Dive Plan 4904– May 7, 2017

Port: Jeremy Rich Starboard: Ashley Grosche Pilot: Pat Hickey

On Bottom Target: Teddy Bear

Objectives:

- Release LVP at Teddy Bear
- Find site where CV1 was deployed and pick up colonizer
- Move to Crab Spa to check on Vent-SID
- Pick up CV8 at 'Wedding Cake'
- Collect piece of 'Wedding Cake' with Alvinella
- Pick up CV5 at Bio9
- Pick up Crab Trap at Riftia mound near Bio9

Basket List

- 1. Large biobox
- 2. 2 small bioboxes
- 3. 2 medium biobox
- 4. T probe

Locations:	Lat	Long	m	Х	У
Pvent	9 50.276	104 17.474	2511	4628	77926
Bio9	9 50.296	104 17.476	2514	4624	77962
Crab Spa MkF	9 50.396	104 17.489	2505	4600	78147
Tica	9 50.406	104 17.490	2505	4598	78165
Teddy Bear	9 50.50	104 17.51	2514		
CV1	x4535, y7838	87, hdg195, d25	519		

- 1. On bottom, transit to Teddy Bear
- 2. Take out wand of LVP
- 3. Measure T in crack
- 4. Secure wand in holster
- 5. Release LVP
- 6. Find site of CV1 deployment near Teddy Bear (x4535, y78387, hdg195, d2519)
- 7. For picking up colonizer, move extremely slowly and gently put in small biobox

- 8. Measure T at point where colonizer was
- 9. Move to Crab Spa to check on Vent-SID
- 10. When still no sign of activity, release Vent-SID
- 11. Proceed to Alvinella mound (Wedding Cake) near Crab Spa and recover CV8
- 12. For picking up colonizer, move extremely slowly and gently put in medium biobox
- 13. Measure T at point where colonizer was
- 14. Collect piece of Wedding Cake and put in one of bioboxes not used for

colonizers

- 15. Measure T of fluids emanating from broken off piece
- 16. Sample Riftia around Tica (not quite dead yet Riftia)
- 17. Before collecting Riftia, proceed with following:
 - a. Measure T at base of Riftia colony
 - b. Make a T measurements at the level of various plumes
- 18. Proceed with collection and put worms in large biobox. Make sure worms fit into biobox and nothing sticks out. Don't fold them
- 19. Move to Bio9 and recover CV5
- 20. For picking up colonizer, move extremely slowly and gently put in remaining small or medium biobox
- 21. Measure T at spot where colonizer was
- 22. Recover Crab Trap at Riftia mound close to Bio9

Alvin Dive 4904-AT37-12 MAY 7, 2017

Pilot: Pat Hickey Port Observer: Jeremy Rich Starboard Observer: Ashley Grosche Notes are a combination of Jeremy Rich's and Ashley Grosche's notes.

GMT	Comments
14:00	Descending to the seafloor
15:25	At seafloor, transiting to Teddy Bear
15:40	Arrival at Teddy Bear near Large Volume Pump (LVP) (x4546,
	y78368, Hdg332, d2516, temp at LVP inlet is 12°C)
15:47	Taking LVP off axis
15:50	Releasing LVP to surface
16:08	North of Teddy Bear, collecting colonizer CV1-2017 (x4525, y78405,
	Hdg4, d2516, temp 12°C)
16:35	At Alvinella Mound (Wedding Cake) collecting colonizer CV7-2017.
	Metal screen gone, sulfide growing into colonizer (x4577, y78160,
	Hdg76, d2511, temp 46°C)
16:40	At Alvinella Mound (Wedding Cake) collecting Alvinella worms
	(x4577, y78160, Hdg76, d2511, temp 40-46°C)
16:45	At Tica collecting 8-10 <i>Riftia</i> from a dying <i>Riftia</i> patch (x4575, y78166,
	Hdg 138, d2515, temp at base of worm 2°C, temp at plume 3°C)
17:06	At Crab Spa to inspect Vent-SID. It doesn't appear to be working
	(x4584, y78156, Hdg85, d2505)
17:18	Leaving Crab Spa with Vent-SID to go off axis
17:28	Releasing Vent-SID (x4661, y78139, Hdg41, d2503), heading to Bio9
17:39	At Bio9 collecting colonizer CV5-2017 from white pillar next to black
	smoker chimney (x4611, y77985, Hdg53, d2510, temp 10.4°C)
17:46	Collecting crab trap (x4622, y77965, Hdg111.5, d2510)
17:49	Near Bio9, collecting 6-8 mussels into biobox (x4622, y77967,
	Hdg112, d2511)
17:55	At Bio9 attempting to collect large crab with Alvin arm unsuccessfully.
	Transit to Biovent
18:53	Vent-SID surfaces
19:36	Start ascent to the surface

	AT 37-12 Sample	Sheet 🔥 🔿		
Alvin Dive# 490-	Date 57712 Sample Log	ged by	Ishley Gr	oshe
Port Obs. Teremy	Starboard Obs.	ley	Pilot Pat	Hickory
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Major#(LVP)Time	5:43:55 Temp TEE 12"	Vent_	Teddy Den	
x 4547 783681	Hdg <u>334</u> Depth	Alt	Marker	(type/#)
Comments	x			

BIOLOGICAL SAMPLES

Take photos before collection, in the claw (if possible), and after collection. If needed, make sketches with scales.

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Page 2 of 6

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EXPERIMENT DEPLOYMENTS/RECOVERIES

Take photos before and after deployment or recovery. Make sketches with scales.

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MARKERS DEPLOYED

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ADDITIONAL NOTES:

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	Alvin Dive	# <u>490</u>	94	Da	ate <u>5/7/17</u>	Logged I	v J	eremy.	Rich
	Port Obs.	Jerem	Ria	h	Starboard Ob	s. Achler G	roscho	Pilot Pa	+ Hickory
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BIOLOGICAL SAMPLES

Take photos before collection, in the claw (if possible), and after collection. If needed, make sketches with scales.

Sample # _____ Time <u>1640</u> Temp <u>46°C</u> Vent <u>Wedding Cake</u> x <u>4577</u> y <u>78/60</u> Hdg <u>76</u> Depth <u>25/1</u> Alt Marker (type/#) Sample type <u>Wall of Alvivella Mound</u> Basket location Medium Starboard

Assoc	. water sample #	Assoc.	rock sample #		_ (type)			
Descr	ption of associated fai	una &/or type	of venting	-				
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Sample # <u>K</u>	<u> Hig</u> Time <u>1645</u> 75 у <u>78/66</u> н	Temp	base ?	300		Vent	Tica	aneq
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Sample # _///	155els_Time 1744	 Temp				Vent	rear B	109
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EXPERIMENT DEPLOYMENTS/RECOVERIES

Take photos before and after deployment or recovery. Make sketches with scales.

Expt ID/# Time 1541 Temp 12°C Vent Teldy Blan
$X \underline{4546} Y \underline{78366} Hdg \underline{332} Depth \underline{25/6} Alt Marker (type/#)$
Description of 2836 and found 8 /arthurs of venting Table Table Cause Locale
Description of associated fauna &/or type of venting Took Tat same location
co LVP inlet
Additional assoc. samples: type/ID
Additional descriptive comments 1540 at B: Teddy Bear, 1547 taking LVP dfaxis 1550 Released LVP to surface
Expt ID/# CV1 Time 1608 Temp 12°C Vent north of Teddy Bear
X <u>4525</u> Y #8405 Hdg <u>4</u> Depth <u>2519</u> Alt <u>Marker</u> (type/#)
Description of associated fauna &/or type of venting <u>Collected</u> colonizer and took
Hmp
Additional assoc. samples: type/ID
Additional descriptive comments
1635
Expt ID/# CV8 Time The Temp 46 C Vent Nedding Cake
Expt ID/# <u>CV8</u> Time <u>TEEP</u> Temp <u>46°C</u> Vent <u>Wedding</u> Cake x <u>4577</u> y <u>78/60</u> Hdg <u>76</u> Depth <u>25/1</u> Alt Marker (type/#)
Description of associated fauna &/or type of venting Colonizer on top of wedding
Linke heavily colonized.
Additional assoc samples: type/ID 16 29 collecting colonizer. Patis
Additional descriptive comments attempting to put marker in box as it is
heavily colonized as well. Metal screen gove, sul phile rack growing into colonizer
Expt ID/# Vent SID Time Temp Vent Crab Spa
X Y Hdg Depth Alt Marker(type/#)
Description of associated fauna &/or type of venting 1706 at Crab Spa to Inspect
Vent-SID, It's not working, 1718 leaving Chibspa with Vent-SID to go offaxis
Additional assoc. samples: type/ID Inlet was secured in ICL holster.
Additional descriptive comments 1728 Vent SID released
Expt ID/# <u>CV5</u> Time <u>1739</u> Temp <u>10.4°C</u> Vent <u>Bio9</u>
X <u>4611</u> Y <u>77985</u> Hdg <u>53</u> Depth <u>2570</u> Alt <u>Marker</u> (type/#)
X <u>4611</u> Y <u>777985</u> Hdg <u>53</u> Depth <u>2570</u> Alt Marker (type/#) Description of associated fauna &/or type of venting <u>Put in small port side box</u>
Additional assoc. samples: type/ID
Additional descriptive comments
Crab trap time 1746 temp near Bio9 - crab trap
Crib trap time 1746 temp near Bio9 - crab trap × 4622 y 77965 Hdg 111.5 d 2510 collected
/ <i>U</i>

MARKERS DEPLOYED

Time <u>174</u>	<u>5</u> Ma	arker type		Marker #		
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ADDITIONAL NOTES:

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