

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 chimney 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

<u>Locations:</u>	Lat	Long	m	x	y
<b>Pvent</b>	9 50.276	104 17.474	2511	4628	77926
<b>Sandwich site</b>	9 50.271	104 17.288	2508	4641	77916
<b>Bio9</b>	9 50.296	104 17.476	2514	4624	77962
<b>Crab Spa MkF</b>	9 50.396	104 17.489	2505	4600	78147
<b>Tica</b>	9 50.406	104 17.490	2505	4598	78165
<b>Teddy Bear</b>	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.**

<b>GMT</b>	<b>Comments</b>
14:10	Descending
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 THOMAS  
 Port Obs. Stefan Sierent Starboard Obs. François Thomas Pilot Jefferson Grau

## FLUID SAMPLES

Major# White Time 18:34 Temp ICL 24°C Vent Grab Spa  
 X 4583 Y 78142 Hdg 356 Depth 2506 Alt \_\_\_\_\_ Marker \_\_\_\_\_ (type/#)  
 Comments Before removal of Riftia

Major# ~~Yellow~~ Green Time 19:18 Temp ICL 24.6°C Vent Grab Spa  
 X 4585 Y 78141 Hdg 345 Depth 2506 Alt \_\_\_\_\_ Marker \_\_\_\_\_ (type/#)  
 Comments After cleaning of Riftias

Major# Yellow Time 21:17 Temp ICL 11°C-12°C 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 # 1 Time 17:37:03 Temp ≈ 180°C (max recorded 182°C) Vent Bio 9  
 X 4610 Y 77964 Hdg 339 Depth 2508 Alt \_\_\_\_\_ Marker \_\_\_\_\_ (type/#)  
 Sample type 2 big pieces of chimney with Alvinella  
 Basket location Front small bio box  
 Assoc. water sample # \_\_\_\_\_ Assoc. rock sample # 1 (type) \_\_\_\_\_

Description of associated fauna &amp;/or type of venting \_\_\_\_\_

Sample # 2 Time 18:48 Temp 24-8°C Vent Crab Spa  
 X 4585 Y 78141 Hdg 355 Depth 2506 Alt \_\_\_\_\_ Marker \_\_\_\_\_ (type/#)  
 Sample type Riftia, at least 10  
 Basket location Large bio-box  
 Assoc. water sample # \_\_\_\_\_ Assoc. rock sample # \_\_\_\_\_ (type) \_\_\_\_\_  
 Description of associated fauna &/or type of venting \_\_\_\_\_

Sample # \_\_\_\_\_ Time \_\_\_\_\_ Temp \_\_\_\_\_ Vent \_\_\_\_\_  
 X \_\_\_\_\_ Y \_\_\_\_\_ Hdg \_\_\_\_\_ Depth \_\_\_\_\_ Alt \_\_\_\_\_ Marker \_\_\_\_\_ (type/#)  
 Sample type \_\_\_\_\_  
 Basket location \_\_\_\_\_  
 Assoc. water sample # \_\_\_\_\_ Assoc. rock sample # \_\_\_\_\_ (type) \_\_\_\_\_  
 Description of associated fauna &/or type of venting \_\_\_\_\_

Sample # \_\_\_\_\_ Time \_\_\_\_\_ Temp \_\_\_\_\_ Vent \_\_\_\_\_  
 X \_\_\_\_\_ Y \_\_\_\_\_ Hdg \_\_\_\_\_ Depth \_\_\_\_\_ Alt \_\_\_\_\_ Marker \_\_\_\_\_ (type/#)  
 Sample type \_\_\_\_\_  
 Basket location \_\_\_\_\_  
 Assoc. water sample # \_\_\_\_\_ Assoc. rock sample # \_\_\_\_\_ (type) \_\_\_\_\_  
 Description of associated fauna &/or type of venting \_\_\_\_\_

Sample # \_\_\_\_\_ Time \_\_\_\_\_ Temp \_\_\_\_\_ Vent \_\_\_\_\_  
 X \_\_\_\_\_ Y \_\_\_\_\_ Hdg \_\_\_\_\_ Depth \_\_\_\_\_ Alt \_\_\_\_\_ Marker \_\_\_\_\_ (type/#)  
 Sample type \_\_\_\_\_  
 Basket location \_\_\_\_\_  
 Assoc. water sample # \_\_\_\_\_ Assoc. rock sample # \_\_\_\_\_ (type) \_\_\_\_\_  
 Description of associated fauna &/or type of venting \_\_\_\_\_

Sample # \_\_\_\_\_ Time \_\_\_\_\_ Temp \_\_\_\_\_ Vent \_\_\_\_\_  
 X \_\_\_\_\_ Y \_\_\_\_\_ Hdg \_\_\_\_\_ Depth \_\_\_\_\_ Alt \_\_\_\_\_ Marker \_\_\_\_\_ (type/#)  
 Sample type \_\_\_\_\_  
 Basket location \_\_\_\_\_  
 Assoc. water sample # \_\_\_\_\_ Assoc. rock sample # \_\_\_\_\_ (type) \_\_\_\_\_  
 Description of associated fauna &/or type of venting \_\_\_\_\_

Sample # \_\_\_\_\_ Time \_\_\_\_\_ Temp \_\_\_\_\_ Vent \_\_\_\_\_  
 X \_\_\_\_\_ Y \_\_\_\_\_ Hdg \_\_\_\_\_ Depth \_\_\_\_\_ Alt \_\_\_\_\_ Marker \_\_\_\_\_ (type/#)  
 Sample type \_\_\_\_\_

Basket location \_\_\_\_\_  
 Assoc. water sample # \_\_\_\_\_ Assoc. rock sample # \_\_\_\_\_ (type) \_\_\_\_\_  
 Description of associated fauna &/or type of venting \_\_\_\_\_

## ROCK SAMPLES

**Take photos before collection and in the claw. If needed, make sketches w/ scales.**

**Sample #** \_\_\_\_\_ **Time** \_\_\_\_\_ **Temp** \_\_\_\_\_ **Vent** \_\_\_\_\_  
 X \_\_\_\_\_ Y \_\_\_\_\_ Hdg \_\_\_\_\_ Depth \_\_\_\_\_ Alt \_\_\_\_\_ Marker \_\_\_\_\_ (type/#)  
 Sample type \_\_\_\_\_ Basket location \_\_\_\_\_  
 Assoc. water sample # \_\_\_\_\_ Assoc. biol. sample # \_\_\_\_\_ (type) \_\_\_\_\_  
 Descriptive comments \_\_\_\_\_

**Sample #** \_\_\_\_\_ **Time** \_\_\_\_\_ **Temp** \_\_\_\_\_ **Vent** \_\_\_\_\_  
 X \_\_\_\_\_ Y \_\_\_\_\_ Hdg \_\_\_\_\_ Depth \_\_\_\_\_ Alt \_\_\_\_\_ Marker \_\_\_\_\_ (type/#)  
 Sample type \_\_\_\_\_ Basket location \_\_\_\_\_  
 Assoc. water sample # \_\_\_\_\_ Assoc. biol. sample # \_\_\_\_\_ (type) \_\_\_\_\_  
 Descriptive comments \_\_\_\_\_

**Sample #** \_\_\_\_\_ **Time** \_\_\_\_\_ **Temp** \_\_\_\_\_ **Vent** \_\_\_\_\_  
 X \_\_\_\_\_ Y \_\_\_\_\_ Hdg \_\_\_\_\_ Depth \_\_\_\_\_ Alt \_\_\_\_\_ Marker \_\_\_\_\_ (type/#)  
 Sample type \_\_\_\_\_ Basket location \_\_\_\_\_  
 Assoc. water sample # \_\_\_\_\_ Assoc. biol. sample # \_\_\_\_\_ (type) \_\_\_\_\_  
 Descriptive comments \_\_\_\_\_

**Sample #** \_\_\_\_\_ **Time** \_\_\_\_\_ **Temp** \_\_\_\_\_ **Vent** \_\_\_\_\_  
 X \_\_\_\_\_ Y \_\_\_\_\_ Hdg \_\_\_\_\_ Depth \_\_\_\_\_ Alt \_\_\_\_\_ Marker \_\_\_\_\_ (type/#)  
 Sample type \_\_\_\_\_ Basket location \_\_\_\_\_  
 Assoc. water sample # \_\_\_\_\_ Assoc. biol. sample # \_\_\_\_\_ (type) \_\_\_\_\_  
 Descriptive comments \_\_\_\_\_

**Sample #** \_\_\_\_\_ **Time** \_\_\_\_\_ **Temp** \_\_\_\_\_ **Vent** \_\_\_\_\_  
 X \_\_\_\_\_ Y \_\_\_\_\_ Hdg \_\_\_\_\_ Depth \_\_\_\_\_ Alt \_\_\_\_\_ Marker \_\_\_\_\_ (type/#)  
 Sample type \_\_\_\_\_ Basket location \_\_\_\_\_  
 Assoc. water sample # \_\_\_\_\_ Assoc. biol. sample # \_\_\_\_\_ (type) \_\_\_\_\_  
 Descriptive comments \_\_\_\_\_

## EXPERIMENT DEPLOYMENTS/RECOVERIES

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

Expt ID/# CV2-2017 Time 17:23:16 Temp 10°C Vent Bco 9  
 X 4611 Y 77965 Hdg 342 Depth 2508 Alt on top of mesh Marker \_\_\_\_\_ (type/#)  
 Description of associated fauna &/or type of venting Alvinellids + 1 crab  
 Additional assoc. samples: type/ID \_\_\_\_\_  
 Additional descriptive comments \_\_\_\_\_

Expt ID/# Trap 1 Time 18:11 Temp \_\_\_\_\_ Vent Crab Spa  
 X 4588 Y 78165 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 20:00 Temp \_\_\_\_\_ Vent Crab Spa  
 X 4584 Y 78150 Hdg 189 Depth 2508 Alt \_\_\_\_\_ Marker \_\_\_\_\_ (type/#)  
 Description of associated fauna &/or type of venting \_\_\_\_\_  
 Additional assoc. samples: type/ID \_\_\_\_\_  
 Additional descriptive comments on a flat shelf below Crab Spa near Riftia

Expt ID/# CV1-2017 Time 21:26 Temp 10-12°C Vent \_\_\_\_\_  
 X 4535 Y 78387 Hdg 195 Depth 2519 Alt \_\_\_\_\_ Marker \_\_\_\_\_ (type/#)  
 Description of associated fauna &/or type of venting \_\_\_\_\_  
 Additional assoc. samples: type/ID \_\_\_\_\_  
 Additional descriptive comments Where major yellow was fired

Expt ID/# \_\_\_\_\_ Time \_\_\_\_\_ Temp \_\_\_\_\_ Vent \_\_\_\_\_  
 X \_\_\_\_\_ Y \_\_\_\_\_ Hdg \_\_\_\_\_ Depth \_\_\_\_\_ Alt \_\_\_\_\_ Marker \_\_\_\_\_ (type/#)  
 Description of associated fauna &/or type of venting \_\_\_\_\_  
 Additional assoc. samples: type/ID \_\_\_\_\_  
 Additional descriptive comments \_\_\_\_\_

**MARKERS DEPLOYED**

Time \_\_\_\_\_ Marker type \_\_\_\_\_ Marker # \_\_\_\_\_  
X \_\_\_\_\_ Y \_\_\_\_\_ Hdg \_\_\_\_\_ Depth \_\_\_\_\_ Alt \_\_\_\_\_ Marker \_\_\_\_\_ (type/#)  
Reason/ assoc. sample(s) \_\_\_\_\_  
Comments \_\_\_\_\_

Time \_\_\_\_\_ Marker type \_\_\_\_\_ Marker # \_\_\_\_\_  
X \_\_\_\_\_ Y \_\_\_\_\_ Hdg \_\_\_\_\_ Depth \_\_\_\_\_ Alt \_\_\_\_\_ Marker \_\_\_\_\_ (type/#)  
Reason/ assoc. sample(s) \_\_\_\_\_  
Comments \_\_\_\_\_

Time \_\_\_\_\_ Marker type \_\_\_\_\_ Marker # \_\_\_\_\_  
X \_\_\_\_\_ Y \_\_\_\_\_ Hdg \_\_\_\_\_ Depth \_\_\_\_\_ Alt \_\_\_\_\_ Marker \_\_\_\_\_ (type/#)  
Reason/ assoc. sample(s) \_\_\_\_\_  
Comments \_\_\_\_\_

**ADDITIONAL NOTES:**



Start: 14:10  
At seafloor ~~15:45~~  
15:45

AT 37-12 Sample Sheet

Alvin Dive# 4893 Date April 26 2011 Logged by Sievert  
Port Obs. Sievert Starboard Obs. Thomas Pilot Grau

FLUID SAMPLES

Major# white Time 18:37 Temp ICL 24°C Vent Crab Spa  
X 4583 Y 7814 Hdg 355 Depth 2506 Alt \_\_\_\_\_ Marker 7 (type/#)  
Comments prior to removal of Riftia

Major# green Time 23-19:46 Temp ICL 24.6, 25.2 Vent Crab Spa  
X 4583 Y 7814 Hdg 345 Depth 2506 Alt \_\_\_\_\_ Marker \_\_\_\_\_ (type/#)  
Comments after removal of Riftia; light spring many very slowly

Major# yellow Time 21:18 Temp ICL 11 Vent \_\_\_\_\_  
X 4535 Y 7838 Hdg 194 Depth 2519 Alt \_\_\_\_\_ Marker Old 11 (type/#)  
Comments Riftia, diffuse flow

Nishin  
Major# 1-5 Time 21:28 Temp ICL \_\_\_\_\_ Vent /  
X 4575 Y 7838 Hdg \_\_\_\_\_ Depth 2501 Alt \_\_\_\_\_ Marker \_\_\_\_\_ (type/#)  
Comments off axis

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 # 1 Time 17:37 Temp 18.0°C Vent Bio 9  
X 4610 Y 7796 Hdg 339 Depth 2508 Alt \_\_\_\_\_ Marker \_\_\_\_\_ (type/#)  
Sample type chimney with Alvinella  
Basket location Frat small biobox  
Assoc. water sample # \_\_\_\_\_ Assoc. rock sample # \_\_\_\_\_ (type) \_\_\_\_\_

Description of associated fauna &/or type of venting \_\_\_\_\_

Sample # 2 Time 18:48 Temp 10°C Vent Cal Spa  
 X 4584 Y 7814 Hdg 355 Depth 2306 Alt \_\_\_\_\_ Marker \_\_\_\_\_ (type/#)  
 Sample type Rifted  
 Basket location big box

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

Description of associated fauna &/or type of venting T at 4 waves plus levels:  
\*24 8°C, 8°C, 10°C, 6°C, 10°C

Sample # \_\_\_\_\_ Time \_\_\_\_\_ Temp \_\_\_\_\_ Vent \_\_\_\_\_  
 X \_\_\_\_\_ Y \_\_\_\_\_ Hdg \_\_\_\_\_ Depth \_\_\_\_\_ Alt \_\_\_\_\_ Marker \_\_\_\_\_ (type/#)  
 Sample type \_\_\_\_\_  
 Basket location \_\_\_\_\_

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

Description of associated fauna &/or type of venting \_\_\_\_\_

Sample # \_\_\_\_\_ Time \_\_\_\_\_ Temp \_\_\_\_\_ Vent \_\_\_\_\_  
 X \_\_\_\_\_ Y \_\_\_\_\_ Hdg \_\_\_\_\_ Depth \_\_\_\_\_ Alt \_\_\_\_\_ Marker \_\_\_\_\_ (type/#)  
 Sample type \_\_\_\_\_  
 Basket location \_\_\_\_\_

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

Description of associated fauna &/or type of venting \_\_\_\_\_

Sample # \_\_\_\_\_ Time \_\_\_\_\_ Temp \_\_\_\_\_ Vent \_\_\_\_\_  
 X \_\_\_\_\_ Y \_\_\_\_\_ Hdg \_\_\_\_\_ Depth \_\_\_\_\_ Alt \_\_\_\_\_ Marker \_\_\_\_\_ (type/#)  
 Sample type \_\_\_\_\_  
 Basket location \_\_\_\_\_

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

Description of associated fauna &/or type of venting \_\_\_\_\_

Sample # \_\_\_\_\_ Time \_\_\_\_\_ Temp \_\_\_\_\_ Vent \_\_\_\_\_  
 X \_\_\_\_\_ Y \_\_\_\_\_ Hdg \_\_\_\_\_ Depth \_\_\_\_\_ Alt \_\_\_\_\_ Marker \_\_\_\_\_ (type/#)  
 Sample type \_\_\_\_\_  
 Basket location \_\_\_\_\_

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

Description of associated fauna &/or type of venting \_\_\_\_\_

Sample # \_\_\_\_\_ Time \_\_\_\_\_ Temp \_\_\_\_\_ Vent \_\_\_\_\_  
 X \_\_\_\_\_ Y \_\_\_\_\_ Hdg \_\_\_\_\_ Depth \_\_\_\_\_ Alt \_\_\_\_\_ Marker \_\_\_\_\_ (type/#)  
 Sample type \_\_\_\_\_

Basket location \_\_\_\_\_  
Assoc. water sample # \_\_\_\_\_ Assoc. rock sample # \_\_\_\_\_ (type) \_\_\_\_\_  
Description of associated fauna &/or type of venting \_\_\_\_\_

**ROCK SAMPLES**

**Take photos before collection and in the claw. If needed, make sketches w/ scales.**

**Sample #** \_\_\_\_\_ **Time** \_\_\_\_\_ **Temp** \_\_\_\_\_ **Vent** \_\_\_\_\_  
X \_\_\_\_\_ Y \_\_\_\_\_ **Hdg** \_\_\_\_\_ **Depth** \_\_\_\_\_ **Alt** \_\_\_\_\_ **Marker** \_\_\_\_\_ (type/#)  
**Sample type** \_\_\_\_\_ **Basket location** \_\_\_\_\_  
**Assoc. water sample #** \_\_\_\_\_ **Assoc. biol. sample #** \_\_\_\_\_ (type) \_\_\_\_\_  
**Descriptive comments** \_\_\_\_\_

**Sample #** \_\_\_\_\_ **Time** \_\_\_\_\_ **Temp** \_\_\_\_\_ **Vent** \_\_\_\_\_  
X \_\_\_\_\_ Y \_\_\_\_\_ **Hdg** \_\_\_\_\_ **Depth** \_\_\_\_\_ **Alt** \_\_\_\_\_ **Marker** \_\_\_\_\_ (type/#)  
**Sample type** \_\_\_\_\_ **Basket location** \_\_\_\_\_  
**Assoc. water sample #** \_\_\_\_\_ **Assoc. biol. sample #** \_\_\_\_\_ (type) \_\_\_\_\_  
**Descriptive comments** \_\_\_\_\_

**Sample #** \_\_\_\_\_ **Time** \_\_\_\_\_ **Temp** \_\_\_\_\_ **Vent** \_\_\_\_\_  
X \_\_\_\_\_ Y \_\_\_\_\_ **Hdg** \_\_\_\_\_ **Depth** \_\_\_\_\_ **Alt** \_\_\_\_\_ **Marker** \_\_\_\_\_ (type/#)  
**Sample type** \_\_\_\_\_ **Basket location** \_\_\_\_\_  
**Assoc. water sample #** \_\_\_\_\_ **Assoc. biol. sample #** \_\_\_\_\_ (type) \_\_\_\_\_  
**Descriptive comments** \_\_\_\_\_

**Sample #** \_\_\_\_\_ **Time** \_\_\_\_\_ **Temp** \_\_\_\_\_ **Vent** \_\_\_\_\_  
X \_\_\_\_\_ Y \_\_\_\_\_ **Hdg** \_\_\_\_\_ **Depth** \_\_\_\_\_ **Alt** \_\_\_\_\_ **Marker** \_\_\_\_\_ (type/#)  
**Sample type** \_\_\_\_\_ **Basket location** \_\_\_\_\_  
**Assoc. water sample #** \_\_\_\_\_ **Assoc. biol. sample #** \_\_\_\_\_ (type) \_\_\_\_\_  
**Descriptive comments** \_\_\_\_\_

**Sample #** \_\_\_\_\_ **Time** \_\_\_\_\_ **Temp** \_\_\_\_\_ **Vent** \_\_\_\_\_  
X \_\_\_\_\_ Y \_\_\_\_\_ **Hdg** \_\_\_\_\_ **Depth** \_\_\_\_\_ **Alt** \_\_\_\_\_ **Marker** \_\_\_\_\_ (type/#)  
**Sample type** \_\_\_\_\_ **Basket location** \_\_\_\_\_  
**Assoc. water sample #** \_\_\_\_\_ **Assoc. biol. sample #** \_\_\_\_\_ (type) \_\_\_\_\_  
**Descriptive comments** \_\_\_\_\_



## EXPERIMENT DEPLOYMENTS/RECOVERIES

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

Expt ID/# Sandwich Time 16:19 Temp \_\_\_\_\_ Vent Pret  
 X 4619 Y 7791 Hdg 87 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 CV2 out top of Alvinella S  
 X 4611 Y 7796 Hdg 392 Depth 2508 Alt \_\_\_\_\_ Marker \_\_\_\_\_ (type/#)  
 Description of associated fauna &/or type of venting \_\_\_\_\_

Alvinella colony

Additional assoc. samples: type/ID \_\_\_\_\_

Additional descriptive comments \_\_\_\_\_

10°C on top of mesh

Expt ID/# Crab Trap Time 18:30 Temp \_\_\_\_\_ Vent Crab Spa  
 X 4588 Y 7814 Hdg 283 Depth 2506 Alt \_\_\_\_\_ Marker F (type/#)  
 Description of associated fauna &/or type of venting \_\_\_\_\_

diffuse flow

Additional assoc. samples: type/ID \_\_\_\_\_

Additional descriptive comments \_\_\_\_\_

fell down in crevice

Expt ID/# Crab Trap Time 20:00 Temp \_\_\_\_\_ Vent near Crab Spa  
 X 4584 Y 7815 Hdg 189.6 Depth 2508 Alt \_\_\_\_\_ Marker \_\_\_\_\_ (type/#)  
 Description of associated fauna &/or type of venting \_\_\_\_\_

placed on flat rock next to Riftia colony

Additional assoc. samples: type/ID \_\_\_\_\_

Additional descriptive comments \_\_\_\_\_

Redeployment

Expt ID/# CV1 Time 21:25 Temp \_\_\_\_\_ Vent \_\_\_\_\_  
 X 4585 Y 7838 Hdg 194 Depth 2519 Alt \_\_\_\_\_ Marker Old MK (type/#)  
 Description of associated fauna &/or type of venting \_\_\_\_\_

Riftia, diffuse flow

Additional assoc. samples: type/ID \_\_\_\_\_

Additional descriptive comments \_\_\_\_\_