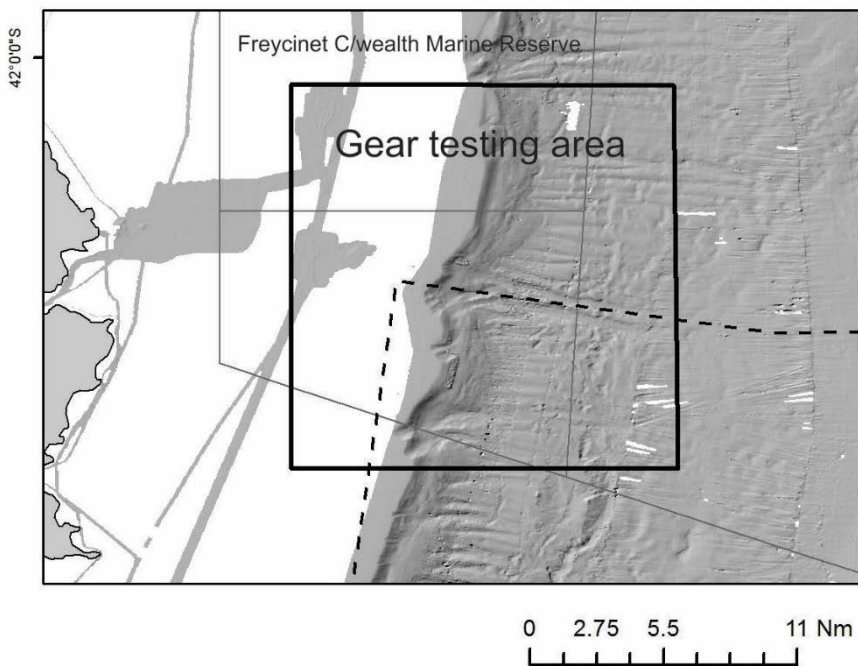
Alternate plan:

- Transit to gear testing area (estimate 10 hrs)
- Commence swath mapping and sub-bottom profiles in testing area (14 hrs+)

Voyage track



Gear testing area



Waypoints and stations

Additional waypoints to be added during the voyage following swath and sub-bottom mapping. These additional waypoints will be for sites to test sampling gear.

Waypoint	Latitude	Longitude	Station and Activity
1	-43 09.05	148 12.57	Commence shelf break transit
2	-42 09.20	148 33.05	Magnetometer deployment - canyon & upper slope transit
3	-42 11.36	148 48.50	Magnetometer deployment – lower slope transit
4	-42 11.20	149 23.40	OBS deployment & recovery site 1
5	-42 11.20	149 25.05	OBS deployment & recovery site 2
6	-42 01.05	148 28.70	Gear testing area bounding box – top left
7	-42 01.05	148 44.45	Gear testing area bounding box – top right
8	-42 16.93	148 28.70	Gear testing area bounding box – lower left
9	-42 16.93	148 44.45	Gear testing area bounding box – lower right

Time estimates

The following time estimates are based on a steaming speed of 12 knots.

Date	Time	Activity
Thurs 30 Apr	18:00	Science crew on board, inductions
Fri 1 May	08:00	Depart Hobart and transit to OBS site #1; 160 Nm
		Briefings, planning, muster drill en route; deploy magnetometer
	21:00	Arrive OBS site #1 and deploy in ~3500 m wd
	23:00	Triangulation of OBS #1 (360 deg circuit, 6 km radius, 12 knots)
Sat 2 May	01:00	Arrive OBS site #2 and deploy in ~3500 m wd
	03:00	Triangulation of OBS #2 (360 deg circuit, 6 km radius, 12 knots)
	04:00	Commence transit to shelf depths; 37 Nm; deploy magnetometer
	08:00	Outer shelf – commence swath mapping and sub-bottom profiling
	15:00	Outer shelf – commence sampling activities (reefs, canyon heads)
	19:00	Outer shelf and slope – resume swath mapping and sub-bottom profiling
Sun 3 May	07:00	Slope canyons – commence sampling activities
	19:00	Slope canyons – resume swath mapping and sub-bottom profiling
Mon 4 May	07:00	Slope canyons – continue sampling and/or SBP as needed; deploy magnetometer?
	14:00	Commence transit to OBS#1; 30 Nm
	16:30	Commence recovery of OBS #1
	18:30	Commence recovery of OBS #2

Date	Time	Activity
	20:30	Commence transit to Hobart; 160 Nm (or ~140 Nm if direct transit)
Tues 5 May	07:00	Optional – collect gravity core at 125 m w.d. offshore Derwent
	12:00	Arrive Hobart, sample offloading, science crew disembark

Additional operation if time allows during return transit:

- Gravity core to be collected at 125 m w.d. offshore from the Derwent River to sample lowstand fluvio-deltaic deposits (Champion – Opdyke, ANU)

Investigator equipment (MNF)

- Rock dredge
- Smith-McIntyre grab
- Gravity corer
- Multibeam sonar (EM710 and EM122)
- Sub-bottom profiler (SBP120)

User Equipment

- Magnetometer (GA)
- Ocean Bottom Seismometers x2 (GA)
- Karsten Corer (ANU)

Special Requests

There are no requirements for any equipment to be fitted to the vessel.

Permits

Permit to Conduct Research Activities within Freycinet Commonwealth Marine Reserve:

#:CMR-15 -000305

Date: May 01 – 05, 2015

Name: Dr Scott Nichol

No permits are required for using radioactive sources, lasers or other regulated materials.

No permits or certificates are required for Unmanned Aerial Vehicles (UAVs) or weather balloons or notice to mariners for buoys and moorings.

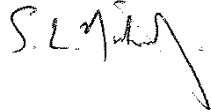
Personnel List

	Name	Role on vessel	Organisation
1.	Max McGuire	Voyage Manager	CSIRO MNF
2.	Lisa Woodward	Operations Officer	CSIRO MNF
3.	Anoosh Sarraf	DAP Support	CSIRO MNF
4.	Hugh Barker	DAP Support	CSIRO MNF
5.	Aaron Tyndall	SIT Support	CSIRO MNF
6.	Mark Lewis	SIT Support	CSIRO MNF
7.	Stephen Thomas	SIT Support	CSIRO MNF
8.	Bernadette Heaney	GSM Support	CSIRO MNF
9.	Amy Nau	GSM Support	CSIRO MNF
10.	Tara Martin	GSM Support	CSIRO MNF
11.	TBA	HVAC vendor	TBC
12.	TBA	HVAC vendor	TBC
13.	Scott Nichol	Equipment Champion	GA
14.	Tom Hubble	Equipment Champion	USYD
15.	Brendan Brooke	Geology/Sedimentology	GA
16.	Alix Post	Geology/Sedimentology	GA
17.	Alexey Goncharov	Geophysics - OBS	GA
18.	Craig Wintle	Engineering support	GA
19.	Matthew Carey	Applied science support	GA
20.	Andrew Hislop	Engineering support	GA
21.	David Mitchell	Technical support	USYD
22.	Serena Yeung	Honours Student	USYD
23.	Hannah Power	Geology	Uni of Newcastle
24.	Joy Hadfield	Honours Student	Uni of Newcastle
25.	Vanessa Lucieer	Seabed acoustics/GIS	UTAS
26.	Karl Manzer	Geophysics	UTAS
27.	Leanne Armand	Geology	Macquarie Uni
28.	Kelsie Dadd (or technician)	Geology	Macquarie Uni
29.	Brad Opdyke	Geology	ANU
30.	Julian Bourget	Geology	UWA
31.	Andrew Latimore	Seismology - OBS	ANU
32.	Ray de Graaf	OBS mech support	ESS Earth Sciences
33.	Ashby Cooper	OBS electronics support	ESS Earth Sciences
34.	Wayne Peck	Geophysics - OBS	GA
35.	Dejvid Aleksovski	OBS electronics support	ESS Earth Sciences
36.	Asrar Talukdar	Geology & GSM	CSIRO

	Name	Role on vessel	Organisation
37.	Mike Coffin	Geologist	IMAS UTAS
38.	Jo Whittaker	Geologist	IMAS UTAS
39.	Pete Harmsen	Cinematographer	CSIRO Comms

Please note: The MNF support staff numbers in this table are a guide and will vary depending on the activities being undertaken on the trial voyage. It may include Hydrochemists in addition to the other groups.

Signature

Your name	Scott Nichol
Title	Equipment Champion
Signature	
Date:	8 April 2015

Your name	Tom Hubble
Title	Equipment Champion
Signature	As attached
Date:	8 April 2015

List of additional figures and documents

None