Dear Property Owner: TMK: 1-4-02:11

Special Permit Application
Laepao, Puna, Hawaii
Tax Map Key 1-4-02:10

You are hereby notified that a request for a special permit to allow the exploratory drilling of a maximum of nine (9) wells on 180+ acres of land situated within the State Land Use Agricultural District has been submitted by the petitioner, Geothermal Exploration and Development Corp.

The property involved is located approximately 1 mile southeast of the existing HGP geothermal well site and about 2,000 feet north of the Pohoiki Road, Laepao, Puna, Hawaii.

A public hearing on the subject will be held beginning at 7:30 p.m. on Monday, June 30, 1980, in the Councilroom, County Building, South Hilo, Hawaii.

You are invited to comment on the application at the hearing or submit written comments prior to the hearing.

Sincerely,

Sidney M. Fuke
Planning Director

smn

Enclosure

cc: State Land Use Commission
Land Use Division, DPED
SPECIAL PERMIT REQUEST

DRILLING OF 5 GEOTHERMAL WELLS

LAEPAAOO, PUNA, HAWAII

TAX MAP KEY: 1-4-02-10

APPLICANT: GEOTHERMAL EXPLORATION & DEVELOPMENT CORP

JUNE 4, 1980
Dear Mr. Fuke:

Re: Special Land Use Permit
Geothermal Drilling
Tokyu Land Prospect

We are enclosing sixteen copies each of our application for a Special Use Permit, together with narrative and 2' x 3' site survey maps showing proposed sites, a check for $100.00 filing fee, and a report dated March 3, 1977 from Title Guaranty of Hawaii indicating that there is no reservation of mineral rights.

The drilling will be exploratory in nature, and will provide an extension of the knowledge now existing from the HGP-A well on the reasonable supposition that this drilling will likely penetrate the same geothermal reservoir.

The results of this drilling and testing will therefore be of the utmost importance to reservoir evaluation as it relates to the HGP-A well and the State's effort in determining the nature and extent of the Kapoho resource.

Comparison with our other exploration prospects at the Opihikao prospect and Daiichi prospect, will aid in selecting the best initial site for development and production. A triangular evaluation made possible by wells drilled and tested in all three of these prospects will yield significant geothermal information on the extent and nature as well as reservoir interrelationship in the Puna area.

Although several sites have been designated, only one (located as an offset to HGP-A) will initially be nominated for an exploratory well drilling permit. The remainder represent
subsequent sites for future drilling if more exploratory work is needed, or if not, as possible sites for production wells in the future.

The drilling would take place late 1980 or early 1981, using the crew and equipment now working on our Opihikao prospect, and open to your inspection upon request.

In the event that the well shows sufficient heat at approximately 4,000 to 7,000 feet, a short 4 hour test would be conducted for indications of sustained flow. Depending upon the results of this, a longer term follow-up test would be planned for about 60 days duration to determine well characteristics.

Sound and smell abatement equipment would be provided as the need is indicated.

The property would be approached from the Pohoiki road.

The drilling and testing would require approximately four months.

The activities would be the same as proposed for the Opihikao and Daiichi prospects with the intent to drill to approximately 7,000 feet, working 24 hours/day, 5 days/week.

The ultimate purpose of the wells would be for production of geothermal energy in the form of electrical power and/or direct use application.

It is our intent to work closely with the State and County in investigating the nature and extent of this resource and to provide the basic exploratory information needed as a prerequisite to its orderly development to meet Hawaii's energy needs, leading to economic and job opportunities to the immediate community and State as a whole. Reference is made to the Revised Environmental Impact Statement issued March 1978 by the Department of Planning and Economic Development pertaining to the Puna area.
Mr. Sidney M. Fuke, Director  
Planning Department  

July 9, 1980  
Page 3

This work would be undertaken by the Barnwell Geothermal Program, a joint venture between Barnwell Geothermal Corp. and Geothermal Exploration & Development Corp. ("GEDCO"). Drilling would be performed by Water Resources International, Inc. ("WRII"), with GeothermEx acting as consultants.

Very truly yours,

GEOTHERMAL EXPLORATION & DEVELOPMENT CORP.

E. C. Craddick
President

ECC/sm  
Enclosures: 16 copies - Application for Special Permit  
16 copies - Annex to Special Use Application  
16 copies - 2' x 3' Site Survey Maps  
16 copies - Title Guaranty of Hawaii's letter of March 3, 1977  
Check in the amount of $100.00 - Filing Fee  

cc: Mr. Hideto Kono - DPED, Honolulu - W/encl.  
Mr. John Keppeler, County of Hawaii Mayor's Office - Hilo - W/encl.  
Mr. Roland Higashi - Hilo - W/encl.  
Dr. John W. Shupe - U. of H., Honolulu  
Dr. Charles Helsley - U. of H., Honolulu  
Dr. Paul E. Yuen - U. of H., Honolulu  
Mr. John S. Tolmie, Jr. - Hilo - W/encl.  
Mr. David S. DeLuz - Hilo - W/encl.  
Mr. Vern Yamanaka - Hilo - W/encl.  
Mr. Everett Kinney - Hilo  
Dr. S. M. Siegel - Ecotrophics, Honolulu  
Mr. Walt Southward - Hilo - W/encl.  
Mr. Susumo Ono - DLNR, Honolulu  
Mr. Daniel Lum - DLNR, Honolulu - W/encl.  
Mr. Dan Williamson - HELCO, Hilo  
Mr. Samuel M. Eisenstat - New York - W/encl.  
Mr. J. S. Barnwell, Jr. - Chattanooga, Tenn. - W/encl.  
Mr. Morton Kinzler - New York - W/encl.  
Mr. Bill Craddick - Hilo - W/encl.  
Mr. Murray Gardner - GeothermEx, Berkeley, Ca. - W/encl.  
Mr. Martin Anderson - Honolulu - W/encl.  
Chamber of Commerce, Hilo Office - W/encl.
Mr. Sidney M. Fuke, Director  
Planning Department  
County of Hawaii  
25 Aupuni Street  
Hilo, Hawaii 96720

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E. C. Craddick
President

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Mr. Martin Anderson - Honolulu - W/encl.
Chamber of Commerce, Hilo Office - W/encl.
APPLICATION FOR SPECIAL PERMIT
COUNTY OF HAWAII
PLANNING DEPARTMENT - PLANNING COMMISSION

APPLICANT: BARNWELL GEOTHERMAL CORP.

APPLICANT'S SIGNATURE: E. C. Craddick, President

ADDRESS: C/o Geothermal Exploration & Development Corp.
2828 Paa Street, Suite 2085, Honolulu, Hawaii 96819

TELEPHONE: (808) 839-7727

TAX MAP KEY: 1-3-08 (6), (7), (19) AREA: Approximately 724 acres

OWNER: J. T. Trading Co., Ltd. and Auto Imports of Hawaii, Inc.

OWNER'S SIGNATURE: By: 

APPLICANT'S INTEREST, IF NOT OWNER: Lessee of Geothermal Rights

REQUESTED USE: Geothermal exploration and evaluation.

APPLICANT'S REASON(S) FOR REQUESTING SPECIAL PERMIT: (Please attach)

NOTE: The applicant must show that:

(a) such use shall not be contrary to the objectives sought to be accomplished by the Land Use Law and Regulations;
(b) the desired use shall not adversely affect surrounding properties;
(c) such use shall not unreasonably burden public agencies to provide roads and streets, sewers, water, drainage, school improvements, and police and fire protection;
(d) unusual conditions, trends, and needs have arisen since the district boundaries and regulations were established;
(e) the land upon which the proposed use is sought is unsuited for the uses permitted within the district;
(f) the proposed use will not substantially alter or change the essential character of the land and the present use; and
(g) the proposed use will make the highest and best use of the land involved for the public welfare.

THIS APPLICATION MUST BE ACCOMPANIED BY:

(a) 16 copies of the completed application form with attachments.
(b) 16 copies of a location map.
(c) 16 copies of a site plan with existing and proposed uses.
(d) any additional information.
(e) $100.00 processing fee.

For Official Use:

Date received __________________________
120th day __________________________
Public Hearing date __________________
Action date __________________________
To Land Use Commission ______________

P.D. 3 2/75
ANNEX TO SPECIAL USE APPLICATION

Regarding the guidelines established in the Land Use Regulations of the Land Use Commission, it is submitted that the requested use is a reasonable one even though unusual for agriculturally classified land. In addition, it is the kind of use that should be permitted as a special use in the more general and overriding public interest, and is not in any substantial way at variance with the general purposes for which Hawaiian land classifications are established, in that:

(a) The use requested is in furtherance and in keeping with needs and objectives of public interest in the County of Hawaii and is within the needs and objectives of the Land Use Law and Regulations and the public interest of the State of Hawaii. Energy requirements are the single most unsolved element in the economic well-being equation for the County and State of Hawaii. Dependence on imported energy stands to limit the potential well-being and economic growth of the County and State. The use requested is to the purpose of determining the quality and extent of geothermal resources available to serve needs for non-imported energy sources. Previous drilling results at a nearby site adjacent to this prospect have demonstrated that geothermal resources are present in the area, but do not sufficiently prove the extent and viability. The proposed wells will add significantly to existing knowledge.
(b) The use requested will probably produce a net beneficial effect to the surrounding property with minimal, if any, adverse effect on surrounding property. The operations necessary to the use will be strictly confined to an area of three acres, including access road. There will be normal operating sounds of drilling equipment common during drilling, this will be held to a minimum and should create no problem as no homes are nearby. It is predicted that a net product of useful irrigation water can result at minimum, as one beneficial effect of the proposed use.

(c) Public agencies will not be required to provide roads, streets, schools, sewers, water, drainage, or additional police and fire protection as a result of the use requested, without a commensurate net benefit out of which these services can be funded, and in no case before additional work beyond the use requested is considered by the County of Hawaii as being in keeping with planning policies of the County.

It is proposed that the energy prospect will be available as electricity to be used off the site and that any other use on the surrounding land will be self-supporting, in terms of burden on public agencies, by way of increased value for tax purposes.

(d) District boundaries and regulations were established prior to the realization that geothermal resources were likely to be present and certainly before particular locations of these resources were known. The use requested is in furtherance of an attempt to know more about the existence and extent of geothermal resources so as to apprise land owners and
appropriate public authorities of their potential for beneficial use within the County and State of Hawaii.

Only in the past four to five years have the dual facts of an energy crisis and the potential availability of geothermal energy been within the category of general information. It is natural, therefore, that the requested use should not have appeared as one of the officially recognized uses of land in this classification.

(e) From all appearances and contact with present uses of the land proposed for the requested use, it is not feasible to conduct agricultural operations within the present means of technology and methods. It is possible that a by-product of the development geothermal energy will make possible more extensive agricultural use of the land nominated and surrounding land for the near and long-term future.

The area of the requested use in generally characterized as covered by recent lava flows and is of the least desirable category from the standpoint of agricultural operations. It is generally covered with rocks and not commercially useful growth of grasses, etc., not even suitable for stock grazing in a commercially or productive life-supportive way.

(f) The requested use will not preclude future agricultural use of the land. Even full-scale development of geothermal energy would occupy and alter no more than ten percent (10%) of the total surface area of the land included in the geothermal development district. The balance of the land within this area would be allowed to remain as it now is and would be
suitable for the present uses designated in the land use laws and regulations, at least to the extent it is now useful for these purposes.

It is the nature of geothermal development, in the active fields worldwide, that particularly agricultural operations can continue in about the same form as they did, or would have, were geothermal resources not being taken from the area. If anything is changed, it is usually to initiate an improvement over previous possibilities in the same area.

(g) The public welfare will be benefited in all respects by the use proposed and, considering the general public interest, is the highest and best use of the land nominated in this special use application. By proving and producing this form of energy in this location another step toward energy independence for the Island of Hawaii will be taken. Geothermal energy is probably the most efficient and least disturbing from of energy available in the general geographic area of this application.

The district, and the Island of Hawaii, can benefit in many ways from the proposed use. At present, the lack of water and power is critical to the best use of resources and manpower in this area. The prospective higher costs of energy tend to exacerbate the situation. Independence from imported energy, even from other locations on the Island of Hawaii, could be a great benefit to these local resources, especially in view of the benign nature of this form of energy on environment and people in the immediate environs.
(h) In addition to a physical survey to determine the exact geographical location of the proposed drilling sites, the immediate area has been surveyed to discover the presence of historical sites and evidence of the habitat of an endangered species. Such evidence as has been adduced by this survey does not indicate a condition on the property nominated that would be harmed or altered to the detriment of any specie. A baseline study of existing conditions will also be performed prior to drilling. In addition, the Divisions of State Parks, Forestry and Fish and Game, of the Department of Land and Natural Resources, have indicated that no known or registered historic sites are present in the property and, as well, that no endangered species are known to be present with rare exception of the Hawaiian owl and Hawaiian hawk, present throughout the County of Hawaii, but not particularly occupying this property. Reference is also taken to a recent (March, 1978) E.I.S. issued by the Hawaii Department of Planning and Economic Development which was made for a very nearby site in the Puna district. For general purposes, the findings of that document are germain to this application.

With reference to the Hawaii County General Plan, it appears that the policy of the County regarding development of power for use by the consumers of the County of Hawaii and with respect to economic developments are in harmony with the proposed project. The proposed project is of an investigatory nature which can lead to the type of large development referred to on page 10 of the General Plan, but is not now at a stage of certainty, in terms of magnitude, that would permit a prediction of kinds of social, economic, and physical impact that are referred to at that point in the plan.
March 3, 1977

Water Resources International Inc.
2828 Paa Street
Honolulu, HI 96819

Attention: Mr. Ed. Craddick

Reference: MR as to Hawaii Island Parcels

Gentlemen:

You have requested that we determine from the original Grant documents whether mineral rights were reserved to the Hawaiian Government. Our search reveals the following:

1) TK: 1-4-01-1 - Being portion of Royal Patent 4497, LCAw 8559, Apana 5 - Mineral rights reserved to Government.

2) TK: 1-4-01-2 - Being portion of Royal Patent 4497, LCAw 8559, Apana 5 - Mineral rights reserved to Government.

3) TK: 1-4-01-10 - Being portion of Royal Patent 7788, LCAw 8452, Apana 15; portion of Royal Patent 7483, LCAw 4452, Apana 3; and portion of Royal Patent 4497, LCAw 8559, Apana 5 - All show mineral rights reserved to Government.

4) TK: 1-4-01-19 - Being portion of Royal Patent 4497, LCAw 8559, Apana 5 - Mineral rights reserved to Government.

5) TK: 1-3-08-6 - Being portion of LP 8094, LCAw 8559B, Apana 15 - No mineral reservations.

6) TK: 1-3-08-7 - Being portion of LP 8094, LCAw 8559B, Apana 15 and portion of LP Grant 3209. That portion of parcel comprising portion 3209 has mineral rights reserved to Government, and that portion comprising portion 8094 has no reservations.
March 3, 1977

7) TK: 1-3-08-19 - Being portion of LP 8094
LCAw 8559B, Apana 15 and portion of LP
Grant 3209. That portion of parcel com­
prising portion 3209 has mineral rights
reserved to Government, and that portion
comprising portion 8094 has no reservations.

Yours very truly,

TITLE GUARANTY OF HAWAII
INCORPORATED

David T. Pietsch
Executive Vice President

(8) TK: 1-3-08-4
LP 8094  LCA 8559 B  Apana 15
No reservations.

SUGAR

(NEGOTIATING WITH AMTAE - R. Gillien)
March 21, 1977

Water Resources International Inc.
2828 Paa Street
Honolulu, Hawaii 96819

Attention: Mr. Ed. Craddick

Reference: Mineral Rights as to Hawaii Parcels
Addendum II to Previous Letter of 3/16/77

Gentlemen:

TK: 1-3-9-7 (Hawaii)
LP 8094, LCAw 8559B:15 - No mineral rights reserved.

Betty Upper, Secretary
to
David T. Pietsch, Executive Vice President

[Handwritten note: signed by Betty Upper]

[Stamp: RECEIVED
MAR 22 1977
WATER RESOURCES INTERNATIONAL, INC.]
Addendum to 6/16/77 letter to E. Craddick re: Hawaii Parcels confirming tel. call to Mr. Craddick by B. Upper.

TK: 1-4-01-20

Grant 13156 - No mineral rights reserved. - 40 acres
RP4497, LCAw 8559:5 to Charles Kanaina. Mineral rights reserved to State of Hawaii.
SPECIAL PERMIT REQUEST

GEOTHERMAL EXPLORATION

POHOIKI & KEAMIALA, PUNA, HAWAII

TAX MAP KEY: 1-3-08: G, 7, 19 AND 1-3-09: 7

APPLICANT: BARNWELL GEOTHERMAL CORPORATION

SEPT. 23, 1980