GEOTHERMAL REPORT

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PROMISING RESULTS FROM MAMMOTH LAKES DRILLING

Preliminary numbers are in on a 2346-ft. deep exploratory well drilled in Long Valley, California, and the results look good for district heating.

The drilling project -- which is a cooperative effort among a number of federal, state, and local agencies -- was initiated as a scientific evaluation of the hydrothermal system in Long Valley Caldera, with the principal investigations undertaken by Lawrence Berkeley Laboratory and the United States Geological Survey. Later, Mono County and the California Energy Commission (CEC) became involved in the program to investigate the feasibility of district heating for the Town of Mammoth Lakes, less than a mile from the drilling site. Project funding, which came in under $200,000, included $104,000 from the U. S. Department of Energy, $72,000 from the CEC, and $10,000 from Mono County.

Although the USGS was not scheduled to begin the official logging until early July, on June 26 GR was informed by Jim Dunn of Sandia's Geoscience Research Drilling Office, under whose auspices the program is being conducted, that the preliminary maximum temperature recorded is 201° C (394° F) and should go higher when the well reaches equilibrium.

Frederick A. Tornatore, CEC Geothermal Energy Specialist and Grant Manager for the Commission's Mono County projects, says "We've gotten a lot of good information for a relatively low cost, and we're really excited about the prospects of a district heating system."

The Mammoth Lakes District Heating System Steering Committee, composed of representatives from Mono County, the Town of Mammoth Lakes, UNOCAL, Ben Holt Company, Oregon Institute of Technology's Geo-Heat Center, and the CEC, have reviewed the preliminary results of a CEC grant funded study prepared for Mono County by the Ben Holt Company, and, according to Tornatore, a district heating system looks economically and technically feasible, "particularly in light of the indication of heat sources so close to the Town of Mammoth Lakes."

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Under its sixth funding round (GR1May3), the CEC awarded $220,000 to the Town of Mammoth Lakes to continue the resource assessment in the area and to continue with the engineering aspects of the system. The Town is expected to hire a Geothermal Project Coordinator for this work.

NEW THEORY ABOUT LONG VALLEY

The results of the exploratory well aren't the only data coming out of Long Valley. Geologists continue to poke at the Caldera like campers stirring the embers of a campfire when it's time to turn in. The excitement caused by reported swarms of little earthquakes several years ago, indicating movement of magma at depths of two to five miles below the surface, died down when the earthquakes diminished rather than increased in number, as they should have if they presaged an eruption. At the time, many experts feared the worst.

Now comes James A. Whitney, chairman of the department of geology at the University of Georgia, and John C. Stormer, Jr., professor of geology of Rice University, writing in SCIENCE with a new theory that immense eruptions may blast up from as deep as 15 miles in the "resurgent cauldrons" and the "warning events may not be more significant than what is now occurring at Mammoth Lakes."

The USGS geologists who have monitored Long Valley and other experts are not wholly convinced by Whitney and Stormer, who did most of their studies in the San Juan Volcanic Field in Colorado, where there are seven large calderas. One expert said that the new theory was disturbing because it could mean that great eruptions would be more difficult to see coming, but another said he saw no increased urgency because large-volume eruptions occur in such long cycles, "every few hundred thousand years or so."

SAN BERNARDINO FLIPS THE SWITCH ON GEOTHERMAL DISTRICT HEATING SYSTEM

An elite crowd gathered in San Bernardino, California, six weeks ago for the dedication of the San Bernardino Demonstration Geothermal District Heating System. Among those present when Board of Water Commissioners President Margaret Chandler "flipped the switch" on the City's geothermal heating system -- causing a dramatic spray of steam to shoot 150 feet into the air -- were Congressman George Brown, State Senators Ruben Ayala and Robert Presley, Assemblyman William Leonard, Mayor Evlyn Wilcox, and California Energy Commission Chairman Charles R. Imbrecht, who noted that the project "represents a landmark in the state's efforts to develop its vast geothermal resources to directly heat and cool buildings."

The multi-million dollar project (GR15Feb.2) was billed as the "Largest Geothermal District Heating System in the U. S." (Klamath Falls might take issue with that claim, but both projects are impressive, so GR is not going to quibble about superlatives.)

A press release from the CEC indicates that 12 facilities are already on line with 15 more scheduled for hook-up by early next year. The system, which reduces natural gas bills by 50% and currently saves its users approximately $390,000 annually (in 1985 fuel prices), will provide space and water heating to nearly 120 customers when it is completed.

CHEAPER OIL WORSENS U. S. TRADE DEFICIT

Cheaper oil is bringing hard times to the geothermal industry; but it also is worsening the U. S. trade deficit by $5 billion a year, according to a report of the Congressional Joint Economic Committee. The report, issued at the end of May, was requested by Senator Lloyd Bentsen (D-TX) as a part of his campaign to apply an oil import fee, as has been suggested by leaders of the domestic geothermal industry.

OPEC alone has the ability to expand production, the report said, and has moved up from 15th to 2nd place in a year among suppliers of U. S. imports, which have risen 500,000 barrels a day from OPEC countries alone as reduced gasoline prices have caused Americans to relax, if not jettison, their conservation commitments.

HARTLEY HARBINGERS TROJAN HORSE, 1980s STYLE

Fred L. Hartley, President of UNOCAL, the world's dominant geothermal steam producer, who spoke eloquently at The Geysers Gala (GR1May1), has raised his voice again -- this time to the U. S. Senate Energy and Natural Resources Committee on March 20, 1986 -- pointing to the folly of doing nothing to stem the collapse of world spot oil prices. He sees the loss of control by OPEC as a ploy by Saudi Arabia to reestablish production controls, after have-not-enough nations have increased their imports to new high levels, in a squeeze that could shoot world prices up to $80 a barrel.

"This new war is different (from the 1973 and 1978 price attacks) and potentially more dangerous," Hartley told the Senators. "Instead of beginning with a warning shot, a supply cut-off, or doubled oil prices, it began with the offer of a modern day Trojan horse. And, just as the gullible recipients did 3,000 years ago, the nation is cheering as we dismantle our own defenses to make way for the 'gift.' . . .

"This new Trojan horse comes packaged as lower oil prices and increased OPEC supply. In return for a short-term boost to our economy and lower gasoline and heating oil prices, we're happily willing to become more vulnerable than ever before. All this is not good news, as the stock market seems to think. In reality, it's camouflage for world-scale predatory price cutting and a war of attrition."

At $13.50 a barrel -- and spot prices have dropped below that since -- Hartley saw domestic enhanced oil recovery production stopping and hundreds or thousands of stripper wells shut in (events that are already occuring) new explorations cut, and many alternative energy sources (including geothermal?) undercut.

What can be done? Hartley advocated imposition of a flexible security oil-import fee to stablize the U. S. price at $27 a barrel, the average 1985 price. The opposing free market advocates, he suggested, should be asked: What free market? Saudi Arabia, with one-third of the world's reserves, remains in control and can freeze out competitors and reestablish its own market.

The import fee suggestion is being widely discussed, but the highest levels of the U. S. Government continue to espouse the free market principle.

HAPPY BIRTHDAY, IID

The Imperial Irrigation District, principally known as a supplier of water to some half million acres of desert lands in California's Imperial Valley, considers itself a full participant in the development of the Valley's great geothermal potential.

Among the facilities developed by IID during its long history are a group of high tension power lines to cover its desert (now irrigated) domain. These lines are made available to geothermal power stations to transmit their output to connections with the San Diego Gas and Electric Company and eventually to the Southern California Edison Company.

In April of this year, the IID celebrated its 75th birthday. The festivities were a few months early because of the hot weather than can be counted on for July 25, which is the true anniversary of the organization of the District in 1911, when it took over a troubled system left by developers who brought the first water in 1902. The Anniversary Program, which proclaimed the slogan "Facing the Future . . . Proud of Our Past," carried the following paragraph:

> The geothermal potential has been known for many years, but the tremendous research and development costs have limited IID participation in these plants. The District's role as a transmitter to other Southern California utilities may prove to be of the most benefit to IID ratepayers. As a 10% participant in the Heber Binary Geothermal Plant that was dedicated in December of 1985, the IID keeps the door open for the use of this important alternative energy resource."

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