

Transcript for Alvin Dive 4206
Port Observer M. Lilley

GMT

1455 We are at 1100 meters and starting clockwise magnetometer turns.

1458 Starting counterclockwise magnetometer spins.

1507 Finished with magnetometer spins.

1512 We are at 1650 m and the ground in the Dan cam just showed up.

1541:34 The bottom is in sight, looks pretty flat, black, shiny, ropey sheet flow with collapse features in sight

1602 On the bottom, 2504 m, x=4377, y=77876; We placed basalt sample #1 in the middle milk crate. Looks like new flow

1606 Headed for the sediment trap, ropey sheet flow out my window. Lightly sediment dusted with white stuff here and there.

1607 Still over ropey sheet flow, x=43982, y=77870, now starting to see some areas of collapse, maybe one m deep, occasional orange shrimp are the only biology so far

1609 Still ropey sheet flow, x=4423, y=77864, sheet flow has become very flat, hdg is 088 and the flow striations are aligned with the direction of the sub.

1609:35 x=4438, y=77860, very smooth flow

1610:46 x=4466, y=77859, still smooth sheet flow

1611:45 x=4483, y=77871, still over sheet flow with lineations perpendicular to the sub hdg 019, depth 2503, alt 1.2 m

1615 At the sediment trap. X=4507, y=77876, depth 2501, trap is on lobates that abut the sheet flow

1620:30 Pumping water to get light enough to lift the sediment trap.

1626 Still pumping water

1628 We have lifted the trap and are headed for Bio 9, flying too high to see the bottom well.

1640:31 x=4601, y=77958, about 30 m from Bio 9. Setting the trap down so we can drop down to see the bottom as we approach Bio 9. depth is 2505 m

1646 trap dropped and we are headed for bio 9.

1648 x=4607, y=77957, very murky here, we are still too far off bottom.

1649:36 x=4591, y=77995, see a riftia tube on the bottom, lots of small brachyurans, we are at the east wall, murky as hell

1651:30 Looks like old stuff from the east wall has collapsed down onto the younger flow

1658:41 x=4535, y=78014, in ASC, collapsed lobates

1701 x=4546, y=78003, we think we are north of bio9 and will drive south

1704:37 x=4566, y=77986, mostly unbroken lobates with some collapse here and there

1705:24 x=4572, y=77981, intact lobate beneath the sub but all I see is collapse

1713:30 x=4599, y=77986, still looking for Bio9, water is not very murky here, broken sheet flow, lot of relief, lot of small crabs

1717 Small chimneys, x=4613, y=77991, hdg 355, depth 2509, diffuse flow around chimneys, beehives, not much smoke

1727:41 Used hi T probe and could only get 22 deg. Decide to bail. Will continue to look for other vents as we make our way south

1729 Leaving the area, bottom is very flat sheet flow.

1731:31 x=4595, y=77975, Jumbled stuff looks like collapse of old east wall, see sediment trap as we move down the ASC near the east wall.

1733:49 x=4597, y=77957, bottom is dropping away, we need to get lower

1744 At the P vent hobo, the orifice looks way too small to deploy the res probe, video alarm goes off.

1745 Still at P vent hobo, x=4627, y=77938, depth 2510, hdg 035

1746:30 Changing video

1751 Have been looking around the P structures to find a place to deploy the res probe but no luck

1820 Had a tape problem. We have deployed Lauren's settlement experiment near P vent in diffuse flow x=4631, y=77930, Rich did echem at the site and we deployed Marker 5. echem temp was 21.5

1834 Leaving the site of Lauren's experiment to collect the elevator with the pump for deployment at M82

1848 x=4648, y=77812, hdg 179, driving to elevator, sheet flow with pressure ridges

1952 Tape problem again. We searched quite a while for the elevator and found it
We took rock sample #2 at the elevator site where a new flow overlapped an
older flow, whether 91 or not, I'm not sure, depth was 2502. rock is in the
port milk crate. We are now near biomarker 82

1956 Setting up to drop pump, x=4676, y=77587, hdg 082, depth 2504

2005 Rich is doing echem in a crack where we plan to deploy the pump hose.
Echem temp is between 13 and 25 degrees

2026 The pump hose is deployed in the crack and we are headed north to find lo.

2033:54 Found a series of smokers a few meters north of the diffuse flow experimental
site.x=4677, y=77601, hdg 355, depth 2504 m, we believe this is the old lo
site

2049 Got 371 deg on hi T probe. Taking Black major pair, icl reads 350.

2101 Took blue major pair, icl did not work

2108 Took RWB gas tight

2111 Took green gas tight. All of these samples taken at x=4677, y=77601,
hdg 371, depth 2504

2115 We try to setup to deploy the res probe. The north side is the only possibility
but Mark says he can't get the sub into the needed position so we bail.

2124 We are taking white major pair in a diffuse flow crack a couple of meters east
of lo, we are very late but Rich wants the sample for Costa. We try to deploy
a marker at the lo sample site but Mark loses site of the vent and we are
very late.so we drop weights. EOD.