

Experts Clash

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Indonesian mud volcano may not be Man-made

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It was billed as one of the biggest drilling disasters in recent history. Yet now it seems we were too quick to point the finger.

On 29 May 2006, a mud volcano erupted near the village of Sidoarjo on Java, Indonesia. Thousands were evacuated as boiling mud-engulfed houses, factories and farmland. The blame immediately fell on Lapindo Brantas, an oil and gas company drilling just 200 metres away when the volcano started to erupt, and it was ordered to pay nearly \$500 million for the damage. Now, 19 months on, the volcano known as LUSI is still erupting, spewing some 70 million litres per day.

In early 2007, a team led by Richard Davies at Durham University in the UK suggested that Lapindo Brantas may have been at fault (*New Scientist*, 2 February, p 8). The team reasoned that drilling must have pierced a limestone formation 3 kilometres beneath the surface. This puncture could have released a high-pressure torrent of water, which shot up through the borehole, mixing with muddy rock on its way and emerging as a slurry.

A team led by Adriano Mazzini of the University of Oslo in Norway now has a different explanation. They say the disaster was probably triggered by a magnitude 6.2 earthquake that struck two days before the first eruption. From the start, Mazzini believed Davies's conclusion was circumstantial, based only on the proximity of the drilling platform.

When he visited Sidoarjo he found no limestone in the mud. Instead, he concludes it contained shards of clay-rich rock called mud breccia.

What's more, he found that LUSI and three other nearby mud volcanoes lie on a major fault. "It's very typical around the world for mud volcanoes to occur along faults and to be triggered by seismic events," says Mazzini, who presented his research at the annual meeting of the American Geophysical Union in San Francisco last month. Recent spikes in LUSI's eruptions appear to be linked to seismic activity, he says. "I have a very open mind that the drilling may have done something, but there's no geological evidence for that," he says. "The solid evidence indicates an earthquake."

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