

Channel eruption

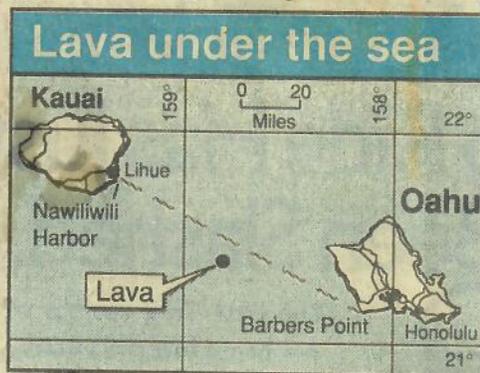
Undersea mapping company finds

By Jan TenBruggencate
Advertiser Kauai Bureau

An undersea mapping firm has apparently confirmed a 1956 volcanic eruption in the channel between Kauai and Oahu.

The eruption, in water two miles deep, was reported to have killed three whales and caused the sea to boil. Its sulfur stink was so strong that people in airplanes could smell it as they passed over a steaming, brown and yellow ocean.

Frisbee Campbell, a marine geologist and vice president of Seafloor Surveys International, said his firm's high-resolution seafloor mapping sys-



Advertiser graphic by Greg Taylor

tem was being tested when it located the flow.

It stood out on a computer readout

of 1956 pinpointed

a lava flow while testing system

stark and black against the sediment-covered surroundings. Campbell said he was reminded of the reports of an eruption between Kauai and Oahu on May 22, 1956.

Campbell, who worked as a geologist with the University of Hawaii for 25 years before joining Seafloor Surveys, said there is at this time no way to be absolutely certain it's the same flow, but the evidence is pretty convincing.

Campbell said the lava flow, 10 miles long and about 4 miles wide, is within 6 or 7 miles of where a military aircraft navigator placed the surface disturbance on May 23, 1956.

Navigation in 1956 was far less

precise than it is today, and currents might have moved the surface disturbance some distance from an eruption two miles below.

Campbell said the Seafloor Surveys mapping system, towed behind a boat, makes pinging sounds, and then measures the time it takes for the sound to reach the ocean floor and bounce back.

With sophisticated computer equipment, it is able in one pass to make a map of the ocean floor with a width of 15 kilometers, or about 10 miles. The resulting charts can be used much like aerial photographs. They

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are regularly used by firms installing undersea cable, but have also located sunken aircraft and ships, he said.

"About two weeks ago, we were in the channel between Kauai and Oahu doing some testing, when we found what looked like a very young lava flow. It could have been created yesterday or 100 years ago or 1,000 years ago, but it looks fresh, like you were looking at an area of the Big Island with a lava flow on it," he said.

The image suggests a small volcanic cone at one end of the flow, and the black lava falling away downhill to the south, he said.

Everything else in the area appears gray, representing ancient ocean floor covered heavily with sediment. The sharp, new lava makes a black outline on the printout, he said.

"This could indeed be the 1956 eruption," said Tom Wright, scientist in charge at the Hawaiian Volcano Observatory on the Big Island.

The eruption caused a brief uproar in Hawaii, particularly since it followed two other eruption reports the year before.

Military aircraft flying from the main Hawaiian Islands to the Northwestern Hawaiian Islands reported two separate eruptions on Aug. 20, 1955, and Sept. 22, 1955. One was reported 60 miles from Necker Island, raising a raft of pumice so big that crews said they thought it was a new island. The other, 200 miles south of Necker, displayed a plume of yellow-orange water. Both smelled of sulfur, aircraft crews reported.

Less than a year later, military and commercial aircraft flying between Kauai and Oahu reported water discolored yellowish-green and brown. Observers said they saw the water bubbling and steaming. Some spotted streaks of bright yellow that they took to be sulfur, and brown rafts of pumice.

The discoloration was first spotted just after noon, covering more than a square mile of the surface. Within a few

hours, the discoloration covered 15 miles, with the center strangely calm. By the next morning, a Trans-Pacific Airlines pilot said the discoloration was within 15 miles of Lihue Airport. A cloud of brown smoke rose more than a mile high, observers said.

The pilot of a Kauai-based cropduster flew over the eruption and reported seeing three dead whales floating in the area. Many pilots and passengers reported smelling sulfur in the air. But within three days, the only remaining sign was floating pumice, or porous volcanic rock.

Campbell said the eruption was most likely associated with stresses on the Earth's crust caused by the weight of the Hawaiian Islands. The weight causes the crust to sag close to the Islands and to arch somewhat farther from them before it evens out.

The stress areas can develop cracks and rejuvenated volcanic activity. Undersea volcanic activity is commonly seen on the Hawaiian Arch, a broad shallow area north of the Islands, he said.

Wright said it could be that, but it could also be a new example of the secondary volcanic activity that created such features as Diamond Head and Salt Lake Crater on Oahu, a million years after the rest of the island was formed.

"It's very intriguing. If this is really defined as a cone and a volume (of lava) comparable to some of the stuff on land," then the eruption might be part of those late-stage eruptions, which have also been seen on Kauai, Wright said.

The secondary eruptions may, like the Hawaiian Arch eruptions, be related to the weight of the Islands on the Earth's crust, but how all this works is still largely a mystery, he said.

"It's not all that clear in detail how all this relates to these late-stage eruptions," he said.

Wright said it would take detailed chemistry and mineralogy tests on volcanic material from the eruption to determine whether it fits into the Hawaiian Arch type of eruption or the late-stage type.