Dive Plan 4893- April 26, 2017

Port: Stefan Sievert Starboard: François Thomas Pilot: Jefferson Grau

On Bottom Target: Sandwich site near Pvent 9 50.271N; 104 17.288 W; 2508 m

Objectives: Survey area from Pvent to Teddy Bear, survey Lauren Mullineaux sandwich site, deploy colonizer at Bio9, collect chomeny w/ Alvinella at Bio9, survey Tica and Crab Spa, take Riftia and majors at Crab Spa, survey Teddy Bear, deploy colonizer, take majors at Teddy Bear

#### Basket List

- 1. Large biobox w/ Crab Traps (6 lbs)
- 2. Small biobox w/ 2 colonizers (3 lbs)
- 3. Small biobox for collecting chimney w/ Alvinella
- 4. 5 Majors
- 5. T probe
- 6. Niskin bottle

Locations:	Lat	Long	m	X	у
Pvent	9 50.276	104 17.474	2511	4628	77926
Sandwich site	9 50.271	104 17.288	2508	4641	77916
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		

- 1. On bottom, transit to the Mullineaux sandwich site
- 2. Take photos and video
- 3. Make select T-measurements
- 4. Proceed to Bio9 and survey area for suitable collection sites for collecting chimney w/ Alvinella and deployment of colonizers
- 5. Proceed with deploying colonizer in Alvinella colony.
- 6. Measure T on top of mesh
- 7. Collect chimney with Alvinella and put in small biobox
- 8. Proceed north to Tica area and scout area
- 9. Proceed to 'Crab Spa' (Mk F)

- 10. Deploy Crab Traps somewhere near Crab Spa
- 11. Take major within Riftia colony
- 12. Before collecting Riftia, proceed with following:
  - a. Measure T at base of Riftia clump,
  - b. Make a T measurements at plume level
- 13. Proceed with collection and put worms in large biobox. Make sure worms fit into biobox and nothing sticks out.
- 14. Take major after collecting Riftias
- 15. Scout area to determine best way to deploy Vent-SID on next dive
- 16. Proceed to north to Teddy Bear
- 17. Scout area, talking video and photos
- 18. Identify previous LVP deployment site (look for weights)
- 19. Take 3 majors at warmest spot
- 20. Deploy colonizer
- 21. Go off axis and before ascending fire Niskin to get bottom seawater

## Alvin Dive 4761 – AT37-12 APR 26, 2017

Pilot: Jefferson Grau

**Port Observer: Stefan Sievert** 

**Starboard Observer: François Thomas** 

Notes are combination of François Thomas's and Stefan Sievert's notes.

CMT	
<b>GMT</b> 14:10	Comments
	Descending On Potter and a second all a
15:45	On Bottom, neutrally buoyant above seafloor
16:15	At Pvent, found Lauren Mullineaux's sandwich site, added a map marker "Sandwich site" (x4628, y77907, d 2508). Mostly mussels
16:49	At Bio9 (x4620, y77959, d 2506)
16:58	Found potential site for deployment of colonizer
17:07	Temperature measurement with ICL probe at potential site for colonizer deployment: ~20°C
17:23	Deploying colonizer CV2-2017 at Bio9 (x4611, y77965, Hdg342, D 2508), on chimney with Alvinella. Temperature on top of mesh is 10°C
17:37	Obtain 2 chimney pieces from Bio9 with Alvinella (x4610, y77964, Hdg339, d 2508, temperature: 180°C
18:05	At Crab Spa (x4588, y78145, d2506)
18:11	Deployment of Crab Trap at the base of the Riftia pile at Crab Spa (x4588,
	y78145, hdg283, D 2508). It fell down later so this is not final location
18:34	Firing white major within Riftia colony (x4583, y78142, hdg356, d2506, Temp 24°C)
18:45	Temperature measurement at plume level of Riftia: 8-10°C
18:48	Collecting 15 Riftia from Crab Spa into the biobox (x4585, y78141, hdg355, d2506)
19:23	Firing green major at Crab Spa after clearing Riftia (x4585, y78141, hdg345, d2506, temp 24.6°C)
19:48	Green major on the basket
20:00	Re-deploying Crab Trap at a new location (flat shelf near Riftia colony) after it fell down (x4584, y78150, hdg189, d 2508)
20:10-21:00	Trying to locate Teddy Bear
21:05	Found another spot with "furry" rocks and diffuse flow, white cloud coming out
	and Riftia (x4535, y78388, d2519, hdg194, temp 8-10°C)
21:17	Firing yellow major at this spot (x4585, y78387, hdg194, d2519, temp 11-12°C)
21:24	Deploying colonizer CV1-2017 where yellow major was fired (x4535, y78387, hdg195, d2519)
21:25	Getting of axis, starting ascent
21:29	Trigger 5 Niskins total to obtain bottom sea water
21:30	End of a great dive, leaving bottom

## AT 37-12 Sample Sheet

Alvin Dive# 4893 Date 26 APR 2017 Logged by FRANÇOIS THONAS
Port Obs. Stefen Sievert Starboard Obs. François Thomas Pilot Jefferson Grav
FLUID SAMPLES 25%
Major# White Time 18:34 Temp ICL 24°C Vent Grab Sne
V 1. TO 2 V 281/2 Udg 27 Double 1.004 Alt Market (h.m.o./#)
Comments Before remaral of Riftia  24.6'c
Major# Your Time 19, 123 Temp ICL 23,7°C Vent Cook Sea
X X Y
Comments After cleaning of Riftins
Major# Yellow Time 21: 17 Temp ICL 11 C 12 Vent
X 4535 Y 78387 Hdg 194 Depth 2519 Alt Marker (type/#)
Comments
Major# Time Temp ICL Vent
X Y Hdg Depth Alt Marker (type/#)
Comments
Major# Time Temp ICL Vent
X Y Hdg Depth Alt Marker (type/#)
Comments
Major# Time Temp ICL Vent
X Y Hdg Depth Alt Marker (type/#)
Comments
BIOLOGICAL SAMPLES
Take photos before collection, in the claw (if possible), and after collection.
If needed, make sketches with scales.
Sample # Time 17:37:03 Temp = 180°C (max recorded 1822 yent 310 9
X 4610 Y 77964 Hdg 339 Depth 9508 Alt Marker (type/#)
Sample type 2 by piece of chinney with Alvinella
Assoc. water sample # Assoc. rock sample # 4 (type)

	Description of	of associated fauna	&/or type	of venting				
		18=48	3					
Sample	#_2_	Time	Temp _	24 - 8°C			_ Vent	Crab
	x 4585	Y 78/4 ( Hdg	355	Depth 2506	Alt	Marker _		_(type/#)
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		of associated fauna						
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		Y Hdg						
	Assoc. water	sample #	Assoc.	rock sample #		(type)		
		of associated fauna						
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		of associated fauna				- (), /		
			3,1	3				
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Sample	e #	Time	Temp				Vent	
Sample	e#	Time Y Hdg	Temp _	Denth	Δlt	Marker	_ Vent	(type/#)

		Basket loc	cation						
9	Assoc. water	sample #		_ Assoc.	rock sample # _		_ (type)		
	Description o	of associated	fauna	&/or type	of venting				
ROCK :	SAMPLES								
Take p	hotos befor	re collection	n and	l in the c	law. If needed,	make	sketches v	v/ scal	es.
•									
Sample	#	Time		Temp				Vent	
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	50	<u> </u>							
Sample	#	Time		Temp				Vent	
					Depth				
					Basket location _				
					biol. sample #				
		omments			recensulation (Communication Philosophia)				

#### EXPERIMENT DEPLOYMENTS/RECOVERIES

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

Expt ID	1# CV2-2017-Time 17:23:16 Temp > 10°C Vent Bco 9
	X 4611 Y 77965 Hdg 342 Depth 208 Alt Marker (type/#)
	Description of associated fauna &/or type of venting Aluminellids + A cush
	Decemplian a accordate launa area type of venting Theorems
	Additional assoc. samples: type/ID
	Additional descriptive comments
Expt ID	1# Tray 1 Time 18:11 Temp Vent Crab Sya
	X 4588 Y 78145 Hdg 283 Depth 2508 Alt Marker (type/#)
	Description of associated fauna &/or type of venting
	Additional assoc. samples: type/ID
/	Additional descriptive comments Fell down, put back at new location
	/ [
Expt ID	# Trap 1 Time 20. OTemp Vent Cod Sya
\	X 1584 Y 78   50 Hdg   89 Depth 2508 Alt Marker (type/#)
V	Description of associated fauna &/or type of venting
	Additional assoc. samples: type/ID
	Additional descriptive comments on a flat shelf below Crab Sya
	near Riftia
	/# CV 1- 2012 Time 21: 24 Temp 10-12 Vent
	X 453 T Y 78387 Hdg   9 5 Depth 25   9 Alt Marker (type/#)
	Description of associated fauna &/or type of venting
	Becomplien of deceded identification type of vertiling
	Additional assoc. samples: type/ID
	Additional descriptive comments Where major yellow was fired
	Additional descriptive comments were market specifical and the second se
Evet ID	/# Time Temp Vent
Expt ib	X Y Hdg Depth Alt Marker (type/#)
	Description of associated fauna &/or type of venting
	Description of associated faulta wor type of vertiling
	Additional assoc. samples: type/ID
	Additional descriptive comments
	Additional descriptive confinents

#### MARKERS DEPLOYED

Time		Marker type _		Marke	Marker #		
×	_ Y	Hdg	Depth	Alt	Marker	(type/#)	
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Comment	s						
Time		Marker type _		Markei	r#		
×	_ Y	Hdg	Depth	Alt	Marker	(type/#)	
Reason/ a	ssoc. sar	mple(s)					
Comment	s						
Time		Marker type _		Marke	r#		
×	_ Y	Hdg	Depth	Alt	Marker	(type/#)	
Reason/ a	ssoc. sar	mple(s)					
Comment	s	W W #45					

## **ADDITIONAL NOTES:**

Page 1 of 5 State 14:10

# AT 37-12 Sample Sheet Alvin Dive# 4893 Date April 262017 Logged by Sievert Port Obs. Sievert Starboard Obs. Thomas Pilot FLUID SAMPLES Major# white Time 18. 37 Temp ICL 24°C Vent Crab Spa x 4583 y 7814 Hdg 355 Depth 2506 Alt Marker + (type/#) Comments pro to removed of Rultia 23-19:46 246,25.2 Major# Waltan Time 19 6 Temp ICL 28 7 Vent Coals Spa X 4583 Y 78/4 Hdg 3.45 Depth 2506 Alt \_\_\_\_\_ Marker \_\_\_\_ (type/#) Comments after removal of Rultura i light oping many very Major# Yellow Time 2/:18 Temp ICL 11 Vent x 453/5 y 7838 Hdg 194 Depth 2519 Alt \_\_\_\_\_ Marker Old Uk(type/#) Major# 1-5 Time 21:28 Temp ICL \_\_\_\_\_\_ Vent \_\_\_\_\_ x 4575 y 7838 Hdg Depth 2501 Alt Marker (type/#) Comments \_\_\_\_ Major# Time Temp ICL Vent X \_\_\_\_\_ Y \_\_\_ Hdg \_\_\_\_ Depth \_\_\_\_ Alt \_\_\_ Marker \_\_\_\_(type/#) Comments Major# Time Temp ICL Vent X \_\_\_\_\_ Y \_\_\_ Hdg \_\_\_\_ Depth \_\_\_\_ Alt \_\_\_ Marker \_\_\_\_(type/#) Comments **BIOLOGICAL SAMPLES** Take photos before collection, in the claw (if possible), and after collection. If needed, make sketches with scales. x 4610 y 77 96 Hdg 33 9 Depth 2508 Alt Marker (type/#) Sample type chimby with Alviella Basket location Frat cmill biobox

Assoc. water sample # \_\_\_\_\_ Assoc. rock sample # \_\_\_\_ (type) \_\_\_

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Sample	e #	Time	Te	emp				_ Vent	
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Sample		Y	_ Hdg type	D	epth	Alt	_ Marker _		_(type/#)
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Sample	XAssoc. water	Y Sample Basket lo	_ Hdg type ocation	Assoc. ro	epth	Alt	Marker		_(type/#)
	Assoc. water	Y Sample Basket lor sample # _ of associated	_ Hdg type ocation / d fauna &/d	Assoc. ro	epth ck sample # venting	Alt	Marker		_(type/#)
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Descriptive c	omments							
#	Time		Temp _				_ Vent	
Descriptive c	omments							
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2 2 2								
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#	Time		Temp _				_ Vent	
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				biol. sample # _				
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### EXPERIMENT DEPLOYMENTS/RECOVERIES

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

Expt ID/# Sanlwolf Time 16: 19 Temp Vent Pret
X 4619 Y 7791 Hdg 8 7 Depth 2510 Alt Marker (type/#)
Description of associated fauna &/or type of venting
Additional assoc. samples: type/ID
Additional descriptive comments
Expt ID/# Colonizer Time 17:03 Temp ~20°C Vent Bio 9
Expt ID/# (oloniter Time 17:03 Temp ~20 C Vent 16:09
$\times 4611$ $\times 7796$ Hdg $392$ Depth $2508$ Alt Marker(type/#)
Description of associated fauna &/or type of venting
Alvisella colony
Additional assoc. samples: type/ID 10°C on top of mesh
Additional descriptive comments
Expt ID/# Trab Trap Time 18:30 Temp Vent <u>Crab Space</u> X 4588 Y 78/4 Hdg 283 Depth <u>2506</u> Alt Marker <u>F (type/#)</u>
$\times$ 4588 $\times$ 78/4 Hdg 783 Depth 2506 Alt Marker $\mp$ (type/#)
Description of associated fauna &/or type of venting
diffure flow
Additional assoc. samples: type/ID
Additional descriptive comments fell down in Crevice
Additional descriptive comments
Expt ID/# Crab Trap Time 180.00 Temp Vent Vent (r/b Space X 4584 Y 7815 Hdg 189.6 Depth 2508 Alt Marker (type/#)
x <u>4584</u> y <u>7815</u> Hdg <u>189.6</u> Depth <u>2508</u> Alt Marker (type/#)
Description of associated fauna &/or type of venting
placed on flat woch hext to Pritice Colony
Additional assoc. samples: type/ID
Additional assoc. samples: type/ID  Additional descriptive comments  Repleploy ment
Expt ID/# CV / Time 21:25 Temp Vent V
x 4535 Y 7638 Hdg 194 Depth 2511 Alt Marker Old MK (type/#)
Description of associated fauna &/or type of venting Rilting Allene Con
Additional assoc. samples: type/ID
Additional descriptive comments
•