

Samples recovered from the Kilo Moana vent field on TUIM05MV, April-May 2005

Sample Number J2-	VV Event #	Date/ Time (UTC)	Position X,Y	Nav version #	Lat/lon (origin -20 -09.000 -176 -12.000)	Vehicle Depth (m)	Vehicle hdg	Vehicle altitude (m)	Sample Type/collection method	Contact person	Comments
124-1-W1-IGT4	1574	04/06 08 25	6947, 10638	April/May 05		2619	101	8.6	IGT4 Water Sample	Jeff Seewald; Mike Mottl; Geoff Wheat	High T, focused flow, sulfide chimney. T ~ 316 – 321 °C
124-1-W2-IGT3	1658	04/06 09 04	6947, 10638	April/May 05		2619	096	8.6	IGT3 Water Sample	Jeff Seewald; Mike Mottl; Geoff Wheat	Replicate sample, same orifice. T ~ 330 – 332 °C
124-1-W3-Mred	1684	04/06 09 07	6947, 10638	April/May 05		2619	096	8.6	Major Water Sample	Jeff Seewald; Mike Mottl; Geoff Wheat	Replicate sample, same orifice. Sampled for majors
124-1-W4-Mgreen	1705	04/06 09 17	6947, 10638	April/May 05		2619	098	8.6	Major Water Sample	Jeff Seewald; Mike Mottl; Geoff Wheat	Replicate sample, same orifice. Sampled for majors.
Mkr 2	1753	04/06 09 37	6947, 10638	April/May 05		2618	097	8.6	Marker 2		Marker at base of spire complex, in gully. Location of fluids KM1.
124-2-	1777	04/06	6950, 10647	April/May		2618	204	8.6	Active sulfide	Meg	Mixed,

R1	- 1858	09 43		05					chimney/grab	Tivey	dendritic Zn, Fe, Cu (?) sulfide w/ cpy conduit lining. No fluid data.
124-misc		04/06 (?)	6950, 10647	April/May 05					Active sulfide chimney/grab	Meg Tivey	From -2-R1? Dendritic Zn-rich chimney w/ cpy±sph conduit lining?
124-2-B1	1868	04/06 10 11	6950, 10647	April/May 05		2619	195	8.6	Mussels/grab	Stacy Kim	Toward base of spire near white/grey smoker chimney orifice
124-3-R1	2316	04/06 13 31	6965, 10663	April/May 05		2619	276	5.8	Relict sulfide flange/grab	Meg Tivey	Fe-Zn sulfide w/ Fe oxide coating on underside
Mkr 1	2384	04/06 13 59	6965, 10663	April/May 05		2620	300	5.7	Marker 1		Marker at base of sampled extinct sulfide 124-3-R1.
124-3-R2	2402	04/06 14 07	6960, 10672	April/May 05		2624	327	0.9	Pillow basalt/grab	Meg Tivey	Fresh interior w/ Fe-oxidized exterior surface. Proximity to Mkr1, 124-3-R1.
124-5-B1	2674 - 2724	04/06 16 12	6953, 10640	April/May 05		2617	140	6.2	Barnacles/grab	Stacy Kim	Gooseneck barnacles from pinnacle of sulfide structure. No

											active venting?
124-5-R1	2857 - 2874	04/06 17 27	6953, 10639	April/May 05		2618	163	6.2	Active sulfide chimney/grab	Meg Tivey	Fe-Zn ( $\pm$ Cu-Fe) sulfide. Sub-sampled for biology. Fluid pair is KM4
125-1-W1-IGT6	4152 -4197	04/07 15 35	6929, 10732	April/May 05		2619	324	7.5	IGT6 Water Sample	Jeff Seewald; Mike Mottl; Geoff Wheat	High T, focused black smoker chimney fluid. Max T $\sim$ 320 $^{\circ}$ C
125-1-W2-IGT7	4230 -4258	04/07 15 52	6929, 10732	April/May 05		2618	326	7.5	IGT7 Water Sample	Jeff Seewald; Mike Mottl; Geoff Wheat	Replicate sample, same orifice. Max Temp 336 $^{\circ}$ C?
125-2-B1	4382	04/07 16 30	6930, 10733	April/May 05		2618	065	7.5	Snails/grab	Stacy Kim	Base of sulfide structure w/ little activity and pervasive Fe-oxide coating
125-3-B1	4500	04/07 16 55	6931, 10734	April/May 05		2604	054	7.5	Barnacles (w/ inactive sulfide chimney)/grab	Stacy Kim	Mixed Zn and Fe-rich sulfide (?) w/ pervasive Fe oxide coating. Covered w/ sessile barnacles.
125-4-B1	4632	04/07 17 28	6921, 10740	April/May 05		2623	123	7.5	Anemones (w/ basalt)/grab	Stacy Kim	Small anemones, collected samples on two host

											basaltic lava flows.
125-6-W1-IGT1	4996 – 5060	04/07 19 44	6927, 10788	April/May 05		2620	176	7.5	IGT1 Water Sample	Jeff Seewald; Mike Mottl; Geoff Wheat	Active, focused black smoker. Excavated prior to sampling. T ~ 317 – 320 °C
125-6-W1-IGT8	5106	04/07 20 08	6927, 10788	April/May 05		2620	177	7.5	IGT8 Water Sample	Jeff Seewald; Mike Mottl; Geoff Wheat	Replicate sample, same orifice. No temp data.
125-6-R1	5313 – 5337	04/07 20 38	6927, 10788	April/May 05		2620	169	7.5	Active sulfide chimney/grab	Meg Tivey	Cpy-loaded chimney w/ brown/rust exterior coating. Chimney pair w/ fluids KM3.
125-6-B1	5520	04/07 20 53	6927, 10788	April/May 05		2619	197	7.5	Mussels (>13) Crab/grab	Stacy Kim	From base of chimney complex
Mkr 6	5750	04/07 21 08	6927, 10788	April/May 05		2620	198	7.5	Marker 6		From base of tall chimney complex, next to mussel population
125-7-R1	5876	04/07 21 47	6935, 10786	April/May 05		2620	144	7.5	Relict sulfide/grab	Meg Tivey	Relict dendritic brown sulfide w/ mixed grey/green sulfide. Cpy?
Mkr 4	6106	04/07 22 56	6938, 10729	April/May 05		2620	019	7.5	Marker 4		Base of chimney

											complex ~ 1-2 m spires w/ black smoker venting
125-9-B1	6181	04/07 23 19	6921, 10755	April/May 05		2623	350	7.5	Sponge/grab	Stacy Kim	From pillow basalt substrate. No substrate collected
125-10-R1	6259	04/07 23 45	6933, 10736	April/May 05		2618	102	4.7	Active sulfide chimney/grab	Meg Tivey	Grey/Black dendritic (?) sulfide w/ interspersed cpy/sph? T ~ 127 °C.
125-11-R1	6417	04/08 00 13	6934, 10737	April/May 05		2621	081	5.9	Relict sulfide/grab	Meg Tivey	Zn-Fe (±Cu-Fe?) rich relict chimney sample. Fe oxide coating.
125-12-W1-IGT2	6620	04/08 01 45	6954, 10640	April/May 05		2616	142	5.4	IGT2 Water Sample	Jeff Seewald; Mike Mottl; Geoff Wheat	Focused, high T fluid sample. Chimney pair is 124-5-R1. T ~ 292 °C.
125-12-W2-IGT5	6679	04/08 01 55	6954, 10640	April/May 05		2616	142	6.0	IGT5 Water Sample	Jeff Seewald; Mike Mottl; Geoff Wheat	Replicate sample, same orifice. Tmax ~ 300 °C.
Mkr 5	6703	04/08 02 03	6954, 10640	April/May 05		2616	141	6.3	Marker 5		Atop rich barnacle community nest on tall active sulfide structure. Location for fluids KM4.

137-1-R1	49540	05/03 21 53	6917, 10783	April/May 05		2621	041	1.5	Active sulfide chimney/grab	Meg Tivey	Complex bulbous beehive structures and small high T vents. Sample from focused, high T spires.
137-1-W1-IGT1	49620	05/03 22 03	6917, 10783	April/May 05		2620	065	1.7	IGT1 fluid sample	Jeff Seewald; Mike Mottl; Geoff Wheat	High T black smoker fluid. Fluid pair for sulfide sample 137-1-R1. T ~ 325 °C.
137-1-W2-IGT2	49651	05/03 22 13	6917, 10783	April/May 05		2620	065	1.7	IGT2 water sample	Jeff Seewald; Mike Mottl; Geoff Wheat	Replicate sample, same orifice. T ~ 328 °C.
137-2-W1-IGT3	49839	05/03 23 04	6928, 10733	April/May 05		2619	155	4.1	IGT3 fluid sample	Jeff Seewald; Mike Mottl; Geoff Wheat	From focused black smoker chimney. T ~ 299 °C.
137-2-W2-IGT5	49871	05/03 23 13	6928, 10733	April/May 05		2619	155	4.1	IGT5 fluid sample	Jeff Seewald; Mike Mottl; Geoff Wheat	Replicate sample, same orifice. T ~ 302 °C
137-2-R1	49895	05/03 23 24	6928, 10733	April/May 05		2619	150	3.9	Active sulfide chimney/grab	Meg Tivey	Several pieces, fine-grained Zn(?) sulfide w/ cpy lining conduit. Exterior

											globular friable sulfide Pair for KM6.
137-3-RB1	49986	05/03 23 48	6923, 10748 (6937,10760?)	April/May 05		2623	035	0.7	Seastar (w/ host pillow basalt)/grab	Stacy Kim	<i>Brisingid</i> seastar, recovered on pillow basalt. No fluid activity in area.
137-4-B1, B2	50065	05/04 00 16	6930, 10767 (6925,10752?)	April/May 05		2624	154	0.9	Anemones/gra b	Stacy Kim	Various species anemones (e.g., <i>Cerianthid?</i> ). No substrate sampled.
137-5-B1	50174	05/04 00 52	6934, 10725	April/May 05		2618	182	1.2	Anemones/gra b	Stacy Kim	Small white anemones (sp?) on basalt substrate.
137-5-W1-IGT7	50240	05/04 01 06	6934, 10725	April/May 05		2618	150	1.4	IGT7 fluid sample	Jeff Seewald; Mike Mottl; Geoff Wheat	Diffuse flow from fissures in basalt. Tmax ~ 10.3 °C
137-6-R1	50552	05/04 03 20	6960, 10663	April/May 05		2613	249	8.7	Active sulfide chimney/grab	Meg Tivey	Small spire from atop high T, black smoker chimney. White microbial (?) coating. Fluid pair for KM8.
137-6-R1-misc	50552	05/04 03 20	6960, 10663	April/May 05		2613	249	8.7	Active sulfide chimney/grab	Meg Tivey	Pieces of active sulfide from different

											spire at same locale as 137-6-R1.
137-6-W1-IGT8	50578	05/04 03 31	6960, 10663	April/May 05		2613	249	8.7	IGT8 fluid sample	Jeff Seewald; Mike Mottl; Geoff Wheat	High T, black smoker fluid. Fluid pair for sulfide 137-6-R1. T ~ 332 °C.
137-7-R1	50818	05/04 05 03	6954, 10633	April/May 05		2623	298	14.1	Active sulfide chimney/grab	Meg Tivey	White beehive texture, fine-grained Zn(?) sulfide w/ anhydrite. No flow from beehive spire. Near Marker 5.
137-7-B1	50849	05/04 05 23	6953, 10632	April/May 05		2623	314	14.1	Shrimp, scale-worms/slurp	Stacy Kim	Side of larger ~ m tall sulfide w/ microbial mat surface staining.
137-misc	(?)	05/04	(?)	April/May 05					Pillow basalt/grab	Meg Tivey	Miscellaneous pillow basalt from unknown location during dive 137.