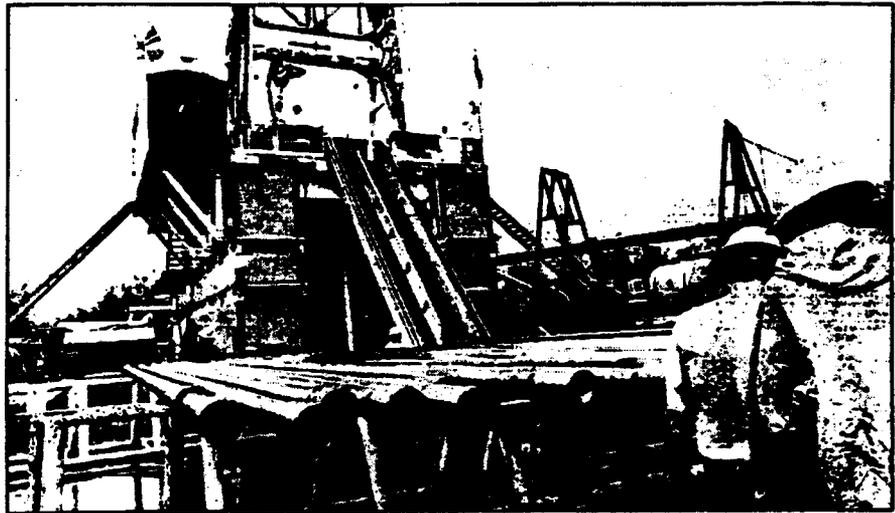


# Geothermal: Big protests sparked by issue

SUNDAY 5/13/90  
ADV.



Pipes marking the location of the True/MidPacific drilling site lie in the Puna rainforest.



Advertiser photos by Bruce Asato

Signs warn of hydrogen sulfide gas emissions at the True Geothermal drilling site in Puna.

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# Geothermal furor:

5-13-90

## Long-simmering controversy now reaching a boiling point in Hawaii

By Jim Borg  
Advertiser Science Writer

PAHOA, Hawaii — A yellow flag at the entrance to the eight-acre clearing warns of possible poisonous hydrogen sulfide gas in the air.

If there is any, the telltale rotten-egg aroma is lost in the rain pounding on the gravel road and surrounding forest of ohia and strawberry guava.

At the far end of the clearing stands a 176-foot-tall metal drilling tower.

Invisible just a half mile away, but imposing this close up, the rig represents one of the most divisive issues in Hawaii's history:

Geothermal energy.

Advocates say it's the best way to reduce Hawaii's overwhelming dependence on oil to generate electricity. Tapping pockets of hot water and steam under Kilauea's East Rift Zone is technically feasible and relatively benign on the environment, supporters insist.

Opponents say large-scale geothermal power at Kilauea is unproven, unsafe and unnecessary, if modern energy conservation approaches are followed. Further, they say, spinning a steel-and-concrete web of steam wells, power plants, pipelines, roads and electrical transmission lines along the volcano's central eastern flank will chew up precious acres of

native forest.

Not since the Vietnam War have protesters turned out in such numbers to be hauled off in handcuffs. The issue pits scientist against scientist, and has generated discord within the Democratic Party and Gov. John Waihee's Cabinet.

"The Republicans have abortion and we have geothermal," Waihee told reporters Tuesday, referring to the Hawaii County Democratic Convention last weekend in Hilo.

After lengthy debate, the Big Island Democrats agreed to support development of 50 megawatts of geothermal power for the local utility —

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## KILAUEA RIFT: The Geothermal Power Struggle

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but not at the expense of any further rainforest clearing.

Here, in the heart of the Wao Kele O Puna forest, the latest search is on for magma-heated water and steam.

A partnership of two Wyoming companies, True Geothermal Energy Co. and Mid-Pacific Geothermal Inc., hopes to develop an initial 25 megawatts of power — about a fifth of the Big Island's needs — in the 9,014-acre Kilauea Middle East Rift Geothermal Resource Subzone.

True attorney and project coordinator Allan Kawada says the drill hit some kind of geothermal resource in early April, but he won't say exactly what. The well's production potential remains a business secret, says Kawada.

"You've got the heat, no question, and you've got the water," Kawada says, waiting out the downpour in a small open-sided shelter. "But whether you've got the cracking and fragmenting and permeability so that you get a good mix is the question. We're going to drill a lot of holes (up to 12) before we commit."

For the time being, the well has been shut down as the company analyzes its data on the resource, says Kawada.

Under an order by Circuit Judge Shunichi Kimura, True/Mid-Pacific was prevented from clearing forest to drill at any other sites. But Kimura lifted the ban in a decision last Wednesday relating to a lawsuit by the anti-geothermal

### Geothermal: A quick look

Here's a quick look at geothermal development, past, present and future, on the Big Island:

- Name: Hawaii Geothermal Project-Abbott (HGP-A)  
Capacity: 2-3 megawatts  
Status: Closed, Dec. 1989
- Name: Ormat Energy Systems (Puna Geothermal Venture)  
Capacity: 25 megawatts  
Status: Awaiting permits.
- Name: True/Mid-Pacific  
Capacity: 25-100 megawatts  
Status: Drilling first well
- Name: Hawaiian Electric Co.  
Capacity: 500 megawatts  
Status: Reviewing two bid proposals

Pele Defense Fund.

While geothermal power clearly carries safety and environmental concerns, a new dimension has unfolded with the rainforest debate. The argument finds avowed environmentalists in the odd position of opposing an alternative to fossil fuels.

The Pele Defense Fund, for instance, became an official intervenor at the Public Utilities Commission in favor of Hawaii's first major coal-fired power plant, a \$383-million project of Applied Energy Services (AES-Barbers Point Inc.) With a ground-breaking ceremony held last Thursday at Campbell Industrial Park, the plant is expected to provide 180 megawatts of capacity to Hawaiian Electric by September 1992.

For a while, The Rainforest Action Network in San Francisco mistakenly characterized Hawaii's geothermal development as threatening "the last lowland tropical rainforest in

the United States." They have since changed the description to "last large-*expanse* lowland tropical rainforest," a term with which geothermal proponents don't quibble.

Beneath the often messy exchange of charges and countercharges, a close examination of geothermal issues reveals these facts:

- The best-preserved tracts of Puna's rain forest — that is, pristine ohia land still without interloping foreign species — lie in areas removed from where the state permits geothermal development.

- Technology is available that would prevent irritating emissions of sulfur dioxide. These are being used by both Pacific Gas & Electric Co. and California Energy Co., members of competing groups now in negotiations with Hawaiian Electric for the second-stage proposed 500-megawatt geothermal/cable project.

- The problem of noise from

drilling operations near residential communities will have to be addressed. Mufflers, lead shields and other techniques have been used with some success at The Geysers geothermal field in Northern California.

● There is no loud noise from modern geothermal power-plant turbines.

● Small plants, with a capacity of 25 to 30 megawatts, are preferable to large plants at Kilauea because they can be put on line quickly. Large plants, like the 135-megawatt facility at The Geysers, require huge amounts of steam or hot water that might not be readily available at Kilauea, and represent a crushing loss if destroyed by lava.

In the thick of the geothermal power battle is the Campbell Estate, which in 1985 traded its 25,807 acres at Kahaule'a, adjacent to Hawaii Volcanoes National Park, for the state's 27,785-acre Wao Kele parcel.

"It became clear in the findings and discussions relating to the initial site that (the parcel transferred to the state) was the far more pristine area," says Clint Churchill, the estate's chief executive officer and chairman of the Pro-Geothermal Alliance. "The native forest was of much higher quality than the Wao Kele O Puna forest, so it made better sense to preserve that area and transfer the Natural Area Reserve to the better forest."

The swap, under challenge by the Pele Defense Fund, was upheld May 4 by the 9th U.S. Circuit Court of Appeals in San Francisco. Pele Defense Fund attorney Yuklin Aluli says the issue now will be pursued in state courts rather than the U.S. Supreme Court.

As a condition of the exchange, the state would get 10 percent of the gross revenues earned through geothermal activities at Wao Kele, and one-fifth of that 10 percent should go to the state Office of Hawaiian Affairs.

But Aluli argues that native Hawaiians who hunt pigs and gather medicinal herbs in Wao Kele have already seen their traditions and livelihoods irreparably harmed by the drilling operation.

A major factor in the battle for public opinion remains the spotty record of the state's HGP-A demonstration plant. The 3-megawatt generator closed down last December after alienating its neighbors in Leilani Estates with periodic noise and sulfur stink.

On 500 acres adjacent to the HGP-A site in Kapoho, Ormat Energy Systems of Nevada, operating as Puna Geothermal Venture, has permission to install wells and generators to produce another 25 megawatts. The 1990 Legislature approved spending \$250,000 to reopen the HGP-A well and sell the hot water to Ormat.

While technology now is available to prevent repeat problems, many residents simply have lost faith in the system, says state Sen. Andy Levin, D-1st District (Kailua-Kona-Ka'u-Puna):

"For a decade, people living in the shadow or downwind of HGP-A have complained about the noise, pollution and health effects of geothermal," Levin said in an interview. "They were lied to or ignored by the government. We were told through the '80s, HGP-A is clean, efficient, state-of-the-art. Now we're told it was just an experimental project that should have been shut down long ago."

Ormat is ready to begin drilling as soon as it gets county approval of its plans for air and water quality, noise monitoring and emergency response, said Maurice Richard, regional development manager.

Once those tickets are punched, "we should begin drilling within 30 days," said Richard. The company has committed itself to a rapid production schedule, guaranteeing Hawaii Electric Light Co. 7 to 10 megawatts by the end of the year, and the balance of the 25 megawatts in first-quarter 1991, he said.

Since its site is on agricultural land, Ormat has attempted to stay on the good side of the Rainforest Action Network in San Francisco.

But the network opposes any geothermal development on the basis of "energy issues and the economics," says Hawaii campaigner Annie Szvetecz. Ormat's \$100 check was returned.

Tomorrow in The Advertiser: Subterranean Soup

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