

Dive No.	K212		Date	2001/09/09	
PI	Name		Affiliation		
Japanese	ケビン ジョンソン		ビショップ博物館 ハワイ大学		
English	Kevin Johnson		Bishop Museum/Univ. of Hawaii		
Specialty	Volcanology, Geochemistry				
Purpose	Sample rocks and observe structure and morphology of inner wall of crescent-shaped amphitheater at terminus of Hana Ridge				
Area	Eastern end of Hana Ridge extending from Haleakala, Maui and N of Kohala, Hawaii				
Site	Upper slope ridge of the Hilina Bench				
	Latitude	Longitude	Time	Depth(m)	
Landing	20°32.45' N	154°56.18' W	0949	4855	
Leaving	20°33.61' N	154°57.01' W	1442	3614	
Dive Distance	2900m		Deepest point		4855m
Dive summary	<p>The dive track was designed to traverse the inner N wall of the arcuate tip of Hana Ridge in order to collect a stratigraphic sequence of lavas and to characterize the nature of the slope surface. The working hypothesis is that the arcuate shape of the feature is the result of a large landslide.</p> <p>The vehicle set down on a muddy bottom with no visible rock outcrops. Isolated angular talus was observed in the soft mud. Upon sampling, we found that the talus is firmly cemented. In situ outcrops of broken pillow basalts were first observed at 4775 m depth. At 4730 m unbroken, elongated, oriented pillow lavas were observed draping a steep surface. From this point the dive traversed alternating broad fields of featureless pelagic mud, grading into zones of scattered, angular pillow +/- turbidite talus, and then steep outcrops of broken pillow flows. This sequence repeated itself several times up the slope through the end of the dive. One more zone of unbroken, oriented elongated pillows was encountered at 4489 m.</p> <p>The pelagic sediment zones corresponded to areas of low slope angle and the outcrops corresponded to areas of high slope angle. In places, semi-indurated MnO encrusted turbidite sediments mantled the surface to depths of 25-30 cm and often incorporated angular blocks of pillow talus. MnO thickness was about 1 mm. The inner wall traversed on the dive has an average slope angle of 25 degrees.</p>				
Payload	One sample basket (divided by 9 boxes), 4 push core samplers				
Visual Records	VTR1, Still camera				
Sample	Rocks: 13 sites with 27 samples; Cores: one				
Video highlights	10:19 – elongated pillows; 11:00 – scattered blocky talus; 11:25 – mantling sediment; 11:47 – broken pillow outcrop capped by sediment				
Key words	Hana Ridge, landslide, talus, pillow lava				