

Dive 4615
 10 April 2010
 Pilot: Sean Kelly
 Port Obs: Tracy Gregg
 Stbd. Obs: Deb Eason

Port Transcript

Time	X	Y	Depth	Heading	Comments	
15:09	22977	5739	1757		We've got bottom. It's sedimented lobes; I don't really see pillows. There are pockets of sediment between the lobes that are a few cm across, and there's a dusting of sediment on top of the lobes as well. The lobes are anywhere from a few tens of cm across to maybe 50-60 cm. Less than a meter scale.	
15:14	22988	5749	1762		Settled down on this sedimented pillows and lobes. There seems to be about 2-m hummocks, swales 2m high, 5 - 10 m across. A slight dusting of sediment on top of the pillows. There's no glass; it's very dull.	
15:18	22990	5748	1762		Sedimented pillows; Sean just picked up a chunk about 30 cm across. It looked like it was a chunk of lobe. There's a dusting of sediment on top of these things; I can see through the sediment. I don't see any glass.	Sample #1
15:19	22991	5746			We just collected Sample #1 from our landing site, and Sean's going to turn the sub around. We're going to head southwest for a few tens of meters to see if we run into anything older. This looks a lot fresher than I anticipated; a lot less sediment cover. So we're going to go out of the way a little bit to see if we can find a contact between this stuff and something older.	
15:23	22913	5686	1762		I asked Sean to go southwest. We headed at 240° for about 80 meters to try to find a contact with the stuff we landed on. We didn't find it, but we don't want to spend too much time diddling around here, so we're going to turn north and head to waypoint 2 now.	
15:26	22902	5683			Sedimented lobes mostly. We are going to skip waypoint 2 and head up to waypoint 3.	
15:28	22883	5724			Going up a fairly shallow slope, 15°-20° or so. It's primarily pillows. Same sediment cover: there's sediment in the pockets, but the pockets are small, only a few centimeters across because these pillows and lobes are tightly packed. There's a dusting of sediment on top of the pillows. In some cases I can't even see through the sediment. The pillows have an aspect ratio of roughly 2 and they are a few tens of cm across. Deb says she sees some ornaments. I see lots of shrimp out here.	

15:31	22852	5769		We've hit a plateau area as we are climbing up this unit. As it's flatter, we have broader lobes that are roughly 2 m across, more sediment in the pockets. But we didn't cross anything that looks like a contact; I think what we're seeing is more sediment because we're on a slightly flatter surface. As we're coming along track, we just passed a small area of collapse. The collapses were the size of individual lobes--a couple of meters--but then few of them looked like they tied together. You could look inside them and see a small tube system, which was cool.	
15:33				Coming out of the flat area with individual collapse lobes and getting into more elongate lobes and pillows. There are some broad pockets of sediment that are a few tens of cm across. Still a dusting of sediment on top of the lobes and in some cases I can't quite see through it, but in most cases, I can see through it.	
15:34	22804	5858	1749	We crossed a contact from the same stuff we landed on (these sedimented pillows and lobes) onto much more heavily sedimented pillows. There are broad pockets of sediment. The pillows are on a meter scale. There's just a lot more sediment here, there's sediment over everything. There are pockets about a meter across between the pillows that are covered with sediment. There're corals. So this is not where I expected to find a contact, but we just crossed a contact.	contact
15:36	22793	5880	1747	Sean grabbed a chunk of this older sedimented material. It was a chunk of a pillow? Or was it a lobe?	Sample #2
15:40	22788	5906	1744	Collected sample #2 from these heavily sedimented pillows, and we're heading north for a ways to see what other contacts we can find.	
15:42	22789	5909	1742		
15:44	22790	5948		Continuing up this gentle slope of sedimented pillows and lobes, dominantly pillows. The pillows tend to have an aspect ratio of 1 to 2 and they're on the scale of a meter. Just now we crossed over into an area that's more dominated by lobes than pillows, but the same heavy sediment cover.	
15:47			359	There's a crack that's running roughly perpendicular to the sub, about 10 cm wide. It's old: it's filled with sediementn. Still in heavily sedimented pillows and lobes that are still on the scale of about a meter. There are pockets of sediment about a meter across that are separating some of the pillows. As the underlying slope increases the sediment pockets get smaller.	
15:51	22798	6067	1725	1.3 We entered into an area that has a lot of sediment. There are broad expanses 5-6m across of just sediment. Tips of pillows poking out of the sediment. Neither Deb nor I are convinced that we crossed a contact, or that it could just be that the pillows and lobes are less bulbous here so they're not sticking out, but just to be sure, we're going to get a rock here.	contact (?)
15:55	22801	6082	1722	Got about a fist-sized sample of thse heavily sedimented pillows that are roughly halfway between waypoint #1 and waypoint #3.	sample #3

16:00	22801	6088	1719	After collecting a piece of pillow from this heavily sedimented terrain, we're going to head north for about 350 m or so and then make a hard left to waypoint #3.	
16:01	22802	6099	1717	We've crossed into an area that's still heavily sedimented, but not as heavily sedimented as where we collected Sample #3. There's a lot of dark sand (glass) on top of the sediment pockets here. There are more lobes and pillows sticking out of the sediment here.	
16:02	22803	6117	1715	Climbing up a very gentle slope. There are broad lobes that are 1 - 2 m across, that are roughly the same size as the sediment pockets between them. Very few pillows here, mostly these flat squashy lobes.	
16:07	22806	6204	1710	Climbing up a gentle slope 20° - 25° or so. Still sedimented pillows and lobes. Every once in a while I see a barfing pillow, but most of the pillows appear to be pretty bulbous, meter scale. A few lobes. The pockets of sediment between the pillows and lobes can be 4 or 5 m or more.	
16:10	22810	6275	1702	Continuing up the sedimented slope of pillows and lobes. Pillows are generally bulbous, but every once in a while I see one that's about 2 m long and about a meter high. Most of them are fairly equant. Some lobes. And still the broad sediment pockets that are 1 - 2 m across or more between lobes.	
16:11	22811	6301		We've been traversing over this heavily sedimented terrain as we head north. Based on the Sentry map and on the DSL data, we've been over this unfaulted smooth terrain for about 100 meters at least, and it's unchanging so we're going to take a course toward waypoint #3.	
16:17	22723	6359	1700	Climbing up a small rise. Gentle slope, about 20° or so. Sean sees less sediment out the port side. I see a big gastropod! It's got a periwinkle like shell, and it's 4 inches long. I see pillows that are more tightly packed, but I'm not convinced that they're younger.	
16:25	22540	6421	1699	Going up a slight slope. There are pillows that are all equant; they look sort of like Easter eggs on a meter scale. Still the sediment pockets between them and dusting of sediment on top.	
16:29	22503	6439	1697	We've passed waypoint #3, we're a bit to the west of it, and we think we saw a slight change in the sediment character, and in the character of the rocks, so we're slightly more jumbled, fractured. More lobes. Little bit less sediment. Who knows if we're right, but we're going to get a rock here and find out.	contact (?)
16:30	22503	6440	1697	Got a piece of pillow crust about 20 cm across from between, just a little bit west of waypoint #3.	Sample #4

					Going from waypoint #3 to waypoint #4. Still over sedimented pillows and lobes. What changes is just how much, how broad the sediment pockets are between the pillows and lobes. Ranges from 1 m to 2 or 3 m. There's a dusting of sediment on top of the pillows and lobes, and I can occasionally see through it. And sometimes the sediment is piled on top so thickly that I can't see through it. Where I can see the rocks, they are quite brown and	
16:37	22430	6482	1694	292	dull; looks like they have a lot of Mg coating on them.	
					Still flying over sedimented lobes and pillows. Hasn't been a real noticeable change, although all of a sudden there's a lot less sediment here. Is that cuz we're going up a slope? A little mound here, about 4 m high. We just flew over a little pillow mound that does have a lot less sediment on it, but that	
16:43	22286	6502	1697	283	could be a topographic effect.	
					As we were heading from waypoint #3 to #4, we passed a small construct to the south; you can see it in the Sentry data very nicely. In the sub, it was clear that lobes were flowing from the port side toward the sub. We're settling down to get a rock. There's a light sediment cover. There's still sediment in pockets. Pillows and lobes; an aspect ratio of 1 to 2. The lobes are quite long and skinny with aspect ratios of 4 to 5, tens of cm across. Still lots of things growing on this mound, sessile creatures. Dusting of sediment over everything but I can see through it everywhere. Rock is dull and brown.	
16:50	22148	6512	1709	198	And I think I see some Mg coating on some of the pillows.	contact
					Got a relatively equant shape sample of a pillow from this small construct that's south of the trackline between waypoints #3 and #4.	Sample #5
16:52	22145	6511	1710		Starting to cross over the topographic embayment that's between waypoints 3 and 4 and sedimented lobes and pillows are coming into view. Pockets of sediment; lobes are flowing from right to left. Pockets of sediment are a few	
					tens of cm across.	
16:57	22063	6525	1717		We're approaching waypoint #4. There's a construct here. There are pillows and lobes that are flowing from in front of the sub to behind the sub. Small pockets of sediment a few tens of cm across. The pillows and lobes are tightly packed. The pillows and lobes are on the small side, with an aspect ratio of 3-4. Pillows are less than a meter in diameter, a few tens of cm	
					diameter. Lobes are 30 - 50 cm in diameter, and we're going to stop and get a	
16:58	22029	6521	1717	263	rock.	contact
17:00	22024	6520	1717		Collecting sample #6. Looks like a chunk of a skinny lobe.	Sample #6
17:03					After collecting sample #6, we are going to head to waypoint #5.	
					We're still over these lightly sedimented lobes, dominantly lobes with some pillows. There's a dusting of sediment over everything, but I can see through the sediment in almost all places. The pockets of sediment are just a few 10s	
					of cm across where they exist. But there are still lots of critters growing on	
17:06	21989	6518	1708	264	these rocks.	

17:13	21864	6469	1707		We've crossed that embayment and the pillows and lobes are more heavily sedimented. The pockets of sediment are 10s of cm across, there's a dusting of sediment over everything, so we've crossed a contact from our last sample, and nestling up against the rock here with a heading of 354°. So this sample is coming from the structure to the north of waypoint #5.	contact
17:15	21865	6502	1708	346	Sean has a lobe bud that is about 25 cm across. There's clearly orange staining around the broken edge of the bud.	Sample #7
17:18	21864	6501	1707		Just collected sample #7 from the lobe that's to the north of waypoint #5. We're going to skip waypoint #5 and get to waypoint #6. Sean says we have 90 - 120 min of power left, so we're probably going to cut a couple of other waypoints along the way so that we can be sure to have enough time to get to #12 & #13 at the end.	
17:20	21839	6513	1700	310	Climbing up this sedimented mound of pillows mostly. Pockets of sediment half a meter across, sediment dusting on top of the pillows. Some of the pillows are collapsed. Pillows are meter scale, aspect ratio of 1 - 2. Not as many lobes as there are pillows.	
17:22	21823	6525	1696	319	Passing over primarily lobes now, with still broad pockets of sediment and sediment on the lobes. The terrain is flat-lying beneath us, so we switched from pillows on the slope to lobes on the flat.	
17:24	21791	6544	1694	308	Looks like there's more sediment here. There's a thicker coating of sediment on the pillows. The expanses of sediment between the pillows and lobes are a little bigger, a few tens of cm across. But the big thing that I notice is that there seems to be more sediment on top of the pillows here than there was just a few meters ago.	
17:27	21732	6570	1690	309	Flying over sedimented pillows here and some lobes; mostly pillows. The slope is sloping down away from my side of the sub. Same kind of sediment cover, thick enough that I can't see through it in a lot of places. Aspect ratio of the pillows is 3 or 4.	
17:36	21573	6676	1688	332	We're on top of the plateau that contains waypoint #6. It's sedimented pillows and some lobes. We haven't really seen any change in the sediment cover or the lava morphology. We don't anticipate seeing any change between here and our formal waypoint #6, so we're going to grab a rock here and head to waypoint #7.	
17:44	21529	6706	1789	344	Collected a sample from the plateau that contains waypoint #6. it's a pillow bud about 20 cm across or so.	Sample #8
17:52	21385	6761	1689	305	There's a crack underneath the sub it's running not quite perpendicular to the sub, a little to the north. It's about 50 - 100 cm wide. I can see it widening in the distance. It's fracturing pillows. It's heavily sedimented, as is the terrain around it. Deb says she never saw it on her side. I'm passing over another one that's running in the same direction, about 20° west of the sub's heading. It's just a few cm wide, barely a crack.	

17:54	21349	6777	1690	308	Passing over heavily sedimented lobes and pillows. There are broad pockets of sediment that are 1 - 2 m across between the lobes. The pillows are sedimented as well. In most cases I can't see through the sediment to the surface of the pillows.	
17:58	21273	6808	1684	309	Climbing up a slope of about 30° or so. There are some really broad patches of sediment that are tens of meters long and a few meters wide. I can see ripples in some of the sediment packages. There are pillows and lobes. Some of the lobes have aspect ratios that are around ten, but most of the pillows have aspect ratios closer to 3. Sediment on top of pillows and lobes. We're on the flank of the rifted seamount, and Sean's looking around for a rock. This is pretty heavily sedimented stuff. Broad patches of sediment between the lobes and pillows. Sediment cover on top of the pillows. Very dull brown coating as well.	
18:00	21260	6814	1683		A chunk of a lobe. Not really a bud, just a protuberance at the end of a squashy lobe in this sedimented terrain from the rifted seamount near waypoint #7.	
18:01	21259	6815	1683		After collecting sample #9 from the rifted mount, we have concluded to avoid waypoints 8 and 9 and are heading straight to 10 to get a sample of that seamount.	Sample #9
18:05	21255	6818	1681		Passing over pillows and the sediment pockets between the pillows are covered with glass. So the sediment pockets are covered with glass, and we're approaching the fault that marks the graben. There's a dusting of sediment on the pillows and lobes as well.	
18:07	21245	6851	1677	342	We just passed over the fault, 7 -10 m high. I can still see the bottom... About 7 -8 m high. Bottom of the fault is still sedimented lobes & pillows. Not a lot of talus. Looks like there's a step up now. We crossed into a deep area, oh, this is a horst about 4 m across perpendicular to the sub heading of 342, and once we cross over the horst I lose bottom	
18:23	21113	7136	1689	352	We've been riding pretty high in the water column when we crossed the deepest part of the graben and we're coming up just south of waypoint #10 now. Sedimented lobes. Pockets of sediment between the lobes. Some of the lobes are quite long, running almost east-west. Some broad, flat lobes that are meters long and a meter or so wide.	
18:25	21127	7174	1695		Come up on the base of this construct that is at our waypoint #10. It is sedimented pillows and lobes, the lobes are fairly bulbous. There's a sediment coating over everything; it's hard to see through the sediment to the lobes. There are pockets of sediment that are tens of cm across. Some of the lobes, rarely, are really elongate and quite skinny, so they're maybe 3 or 4 m long and only 30 cm across. They look like packaged breadsticks. And we've asked Sean to grab a rock.	
18:27	21126	7175	1695		From the base of the pillow construct at the base of our waypoint #10, and it was a chunk of fractured pillow crust.	Sample #10

				Collected a sample from the construct at waypoint #10 and now we're heading west to waypoint #11. Passing over pillows and lobes. Big pockets of sediment, and dusting over the pillows and lobes. The general flow direction is from the starboard to the port, which would be from the north to the south (roughly). Everything seems to be constructional. I don't see things broken off, I don't see talus, I don't see pillows that are busted open.
18:30	21112	7182	1693	292 So similar to DSA1, these slopes are primarily constructional.
				Passing over almost exclusively pillows; I'm not sure that I see any lobes at all. The pillows are 1 - 2-m scale, with aspect ratios of 1 - 2. Some of them are busted open and you can see folded lavas inside. Some of them are locally collapsed and they're just containing piles of rubble. There's a dusting of sediment over everything. Small sediment pockets, just a few cm across
18:33	21057	7187		280 because the pillows are so tightly packed.
				Passing over an area that's more dominated by lobes than pillows, although there are still pillows interspersed. Still the same sediment cover, so a
18:36	21017	7190	1695	284 change in morphology, not a change in sediment cover.
				Started to climb up the construct that houses waypoint #11. It is composed pillows and lobes. Dusting of sediment. I can see some bioturbation of sediment. The sediment is consistently dusted over everything, it's hard to see through in some locations. The rock is definitely covered with Mg, I can see it from here.
18:39	20966	7195	1696	This sample was a breakout from a pillow. So the pillow burst and oozed out a little bit of lava, and that's what Sean got was the ooze from inside the pillow.
18:41	20966	7197	1696	Pillow guts! Sample #11
				Just collected a sample from the structure at waypoint #11, and Sean says we have enough power to go to waypoint #12 and then 13, so if he's wrong, I'm going to be really upset.
18:43	20966	7200	1694	
				As we motor away from the sample location, I'm getting a nice closeup look of this pillow construct. There are several collapsed and deflated pillows, so the upper crust is still whole but is sagging; there are lobes that are hollow and you can look inside and see that the lava has all spilled out of them. Here's a broken pillow and you can see the concentric layers within the pillow where the lava pulsed through. The lobes that are hollow are rather small, a few
18:44				tens of cm across, maybe up to 50 cm, and yet they still manage to drain out. We've been climbing up slowly since collecting the sample at waypoint #11, and Sean sees a dropoff in front of him, I see it too; it's not a fault, it's just going down.
18:50	20988	7281	1678	Crossing over a mound of mostly pillows. Some of them are pretty chewed up with their crusts all fallen off and turned insideout. Few lobes. Pillows are on the scale of about a meter, roughly equant. Lot of them are really busted up
18:54 PM	21001	7341	1678	14 though; I can see inside.

18:55	20998	7349	1676	Just crossed the east-west trending fault, dropped off in front of us. The altimeter on the sub now says 15.1, so it's probably about a 10-m fault or so. 12 meters, Sean says.	
19:00	21026	7444		There's a bivalve bed out the port side, or rather I see a whole bunch of white crap out the port side, I assume they're bivalves. There's a lot of sediment below, I see some hydrothermal staining.	
19:01	21037	7468	1685	We have crossed to the other side of the graben. We're in pillows; there are also some broken up pillows in situ. There are shell fragments, I see a starfish. There is some yellow sediment out here. So there has been some hydrothermal stuff going on out here, but there isn't now. We're working our way toward waypoint #12 for a rock.	
	21040	7504	349	Nosing about for a rock, but there was a crack about 2m wide, running roughly perpendicular to the sub, so we're climbing up out of it before we look for a rock.	
19:04	21037	7515	345	Crossed another crack with the same orientation as the previous one, also about 2 meters wide. I saw one crab, and I'm seeing all these skate egg cases that are 12 - 18 inches across, rusty orange color.	
19:07	21037	7538	1689	134 Close to waypoint #12. We're on the flank of this construct. Sedimented pillows and lobes; mostly pillows. Pretty heavy coating of sediment. I see pockets that are tens of cm across, and there's sediment on top of the pillows that I can't see through, and we're going to get a chunk here.	
19:09	21037	7538	1689	A chunk of pillow crust from near waypoint #12. This whole construct has been sedimented lobes and pillows, mostly pillows. The sediment cover is pretty heavy--sometimes you can't see through it--and there are pockets of sediment a few tens of cm across. There's no glass left on these things; it's very dull and brown.	Sample #12
19:18	21123	7575	1701	Just came off of the pillow construct east of waypoint #12 and just barely got onto the floor of that valley to the east of waypoint #12, and there were lobate and pillow flows on top of this beautiful jumbled sheet flow. There are broken up folds, sediment in the pockets. It is as far as I can see; as far as Deb can see; and as far as Sean can see. We are surrounded by jumbled sheet flow. There's 1 - 2 m scale topography. We're in a collapse! Just at the edge of my vision out the port side, I can see a wall with bathtub rings on it.	
19:20	21115	7583	1706	317 Sean's gonna get a chunk of this jumbled sheet flow. In most places it's folds that have been disrupted. Out the port window, at the very edge of my vision, I think I see the rim of a collapse; can't be more than 2 m tall, probably about a meter tall, and I think I see bathtub rings on the collapse wall.	
19:22	21115	7584	1706	Sean has an entire fold. They're folds that have folded over on themselves, twice!	Sample #13

					<p>We just collected the sheet flow, and as I look out my window, I can see that the sheet flow formed within a collapse zone of the lobates; there are bathtub rings on the collapses, very short fat little pillars, big fat white crab. Changing back into lobates. So I think that sheet flow was localized in the collapse. Deb still sees sheet flow out her side. What I see are broad lobes a couple of meters across that are collapsed, and feed into each other so the orientation of the collapses is roughly parallel to the orientation of the sub, so it's like this whole preferred pathway thing going on inside the lobes and it drained out into that sheet flow, and some of the lobes are hollow. Broad flat lobes with lots of sediment, these kind of mattress lobes. It's hard to tell if we crossed a contact or not. I think I'm seeing more sediment here</p>	
19:24	21115	7584				
19:27	21125	7654	1704	20	<p>than I was near the sheet flow. We're very close to waypoint #13. We're in this valley here, it's sedimented lobates, very broad lobes, what John calls "mattress lobes." There's sediment over everything, there's pockets of sediment and a coating of sediment that in most places I can't see through on top of the lobes. The lobes are in general a meter or more across. Sample from the valley that contains waypoint #13. It is a piece of a broken pillow. It's in situ and it looked like it was a jointed bit of a pillow that included the crust and part of the interior.</p>	Sample #14
19:29	21133	7660	1705			
19:32	21136	7656	1705			
					<p>We're leaving the region of waypoint #13. We're heading to the southeast, going to try to nick a construct there, grab a rock, and then we'll reassess and see what we have time for. Still flying over these sedimented broad lobes on the scale of a meter across and 2 - 3 m long. Pockets of sediment that are tens of cm across to up to a meter across inbetween the lobes. Deb sees a</p>	
19:39	21143	7641	1705	138	<p>sheet flow--might be the same one.</p>	
19:41	21157	7622	1705	136	<p>Crossing into a sedimented sheet flow. I think this is the same sheet flow that we sampled before. Jumbled sheets, folded sheets, surrounded by lobes.</p>	
19:42	21173	7600		135	<p>Crossed out of the sheet flow into very bulbous pillows. 1 - 2m scale pillows.</p>	
					<p>Starting to climb up this construct that is SE of waypoint #13. We're just on the margin of it. The lobes and pillows are flowing towards us. Other than the morphology, the broad lobates to the pillows and lobes that are on this slope, there's not a significant change in sediment cover or anything else that's changed. This slope is primarily pillows and lobes with the "regular" ol'</p>	
19:44	21186	7581	1698	139	<p>aspect ratio of 2 rather than the big mattresses we saw in the low-lying areas. We just collected sample #15 from the mound to the southeast of waypoint #13. We're now heading to the NE; we're heading toward what is, on the bathymetry, a fairly broad plateau to the north of these mounds, and we'll see</p>	
19:48	21191	7578	1695	44	<p>what that is made of.</p>	Sample #15

				Sedimented pillows, primarily. Bulbous pillows. Some of them are broken up in place; some of them are broken apart. Most of them are hale, hearty, and are on a 1 - 2m scale. But I can see one out my window right now that's about 3m high and exploded, and stuck out a big tongue of lobate lava.	
19:50	21216	7604	1697	44 Definitely pillows with a few lobes inbetween. I think we just crossed a contact between these bulbous pillows that were on a 1 - 2 m scale; we're now in these broader lobes, mattress lobes almost. They're just not very tall: a couple of meters across and a few tens of cm	
19:53	21257	7648	1696	45 thick. A goodly coating of sediment over everything.	
				We think we crossed a contact between bulbous pillows that had sediment pockets and a dusting of sediment into lobes--exclusively lobes; I don't see any pillows--that have a heavier sediment coating and for lobes, that's saying something. I can barely see through the sediment in a lot of places. In some places I can, but this is a heavier sediment coating than we've been seeing. Oh, there's a pillow. So there are some pillows out here, but mostly lobes.	
19:55	21270	7665	1697		
				Just collected sample ... We're gonna stay on this heading and look for contacts. If you see on the bathymetry, we're going to say on this plateau and there's possibly another contact. And we'll holler if we want a rock.	Sample #16
19:59	21273	7668			
20:03	21301	7693		54 There's a small crack under the sub; it's running about 20°S of west of the sub's heading. I saw about 2 others of those with similar size and orientation.	
20:04	21310	7701		Another crack with same kindof orientation.	
20:04	21322	7710	1690	53 Sedimented pillows and lobes.	
				Just flew past a pressure ridge; a tumulus-like structure that was about 2 sublengths long and about a meter and a half high.	
20:05	21335	7729		We're crossing over a fault that's running about N70° or so; almost perpendicular. Wide over here; Deb says she doesn't see it out the starboard side, but it's huge! It's a few meters wide and it really drops off and opens up	
20:10	21446	7782		54 to the port side. Dips behind the sub.	
				There's a fault about a meter high or so. There's a big hole with white crap	
20:12	21449	7809		54 growing in it. Bacterial matting?	
				We crossed over a fault, and we're now over heavily sedimented pillows. I haven't seen this much sediment since we started, I think. There are a couple of sea pens out my window. I could see broad lobes that collapsed, with pillows flowing on top of the rubble.	
20:14	21467	7819		We are to the north of the axis in heavily sedimented pillows on the scale of a meter. And we're going to get our last rock.	
20:16	21460	7813	1707	Collected a pillow bud from this heavily sedimented terrain north of the axis,	
20:17	21459	7813	1707	and Sean just asked for permission to surface.	Sample #17