For distribution at the dedication ceremonies
of HGP Well No. 1, November 22, 1975

FACT SHEET FOR
THE HAWAII GEOTHERMAL PROJECT (HGP)
UNIVERSITY OF HAWAII

SUPPORT FOR PROJECT PROVIDED BY:

National Science Foundation
Energy Research and Development Administration
State of Hawaii
County of Hawaii
Hawaiian Electric Company

DEDICATION CEREMONY:

Presiding, John W. Shupe, HGP Director

REMARKS BY DR. JOHN M. TEEM
Energy Research and Development
Administration, Washington, D.C.

STATE INTEREST IN GEOTHERMAL ENERGY
Hideto Kono
State Energy Resources Coordinator

COUNTY INTEREST IN GEOTHERMAL ENERGY
Mayor Herbert T. Matayoshi

DEDICATION OF HGP WELL NO. 1
Reverend David Kaapu
Haili Congregational Church

IN MEMORIAM -- Agatin T. Abbott
Dr. Gordon Macdonald

MASTER

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THE HAWAII GEOTHERMAL PROJECT (HGP)
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- Primary objective of the HGP -- to encourage the development of geothermal energy in Hawaii through:
  1. Improvement of geophysical survey techniques for locating underground heat sources.
  2. Development of efficient, environmentally clean systems for conversion of underground heat resources to useful energy.
  3. Completion of socioeconomic and legal studies to assist in land use regulations and resource utilization.
  4. Establishment of environmental baselines with which to monitor subsequent geothermal development.
  5. Identification of potential geothermal resources, initially on the Big Island, but ultimately for the entire island chain. If a conventional geothermal resource suitable for the production of electricity is discovered, then the HGP will assist with the development of the geothermal production field and a prototype power plant on Hawaii.
- Long-range objective of the HGP -- to develop techniques, materials, and components for the recovery of energy from magma.
- HGP Principal Investigators:
  - Project Director: John W. Shupe, Dean of Engineering
  - Program Directors:
    - Geophysical -- Augustine S. Furumoto, Professor of Geophysics
    - Engineering -- Paul C. Yuen, Associate Dean of Engineering
    - Environmental-Socioeconomic -- Robert M. Kamins, Professor of Economics
  - Drilling: a) Agatin T. Abbott, Professor and Chairman of Geology and Geophysics (deceased)
b) Gordon A. Macdonald, Senior Professor of Geology
- Dr. Macdonald will serve as the University's representative at the drilling site, responsible for all decisions affecting the scientific testing program.

● Brief chronology of the Project:

1. The 1972 Hawaii State Legislature allocated \$200,000 for geothermal research, contingent on Federal matching funds, with \$100,000 of these funds to be administered by the County of Hawaii.
2. May 1973 -- The National Science Foundation provided its initial grant of \$252,000 to the HGP and Phase I got underway.
3. Phase I -- the two-year period from May 1, 1973, through April 30, 1975 -- was the exploratory geophysical survey phase, with support from the Engineering, Environmental and Socioeconomic Programs.
4. January 1975 -- Federal funding for the Project transferred from the National Science Foundation to the Energy Research and Development Administration (ERDA).
5. May 1975 -- Based on geological and geophysical data, the Site Selection Committee finalized its selection of the optimum site for the first research hole at a location along the Puna rift zone of Kilauea Volcano, three miles ESE of Pahoa. Site elevation is approximately 600 feet above sea level.
6. Phase II -- the research drilling program -- began on May 1, 1975, and will continue as long as funding can be justified and identified to obtain scientific and exploratory data to help define the nature of geothermal resources on the Big Island.
7. November 22, 1975 -- Dedication of HGP Well No. 1.

- Purpose of HGP Well No. 1 -- to obtain scientific data on the nature and the extent, if any, of conventional geothermal resources -- steam or hot water. Temperature, rock cores, and water samples will be taken intermittently throughout the full drilling depth. Electric logging will be conducted just before the production casing is set at 2500 feet and again at the full drilling depth -- probably 6000 feet.

● Objectives of testing program for HGP No. 1:

1. To obtain a record of geological sequences, the nature and porosity of the various layers, and the extent of hydrothermal alteration.
2. To study reservoir characteristics, particularly size, permeability and temperature, and also the fluid composition and pressure.
3. To determine well flow characteristics, specifically temperatures and pressures and the corresponding flow rates of the various constituents (steam, hot water, gas).
4. To measure downhole engineering data, such as casing conditions, mineral deposition and levels of permeability.

Much of the testing program regarding well flow and reservoir characteristics is contingent on the presence of a geothermal resource, and will be conducted only if this favorable condition is discovered. Cores, water samples, and logging will be conducted whether or not a geothermal fluid is encountered, in order to provide correlation data for the predictive geological and geophysical surveys.

- Total funding to date for the HGP:

- Phase I -- Surveys and Support

State of Hawaii	FY 72	\$100,000	
County of Hawaii	FY 72	100,000	
National Science Foundation	FY 73	252,000	
	FY 74	217,000	
Energy Research and Development Administration (ERDA)	FY 75	119,000	
Other Public and Private Funds		39,000	
	Subtotal		\$827,000

- Phase II -- Research Drilling Program

State of Hawaii	FY 74	500,000	
Energy Research and Development Administration	FY 75	1,064,000	
Hawaiian Electric Company (HECO)	FY 74	20,000	
	FY 75	25,000	
	Subtotal		1,609,000
	Total		\$2,436,000

- Distribution of Phase II funding:

Of the total Phase II funding of \$1,609,000, all of the State and HECO funds, plus \$580,000 of ERDA support will be available for drilling and testing HGP No. 1 -- in all, a total of \$1,125,000. \$484,000 of ERDA funding has been allocated to support activity in the engineering, environmental, and socioeconomic programs.

- Geothermal consultants to the HGP:

Kingston, Reynolds, Thom, and Allardice Limited (KRTA), Auckland, New Zealand

Mr. W. J. Tracey of KRTA will serve as drilling supervisor to the HGP and, along with Dr. Macdonald, will provide advice to the contractor on the drilling and testing programs.

- Drilling Contractor:

Water Resources International, Inc., Honolulu

Edgar Craddick, President

Willis Craddick, Vice-President

- Hawaii Geothermal Project Advisory Committee (Membership list attached)

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