

DIVE PLAN – Leg 1 Dive 9 Pod 2 Deployment

ROV Dive number: OE 0112

Location: **Barkley Canyon**

Date: May 7, 2014 8:00 am

Constraints: Weather, Sufficient deck space

Objectives

- Connect Pod 2 JB-03 (DeviceID: 10018) to network
- Deploy sediment trap (DeviceID: 23208)
- Deploy Dragonfish camera system (DeviceID: 23073, 20100, 23301)
- Deploy INDEEP experiment
- Visual transect
- Recover bait trap
- Deploy hydrophone tripod (DeviceID: 23157)
- Deploy Nortek profiler (DeviceID: 11203)
- Deploy Kongsberg (DeviceID: 22789)
- Niskin water sample for O2

Dive Dependents

1. Line laser and ROV porch grating orientation with respect to ROV heading
2. Pod 2 and instruments ready for deployment

Ship Procedure

1. Transit to site, assess weather and sea state. Proceed only when safe to do so
2. Deploy ROV USBL pole
3. ~~Lower Pod 2 to seafloor on ships wire~~
4. ~~Release Pod 2 and recover ships wire~~

ACTION	LATITUDE	LONGITUDE	DEPTH (m)
Descend at Pod 2	48° 25.6240'	-126° 10.4640'	392
Ascent at Pod 2	48° 25.6240'	-126° 10.4640'	392

Shore Procedure

1. Monitor Twitter feed
2. Stay on stand-by for port power on/off and topology updates

Communications With Shore

1. On-board team will tweet using @oceannetworksops twitter account at the beginning of the dive
2. Post the dive plan on the cruise website
3. On-board team will use Skype during operations as required

Navigation

1. Record positions of the deployed platforms and satellite instruments
2. Guide visual transect
3. Record interesting positions

Dive Chief

1. Record deviations from dive plan
2. Record change to site layout diagrams

Site/Equipment IDs

ACTION	SITEID	SITENAME	DEVICE ID	DEVICENAME	LATITUDE	LONGITUDE	DEPTH	PORT	EXT CABLE
Connect	1000253	UpperSlope_IP_Pod2_2014-05	10018	BC Pod #2 JB-03	48°25.6240	-126°10.4640'	392	J10 on JB-06	211/ 101.EX.0211
Connect/Deploy	1000253	UpperSlope_IP_Pod2_2014-05	22789	Kongsberg Mesotech Rotary Sonar 1071	48°25.6240	-126°10.4640'	392	J4	22/ 101.EX.0028
Connect/Deploy	1000278	UpperSlope_AD_CP_2014-05	11203	Nortek Aquadopp HR-Profiler	48°25.6260'	-126°10.4807'	396	J1	189/ 101.EX.0189
Connect/Deploy	1000254	UpperSlope_IP_Pod2_Camera_2014-05	20100	DragonFish Camera	48°25.6273'	-126°10.4721'	396	J7	369,362,361
Connect/Deploy	1000254	UpperSlope_IP_Pod2_Camera_2014-05	23073	ROS PT-25 Ti	48°25.6273'	-126°10.4721'	396	J7	369,362,361
Connect/Deploy	1000254	UpperSlope_IP_Pod2_Camera_2014-05	23301	Remote Serial Server 02	48°25.6273'	-126°10.4721'	396	J7	369,362,361
Connect/Deploy	1000255	UpperSlope_SedimentTrap_2014-05	23208	Sediment Trap	48°25.6260'	-126°10.4550'	394	J6	355
Connect	1000049	UpperSlope_IP_Pod2_2013-05	12002	RDI Workhorse Monitor ADCP 600 kHz (9339)	48°25.6215	-126°10.4787'	396	J5	111/ 101.EX.0026
Connect	1000256	UpperSlope_IP_Pod2_IP_Hydrophone_2014-05	23157	Ocean Sonics icListen HF 1251	48°25.5995'	-126°10.4501'	392	J3	320

ROV/Equipment Requirements

1. Cutter
2. Two Carabineer on a rope
3. Line laser
4. Milk Crate
5. ~~New Sediment trap feet~~
6. Niskin bottle

ROV Procedure

On Deck

1. ~~Connect Pod 2 to working winch and acoustic release. (Ensure navigation beacon and acoustic release are turned on)~~
2. ~~Deploy Pod 2 off STBD side with ships crane~~
3. ~~Payout wire at 10-20m per minute as directed~~
4. ~~Release Pod 2 at Beacon location~~
5. ~~Recover wire and acoustic release~~

Descent

1. Start recording, start streaming video to lab, confirm both are being received. Start dive log.
Confirm operation of all cameras
2. Start ROV-mounted CTD
3. Descend ROV

Pod 2 Deployment

1. Obtain and record IP position: Latitude, Longitude, Depth, Heading
2. Visually inspect for any issues and deployment
3. Retrieve connector of cable (211/11.EX.0211), wound on side of platform
4. Transit back to Upper Slope with cable
5. Remove dust cap from J10 and place it in ROV crate
6. Remove dummy plug from connector and place in ROV crate
7. System confirm power off to JB-06 Upper Slope (DeviceID: 10003) J10 port
8. Connect Pod 2 JB-03 (DeviceID: 10018) to JB-06 Upper Slope (DeviceID: 10003) J10 port
9. Systems to confirm power and communications to Pod 2 JB-03 (DeviceID: 10018)
10. Systems to confirm power and communications to RDI ADCP (DeviceID: 12002)

Deploy Sediment Trap (DeviceID: 23208)

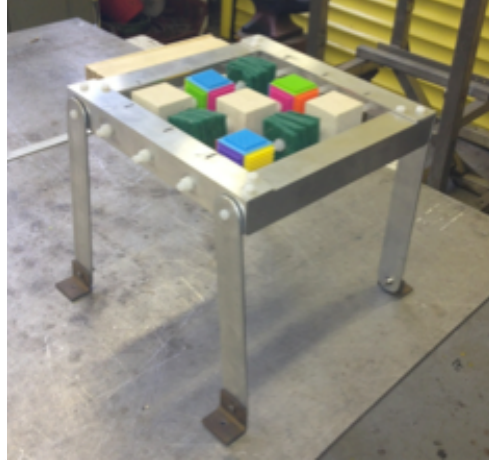
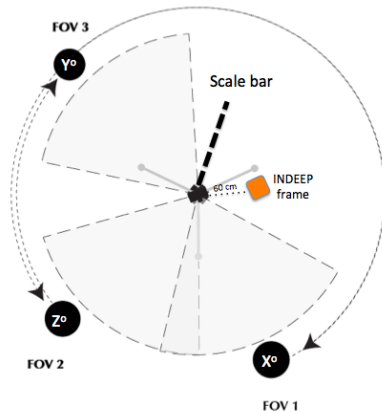
1. Break tie-wrap securing sediment trap cable by pulling on rope loop
2. Remove the two bungees and lift sediment trap off the platform
3. Transit backwards to near extent of the cable (length = 10 m from strain relief) and place stand on seabed - see direction of displacement on diagram
4. Go to former sediment trap site to retrieve the three lead feet
5. Position feet on sediment trap to anchor it. Place over rubber to avoid sacrificing bolt securing hockey-puck-handle
6. Record sediment trap latitude, longitude, and depth
7. Systems to power on J6 on Pod 2 JB-03 (DeviceID: 10018) and confirm instrument functioning

Deploy Camera Tripod (DeviceIDs: 23073, 20100, 23301)

1. Remove bungees securing camera to frame
2. Free the cable
3. Lift the camera off the platform
4. Place the camera at a distance away from the IP. Ensure it is being placed in an undisturbed seafloor (e.g., away from where left last time or where instruments were deployed previously)
5. Record tripod latitude, longitude, depth, and camera heading. From leg with cables to centre of tripod
6. Retrieve horizontal ruler from position on seafloor. They should be slightly North of previous Pod 2 site
7. Reposition horizontal ruler; running out from directly beneath camera to side opposite camera, perpendicular to long axis of Pod
8. Record tripod latitude, longitude, depth and camera heading
9. Systems reconfigure J7 to 136 VLAN
10. Systems power on J7 Pod 2 JB-03 (DeviceID: 10018) and confirm Remote serial server (DeviceID:23301), camera (DeviceID: 20100) functioning, pan & tilt (DeviceID: 23073)

Deploy INDEEP Frame

1. Return to IP and pick up INDEEP frame tie-wrapped to center platform
2. Place INDEEP frame in field of view of camera per figure below. Disturb sediment as little as possible
3. Video INDEEP position from three different angles
4. Record tripod latitude, longitude, depth and camera heading
5. Retrieve horizontal ruler from position on seafloor
6. Reposition horizontal ruler; running out from directly beneath camera to side opposite camera, perpendicular to long axis of Pod
7. Shore to confirm if the INDEEP is visible. If not, reposition accordingly



Visual transect survey

1. Survey at POD 2 camera location
2. Perform visual survey with laser on, 1m above seafloor at 0.5 knots: 8 X 60m branches oriented North, North-East, East....

Bait Trap Recovery

1. Move to bait trap location
2. Recover bait trap

Deploy Hydrophone Tripod (DeviceIDs: 23157)

1. Must come after the camera deployment and the connection to Upper Slope (orange oily is on outside of hydrophone cable)
2. Remove bungees securing camera to frame
3. Free the cable
4. Lift the hydrophone tripod off the platform
5. Place the hydrophone as far as possible (up to 70 m) from the IP (to avoid interference with the RDI ADCP). Ideally, it should be in the South/East quadrant from the IP (avoiding acoustic pollution from RDI ADCP at Upper Slope also, and not crossing over the node cable to the West)
6. Record tripod latitude, longitude, and depth
7. Systems reconfigure J3 to 156 VLAN
8. Systems power on J3 Pod 2 JB-03 (Device 10018) and confirm hydrophone (DeviceID: 23157) functioning

Raise Kongsberg Sonar (DeviceID: 22789)

1. Release bungee securing sonar
2. Lift sonar up using the rope loops
3. Secure sonar using bungee to bolt on end of platform
4. Systems power on J4 Pod 2 JB-03 (DeviceID: 10018) and confirm instrument functioning
5. Record instrument position and heading

Take O2 sample

1. Grab Niskin bottle in manipulator
2. Place bottle near to and at approximately the same height as the CTD
3. Trigger bottle
4. Stow bottle

Ascent

1. Retrieve Beacon and float
2. Request permission for recovery from Bridge
3. Recover ROV