

## PRE-CRUISE PLANNING & CHECKLIST

### General Info

Ship	Roger Revelle
Cruise	Reysenbach - Jason ROV
Dates	Depart 1600 09 July – Arrive 0800 15 August
Loading Date(s)	07 - 09 July (may begin earlier if DP sea trials are done)
Off-loading Date(s)	15 - 17 August
Chief Scientist	Dr. Anna-Louise Reysenbach, Portland State University
Start Port	Woods Hole
Intermediate Ports	No port stop, but probably small boat transfer in Azores (JS is arranging)
End Port	Ft. Lauderdale, Florida USA (may change if we find better port)
# of Scientific Participants	10 Jason (all male); 23 +/- 2 Science; 2 SIO-STs; = 35 total

### Equipment Requirements

Hours of Operations	24/7
Trawl Winch (9/16”M, 0.680EM)	Jason -- SIO provides winch operator launch/recover; J2 group drives winch during dives as normal.
CTD Winch (0.322EM)	
CTD Equipment	Chris German cognizant scientist for CTDs, he's been in touch with Kat. Chris wants 12 bottle / 10 liter configuration. Rosette to include iron-manganese sensor with battery 18"x12"x13" (DSP&L). SIO CTD uses wire basket to house battery. SIO needs to know dimensions of sensor. If sensor is a cylinder w/same dia as bottle, then the sensor can go in a bottle slot. If not, SIO needs to know dims so we can mount on frame. Iron sampler - Doug wants data telemetry concurrent w/CTD using 9600 baud C-cable (but 8000 meter max wire length to do 9600 baud). But our wire is 9200 meters long, so 9600 baud rate won't work. So we'll need to find shorter wire to do these comms. Or not do these comms. Will there be tow-yos, or just profiling?
Hydro Winch (0.25'M)	No
Portable Winches	No
Navigation	GP 90D
Dynamic Positioning	Yes - brand new system (same as on Melville). Need to run Jason feed into DP system.
Multibeam Sonar	Yes - in transit. Not needed on station. May do small surveys prior to dives. NOTE: em120 gear is being refurbished prior to this cruise, and there's a possibility that the gear won't be back by the time we get underway.
ADCP	Operate on not-to-interfere basis. 150 kHz.
HDSS Doppler Sonar (Revelle)	Operate on not-to-interfere basis. 50 & 140 kHz. May need to turn this off for mapping work at Rainbow site.
PDR (3.5kHz, 12kHz)	No
Magnetometer	Operate on transits, not-to-interfere basis
Gravity	Operate not-to-interfere basis
IMET	GPS and network into control van.
XBT	Normal – one xbt/day during multibeam ops
Seismics (Air/Water Guns, Hydrophone Streamers, etc.)	No
Air Compressor Vans	No
Coring (Gravity, Piston, Multi, etc.)	No
Explosives	No

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Containers/Vans	2 - Jason control vans, side-by-side, port 01 1 - Jason tool van 1 - Jason rigging van 1 - empty vehicle van -- bow spot
Electrical, Special Requirements	Regular old JASON power requirements
Foreign Shipments	None
Isotopes	None
Hazmat (chemicals, lithium batteries, etc.)	SIO-STS will send info sheet, science please reply 30 days prior to sailing. No lithium batteries.
Hazmat response issues	Science please bring MSDS sheets.
Laser	J2 has scaling laser that will be tested on board, but safely.
Freezers/Reefers	Science needs to coordinate. On board: -80 small chest, -80 big chest, regular chest freezer, walk-in cold room & freezer
SIO Technicians	STS-CT: Bud STS-RT: Kat Snow
Data Processing	Web site developed on board but sent shoreside to be served (science will do this)
Communications	Science to provide port numbers needed for communicating thru HiSeasNet firewall. Network feed into control vans on 01 level for GPS feed and to check underway data, maybe time server. Main deck public areas have wireless networks. General-purpose computers available for network browsing.
Clearances	Portugal (Azores) Lucky Strike is in Portugese EEZ, and they <b>think</b> Rainbow is, but it is not

### Science Operations Overview

Jason ops are priority. CTD ops when no Jason. Transponder nets at Rainbow and Lucky Strike. Elevator ops at Rainbow. Phil Forte recommends transponders at Lost City as well (Jason team will rely on advice from Science regarding this).

### General Notes

1. ChSci will entertain requests from volunteers to sail -- email her any requests
2. Loadout can begin as soon as Jason is back in WHOI and Reville is finished with DP sea trials.
3. Science gear can come aboard while ship is tied up at WHOI, we'll need to work around the sea trial -- contact SIO to confirm prior.
4. All personnel bring passports on board.
5. To get in WHOI gate, use your TWIC card! Or your Safeway card.
6. Dietary: one "lacto-vegetarian" = (eggs/fish but no meat); one "gluten-free" diet. SIO recommends that person brings food they know is OK.
7. Move on board: Jason may have 6 on board 05 July. Science on board as early as 06 July. Meals need to be off the ship. Everyone please check with SIO prior to making arrangements so we know to expect you.
8. Moving off ship: All scientists please be off ship with rooms clean by 1200, 17 AUG.
9. Southall will put aboard an Avon (in bags) and small bits of gear for transit to their port.
10. German/Connelly will deal with CTD deploy/recover/watchstanding issue.
11. CTD launch/recovery ops require 3 scientists (in addition to STS technician) on deck to run tag lines.
12. SIO-STS will contact Doug to resolve final configuration of sensors on CTD, and find out if there will be tow-yo ops. Slip rings too.
13. Need milli-Q water: probably 11 liters per day max combined total for science.
14. 27th - 28th - 29th July small boat transfer at Lucky Strike (note that LS is 2nd site, we'll do after Rainbow). Transfer boat is 65-foot research vessel from Univ Azores.
15. Compressed gasses: less than 10. Will make dry ice from siphon CO2 tanks, done on deck. Gas chromatographs in labs will require tanks. Will bring hydrogen generator (30cc/min) rather

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than hydrogen tanks for flame ionization detector, runs off milli-Q water. Formalin for pickling bugs. Small tanks of hydrocarbons (methane) for gas standards (tanks the size of handheld propane). Maybe need to bring hydrogen tank on board -- science still needs to coordinate gas tanks. Science will arrange to take all tanks off ship at end of cruise.

16. Will use dark room for microscopy.
17. Leave .322 wire on 2nd winch

### **JASON Notes**

18. Fiber optic cable we'll be using is 7000 meters, currently at wire pool at WHOI. This is a brand-new cable.
19. Slip rings: use SIO (NSF) slip rings. They'll be shipped in van from SIO beginning June. Note that these slip rings will go with Jason to TGT (SIO issue: P. Weibe has requested these slip rings for next cruise aboard RR, so they'll need to find other solution. SIO will resolve).
20. Phil asks that cable and slip rings be loaded and installed before Jason load out begins. Cable lube will not be "blue stuff", will be "other stuff" that's the same as on Atlantis.
21. Check with cable manufacturer to see if we can test cable before we loadout. Can we HiPot the cable (either once, or on a regular basis) to verify it is OK? Is there a standard test procedure we can follow? Has this cable been tested already by manufacturer, and if so can we get documentation? SIO will follow up with Rick Trask, Andy Bowen, and Matt Hawkins for guidance.
22. Control vans on 01 level, port side in little cutout forward of port crane. Other vans on work deck. See drawings for locations and orientations of vans, WHOI Effer crane and HPU.
23. During loadout: set control van on fantail & take out gear, THEN lift them up to 01 level to install. We'll need to hire commercial Baxter crane to load vans in WHOI (remember it will be 4th of July weekend). Control vans weigh 17,000 lbs unloaded (they're still full of control gear). Need shore crane to lift empty van to spot on bow. Doug Handy is dockmaster in WHOI/Facilities will help with port issues.
24. Fiber goes from winch room into computer lab. Jason team has long cable to take fiber up to their control van. Power just goes through armored cable, not all the way up to control van.
25. Jason ops intend to deploy at 1200 or 1600. Recover at 0800 or 1200 next day.
26. Heat issues in winch room? Phil suggests heat may not be as big an issue with the short dives we plan here. Also, we'll be using 7km cable (short enough so less heat buildup will occur). Winch room is insulated. Let's put tunnel blowers on board to blow cold air into winch room. 100-110 degrees desired on drum, so room needs to stay below this. Captain Althouse suggests putting thermistors on drum to see temps at different wraps inside. Note: Atlantis Jason ops underway now (shallow 16-hour dives) are OK, and temps are 23-24 degrees C sea surface, 109 F inside drum, 100 F outside drum.
27. Jason navigation transducer: two brand-new 12kHz 'ducers. Massa brand. Same impedance & other specs as previous Reville 'ducers, and these are the same as the ones on Melville. SIO-STS will send 'ducer specs to Jason group. SIO also has broadband hydrophone to listen. Terminals for ducers are in computer lab, we'll need to cable these up to J2 control van.
28. J2 will send video to a monitor in the main lab -- SIO can also broadcast over HiSeasNet to send images shoreside (15-second period). STS-CR will set this up, but will need NTSC feed as input.
29. Jason group will mount a small GPS antenna above control vans.
30. How many pallets of weights will Jason group be bringing?