Actual Dive Operations – Leg 1 Dive 17 Deploy Pod 3

Location: ***Barkley Canyon*** *Date:* May 12, 2014 15:00
Constraints: None
ROV Dive # - OE0120

Objectives
- Connect Pod 3 to network
- Visual inspection of Pod 3
- 10 push cores
- Deploy camera system (DeviceID: 12170, 23077)
- Deploy INDEEP experiment
- Deploy whalebone, wood, rock
- Visual transect survey
- Recover bait trap
- Deploy sediment trap (DeviceID: 12005)
- Deploy Nortek profiler (DeviceID: 12003).
- Deploy Kongsberg sonar (DeviceID: 11402).
- Connect Pod 4 downlink to Pod 3 (CableID: 106)
- O2 sampling

Dive Dependents
1. ROV porch grating orientation with respect to ROV heading

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

ACTION	LATITUDE	LONGITUDE	DEPTH (m)
Descend at Pod 3	48° 18.8976’	-126° 03.5300’	888
Ascend at Pod 3	48° 18.8976’	-126° 03.5300’	888

Shore Procedure
1. Monitor Twitter feed

Communications With Shore
1. On-board team will tweet using @oceanetworksops twitter account at the beginning of the dive
2. Post the dive plan on the cruise website
3. On-board team connect via intercom with shore 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	1000260	CanyonMidWest_IP_Pod3_2014-05	10012	BC Pod #3 JB-04	48°18.8976'	-126°03.5300'	888	J8	106/ 101.EX.0006
Deploy/ Connect	1000263	CanyonMidWest_ADCP_2014-05	12003	Nortek Aquadopp HR-Profiler 2978	48°18.8995'	-126°03.5351'	889	J1	283
Deploy/ Connect	1000261	CanyonMidWest_Camera_2014-05	23077	ROS Pan/Tilt with Lights	48°18.8915'	-126°03.4912'	894	J2	284
Deploy/ Connect	1000056	CanyonMidWest_Camera_2014-05	12170	Barkley Colour Axis-Video [Axis P1347]	48°18.8915'	-126°03.4912'	894	J3	288
Deploy/ Connect	1000260	CanyonMidWest_IP_Pod3_2014-05	11401	Kongsberg Mesotech Rotary Sonar 1171	48°18.8976'	-126°03.5300'	888	J4	28/ 101.EX.0034
Deploy/ Connect	1000263	CanyonMidWest_IP_Pod3_2014-05	11206	RDI Workhorse Quartermaster ADCP 150 kHz (9455)	48°18.8976'	-126°03.5300'	888	J5	23/ 101.EX.0029
Deploy/ Connect	1000262	CanyonMidWest_SedTrap_2014-05	12005	Sediment Trap 2	48°18.8963'	-126°03.5399'	890	J6	179
Connect	1000260	CanyonMidEast_IP_Pod4_2014-05	10013	BC Pod #4 JB-05	48°18.8865'	-126°03.5013'	895	J9?	106/ 101.EX.0006

Karen Douglas 14-5-12 2:25 PM
Deleted: J13

Karen Douglas 14-5-12 2:27 PM
Deleted: 11402

Karen Douglas 14-5-12 2:26 PM
Deleted: J8

ROV/Equipment Requirements
1. Knife (for releasing float from camera)
2. Carabineer (for recovering parking position, if needed)
3. 10 push cores
4. Niskins mounted on ROV

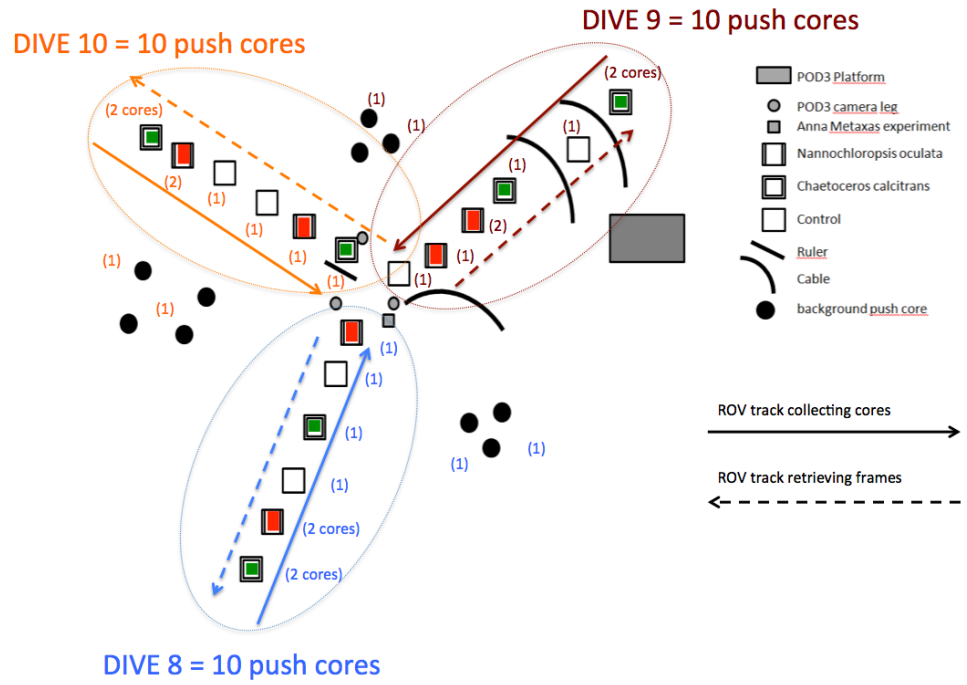
ROV Procedure

On Deck
1. Whale bone, wood and rock samples on platform.
2. INDEEP experiment in biobox on platform.
3. Connect Pod 3 to working winch and acoustic release. (Ensure navigation beacon and acoustic release are turned on.)
4. Deploy Pod 3 off STBD side with ships crane
5. Payout wire at 10-20m per minute as directed
6. Release Pod 3 at beacon location
7. Recover wire and acoustic release

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

Visual Inspection of Pod 3 (DeviceID: 10012)
1. Visually inspect for any issues with deployment
2. Obtain and record IP position: latitude, longitude, depth, tilt, heading

Push cores
1. Navigate to former location of Pod 3 Camera tripod
2. Take 10 push cores as per diagram
3. Retrieve all frames after Camera placement.
4. Store full core box near beacon.



Connect Pod 4 Downlink Cable from Pod 3
1. Release middle bungee securing cable in middle of figure eights
2. Release both bungees securing 70m Oily cable on cable horns
3. Grip connector head and fly away towards Pod 4
4. Conform power off on J8 POD #4
5. Remove dust cap from cable connector
6. Connect cable 106 to connector J8 on Pod 4
7. Systems perform proper power up and confirm instruments are functioning

8. Transit back to Pod 3 with bait trap.

Bait Trap Recovery
1. Move to bait trap location and old INDEEP frame
2. Recover bait trap and old INDEEP back to POD 3 and place near beacon.

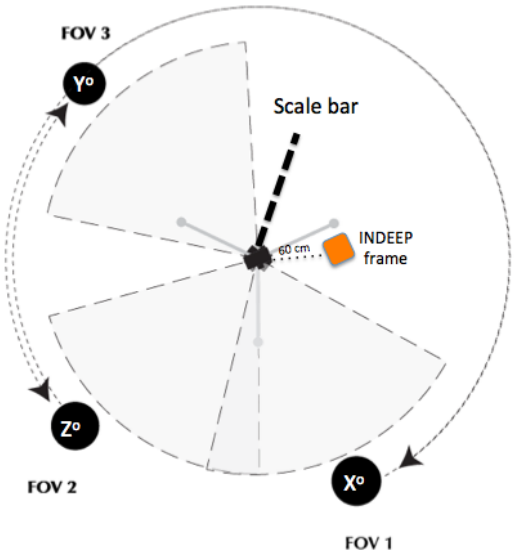
Deploy Sediment Trap (Device ID: 12005)
1. Break tie-wrap securing sediment trap cable by pulling on rope loop
2. Remove the two bungees and lift sediment trap off the platform
3. Transit backwards to near extent of the cable (length = 10 m from strain relief) and place stand on seabed - see direction of displacement on diagram
4. Go to former sediment trap site to retrieve the three lead feet
5. Position feet on sediment trap over red rubber to anchor it
6. *Note: In 2013 the weights were buried underneath the platform and we were only able to retrieve one, other two are still beneath the 2013 platform location*
7. Record sediment trap (latitude, longitude, depth)
8. Systems power on J6 on Pod 3 JB-04 (DeviceID: 10012) and confirm instrument functioning

Deploy Nortek Profiler (DeviceID: 12003)
1. Break tie-wrap securing Nortek cable
2. Remove bungee securing the Nortek
3. Lift Nortek T-stand off the platform using the handle
4. Pay attention not to hit the instrument's head when maneuvering
5. Transit backwards to near extent of the cable (<10 m) and place stand on seafloor
6. Record Nortek latitude, longitude, depth, and heading
7. Systems power on J1 Pod 3 JB-04 (DeviceID: 10012) and confirm instrument functioning

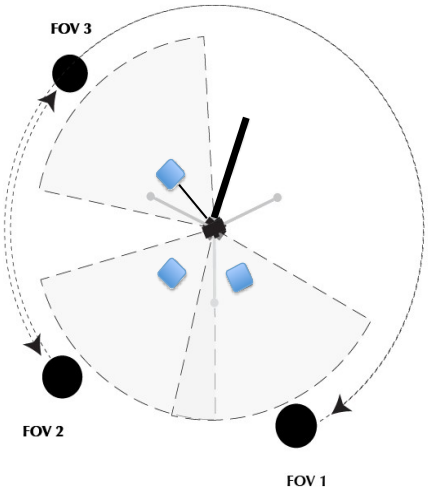
Raise Kongsberg Sonar (DeviceID: 11402)
1. Release bungee securing sonar
2. Lift sonar up using the rope loops
3. Secure sonar using bungee to bolt on end of platform
4. System power on J4 Pod 3 JB-04 (DeviceID: 10012) and confirm instrument functioning

Deploy Camera Tripod (DeviceIDs: 12170, 23077) with INDEEP
1. Remove bungees securing camera to frame
2. Free the cable
3. Lift the camera off the platform
4. Place the camera back at pre-deployment position
5. Warn ship of float release pending.
6. Collect biobox from platform
7. Place box near beacon – New INDEEP removed and OLD INDEEP frame to go inside.
8. Collect Biobox with old INDEEP inside and bait trap.
9. When ship confirms release OK move to camera with box in hand.
10. Carabineer box to bait trap an dhold in ROV arm.
11. Clip carabineer to float and release float from camera.
12. Move away from camera with float in one arm, box in other.
13. Release box and once clear release float.
14. Box and trap to surface with float.
15. Systems power on J1 Pod 3 JB-04 (DeviceID: 10012) and confirm instrument functioning

16. Place INDEEP frame in field of view of camera per figure below
17. Video INDEEP position from three different angles
18. Record tripod latitude, longitude, depth and camera heading
19. Retrieve horizontal ruler from position on seafloor



20. Reposition horizontal ruler; running out from directly beneath camera to side opposite camera, perpendicular to long axis of Pod
21. Systems power on J2 and J3 Pod3 JB-04 (DeviceID: 10012) and confirm camera system (DeviceIDs: 12170, 23077) functioning
22. Shore to confirm if the INDEEP is visible. If not, reposition accordingly.



Deploy whalebone, wood, rock

1. Place whalebone, wood and rock samples in vicinity of Pod 3 camera

Schematic of POD 3 camera tripod with substrates positioned in three different field of

views (PAN and TILT angles to be determined and also dependent on INDEEP frame deployment) About 60-cm apart from the base of the tripod (90 degrees of TILT from the horizontal). F De Leo will be connected during the dives to coordinate with Systems the best positioning of each substrate. (* Ignore arrows indicating camera panning schedule).

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 50m branches oriented North, North-East, East….
3. Clean up old frames to one location near platform.

Take O2 sample

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

Ascent

1. Retrieve the beacon and float and pushcores.
2. Request permission for recovery from Bridge
3. Recover ROV