

SPECIAL PERMIT	
Petition Received	OCT 15 1980
Maps	
Action Span	10/15/80 - 11/29/80
Action Date	11/19/80
Recordation	11/9/80

26
13
176
26
376

COPY

PLANNING DEPARTMENT
25 AUPUNI STREET

COUNTY OF HAWAII
HILO, HAWAII 96720

JAN 27 11 35 AM '82
LAND USE COMMISSION
COUNTY OF HAWAII

January 24, 1982

Mr. Clifford H. F. Lum
Attorney At Law
192 Kapiolani Street
Hilo, HI 96720

Dear Mr. Lum:

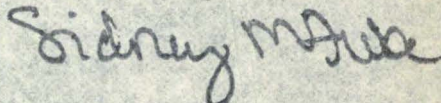
Special Permit No. 80-347 (LUC 460)
Geothermal Exploration and Development Corporation
Daiichi Well No. 1
Tax Map Key 1-4-02:10

This is to acknowledge receipt of your letter of January 20, 1982, requesting a time extension to comply with Condition No. 4 of Special Permit No. 80-347 which allowed the drilling of nine exploratory geothermal wells on approximately 180 acres of land.

The letter indicated that you will be able to more definitely state the time period for which this extension is being requested after a time schedule has been prepared for the drillings of various wells by your client. Please be informed, however, that in order to process your time extension request for a hearing, we need to know the length of time requested. As such, please provide us with this information as soon as possible.

Should you have any questions, please feel free to contact Norman Hayashi or Brian Nishimura of this office at 961-8288.

Sincerely,



SIDNEY FUCE
Planning Director

NH:smn

cc: State Land Use Commission

BEFORE THE LAND USE COMMISSION
OF THE STATE OF HAWAII

In the Matter of the)
Petition for Special Permit)
of GEOTHERMAL EXPLORATION) SP80-347
AND DEVELOPMENT CORPORATION)
_____)

This is to certify that this is a true and correct copy of the
Decision and Order on file in the office of the State Land Use
Commission, Honolulu, Hawaii.

FEB 13 1981
Date

by *Joseph Elmer*
Executive Officer

DECISION AND ORDER

BEFORE THE LAND USE COMMISSION
OF THE STATE OF HAWAII

In the Matter of the)
Petition for Special Permit) SP 80-347
of GEOTHERMAL EXPLORATION)
AND DEVELOPMENT CORPORATION) FINDINGS OF FACT, CONCLUSIONS
OF LAW, DECISION AND ORDER

The Land Use Commission of the State of Hawaii,
having duly considered the entire record in the above entitled
matter, at its action meeting held on November 19, 1980 at
9:00 a.m. at the State Conference Room, Wailuku, Maui, makes
the following findings of fact and conclusions of law.

FINDINGS OF FACT

PROCEDURAL MATTERS

1. The subject petition for Special Permit was
filed with the Hawaii County Planning Commission on April 16,
1980 by GEOTHERMAL EXPLORATION AND DEVELOPMENT CORPORATION
(hereinafter "GEDCO") pursuant to Section 205-6, Hawaii
Revised Statutes as amended, and Rule 6 of the Hawaii County
Planning Commission Rules Relating to Administrative Procedure.
The petition proposes the drilling of a maximum of nine (9)
exploratory deep wells for the purpose of determining the
quality and extent of geothermal resources available on
approximately 180 acres of land situated within the State
Land Use Agricultural District at Laepaoo, Puna, Island and
County of Hawaii, Tax Map Key 1-4-02: 10.

2. Notice of public hearing on the matter was
mailed by the County of Hawaii Planning Department to
surrounding property owners on June 16, 1980.

3. Notice of public hearing on the matter was published in the Hawaii Tribune Herald on June 20 and 27, 1980.

4. A public hearing was held on the matter by the County Planning Commission on June 30, 1980 at the County Building in Hilo, Hawaii.

5. At the June 30, 1980 hearing, public testimony was taken; certain persons indicated an interest in participating in the contested case proceedings.

6. The public hearing was continued in order to allow interested persons to request in writing by July 18, 1980, that a contested case proceeding in the matter be initialed.

7. Susan Orlando, the Puna Hui Ohana, and the State of Hawaii Department of Planning and Economic Development made proper and timely requests to be parties in a contested case proceeding.

8. On July 30, 1980, Susan Orlando and representatives of GEDCO, the Hawaii County Planning Department, the Department of Planning and Economic Development, and the County Planning Commission met to clarify the procedure, witnesses, and exhibits to be employed if that Commission decided to hold a contested case proceeding.

9. The above-mentioned parties to this July 30, 1980 meeting later signed an agreement as to the hearing and post-hearing procedures to be followed.

10. Notice of further public hearing was published in the Hawaii Tribune Herald on July 27, 1980 and August 5, 1980.

11. Further public testimony was taken by the Planning Commission on August 7, 1980 prior to the commencement of the contested case proceeding.

12. The contested case portion of the continued hearing was conducted on August 7 and 8, 1980.

13. Three petitioners for intervention were admitted as parties to the hearing: Mrs. Susan Orlando; the Puna Hui Ohana represented by Mr. Sonny Kinney; and the State Department of Planning and Economic Development represented by Mr. James Woodruff.

DESCRIPTION OF THE SUBJECT PROPERTY

14. The subject property is located at Laepaoo in the Puna District of the Island of Hawaii, State of Hawaii, approximately one mile southeast of the existing Hawaii Geothermal Project site and 2,000 feet north of Pohoiki Road, and is further identified as Tax Map Key 1-4-02: 10.

15. Daiichi Seiko of Hawaii, Inc. holds fee simple title to the subject property. The Petitioner has submitted documents which show that the mineral rights of the property have not been reserved to the State of Hawaii.

16. The Petitioner has leased the geothermal development rights from the landowner.

17. Access will be off Pohoiki Road through Amfac property on an old railroad right-of-way to an existing 40-foot easement along the east boundary of the subject property.

18. The property's dominant soil types are Opihikao extremely rocky muck and Aa and Pahoehoe lava flows; such types are classified by the Soil Conservation Service, U. S. Department of Agriculture, as Class VIIs and VIII, which are

the lowest classes in the ranking system for agricultural activity having severe limitations that make them unsuited to cultivation, and that restrict their use largely to grazing, woodland and wildlife.

19. Of the approximately 180 acres involved in the petition, only about three acres will actually be used for the well sites.

20. County zoning for the subject property is "Agriculture" with a ten-acre minimum lot size.

21. According to the Land Use Inventory conducted by the Hawaii County Planning Department, there are two residences within a one mile radius of the subject property.

PROPOSED USE

22. GEDCO plans to drill a maximum of nine exploratory wells and to test them in order to determine the extent and magnitude of geothermal resources under subject property.

23. The GEDCO project will produce data for evaluating the suitability of the geothermal resource as a production reservoir.

24. The drilling schedule would be 24 hours a day, Mondays through Fridays.

25. The project will involve the use of a drilling rig with an estimated 100-foot tower and other generating and accessory equipment.

26. The Hawaii Electric Light Company advised that electric pole lines are not available near the proposed exploration site.

27. The State Department of Health called attention to the need for control systems to prevent or minimize hydrogen sulfide and noise emissions.

28. The County Department of Water Supply commented that the applicant should address any effects that the proposed drilling might have on groundwater resources.

29. Other cooperating governmental agencies, including the Soil Conservation Service, the County Public Works Department, Fire Department, and Police Department had no objections to the proposed use.

30. A physical survey and replies from governmental agencies indicate that the project will not harm any known or registered historic sites nor any endangered species that might be present in the general area of the subject property.

31. Monitoring of the environmental impacts of the project will be done on a continuing basis, referring to measurements from "baseline" data collected since 1975.

32. The project will not substantially change the character of the land.

33. The project is not likely to unreasonably burden public agencies to provide roads, water, and other essential infrastructure and services.

STATE AND COUNTY PLANS

34. The Hawaii State Plan includes a policy to accelerate research development and use of new energy resources as the means of attaining the State goal of energy self-sufficiency.

35. The subject property is in a State Land Use Agricultural District. This Agricultural District category, which includes those lands with existing high capacity or

significant potential for agricultural production, also includes lands which are not as well suited to agricultural production, also includes lands which are not as well suited to agricultural and ancillary activities by reason of topography, soils and other related characteristics.

36. The Land Use Pattern Allocation Guide (LUPAG) Map of the County of Hawaii General Plan designates the subject property as "Orchard," indicating that the land, though rocky in character and content, could possibly support productive macadamia nut, papaya, citrus or other similar agricultural products.

37. The Public Utilities Element of the County General Plan states that the County shall encourage the continuation of studies concerning the development of power which can be distributed at lower costs to consumers.

38. The Economic Element of the County General Plan states that the Island of Hawaii should be developed into a unique scientific and cultural model where development should be reviewed on the basis of total impact on the island's residents, not only in terms of immediate short-range economic benefits.

39. The goals of the recently adopted Energy Element of the County General Plan are to strive for energy self-sufficiency and to establish the Big Island as a demonstration community for the development and use of natural energy resources.

To attain these goals, the Energy Element includes policies to encourage the development of alternative energy resources and the expansion of the energy research industry

and to strive to assure a sufficient supply of energy to support present and future demands.

CONCLUSIONS OF LAW

1. That the proposed use will not be contrary to the objectives sought to be accomplished by the State Land Use Law and Regulations. The purpose of the Land Use Law and Regulations is to protect, preserve, and encourage the development of lands in the State for the public health and welfare of the people of the State of Hawaii. The area under consideration is classified as Agricultural by the State Land Use Commission.

"Unusual and reasonable" uses other than those which are permitted in an Agricultural District may be permitted by Special Permit pursuant to HRS Chapter 205-6, and State Land Use Commission District Regulation, Part V.

The subject property's dominant soil types are Opihikao extremely rocky muck, and Aa and Pahoehoe lava flows. These land types are classified by the U. S. Department of Agriculture, Soil Conservation Service as Class VIIIs and VIII. These classes are the lowest in the Soil Conservation Service's ranking system for agricultural activity. Although it is possible that some agricultural activities may be conducted on the subject property, it is determined that approval of the subject request would not be contrary to the objectives of the State Land Use Law and Regulations given that the capability class rating of the subject property indicates that it is generally unsuitable for agricultural productivity.

2. The proposed use will not substantially alter or change the essential character of the land and its present

use. Although an area of 180 acres is involved in this request, at the most, only about three (3) acres of land will be used for the drill sites. The remaining area can still be used for agricultural purposes should the landowners so desire. Furthermore, should the proposed project prove to be successful, the geothermal water could be used for agricultural irrigation purposes. The by-products of the geothermal water could also be used for agricultural purposes. It is therefore determined that the granting of this particular request would not be in conflict with the State and County's Agricultural policies.

3. Unusual conditions, trends, and needs have arisen since the district boundaries and regulations were established. Electricity is the major form of energy utilized in Hawaii County. The power rate on this island is among the highest in the nation. A factor which contributes to this situation is the present method of power generation. Most of the electricity is obtained through the burning of imported oil. The cost of fuel coupled with transportation costs cause higher rates.

Hawaii is currently most vulnerable to dislocations in the global oil market, but is also endowed with a variety of natural energy resource alternatives which are renewable or inexhaustible and potentially low polluting. Hawaii's near total dependence on imported petroleum provides the incentive for the promotion of energy conservation and the development of technology to harness local natural energy resources, such as geothermal.

The island of Hawaii is believed to possess a vast resource base of geothermal heat. However, the extent

and magnitude of geothermal resources in Hawaii must still be determined. There is no way of knowing if the island actually has a geothermal resource of economic importance unless further testing is conducted. As a potential power source, geothermal may either prove to be of major importance or of no importance at all. Only by drilling and testing can this uncertainty be resolved. It is from these exploratory wells that data for evaluating the suitability of the resources as a production reservoir are obtained.

4. A geothermal energy source could have tremendous benefits for the people of this County as well as the rest of the State. Aside from providing cheap power, the geothermal resource can be a major factor in accomplishing several other goals. A reduction in the County's current high cost of energy will aid existing industries as well as possibly attract new endeavors. Should the tests prove successful, it can open the doors for economic development of a nature and magnitude beyond the realm of reality a few years ago. The success of geothermal energy could possibly stimulate economic activity which would provide new employment opportunities for the residence of the County. New industries will be attracted into the area in the event that large amounts of power become available. Thus, if the source of geothermal energy is successful and properly developed, it will be of great importance to the future of Hawaii.

5. Although it has been pointed out that the proposed use of the land for its intended purposes may have some adverse effects, such as problems of noise and fumes, to the surrounding properties and the residents in the immediate area, stringent controls and conditions will be attached to this Special Permit

in order that the concerns may be alleviated. The Petitioner will be required to comply with all applicable requirements of the State of Hawaii Department of Health.

6. The proposed use will not unreasonably burden public agencies to provide roads and streets, sewers, water, drainage and school improvements, and police and fire protection.

DECISION AND ORDER

IT IS HEREBY ORDERED that Special Permit Number 80-347 for the drilling of a maximum of nine wells on approximately 180 acres of land situated at Puna, County and State of Hawaii, identified as Tax Map Key 1-4-02: 10 is approved subject to the following conditions:

1. That prior to commencement of any operation, the Petitioner or its authorized representative(s) shall comply with the requirements of Regulation 8 of the State Department of Land and Natural Resources relative to drilling for geothermal resources in Hawaii.

2. That the Petitioner/representative(s) shall secure a building permit for all structures which are to be constructed on the subject property.

3. That prior to commencement of any drilling activity, the Petitioner/representative(s) shall submit plans to the County Planning Department showing the location of the well site(s) to be drilled.

4. That the drilling of the first well shall commence within one (1) year from the effective date of approval of the Special Permit.

5. That the length of this Special Permit shall be for a period not to exceed three (3) years from the effective date of the Special Permit.

6. That the rules, regulations and requirements of the State Department of Health shall be complied with.

7. That the Petitioner/representative(s) shall be responsible to assure that every precaution is taken to reduce any nuisances, whether it be noise or fumes, which may affect the residents and properties in the immediate area. Should it be determined that these precautionary measures are not being applied, the County Planning Department is authorized to cease any further activity in the area.

8. That upon termination of the operation or if the Petitioner determines that the project is not feasible, all structures erected shall be dismantled and removed from the site(s) by the Petitioner.

9. That there shall be no more than nine (9) exploratory drillings; provided that upon the discovery of three (3) successful wells, all further exploratory drillings shall immediately cease.

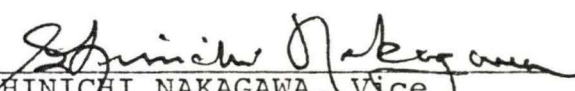
10. That all other applicable rules and regulations shall be complied with.

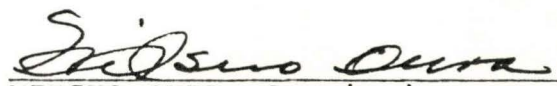
DATED: Honolulu, Hawaii, February 10, 1981.

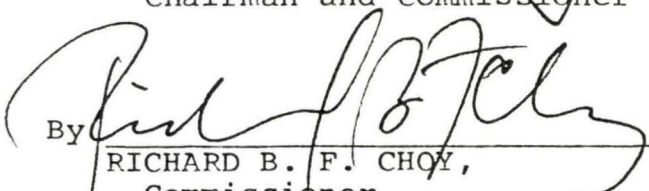
LAND USE COMMISSION
STATE OF HAWAII

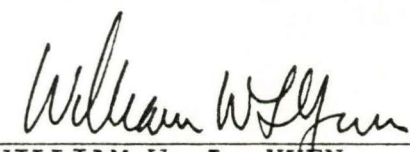
By 
C. W. DUKE, Chairman and
and Commissioner

By 
SHINSEI MIYASATO, Commissioner

By 
SHINICHI NAKAGAWA, Vice
Chairman and Commissioner

By 
MITSUO OURA, Commissioner


By 
RICHARD B. F. CHOY,
Commissioner

By 
WILLIAM W. L. YUEN,
Commissioner

PO 1 5235541

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P.O., STATE AND ZIP CODE			
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CONSULT POSTMASTER FOR FEES	OPTIONAL SERVICES	CERTIFIED FEE	c
		SPECIAL DELIVERY	80 c
	RESTRICTED DELIVERY	c	
	RETURN RECEIPT SERVICE	SHOW TO WHOM AND DATE DELIVERED	c
		SHOW TO WHOM, DATE, AND ADDRESS OF DELIVERY	45 c
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CONSULT POSTMASTER FOR FEES	OPTIONAL SERVICES	CERTIFIED FEE		c
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	RESTRICTED DELIVERY		c	
	RETURN RECEIPT SERVICE	SHOW TO WHOM AND DATE DELIVERED		<i>45</i> c
		SHOW TO WHOM, DATE, AND ADDRESS OF DELIVERY		c
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PS Form 3811, Jan. 1979
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Sidney Lake

3. ARTICLE DESCRIPTION:
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| *5235536* |

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SIGNATURE Addressee Authorized agent

[Signature]

4. DATE OF DELIVERY
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HILL O. HI
FEB 17 1981

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TO



Land Use Commission

(Name of Sender)

335 Merchant St. Rm 104

(Street or P.O. Box)

Hon. Hi 96813

(City, State, and ZIP Code)

PO1 5235537

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POSTAGE		\$	<i>41</i>	
CONSULT POSTMASTER FOR FEES	CERTIFIED FEE		€	
	OPTIONAL SERVICES	SPECIAL DELIVERY	<i>80</i> €	
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			SHOW TO WHOM, DATE, AND ADDRESS OF DELIVERY	€
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Add your address in the "RETURN TO" space on reverse.

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- RESTRICTED DELIVERY.
Show to whom, date, and address of delivery. \$

(CONSULT POSTMASTER FOR FEES)

2. ARTICLE ADDRESSED TO:

E. C. Craddick

3. ARTICLE DESCRIPTION:

REGISTERED NO. | CERTIFIED NO. | INSURED NO.

5235537

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SIGNATURE Addressee Authorized agent

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2/17/81

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INITIALS

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SP 80-347 - Geothermol

UNITED STATES POSTAL SERVICE
OFFICIAL BUSINESS

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- Endorse article "Return Receipt Requested" adjacent to number.

PENALTY FOR PRIVATE
USE TO AVOID PAYMENT
OF POSTAGE, \$300



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Land Use Commission

(Name of Sender)

335 Merchant St, RM 104

(Street or P.O. Box)

Hon. ID. 96813

(City, State, and ZIP Code)

PO1 5235538

RECEIPT FOR CERTIFIED MAIL

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SENT TO		<i>George Sheets</i>	
STREET AND NO.			
P.O., STATE AND ZIP CODE			
POSTAGE		\$ <i>41</i>	
CONSULT POSTMASTER FOR FEES	OPTIONAL SERVICES	CERTIFIED FEE	¢
		SPECIAL DELIVERY	<i>80</i> ¢
	RETURN RECEIPT SERVICE	RESTRICTED DELIVERY	¢
		SHOW TO WHOM AND DATE DELIVERED	<i>45</i> ¢
		SHOW TO WHOM, DATE, AND ADDRESS OF DELIVERY	¢
		SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY	¢
	SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY	¢	
TOTAL POSTAGE AND FEES		\$ <i>1.66</i>	

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PS Form 3811, Jan. 1979

SENDER: Complete items 1, 2, and 3.
Add your address in the "RETURN TO" space on reverse.

1. The following service is requested (check one.)

- Show to whom and date delivered..... ¢
- Show to whom, date and address of delivery... ¢
- RESTRICTED DELIVERY
Show to whom and date delivered..... ¢
- RESTRICTED DELIVERY.
Show to whom, date, and address of delivery. \$ _____

(CONSULT POSTMASTER FOR FEES)

2. ARTICLE ADDRESSED TO:

George Sheets

3. ARTICLE DESCRIPTION:

REGISTERED NO.	CERTIFIED NO.	INSURED NO.
	5235538	

(Always obtain signature of addressee or agent)

I have received the article described above.

SIGNATURE Addressee Authorized agent

G. Sheets

4.

DATE OF DELIVERY

2/17/81

POSTMARK

5. ADDRESS (Complete only if requested)

6. UNABLE TO DELIVER BECAUSE:

CLERK'S INITIALS



RETURN RECEIPT, REGISTERED, INSURED AND CERTIFIED MAIL

SP80-347, Geotherm

UNITED STATES POSTAL SERVICE

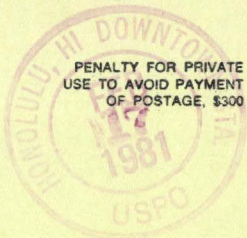
OFFICIAL BUSINESS

SENDER INSTRUCTIONS

Print your name, address, and ZIP Code in the space below.

- Complete items 1, 2, and 3 on the reverse.
- Attach to front of article if space permits, otherwise affix to back of article.
- Endorse article "Return Receipt Requested" adjacent to number.

PENALTY FOR PRIVATE
USE TO AVOID PAYMENT
OF POSTAGE, \$300



**RETURN
TO**



Land Use Commission

(Name of Sender)

335 Merchant St. Room 104

(Street or P.O. Box)

Hon. HI 96813

(City, State, and ZIP Code)

P01 5235539

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL
(See Reverse)

SENT TO		<i>Jack Keppeler</i>	
STREET AND NO.			
P.O., STATE AND ZIP CODE			
POSTAGE		\$ <i>41</i>	
CONSULT POSTMASTER FOR FEES	OPTIONAL SERVICES	CERTIFIED FEE	¢
		SPECIAL DELIVERY	<i>80</i> ¢
		RESTRICTED DELIVERY	¢
	RETURN RECEIPT SERVICE	SHOW TO WHOM AND DATE DELIVERED	<i>45</i> ¢
		SHOW TO WHOM, DATE, AND ADDRESS OF DELIVERY	¢
		SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY	¢
	SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY	¢	
TOTAL POSTAGE AND FEES		\$ <i>1.66</i>	
POSTMARK OR DATE			

PS Form 3800, Apr. 1976



**STICK POSTAGE STAMPS TO ARTICLE TO COVER FIRST CLASS POSTAGE,
CERTIFIED MAIL FEE, AND CHARGES FOR ANY SELECTED OPTIONAL SERVICES. (see front)**

1. If you want this receipt postmarked, stick the gummed stub on the left portion of the address side of the article, **leaving the receipt attached**, and present the article at a post office service window or hand it to your rural carrier. (no extra charge)
2. If you do not want this receipt postmarked, stick the gummed stub on the left portion of the address side of the article, date, detach and retain the receipt, and mail the article.
3. If you want a return receipt, write the certified-mail number and your name and address on a return receipt card, Form 3811, and attach it to the front of the article by means of the gummed ends if space permits. Otherwise, affix to back of article. Endorse front of article **RETURN RECEIPT REQUESTED** adjacent to the number.
4. If you want delivery restricted to the addressee, or to an authorized agent of the addressee, endorse **RESTRICTED DELIVERY** on the front of the article.
5. Enter fees for the services requested in the appropriate spaces on the front of this receipt. If return receipt is requested, check the applicable blocks in Item 1 of Form 3811.
6. Save this receipt and present it if you make inquiry.

PS Form 3811, Jan. 1979

SENDER: Complete items 1, 2, and 3.
Add your address in the "RETURN TO" space on reverse.

1. The following service is requested (check one).
- Show to whom and date delivered.....¢
 - Show to whom, date and address of delivery...¢
 - RESTRICTED DELIVERY
Show to whom and date delivered.....¢
 - RESTRICTED DELIVERY.
Show to whom, date, and address of delivery.\$_____

(CONSULT POSTMASTER FOR FEES)

2. ARTICLE ADDRESSED TO:

Jack Keppeler

3. ARTICLE DESCRIPTION:

REGISTERED NO.	CERTIFIED NO.	INSURED NO.
	5235539	

(Always obtain signature of addressee or agent)

I have received the article described above.

SIGNATURE Addressee Authorized agent

4.

DATE OF DELIVERY

2/17/81

POSTMARK

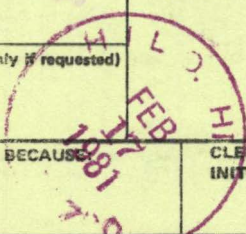
5.

ADDRESS (Complete only if requested)

6.

UNABLE TO DELIVER BECAUSE

CLERK'S INITIALS



RETURN RECEIPT, REGISTERED, INSURED AND CERTIFIED MAIL

SP80-341 - Weathermat

UNITED STATES POSTAL SERVICE
OFFICIAL BUSINESS

SENDER INSTRUCTIONS

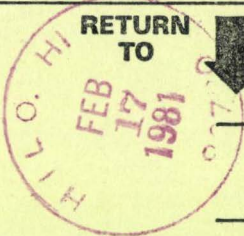
Print your name, address, and ZIP Code in the space below.

- Complete items 1, 2, and 3 on the reverse.
- Attach to front of article if space permits, otherwise affix to back of article.
- Endorse article "Return Receipt Requested" adjacent to number.

PENALTY FOR PRIVATE
USE TO AVOID PAYMENT
OF POSTAGE, \$300



**RETURN
TO**



Land Use Commission

(Name of Sender)

335 Merchant St. Rm 109

(Street or P.O. Box)

Hon HI 96813


(City, State, and ZIP Code)

P25 8422038

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL

(See Reverse)

SENT TO		<i>Susan Orlando</i>	
STREET AND NO.			
P.O., STATE AND ZIP CODE			
POSTAGE		\$ <i>41</i>	
CONSULT POSTMASTER FOR FEES	OPTIONAL SERVICES	CERTIFIED FEE	¢
		SPECIAL DELIVERY	<i>80</i> ¢
		RESTRICTED DELIVERY	¢
	RETURN RECEIPT SERVICE	SHOW TO WHOM AND DATE DELIVERED	<i>45</i> ¢
		SHOW TO WHOM, DATE, AND ADDRESS OF DELIVERY	¢
		SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY	¢
SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY		¢	
TOTAL POSTAGE AND FEES		\$ <i>1.66</i>	
POSTMARK OR DATE			

PS Form 3800, Apr. 1976

**STICK POSTAGE STAMPS TO ARTICLE TO COVER FIRST CLASS POSTAGE,
CERTIFIED MAIL FEE, AND CHARGES FOR ANY SELECTED OPTIONAL SERVICES. (see front)**

1. If you want this receipt postmarked, stick the gummed stub on the left portion of the address side of the article, **leaving the receipt attached**, and present the article at a post office service window or hand it to your rural carrier. (no extra charge)
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5. Enter fees for the services requested in the appropriate spaces on the front of this receipt. If return receipt is requested, check the applicable blocks in Item 1 of Form 3811.
6. Save this receipt and present it if you make inquiry.

SENDER: Complete items 1, 2, and 3.
Add your address in the "RETURN TO" space on reverse.

1. The following service is requested (check one.)

Show to whom and date delivered..... \$

Show to whom, date and address of delivery... \$

RESTRICTED DELIVERY
Show to whom and date delivered..... \$

RESTRICTED DELIVERY.
Show to whom, date, and address of delivery. \$

(CONSULT POSTMASTER FOR FEES)

2. ARTICLE ADDRESSED TO:

Susan Orlando

3. ARTICLE DESCRIPTION:

REGISTERED NO.	CERTIFIED NO.	INSURED NO.
	<i>8422038</i>	

(Always obtain signature of addressee or agent)

I have received the article described above.

SIGNATURE Addressee Authorized agent

4. *Susan Orlando*

DATE OF DELIVERY
FFR 17 1981

PAHOA, HI
POSTMARK
FEB
17
1981
USPO

5. ADDRESS (Complete only if requested)

6. UNABLE TO DELIVER BECAUSE:

CLERK'S INITIALS

RETURN RECEIPT, REGISTERED, INSURED AND CERTIFIED MAIL

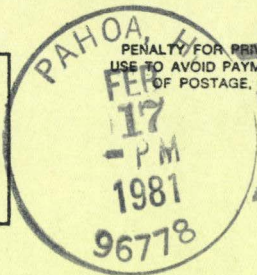
UNITED STATES POSTAL SERVICE
OFFICIAL BUSINESS

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**RETURN
TO**



PENALTY FOR PRIVATE
USE TO AVOID PAYMENT
OF POSTAGE, \$300



Land Use Commission

(Name of Sender)

335 Merchant St., Rm 104

(Street or P.O. Box)

Hon, HI 96813

(City, State, and ZIP Code)

BEFORE THE LAND USE COMMISSION
OF THE STATE OF HAWAII

In the Matter of the Petition)
for Special Permit of GEOTHERMAL) SP80-347
EXPLORATION AND DEVELOPMENT)
CORPORATION)
_____)

CERTIFICATE OF SERVICE

I hereby certify that a copy of the Land Use Commission's Decision and Order was served upon the following by certified mail:

SIDNEY FUKU, Planning Director
Planning Department
County of Hawaii
25 Aupuni Street
Hilo, Hawaii 96720

E. C. CRADDICK, President
Geothermal Exploration & Development Corporation
2828 Paa Street, Suite 2085
Honolulu, Hawaii 96819

GEORGE M. SHEETS
838 South Beretania Street, #300
Honolulu, Hawaii 96813

JACK KEPPELER, Managing Director
Office of the Mayor
County of Hawaii
25 Aupuni Street
Hilo, Hawaii 96720

JAMES WOODRUFF
Dept. of Planning & Economic Development (CSPTA)
State of Hawaii
250 South King Street
Honolulu, Hawaii 96813

SUSAN ORLANDO
P. O. Box 448
Pahoa, Hawaii 96778

EVERETT KINNEY
Puna Hui Ohana
P. O. Box 611
Pahoa, Hawaii 96778

DATED: Honolulu, Hawaii, this 13th day of February, 1981.



GORDAN Y. FURUTANI
Executive Officer

December 8, 1980

Department of Planning and
Economic Development
State of Hawaii
250 South King Street
Honolulu, Hawaii 96813

Attention: Mr. Hideto Kono, Director

Gentlemen:

At its meeting on November 19, 1980, the Land Use Commission voted to approve a Special Permit request by Geothermal Exploration and Development Corporation (SP80-347) to allow the drilling of nine exploratory geothermal wells on approximately 180 acres of land situated within the State Land Use Agricultural District at Puna, Hawaii, Tax Map Key 1-4-02: 10. Approval of this Special Permit is subject to the conditions imposed by the Hawaii County Planning Commission.

Please note that a copy of the Land Use Commission's Decision and Order on this matter is on file at the Commission's office.

Sincerely,

GORDAN Y. FURUTANI
Executive Officer

Encl.

cc: Department of Taxation, Hawaii
Tax Map Recorder, Dept. of Taxation
Property Technical Office, Dept. of Taxation
Real Property Tax Assessor, Dept. of Taxation
Office of Environmental Quality Control
Division of Land Management, DLNR

December 8, 1980

Hawaii Planning Commission
County of Hawaii
25 Aupuni Street
Hilo, Hawaii 96720

Attention: Mr. Sidney Fuke, Planning Director

Gentlemen:

At its meeting on November 19, 1980, the Land Use Commission voted to approve a Special Permit request by Geothermal Exploration and Development Corporation (SP80-347) to allow the drilling of nine exploratory geothermal wells on approximately 180 acres of land situated at Puna, Hawaii, Tax Map Key 1-4-02: 10.

Approval of this Special Permit is subject to the conditions imposed by the Hawaii County Planning Commission. Please be advised that the petitioner's failure to comply with any of the delineated conditions of approval, particularly those relating to time, shall be reason for termination of the Special Permit. The Land Use Commission will not consider any request for time extension which is filed after the stipulated commencement or expiration dates.

A copy of the staff memorandum is herewith enclosed for your information. The Land Use Commission's Decision and Order on SP80-347 will be forwarded to you at a later date.

Sincerely,

GORDAN Y. FURUTANI
Executive Officer

Enclosure

cc: Mr. E. C. Craddick
Mr. Hiromu Yamanaka
Mr. Jack Keppler
Mr. George Sheets
Mr. James Woodruff
Mrs. Susan Orlando
Mr. Everett Kinney

December 8, 1980

839-7720
Mr. E. C. Craddick, President
Geothermal Exploration and
Development Corporation
2828 Paa Street, Suite 2085
Honolulu, Hawaii 96819

Dear Mr. Craddick:

The original of the attached letter is on file in the office of the Hawaii County Planning Department, 25 Aupuni Street, Hilo, Hawaii.

Please be advised that failure to comply with any of the delineated conditions of approval, particularly those relating to time, shall be reason for termination of the Special Permit. The Land Use Commission will not consider any request for time extension which is filed after the stipulated commencement or expiration dates.

A copy of the staff memorandum is herewith enclosed for your information. The Land Use Commission's Decision and Order on SP80-347 will be forwarded to you at a later date.

Sincerely,

GORDAN Y. FURUTANI
Executive Officer

GYF:jy
Enclosures

STATE OF HAWAII
LAND USE COMMISSION

Minutes of Meeting

Approved
APR 9 1981

Conference Room, State Building
54 High Street
Wailuku, Maui

November 19, 1980 - 9:00 a.m.

COMMISSIONERS PRESENT: Charles Duke, Chairman
Shinichi Nakagawa, Vice Chairman
Richard Choy
Shinsei Miyasato
Mitsuo Oura
Carol Whitesell
William Yuen

COMMISSIONERS ABSENT: George Pascua
Edward Yanai

STAFF PRESENT: Gordan Furutani, Executive Officer
Joseph Chu, Planner
Allan Kawada, Deputy Attorney General
Dora Horikawa, Chief Clerk

Jean McManus, Court Reporter

ACTION

✓ SP80-347 - GEOTHERMAL EXPLORATION & DEVELOPMENT CORPORATION
Special Permit to allow the exploratory drilling of 9 wells
within the Agricultural District at Laepaoo, Puna, Hawaii

Chairman Duke called on staff to familiarize the Commission with the location of the subject property. A resume of the staff memo relative to this Special Permit was also presented by Mr. Furutani, Executive Officer.

There was much discussion concerning complaints from residents over the noise resulting from drilling activities being conducted under an earlier Gedco Special Permit. Mr. George Sheets, attorney for the petitioner, was called upon to elaborate and to respond to questions concerning this matter.

Commissioner Oura moved to approve SP80-347, subject to the conditions imposed by the Hawaii County Planning Commission, which was seconded by Vice Chairman Nakagawa. The motion was carried as follows:

Ayes: Commissioners Oura, Miyasato, Nakagawa, Yuen, Choy
Chairman Duke

Nay: Commissioner Whitesell

HEARINGA80-490 - CHRISTY T. MAMIYA

Pursuant to a notice published in the Honolulu Advertiser and the Maui News on October 8, 1980 and notices sent to all parties, a hearing was called by the Land Use Commission in the matter of the petition by Christy T. Mamiya to amend the land use district boundaries at Peahi, Makawao, Maui for farm lots, Docket A80-490.

Admittance of Intervenors

Chairman Duke announced that 14 petitions for intervention had been received by the Commission; however, these intervenors had authorized Mr. Philip Lowenthal to make the following proposal for consolidation: If the Commission will grant leave to 3 of the applicants, i.e. Peahi Community Association and Barbara Mattson to be represented by Mr. Lowenthal, and Charles Plunkett, Sr. to be represented by Mr. Isaac Hall, the remaining applicants will withdraw their petitions.

Commissioner Yuen moved to permit Mr. Lowenthal to represent the Peahi Community Association and Barbara Mattson, which was seconded by Commissioner Miyasato and unanimously carried.

Commissioner Yuen moved that the request to intervene by Mr. Hall in behalf of Charles Plunkett, Sr. and Dorothea C. Whittle be granted, subject to the condition that Mr. Lowenthal and Mr. Hall act as co-counsel for all intervenors and have one voice to examine any one witness being called by any of the parties. Commissioner Whitesell seconded the motion and it was unanimously passed.

Admittance of Public Witnesses

It was stated that 3 timely requests to appear as witnesses had been received from the following:

Kathy Moser, representing Life of the Land
John Bose, II, representing the Sierra Club, Maui
Susan Ball

One untimely request to appear as a witness had also been received from Mr. Jack M. Banks.

Mr. Lowenthal advised that Ms. Ball had expressed her desire to waive her request to appear as a witness.

Commissioner Whitesell moved to admit Life of the Land's and the Sierra Club's representatives to appear as public witnesses, which was seconded by Vice Chairman Nakagawa and carried by voice vote.

It was noted for the record that Mr. Banks was not present today. It was moved by Commissioner Whitesell and seconded by Commissioner Choy to accept Mr. Banks' written testimony as part of the record in lieu of his appearance as a public witness. The motion was unanimously carried. Chairman Duke declared that Mr. Banks' written testimony will become a part of the record as LUC Exhibit 1.

Appearances

Meyer M. Ueoka, attorney representing petitioner

Lee Ohigashi, Deputy Corporation Counsel, representing the Maui Planning Department

Annette Chock, Deputy Atrorney General, representing the Department of Planning & Economic Development

Philip Lowenthal, attorney representing Peahi Community Association and Barbara Mattson

Isaac Hall, attorney representing Charles Plunkett, Sr. and Dorothea Whittle

Exhibits

During the course of the proceedings, exhibits of all the parties were identified, objections and reservations noted, and admitted into evidence (see Exhibit File). It should also be noted that various exhibits of both the petitioner and intervenors were withdrawn.

A description of the property was presented by staff planner with the aid of the USGS and tax maps.

All of the persons who appeared today, having been duly sworn in, testified and were examined as set forth in the transcript on the pages noted.

Public Witness

John Bose, II - Representing the Maui Group, Hawaii Chapter of the Sierra Club

Oral testimony-----29 to 31

Cross examination by Mr. Ueoka-----31 to 40

Cross examination by Mr. Lowenthal-----40 to 41

Examination by Commissioner Whitesell-----42

The Commission was in recess from 12:00 noon to 1:30 p.m.

1:30 p.m.

County Deputy Corporation Counsel Ohigashi was replaced by Deputy Corporation Counsel Glenn Kosaka for the remainder of the hearing on this petition.

It was brought up by Counselor Hall that Mr. Ueoka may possibly be in conflict in his capacity as petitioner's counsel inasmuch as he also represented intervenor Mr. Plunkett in other matters. It was therefore moved by Commissioner Oura, seconded by Vice Chairman Nakagawa and unanimously agreed to go into executive session to receive legal advice from Counselor Kawada regarding this matter.

The Commission was in executive session from 2:05 p.m. to 2:23 p.m.

2:23 p.m.

Chairman Duke announced that during the executive session, the Commission had received counsel from Mr. Kawada to the effect that Mr. Ueoka was not in conflict in representing both the petitioner and intervenor in other matters.

PETITIONER

Noriyuki Ueoka - Nursery Operator

Direct examination by Mr. Ueoka-----75 to 85

Cross examination by Miss Chock-----85 to 89

Cross examination by Mr. Lowenthal-----91 to 93

Examination by Vice Chairman Nakagawa-----93 to 95

Paul T. Yamamura - Pineapple Grower (retired)

Direct examination by Mr. Ueoka-----96 to 101

Cross examination by Miss Chock-----101 to 103

Cross examination by Mr. Lowenthal-----103 to 106

Redirect examination by Mr. Ueoka-----106 to 107

Recross examination by Miss Chock-----107 to 109

Recross examination by Mr. Lowenthal-----109

Christy T. Mamiya - Petitioner and Realtor

Direct examination by Mr. Ueoka-----110 to 132

The hearing was recessed at 4:30 p.m., to be reconvened at 8:30 tomorrow morning.

STATE OF HAWAII
LAND USE COMMISSION

VOTE RECORD

ITEM SP80-347 - GEOTHERMAL EXPLORATION & DEVELOPMENT CORP. DATE November 19, 1980

PLACE State Conference Room TIME 9:00 a.m.
Wailuku, Maui

NAME	YES	NO	ABSTAIN	ABSENT
YUEN, WILLIAM W. L.	X			
WHITESELL, CAROL		X		
PASCUA, GEORGE R.				X
MIYASATO, SHINSEI	X			
CHOY, RICHARD B. F.	X			
S NAKAGAWA, SHINICHI	X			
M OURA, MITSUO	X			
YANAI, EDWARD				X
DUKE, CHARLES	X			

Comments: I move to approve SP80-347, subject to the 10 conditions imposed by the Hawaii County Planning Commission.

November 24, 1980

MEMORANDUM

TO: N. Hayashi
FROM: LUC Staff
SUBJECT: SP80-347 - Geothermal Exploration and
Development Corporation

Please find enclosed the exhibits which you requested to be returned. Call me if you have any questions on above.

The aerial photo is being mailed under separate cover.

STATE OF HAWAII
LAND USE COMMISSION

MEMORANDUM

TO: Land Use Commission

DATE: November 19, 1980

FROM: Staff

SUBJECT: SP80-347 - Geothermal Exploration and Development
Corporation

The petitioner, Geothermal Exploration and Development Corporation (GEDCO), is requesting a Special Permit to allow the drilling of nine (9) exploratory geothermal wells on approximately 180 acres of land situated within the State Land Use Agricultural District at Puna, Hawaii, TMK 1-4-02: 10. A copy of the map (County Exhibit O-1) identifying the subject property is attached for your information.

The subject property is owned by Daiichi Seiko of Hawaii, Inc. The petitioner has leased the geothermal development rights from the landowner.

The petitioner intends to drill the nine wells in an attempt to assess the quality and extent of geothermal resources in the region for the generation of electrical power. In support of the request, the petitioner has in part stated the following:

- "(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.
- "(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.

A copy of the proposed geothermal well field describing the well locations is attached as Exhibit A-3.

"(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.

"(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.

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.

The area of the requested use is 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.

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.

"(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 form 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.

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 drilling schedule would be 24 hours a day, 5 days a week. The equipment to be used consists of a drilling rig with a tower approximately 100 feet in height and generating and accessory equipment.

The area under consideration is part of the Kilauea volcano geologic system. Soils on the property consist of Opihikao extremely rocky muck, and Aa and Pahoehoe lava flows. According to the U.S.D.A. Soil Conservation Service, Soil Survey Report for the

island of Hawaii, the Opihikao series consists of well-drained, thin organic soils over Pahoehoe lava bedrock. The soil capability subclass rating for the Opihikao series is VIIIs. These are soils which have very severe limitations that make them unsuited to cultivation and that restrict their use largely to pasture or range, woodland, or wildlife.

According to the Land Use Inventory conducted by the County Planning Department, there are two residences located within a one mile radius of the subject property.

The County General Plan Land Use Pattern Allocation Guide Map designates the subject area as Orchard. This designation refers to those agricultural lands which though rocky in character and content can support productive macadamia nuts, papaya, citrus and other similar agricultural products. The Public Utilities Element of the General Plan document states that "The County shall encourage the continuation of studies concerning the development of power which can be distributed at lower costs to consumers." The Economic Element states that "The island of Hawaii should be developed into a unique scientific and cultural model. The island should become a model of living where economic gains are in balance with social and physical amenities. Development should be reviewed on the basis of total impact on the residents of the County, not only in terms of immediate short run economic benefits."

Furthermore, the proposed project is consistent with the recently adopted Energy element of the General Plan. The goals of this element are:

- . to strive for energy self-sufficiency for Hawaii County.
- . to establish the Big Island as a demonstration community for the development and use of natural energy resources.

The proposed project is also consistent with the following policies of the Energy element:

- . The County shall encourage the development of alternative energy resources.
- . The County shall encourage the expansion of energy research industry.
- . The County shall strive to assure a sufficient supply of energy to support present and future demands.

County zoning for the property is Agriculture with a 10-acre minimum lot size. Surrounding properties are also zoned Agriculture with 10-acre minimum lot size.

Government Agency Comments

In reviewing the subject request, the Department of Water Supply stated, "The applicant should address any effects to the groundwater resource that the proposed geothermal well drilling might cause."

The State Department of Health stated the following: "Background experience identified the need for control systems to scrub hydrogen sulfide and noise emissions. The Leilani Estates and Nanawale residents have communicated the need to be informed of future geothermal projects in the area. Recommend community informational meetings."

Hawaii Electric Light Company, Inc. commented: "Please be advised that we do not have any electric pole lines near this proposed geothermal exploration site."

None of the other cooperating agencies including the Soil Conservation Service, Hawaii Fire Department, Department of Public Works, and Police Department had any comments or objections to the subject request.

The Hawaii County Planning Commission conducted hearings on the subject Special Permit request on June 30 and August 7 & 8, 1980. At the June 30 meeting the Planning Commission and staff presented the public with information on the contested case procedures and requested if members of the public were interested in intervening as a party to the permit request. If requests for intervention were received, a contested case hearing would be set for a later date. The Planning Commission did receive thirteen requests for intervention. Having disposed of matters regarding the contested case procedures, the Planning Commission received testimony from public witnesses. A complete summary of the testimonies presented to the Planning Commission is contained in the minutes of the June 30, 1980 meeting. The minutes are attached herewith for the Commission's information.

Although thirteen people expressed an interest to intervene as a party to the subject Special Permit proceedings, only three responded to the necessary county requirements to intervene. The three included the following:

1. Mr. James Woodruff representing Mr. Hideto Kono, Director of the Department of Planning and Economic Development.
2. Mrs. Susan Orlando.
3. Mr. Everett Kinney representing Puna Hui Ohana.

Other parties to the proceeding included Mr. E. C. Craddick, President of GEDCO and the County Planning Department.

A prehearing conference was held on July 30, 1980, at which time the issues were identified, list of witnesses and exhibits were exchanged and the hearing format was established. Mrs. Orlando and the Puna Hui Ohana were not supportive of the permit request. DPED and the County Planning Department were in support of GEDCO's request.

The contested case portion of the Special Permit hearing was conducted on August 7 & 8, 1980. At this meeting all three intervenors were admitted as parties. However, prior to the contested case phase of the meeting, the Planning Commission again entertained and heard requests and testimonies from public witnesses. The information and evidence presented at this hearing is contained in the minutes of the August 7 & 8, 1980 meeting. A copy of the minutes is attached for your information.

On August 21, 1980, the Hawaii County Planning Commission voted to recommend approval of the Special Permit to the Land Use Commission based on the following findings:

- "1. That the proposed use will not be contrary to the objectives sought to be accomplished by the State Land Use Law and Regulations. The purpose of the Land Use Law and Regulations is to protect, preserve, and encourage the development of lands in the State for the public health and welfare of the people of the State of Hawaii. The area under consideration is classified as Agricultural by the State Land Use Commission. The Agricultural District not only includes lands with a high capacity of potential for agricultural uses, but also lands which are surrounded by or contiguous to agricultural lands and which are not suited to agricultural and ancillary activities by reason of topography, soils, and other related characteristics. The subject property's dominant soil types are Opihikao extremely rocky muck, and Aa and Pahoehoe lava flows. These land types are classified by the U. S. Department of Agriculture, Soil Conservation Service as Class VIIIs and VIII. These classes are the lowest in the Soil Conservation Service's ranking system for agricultural activity. Although it is possible that some agricultural activities may be conducted on the subject property, it is determined that approval of the subject request would not be contrary to the objectives of the State Land Use Law and Regulations given the capability class rating of the subject property for agricultural productivity and the above-cited criterion for determining the Agricultural District.

"2. The proposed use will not substantially alter or change the essential character of the land and its present use. Although an area of 180 acres is involved in this request, at the most, only about three (3) acres of land will be used for the drill sites. The remaining area can still be used for agricultural purposes should the landowners so desire. Furthermore, should the proposed project prove to be successful, the geothermal water could be used for agricultural irrigation purposes. The by-products of the geothermal water could also be used for agricultural purposes. It is therefore determined that the granting of this particular request would not be in conflict with the State and County's Agricultural policies.

"3. Electricity is the major form of energy utilized in Hawaii County. The power rate on this island is among the highest in the nation. A factor which contributes to this situation is the present method of power generation. Most of the electricity is obtained through the burning of imported oil. The cost of fuel coupled with transportation costs cause higher rates. Recognizing this concern, the General Plan has stated as a policy that "The County shall encourage the continuation of studies concerning the development of power which can be distributed at lower costs to consumers." One (1) of the major economic significance of geothermal energy is that it would presumably provide cheaper power. It is therefore determined that the granting of this particular request would be in the direction of fulfilling the above-stated policy as well as the goals of the General Plan's Public Utilities Element of "Ensuring that adequate, efficient and dependable public utility service will be available to users, " and "Maximizing efficiency and economy in the provision of public utility services."

Furthermore, it has been the County and State's policy to encourage the development of alternative energy power. Both levels of government have provided substantial funding and services for energy resource research and development to reduce the State's dependence on imported fuels. The island of Hawaii is believed to possess a vast resource base of geothermal heat. The existing test well at Pohoiki in the Puna District, a project jointly sponsored by the County, State and Federal governments, demonstrated the existence of a valuable geothermal energy source. However, the extent and magnitude of geothermal resources in Hawaii must still be determined.

There is no way of knowing if the island actually has a geothermal resource of economic importance unless further drilling and testing are done. As a potential power source, geothermal may either prove to be a major importance or no importance at all. Only through drilling and testing can this uncertainty be resolved. It is from these exploratory wells that data for evaluating the suitability of the resource as a production reservoir are obtained. Therefore, by allowing the proposed use, we would also be in the direction of fulfilling the County's goals, as stated in the recently adopted Energy Element of the General Plan, of striving for energy self-sufficiency and establishing the Big Island as a demonstration community for the development and use of natural energy resources.

- "4. A geothermal energy source could have tremendous benefits for the people of this County as well as the rest of the State. Aside from providing cheaper power, the geothermal resource can be a major factor in accomplishing several other goals. A reduction in the County's current high cost of energy will aid existing industries as well as possibly attract new endeavors. Should the tests prove successful, it can open the doors for economic development of a nature and magnitude beyond the realm of reality a few years ago. The success of geothermal energy could possibly stimulate economic activity which would provide new employment opportunities for the residents of the County. New industries will be attracted into the area in the event that large amounts of power become available. Thus, if the source of geothermal energy is successful and properly developed, it will be of great importance to the future of Hawaii.
- "5. Although it has been pointed out that the proposed use of the land for its intended purpose may have some adverse effects, such as problems of noise and fumes, to the surrounding properties and the residents in the immediate area, stringent controls and conditions will be attached to this Special Permit in order that the concerns may be alleviated. The petitioner will be required to comply with all applicable requirements of the State of Hawaii Department of Health.
- "6. That the proposed use will not unreasonably burden public agencies to provide roads, water, and other essential infrastructures and services.

Finally, we are cognizant of the fact that the granting of this particular Special Permit may lead to similar types of requests. As such, it should be pointed out that we are working on a policy of such exploratory programs to minimize rampant development of test wells. The qualification of our favorable recommendation to allow the petitioner to proceed with this development is that the total project shall be closely monitored and the petitioner will be held accountable to stringent standards to insure minimal damage to our environment. We are cognizant of the possible dangers to health of residents in the immediate area, and as stated earlier, will require preventative measures as conditions of approval of the Special Permit.

- "7. That the petitioner/representative(s) shall be responsible to assure that every precaution is taken to reduce any nuisances, whether it be noise or fumes, which may affect the residents and properties in the immediate area. Should it be determined that these precautionary measures are not being applied, the Planning Department is authorized to cease any further activity in the area.
- "8. That upon termination of the operation or if the petitioner determines that the project is not feasible, all structures erected shall be dismantled and removed from the site(s).
- "9. That there shall be no more than nine (9) exploratory drillings; provided that upon the discovery of three (3) successful wells, all further exploratory drillings shall immediately cease.
- "10. That all other applicable rules and regulations shall be complied with.

A copy of the Findings of Fact, Conclusions of Law and Decision and Order for the subject Special Permit adopted by the Planning Commission is attached for your information.

The favorable recommendation was subject to the following conditions:

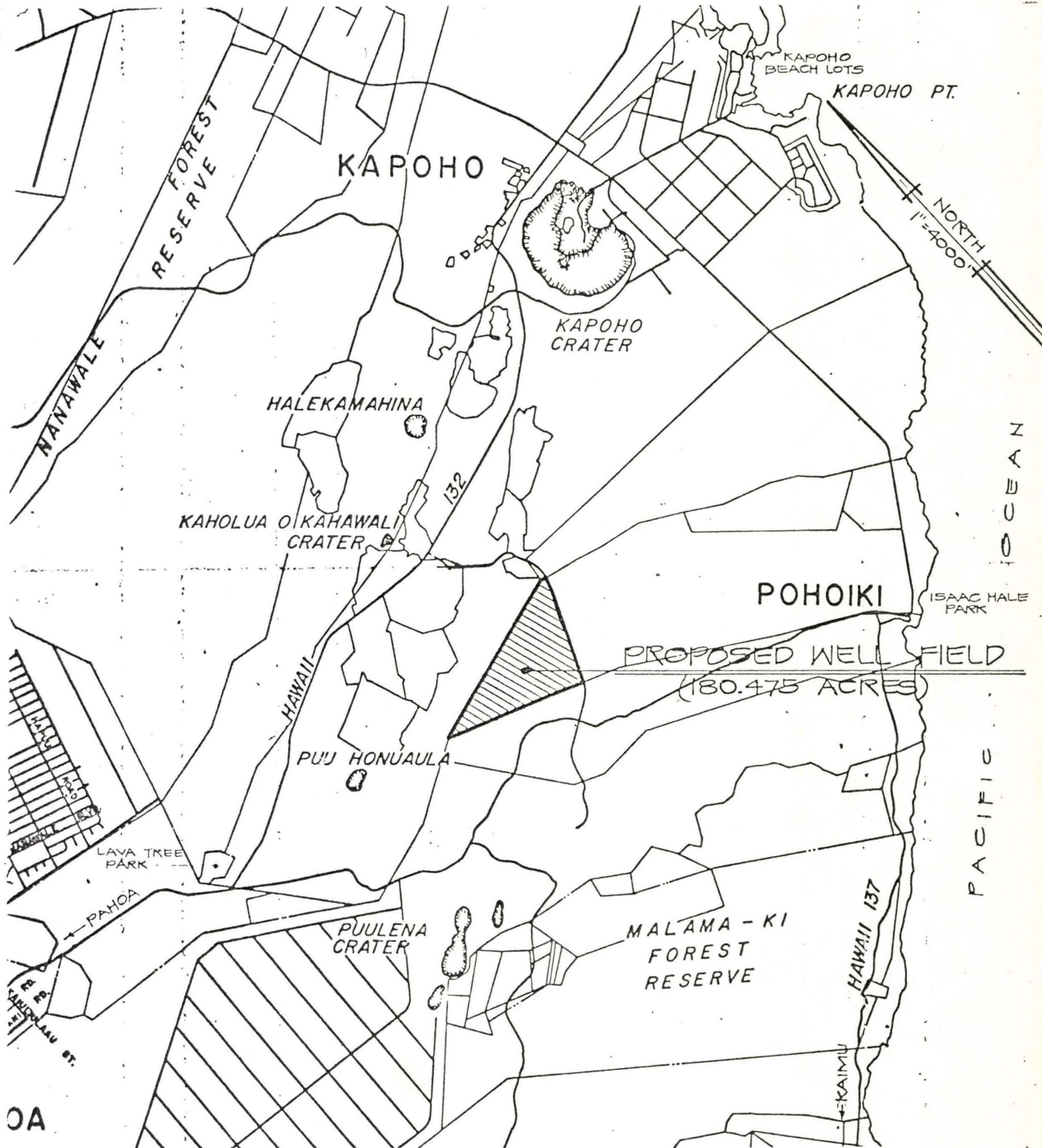
- "1. That prior to commencement of any operation, the petitioner or its authorized representative(s) shall comply with the requirements of Regulation 8 of the State Department of Land and Natural Resources relative to drilling for geothermal resources in Hawaii.

- "2. That the petitioner/representative(s) shall secure a building permit for all structures which are to be constructed on the subject property.
- "3. That prior to commencement of any drilling activity, the petitioner/representative(s) shall submit plans to the Planning Department showing the location of the well site(s) to be drilled.
- "4. That the drilling of the first well shall commence within one (1) year from the effective date of approval of the Special Permit.
- "5. That the length of this Special Permit shall be for a period not to exceed three (3) years from the effective date of the Special Permit.
- "6. That the rules, regulations and requirements of the State Department of Health shall be complied with."

LIST OF ATTACHMENTS

SP80-347 - GEOTHERMAL EXPLORATION & DEVELOPMENT CORP.

1. EXHIBIT O-1 Map showing location of subject property
2. EXHIBIT A-3 Location map of well field and drilling sites
3. EXHIBIT X Minutes of June 30, 1980 Planning Commission meeting
4. EXHIBIT Y Minutes of August 7 & 8, 1980 Planning Commission meeting (Attachments A-H)
5. EXHIBIT TT Planning Commission's Findings of Fact, Conclusions of Law and Decision and Order



SPECIAL PERMIT REQUEST

DRILLING OF 9 GEOTHERMAL WELLS

LAEPAOO, PUNA, HAWAII
 TAX MAP KEY : 1-4-02:10

APPLICANT : GEOTHERMAL EXPLORATION & DEVELOPMENT CORP.

EXHIBIT 0-1

JUNE 4, 1980

PLANNING COMMISSION

Planning Department
County of Hawaii

MINUTES
June 30, 1980

The Planning Commission met in regular session at 3:37 p.m. in the Councilroom, County Building, South Hilo, Hawaii, with Chairman William J. Paris, Jr. presiding.

PRESENT: William J. Paris, Jr. ABSENT: Clyde Imada
Glenn Frias
Roy Kagawa (Left at 5:35 p.m.) Ex-officio Member
Bert H. Nakano (Left at 5:35 p.m.) H. William Sewake
Alfredo Orita
George Ponte
Charles H. Sakamoto
Tina Whitmarsh

Sidney M. Fuke, Planning Director
Norman Hayashi, Staff Planner
Brian Nishimura, Staff Planner

David Murakami, representing Ex-officio Member Edward Harada
Ben Tsukazaki, Deputy Corporation Counsel

and approximately 8 people at 3:37 p.m., 24 people at 7:00 p.m. and 53 people at 7:46 p.m. were in attendance

Upon the Chair's suggestion, as the petitioners and members of the public were in attendance, it was moved by Commissioner Nakano and seconded by Commissioner Sakamoto that the agenda be amended to take up unfinished business first; motion was carried.

All those testifying were duly sworn in.

EXHIBIT X

they are limiting their freedom of helping downtown if only a small ten-block area is considered blighted. Planning Director Fuke quoted for Ms. Wurster's information the description of the duties of the Hawaii Redevelopment Agency and the definition of a blighted area as stated in the State Statutes; noting that the Commission makes the initial determination of a blighted area, but over and beyond that, the HRA still must make further studies and evaluation. The Director added that based on the existing document (Hilo Downtown Development Plan) on file, the Department made its recommendation, which met the criterion spelled out in the Statute. Ms. Wurster then pointed out that although the Hilo Downtown Development Plan does state that the social, economic and physical aspects be taken into consideration, it does not take the social aspect into consideration. She suggested that the blighted area include Puueo on one side and up until Alenaio Stream on the other or perhaps even broader than that.

The Hawaii Redevelopment Agency's representative, Donald Tong, stated they certainly agreed with the staff's report; however, he saw nothing wrong if the Commission or HRA expanded its area of jurisdiction as long as further studies are made.

In light of the public testimonies, Planning Director Fuke recommended that the staff's report be amended to read as follows: "The staff recommends that the Hilo Downtown area, as delineated on the Hilo Downtown Plan, be considered blighted for the purpose of establishing the physical boundaries of the work tasks of the Hawaii Redevelopment Agency, provided further that areas immediately adjacent to the boundaries of the Hilo Downtown Development Plan including areas commonly referred to as Puueo and the Kukuau Street-Osorio Lane areas shall be considered by the HRA in exercising its duties pursuant to Chapter 53-5-4."

For the Commission's information, Planning Director Fuke pointed out that action of the Planning Commission is final.

At this time, Toni Wurster requested that the elderly, low income and moderately income people be considered in the blighted area and the intent of the County Council be given its full weight.

It was moved by Commissioner Sakamoto and seconded by Commissioner Frias that the public hearing be closed; motion was carried.

It was moved by Commissioner Sakamoto and seconded by Commissioner Frias that the delineated areas, as amended, be approved. A roll call vote was taken and motion carried with six ayes.

SPECIAL PERMIT
GEOTHERMAL
EXPLORATION AND
DEVELOPMENT CORP.
LAEPAOO, PUNA

Public hearing on the application of Geothermal Exploration and Development Corp. 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. 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, Laepaoo, Puna, TMK: 1-4-02:10.

Deputy Corporation Counsel Tsukazaki explained that a contested case proceeding, which is similar to a court proceeding, provides an interested party the right to be represented by counsel, present evidence, cross-examine witnesses, etc., present rebuttal evidence, and submit their written arguments and proposed findings of fact - all of these rights, duties, and privileges that members of the public are not entitled to. He added that they themselves would also be subjected to cross-examination; and that if a decision is against their favor, they have the right to appeal the decision of the Planning Commission to the Third Circuit Court.

The Chair explained that one qualifies as an interested party if he has a property interest or lawfully resides on the land, can demonstrate that he will be so immediately affected by the decision, and that his interested is clearly distinguishable from that of the general public.

Planning Director Fuke explained the difference between the proceedings of a regular public hearing and contested case.

As it could not be determined by members of the public whether they wish to proceed under the contested case procedures, Deputy Corporation Counsel suggested the Commission continue the public hearing to allow them an opportunity to thoroughly review the contested case procedures and make their decision.

The Commission at this time proceeded with the public hearing.

staff presented background on file and noted that their recommendation was for approval to the State Land Use Commission.

The petitioner's representative, Ed Craddick, pointed out that drilling will take place 24 hours a day, five days a week, and not seven days as reported; that if testing is developed to its fullest extent, wells no closer than a quarter mile apart, it would utilize only ten percent of the entire acreage requested; and that they will provide adequate mufflers for the noise and scrubbing equipment for the chemicals in the air.

The following is a recapitulation of those testifying on the application:

Herbert Kai recommended that the site be changed to Arthur Lyman's land where all the elements needed for such a project were available as the present site is dangerous and would affect the residents in the area. He pointed out that if plants were located next to the wells, there would hardly be any need for unsightly pipes.

Dennis Stout asked that the Commission not sell the island to the forces of big money.

Peggy Stevens requested that the operation be shut down during the evening hours so she and other residents in the area are not disturbed at night.

RECESS: The Chair called a short recess at 8:33 p.m.

RECONVENED: The meeting reconvened at 8:40 p.m.

Susan Orlando said she shared the same views as Mr. Stout and Ms. Stevens and stated she did not want to hear the noise of the operation and did not want industry and wells next door to her.

Frank Orlando said he thought it was a shame if this project destroys the environment and expressed his concerns on noise and health of the residents in the area.

Staff at this time pointed out that the present drilling at Opihikao is being evaluated by the State Department of Health because of the complaints on noise.

John Piazza questioned, besides the wells, what is the intent for the area. He expressed his concern that this area will be completely run over by concrete and stated he would like to see it preserved in a natural way.

Beth Ladera stated she did not want to see the natural area destroyed.

Joe Hogye questioned if it was possible to wait and see what happens to the Opihikao well before going on with these.

Moani Keala Akaka, representing the Aloha Aina Movement, Protect Kahoolawe O Hana, and Aloha Life and Education Center, expressed their concerns on the respiratory ailments this project will create, that these geothermal plans are going to destroy Puna just for four to six jobs, and make Puna become the Pittsburgh of the Pacific. She said an environmental impact statement should be required of the developer and that it was an insult to sell the island down the drain with this project. She added that she did not think the project would reduce the electricity rates and that the ownership question of geothermal energy still needed to be answered.

Glenn Gold, a landowner in Opihikao, stated he did not want to live near an industry, nor did he want to sell his land to get away from it. He said he did not trust the petitioner because of his dealings in leasing property to them and he could not see how this Commission could trust them in anything they say. He added that as far as reducing electricity rates, he did not feel government can lay that responsibility on private enterprise and obtain it as they are going to get out from the people more than they are going to give.

Nan Elmer expressed her concern that the industries utilizing the power may be more polluting and hazardous to the island's environment than the geothermal plant itself. She said she personally was not in favor of allowing State agricultural lands to be used for geothermal well exploration; such projects should not be allowed until it is determined that it is absolutely necessary for the Puna district to produce electricity; exploration should not take place until an adequate survey of residences reveals that they desire such development; it seems appropriate that the petitioner be required to file an environmental impact statement prior to beginning drilling; and alternative energy source exploration should be undertaken concurrently so as to compare the economic feasibility, environmental effects, efficiency, etc. of wind and solar generators to those of geothermal power production.

Everett Kahiliokalani Sonny Kinney presented testimony on behalf of the Puna Hui Ohana (copy attached).

James Woodruff, geologist and project manager for geothermal commercialization study, on behalf of the Director of Planning and Economic Development Hideto Konno, expressed their support for the efforts of exploration of geothermal resource. He pointed out that one of the goals of the State is to effectively reduce electricity rates by developing alternate energy; and, therefore, the State is working with the County to ascertain that it is done properly. He added that at present, this is just a research state they are in; and that development will follow research, at which time the public will have ample opportunity to add their input into the process.

Tom'as Belsky said he felt an environmental impact statement is an essential tool in making a wise decision on the effects of a development to the health and well-being of both the people and land; that he hoped that the first well be very carefully examined so that there is no possibility of making any mistakes in the future; the people in the area are concerned that the development will be contrary to what they envisioned for the area, of which their concerns should matter more than those not living there; people who are for this project were those that were deriving financial benefits from it and not living in the area; retain the present agricultural designation; if there is a concern for alternate energy, then government should find better ways as there must be other alternatives than this that seemingly will bring out destruction for the entire earth.

Deputy Corporation Counsel summarized the special permit procedures under Chapter 205 of the Hawaii Revised Statutes for members of the public.

Planning Director Fuke pointed out that even if the Planning Commission and State Land Use Commission were to act favorably on this application, approval of the State Board of Land and Natural Resources is still required before any activity can occur.

With respects to possibly going into a contested case procedure, Planning Director Fuke pointed out that a sign-up sheet is being circulated among the public for those who have expressed an interest; and if there is anyone who has not signed up and would like to, they should contact the Commission's secretary as these people will be sent a letter explaining what the contested case procedures are and what information must be submitted by them by July 18th. If the Commission does not receive this information by that date, it will be assumed that they have elected to forego the contested case proceedings. He added that the public is welcome to submit written comments before the next scheduled public hearing on this application or verbal comments at the public hearing.

In response to the public testimonies, Mr. Craddick noted that many of the questions brought up will be discussed later if and when they find geothermal power; and at that time, the public will have an opportunity to again provide input as they would

have to go through this whole procedure once more. For the Commission's and public's information, he noted that although it really was not practical to stop their 24-hour seven-day a week operation, because they feel a responsibility to cut down as much as possible the nuisance factor of this operation, they have decided to make it a 24-hour five-day a week operation.

At this time, the Chair urged members of the public at future meetings to show the Commission a little courtesy when making their comments and not interrupt those who have the floor.

It was moved by Commissioner Sakamoto and seconded by Commissioner Orita that the public hearing be continued; motion was carried.

ADJOURNMENT: There being no further business, at 10:08 p.m.,
the Chair declared the meeting adjourned.

Respectfully submitted,

Sharon M. Nomura

Sharon M. Nomura, Secretary

A T T E S T:

William J. Paris Jr.
William J. Paris, Jr.
Chairman, Planning Commission

TESTIMONY, PUNA HUI OHANA

On The Matter Of The
Application Of CEDCO For
A Special Use Permit Before
The Planning Commission

Gentlemen, my name is Everett Kahiliokalani Sonny Kinney. I am here representing the Puna Hui Ohana a Hawaiian Organization from Pahoia. May I state at this time that the Hui intends to pursue its right as an interested party should the occasion arrive making it necessary to do so.

The Hui has examined the application and the site in question and herewith addresses the following point of concern. We will at a later date provide the objective evidence reinforcing the points listed below which are:

1. Spatial and areal organization (well location)
 - a. Location and distance from boundaries---is it adequate? How does it affect the adjoining property?'
 - b. Distance between wells---is this adequate or safe?
2. Well spacing/allocation per acre.
 - a. Over-all proliferation---dependent on spacing allocations criteria which are not clearly defined.
 - b. Resource depletion---too many wells per acre prematurely draining resource.
3. Proximity to residential zone, distance.
 - a. Lanipuna---appears to be across the road.
 - b. Leilani---people should have rights to protection from well incursion near the residences.
4. Incremental stages of development.
 - a. In relation to peripheral development---what are

Min. ~~Aug 7, 8~~ June 30

- plans for surrounding property.
 - b. Nature of the increment---will it interfere with current zoning, people in the community should be aware of the connectivity of incremental stages.
5. Absence of long-range plan.
- a. Geothermal zone designation---residents must know how they are affected in or out of the zone and limitation of development to that zone.
 - b. Location of generator plants---how many, where, rate of MW production, fit in with topography.
 - c. Pipe corridor determination---should not be allowed to indiscriminately criss-cross the terrain.
 - d. Power transmission corridor---should be orderly and should not damage the integrity and visual vista of the geothermal zone or its peripheral.
 - e. Transformer collection base---should be located where least objectionable.

In short, trips to the Wairakei and Geysir geothermal complexes have indicated we cannot allow ourselves to make similar mistakes.

6. Precedent for other large developers---encouragement leading to development!
- a. Amfac
 - b. Bishop Estate
 - c. Tokyo Land Co.

7. Political Jurisdiction

- a. DLNR permitting process
- b. County permitting process

We are not totally aware of changes in the permitting processes and are concerned with jurisdictional overlap loops that are not fully understood and enforced.

8. Siting and Access

- a. Roads, existing and planned.
- b. In relationship to geothermal zone---can a road plan be successfully developed if the geothermal zone has not been accurately designed.

9. Primary definitions, extension of special use.

- a. What is an exploratory well?--Why nine or ten wells in the designated area, is it necessary? When is an exploratory well not an exploratory well but a production well?
- b. What is a production well--if first well is productive. Why drill an additional nine wells, is that necessary prior to candidate uses?

10. Land use patterns, long-range

- a. Identify existing land uses---How does discovery of geothermal resource change peripheral land uses?
- b. Organizations of land use by ownership, location and size---patterns of Land assembly for developmental purposes. The people must know how patterns

of assembly are changing or leading to geothermal or economic development.

11. Preclusion of agricultural use

- a. Not as claimed in application---according to visits to the Geysers and New Zealand that is not the case; chemical effluents (airborne) cause vegetetational stress and are a constraint to agricultural continuance in the immediate area.

Gentlemen, having set before the commission the foregoing points, the Puna Hui Ohana herewith recommends, in the light of the conditional status of these points, that the Planning Commission deny the applicant's request for a special use permit.

Peter Haunio

PETER HAUNIO
PRESIDENT, PUNA HUI OHANA

and

PLANNING COMMISSION

Planning Department
County of Hawaii

MINUTES
August 7 and 8, 1980

The Planning Commission met in regular session at 1:05 p.m. on August 7, and at 9:12 a.m. on August 8, 1980, in the Councilroom, County Building, South Hilo, Hawaii, with Chairman William J. Paris, Jr. presiding.

PRESENT:	William J. Paris, Jr.	ABSENT:	Glenn Frias
	Clyde Imada		George Ponte
	Roy Kagawa		
	Bert H. Nakano		Ex-officio Member
	Alfredo Orita		H. William Sewake
	Charles H. Sakamoto		
	Tina Whitmarsh		

Sidney M. Fuke, Planning Director
Norman Hayashi, Staff Planner
Blake Shigii, Staff Planner
Virginia Goldstein, Staff Planner

David Murakami, representing Ex-officio Member Edward Harada

and approximately 17 people at 1:05 p.m., 12 people at 4:02 p.m., 6 people at 4:28 p.m., 70 people at 7:05 p.m. on August 7th and 30 people at 9:12 a.m. on August 8th were in attendance

All those testifying were duly sworn in.

EXHIBIT Y

opinions that the Corporation Counsel must render before the application can be processed.

It was moved by Commissioner Kagawa and seconded by Commissioner Imada that the public hearing be continued until the Corporation Counsel renders some opinions; motion was carried.

MINUTES: It was moved by Commissioner Nakano and seconded by Commissioner Orita that the minutes of July 16 and 17, 1980, be approved with a correction to the minutes of July 16th on Fred Swearingen's application to read that the subject property was previously owned by Chairman Paris' father's family and not his father; motion was carried.

RECESS: The meeting recessed at 5:15 p.m. until the scheduled public hearing at 7:00 p.m.

RECONVENED: The meeting reconvened at 7:05 p.m.

SPECIAL PERMIT
GEOTHERMAL
EXPLORATION AND
DEVELOPMENT CORP.
LAEPAOO, PUNA Continuation of a public hearing on the application of Geothermal Exploration and Development Corp. 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. 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, Laepaoo, Puna, TMK: 1-4-02:10.

Susan Orlando, the Puna Hui Ohana (Sonny Kinney), and the State Department of Agriculture (James Woodruff), requested to be admitted as interested parties and stated their reasons why they felt they should be admitted as parties. Planning Director Fuke, along with the petitioner's attorney, George M. Sheets, stated they had no objections in admitting them as interested parties.

It was moved by Commissioner Kagawa and seconded by Commissioner Nakano to admit Susan Orlando as an interested party; motion was carried.

It was moved by Commissioner Nakano and seconded by Commissioner Orita to admit the Puna Hui Ohana as an interested party; motion was carried.

It was moved by Commissioner Imada and seconded by Commissioner Sakamoto to admit the DPED as an interested party; motion was carried.

The Chair explained the purpose of the hearing and the procedures to be used for the hearing.

The following is a recapitulation of those testifying under the public testimonies portion of the hearing:

Frank Orlando, although he was not necessarily against geothermal development, expressed his concerns on noise and smell. He said there should be someone to monitor them constantly and if there is a violation there should be a specific time to having the problem resolved or the operation be required to shut down. He added he felt the overall picture should be looked at as this is where the project will end up.

Henry Chow on behalf of his family and 12 other families living in Opihikao spoke in favor of geothermal energy.

Eliot Merk read and submitted a written testimony (See Attachment A).

Doris Smith read and submitted a written testimony (See Attachment B).

Germaine Marquais read and submitted a written testimony (See Attachment C).

James Miles on behalf of the Kanoelehua Industrial Association read and submitted a written testimony (See Attachment D).

Robert J. Santos on behalf of the Chamber of Commerce read and submitted a written testimony (See Attachment E).

Gregory C. Pommerenk of Love and Light Church questioned what the poor people can really gain from this project. He said he was neither for nor against geothermal energy in general if it is regulated properly and used for the people. He added that he felt there was no need for additional exploratory drilling as exploratory drilling is already being done at Pohoiki and expressed his concern that GEDCO will eventually sell this power to Helco or a big corporation.

Andrew Sarhanis said he was not against geothermal development per se but against geothermal development that endangers his environment, causes obnoxious sounds and affects the health of people and agricultural products.

Bob Williamson spoke in favor of the proposed development and noted that concerns for noise and odor abatement can be properly controlled. He said it must be admitted that the one well at Opihikao would not supply a sufficient amount of energy for the entire Big Island.

Katherine Kahaloa read portions of and submitted a written testimony (See Attachment F).

Alex Smyklo said he was in favor of geothermal energy under the right conditions and the conditions under which this proposal has come is not one that he would agree with. He said he felt the issue here was really is this resources going to be given away to a group of private individuals, a resource that is collectively owned by the taxpayers; and also that these wells are not merely to test the magnitude of heat energy as eventually it will be sold to a big corporation. He added he felt this was a concentrated effort to acquire title to a vast resource which the Hawaiian people own and will regret the day they acceded to this. He noted that he could not see the hurry in drilling these wells as an outstanding authority has assured that there is more energy on this island that could be used in the next 100 years five times as much.

Moanikeala Akaka said no additional permits should be granted to drill exploratory wells until the whole question of ownership is settled; if it's going to be developed, it should be done safely, ecologically, health wise and environmentally; it should be

municipally owned by the people of this island so that they can have cheap electricity rates; and also that the native Hawaiian people should get a percentage of the profits as part of their native rights. She urged the Commission to be careful of what they do to the future of Puna.

Dr. Donald Thomas spoke in favor of the proposed wells. He said he has worked with the Hawaii Geothermal wells for the last four to five years and to date have found that the water and gas coming out of the HGPA well is more free of toxic elements and probably far cleaner than most other geothermal areas in the world. He said these nine will be vitally necessary to determine where the resource is and the extent of it.

RECESS: The Chair called a short recess at 8:41 p.m.

RECONVENED: The meeting reconvened at 8:55 p.m.

Joe Hogue noted that Mr. Craddick said he did not want to live near a well.

As there was no one wishing to give further testimony, it was moved by Commissioner Orita and seconded by Commissioner Kagawa that the public testimony portion of the hearing be closed; motion was carried.

The Commission then proceeded to the contested case portion of the hearing. The Chair briefly described the procedures that will be used.

There were no objections from any of the parties to any of the procedures, notices and records thus far and to the issues as framed; and, there were no motions to be made or disposed of at present.

With regard to the list of witnesses and exhibits, Planning Director Fuke noted that there were no witnesses and as far as exhibits, the Department has circulated a copy of the staff's background report and recommendation to all interested parties as well as the Commission; Mr. Woodruff stated that they had no witnesses or changes in the list of exhibits; Mr. Sheets stated they may choose not to call certain witnesses that were listed and submitted a graphic aerial photograph marked GEDCO-2; Susan Orlando said she had no witnesses, graphs or maps; and Sonny Kinney noted that Dr. Jerry Johnson, Dr. James Kent and Mr. David Hess will not be witnesses for the Hui, the slide show will not be shown and submitted a series of photographs depicting geothermal development in New Zealand marked PHA-2 and also scenarios with regard to long-term planning marked PHA-3, which the Chair admitted over the objections of Mr. Sheets and Mr. Woodruff.

There were no objections to or any questions on the matters covered thus far and each of the parties acknowledged his understanding of his rights and privileges as the Chair related.

The following is a recapitulation of the interested parties' presentation:

Planning Director Fuke waived the reading of the background and recommendation as it was circulated and noted that the staff's position was based upon the specific request that it is for exploratory drilling. He clarified that with regard to the proposed condition number seven the Planning Department will coordinate the enforcement with the Department of Health and that the Department's thought was to obtain stabilized energy or energy cheaper than oil instead of "cheap" oil. Mr. Sheets suggested the adjectives be left out and to just say available power. The Director further clarified that the Department did not intend to imply the locations of new industries.

Mr. Woodruff stated they supported the proposed development as it is necessary to plan for the possible development of geothermal energy in an environmentally sound and economic viable manner; it was urgent that Hawaii develop their natural energy resources to reduce dependency on outside fuel; and it is essential to our economy to reduce the outflow of dollars.

Mr. Sheets said in general GEDCO will stand on its application. He called upon Dr. Sanford Siegel who explained in great length his work on gathering baseline data at the HGPA well, of which there has been no evidence that there has been any effects on any aspects of vegetation or impact on bird behaviour. Dr. Siegel added that he felt monitoring should be done quarterly, perhaps every two months at the beginning, then six months, then a year, etc, depending upon what is found as they go along. Mr. Sheets then called on Murray Gardner to explain the difference between exploration and development. It was pointed out by GEDCO that it will be a 24-hour five day a week operation (3 shifts); drilling time would be between 40 to 90 days for a well of nominal 70,000 feet in depth, with minor construction activities at the well head perhaps a week; any where from 3 to 30 days of testing for a single well to determine capability; and that the cost of such a well is approximately one and a half million dollars.

RECESS: The Chair called a recess at 10:15 p.m.

RECONVENED: The meeting reconvened at 9:12 a.m. on August 8, 1980.

Susan Orlando made her presentation (See Attachment G).

Sonny Kinney called on Dr. Craig Severence who conducted a social baseline study for the Hui. He pointed out that usually social impact concerns come along mid-point in the process which actually should be made at the very beginning of a project, that baseline studies should be done as the project develops; and also that the key important resource of valid useful information on community values and community cultural standards are from the community members themselves. Mr. Kinney urged the Commission to begin to look at this project as part of a long-range plan and to develop a plan so that there would be an orderly development as far as geothermal and economic developments are concerned. He then gave a lengthy presentation on the Puna Hui Ohana's concerns and explained the scenarios in detail. He then called on Peter Hauanio, president of Puna Hui Ohana, who gave some background information and explained the Ohana's concerns. Mr. Hauanio

offered a compromise of limiting the wells to two or three and having them in a straight line within a corridor because of aesthetic concerns and the potential impact to surrounding agricultural activities. He clarified that 80 percent of its members were actually in favor of geothermal development if it is properly controlled by their members becoming a part of the planning process for developments in Puna in terms of where such developments should go and if it should go in at all.

RECESS: The Chair called a short recess at 10:30 a.m.

RECONVENED: The meeting reconvened at 10:35 a.m.

Mr. Kinney clarified that the Department of Energy's grant to the Hui was to make a social cultural impact assessment of the Hawaiian community based upon the impact of geothermal, of which the expected completion date is October 1980. He added if they are able to obtain a second year funding, the study would start with the premise that if geothermal is successful then how do they involve the community, how do they prepare a program so that the community knows what's happening, etc. Mr. Sheets then made a very lengthy cross-examination of the witnesses.

RECESS: The Chair called a short recess at 11:15 a.m.

RECONVENED: The meeting reconvened at 11:22 a.m.

The interested parties all agreed not to provide any rebuttal testimony and gave their closing summaries.

There were no objections from any of the parties on the following items posed by the Deputy Corporation Counsel: a field trip be taken in or out of their presence; a field trip being taken by less than five commissioners; and the Commissioners taking final action even though some may have not attended the field trip.

Upon Commissioner Kagawa's questioning whether or not the petitioner would agree to a condition whereby they would stop whenever three or four wells proved successful, Mr. Sheets noted that although it was their intent to drill enough wells to prove the reservoir that is involved with this project, which will probably be three or four at the most anyway, they could not agree to it as they felt it would change the application and the Commission could not act on it. Commissioner Kagawa pointed out that the Commission has imposed similar conditions on other permits.

It was moved by Commissioner Nakano and seconded by Commissioner Kagawa that the public hearing be closed, with a field trip to be conducted in the afternoon; motion was carried.

As there was a conflict between the Planning Commission's meeting dates and the requirements of the Planning Commission's rules that proposed findings of facts be submitted 15 days after the close of the public hearing and action taken within 30 days thereafter, Planning Director Fuke gave his opinion that if all parties agreed to waive their right to submit proposed findings, the Commission could then schedule this matter on its agenda for the August 21st meeting in Kona.

For the Commission's information, Deputy Corporation Counsel Tsukazaki gave his opinion that the 30-day requirement of the Commission's rule may not be applicable in this case as, one, the rules were drafted in contemplation of a legislative public hearing and not a quasi-judicial proceeding and, two, all parties have stipulated in their agreement to waive that requirement; therefore, he did not think the Commission should feel it is legally required to act on this application within 30 days.

At this time, all parties, with the exception of Mr. Woodruff who left the proceedings, agreed to waive their right to submit proposed findings of facts; and the Chair stated this application will be placed on the Commission's August 21st agenda.

The public hearing adjourned at 12:15 p.m.

A field trip was taken, leaving the County Building at 1:30 p.m. to Ashida's property with Commissioners Orita, Whitmarsh, Imada, Chairman Paris, Norman Hayashi, Bill and Ed Craddick, George M. Sheets in attendance. They drove through the forest area where noise could not be heard until they came through the clearing. The petitioners claim the noise level is below the 65 decibels requirement of the Department of Health. They pointed out that there were six motors - two generators (which are used alternately and one functional at all times), two drill rigs, and two mudding level motors (which are put in cubicles to reduce the noise so it does not have the same effect as the other geothermal project). The Commission then drove to the mauka portion of the Daiichi property, the apex of the property, where they could get a view of where the nine wells are proposed to be located; and the petitioners referred to an aerial map. The Commission then looked at the old GEDCO project and concluded their field trip at 3:30 p.m. at the County Building.

Respectfully submitted,

Sharon M. Nomura
Sharon M. Nomura
Secretary

A T T E S T:

William J. Paris, Jr.
William J. Paris, Jr.
Chairman, Planning Commission

LCC

HILO CONTRACTORS' ASSOCIATION

494-C Kalanikoa St.—Phone 935-1316
Hilo, Hawaii 96720

TO: MEMBERS OF THE PLANNING COMMISSION
COUNTY OF HAWAII

I AM ELIOT MERK, SECRETARY, TESTIFYING ON BEHALF OF THE HILO CONTRACTORS' ASSOCIATION PRESENTING OUR POSITION ON THE SUBJECT MATTER BEFORE THIS COMMISSION.

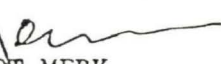
WE SUPPORT THE APPROVAL OF THE APPLICATION FOR A SPECIAL PERMIT BEING SOUGHT BY GEOTHERMAL EXPLORATION AND DEVELOPMENT CORPORATION TO ALLOW THE EXPLORATORY DRILLING OF A MAXIMUM OF NINE WELLS ON 180 ACRES OF LAND IN PUNA, NEAR THE POHOIKI ROAD.

OUR ORGANIZATION HAS LONG BEEN INTERESTED IN THE ADVANCEMENT OF THE TOTAL ECONOMIC OUTLOOK FOR THIS COUNTY. IT HAS BEEN OUR POSITION THAT GEOTHERMAL EXPLORATION IS ONE OF THE KEYS TO PROVIDING SUBSTANTIAL ENERGY REQUIREMENTS AND POTENTIAL WITHOUT THE NEED TO IMPORT FUEL FROM OTHER AREAS.

WE AGREE WITH BOTH THE STATE OF HAWAII AND THE COUNTY OF HAWAII IN GOING ON RECORD TO SUPPORT THE DEVELOPMENT OF GEOTHERMAL POWER. WE STRONGLY URGE THE RAPID APPROVAL OF THIS APPLICATION.

THANK YOU.

HILO CONTRACTORS' ASSOCIATION


ELIOT MERK
SECRETARY

8-7-80

EXHIBIT

min. Aug. 7/8

Attachment A

My name is Doris Smith. I am the President of the Hawaii Island Board of Realtors. Since 1978, the Hawaii Island Board of Realtors has supported exploratory drilling and development of geothermal energy on this Island. I appear tonight ^{on behalf of the} to testify ^{Bd of} in favor, not only of the application presented to you by Geothermal Exploration ^{Directors} and Development Corporation, but in favor of the general area of geothermal exploration.

Much has already been said about energy shortages when consumer prices are forced higher and higher by the rising costs of oil. I can only add our concern to those made by others that it is vitally important for our Nation, our State and our County to do all they can to reduce our dependency on foreign energy sources.

We wholly support the application provided there are sufficient safeguards in State and County noise and health regulations to protect the people who might be affected by these wells. We would suggest that sufficient monitoring be provided to insure that there are no detrimental impacts.

We would encourage not only the approval of this application, but the speedy processing of this and other similar efforts in our attempts to gain consumer utilization of energy self-sufficiency development with a minimum of delay.

EXHIBIT

Attachment B

Min. Aug. 7, 8

INSPIRED BY THOUGHTS ON GEOTHERMAL WELLS ON HAWAII ISLAND

Germain Marquais
POB 1864
Hilo, Hi

Many years ago monopoly minded industrialists came to this island and lured the people with modernized, mechanized, living conveniences; (like dangling the carrot before the horse). Over the years they have managed to get the populace to accept this form of living. Now thru increased industrialization, speculation and exportation of local wealth, they are withdrawing the very means for local people to procure such a life style. This creates internal struggle, confusion on a personal level within the people and finally a resentment for the system which has 1) enticed the people to the mechanized life style which is now beyond their means, 2) made them dependant on the systems' welfare and foodstamps in order to survive. This crushes a people. Any system which does not attempt to exact from it's people their individual worth, is inviting unrest.

At the onset, hugh industrial combines appear to provide increased living opportunities for people while fulfilling their needs. But after closer examination we find that industrial monopolies are equivilant to production by the fewest number possible, for the most financial return. This then limits rather than increases the outflow of wages needing to be paid by substituting mechanization for people or cutting human involvement and concentrating profits in the hands of the few.

The root of listlessness and lack of direction among the youth, dissatisfaction among the adults; the root of unemployment, illiteracy, poverty and crime is, forced technological growth and industrial expansion which envelopes peoples' precious time and gives them only pieces of paper in return as the reward for their human worth. The industrial forces can never successfully build an advanced technological superstructure and force it on a simple, nature loving people without violating basic human rights thru the false creation of material and spiritual poverty. We must remember that progress of any kind is not an end in itself. We must judge all material advances by their moral effect on human beings and on their contribution to the stature of the individual.

All true systems must be infused with freedom which allows people to progress. True industrial forms should serve to free the people from all outer conditions which do not exalt them in their pursuit for harmonious, self-sufficient living.

The attempt by the few to speed up the evolution of a culture faster than it is organically moving, means the corruption and downfall of that culture and the subsequent creation of a new culture based on the original motivations of the imposing modernalizers, be they to serve humanity or to exploit it. Exporting goods and profits from local industry, take away with them the moral strength of the people, as they are left belittled and bewildered in their life's work.

What must happen here is localized industry serving local needs in goods and in profits. Whether or not geothermal wells are ecologically sound, with air and noise pollution as well as future geological weaknesses, yet remains unclear.

Min. Aug. 7, 8

Attachment C

EXHIBIT

GEOTHERMAL

The creation of new geothermal wells on Hawaii for any other purpose than to provide 1) more local electrical energy 2) cheaper electrical energy 3) more local jobs 4) profit sharings for all native aboriginal and local peoples, is in effect the creation of a symbol and a system which limits freedom, is the seed of injustice, stimulates moral and political unrest, and ultimately, inspires some form of peoples' revolution. So I ask that we be clear on our intentions and have them grounded in TRUTH as we decide on the outcome of this issue.



Hawaii Island Chamber of Commerce

Established in 1897 • 180 Kinoole St., Suite 203 • Hilo, Hawaii 96720 • Phone (808) 935-7178

August 7, 1980

The Honorable Chairman and Members
Planning Commission
County of Hawaii
Hilo, Hawaii

Ladies and Gentlemen,

For more than two years, the Hawaii Island Chamber of Commerce has endorsed the continuing efforts to obtain funding for additional wells to demonstrate the practicability of geothermal energy. We feel that the development of the geothermal resource and its expected application in electrical generation, food processing and the processing of minerals will create a substantial number of new job opportunities on the Big Island. The Chamber of Commerce of Hawaii, our state-wide organization, has taken a similar position on the subject.

We are in complete support of the application of Geothermal Exploration and Development Corporation to drill nine geothermal energy wells in the Puna District.

Since both our state and county governments are on record as being in support of the development of geothermal energy, we ask that this application be speedily approved in line with the established long range goals of our community.

Respectfully submitted,

ROBERT J. SANTOS
President

RJS:kb

Min. Aug. 7, 8

Affiliated with the Chamber of Commerce of the United States

Attachment D

County Planning Commission members:

Thank you.

I am James Miles, speaking on behalf of the Kanoelehua Industrial Area Association. Our organization has gone on record in support of the concept of geothermal energy, and I appear here today to support the application that you have before you.

Our Island has been, for many years, totally dependent on imported fuel, and the more we can reduce that dependency by developing alternate energy sources, the better it will be for the long-range future of our people. We are not in a position to speak in specific terms about the technical details of the application before you tonight, but we do want to go on record in support of the overall concept of the development of geothermal energy on our Island.

Yours truly,

Kanoelehua Industrial Area
Association

James E. Miles
James E. Miles
President

Min. Aug. 7, 8

Attachment E

HELLO, MY NAME IS KATHERINE LEONG KAHALOA

I speak for the Kahaloa Family. We are land owners
Papaya and Macadamia Nut Farmers in Opihikao, Puna.

Concerns were raised in the past, and will continue
to be raised now and forever on the environmental impact should
GEOHERMAL, EXPLORATION & DEVELOPMENT COMPANY'S application for
another and future exploratory wells be granted.

We, too, are very concerned, but at the same time we
know for a fact that it is the responsibility of the County,
the State and the Federal government's agencies to protect our
environment by applying its trained scientific, technical and
knowledgeable experts whose prime purpose is to study and apply
its expertise on this subject matter.

When the application GEOHERMAL, EXPLORATION &
DEVELOPMENT COMPANY for its first exploratory well came up,
this room was packed to capacity with protestors echoing the

PAGE ONE

EXHIBIT

Min. Aug. 7, 8

Attachment F

uproar that such a plant would be a definite interference and a hindrance to the neighboring communities, the area of its location, the scenery, create a negative and adverse reaction and enhance the emotional trauma of "the local people of the area, namely the hawaiians" were raised. This category also included the retired, elderly, now either resident or part-time resident-mainlanders.

At that same meeting, an elderly haole man, retired, financially comfortable and definitely not living a happy, robust old age, coughed his way through the meeting for four hours, I think it was longer, I lost count, even though, four hours later his cough sounded forced, he left this room, probably got tired of coughing and joined other protestors outside in the hallway inhaling the cool night air of Hilo. He was definitely AGAINST, he even got a doctor's paper stating the cause of his chronic coughing was definitely caused by the Pohoiki Exploration Well, and that another EXPLORATORY WELL was not going to correct

his health situation at all. He said there were numerous others flocking to the local doctor's office for relief and yes, it was causing an epidemic.

That man is still alive and going strong, in fact he hasn't moved from where he is living, he even had time to organize and lead the protest against the registration of young men 19 and 20 year olds for the draft, just a few short weeks ago.

His health must have improved as he got adjusted to the Pohoiki Well. The government didn't shut it down. The epidemic must have stopped because the Pohoiki Well steams away and its beat goes on.

Then, there was the local lower Puna hawaiian organization, presenting its position paper, they too were against that first application by the GEOTHERMAL EXPLORATION & DEVELOPMENT COMPANY, they even had a young man from Opihikao read the text prepared by, at that time, their appointed leader who was educated and resident of Oahu.

That position paper was laced and stacked with \$10 and \$20 words, that young man struggled reading it, needless to say, it lost its intended impact.

All they were trying to say was, "we speak for all the hawaiians of lower Puna, the land belongs to the hawaiians, so let us, this organized body, decide how, where and when to use the land, if ever, and especially, we speak for all the hawaiian landowners."

This organization and any ethnic organization will never speak for the Kahaloa family, the Leong Family, and the Chow Family. There is enough intelligence amongst us, individually, and collectively to make our own decisions, and we speak for ourselves.

GEOHERMAL, EXPLORATION AND DEVELOPMENT COMPANY'S first exploratory well is up. Its drilling rig, looms over the lehua forest. During its construction stages, not a single protest march, sign carrying, road entrance blocking or ad-

verse publicity was carried on.

The sight of that first drilling rig doesn't look anywhere out of place, as that dome shape building sitting on top of Mauna Kea Mountain, nor does it look out of place as the many shacks and windmills and junks fronting those shacks, popping out of the bushes of the Kamaili Hillside and all over the Opihikao area. Each of you can see this for yourselves, these shacks from the mountain to the sea.

In fact, it was the intent of the Hawaiian ancestors that these very same hillsides to the sea be populated with young up and coming hawaiians and not haole hippies.

That sight of the first, private, independent drilling rig spells, PROGRESS. It spells inhabitants, yes just like those shacks with its windmills that pops out of the bushes of Kamaili Hillside and most of Opihikao. That drilling rig spells JOB POSSIBILITIES. That drilling rig spells ECONOMY. That drilling rig spells MONEY.

And who would object to money? Not the Big Island's business community, not you, not me.

You know as well as I do, that private money was used to build that first GEOTHERMAL EXPLORATION AND DEVELOPMENT COMPANY'S DRILLING RIG, yes, some \$3.500 million of private money.....not tax payers money like the well at Pohoiki which has already cost \$7.600 million of tax payers money. More tax payers money is still being poured into that Pohoiki Well.

Above all, private money, some of that \$3.500 million will be used to build the second, the third and each succeeding exploratory well.

Mr. Morton Kinzler, President of Barnwell Industries of Chattanooga, Tenn. GEDCO'S new majority partner said "you can learn a lot from a dry hole." In essence and in part he was saying we will invest our money to be willing to take a chance to drill and explore.

One of the many good points about the Pohoiki Well

is that the County roadway to the lower coastal road have been improved immensely and traffic flows with great regularity.

Everyone taking a shortcut to somewhere.

I'd like to focus on the social and economic impact that such an application of GEDCO'S would present. We believe, that the social and economic impacts go hand in hand. We ask,

QUESTION 1: WHAT WILL GEOTHERMAL, EXPLORATION AND DEVELOPEMENT COMPANY'S EXPLORATORY WELL DO TO THE PRESENT AGRICULTURE AREA OF LOWER PUNA?

WE CONCLUDED

ANSWER: Idle lands will be put to use and be made to

be productive lands. The present and productive farmers in the area will gain indirectly. The roadways of lower Puna will be congested with commutting farmers and workerswhich will than place a burden on our County Council to improve the roadways of Lower

Puna bearing in mind the need for wider and safer roads to travel. All this, paid for by tax dollars each automobile and user will be paying to Hawaii County. And, yes, the Big Island business community must and will capitalize on the opportunities that will arise.

WE ALSO ASK,

QUESTION 2: WHAT WILL GEOTHERMAL, EXPLORATION AND DEVELOPMENT COMPANY'S EXPLORATORY WELL DO TO THE LAND USE OF LOWER PUNA, WILL IT BE POSITIVE OR WILL IT BE NEGATIVE?

WE CONCLUDED,

ANSWER: NEGATIVE, if those people who fear that this kind of Exploratory Well will create a Realtors' bonanza.

Those against GEOTHERMAL, EXPLORATION AND DEVELOPMENT COMPANY would like the public to think so and they would dwell on this false concept. But you and I know it will not create a Realtors Bonanza.

POSITIVELY, land would be put to use by heirs of many idle lands. Heirs to land holdings need not sell at prices lower than profitable because of the need to move away and relocate away from lower Puna.

A CASE IN POINT:

We were once owners of a house and lot in Nanawale Estates, Pahoā. We had to sell at a less than comfortable profit because of the need to relocate in Hilo because of my husband's job at Hilo Coast Processing Company which is located in Pepeekeo. He also had a part time job as a security guard. All of the security jobs were located in Hilo. So the end result is, the dollar that is earned is not spent in Pahoā, Keāau or any store in the Puna area, but in Hilo. There was also the need to be closer to Hilo College and jobs for our children.

A SECOND CASE IN POINT:

On June 1, 1980, a little over two months ago, our sons and our daughter-in-law moved to Honolulu. The jobs and money was in Honolulu, and Manoa Campus of our University of Hawaii had the subjects they both needed to complete and obtain their master's degrees. Last month upon returning to Hilo for a weekend and for a significant family gathering, both said, "we have mixed feelings about Honolulu, the jobs are there, the money is there, but we feel lousy having to pay taxes to the City and County of Honolulu and not Hawaii County, we feel bad that our hard earned dollars will turn over many times in Honolulu and not here in Hawaii County."

Although our land in Opihikao is not sitting idle, many other lands are idle and heirs to these lands will contem-

plate selling at less than profitable margins because there is no jobs for them to make a decent living and working their own lands simultaneously.

Of the many more questions that comes to our minds I'd like to share another.

QUESTION: 3: HOW WILL GEDCO'S EXPLORATION CHANGE THE PRESENT
ATMOSPHERE OF LOWER PUNA?

ANSWER: This time I am not talking about the air we breathe. But don't forget the story I told you about the old guy with the coughing spell at a previous public hearing. This kind of exploration will present a possibility of a job market. You will have to agree with me that this is a great and positive possibility. Needless to say, GEOTHERMAL EXPLORATION AND DEVELOPMENT COMPANY is already charged with the responsibility to train and re-train local people for the jobs the exploration activity will bring.

Let me share with you two incidents that could have been avoided if JOBS such as GEDCO is willing to offer was already available.

Just recently, and less than a month ago, Hilo Radio Station KPUA'S Police Blotter, the Hawaii Tribune Herald's "Crime Report Column and the Honolulu Advertiser's "Neighbor Island News Column" singled out a young hawaiian adult from lower Puna, yes, Opihikao, being charged with burlary, terroristic threatening, assault, battery and criminal property damage on an older fellow hawaiian, and was being held in jail in lieu of \$1,000 bail.

The incident saddened us personally because our six children grew up with that young man from infancy to adulthood.

And as recend as a week ago, the same story appeared in the Honolulu Advertiser under the heading of "Neighbor Island News"....only this time a paragraph ahead mentioned of the Hawaii County's grand jury indictment of another Opihikao youth, age 18,

for two counts of burglary.

We asked ourselves.....could this have been avoided if there were jobs in lower Puna area to keep these healthy, able bodied 27 and 18 year old young hawaiians from committing this dreadful act of crime?

Granted these are isolated cases, but the fact is the fact and the fact is that it happened.

We do not want to be counted in favor of stopping this kind of PROGRESS, that an exploratory well will bring. For in doing so, we sacrifice jobs, possibilities of jobs, the money flow, a better standard of living, and growth in every sense of its meaning.

QUESTION 4: WILL THE RESULT OF JOBS LEAD TO INCREASE OF MONEY FLOW FOR THE PAHOA COMMUNITY, KEAAU COMMUNITY AND HAWAII COUNTY?

ANSWER: You'll have to agree with me with a resounding yes!

Remember Bank of Hawaii's TV Commercial on how the dollar earned by the farmer kept turning and turning in that little village on Molokai, in Kamuela, that little Village on Maui and in its course of turnover touched the lives of the banker, the homemaker, the grocer, the neighbor, the clothing store, the shopper, the borrower, that list is endless.

It's a very realistic story of the turnover of the dollar. Again, you'll have to agree with me that the banking service of Hawaii County is telling us that it is very possible for lower Puna too, otherwise why would they put a Bank of Hawaii and a Pioneer Savings and Loan branches in Pahoehoe?

QUESTION 5: WHO REAPS SUCH BENEFITS FROM THIS KIND OF FLOW OF
MONEY?

ANSWER: Indirectly each of you commissioners, me the homemaker,
my neighbor.....from this the very foreseeable possibi-
lity of increase in fire protection, and police protec-
tion, by the way there are only 8 police officers to
cover the entire Puna district.....not all 8 goes
on duty at once.....8 police officers, just like
parts of Maui County, and , an even better school
system for Pahoia.

This kind of money flow would definitely keep the
young able bodied so busy with earning power, spending
money for wives to do their share of providing a decent
comfortable home, food, good and different kind of food
in their stomach, clothes on their backs and roofs over
their heads that they earned themselves, a different

and/or a new kind of life style, a better standard of living, self-sufficiency, and not merely surviving from what they can get out of welfare, food stamps, county housing, families, growing and selling pakalolo, and yes, committing many unpardonable crime including assault, battery, burglary, terroristic threatening on another fellow human being.

A CASE IN POINT: Our nephew Hiram Chow wasn't always the progressive young man he now is. He, too, was a young, restless man, seeking a way out, married, now with the responsibility of a wife and child, commuting daily to a job in Hilo. He is now employed by GEOTHERMAL, EXPLORATION & DEVELOPMENT COMPANY. His new job is close at home. Working, earning, self supporting.....does it end there? We hope not. We believe that this is only a beginning. That, this is a possibility for others, just like him.

QUESTION 6: IS GEOTHERMAL, EXPLORATION AND DEVELOPEMENT COMPANY
WILLING AND ABLE TO PROVIDE CHANGES TO THE SOCIAL
AND ECONOMIC STANDARDS OF LOWER PUNA?

ANSWER: GEOTHERMAL, EXPLORATION AND DEVELOPMENT COMPANY is
using its own time, money, initiative, personal
energy to explore geothermal possibilities in lower
Puna.

The Present Geothermal well in Pohoiki is presently
funded partially by your and my tax dollar, all
\$7.600 million worth.

But here is GEOTHERMAL, EXPLORATION AND DEVELOPMENT
COMPANY, A private firm who is willing to spend
its own money, some \$3.500 million worth, and here are
landowners like Howard Ashida, Vern Yamanaka, Henry
Chow, Enoch Kahaloa and yes, Daiichi Seiko who owns
enough land to grant such an exploration.

Needless to say, there is enough intelligence in this group of land owners, individually and collectively to know how, when and where to use its own land.

We didn't go to New Zealand to compare notes with the Maoris, we have access to Journals, technical materials, teams of experts and a legal staff to take care of our needs.

The end result is, you and me and many others will directly and indirectly benefit from such a venture.

We have six children,, ages 24 to 19 years of age.

Although my husband and I graduated from Pahoa High School, our children ^{were} was educated at either Kamehameha or Hilo High Schools.

Each has a high school diploma, four with a B. A. degree from Hilo College, the twins just graduated from Hawaii Community College, both working towards a B.A. degree from University of Hawaii. Three with a masters' degree of one kind or other, three working towards a masters degree. It was hard raising six children

in Opihikao. We moved to Hilo, to Pahoa and back to Hilo to make things easier to get to our jobs, to school, which included summer school, public library and sports activities. But it doesn't end there, all six children, their respective and prospective spouses are all gainfully employed.

Ironically, only two contributes to the taxes of Hawaii County and whose hard earned dollar does quite a turnover here in Hilo.

On the weekend of July 12th all six children returned for a significant family gathering and prior to returning to their respective homes, they treated themselves to picking their own papaya from our farm to take back to Honolulu.

Our oldest son said, "I wish there were jobs here. I'd sure like to come back, build, and live here in Opihikao." Our youngest son said, "I feel good knowing we have tenants working our land.....and yet I know that's only temporary. I,

too, would like to return here." I feel so guilty that I am not yet ready to work the land myself. I feel bad that I am contributing to the taxes for the City and County of Honolulu and not here in Hawaii County." I, too wish there were jobs here to make a decent living. I'd move back if I know I could get a job here make a decent living for me and my family." Above all, dad, mom, I now feel like a stranger on my own land, in this area where I was born, and spent my early growing up years, where I had dreamed of living, earning, and building prosperity here in Opihikao."

The ride back to Hilo was very quiet, no more laughter, no more teasing, no more clowning, a saddened bunch, shedding a tear or two.

I ask you, how do you respond to this kind of statement, it really needs an answer.

The present ethnic organizations is not the answer,

nor do they have the answer, nor can they answer. All the government funded programs isn't really the answer, although it does present some relief, to a few.

What do we do? Do we stampede GEDCO out of lower Puna and send them packing back to the mainland. After all, it is a bunch of mainland haoles that dares to enter lower Puna to do prospecting and dares to change the life style of my fellow hawaiians. Lower Puna is like a sleeping giant. Remember Rip Van Winkle, the guy who slept for 20 years, he was one of my many childhood heroes, he'd be very comfortable in lower Puna, *nothing wrong but have a good sleep.*

But on the other hand, do we get ready to roll out the red carpet for the Dillingham Corp. Will Dillingham Corp. be our life saver and end all our economic woes? And, besides, Dillingham is a local firm, a kamaaina firm. Dillingham now has its runner in the area, sseeking, asking, waiting for the

for the right time to move in! Do we dare protest their initiative when the time comes?

Here is GEDCO, GEOTHERMAL, EXPLORATION AND DEVELOPMENT COMPANY, willing and able to assist all of us, and YOU, who can bridge that slump in our County's economy.

I close with this statement: "On the Plains of Hesitation, bleach the bones of countless millions, who, at the dawn of victory, sat down to wait and waiting died....."

My name is Katherine Leong Kahaloe, and I thank you for your attention.



MRS. ENOCH KAHALOA
464 Kalanikoa Street, #108
Hilo, Hawaii 96720
(Telephone: 961-2726)

Testimony:

July 7, 1980

I have decided not to call any witnesses as they would simply reiterate the points I wish to make. These points are simply that first of all, I am in favor of decreasing our dependence on fossil fuels - whether that means geothermal, wind power, or solar power depends on methodology and environmental + socio-economic impact.

In the case of geothermal, if the drilling and subsequent noises can be kept down to acceptable levels, + the odor + possible toxicants can be controlled to the extent that there would be immediate action upon any infringement I have no problem with a project of this kind. The fact is that currently the Opikiao activity has been audible + disturbing to me + many of my neighbors during the middle of the night. It doesn't appear that any monitoring is taking place with regard to decibel levels now, so how do you propose to control these infringements in the future - what guarantees can you give me now?

Therefore if these conditions can not be met + if the future of the Puna district is to become an industrial park displacing residents and damaging their property then I would have to recommend that the applicant be denied. In many of the reports + background material that I have read in regards to the geothermal project it has been stated or implied that "the big island should become a model of living where

Min. Aug. 7, 8

Attachment G

economic gains are in balance with social and physical amenities. Development should be reviewed on the basis of total impact on the residents, NOT only in terms of immediate short run economic benefits. Well then, if this is truly your ~~of~~ intention as a body of people who plan the future of the Big Island then I ask you to listen to your own words and ~~to~~ also hear me as a spokesperson for many of the residents in the PUNA district.

Mahalo & Thankyou,

Susan Orlando

Concluding Statement:

Aug 8, 1980

In the light of the testimony heard last night the question comes to mind "What is meant by competitive prices here - - - - the same price?, a little lower?, a lot lower? Mr. Shute implied that it would most likely be the same; so as oil prices go up so will geothermal - who is really benefiting?

We spend one billion dollars a year on energy, it certainly shouldn't cost 1 billion to develop the project and even if it does, how long will it take to pay for the energy development and once paid for what's the cost of maintenance? Utility costs should reflect actual development and maintenance costs after it's installed with reasonable profit to the contracting company. Once the machinery and installation has been paid for at possibly the current electricity rate (obviously it costs more to get things started) the price should be lowered in the long run. May I suggest the geothermal should be a state owned public utility with private competitive contracting for drilling, construction, and maintenance as opposed to just privately owned.

If the intent of this project is to make possible stable and inexpensive energy - then the Big Island will be attractive to new business.

However, if the price is the same why would a new business want to relocate here, there wouldn't be any point. The Big Island isn't known for having raw materials for industry - so if energy costs the same and an industry would have to ship over

raw materials in addition to the cost of energy why should they move.

It has been stated that as power becomes available perhaps more mom and pop or cottage industries will be able to utilize this energy, however the truth is that they will have to pay for their energy consumption so whatever goods or services they are selling will reflect the price they pay for energy and that brings it down to you and I the consumer - in the end we pay.

Again, may I suggest that the test site be state owned and all operations to be privately contracted thereby keeping the true benefits of this project in the hands of the people.

Susan Orlando

exploratory wells for the purpose of determining the quality and extent of geothermal resources available.

2. Notice of public hearing on the matter was mailed by the County of Hawaii Planning Department to surrounding property owners on June 16, 1980.

3. Notice of public hearing on the matter was published in the Hawaii Tribune Herald on June 20 and 27, 1980.

4. A public hearing was held on the matter on June 30, 1980 at the County Building in Hilo, Hawaii.

5. At the June 30, 1980 hearing, public testimony was taken; certain persons indicated an interest in participating in contested case proceedings.

6. The public hearing was continued in order to allow interested persons to request a contested case proceeding in the matter in writing by July 18, 1980.

7. Susan Orlando, the Puna Hui Ohana, and the State of Hawaii Department of Planning and Economic Development made proper and timely requests to be parties in a contested case proceeding.

8. On July 30, 1980, Susan Orlando and representatives of GEDCO, the Hawaii County Planning Department, the Department of Planning and Economic Development, and the Commission met to clarify the procedure, witnesses, and exhibits to be employed if the Commission decided to hold a contested case proceeding.

9. The above-mentioned parties to this July 30, 1980 meeting later signed an agreement as to the hearing and post-hearing procedures to be followed.

10. Notice of further public hearing was published in the Hawaii Tribune Herald on July 27, 1980 and August 5, 1980.

11. Further public testimony was taken on August 7, 1980 prior to the commencement of a contested case proceeding, which was eventually concluded on August 8, 1980.

DESCRIPTION OF THE SUBJECT PROPERTY.

12. The subject property is located at Laepaoo in the Puna District of the Island of Hawaii, approximately one mile southeast of the existing Hawaii Geothermal Project site and 2,000 feet north of Pohoiki Road, and is further identified as Tax Map Key 1-4-02:10.

13. Daiichi Seiko of Hawaii, Inc. holds fee simple title to the subject property.

14. Access will be off Pohoiki Road through Amfac property on an old railroad right-of-way to an existing 40-foot easement on the east boundary of the subject property.

15. The property's dominant soil types are Opihikao extremely rocky muck and Aa and Pahoehoe lava flows; such types are classified by the Soil Conservation Service, U. S. Department of Agriculture, as Class VIIs and VIII, which are the lowest classes in the ranking system for agricultural activity and thus are considerably limited as to their use for cultivation purposes.

16. Of the approximately 180 acres involved in the petition, only three acres will actually be used for the well sites.

17. The subject property is in a State Land Use Agricultural District.

18. County zoning for the property is "Agriculture" with a ten-acre minimum lot size.

19. According to the Land Use Inventory conducted by the Planning Department, there are two residences within a

one mile radius of the subject property.

PROPOSED USE.

20. GEDCO plans to drill a maximum of nine exploratory wells and to test them in order to determine the extent and magnitude of geothermal resources under subject property.

21. The GEDCO project will produce data for evaluating the suitability of the geothermal resource as a production reservoir.

22. The drilling schedule would be 24 hours a day, Mondays through Fridays.

23. The project will involve the use of a drilling rig with an estimated 100-foot tower and other generating and accessory equipment.

24. It is unlikely that the project will produce air pollutants or toxic substances that would adversely affect the surrounding areas.

25. Normal operating sounds of drilling equipment will be minimized by GEDCO, and noise problems are not anticipated, especially since there are no homes nearby.

26. A physical survey and replies from governmental agencies indicate that the project will not harm any known or registered historic sites or cause a detriment of any endangered species particularly occupying the subject property.

27. Monitoring of the environmental impacts of the project will be done on a continuing basis, referring to measurements from "baseline" data collected since 1975.

28. The project will not substantially change the character of the land.

29. The project is not likely to unreasonably burden public agencies to provide roads, water, and other essential infrastructure and services.

COUNTY OF HAWAII GENERAL PLAN.

30. The General Plan Land Use Patent Allocation Guide Map designates the subject area as "Orchard," indicating that the land, though rocky in character and content, could possibly support productive macadamia nut, papaya, and other similar agricultural products.

31. The Public Utilities Element of the General Plan states that County shall encourage the continuation of studies concerning the development of power which can be distributed at lower costs to consumers.

32. The Economic Element of the General Plan states that the Island of Hawaii should be developed into a unique scientific and cultural model where development should be reviewed on the basis of total impact on the island's residents, not only in terms of immediate short-range economic benefits.

33. The goals of the recently adopted Energy Element of the General Plan are to strive for energy self-sufficiency and to establish the Big Island as a demonstration community for the development and use of natural energy resources.

34. The policies of the Energy Element are to encourage the development of alternative energy resources and the expansion of the energy research industry and to strive to assure a sufficient supply of energy to support present and future demands.

CONCLUSIONS OF LAW

Pursuant to HRS §205-6, as amended, the District Regulations of the State Land Use Commission, and Rule 6 of the Hawaii County Planning Commission Rules Relating to Administrative Procedure, the Commission concludes that all of the legal requirements of notice and hearing were complied

with in the Petition of Geothermal Exploration and Development Corporation for a Special Permit to allow the exploratory drilling of a maximum of nine wells on approximately 180 acres of land situated at Puna, County and State of Hawaii. The Commission, having heard and examined all of the record, evidence, and arguments of the parties, concludes that the proposed use of the subject constitutes an "unusual and reasonable use" because:

1. The proposed use shall not be contrary to the objective sought to be accomplished by the Land Use Law and Regulations, which are intended to protect, preserve and encourage the development of lands in the State for the public health and welfare of the people of the State of Hawaii;

2. The proposed use will not adversely affect surrounding property;

3. The proposed use will not unreasonably burden public agencies to provide roads and streets, sewers, water, drainage and school improvements, and police and fire protection;

4. Unusual conditions, trends, and needs have arisen since the district boundaries and regulations were established; and

5. The subject property is generally unsuited for the cultivation of crops and other related permissible uses within the agricultural district.

ORDER

It is hereby ordered that a Special Permit be granted to Geothermal Exploration and Development Corporation for the

drilling of a maximum of nine wells on approximately 180 acres of land situated at Puna, County and State of Hawaii, identified as Tax Map Key 1-4-02:10 subject to the following conditions:

1. That prior to commencement of any operation, the petitioner or its authorized representative(s) shall comply with the requirements of Regulation 8 of the State Department of Land and Natural Resources relative to drilling for geothermal resources in Hawaii.

2. That the petitioner/representative(s) shall secure a building permit for all structures which are to be constructed on the subject property.

3. That prior to commencement of any drilling activity, the petitioner/representative(s) shall submit plans to the Planning Department showing the location of the well site(s) to be drilled.

4. That the drilling of the first well shall commence within one (1) year from the effective date of approval of the Special Permit.

5. That the length of this Special Permit shall be for a period not to exceed three (3) years from the effective date of the Special Permit.

6. That the rules, regulations and requirements of the State Department of Health shall be complied with.

7. That the petitioner/representative(s) shall be responsible to assure that every precaution is taken to reduce any nuisances, whether it be noise or fumes, which may affect the residents and properties in the immediate area. Should it be determined that these precautionary measures are not being applied, the Planning Department is authorized to cease any further activity in the area.

8. That upon termination of the operation or if the petitioner determines that the project is not feasible, all structures erected shall be dismantled and removed from the site(s).

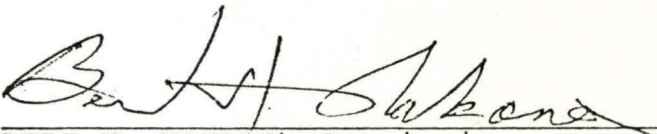
9. That there shall be no more than nine (9) exploratory drillings; provided that upon the discovery of three (3) successful wells, all further exploratory drillings shall immediately cease.

10. That all other applicable rules and regulations shall be complied with.

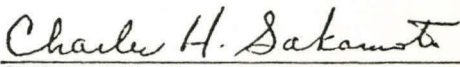
Dated: Hilo, Hawaii, this 11th day of September, 1980.

HAWAII COUNTY PLANNING COMMISSION,
COUNTY OF HAWAII


WILLIAM J. PARIS, JR., Chairman
and Commissioner



BERT H. NAKANO, Commissioner


ALFREDO ORTA, Commissioner


CHARLES H. SAKAMOTO, JR., Commissioner


CLYDE IMADA, Commissioner


TINA WHITMARSH, Commissioner


ROY KAGAWA, Commissioner

Glenn Frias

GLENN FRIAS, Commissioner

George Ponte

GEORGE PONTE, Commissioner

STATE OF HAWAII
LAND USE COMMISSION :
Suite 1795
Pacific Trade Center
190 S. King Street
Honolulu, Hawaii 96813

November 3, 1980

Mr. Hideto Kono, Director
Dept. of Planning & Economic Development
State of Hawaii
Kamamalu Building
250 South King Street
Honolulu, Hawaii 96813

Attention: Mr. Tatsuo Fujimoto, Head, Land Use Division

Dear Mr. Kono:

Enclosed is a Notice of Land Use Commission meeting and the Agenda for the Meeting.

Please note that petition

✓ SP80-347 - GEOTHERMAL EXPLORATION & DEVELOPMENT CORP. (Hawaii)*
A80-490 - CHRISTY T. MAMIYA (Maui)**

* acted on
will be **heard at that time.

Should you have any questions on this matter, please contact this office.

Very truly yours,



GORDAN FURUTANI
Executive Officer

Enclosure - Agenda

STATE OF HAWAII
LAND USE COMMISSION
Suite 1795
Pacific Trade Center
190 S. King Street
Honolulu, Hawaii 96813

November 3, 1980

Ms. Annette Chock
Deputy Attorney General
Department of Attorney General
State of Hawaii
4th Floor, State Capitol
Honolulu, Hawaii 96813

Dear Ms. Chock:

Enclosed is a Notice of Land Use Commission meeting and the Agenda for the Meeting.

Please note that petition

✓ SP80-347 - GEOTHERMAL EXPLORATION & DEVELOPMENT CORP. (Hawaii)*
A80-490 - CHRISTY T. MAMIYA (Maui)**

* acted on
will be **heard at that time.

Should you have any questions on this matter, please contact this office.

Very truly yours,



GORDAN FURUTANI
Executive Officer

Enclosure - Agenda

STATE OF HAWAII
LAND USE COMMISSION
Suite 1795
Pacific Trade Center
190 S. King Street
Honolulu, Hawaii 96813

November 3, 1980

Mr. Sidney Fuke
Planning Director
Hawaii Planning Department
25 Aupuni Street
Hilo, Hawaii 96720

Dear Mr. Fuke:

Enclosed is a Notice of Land Use Commission meeting and the Agenda for the Meeting.

Please note that petition

SP80-347 - GEOTHERMAL EXPLORATION & DEVELOPMENT CORPORATION

will be acted on at that time.

Should you have any questions on this matter, please contact this office.

Very truly yours,



GORDAN FURUTANI
Executive Officer

Enclosure - Agenda

STATE OF HAWAII
LAND USE COMMISSION
Suite 1795
Pacific Trade Center
190 S. King Street
Honolulu, Hawaii 96813

November 3, 1980

Mr. Stephen Bess
Corporation Counsel
Office of the Corporation Counsel
County of Hawaii
25 Aupuni Street
Hilo, Hawaii 96720

Dear Mr. Bess:

Enclosed is a Notice of Land Use Commission meeting and the Agenda for the Meeting.

Please note that petition

SP80-347 - GEOTHERMAL EXPLORATION & DEVELOPMENT CORPORATION

will be acted on at that time.

Should you have any questions on this matter, please contact this office.

Very truly yours,



GORDAN FURUTANI
Executive Officer

Enclosure - Agenda

STATE OF HAWAII
LAND USE COMMISSION
Suite 1795
Pacific Trade Center
190 S. King Street
Honolulu, Hawaii 96813

November 3, 1980

Mr. E. C. Craddick, President
Geothermal Exploration & Development Corp.
2828 Paa Street, Suite 2085
Honolulu, Hawaii 96819

Dear Mr. Craddick:

Enclosed is a Notice of Land Use Commission meeting and the
Agenda for the Meeting.

Please note that petition

SP80-347 - GEOTHERMAL EXPLORATION & DEVELOPMENT CORPORATION

will be acted on at that time.

Should you have any questions on this matter, please contact
this office.

Very truly yours,



GORDAN FURUTANI
Executive Officer

Enclosure - Agenda

STATE OF HAWAII
LAND USE COMMISSION
Suite 1795
Pacific Trade Center
190 S. King Street
Honolulu, Hawaii 96813

November 3, 1980

Mr. George M. Sheets
838 South Beretania Street, #300
Honolulu, Hawaii 96813

Dear Mr. Sheets:

Enclosed is a Notice of Land Use Commission meeting and the Agenda for the Meeting.

Please note that petition

SP80-347 - GEOTHERMAL EXPLORATION & DEVELOPMENT CORPORATION

will be acted on at that time.

Should you have any questions on this matter, please contact this office.

Very truly yours,



GORDAN FURUTANI
Executive Officer

Enclosure - Agenda

STATE OF HAWAII
LAND USE COMMISSION
Suite 1795
Pacific Trade Center
190 S. King Street
Honolulu, Hawaii 96813

November 3, 1980

Mr. Hiromu Yamanaka
116 Kamehameha Avenue
Hilo, Hawaii 96720

Dear Mr. Yamanaka:

Enclosed is a Notice of Land Use Commission meeting and the Agenda for the Meeting.

Please note that petition

SP80-347 - GEOTHERMAL EXPLORATION & DEVELOPMENT CORPORATION

will be acted on at that time.

Should you have any questions on this matter, please contact this office.

Very truly yours,



GORDAN FURUTANI
Executive Officer

Enclosure - Agenda

STATE OF HAWAII
LAND USE COMMISSION
Suite 1795
Pacific Trade Center
190 S. King Street
Honolulu, Hawaii 96813

November 3, 1980

Mr. James Woodruff
Department of Planning and
Economic Development (CSPTA)
P. O. Box 2359
Honolulu, Hawaii 96804

Dear Mr. Woodruff:

Enclosed is a Notice of Land Use Commission meeting and the
Agenda for the Meeting.

Please note that petition

SP80-347 - GEOTHERMAL EXPLORATION & DEVELOPMENT CORPORATION

will be acted on at that time.

Should you have any questions on this matter, please contact
this office.

Very truly yours,



GORDAN FURUTANI
Executive Officer

Enclosure - Agenda

STATE OF HAWAII
LAND USE COMMISSION
Suite 1795
Pacific Trade Center
190 S. King Street
Honolulu, Hawaii 96813

November 3, 1980

Ms. Susan Orlando
P. O. Box 448
Pahoa, Hawaii 96778

Dear Ms. Orlando:

Enclosed is a Notice of Land Use Commission meeting and the Agenda for the Meeting.

Please note that petition

SP80-347 - GEOTHERMAL EXPLORATION & DEVELOPMENT CORPORATION

will be acted on at that time.

Should you have any questions on this matter, please contact this office.

Very truly yours,



GORDAN FURUTANI
Executive Officer

Enclosure - Agenda

STATE OF HAWAII
LAND USE COMMISSION
Suite 1795
Pacific Trade Center
190 S. King Street
Honolulu, Hawaii 96813

November 3, 1980

Mr. Everett Kinney
Puna Hui Ohana
P. O. Box 611
Pahoa, Hawaii 96778

Dear Mr. Kinney:

Enclosed is a Notice of Land Use Commission meeting and the Agenda for the Meeting.

Please note that petition

SP80-347 - GEOTHERMAL EXPLORATION & DEVELOPMENT CORPORATION

will be acted on at that time.

Should you have any questions on this matter, please contact this office.

Very truly yours,



GORDAN FURUTANI
Executive Officer

Enclosure - Agenda

STATE OF HAWAII
LAND USE COMMISSION

NOTIFICATION OF LAND USE COMMISSION MEETING

November 19, 1980 - 9:00 a.m.
Conference Room, State Building
54 High Street
Wailuku, Maui

REC'D. BY

1980 OCT 31 PM 12 45

LT. GOVERNOR'S OFFICE

A G E N D A

I. ACTION

✓ 1. SP80-347 - Geothermal Exploration and Development Corporation (Hawaii)

To allow the exploratory drilling of a maximum of nine (9) wells on approximately 180 acres of land situated within the State Land Use Agricultural District at Laepaoo, Puna, Hawaii.

II. HEARING

1. A80-490 - Christy T. Mamiya (Maui)

To reclassify approximately 53.64 acres of land presently in the Agricultural District into the Rural District at Peahi, Makawao, Maui, for farm lots.

III. MISCELLANEOUS

1. ~~Adoption of Minutes~~

2. Meeting Schedule

11/3/80 - A copy of this agenda was mailed to all persons and organizations on the attached mailing lists:

1. STATEWIDE 2. HAWAII 3. MAUI



COUNTY OF
HAWAII

PLANNING DEPARTMENT

25 AUPUNI STREET • HILO, HAWAII 96720

LAND USE COMMISSION
STATE OF HAWAII
OCT 15 3 18 PM '80

HERBERT T. MATAYOSHI
Mayor

SIDNEY M. FUKU
Director

DUANE KANUHA
Deputy Director

October 9, 1980

SP 80-347

Mr. Gordan Furutani
Executive Officer
Land Use Commission
190 South King Street, Suite 1795
Honolulu, HI 96813

Dear Mr. Furutani:

Special Permit Application
Petitioner: Geothermal Exploration
and Development Corporation

In accordance with Chapter 205, Section 205-6, Hawaii Revised Statutes, we are transmitting the decision and findings of the County Planning Commission on the above application. Also, Exhibit XX (Aerial Photo) will be transmitted under separate cover.

The special permit request was 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 at Laepaoo, Puna, Hawaii, Tax Map Key 1-4-02:10.

The Planning Commission at its duly advertised public hearings held on June 30 and August 7 and 8, 1980, in the Councilroom, County Building, South Hilo, Hawaii, discussed the subject request. The Commission on August 21, 1980, voted to recommend the approval of the special permit to the Land Use Commission. Enclosed is the entire docket on the application.

Should you have any questions, please feel free to contact the Planning Department at 961-288.

Sincerely,

for *Julia Whitmarsh*
WILLIAM J. PARIS, JR.
Chairman, Planning Commission

Mr. Gordan Furutani
Page 2

lgv

Enclosures

cc: Mr. E. C. Craddick D+0
Mr. Hiromu Yamanaka
M. Jack Keppler D+0
Mr. George Sheets D+0
Mr. J. Woodruff D+0
Mrs. Susan Orlando D+0
Mr. Everett Kinney D+0

LIST OF EXHIBITS: GEOTHERMAL EXPLORATION AND DEVELOPMENT CORPORATION (GEDCO)

APPLICATION:

- A. Letter from GEDCO to department (4/4/80)
- A-1. Special Permit Application
- A-2. Petitioner's (GEDCO) reasons
- A-3. Petitioner's (GEDCO) Location Map and Drilling Sites
- B. Letter to GEDCO from department (4/24/80)
- C. Letter from GEDCO to department (4/30/80)
- D. Letter to GEDCO from department (5/12/80)
- E. Memo to Agencies (5/12/80)
- F. Letter to Everett Kinney from department (5/20/80)

AGENCIES COMMENTS:

- G. Managing Director, County of Hawaii, Mr. Jack Keppeler (5/14/80)
- H. Soil Conservation Service (5/15/80)
- I. Water Supply (5/23/80)
- J. Fire (5/27/80)
- K. HELCO (5/28/80)
- L. Health (5/28/80)
- M. Public Works (5/30/80)
- N. Police (6/10/80)

PUBLIC HEARING NOTICES & MEETINGS:

- O. Letter to surrounding property owners (6/16/80)
- O-1. Map sent to surrounding property owners
- O-2. Surrounding Property Owners list
- P. Letter to GEDCO from department (6/16/80)
- P-1. Public Hearing Notice for Planning Commission meeting June 30, 1980.
- Q. Letter to GEDCO from department (7/21/80)
- Q-1. Public Hearing Notice for Planning Commission meeting Aug. 7, 1980.
- R. Letter to GEDCO from department (8/12/80)

GENERAL CORRESPONDENCES:

- S. Letter to GEDCO from department (6/25/80)
- T. Letter from GEDCO to department w/encl. (7/8/80)
- U. Letter to GEDCO from department (7/15/80)
- V. Letter from GEDCO to department w/encl. (7/22/80)
- W. Letter to GEDCO from department (7/30/80)

MINUTES & TRANSCRIPTS:

- X. Minutes w/attachment, June 30, 1980
- X-1. Transcript, June 30, 1980
- Y. Minutes w/attachments, August 7 and 8, 1980. (Attach. A-H)
- Y-1. Transcript, August 7 and 8, 1980
- Z. Minutes, August 21, 1980
- AA. Minutes, September 11, 1980

BACKGROUND & RECOMMENDATION REPORTS:

- BB. Staff background report w/attachments:
 - BB-1. Letter from Nancy Elmer (6/30/80)
 - BB-2. Letter from Andrew Sarhanis (7/30/80)
 - BB-2. Dept. acknowledgement letter to A. Sarhanis (8/4/80)
- CC. Staff Recommendation report w/additional condition by the Planning Commission

CONTESTED CASE PROCEEDINGS & INTERESTED PARTIES:

- DD. Letter to List of Interested Parties from Planning Commission (7/2/80)
- EE. Letter to GEDCO from Planning Commission (7/3/80)
- FF. Letter from Susan Orlando w/enclosure - deed (7/14/80)
- GG. Letter from DPED w/enclosure (7/16/80):
 - Letter from J. Woodruff
 - Copy of Chapter 196, HRS, amended
- HH. Letter from Puna Hui Ohana w/enclosures (7/17/80)
- II. Letter to S. Orlando from Planning Commission (7/22/80)
- JJ. Letter to DPED from Planning Commission (7/22/80)
- KK. Letter to Puna Hui Ohana from Planning Commission (7/22/80)
- LL. Letter to GEDCO from Planning Commission (7/23/80)
- LL-1. Contested Case Procedures
- MM. Letter to DPED, S. Orlando, GEDCO, Puna Hui Ohana, from department (7/30/80)
- NN. Letter to DPED, S. Orlando, GEDCO, Puna Hui Ohana, from department (8/1/80)
- OO. Memo from Ben Tsukazaki, Deputy Corporation Counsel to interested parties (GEDCO, S. Orland, DPED, Puna Hui Ohana, Planning Dept.) (8/7/80)
- OO-1. Agreement signed by interested parties
- OO-2. List of Witnesses
- OO-3. List of Exhibits by interested parties:
 1. Planning Department
 2. DPED
 3. GEDCO
 4. Puna Hui Ohana

PLANNING COMMISSION DECISION:

- PP. ~~Voting Sheet, August 21, 1980~~
- QQ. Letter to GEDCO from Planning Commission (9/2/80)
- RR. Special Permit No. 460
- SS. Memo to Corporation Counsel from department (9/3/80)
- TT. Planning Commission's Findings of Facts, Conclusions of Law and Decision and Order
- UU. Photos presented by Puna Hui Ohana
- VV. Location Map
- WW. Plot Plan
- XX. Aerial Photo from GEDCO (original)
- YY. Topography Map presented by Puna Hui Ohana (original & copy)
- ZZ. Scenario presented by Puna Hui Ohana (Original & copy)
(ZZ:1-7)

APPLICATION

LUC

GEOHERMAL EXPLORATION & DEVELOPMENT CORP.

PACIFIC OPERATIONS

April 4, 1980

Mr. Sidney Fuke, Director
Planning Department
25 Aupuni Street
Hilo, Hawaii 96720

Reference: Special Land Use Permit
Geothermal Drilling

Dear Mr. Fuke:

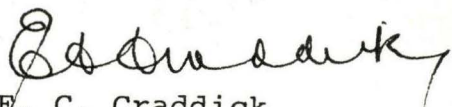
We are enclosing herewith sixteen (16) copies of our application for a Special Use Permit including reasons for application, site survey map showing area and well site location together with a \$100.00 processing fee.

The drilling program on this property will follow our program at Opihikao. In the event that Opihikao does not prove successful we would be most anxious to move promptly to this (Daiichi Seiko) site.

Your early attention to this application would therefore be most appreciated. If there is any additional information that you need, please telephone me collect at 839-7720, and I will give the matter my immediate attention.

Very truly yours,

GEOHERMAL EXPLORATION &
DEVELOPMENT CORP.


E. C. Craddick
President

ECC/sm
Encl.

cc: Mr. Hideto Kono, DPED - Honolulu
Mayor's Office - Hilo
Vern Yamanaka - Hilo

EXHIBIT A

APPLICATION FOR SPECIAL PERMIT

COUNTY OF HAWAII

PLANNING DEPARTMENT - PLANNING COMMISSION

APPLICANT: GEO THERMAL EXPLORATION & DEVELOPMENT CORP.

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

ADDRESS: 2828 Paa Street, Suite 2085, Honolulu, Hawaii 96819

TELEPHONE: (808) 839-77727

TAX MAP KEY: 1-4-02-10 (Hawaii) AREA: Approx. 180 acres
(Size of Parcel)

OWNER: DAIICHI SEIKO OF HAWAII, INC.

OWNER'S SIGNATURE: *Terenu Iwanaka, Secretary*

APPLICANT'S INTEREST, IF NOT OWNER: Lessee of mineral 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 _____

EXHIBIT A-1

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 approximately 1.5 miles distant 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 is 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 form 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) 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 germane 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.

Ret to PH

April 24, 1980

Mr. E. C. Craddick, President
Geothermal Exploration & Development
Corporation,
2828 Paa Street, Suite 2085
Honolulu, Hawaii 96819

Dear Mr. Craddick:

Special Permit Application
Geothermal Drilling
TMK: 1-4-02:10

This is in regards to the above-mentioned Special Permit application filed with our office. The application is incomplete, for we need the following additional information:

1. The number of wells to be drilled.
2. A minimum 2' x 3' site plan showing the location of the drilling sites.
3. Delineate access to the property.
4. Anticipated commencement date and length of time of the drilling.
5. The ultimate purpose(s) of the wells, should the project prove positive. This information is critical, as the positive results of this project may have widespread land use impact to the surrounding areas.

Until such time that the above information is received, the application will not be considered a "properly filed" one in accordance with the Planning Commission and State Land Use Commission's Rules and Regulations. We will, nevertheless, and in the interest of convenience, retain the previously submitted material unless otherwise instructed by you.

EXHIBIT B

APR 25 1980

Mr. E. C. Craddick
Page 2
April 24, 1980

Should you have any questions, please feel free to contact us.

Sincerely,

Sidney Fuke

SIDNEY FUKU
Director

NH:lkt

cc: Hiromu Yamanaka
Jack Keppler

GEOHERMAL EXPLORATION & DEVELOPMENT CORP.

PACIFIC OPERATIONS

April 30, 1980

Mr. Sidney Fuke, Director
Planning Department
25 Aupuni Street
Hilo, Hawaii 96810

Dear Mr. Fuke:

Special Permit Application
Geothermal Drilling
TMK: 1-4-02:10

The following information is submitted in response to your letter of April 24, 1980, for the purpose of completing our application requirements:

- 1. We are requesting permission to drill at a maximum of nine (9) sites. We will select one of these sites and apply for the first drilling permit.

The results of this first well will determine whether or not we will proceed with further exploratory efforts on the Daiichi property. In the event that sufficient heat is encountered, a short test, approximately four (4) hours, would be conducted to determine if a sustained steam flow appears probable in order to log the characteristics of the well. With a knowledge of the foregoing, plans would then be made to follow-up with a longer test of approximately sixty (60) days using any necessary sound and smell abatement equipment as the need is indicated.

2. A 2' x 3' site plan showing the proposed drilling sites is enclosed.
3. The property will be approached from the Pohoiki road, thence through Amfac property on the old railroad right of way, makai of the Tokyu Land, to the existing 40 feet easement on the East boundary of the Daiichi property.
4. The anticipated earliest starting date would be September 1980 (depending upon our success at the present drilling project at Opihikao scheduled to begin the end of May 1980). The length of drilling time would be approximately three (3) months, with another 2 to 3 months of testing and evaluation.
-

EXHIBIT C

Mr. Sidney Fuke, Director
Planning Department

-2-


April 30, 1980

5. The ultimate purpose of the wells, should the project prove positive, would be for the generation of electrical power to meet domestic and industrial needs.

This drilling program is part of our general plan of determining the nature and extent of the geothermal potential in Puna, Hawaii, in order to permit the best and most orderly development and use of this resource after consideration of all aspects of geophysical economic, environmental and social factors.

Very truly yours,

GEOHERMAL EXPLORATION &
DEVELOPMENT CORP.



E. C. Craddick
President

ECC/sm

Enclosures: 2' x 3' Site Plan - 16 copies.

cc: Mr. Hiromu Yamanaka - W/encl.
Mr. Jack Keppler - W/encl.
Mr. Vern Yamanaka - W/encl.
Mr. Bill Craddick - W/encl.

May 12, 1980

Mr. E. C. Craddick
2828 Paa St., Suite 2085
Honolulu, Hawaii 96819

Dear Mr. Craddick:

Special Permit Application (Docket SP80-3)
Drilling of 9 Geothermal Wells
Tax Map Key: 1-4-02:10

This is to officially acknowledge receipt on May 6, 1980 of the above described special permit application.

According to the Planning Commission's Rule No. 6 Relating to Special Permit Procedures, the Commission shall conduct a public hearing on the request within a period of not more than ninety (90) days from the receipt of the application. The Commission shall then act on the application within a period of thirty (30) days after the close of the public hearing. Should the Planning Commission recommend favorably on the request, it will then be forwarded to the State Land Use Commission for final action.

However, the Planning Commission may deny the request if it is found that the proposed use does not meet the special permit guidelines. In this case, their decision is final. In accordance with the provisions of Chapter 205-6, Hawaii Revised Statutes, a denial by the Planning Commission may be appealable to the Circuit Court of the Circuit in which the land is situated, in this case, the Third Circuit Court.

Notice of the time and place of the public hearing shall be forwarded when the application is scheduled for Commission action.

Should any questions arise, please contact Norman Hayashi or Brian Nishimura of this department at 961-8288.

Sincerely,



SIDNEY FUKU
Director

NKH:y

EXHIBIT D

MAY 13 1980

MEMORANDUM:

PLANNING DEPARTMENT - County of Hawaii, Hilo, Hawaii 96720

To: DPW, DWS, Highways, Health, R & D, Police, Fire, Date: May 12, 1980
Soil Conservation, DCA, HELCO, DLNR

From: Planning Director

Maui Kama

Subject: Special Permit Application (Docket SP80-3)
Geothermal Exploration & Development Corp.
Drilling of 9 Geothermal Wells
Tax Map Key: 1-4-02:10

The attached application for a Special Permit is forwarded for your review. May we have written comments within two weeks.

Thank you very much.

/y
Enclosure

EXHIBIT E

MAY 13 1980

May 20, 1980

Mr. Everett Kinney
Hawaii County Energy Advisory
Committee
P. O. Box 611
Pahoa, HI 96778

Dear Mr. Kinney;

Special Permit Application (Docket SP 80-3)
Geothermal Exploration & Development Corporation
Tax Map Key: 1-4-02:10

Geothermal Exploration and Development Corporation has submitted an application for a Special Permit to allow the drilling of nine (9) wells within the Puna District. Since you are involved in this area of energy development, we are transmitting the above-mentioned application for your review.

If at all possible, we would appreciate your comments within two (2) weeks. Should you have any questions, please feel free to contact Norman Hayashi or Brian Nishimura of this office at 961-8288.

Thanking you in advance.

Sincerely,



SF SIDNEY FUCE
Director

NH:ikt

Enclosure

EXHIBIT F

MAY 21 1980

AGENCIES
COMMENTS

SPEED LETTER®

NEW SP-61110 80-3

TO Mayor Matayoshi
A. Duane Black / Ke Kalaiki
Sidney Fuku / Duane Kukuaka

FROM OFFICE OF THE MAYOR
COUNTY OF HAWAII
HAWAII COUNTY BUILDING
25 AUPUNI STREET
HILO, HAWAII 96720

SUBJECT Meet with Principals of Yamimaha/Craddick - Bonwell Hui

NO. 9 & 10 FOLD

MESSAGE

DATE

5/14

1980

I had a two (2) hour meeting with this geothermal development hui (in the attendance was Roland Higashi) in regards ~~to~~ to their development plans for Opilihae, Pohole properties of Seiko & Tokuyo and its long range use and development of the geothermal resource should it be found on lands that it controls. They jointly (see xeroxed cards attached) made an excellent presentation and seemed very sincere in "doing the right thing" about going on both direct heat and electrical energy generation from the Hawaiian resource.

NO. 9 FOLD

NO. 10 FOLD

SIGNED

REPLY

DATE

19

The concept of a development authority to assist in the resource application technique R&D & D and for the stimulation of small and minority businesses doing things as an extension of current experiences i.e.: tropical fruit processing, tropical plant propagation, Stimulated aquaculture, etc. was of particular interest and they would be keenly interested in drilling a "step-out well" & ~~to~~ actually participating an development authority

SIGNED

Joe

GeothermEx, Inc.

GEOTHERMAL EXPLORATION
& DEVELOPMENT

MURRAY C. GARDNER

VICE PRESIDENT

901 MENDOCINO AVENUE
BERKELEY, CA 94707

(415) 524-9242
~~525-7096~~

(415) 527-9876



J. S. Barnwell, Jr.

PRESIDENT
Barnwell Coal Company

6TH FLOOR KRYSTAL BUILDING
100 WEST 9TH STREET
P.O. BOX 11222
CHATTANOOGA, TN 37401
615-756-8614

SAMUEL M. EISENSTAT

LAW OFFICES
EISENSTAT & GOTTESMAN, P.C.
30 ROCKEFELLER PLAZA
NEW YORK, N.Y. 10020

(212) 541-8931

EXHIBIT

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

P. O. Box 1361, Hilo, HI 96720

May 15, 1980

Mr. Sidney Fuke, Director
Planning Department
County of Hawaii
25 Aupuni Street
Hilo, HI 96720

Dear Mr. Fuke:

Subject: Special Permit Application
Geothermal Exploration & Development Corp.
TMK 1-4-02:10

We have reviewed the Special Permit Application and do not have
any comments to offer.

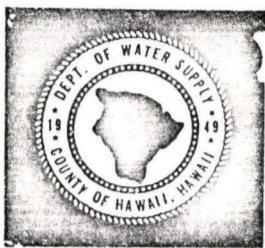
Sincerely,



Larry R. Soenen
District Conservationist

EXHIBIT #





DEPARTMENT OF WATER SUPPLY • COUNTY OF HAWAII

P. O. BOX 1820

HILO, HAWAII 96720

25 AUPUNI STREET

May 23, 1980

TO: Planning Department
FROM: Manager
SUBJECT: SPECIAL PERMIT APPLICATION
DRILLING OF GEOTHERMAL WELLS
APPLICANT - GEOTHERMAL EXPLORATION & DEVELOPMENT CORP.
TAX MAP KEY 1-4-02:10

The applicant should address any effects to the groundwater resource that the proposed geothermal well drilling might cause.

William Sewake
H. William Sewake
Manager

QA

EXHIBIT I

... Water brings progress...

HAWAII FIRE DEPARTMENT • COUNTY OF HAWAII • HILO, HAWAII 96720

DATE May 27, 1980

Memorandum

TO : Planning Department

FROM : Hiroshi Shishido, Deputy Fire Chief

SUBJECT: SPECIAL LAND USE PERMIT
GEOTHERMAL DRILLING

Because of the government's stand on alternate means of energy resources, we have no objections to this project.

Hiroshi Shishido

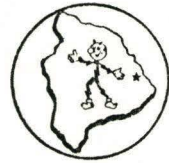
HIROSHI SHISHIDO
DEPUTY FIRE CHIEF

HS/db

Attachment

EXHIBIT J

HAWAII ELECTRIC LIGHT COMPANY, INC.
P. O. BOX 1027 HILO, HAWAII-96720



GENPP 19-3
XR LIC 2
H-W/R

May 28, 1980

County of Hawaii
Planning Department
25 Aupuni Street
Hilo, Hawaii 96720

Attention: Mr. Sidney Fuke
Director

Subject: Special Permit Application (Docket No. SP80-3)
Geothermal Exploration & Development Corp.
Drilling of 9 Geothermal Wells
Tax Map Key: 1-4-02:10

Gentlemen:

Reference is made to your memo of May 12, 1980.

Please be advised that we do not have any electric pole lines near this proposed geothermal exploration site.

Very truly yours,

A handwritten signature in dark ink, appearing to read 'JN' with a flourish extending to the right.

Jitsuo Niwao, Manager
Engineering Department

JN:bk

EXHIBIT K

MEMORANDUM:

PLANNING DEPARTMENT - County of Hawaii Hilo, Hawaii 96720

To: DPW, DWS, Highways, Health, R & D, Police, Fire, Date: May 12, 1980
Soil Conservation, DOA, HELCO, ~~DLNR~~

From: *[Signature]*
Planning Director

Subject: Special Permit Application (Docket SP80-3)
Geothermal Exploration & Development Corp.
Drilling of 9 Geothermal Wells
Tax Map Key: 1-4-02:10

BY *[Signature]*

MAY 14 P 2: 23

The attached application for a Special Permit is forwarded for your review. May we have written comments within two weeks.

Thank you very much.

/y
Enclosure

Department of Health
Hilo, HI
May 28, 1980

COMMENTS

Background experience identified the need for control systems to scrub hydrogen sulfide and noise emissions. The Leilani Estate and Nanawale residents have communicated the need to be informed of future geothermal projects in their area. Recommend community informational meetings.

[Signature]
HAROLD MATSUURA
Chief Sanitarian, Hawaii

EXHIBIT L

DEPARTMENT OF PUBLIC WORKS
COUNTY OF HAWAII
HILO, HAWAII

DATE May 30, 1980

Memorandum

TO : Planning Department

FROM : Chief Engineer

SUBJECT: Application for Special Permit
Applicant: Geothermal Exploration and Development Corporation
Location: Puna, Hawaii
TMK: 1-4-02:10

We have reviewed the subject application and have no comments to offer.



EDWARD HARADA, Chief Engineer

EXHIBIT M



POLICE DEPARTMENT

COUNTY OF HAWAII
349 KAPIOLANI STREET
HILO, HAWAII 96720



OUR REFERENCE 14273

GUY A. PAUL

YOUR REFERENCE

CHIEF OF POLICE

June 10, 1980

TO : SIDNEY FUKU, PLANNING DIRECTOR

FROM : GUY A. PAUL, CHIEF OF POLICE

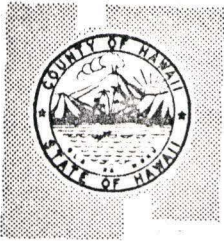
SUBJECT: SPECIAL PERMIT APPLICATION - GEOTHERMAL EXPLORATION & DEVELOPMENT CORP.
TMK: 1-4-02:10

The application submitted by the above applicant has been reviewed and from the police standpoint, we can foresee no adverse effects from the requested land use.


GUY A. PAUL
CHIEF OF POLICE

AAH/RLP/k

EXHIBIT N



COUNTY OF
HAWAII

PLANNING DEPARTMENT

25 AUPUNI STREET • HILO, HAWAII 96720

HERBERT T. MATAYOSHI
Mayor

SIDNEY M. FUKU
Director

DUANE KANUHA
Deputy Director

June 16, 1980

Dear Property Owner: TMK:

Special Permit Application
Laepaoo, 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, Laepaoo, 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. Fuku
Planning Director

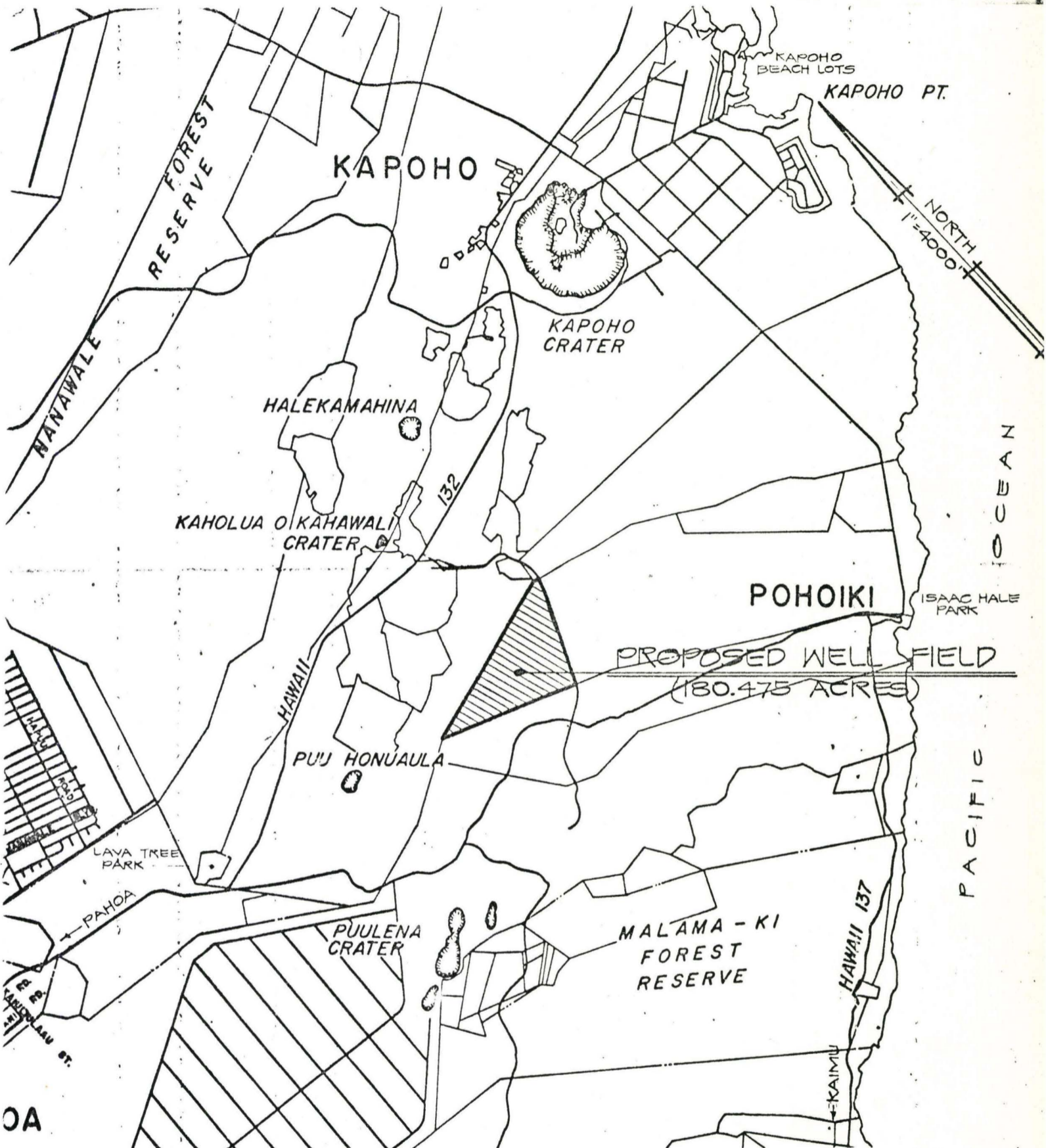
smn

Enclosure

cc: State Land Use Commission
Land Use Division, DPED

EXHIBIT 0

JUN 16 1980



SPECIAL PERMIT REQUEST

DRILLING OF 9 GEOTHERMAL WELLS

LAEPAOO, PUNA, HAWAII
 TAX MAP KEY : 1-4-02:10

APPLICANT : GEOTHERMAL EXPLORATION & DEVELOPMENT CORP.

EXHIBIT 0-1

JUNE 4, 1980

LAEPASO, PUNA

SPECIAL PERMIT

GEO THERMAL EXPLORATION & DEVELOPMENT CORP.

~~GEO THERMAL~~ DRAWING OF 9 GEO THERMAL WELLS

1-4-02:10 (180⁴⁷⁵ ACRES)

6

1-3-08:5 Puna Sugar Company

Keaau, HI 96749

7 Tokyu Land Dev. Haw. Inc.
190 S. King St. Ste. 1180
Hon. 96813

1-4-01:1, Kapoho Land & Dev. Co. Ltd. P.O. Box 18 Pahoa 96778
19 and 1-4-13:6,7

19 same as 1

1-4-02:11 State, DLNR P.O. Box 621 Hon. 96809

27 B.P. Bishop Trust Est.
P.O. Box 3466
Hon. 96801

67 James Kealoha
68, 71 Pa O Puna Farm Ltd.
P.O. Box 654 Hilo 96720

68 same as 67

71 same as 67

1-4-13:6 same as 14-01:1

7 " " "

June 16, 1980

Mr. E. C. Craddick, President
Geothermal Exploration and Development Corp.
2828 Paa Street, Suite 2085
Honolulu, HI 96819

Dear Mr. Craddick:

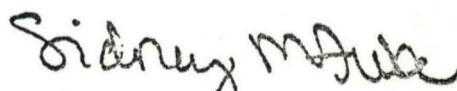
Notice of a Public Hearing
Special Permit Application
Tax Map Key 1-4-02:10

This is to inform you that your request has been scheduled for a public hearing. Said hearing will be held beginning at 7:30 p.m. on Monday, June 30, 1980, in the Councilroom, County Building, South Hilo, Hawaii.

The presence of a representative will be appreciated in order that all questions relative to the request may be clarified.

A copy of the hearing notice and agenda is enclosed for your information.

Sincerely,



Sidney M. Fuke
Planning Director

smn

Enclosure

cc: State Land Use Commission
Land Use Division, DPED
Mr. Hiromu Yamanaka
Mr. Jack Keppler

JUN 16 1980
EXHIBIT P

PUBLIC HEARINGS

PLANNING COMMISSION
COUNTY OF HAWAII

NOTICE IS HEREBY GIVEN of public hearings to be held by the Planning Commission of the County of Hawaii in accordance with the provisions of Section 5-4.3 of the Charter of the County of Hawaii.

PLACE: Councilroom, County Building, South Hilo, Hawaii

DATE: Monday, June 30, 1980

TIME: 7:00 p.m. (Item No. 1)
7:30 p.m. (Item No. 2)

The purpose of the public hearings is to afford all interested persons a reasonable opportunity to be heard on the following requests:

1. DETERMINATION OF "BLIGHTED AREA" WITHIN THE HILO DOWNTOWN
To delineate the area within the Hilo Downtown Development Plan as a "blighted area" for the purpose of the Hawaii Redevelopment Agency's program and activities, pursuant to Chapter 53, HRS.
2. PETITIONER: GEOTHERMAL EXPLORATION AND DEVELOPMENT CORP.
LOCATION: Approximately 1 mile southeast of the existing HGP geothermal well site and about 2,000 feet north of the Pohoiki Road, Laepaoo, Puna.
TMK: 1-4-02:10
PURPOSE: 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.

EXHIBIT P-1

Maps showing the general locations and boundaries of the areas under consideration and/or plans of the proposed developments are on file in the office of the Planning Department in the County Building at 25 Aupuni Street, Hilo, Hawaii, and are open to inspection during office hours. All comments should be filed with the Planning Commission before that date, or in person at the public hearing.

PLANNING COMMISSION,
WILLIAM J. PARIS, JR., Chairman
By SIDNEY M. FUKU
Planning Director

(Hawaii Tribune-Herald: June 20 and 27, 1980)

July 21, 1980

Mr. E. C. Craddick, President
Geothermal Exploration & Development Corp.
2828 Paa Street, Suite 2085
Honolulu, HI 96819

Dear Mr. Craddick:

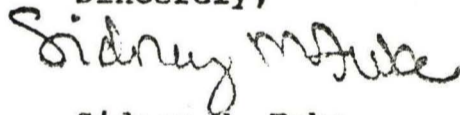
Notice of a Continuing Public Hearing
Special Permit Application
Tax Map Key 1-4-02:10

This is to inform you that your request has been scheduled for a public hearing. Said hearing will be held beginning at 7:00 p.m. on Thursday, August 7, 1980, in the Councilroom, County Building, South Hilo, Hawaii.

The presence of a representative will be appreciated in order that all questions relative to the request may be clarified.

A copy of the hearing notice and agenda is enclosed for your information.

Sincerely,



Sidney M. Fuke
Planning Director

smn

Enclosure

cc: Hiromu Yamanaka
Jack Keppler

EXHIBIT Q

JUL 21 1980

PUBLIC HEARINGS
PLANNING COMMISSION
COUNTY OF HAWAII

NOTICE IS HEREBY GIVEN of public hearings to be held by the Planning Commission of the County of Hawaii in accordance with the provisions of Section 5-4.3 of the Charter of the County of Hawaii.

PLACE: Councilroom, County Building, South Hilo, Hawaii

DATE: Thursday, August 7, 1980

TIME: 3:30 p.m. (Item Nos. 1-4)
7:00 p.m. (Item No. 5)

The purpose of the public hearings is to afford all interested persons a reasonable opportunity to be heard on the following requests:

1. PETITIONER: PACIFIC PARADISE OCEAN FRONT ESTATES, LTD.
LOCATION: Within the Pacific Paradise Ocean Front Estates Subdivision, Kapaahu, Puna.
TMK: 1-2-28 & 29
PURPOSE: Time extension to fulfill Condition No. 3 of Special Management Area (SMA) Use Permit No. 32 which allowed the installation of underground utility systems and certain roadway improvements.
2. PETITIONER: DANIEL HATA
LOCATION: Off the east side of the Volcano Road, 1,650 feet Keaau side of Sako Store, Kurtistown, Olaa Homestead Reservation Lots, Puna.

EXHIBIT Q-1

TMK: 1-7-01:21(portion) and 25.

PURPOSE: Change of zone for 15.4 acres of land from an Agricultural 10-acre (A-10a) to an Agricultural 5-acre (A-5a) zoned district.

PETITIONER: BERNARD KRATKY

LOCATION: Along the Puna side of Lanikaula Street, between Kinoole Street and Kilauea Avenue, Waiakea, South Hilo.

TMK: 2-2-25:31

PURPOSE: Change of zone for 10,000 square feet of land from a Single Family Residential - 10,000 square foot (RS-10) to a Multiple Residential - 4,000 square foot (RM-4) zoned district.

4. PETITIONER: CHRISTOPHER HOY

LOCATION: Along the south side of a 50-foot wide Homestead Road, approximately 2.3 miles mauka of Honokaa Village, Ahualoa Homesteads, 3rd Series, Hamakua.

TMK: 4-5-11:12.

PURPOSE: Petition for an appeal from the Planning Director's denial action on a request for an amendment to Variance Permit No. 521 to allow a gravel surface roadway in lieu of an oil-treated surface and the deletion of Condition No. 3.

5. PETITIONER: GEOTHERMAL EXPLORATION AND DEVELOPMENT
CORP.

LOCATION: Approximately 1 mile southeast of the
existing HGP geothermal well site and
about 2,000 feet north of the Pohoiki
Road, Laepaoo, Puna, TMK: 1-4-02:10.

TMK: 1-4-02:10

PURPOSE: Continuation of a public hearing 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.

Maps showing the general locations and boundaries of the areas
under consideration and/or plans of the proposed developments are on
file in the office of the Planning Department in the County Building
at 25 Aupuni Street, Hilo, Hawaii, and are open to inspection during
office hours. All comments should be filed with the Planning Commis-
sion before that date, or in person at the public hearing.

PLANNING COMMISSION,
WILLIAM J. PARIS, JR., Chairman
By SIDNEY M. FUKU
Planning Director

(Hawaii Tribune-Herald: July 27, and August 5, 1980)

August 12, 1980

Mr. E. C. Craddick, President
Geothermal Exploration and
Development Corporation
2828 Paa Street, Suite 2085
Honolulu, Hawaii 96819

Dear Mr. Craddick:


Special Permit Application
Tax Map Key 1-4-02:10

Your application will again be discussed on August 21, 1980, by the Planning Commission. The meeting will be held at the Kealakehe School Cafetorium, Kealakehe, North Kona, Hawaii and is scheduled to begin at 3:00 p.m..

You will be notified of the Commission's action.

A copy of the agenda is enclosed for your information.

Sincerely,


Sidney M. Fuke
Planning Director

lgv
Enclosure

cc: Planning Commission
Hiromu Yamanaka
George Sheets
James Woodruff
Susan Orlando
Everett Kinney

EXHIBIT R

AUG 13 1980

GENERAL
CORRESPONDENCES

June 25, 1980

Mr. E. C. Craddick, President
Geothermal Exploration and
Development Corporation
2828 Paa St., Suite 2085
Honolulu, Hawaii 96819

Dear Mr. Craddick:

Special Permit Application
Geothermal Drilling
Tax Map Key: 1-4-02:10

This is to confirm the telephone conversation you had with Brian Nishimura of this department on June 25, 1980, concerning the following information on the subject application.

1. That the activities being proposed for the subject property will be similar to those which were approved by Special Permit No. 77-265.
2. The structures involved in the testing phase will include the following:
 - a. wellhead valving to control the well flow;
 - b. silencing cylinders for noise abatement;
 - c. separating, condensing or other type facilities for the reduction of Hydrogen Sulfide emissions.
3. That any further development beyond the drilling and testing will require another special permit.

In addition, we also requested that you submit evidence indicating that the geothermal resources on the subject property has not been reserved to the State of Hawaii.

Although not discussed during the telephone conversation described above, we would also like to confirm the specific nature of the drilling operation. As

EXHIBIT 5

JUN 26 1980

Mr. E. C. Craddick
Page 2
June 25, 1980

described for the Opihikao well site, we are assuming that the drilling operation for the subject application will involve the following:

1. A drilling rig with a 100-foot tall tower generating equipment and accessory equipment. The equipment is that which is presently being used at the Opihikao well site.
2. The exploratory well will be approximately 6,000 feet deep.
3. The drilling schedule is 24 hours a day, 7 days a week.

Should your understanding of the foregoing differ in any way, please contact this office as soon as possible. Should you have any questions on the matter, please contact Brian Nishimura or Norman Hayashi of this department.

Sincerely,

Sidney Fuke

SIDNEY FUCE
Director

BN:y

GEOHERMAL EXPLORATION & DEVELOPMENT CORP.

PACIFIC OPERATIONS

July 2, 1980

Mr. Sidney M. Fuke, Director
Planning Department
County of Hawaii
25 Aupuni Street
Hilo, Hawaii 96720

Dear Mr. Fuke:

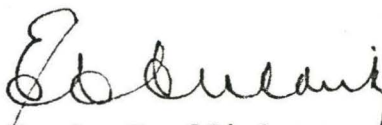
Re: Special Permit Application
Geothermal Drilling
Tax Map Key: 1-4-02:10

As requested in your letter of June 25, 1980, enclosed is a copy of Title Guaranty of Hawaii's letter dated April 6, 1977 indicating that the geothermal resources on the subject property has not been reserved to the State of Hawaii.

Should you require additional information, please contact this office.

Very truly yours,

GEOHERMAL EXPLORATION &
DEVELOPMENT CORP.


E. C. Craddick
President

ECC/sm
Encl.

EXHIBIT T



TITLE GUARANTY OF HAWAII

INCORPORATED

235 QUEEN STREET • P.O. BOX 3084 • HONOLULU, HAWAII 96802 • TELEPHONE 533-6261

April 6, 1977

RECEIVED

APR 07 1977

WATER RESOURCES
INTERNATIONAL, INC.

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

Attention: Mr. Ed. Craddick

Reference: Mineral Rights as to Hawaii Parcels
Our File No. 170568

Gentlemen:

TK: 1-4-2-10 (3)

Portion of LP Grant 6845 to Robert Napalapai.
Situate at Laepao, Puna, HI. No mineral rights reserved.

*DAIchi Seiko
(Yamaha)*

B. Upper

Betty Upper, Secretary
to

David T. Pietsch, Executive Vice President

BU-Enclosure

copy to Bill D'Olier, TPC.

4/8/77



1 cont.

July 15, 1980

Mr. E. C. Craddick, President
Geothermal Exploration and
Development Corporation
2828 Paa Street, Suite 2085
Honolulu, HI 96819

Dear Mr. Craddick:

Special Permit Application
Geothermal Drilling
Tax Map Key: 1-4-2:10

This is in regards to the above mentioned Special Permit application filed with our office. As you are aware, a public hearing was held for the subject application on June 30, and was continued at a later date. At the June 30, 1980, public hearing, several questions were raised by the public to which we would appreciate your response. Could you please provide our department with a written response to the following questions prior to the next scheduled public hearing on the matter, which is August 7, 1980.

1. Will the drilling activity or the further development of the geothermal resource increase mercury levels in the vicinity of the well site? What about other chemical toxicants. Will chemical effluents (airborne) cause vegetational stresses and be a constraint to agricultural continuance in the immediate area?
2. Is the location and distance of the drilling sites from the boundaries adequate? Will it affect the adjoining property? Is the distance between drilling site adequate or safe? Please explain.
3. Will the number of drilling sites proposed deplete the resource?
4. Do you have or are you aware of any development plans for the area surrounding the subject property?

EXHIBIT U

JUL 16 1980


Mr. E. C. Craddick
Page 2
July 15, 1980

5. Is this request part of an incremental development plan? If yes, what are the other stages of the development plan.
6. Are you aware of any plans for generator plants, transmission corridors, pipe corridors and transformer collection bases? If so, please indicate where, how many, and rate of MW being planned.
7. What is an exploratory well? Why nine or ten wells in the designated area, is it necessary? When is an exploratory well but a production well?
8. Are you aware of changing patterns of land ownership and land assembly for developmental purposes? Please explain.

Many of these questions were raised by the Puna Hui Ohana but we have reorganized and condensed them into those included above. Your assistance in this matter is essential to the continued progress of the subject application. Thank you in advance for your cooperation.

Should you have any questions, please feel free to contact Norman Hayashi or Brian Nishimura of this office.

Sincerely,


SIDNEY FUKU
Director

BN:lkt

cc: Planning Commission

GEOHERMAL EXPLORATION & DEVELOPMENT CORP.

PACIFIC OPERATIONS

July 22, 1980

Mr. Sidney Fuke, Director
Planning Department
County of Hawaii
25 Aupuni Street
Hilo, Hawaii 96720

Dear Mr. Fuke:

Special Permit Application
Geothermal Drilling
TMK: 1-4-2:10

We wish to respond, in the order submitted by you, to questions posed in your letter of July 15, 1980, as follows:

1. The subject of geothermally related chemical toxicants in air, water and soil is best explained on pages 33, 37 and 39, Section C of the Revised Impact Statement prepared for the Geothermal Research Station in Puna dated March 22, 1978.

This study concludes that the concentration of toxicants including mercury are attributed to natural area contamination and not to the drilling or testing operations - (attached is an excerpt of the above study pages 33, 37 and 39).

2. Rules and Regulations Section 9.5 (a) permits drilling to within 100 feet of the boundary. Wells can safely be drilled on "island pads" within approximately 200 feet of each other, as is done in Geysers California, however, spacing of approximately 1000 feet will give the best exploratory coverage for purpose of evaluation of the resource and co-relation of wells.

In order to better centralize our first exploratory well within the Daiichi property we wish to resubmit our site location map to reflect a relocation of one well. The first location for an exploratory well would therefore be as indicated on the enclosed plan.

3. The answer to Item 2 applies. Planning for optimum safety and development depends upon exploratory findings.
4. We are not aware of any development plans for the area surrounding the subject property, other than what exists at the present time, regarding agricultural zoning and subdivision.

EXHIBIT V

CONSULTING • PLANNING • GEOPHYSICAL STUDIES • EXPLORATORY & PRODUCTION DRILLING

2828 PAA STREET, SUITE 2085 / HONOLULU, HA'VAII 96819 / TELEPHONE 839-7720 / TELEX 7238672

Mr. Sidney Fuke, Director
Planning Department

July 22, 1980
Page 2

5. The foregoing (Item 4) is not related to any incremental development plan as none exist, and could not be drawn up until after exploratory drilling results are known.
6. Answer to Item 5 applies.
7. Exploratory wells are drilled for the specific purpose of determining if a geothermal resource is present, and whether it can be developed commercially after consideration of all relating aspects of economics, marketing, socio-environmental are considered.

An exploratory well, if constructed properly can be converted to a production well by the addition of permanent well-head equipment and after obtaining a Special Use Permit at which time the permanent use impact must be deliberated and decided upon by the concerned regulatory agencies.

8. We are not aware of any changing patterns of land ownership or assembly for development programs. Any such changes would be purely speculative at this time as much exploratory work must still be done before any development can be planned.

Should you require additional information, please feel free to contact me.

Very truly yours,

GEOHERMAL EXPLORATION &
DEVELOPMENT CORP.


E. C. Craddick
President

ECC/sm

Encl. 16 Copies of Revised Site Location Plan

16 Copies of Section C - Revised Impact Statement

Groundwater in the area and, for control purposes, rainwater samples as well, were tested not only for the chemical characteristics (Table 1), but also for its microbiological qualities (Table 2). Moderately high values for coliform bacteria were recorded at Isaac Hale Park Spring, where the geothermally heated pool is used for casual bathing, and a much higher count was observed for the sample from Allison Well. Otherwise, no results of a cautionary nature were reported in the baseline study. As testing of the exploratory geothermal well proceeds, the existing water wells will be monitored for changes in chemistry or microbiology which may accompany the test flows.

C. Geothermally-related chemical toxicants in air, water, soil*

Particular attention must be given to ascertaining if the chemicals commonly found in geothermal water or steam pose a threat to the environment. From May 1975 to date, the environs of HGP-A have been tested for mercury and toxic gases, particularly the sulfur compounds known to be emitted in geothermal areas. With respect to the fixed gases -- SO_2 and H_2S -- there has been no evidence of change from pre-drilling through recent flashing experiments (Table 3). These values have been consistently at or below detection thresholds and well under hazardous levels in spite of the proximity (25 miles) of natural vents in the Volcanoes National Park which supply these sulfurous gases continuously. In these fumarole areas, the measurement during 1971-76 yielded peak values as high as 25 ppm for SO_2 and 5 ppm for H_2S . These toxic emissions apparently reach the HGP drill site area only infrequently and for brief periods. Their lack of persistence may be an important environmental consideration. Aside from convective

* Dr. Barbara A. Siegel and Dr. Sanford M. Siegel, respectively Associate Professor of Microbiology and Professor of Botany, jointly investigated potential effects on air quality, the soil and plant life in the area, with the assistance of Dr. Thomas Speital, Research Associate in the Department of Botany, and the following students voluntarily worked with the Professors Siegel on geotoxicology testing: Willie Cade, Melvin Calvin, Anna LaRosa, Kapuanani Lee and Hope Stevens.

and wind dispersal processes, these gases may be oxidized both photochemically and biochemically to sulfates, and the capacity both of soil microorganisms and vegetation for metabolizing these sulfur gases may contribute to ecological "detoxification."

The same consideration cannot be applied to mercury. It is a potential toxicant in any form, although more so in elemental and alkyl forms. Various figures have been cited for maximum allowable air mercury. Schroeder^{3/} has suggested an 8 hour occupational limit of $10\mu\text{g}/\text{m}^3$ but recommends no more than $0.1\mu\text{g}/\text{m}^3$ for continuous exposure of the population at large. Applying a provisional Federal exposure value of $1\mu\text{g}/\text{m}^3$ as a reference figure, it is obvious from Table 3 that HGP drill site levels were at threshold up to the flashing experiment, but it is also clear that up to the 22 July 1976 flashing, the mercury levels were area values not related to drill site operations. Hawaiian thermal areas are essentially like those elsewhere in the world with respect to mercury in air, water, soil and plants (Table 4), with norms tending to be appreciably higher than in nonthermal areas.

The upsurge of air mercury levels during flashing was originally thought to have been a "burst" releasing accumulated mercury at depth. During the July 1977 testing, it was not known that a new East Rift Zone emission center -- the Heiheiahulu spatter cone about eight miles to the east of the well -- had been active for some months. When that was made known, the cone was tested and found to be a highly intensive mercury emitter and the probable source of the relatively high level recorded at the flashing of HGP-A. Subsequent measurements, made in July-September 1977, show the presence at the well site not only of air mercury but also of SO_2 and H_2SO_4 -- although the well itself had been shut down

^{3/} Schroeder, H., Air Quality Monograph No. 70-16, American Petroleum Institute, Washington, 1971.

since May 1977. The presence of these toxic gases can only be ascribed to natural area contamination, not emanating from the well itself.

Tests conducted since drilling of HGP-A began have yielded no evidence of a sustained build-up of mercury or any other potentially toxic elements at or around the well site that can be attributed to geothermal energy development operations. The conclusion reached by the researchers is that "there is no reason to assume that HGP-A itself has any negative emission features beyond nuisance value H₂S and noise, but is (itself) influenced by its proximity to natural geotoxicant sources."^{4/}

D. Flora and Fauna

(i) Plants*

While there are trees on the Puna landscape -- the ohia just noted, roadside or backyard mangoes, citrus, monkeypods and other ornamentals -- the District is by no means forest-covered. There are four state forest reserves in the District (Nanawele, Malama-ki, Keauhohana and Puna), but only the latter is extensive and none rate among the choice timber areas of the Big Island. Norfolk pines have been planted east of Pahoa in an attempt to supply the local Christmas tree market, but they have not flourished.

It was beyond the resources of the Hawaii Geothermal Project to assess the lesser flora of the Puna District in any detail. However, an area within a mile of the drill site was examined, and it seems sufficiently representative of those inland sections of the District which are not either in cultivation or

^{4/} S. M. and B. A. Siegel, "Emissions at HGP-A and Natural Vents, July-August 1977," Hawaii Geothermal Project Geotoxicology Supplement (HGP 4.1), August 22, 1977, p. 4. Suppression of noise and smell is discussed in Section 5, below.

* Research on this section was done by Barbara A. Siegel and Sanford M. Siegel, assisted by Thomas Speitel and the following students: Willie Cade, Melvin Calvin, Anne LaRosa, Kapuananai Lee and Hope Stevens.

July 30, 1980

Mr. E. C. Craddick
Geothermal Exploration &
Development Corporation
2828 Paa Street, Suite 2085
Honolulu, HI 96819

Dear Mr. Craddick:

Special Permit Application
Geothermal Drilling
Tax Map Key: 1-4-2:10

This is to acknowledge receipt of your letter and attachments (revised map and pages 33, 37, and 39, Section C of the Revised Impact Statement prepared for the Geothermal Research Station in Puna dated March 22, 1978), which were requested in our letter of July 15, 1980. Your letter and attachments will be forwarded to the Planning Commission and will be made a part of the official record.

Thank you for your prompt response to our request for this additional information.

Should you have any questions concerning the subject application, please feel free to contact Norman Hayashi or Brian Nishimura at 961-8288.

Sincerely,

Sidney Fuke

SIDNEY FUKU
Director

BN:lkt

EXHIBIT W

³⁰
JUL 29 1980

MINUTES &
TRANSCRIPTS

PLANNING COMMISSION

Planning Department
County of Hawaii

MINUTES
June 30, 1980

The Planning Commission met in regular session at 3:37 p.m. in the Councilroom, County Building, South Hilo, Hawaii, with Chairman William J. Paris, Jr. presiding.

PRESENT: William J. Paris, Jr. ABSENT: Clyde Imada
Glenn Frias
Roy Kagawa (Left at 5:35 p.m.) Ex-officio Member
Bert H. Nakano (Left at 5:35 p.m.) H. William Sewake
Alfredo Orita
George Ponte
Charles H. Sakamoto
Tina Whitmarsh

Sidney M. Fuke, Planning Director
Norman Hayashi, Staff Planner
Brian Nishimura, Staff Planner

David Murakami, representing Ex-officio Member Edward Harada
Ben Tsukazaki, Deputy Corporation Counsel

and approximately 8 people at 3:37 p.m., 24 people at 7:00 p.m. and 53 people at 7:46 p.m. were in attendance

Upon the Chair's suggestion, as the petitioners and members of the public were in attendance, it was moved by Commissioner Nakano and seconded by Commissioner Sakamoto that the agenda be amended to take up unfinished business first; motion was carried.

All those testifying were duly sworn in.

EXHIBIT X

they are limiting their freedom of helping downtown if only a small ten-block area is considered blighted. Planning Director Fuke quoted for Ms. Wurster's information the description of the duties of the Hawaii Redevelopment Agency and the definition of a blighted area as stated in the State Statutes; noting that the Commission makes the initial determination of a blighted area, but over and beyond that, the HRA still must make further studies and evaluation. The Director added that based on the existing document (Hilo Downtown Development Plan) on file, the Department made its recommendation, which met the criterion spelled out in the Statute. Ms. Wurster then pointed out that although the Hilo Downtown Development Plan does state that the social, economic and physical aspects be taken into consideration, it does not take the social aspect into consideration. She suggested that the blighted area include Puueo on one side and up until Alenaio Stream on the other or perhaps even broader than that.

The Hawaii Redevelopment Agency's representative, Donald Tong, stated they certainly agreed with the staff's report; however, he saw nothing wrong if the Commission or HRA expanded its area of jurisdiction as long as further studies are made.

In light of the public testimonies, Planning Director Fuke recommended that the staff's report be amended to read as follows: "The staff recommends that the Hilo Downtown area, as delineated on the Hilo Downtown Plan, be considered blighted for the purpose of establishing the physical boundaries of the work tasks of the Hawaii Redevelopment Agency, provided further that areas immediately adjacent to the boundaries of the Hilo Downtown Development Plan including areas commonly referred to as Puueo and the Kukuau Street-Osorio Lane areas shall be considered by the HRA in exercising its duties pursuant to Chapter 53-5-4."

For the Commission's information, Planning Director Fuke pointed out that action of the Planning Commission is final.

At this time, Toni Wurster requested that the elderly, low income and moderately income people be considered in the blighted area and the intent of the County Council be given its full weight.

It was moved by Commissioner Sakamoto and seconded by Commissioner Frias that the public hearing be closed; motion was carried.

It was moved by Commissioner Sakamoto and seconded by Commissioner Frias that the delineated areas, as amended, be approved. A roll call vote was taken and motion carried with six ayes.

SPECIAL PERMIT
GEOTHERMAL
EXPLORATION AND
DEVELOPMENT CORP.
LAEPAOO, PUNA

Public hearing on the application of Geothermal Exploration and Development Corp. 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. 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, Laepaoo, Puna, TMK: 1-4-02:10.

Susan Orlando said she shared the same views as Mr. Stout and Ms. Stevens and stated she did not want to hear the noise of the operation and did not want industry and wells next door to her.

Frank Orlando said he thought it was a shame if this project destroys the environment and expressed his concerns on noise and health of the residents in the area.

Staff at this time pointed out that the present drilling at Opihikao is being evaluated by the State Department of Health because of the complaints on noise.

John Piazza questioned, besides the wells, what is the intent for the area. He expressed his concern that this area will be completely run over by concrete and stated he would like to see it preserved in a natural way.

Beth Ladera stated she did not want to see the natural area destroyed.

Joe Hogye questioned if it was possible to wait and see what happens to the Opihikao well before going on with these.

Moani Keala Akaka, representing the Aloha Aina Movement, Protect Kahoolawe O Hana, and Aloha Life and Education Center, expressed their concerns on the respiratory ailments this project will create, that these geothermal plans are going to destroy Puna just for four to six jobs, and make Puna become the Pittsburgh of the Pacific. She said an environmental impact statement should be required of the developer and that it was an insult to sell the island down the drain with this project. She added that she did not think the project would reduce the electricity rates and that the ownership question of geothermal energy still needed to be answered.

Glenn Gold, a landowner in Opihikao, stated he did not want to live near an industry, nor did he want to sell his land to get away from it. He said he did not trust the petitioner because of his dealings in leasing property to them and he could not see how this Commission could trust them in anything they say. He added that as far as reducing electricity rates, he did not feel government can lay that responsibility on private enterprise and obtain it as they are going to get out from the people more than they are going to give.

Nan Elmer expressed her concern that the industries utilizing the power may be more polluting and hazardous to the island's environment than the geothermal plant itself. She said she personally was not in favor of allowing State agricultural lands to be used for geothermal well exploration; such projects should not be allowed until it is determined that it is absolutely necessary for the Puna district to produce electricity; exploration should not take place until an adequate survey of residences reveals that they desire such development; it seems appropriate that the petitioner be required to file an environmental impact statement prior to beginning drilling; and alternative energy source exploration should be undertaken concurrently so as to compare the economic feasibility, environmental effects, efficiency, etc. of wind and solar generators to those of geothermal power production.

Everett Kahiliokalani Sonny Kinney presented testimony on behalf of the Puna Hui Ohana (copy attached).

James Woodruff, geologist and project manager for geothermal commercialization study, on behalf of the Director of Planning and Economic Development Hideto Konno, expressed their support for the efforts of exploration of geothermal resource. He pointed out that one of the goals of the State is to effectively reduce electricity rates by developing alternate energy; and, therefore, the State is working with the County to ascertain that it is done properly. He added that at present, this is just a research state they are in; and that development will follow research, at which time the public will have ample opportunity to add their input into the process.

Tom'as Belsky said he felt an environmental impact statement is an essential tool in making a wise decision on the effects of a development to the health and well-being of both the people and land; that he hoped that the first well be very carefully examined so that there is no possibility of making any mistakes in the future; the people in the area are concerned that the development will be contrary to what they envisioned for the area, of which their concerns should matter more than those not living there; people who are for this project were those that were deriving financial benefits from it and not living in the area; retain the present agricultural designation; if there is a concern for alternate energy, then government should find better ways as there must be other alternatives than this that seemingly will bring out destruction for the entire earth.

Deputy Corporation Counsel summarized the special permit procedures under Chapter 205 of the Hawaii Revised Statutes for members of the public.

Planning Director Fuke pointed out that even if the Planning Commission and State Land Use Commission were to act favorably on this application, approval of the State Board of Land and Natural Resources is still required before any activity can occur.

With respects to possibly going into a contested case procedure, Planning Director Fuke pointed out that a sign-up sheet is being circulated among the public for those who have expressed an interest; and if there is anyone who has not signed up and would like to, they should contact the Commission's secretary as these people will be sent a letter explaining what the contested case procedures are and what information must be submitted by them by July 18th. If the Commission does not receive this information by that date, it will be assumed that they have elected to forego the contested case proceedings. He added that the public is welcome to submit written comments before the next scheduled public hearing on this application or verbal comments at the public hearing.

In response to the public testimonies, Mr. Craddick noted that many of the questions brought up will be discussed later if and when they find geothermal power; and at that time, the public will have an opportunity to again provide input as they would

have to go through this whole procedure once more. For the Commission's and public's information, he noted that although it really was not practical to stop their 24-hour seven-day a week operation, because they feel a responsibility to cut down as much as possible the nuisance factor of this operation, they have decided to make it a 24-hour five-day a week operation.

At this time, the Chair urged members of the public at future meetings to show the Commission a little courtesy when making their comments and not interrupt those who have the floor.

It was moved by Commissioner Sakamoto and seconded by Commissioner Orita that the public hearing be continued; motion was carried.

ADJOURNMENT: There being no further business, at 10:08 p.m.,
the Chair declared the meeting adjourned.

Respectfully submitted,

Sharon M. Nomura

Sharon M. Nomura, Secretary

A T T E S T:

William J. Paris, Jr.

William J. Paris, Jr.
Chairman, Planning Commission

TESTIMONY, PUNA HUI OHANA

On The Matter Of The
Application Of CEDCO For
A Special Use Permit Before
The Planning Commission

Gentlemen, my name is Everett Kahiliokalani Sonny Kinney. I am here representing the Puna Hui Ohana a Hawaiian Organization from Pahoehoe. May I state at this time that the Hui intends to pursue its right as an interested party should the occasion arrive making it necessary to do so.

The Hui has examined the application and the site in question and herewith addresses the following point of concern. We will at a later date provide the objective evidence reinforcing the points listed below which are:

1. Spatial and areal organization (well location)
 - a. Location and distance from boundaries---is it adequate? How does it affect the adjoining property?
 - b. Distance between wells---is this adequate or safe?
2. Well spacing/allocation per acre.
 - a. Over-all proliferation---dependent on spacing allocations criteria which are not clearly defined.
 - b. Resource depletion---too many wells per acre prematurely draining resource.
3. Proximity to residential zone, distance.
 - a. Lanipuna---appears to be across the road.
 - b. Leilani---people should have rights to protection from well incursion near the residences.
4. Incremental stages of development.
 - a. In relation to peripheral development---what are

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- a. plans for surrounding property.
 - b. Nature of the increment---will it interfere with current zoning, people in the community should be aware of the connectivity of incremental stages.
5. Absence of long-range plan.
- a. Geothermal zone designation---residents must know how they are affected in or out of the zone and limitation of development to that zone.
 - b. Location of generator plants---how many, where, rate of MW production, fit in with topography.
 - c. Pipe corridor determination---should not be allowed to indiscriminately criss-cross the terrain.
 - d. Power transmission corridor---should be orderly and should not damage the integrity and visual vista of the geothermal zone or its peripheral.
 - e. Transformer collection base---should be located where least objectionable.

In short, trips to the Wairakei and Geyser geothermal complexes have indicated we cannot allow ourselves to make similar mistakes.

6. Precedent for other large developers---encouragement leading to development!
- a. Amfac
 - b. Bishop Estate
 - c. Tokyo Land Co.

7. Political Jurisdiction

- a. DLNR permitting process
- b. County permitting process

We are not totally aware of changes in the permitting processes and are concerned with jurisdictional overlap loops that are not fully understood and enforced.

8. Siting and Access

- a. Roads, existing and planned.
- b. In relationship to geothermal zone---can a road plan be successfully developed if the geothermal zone has not been accurately designed.

9. Primary definitions, extension of special use.

- a. What is an exploratory well?--Why nine or ten wells in the designated area, is it necessary? When is an exploratory well not an exploratory well but a production well?
- b. What is a production well--if first well is productive. Why drill an additional nine wells, is that necessary prior to candidate uses?

10. Land use patterns, long-range

- a. Identify existing land uses---How does discovery of geothermal resource change peripheral land uses?
- b. Organizations of land use by ownership, location and size---patterns of Land assembly for developmental purposes. The people must know how patterns

of assembly are changing or leading to geothermal or economic development.

11. Preclusion of agricultural use

- a. Not as claimed in application---according to visits to the Geysers and New Zealand that is not the case; chemical effluents (airborne) cause vegetetational stress and are a constraint to agricultural continuance in the immediate area.

Gentlemen, having set before the commission the foregoing points, the Puna Hui Ohana herewith recommends, in the light of the conditional status of these points, that the Planning Commission deny the applicant's request for a special use permit.

Peter Hauano

PETER HAUANO
PRESIDENT, PUNA HUI OHANA

and

PLANNING COMMISSION

Planning Department
County of Hawaii

HEARING TRANSCRIPT
June 30, 1980

A regularly advertised public hearing on the application of Geothermal Exploration and Development Corp. was called to order at 7:46 p.m. in the Councilroom, County Building, South Hilo, Hawaii, with Chairman William J. Paris, Jr. presiding.

PRESENT: William J. Paris, Jr.
Glenn Frias
Alfredo Orita
George Ponte
Charles H. Sakamoto
Tina Whitmarsh

ABSENT: Clyde Imada
Roy Kagawa
Bert H. Nakano

Ex-officio Member
H. William Sewake

Sidney M. Fuke, Planning Director
Norman Hayashi, Staff Planner
Brian Nishimura, Staff Planner

David Murakami, representing Ex-officio Member Edward Harada
Ben Tsukazaki, Deputy Corporation Counsel

and approximately 53 people in attendance

CHAIRMAN: The next item on the agenda is a public hearing on the application of Geothermal Exploration and Development Corp. 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. 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, Laepaoo, Puna, TMK: 1-4-02:10.

I can see the room is full of people here tonight; and before we begin the proceedings, I'd like to get an idea of how many people will probably be giving testimony here tonight. About 10 people. And before we begin, how many of you who are planning to give testimony tonight are adjoining or surrounding property owners to this area? One, two, three, four, five, six, seven, seven or eight. Okay. How many of you are representing an organization or interest group? There are three hands up for organization or interest group. Okay, thank you. And how many of you feel that you will be directly affected by the decision or outcome of the decision we make? My goodness, but not all of you said you were going to give public testimony. Those of you who wanted to give testimony? Eight again.

KAI: Mr. Chairman, I have background information that might -.

CHAIRMAN: No, no, we will get this later on, Mr. Kai. I'm just trying to determine -.

EXHIBIT X-1

KAI: In a little while, I'm going to leave.

CHAIRMAN: I'm just trying to get some indication. We're working up to something to just see what kind of procedure we're going to use tonight.

Now, since some of you've indicated that you are going to be directly affected, and there are some adjoining property owners, I'd like to explain tonight that there are several options available to us in conducting a hearing. We can go into the contested case procedures, in which case you would ask to be heard as an interested party; and if you were accepted as an interested party, there's quite a lot of format for that. You have to show that you're going to be affected immediately by it, etc., I can read all the things later. But if you're going to be accepted as an interested party, we have to go through a procedure that is very similar to a courtroom. You have the right to question the staff, question the applicant, and you yourself would have to come up with a lot of background information, you'll have to provide the organization you represent its by-laws and charters, you'll also have to show how you're going to be affected by this so we can determine whether you are an interested party or not. You shall have to give us some affidavits. If we go the regular route, regular public hearing, this is not needed. You will just give your testimony and why you are for it or against it, etc. And I just want to determine tonight if there are any of you who would like to be accepted as parties to the fact and go through the contested case procedure, which is a long drawn out -.

FEMALE PUBLIC: Can you explain the difference to the advantages of this or what is the difference in our credibility if we speak under a regular public hearing?

CHAIRMAN: Okay, Ben.

TSUKAZAKI: The contested case hearing procedures provide you with an, if you're an interested party and are accepted as an interested party, the hearing procedures will provide you with, one, the right to be represented by counsel; it will you provide you with the right to present evidence which becomes part of the record; it provides you with the right to cross-examine witnesses that might be testifying for the applicant or the department or other parties that may participate; it provides you with a right to present rebuttal evidence to the evidence that is presented by other parties. Being accepted as an interested party allows you all of these rights that you would not be entitled to as a public witness. But I think it's fair to say that along with the benefits go the burdens. You would be required to formally submit your position and be also subject to cross-examination, etc. I guess, lastly, if you participate in the contested case hearing and the decision is adverse to you, if the decision goes against you, then you have the right to appeal the decision of the Planning Commission to the Third Circuit Court here.

FEMALE PUBLIC: If you are an interested party, you have the right to appeal?

TSUKAZAKI: Right.

FEMALE PUBLIC: And if you're a member of the public, you don't. Is that it?

TSUKAZAKI: Right. That's the general rule. I think there might be some exceptions to that general rule, but generally that's the case.

In a contested case hearing, what the Chairman said was accurate in that the proceeding that we would be going through would be much like a court proceeding where the parties take turn in presenting their evidence. And there may be prehearing conferences that might have to be used for us to narrow the issues; and after the hearing is through, there's also a post hearing procedure that's involved to allow the parties to submit their own written arguments and proposed findings of fact.

So, I don't know if we're prepared tonight, but I think if, perhaps we are, I don't know, to distribute more information about contested case hearings so that those of you who are considering using that have an opportunity to review in black and white what might be involved so that, you know, you making your decision after a few moments of deliberations rather than jumping into something that you're not sure about. Sid, do we have handouts?

FUKE: No.

TSUKAZAKI: Okay, I think, my suggestion is -.

KAI: Mr. Chairman?

TSUKAZAKI: Excuse me, Mr. Kai, I want to get this in. Because if there are any of you who'd want to be sent more information about what the contested case hearing is about and your rights and your duties in that hearing, then perhaps we should continue this hearing until we're able to send you that information, outlining what must be presented if that hearing is to be initiated at all, what must be done first. That's one suggestion I have. It's just a suggestion.

KAI: I just want to present two statements from experiences and then I'll be going. I'm neither for or against, but -.

CHAIRMAN: When we get into the public testimony portion, we will accept you, and quickly. Is there anybody here who now would like to pursue this recourse as a contested case procedure? Or you want us to handle how we handle our normal public hearings?

FEMALE PUBLIC: Let's just go for it since we're here now. See, none of us knew that there were other options. I feel like I'm an interested party because I am in fact interested, but I didn't know there were those kinds of options.

TSUKAZAKI: You know, legally speaking, Chapter 91 of the Hawaii Revised Statutes, that's the chapter that applies to this kind of proceeding, and what it says is that a contested case hearing is one in which there is a hearing that's legally

required to determine the rights, duties and privileges of specific parties. Okay, so if you are a person who has a identifiable interest, whether it be a property interest, interest as a resident, business interest, whatever, that can be demonstrated before this Commission and if you want to go through the contested case hearing, then this Commission has the duty to determine whether or not you are an interested person, a party, in the concept of Chapter 91; and then if so, then to implement that contested case hearing.

FEMALE PUBLIC: But I can see that none of us here are prepared to go forward in that manner of calling witnesses and to test evidences, as you say. So I assume that we'll have to go on an informal manner.

TSUKAZAKI: Well, I think that if it's a contested case hearing you want, and if it's decided by the Planning Commission that that's the procedure that should be used here, then we could not go on with that hearing tonight because, obviously, we don't have our guns.

FEMALE PUBLIC: ... (Inaudible).

CHAIRMAN: No, the three general categories - you have to prove that you have a property interest, you lawfully reside on the land, or you can demonstrate that you will be so immediately affected by the decision and that your interest is clearly distinguishable from that of the general public. These are the three categories that determine a interested party.

MALE PUBLIC: I'm a property owner and a taxpayer down in that area. I'm not in the immediate area, but below the -.

CHAIRMAN: One moment please.

MALE PUBLIC: Is this the absolute hearing or can we -.

CHAIRMAN: Not necessarily.

PUBLIC: I mean, can we have an open hearing and testimony now and still have the option later on?

CHAIRMAN: We can include the public hearing tonight. But if we were going to have this contested case, we wanted it determined ahead of time so we could set up the format we're going to operate under, probably have a pre-conference meeting so we could exchange the documents, information, with the various parties. Because in a contested case, there will be the interested parties, the applicant, and the Planning Department - they're the parties that will be concerned. And each one of them will have the right to cross-examine and present evidence. So it is quite a procedure; and that is what we want to determine cause if we're going to get into that we wanted to know right now tonight so we could start planning on it ahead of time. This does not preclude us from taking public testimony tonight.

MALE PUBLIC: I would like to see we have an option. We could go right now into the public testimony so that, you know, we

know that, if that's out of the way we're going to have that later if we can't do it now, or is it the end of the public hearing, or can we still have a contested case procedure?

FEMALE PUBLIC: In other words, if we make the wrong decision now that's it or we'll get another stab at it?

FUKE: Mr. Chairman, all right, if I might add?

CHAIRMAN: Go right ahead.

FUKE: As the legal counsel and the Chairman have advised, both systems, whether you go the so-called contested case or the non-contested case procedures, both these procedures are essentially designed to allow the public ample opportunity to provide their input to the Planning Commission before a decision is rendered.

Under a so-called, what is called a traditional public hearing system, the Planning Department staff provides the background, reads its recommendation, and the Commission asks questions. The applicant then makes his own presentation, and the Commission asks questions of the applicant. Then the interested public are then given a chance one by one to provide their input to the Planning Commission and to ask questions at the same time of the applicant, of course, the questions would have to be directed through the Chair. And after everyone has had a chance to provide their input in, then the Chairman would then enable the applicant to provide a summary of his or her position on it, and then the hearing will be closed. And then the Commission would deliberate on all of the information provided to them, and then make a decision. That is the traditional public hearing process.

Now under a contested case proceeding, what usually happens is that the Commission initially has to determine all of those, I noticed that there were roughly about like 15 of you who had raised their hand, now if you elect to go the contested case procedure, this is what would happen. All of you would have to formally petition of the Planning Commission that you have an interest in this area and you have x and y, z kind of stake involved, and this is how you intend to provide your case. Then the Commission would then review each request to become so call as a party one by one. Okay, then the Commission if they say, well, we're going to allow only five persons into this so call proceedings, then all five would be sitting right in front of the Planning Commission. And what this gives all of the different parties including the applicant and the Planning Department is that each party would have to provide its own case. Party in a sense, case in a sense, that you have to give your arguments. If you wish to provide witnesses, fine, you would have your witness come up and you would ask questions. But at the same time that you're giving your testimony, or you're having your testimony given through a witness, this still gives the four remaining persons that are sitting in front of the room a chance to equally ask questions of your witness, or even for that matter of yourself, and this goes through for every witness that are brought up. So conceivably, if you have five persons that are

certified as being official parties to the proceeding and if each person has five witnesses, you're talking about essentially twenty-five times.

FEMALE PUBLIC: Would each of those five interested parties have the option of appealing then?

FUKE: Yes, they would. Okay, and then, of course, as the legal counsel had mentioned, with this so call added legal advantage, of course, would mean that there would be added legal burden; and that is to say that there would be added preparatory time required on the part of all those who are certified as being official parties.

Now, assuming that this is the route that the Planning Commission elects to take, all of those who are present tonight or who wish to provide a written testimony may still be able to do that; and generally what happens is that the public testimonies are given in advance of the contested case proceeding. But once we begin, if the Commission decides to go under the contested case proceeding, once the Commission begins the contested case, there is no so-called public testimonies. The only way you can, you know, provide testimony, of course, is unless you are called as a witness by any one of those parties that are being certified.

FEMALE PUBLIC: So you could give public testimony now and at a later date take the contested case?

FUKE: That is correct, but I think what the Chair is attempting to determine this evening, right now, is that if there is only interest in a contested case one they would just as soon do that because if you don't do that then it's conceivable that you could prolong the hearing. For example, you have a public hearing tonight; and then again you're going to make a determination whether you're moving to a contested case at the next meeting; and then at the next time then you say well let's decide at the next meeting. Then, at that point in time, it becomes unfair for the applicant; and what we're concerned about from the planning process standpoint is fairness on both sides.

CHAIRMAN: And, you know, another thing, too, is just because you may ask to intervene as an interested party does not mean you will be accepted by the Planning Commission because we have some guidelines we have to go through. I'd just like to broadly go over them. Grounds for denying intervention are as follows: His interest will be fairly represented by other parties; or will overly broaden the issues or unduly delay the hearing; or will not serve the public interest. We've got to determine that you are going to qualify, that you're not going to do these things, that you're not going to be repetitious of maybe another organization or someone who is going to give the same thing you're going to give.

FEMALE PUBLIC: Well, why don't we go public hearing on this and see how it goes and what happens, then we can decide whether to go into the contested case procedure.

CHAIRMAN: Well, you know, we just wanted to try and ascertain; but if we're not going to get it, we will proceed under one procedure unless we are otherwise, there's an indication otherwise that you want to go another route. Now just once more, is there anyone at this time who would like to proceed under the contested case procedure as explained?

MALE PUBLIC: Mr. Chairman?

CHAIRMAN: You would like to proceed under that -?

MALE PUBLIC: Yes, sir, I'd like to proceed under that process and I'd also like to take public testimony now...(inaudible). So if we continue this, that's why at this point we'll take public testimony and then go into that process, correct, Mr. Fuke?

CHAIRMAN: Not necessarily.

FUKE: Well, what I mentioned earlier was that if the determination was that we're going to move into a contested case proceeding, then in deference to all those who attended tonight and who do not wish to be so called as part of the contested case party, we would give them a chance to provide testimony tonight. And then obviously the hearing would have to be continued and at the next meeting then the Commission would be in a position to review all of the requests to become official parties and make a determination then.

MALE PUBLIC: ...(Inaudible).

CHAIRMAN: Okay, so we can take, get into this tonight. First, I'd like to ascertain whether the applicant is present.

CRADDICK: Yes.

CHAIRMAN: Okay, you're present here tonight; and planning staff is represented. Brian, since it looks like this will be continued at a later date and we may be going into the contested case procedure, we'd like just to give a brief resume of our background and our recommendation tonight so at least we can give these -.

FUKE: Yes, Brian, just a minute, Mr. Chairman. I would like to suggest that, inasmuch as there has been some possible interest in proceeding under the contested case procedures, that we will be sending out a piece of paper for signatures, asking those who are interested in participating possibly as a party to write down the name and organization, if they're representing any, and their address; and we will formally communicate with each of them, explaining to them what the contested case procedures are and giving them a deadline as far as what to submit and by when.

CHAIRMAN: Okay, Brian.

NISHIMURA: (Presented background on file.)

CHAIRMAN: Roughly, your position?

NISHIMURA: Staff is recommending approval of the request.

CRADDICK: Let me make one correction, drilling will take place five days a week rather than seven.

NISHIMURA: Thank you.

CHAIRMAN: Do any of the Commissioners have any questions of Brian at this time?

ORITA: Mr. Chairman?

CHAIRMAN: Commissioner Orita.

ORITA: Brian, the closest resident to that drilling site is how far?

NISHIMURA: That has not been determined specifically. We have identified residences which are situated on two parcels which are located within a 1 mile radius of the subject property. This is taken from the Planning Department's Land Use Inventory and all we can do is determine the parcels in which residences are located. We have not determined the exact location of those residences on the particular parcels.

ORITA: Thank you, Brian.

CHAIRMAN: Any other questions, Commissioners? If not, is the applicant present? I know you are. Will you please come forward. I'll have to swear you in. Do you swear to tell the truth in the testimony that you're about to give on this application now before the Hawaii County Planning Commission?

CRADDICK: Yes, I do.

CHAIRMAN: Please state your name into the microphone for the record, please.

CRADDICK: My name is Ed Craddick and I'm the president of Geothermal Exploration and Development Corporation.

CHAIRMAN: Thank you. Do you have anything you'd like to add to the staff's background report?

CRADDICK: No, I believe that's an accurate description of what we intend to do with the exception of the working time. We plan to work five days a week rather than seven.

CHAIRMAN: And twenty-four hour workdays?

CRADDICK: Correct.

CHAIRMAN: Okay, thank you. Any questions of the applicant?

ORITA: Mr. Chairman?

CHAIRMAN: Go ahead, Commissioner Orita.

ORITA: Mr. Craddick, written on the transcript, it states that until the first well has been drilled and tested or analyzed, it is not known whether additional wells will be drilled. What will determine whether you guys are going to go ahead and drill the second well?

CRADDICK: Well, we'll be, as we drill the well, we'll be looking for evidence of heat; and if the evidence of heat is there, we'll go down, we'll finish the well off as far as exploration goes, and try and see if there's any possibility of flowing steam. If there is steam and hot water there that looks like it might flow in a sustained manner, we'd probably have evidence of that within just a few hours, then we would go ahead and plan a longer test. That would indicate that it would be initially successful. Until we finish the long-term test, we won't know whether it will sustain itself very long. If it does, then within that three-month period, we could classify it as an acceptable well. And at that time, we would have to make a decision whether the geophysics would indicate, whether we should drill a well near there as an off-set well, or whether perhaps we're on the edge of something and we have to move off into a different direction.

ORITA: In other words, these nine sites that you already have pinned on the map might not be the general site?

CRADDICK: That's right. We've only picked out nine locations that we'd have to select from.

ORITA: My other question is, do you need the entire 100 acres of land?

CRADDICK: No, no. Well, when you're, if testing was developed to its fullest extent, it would probably take ten percent of that acreage, if it was developed to the fullest extent. The fullest extent would be as indicated on the map there, wells no closer than a quarter of a mile apart.

ORITA: Thank you.

NISHIMURA: Mr. Chairman, staff would like to make one point of clarification; and that is, because of the size of the application in terms of 190 acres, the Planning Commission's role in this matter is that of recommending.

CHAIRMAN: Yeah, we're advisory to the State Land Use Commission.

NISHIMURA: I just wanted to make that clear.

CHAIRMAN: And I think another thing that we didn't, I'm sure we have some conditions that would be attached, and I'd what like to check with the applicant is what safeguards would be used to make sure we would not have large volumes of sulfer escaping into the atmosphere. See, this is a great concern on the initial test well that was put in by the University and the State. Because there were some people that were affected by the stench that left the well site.

CRADDICK: That's correct. And on that well they hadn't really expected to hit anything; and they were caught by surprise and weren't really prepared for it. Now in this one, we hope to hit something perhaps similar to that. So we're going to be prepared for it. Before they run any long-term tests, we're going to have to provide, first of all, for the sound, we'll have to provide adequate mufflers; and then for the sulfide in the we'll have to provide some type of scrubbing equipment. That technology is available now; but we recognize that problem. We'll have to cap them.

CHAIRMAN: So these safeguards, I want to assure you as members of the public, we have taken these things into consideration; and it's not going to be like the other one, if at all possible. Do you have any other questions of the applicant? If not, thank you very much.

At this time, we'll open the meeting for public testimony. And I'd like all of those who are going to give testimony tonight to stand at this time and I'll swear you all in; and I'll start with Mr. Kai cause he has to leave. But we'll have you all stand. Those of you who are going to give testimony tonight, please stand. I'm going to swear you all in at one time. Now if you have any doubts that you may get up, get up now. It doesn't necessitate that you'll have to speak. Okay, please raise your right hand. Do you swear to tell the truth in the testimony that you're about to give on this application now before the Hawaii County Planning Commission?

TESTIFIERS: I do.

CHAIRMAN: Thank you very much. We'll start with you Mr. Kai. Will you come forward. Madam secretary, for the record, the person giving testimony at this time is Herbert Kai.

KAI: I had the good fortune to meet Dr. Peterson of Stanford when he was called here by the Keaukaha group to talk about aqua-culture. And he was here together with professors from Script Institute and the University of California and several other universities, probably Oregon, and others. And he was rather disappointed, so I asked him what he wanted, expected to get from the meeting. And he said frankly he was not interested in aqua-culture, he was interested in geothermal energy, and aqua-culture was a by-product of geothermal energy.

And I asked him what do you require in your project. He said first we've got to have a geological site, volcanic site. Then we've got to have cold water at, from 2,000-foot level. Then we've got to have a reservoir to kill that pollution, steam pollution. Then we've got to have flat lands so that the nutrient rich water could be, run into troughs or runways for the cultivation of oysters and so forth. And then, the water laden with effluent should flow into a lagoon.

So I told him I know of a owner, one who owns all these factors, these elements. Just one owner so all he had to do was negotiate with one person. And as to the lagoon, he asked me how deep is

the lagoon. I said about 30, 40 feet. He said, gee, we can raise mahimahi and we can raise green turtle; and we can go into tidal energy; and get solar energy and wind energy down in Puna. So the site that he picked was Arthur Lyman's land; and I think that's the only suitable site that would not pollute the whole countryside because you've got to get rid of the hot steam, and these pollutants is going to go into the atmosphere. And after the steam generates electricity, its got to be cooled off, its to have a big reservoir. Well, Arthur Lyman has green lakes. They can fill it with quices perch about eight feet above sea level. And they could get the cold water and put it in there and then cool the steam off and they'll be all set to raise aqua-culture, raise sea food. So that's a perfect setup. Any further proliferation of geothermal vaults would just be a contamination of the atmosphere. We should determine the decibels generated by the thing, and are they measured to make fertilizers out of the nitro sulfide or are we going to have acid rain. Those are the things to be determined.

Well, I have a friend who has been in New Zealand for more than 15 years, at least three kids there. He did pretty well. He's a carpenter now. He says the people of Hilo are crazy. They ought to have geothermal energy, but not all over because they're under the wrong impression that, it's not a dusty thing. The dust comes from balksite to smelt, in smelting aluminium. And then the steam is used by not one city but many villages, many, many, and the factory plants. So that's why there's a proliferation of pipes all over the country. Well, if the plant is based right alongside of the well, they'd be hardly any need for any pipes, but it means employment, and it's unsightly. In Puna, we have a perfect setup where the rift zone separates the volcano side from the side which water gathers because the rift is just like a concrete wall. Thousands of volcanoes have thrown up barriers. And back of the barriers is billions of gallons of water because Waiakea Mill is able to have several wells, the output of each is about three million. So that's all, that's all practical. Just, just, I wanted this Portuguese boy, he's a local boy, to testify; and he said, "No, let them, let them fumble along. If they want to pollute the whole country, well, that's all right. They'll have to live with it."

CHAIRMAN: So your recommendation is to choose another site?

KAI: I say the site below the rift, in the first place, is a dangerous site. And if they're going to put in a big plant and a reservoir below the rift and it has a history of erupting and flowing down hill, well, that's up, that's up to them, too. But, in the meantime, the poor residents have to suffer the thunderous noise, all that decibels, and the stench of the sulfur; but that all could be remedied chemically, you know. You make some compound or make fertilizer, sulfates, or amonia and sulfates, nitro sulfide. Because, otherwise, if they don't do anything, when they have acid rain, everything will die in that country, in that area.

CHAIRMAN: Thank you, Mr. Kai. Now, who, now we'll go second row, on the left. You raised your hand. Are you going to give testimony?

STOUT: Mr. Chairman?

CHAIRMAN: Oh, you're in the first row. Go ahead.

STOUT: Okay, this Planning Commission plans, or at least attempts to plan the future our island. And many of us here tonight attended a symposium in Pahoia on Saturday; and at that symposium, we listened to a lot of things about the geothermal development. The manager of HELCO stated that our entire power consumption on this island last year, our peak power consumption, was 86 megawatts. And I'm told by a couple of engineers that if all the wells that are drilled that are planned -.

CHAIRMAN: Before you start, we did not get your name.

STOUT: Oh, Dennis Stout, representing myself.

CHAIRMAN: And how do you spell your last name?

STOUT: S-t-o-u-t.

CHAIRMAN: Dennis Stout?

STOUT: Yeah.

CHAIRMAN: Okay, thank you. Go ahead.

STOUT: Okay, I'm told that if all the wells are brought into production that are planned at this time, they will produce more power than we can use at present on this island.

Therefore, I conclude that if you approve this measure, you will be voting for development of our island. The excess electricity would be used by industry. The bringing in of industry, hotels and condos will also bring in many more problems for the island. It'll mean more people. That means more school children, more crime, and more problems in general for the County government. This means that our taxes either have to be increased or more industry has to be brought in to pay the bill.

If this power is to be made here and sent to Oahu, as was spoken about in the symposium, then the benefit of this resource will be sent away over our heads, just like the power wires that will be strung over our heads, to send it. We have been told by HELCO that if the wells are developed, it will not lower our electric bill. Now, homeowners pay a very high rate while businesses pay a very low rate so that the homeowners are subsidizing all businesses on the island. This would seem to lead to the conclusion that HELCO plans on having a lot more industry here.

Many claim that bringing in development will lower unemployment. I think if you check the rate of unemployment on Oahu ten years ago and compare it with the unemployment rate today, you'll find that it's much higher; and they've brought in a lot of industry in the last ten years on Oahu. I know that development means a lot of money for the realtors, developers, and

builders. And I ask that you remember while making your decision that we have a very beautiful island and it's the last one in a chain; and many of us that have fled development before have no where else to go. This is our last spot; and I ask that you please not sell our island to the forces of big money. Thank you.

CHAIRMAN: Commissioners, do you have any questions of Mr. Stout? If not, we'll proceed to the next person desiring to give testimony in the second row. Will you state your name into the microphone for the record please.

STEVENS: I'm Peggy Stevens. I'm a resident of Leilani. I live almost on the highway toward Paho. But, I'm awakened often and find it difficult to sleep at other times during the drilling that's happening now, that's happening a few weeks ago. Now I hear that the plans are to drill twenty-four hours a day, again. I would hope that some conditions could be put on this application, the applicant's application, to require that they shut down during night time. I understand from speaking with the sheriff that there are reasonable laws about that now, that we moved to a quiet place and we expect it to be quiet at night cause it always has been. I live a long way from that well and I'm disturbed by its noise.

Another lady handed me a note and asked me to also ask how this can be done in agriculturally zoned land. I would think that they'd have to, I didn't know that you could have an industry in an agriculturally zoned area. That's all I have.

ORITA: Mr. Chairman?

CHAIRMAN: Commissioner Orita.

ORITA: Mrs. Stevens?

STEVENS: Yes.

ORITA: I presume it is Mrs. Stevens.

STEVENS: Yes.

ORITA: You just made a statement pertaining to the fact that there is drilling going on presently?

STEVENS: No, about two or three weeks ago I heard it most often, yes.

ORITA: And have you heard it recently?

STEVENS: Yes, we do hear it now, yes.

ORITA: And that sound is coming from where?

STEVENS: And I live actually from the wrong direction. In other words, the wind is going the other way even. I would be least likely to hear it of most people in that area and it is quite disturbing to me sometimes.

ORITA: And the distance from your home to that site is roughly how far?

STEVENS: I live almost on the highway at the entrance of Leilani Boulevard. I'm not sure how much, about four miles.

FEMALE PUBLIC: In Opihikao.

STEVENS: Yeah, the Opihikao well is the one I hear which is quite a distance from me, as I'm trying to point out. I have a friend who lives less than 500 feet from that first well; and they're more disturbed than I am.

ORITA: Thank you.

CHAIRMAN: As was stated, there will be requisites put in the permit for noise muffling and for scrubbing the chemical elements from the air, so, I mean these would be parts of the conditions of approval if it is approved.

Now the Chair is going to, at this time, call a five-minute recess. Well, let's say seven minutes. We'll reconvene at 8:40.

RECESS: The Chair recessed the meeting at 8:33 p.m.

RECONVENED: The meeting reconvened at 8:40 p.m.

CHAIRMAN: For those of you who are giving testimony tonight, we ask you to try and confine your remarks to within a five-minute period and not to exceed same to expedite the meeting, inasmuch as it will be continued at a future date. So we'll keep going with the second row. Will you state your name into the microphone for the record.

S. ORLANDO: Yes. My name is Susan Orlando; and I'm also a resident of Leilani Estates; and I'll make this short and sweet. I can hear the noise, I don't want to hear the noise. I didn't move there to have industry and wells next door to my backyard. I don't want it there. I share the same views as Mr. Stout and Peggy Stevens. Probably, you're going to hear something similar all the rest of the night. That's all I have to say.

CHAIRMAN: Thank you, Mrs. Orlando. Now is there anybody else in the second row, will you please come forward, that has been sworn.

F. ORLANDO: My name is Frank Orlando and I'm also a resident of Leilani Estates; and three years ago, I bought property there. And having been brought up in a place where I've seen a lot of development come in, in my entire life I've watched it happen, I'm pretty well aware as to what the pitfalls are and that type of thing; and it's rather distressing to me to see it happen all over again. And I think it's really a shame if it does destroy the environment that is there right now. And I also question, let's assume that after it is put in, if it is put in, that there is sulfur and/or noise, what recourse

will the residents of that area have at that time? Will the caps be, or will the wells be able to be capped, if it's objectionable, things of this nature? Is there a possibility of the wells possibly getting added control and not being able to do anything, say the damned thing blows up and steam and sulfur is spewing, you know? These are the questions that come to mind and, well, anyway, that's the gist of my feelings.

CHAIRMAN: Thank you, Mr. Orlando. As I've stated earlier, these wells will have to meet the standards of our Department of Health, which is the agency that governs our environment and anything that is noxious. So they would have, and we have indicated that we will put conditions in there so that noise level will be kept to a minimum.

F. ORLANDO: Will there be specific guidelines as to "x" amount decibel level; and if they should go over this amount, that the wells be shut down until it's eliminated?

CHAIRMAN: That is in the hands of another agency. I cannot answer. I'm sure it will be.

STEVENS: Well, the one they have now isn't muffled enough if we can hear it.

CHAIRMAN: Madam -.

NISHIMURA: Mr. Chairman, may I make a point of information?

CHAIRMAN: Yeah.

NISHIMURA: The present well, well, the present drilling that is going on in Opihikao is currently being evaluated by the State Department of Health because of a complaint about noise. And to my knowledge, the Department of Health has not completed that evaluation and will be keeping the Planning Department informed as to what their evaluation is and as to what the final determination on their part will be at that particular site.

ORLANDO: In the meantime while they're evaluating, what about these people who are not sleeping? And you're talking as if it is going to happen.

CHAIRMAN: Madam, we will not allow, not run a round robin here tonight. We're going to take one witness at a time. If you want to speak again at the end, you may come forward; but we're not going to have a general discussion in this meeting. We're going to witness by witness, and that's the way we're going to run it. Otherwise, it's going to get out of hand, it'll take us all night. Will you state your name into the microphone.

PIAZZA: My name is John Piazza and I represent myself and the island of Hawaii, the people who love it here and who'd rather see the natural wonderland than a commercial speculation of many people's interest on a financial level.

CHAIRMAN: Where is your place of residence, Mr. Piazza?

PIAZZA: Well, particularly, right now, I live in town. But, of course, I've been doing, I have many friends in the local area where the well is, plus I'm thinking of possibly buying some land there in the near future. But my interest besides in the plaubloom of, as well as the noise, that the well may produce, or all the kinds of trouble is this: The commercial interest behind the well, what will happen to the rest of the land around that area? Will it become a speculator's dream where they'll be thinking of investing on land there; and by buying it up in large property, you know, acreage so they can make more money upon that being a suitable means of electricity for making that area seemingly more of a realtor's paradise? To us, what is it behind it all? Why is the well being brought there? Is it because of the manganese nodule refinery plant that they're planning in years to come possibly or the commercial interest that would cause that whole area to become more detrimental for the local interest of the people there? I have seen places like this in New York, Chicago, Colorado, where there's waste such as you see now from pollution and as well as nuclear problems which they are also aware of; but they still go on building the nuclear reactors.

But the point is, what I want to know, as well as we all want to know, besides the well itself, why it's being built there. Who are behind this and what purposes will be then intended for that area? Will it become another little small town and building up to a small city and more and more industrial interest moving in there where finally this whole place is not Hawaii anymore with some suburbia?

I want to see this place as it should be. It was for the people and it was made by God in that sense to be beautiful for everyone equally. Will this become now a place where acreage will be like Oahu, like Maui, \$80,000 an acre or more that's cheap? For where there is ever any industrial sites, they make it seem like it's, you know, better to build in a dingy little area where you can sell more products. Are we selling ourselves away to this kind of destruction here?

Any my interest in this is as same as yours and for your children and our families to see this land here be preserved in a natural way. Because they also talk about bringing manganese nodule refineries here. Will that area be a base as well for the plant to go up where they will as well process and smelt this nickle out of this mineral, and as well cause more pollution and then using the road through "waa waa" to go to the airport? There's been also talk about acreage where 1500 acres, you know, industrial sites are planned out that way. Also, a 5,000 acre site I heard of behind the new airport for jumping tailing, if possible. These are the dreams of certain speculators. Maybe it's not the plans yet, but is this our future? Is it going to become completely run over by concrete, our earth here, and finally built up to where we wouldn't see a tree other than just another small house for \$80,000 that should have been sold for \$15,000?

We are concerned not just for the site that's going up there but what can happen to that whole area. Because it's not just Madam Pele erupting from that, but the greedy people erupting from that area and making that whole place become another dirt hole. Our concern is not just because of the well. It's because of what's taking place everywhere around the world, because of the large capitalist industrial control and like the communists where only two percent of the people reign the whole show there for those people. They don't want war, we don't want war; but we're forced into these issues as common people by certain controlling industrial firms. Is this well being controlled by an industrial firm such as this which will finally bring in another kind of technical era here? We are very concerned because this is the future of Hawaii for all of us here, not just myself living in Hilo or going to leave sooner or later, but as a part of the world for the rest of the world. We need to preserve this land as clean in its air and water facilities as possible. Because if there is a breakdown, and we need electricity, of course, the thing is, isn't there other ways much more easy to produce our fuel needs other than all these being controlled by a centralized industrial firm who makes prices on this unbearable for the common people? I'm asking you and us all to think about it. Because it's not just here in this one meeting that these are the only people who are interested, but everyone over the world are facing another war, another inflation because of certain controllers who don't have as little as we do but have more money than all the minorities in America put together; and they're the smallest minority, which is the rich controllers.

And what I'm asking for is the true sense of liberty because we don't have any protection against these large industrial powers. Us common people like yourself, like myself, like what the rest of the world is really mad of, until we're manipulated into certain kind of false government procedures because we get involved with other people's interest elsewhere who don't live here and speculate in buying land up here and then they hold it back for the highest bidder. And the people who buy it then don't live here but take it as a vacationland.

The purposes of my communication with you tonight is the same as you should be asking yourselves, what are we really doing? Is it going to lead to another destruction of our own home land? We are the people that love it here. We're not here, just here because we want to make lots of money. We're here because we want to get away from the many things which is choking out everyone's life.

I'm not yet finished but if someone else would like to speak or if I can speak some more, I would not want to take over this issue.

CHAIRMAN: Well, you have already exceeded the five minutes, so if we have time at the end we'll let you.

ORITA: Mr. Chairman?

CHAIRMAN: Yes.

ORITA: I just have one question for -.

CHAIRMAN: Mr. Piazza.

ORITA: John, I have a question. I think that in part of your comment you stated why was this present site chosen, am I correct?

PIAZZA: Well, not only that -.

ORITA: No, no, was that one of your questions?

PIAZZA: Yes, particularly -.

ORITA: All right, let me ask you this question then. If it were built some place else on the island, would you object to it?

PIAZZA: The problem is this, if it's going to be -.

ORITA: No, no, answer my question please.

PIAZZA: Yes, I would. Because no matter where -.

ORITA: Okay, you have answered my question. Thank you.

CHAIRMAN: Okay. Okay, thank you. Next person that has been sworn desiring to give testimony. We're through with the second row. We'll go back. Into the microphone please.

LADERA: My name is Beth Ladera. I live in Opihikao. It's beautiful there and I don't want to see it destroyed. It's really a sweet place, you know. Not too many people get a chance to live in a sweet place. As far as the realtors, the developers, I spoke to one from the mainland cause I was thinking of buying land; and he said, "Oh, I own a lot of that land"; and, you know, he has never seen it, he doesn't even care about it. And that's what happened to Hawaii. You know, I mean, I don't want this. I don't even allow this to come into my consciousness because I don't even want to think about it; but I'm here tonight because I don't have the choice. Here it is. I feel as though, I mean, when I look at the children and I look at the animals' faces and they come to me, and their eyes are asking me, "Is it going to be all right for us?" You know, I want it to be all right for them. They're sweet now and I don't want that to go.

You know, I was here once before about another issue; and I spoke about how I grew up in New York where it wasn't sweet, you know. And when I was little I really wondered how can this have happened, so I didn't know anything; but it is so un-natural. And this un-naturalness is ruining the world, you know; and people who are un-natural think of that as natural. I say send them home and let them live in their own pits.

CHAIRMAN: Next person, please.

HOGYE: My name is Joe Hogue, H-o-g-y-e, and I live in Opihikao, too. And I wonder about the well's noise in Opihikao now. Is it performing up to standards? I guess it isn't because they're investigating it. Why isn't it? If it was in operation

and bothering people, why was this allowed to continue? Why has this been going on? And, you know, why should we believe that this next one, this next nine, these next nine, won't also do this and then slowly they will be, maybe, toned down a little bit with mufflers? It doesn't look hopeful for that, from this first one. Is it possible that we could let these ones in Opihikao go for a while before going on to Kapoho, on the other side of Leilani, and maybe see about them running out in Opihikao? How long will they last in Opihikao? How many do we have to drill before we, to see what's happening? Thank you.

CHAIRMAN: Next.

AKAKA: Aloha, my name is Moani Keala Akaka and I represent the Aloha Aina Movement and the Protect Kahoolawe O'Hana, as well as the Aloha Life and Education Center. And, first of all, Mr. Craddick, has there been an environmental impact statement on the first well?

CRADDICK: No, no environmental statement impact is required for this. We'll produce a baseline study, however, which will serve as a reference point.

CHAIRMAN: Moani, when you ask a question, please direct it through the Chair.

AKAKA: I wasn't sure whether or not you knew, so I thought of asking him.

CHAIRMAN: I will refer it to him.

AKAKA: So what are you saying, Mr. Craddick, that there is no environmental impact statement, that it's not necessary. Mr. Paris, is that what Mr. Craddick said?

CHAIRMAN: It's not required.

AKAKA: Mr. Paris, you know, something of such, of a magnimity, you know, something that's going to cause so much adverse effects on the environment and it's going to cause social effects on the environment, I'm really surprised that in the past there hasn't been an environmental impact statement requested upon Mr. Craddick for the first well, even.

WOODRUFF: Mr. Chairman.

CHAIRMAN: One moment please.

WOODRUFF: I think I could add some information on this environmental impact statement.

CHAIRMAN: Will you please come forward. Do you swear to tell the truth in the testimony you're about to give on this application now before the Hawaii County Planning Commission?

WOODRUFF: I do. There has been an environmental impact statement.

CHAIRMAN: Will you talk into the microphone.

WOODRUFF: I'm an employee of the Department of Planning and Economic Development, State of Hawaii.

CHAIRMAN: DPED.

WOODRUFF: Yes. There has been an environmental impact statement written for the HGPA well; and it could be produced. I just wanted to clarify that point.

AKAKA: Mahalo.

MALE PUBLIC: What does it say?

AKAKA: That's a good question. Since you are familiar with the impact statement, could you summarize it for us?

WOODRUFF: Mr. Chairman, the impact statement consists of several hundred pages of detailed studies; and I wouldn't attempt to summarize it.

AKAKA: And it's available at the DPED?

WOODRUFF: Yes, it is.

CHAIRMAN: It's available for review.

AKAKA: I see. Also, will there be environmental impact statements requested before these other wells are put up, or shall we request them?

CHAIRMAN: None required.

AKAKA: Considering the fact, Mr. Fuke, that this does have such a big impact on the Puna district, I'm really surprised that, you know, you haven't been looking out after our best interest and requiring that they do have one. You know, no one seems to be even considering as far as on the governmental level the, you know, the kinds of situations, the social and environmental and health situations, that can be caused from these wells, the first as well as the next nine that are coming up on the line, that we're here tonight to speak about.

FUKE: Mr. Chairman, if I might just add, one of the responsibilities that we are charged with, that is the Planning Department, we're charged with the adhering portion of the law. Now if the law, as we understand it to be, does not require an environmental impact statement, as you describe it, it would really be, I think, out of bounds for me, personally, to request or require of the developer. However, in the review and approval process, that's now before the Planning Commission, if there are certain information that the Commission wishes as a result of the public testimony that the applicant to provide to better help the Commission make a more informed decision and reason decision, then the Commission could so require of that additional information to be provided by the applicant.

AKANA: I see.

WOODRUFF: Excuse me, Mr. Chairman, may I be excused? I have further testimony to give later.

CHAIRMAN: Oh, go right ahead.

AKANA: I have one question about a, a teacher at the nursing school who's a resident of Puna was told by, I believe it was Mr. Craddick's brother when she asked him about whether or not there was a mercury high, what the mercury content was like in the area that his well is happening in. She was told that there's a high mercury content on the leaves of the papaya trees and also on the marijuana trees that are in the area. Now, she was told that there wasn't high mercury content in the papayas, but they were on the papaya leaves. Now this is really hard to believe that you would find this high mercury content on the papaya leaves. And let's remember that there are not many people in Puna growing papayas and where that, you know, and while we're wondering where we're going to get the transportation to take those papayas some place else. You know, are we going to be contaminating this world with mercury content papayas, may I ask, because of these geothermal wells that are going up? And this is just a one geothermal well thus far.

And I would like to know, Mr. Paris, whether or not the Department, what the Department of Health has to say about this. I know that in the past, Andrew Sackett, I'm referring to years past, several years past, Mr. Sackett, even before they had the scrubbers and the mufflers on the wells out there was saying that everything was all right and everything was within the so-called limitations that are proposed or whatever standards that are proposed; but then people were still getting sick. And Dr. Palmer had fifty patients in his office because they were getting respiratory ailments; and Mr. Rikes' wife was having to go to Honolulu to the hospital because of her respiratory ailments that was created because of the -.

CHAIRMAN: Original well?

AKANA: The original well that they had, yes. And it's not just that, but what I was told at the International Geothermal Conference several years ago by a gentleman that was representing a company that had turbines, when I asked him about the noise and the smells, the respiratory ailments that people were getting, and he said, "Well, you know how it is when you were a little kid and if nobody says anything you get away with whatever you want to get away with." You know, I didn't think that was very funny because he was talking about government officials and corporation heads that were trying to get away with all they could get away with with this original geothermal well. You know, you've assured us, Mr. Paris, that this kind of thing won't happen; however, as the sisters, you know, say there still is a lot of sounds and people are still getting some, have some respiratory ailments.

But that high mercury content we had best look into before you start putting in anymore wells in there. People are very, very

concerned because they don't want Hawaii, they don't want Puna to become the Pittsburgh of the Pacific. This is Hawaii. How are those tourists going to like it, much less us guys who live here. You know -.

CRADDICK: May I?

CHAIRMAN: Mr. Craddick.

CRADDICK: Yes, sir. I'd like to respond to the mercury problem since I'm fairly familiar with that.

CHAIRMAN: Yes, he'd like to respond to you.

CRADDICK: That existed before the well was ever drilled. One of the indications of the geothermal area is a high mercury content in the soil. Now, if they were living there then, they were living in that environment at that time. It hasn't, nothing has been added to it since then. This was a measurement, I believe, taken by the Board of Health and by the environmental people; and if it's in the control agency and so forth, well, I wouldn't know about that. But this is a, the reason that we take what we call a baseline study is to find out what the existing conditions are before we drill, to see what impact it might have. I believe that -.

CHAIRMAN: Thank you. So you're saying that mercury conditions exist in the area prior to the time of the first drilling?

CRADDICK: Correct.

WOODRUFF: May I say something?

CHAIRMAN: Go right ahead. Will you please come forward and get it on tape.

WOODRUFF: The mercury problem has been discussed in several papers by Dr. Sanford Seigel. Mercury is a natural emanation from volcanic activity; and there are various concentrations of mercury all over the islands of Hawaii; and they are highest around the present volcanoes right now. It's not thought to be a result of geothermal wells.

CHAIRMAN: So you're saying its caused in areas of active volcanic activity?

WOODRUFF: That's true; and I could produce papers to show, to explain the process. The mercury essentially evaporates due to the heat from the minerals in the soil and in the rocks; and in doing so, goes into the atmosphere and is deposited on the leaves of the plants; and you'll find this quite widely distributed around the world, where there's volcanic activity.

CHAIRMAN: Thank you.

AKANA: Does digging into it provoke the, does it make the content any higher by these wells? Do you have any evidence that it shows that it wouldn't?

WOODRUFF: Yes. I know of one study where measurements were made near the well. They found no higher concentrations near the well than on any other area on the island. I believe downtown Hilo had higher concentrations than right beside the well.

CHAIRMAN: Thank you.

AKANA: Now there's also the question of, as this Dr. Hensley who was a speaker at the symposium this past weekend said, you know, nobody seem to say too much about it, however, you know, he was talking about the fact of the dangers of having these wells next to the rift zone. You know, people kept mentioning this, but nobody seemed to be taking this into consideration or no one seems to, you know, think seriously of the harm that Madam Pele can do to us, you know. And, of course, there is the whole, there is the religious area, too. I mean a lot of people are very, very uncomfortable about people digging into Pele's domain and provoking her.

And, you know, they say they're going to give us jobs. Well, these geothermal plants are going to have jobs for six people. We're going to destroy Puna for jobs for six people?

FEMALE PUBLIC: Between four and six.

AKANA: Between four and six, excuse me. I mean, besides the speculators making all their money and the real estate guys. Six people, six jobs, Mr. Paris.

CHAIRMAN: Tonight we're trying to ascertain whether, and I can see by your comments thus far that you're against this well. I mean, it's evident and you have stated your reasons. We're not here tonight to, we came to get your public input as to whether you are against it or for it; and I appreciate your comments thus far. But I have asked you people to limit yourselves to five minutes and you've exceeded that already.

AKANA: Well, you know, you have a very important responsibility for all of us, for our future and our children's future; and, you know, whether it's the fact that each person is given five minutes, you know, we're here for answers and you are our representatives. You know, yes, I am, you know, against this geothermal if it's going to, you know, kill the Puna district and help to destroy the Big Island, definitely; and, especially if it's only going to create six jobs. But if this does go through, there is the question of the ownership for that geothermal; and, if necessary, we will take it to court because we native Hawaiians definitely have an interest. That is our geothermal. And we came up, not to the Planning Commission, but we went to the County and years ago we proposed that they make that geothermal municipally owned, owned by the people of this island. That way, everybody would get cheap electricity and we, Hawaiians as part of our native rights, would get a percentage as part of our native rights which other indigenous people have been allowed to have. And, you know, this geothermal shouldn't go any further. First of all, it shouldn't go at all; but if it does, it shouldn't go any further until this ownership question is cleared up. And, you know, keep Hawaii Hawaii

for the sake of the future generations, for the sake of those of us living here. These outside investors, these oil companies, they don't care about this place.

You should've listened to this social scientist, social psychologist that was here. He's also a lawyer, Dr. James Kent. He also spoke before the County Council. He should speak before this County Council. He should speak to you, Mr. Fuke, you know. And a very, very sensitive and very, very caring man about the quality of life and about the predicament that the people face today. Here we have, the three highest electricity rates in the whole country are in three of our counties. We pay the highest electricity rates in the whole country. Yet, they tell us when this geothermal comes out, we're not going to get any cheaper electricity. So if it's not going to do any good for we, the people, I'm not talking about the oil companies and the speculators and the real estate agents, but if it's not going to be done in the best interest for the people of the Big Island and for the people of Puna, then you should say "pau".

CHAIRMAN: Thank you, Ms. Akaka.

AKAKA: Especially if it's only going to give us from four to six jobs. It's an insult to sell our island down the drain with all these pipes and all these things that were in these pictures and all of this pollution for four jobs, from four to six jobs. It's an insult. It's another slap in the face for the people of Hawaii.

CHAIRMAN: Who's next please?

BELSKY: Can I say something? I wasn't sworn in.

CHAIRMAN: We'll have to swear you in. No, we will take the people that were sworn first. Please sit down.

BELSKY: Well, can I ask one question then? Just one question.

CHAIRMAN: Please be seated. We have some people sworn. I'll pick you up at the end. Will you state your name into the microphone.

GOLD: My name is Glenn Gold and I'm a landowner.

CHAIRMAN: Glenn Gold?

GOLD: Gold, yes. I'm a landowner in Opihikao. I have four acres there that upon purchasing it a few years ago, I would like to briefly mention that I have been in the islands through my childhood and my present adult life. I am, like many other people have mentioned, looking for "Hawaii" so to speak. Upon buying my land, it was an attempt to see my dreams of a future homesite with something to offer my children, my family, there which geothermal will destroy. I feel because of the energy that will be produced, that large amounts of electricity are not going to keep the situation the same as it is. Like everybody said it before me, it's going to bring in industry. You know, I don't want to live near an industry. I don't want to have to sell my lands to find some other place different just to get away from it either.

My property is presently under lease from Mr. Craddick's company. Mr. Craddick's company, upon asking them a year and a half ago or so when they were in default when their lease, to get their act together, maybe even tell me what they were doing with their property, were nice enough to send me a copy of my letter back to me with no explanation of their intentions for my property. I feel that this is assigned to me of someone I can't trust; and if I can't trust them on that level, how can this Commission or the government trust them on anything else they're saying? If they're into this, they're into it for some kind of benefit. They're not going to spend a lot of money to not make any money, to go in the hole, you know.

Helco says they want to help us. Helco won't put electricity to my property, the half mile I am from electricity unless I pay for all the poles, all the wires. And if they want to give me electricity so bad, why don't they save the money from those drillings and just give me some electricity. Buy me a solar power, I'd prefer that, you know, inasmuch as they're talking about spending on these things. I mean, I realize that's a ridiculous assumption to have, I mean to spend the money directly on us as people. But when they say that their intention is for the good of the people, and yet their actions are obviously for the good of themselves because they have stockholders that want to make money off their investment, I don't see how in the long run the people in the immediate Puna area who are mostly people in that particular area that don't have electricity now anyway, and a large amount really could care less whether or not they have electricity, you know. If they are really so concerned about the people there, it seems that they would have taken some preliminary surveys of what the people's attitudes were. Mr. Craddick's company would have made an effort to have their present drilling site in Opihikao to keep it quiet.

I live an excess of a mile from that site. If any of you are familiar with the noise of harvesting of canefield, that's what it sounds like at night over a mile away. It sounds like I have a canefield next door.

I realize that electricity and energy production for the future needs of this island and this community, this society, are reasonable things to be looking forward to. You know, it would be nice to have cheap electricity. It would be nice to have maybe more of it available for people who want to move into an area that want to have electricity and there's none there now. I don't feel that our government can lay that responsibility into private enterprise and get it. You know, private enterprise is going to get what they can get out of the people, more than they're going to give; and that's been how they've done it always, all along. They look for the profits, they go in where they see the profits lie. And, I feel that, as I said, Mr. Craddick's company was not willing to be truthful of their intentions with their lease on my property, I don't think they will be truthful in their intentions of their whole operation in the Puna area; and we'll suddenly find ourselves with something that we didn't want. Thank you.

CHAIRMAN: Thank you. We had two more people that were sworn,

ELMER: My name is Nan Elmer, E-l-m-e-r.

CHAIRMAN: Nan?

ELMER: Nan, N-a-n. I'm a landowner and resident of Leilani Estates which is the closest residential area to the Pohoiki well site. Already my life is being disturbed by the sounds of drilling in the middle of the night at the Opihikao well site.

The production of electricity from geothermal steam does seem like a viable alternative to coal, oil and nuclear produced power. But I think that two questions should be answered by you, the council which has authority over the planning for development and by the residents of Puna and the Big Island. Do we need the electricity these proposed wells will produce and do Hawaii County residents desire geothermally produced electricity?

In all the presentations and explanations I have heard regarding geothermal energy in Puna, it appears that the electricity produced will need to be used by industries which are not now present. There will be more megawatts produced than we now need. The industries which have been looked at as potentials for development in Puna are only under study and no company is yet committed until the surplus electricity exists. My concern is also that the industries utilizing the power may be more polluting and hazardous to the island's environment than even the geothermal plant itself.

The motivation behind developing these proposed wells is to produce electricity for potential industry which will stimulate the economy of Puna and the County. Such industry will stimulate the economy by creating jobs for unemployed residents of the Puna district. Do the residents of Puna desire the type of industry proposed? It is assumed that it is for their benefit that the Puna district be turned from a predominantly agricultural region into an area serving an industrial park. Do the residents want this and feel that they need it?

I realize that a public hearing such as this one is for the purpose of finding out the answer to these questions. Yet is this hearing adequate? One small announcement in the newspaper to alert residents that this is their time to speak. I feel that many residents who are concerned and do have an opinion regarding geothermal development are not represented here. Would it not be desirable to take a thorough survey from among the residents whose living patterns and environment will be affected by the proposed geothermal well exploration, power development and industries which are to follow? We should be educated concerning the benefits and detriments of geothermal development as well as those of power production from alternative sources which are also abundant in Hawaii County: wind, waves and the sun. Then the questions should be asked of all affected residents: Do you want geothermal development and industry? Would another power source be more suitable for this area's environment and needs?

It seems to me that if we do indeed need more electricity in Puna and Hawaii County then we should encourage studies to determine

if electricity derived from other sources would be economically feasible and less environmentally hazardous than geothermal power.

I am personally not in favor of allowing Hawaii State agricultural lands to be used for geothermal well exploration. I feel that it should not be allowed until it is determined that it is absolutely necessary for the Puna district to produce electricity. Exploration should not take place until an adequate survey of residents reveals that they desire such development. It also seems very appropriate that the Geothermal Exploration and Development Corporation should be required to file an environmental impact statement prior to the beginning of drilling. Alternative energy source exploration should be undertaken concurrently so as to compare the economic feasibility, environmental effects, efficiency, etc. of wind and solar generators to those of geothermal power production.

CHAIRMAN: Thank you, Nan. Who was the other person? Two more. You're already sworn. Come up to the microphone and identify yourself for the record.

KINNEY: My name is Everett Kahiliokalani Sonny Kinney. I represent the Puna Hui Ohana. The Puna Hui Ohana feels that events are moving so fast that there is a time now for evaluation and a quiet moment to look at what's happening around us. The Hui has examined the application and the site in question and we herewith present the following points, with the viewpoint that we reserve the right to be an interested party at some later date. With regard to the application, we wish to present ten points, or eleven points for consideration which are some concern to us.

One, with regard to spatial and areal organization, we are very concerned about the location of the wells from the boundaries - can we consider this to be adequate or inadequate? At the present time, we're looking at the wells on the south side about 300 feet from the boundary line and on the north side about 287 feet from the boundary line. I think this is an issue that deserves much further study. The distance between the wells - we're looking at a 1,000 feet between the wells; and, yet, this particular 1,000 feet that is required between the wells, or at least the applicant has presented between the wells, does not comply with the distance from the wells to the boundary. There is a varied difference between distance. By other means, if another well or another party adjoining this property wishes to develop it, conceivably he could develop within 200 or 300 feet and all will have wells 600 feet apart. So we need to examine that.

With regard to well spacing and allocation per acre, we're very concerned about well proliferation. We think that the spacing and the allowable land needs to be examined for many other factors besides looking at it from a topographical point of view. We also feel that the number of wells in such a close and tight area could mean resource depletion.

Third, the proximity to residential zone. The distance to Lanipuna and the distance to Leilani Estates at this point in time, in the opinion of the Hui, is not sufficient to protect the rights of the residents in those districts.

Incremental stages of development, our fourth point. In relation to the periphery, we have no idea of what other kinds of development will take place outside of this triangle. And I think it's unfair to ask people to make decisions without them knowing what other plans are or what other developments will be taken. Number four, with regard to incremental stages of development, is the nature of the increment. We need to know what the increment development will be besides geothermal uses; and that needs to be made clear by the Planning Department and with input from the community.

Number five, the absence of a long-range plan. Again, it's our contention that the absence of a long-range plan is a serious detriment to the community, to Puna as a whole. Number one, there is no geothermal zone designation to our knowledge; and we think that this should be clearly outlined so people would know and can protect themselves ahead of time as to what is about to happen to them. There is no, I say absolutely no zone. We have been trying to establish that with the State Legislature and have been unsuccessful to do so. There is no plan as to the location of generator plants. I say this because we have had the experience, or I have had the experience, of travelling through the Geysers complex and also to the New Zealand complexes; and what we see there I think is entirely alien to any kind of development. What has happened to the Geysers could possibly happen to Opihikao, to our geothermal zone, would be a total loss to the integrity of the zone. In the Geysers case, one does not see the mountains, the beautiful mountains; one only sees generator wells and a wide spacing of drilling rigs. We need to look at that. There is also pipe corridor location. There is nothing in our long-range plans to indicate that there is a pipe corridor. There is also a power transmission corridor. This is not indicated by anybody. Perhaps, it's something that needs to be looked into by the Planning Commission. There is also the issue of transformer collector base. Now with every generator plant, there is a transformer unit with which the energy created by the plant is further transformed before it's set out on the steel cable or steel towers, which is another point that should include or should be included with, the lack of piped steam or transformer corridors.

The sixth point, we are afraid that this will set the precedent for other large developers. We're talking about Amfac, Bishop Estate and Tokyo Land Company. We need to know where they're going to go. We needn't give them any precedent without first examining who is to benefit from this.

Seven, political jurisdiction. We have not seen in the papers filed to this date what processes involve DLNR and what processes involve the County. I called Mr. Fuke on this and with a request that the total permitting process be made available to the HUI so the HUI can make it then available to the community as to how and what steps are taken because we're not too sure who has jurisdiction over what. Now, for instance, I have here in the language, I have here, setback in well spacing. Now according to Regulation 8, Leasing of Geothermal Resources and so forth, with regard to Section 9.5, we see here, and then, "Any well drilled for the discovery and/or production of geothermal resources, or for injection of geothermal resources, shall be located more than

100 feet from the outer boundary of the parcel of land on which the well is situated." Well, in this particular case, you happen to be more than 100 feet, but that still doesn't signify that either 100 feet or 287 feet is the proper measurement; and we hope at some future date to provide objective evidence to show that that is not the case. The same issue can be said to be included with the spacing requirement. Section 9.5.B, and this is something that's very difficult for me to believe or for our group, and it says, "The Chairman shall approve proposed well spacing programs or prescribe such modifications to the program as he deems necessary for proper development and conservation of geothermal resources. Gentlemen, I believe that before we can agree to any geothermal program, we need some better and more definitive language than that as to how spacing is to be considered.

Siting and access, we're talking about roads, existing and planned. This is another problem that we saw, that I saw and the group that I was with saw, in both Geyser's and New Zealand because those plants were not properly made. There were evidences of damage, landslides, roads going nowhere, roads that had no particular meaning and ended on the main highways at various intersections causing additional harm and danger. So I think that the issue of siting and access needs to be a part of the overall plan as to what's going to be happening.

With regard to primary definitions and the extension of uses, we are still very confused. We don't know, and it hasn't been made quite clear, what is an exploratory well. What is an exploratory well, not a production well? We're talking about these wells and yet no one can tell us for sure that if it's an exploratory well and it's successful, then that exploration is successful, there is no need to go any further until such time as new plans are developed and approved by both the Planning Board and with the consent and advice of the people.

Lastly, or next to the last item, land use patterns. We're talking about long-range land use patterns. There has been no truly great effort to identify the existing land uses in terms of discovery of steam and how this land use will be changed. I think that is something else we need to do. We need to know about the land use organization by ownership, location, and size patterns, so we can determine assembly is to be, of land, will be made for purposes of development. We must know who is coming in to buy and assemble land for the purpose of development.

Lastly, the preclusion of agriculture use. It has been said or intimated in the report, and many of our members are agricultural farmers, it states that the well development or site development will not damage agricultural use. To date, according to visits, again, to Geyser's and to New Zealand, this was not the case because we had also been told that the Maori people had been assured that on Maori lands where development was taking place that the agriculture would not be precluded and yet that was far from the truth from what we actually saw. In both cases, the Geyser's case and in the Wairakei's case, there was great and extensive damage as a result of boron particles and as a result of other damaging

chemicals so that agricultural use, therefore, was not possible. That's besides the pipelines that laced the property making it very difficult for agricultural activity.

In all, the Hui has examined this very closely and it'll, as I said, it'll be our intention to prevent a very objective analysis with evidences as to why these positions are being taken in the hope that these positions will be corrected, corrected so that there will be, there will be no damage to the residents, there will be no damage to the people, there will be no damage to the community up to the point that we can prevent that. So, therefore, the Hui, at this meeting, and at this hearing, takes the position with regard to the above that the application be denied. Thank you.

CHAIRMAN: Thank you, Mr. Kinney. Any questions, Commissioners? All right, we'll go to our last sworn testifier.

WOODRUFF: My name is Jim Woodruff. I'm an employee of DPED. I'm a geologist and project manager for geothermal commercialization study. Mr. Hideto Konno, Director of DPED, asked me to come and attend this hearing and speak in his behalf and to express his support for the efforts of exploration of the geothermal resource.

I would also like to mention one point that people are concerned about their high electricity rate that affects us all; and the State is hoping, and it is one of their goals, to effectively reduce electricity rates by developing alternative energy. That is the primary reason for this research.

I would also like to point out that we are considering here an application for an exploratory well. We're not, at this point, talking about development. We are now in the research stage; and development follows research. And at that stage, there will be ample opportunity, I believe, for the people to add an input into the process.

The State, of course, realizes that County planning is very critical in this process; and the State is working with the County to ascertain that it's, you know, done properly. Thank you very much.

CHAIRMAN: Thank you, Mr. Woodruff. Any questions, Commissioners? If not, you may come forward now. I'll swear you in. Do you swear to tell the truth in the testimony you're about to give before the Hawaii County Planning Commission?

BELSKY: I do.

CHAIRMAN: Will you state your name into the microphone for the record please.

BELSKY: My name is Tom'as Belsky.

CHAIRMAN: Tom'as Belsky?

BELSKY: Belsky. I just have one fundamental question. You know, I appreciate the fact that you gentlemen and ladies have

a very, very important responsibility as to the future of the Big Island. From what I know of the environmental impact study as an institution that has been recently forwarded by the Federal government, this is an essential tool to making a wise decision on how the lives and the land area of any region that is being questioned with a change is going to be affecting the people, the health and the well being of both people and land. Now, I was a little confused. I'm not quite clear. Now the final decision on this will be made by the State Land Use Commission, and you will give an opinion that they can contradict. If you say yes they can say no or vice versa, is that correct?

CHAIRMAN: We will send either a recommendation for approval or denial of this application.

BELSKY: And the environmental impact statement is available to all you Commissioners?

CHAIRMAN: That was on the original well site in Puna conducted by our DPED. It is available in their office for study.

TSUKAZAKI: Excuse me. Would it help if I summarized the permit procedure that's being used right now, the nature of this hearing. Because Mr. Kinney earlier raised the question as to what's the proper procedure here and maybe I can just summarize it for you.

BELSKY: Yes.

TSUKAZAKI: Under Chapter 205 of the Hawaii Revised Statutes, a landowner who owns land in an agricultural district or a rural district can apply for a special permit to the Planning Commission of a county to implement what's called a unusual and reasonable use in that district which is not already a permissible use. And in order for the Commission to grant that special permit for that special use, the Commission must find that the use would be consistent with goals and objectives of that Chapter which are consistent with the goals and objectives of the State Plan which was adopted in 1978. So the landowner, property owner, comes to the Planning Commission for this special permit; and where the land area involved is 15 acres or less, then the County Planning Commission can conclusively decide whether the permit should be granted or not. Where the land area is more than 15 acres, such as in this case, then the role of the Planning Commission, the County Planning Commission, is advisory or recommendatory to the State Land Use Commission. We have the hearing here, we forward a decision to the Land Use Commission along with the documents involved, and they can approve or disapprove or modify the decision that's made here.

Also, if this Commission should deny or the Land Use Commission should deny the application for a special permit, the property owner can appeal that decision to the Circuit Court.

I just want to point out one last thing which is that, as I said before, the County Planning Commission has the authority to grant or deny the application and it may impose whatever protective restrictions it may deem as being necessary. So

there is room here at the Planning Commission level to require additional information perhaps that has not been submitted to date by the applicant or by interested parties, let's say.

So I think generally that's the purpose of this, you know, proceeding and the nature of it, which is it'll allow the landowner to come in and get a permit for a use of land which is not already permitted in that district.

BELSKY: Thank you. That does clear it up. You know, listening to all the testimony this evening, I'm impressed with one thing, and that is that the people who testified, I don't read them as all being against this project as, you know, what I'm saying is, what I'm hearing is that people are very concerned that they have settled in an area, they love the area, and the potential of a movement into it is contrary to the vision, perhaps, that they had established when they moved there. And I see their vision more consistent with the concept of aloha and the future of Hawaii, perhaps more so than the current program that is being proposed.

My hope is that the first study, that the studies from the first well be very carefully examined and utilized so that in any subsequent wells there is no possibility of making mistakes and putting us into a jam that could make the Kohala trip look like petty business. I mean, we're dealing with a very large section of the beautiful island; and that's all I have to say. Thank you.

CHAIRMAN: Thank you. There was one other person who wanted to say something who had already spoken in the back of the room somewhere. Go ahead, wait. Corporation Counsel.

TSUKAZAKI: Excuse me. A staff member said that I wasn't clear enough in that summary as to what happens if this Commission denies the application. If this Commission denies the application for a special permit, then the applicant can appeal to the Circuit Court; but this denial decision doesn't go up to the Land Use Commission. It stops at this level and then it goes to court. So it's only, it's only a decision which grants a special permit or which recommends approval of the special permit that it goes up to the Land Use Commission, to the State Land Use Commission.

ELMER: Is there a deadline to advise the State Land Use Commission of your approval?

FUKE: Perhaps I can answer it. What normally happens is that once, this is a County Planning Commission, if this Commission finds that the proposal is a reasonable one, then what happens is that they are not in a position to approve it. They are only in a position to recommend its approval to the State Land -.

ELMER: The Land Use Commission.

FUKE: Yeah, to advise. That action would occur after all of the testimonies have been submitted and the Commission has elected to close the public hearing. Once the public hearing has

been closed, no new additional testimony or information could be considered by the Planning Commission in its deliberation. And the Commission could then act at that point in time or agree to deliberate within a reasonable period after the close of the public hearing before doing one of two things - before submitting its favorable recommendation to the State Land Use Commission, or if it deems that the request is not reasonable to deny it at that level. And, again, if it were to be denied, the applicant's alternative is to appeal it to the Third Circuit Court of Appeals.

ELMER: And how many days after you advise the State Land Use Commission do they have to make their decision?

FUKE: It's once, if a favorable recommendation is forwarded to the State Land Use Commission, then the State Land Use Commission has a maximum of 60 days upon receipt of the Commission's action, a recommendation to render a decision.

HAYASHI: Mr. Chairman, I'd like to correct it.

FUKE: What's it, 45 days?

HAYASHI: Yeah. We have to transmit the application within a period of 60 days after the action of the Planning Commission; and the Land Use Commission has 45 days thereafter in which to act on the application.

CHAIRMAN: Mr. Woodruff?

WOODRUFF: Mr. Chairman, in the case of a contested action, the State may wish to make further testimony at this hearing. I just want to make that clear.

CHAIRMAN: I see what you mean.

FUKE: Mr. Chairman, inasmuch as I think there still have been some questions and concerns regarding the procedure, the permitting requirement, I'd like to also amplify what the legal counsel had noted. And that is that this is a series of different kinds of permits that the applicant must secure before the project could actually get off the ground. As I had explained to Mr. Kinney earlier in a phone conversation with him that the State Department of Land and Natural Resources or the Land Board, he was quoting that regulation, that they must also review the same petition that's now being considered by the Planning Commission. So even if this Commission and ultimately, or possibly ultimately, the State Land Use Commission, were to favorably act on this particular petition, approval of the State Board of Land and Natural Resources is still required before any activity can occur.

BELSKY: I feel like concluding something that was brought up before. The thing is about our outlook upon this project. It seems like everyone who is pro this geothermal project were directly making money on this; more so, that they were also not even living in the direct area where it was going to be projected for. These people do not matter as much. It should be the people who live there and, as well, are open to the realizations of keeping the earth as it should be, for growing food in these times.

If we were really a nation concerned with energy conservativeness, the large corporations that are already, have allowed the better corroborators that were developed many years ago but never allowed out in the market, if we really want to be able to conserve energy, there are simpler alternatives, of course, which the large corporations don't allow us right now because they want to be the ones in control of it as long as they have the power and we are the ones who are in their arms cause they don't care.

We need, again, to think this issue out as much as it is involving everyone else in this island, including the people here, and that we are not the ones, or every where, represented on this island, who want to keep this island pure. If we were to go up to everyone of these people and asked them do they want it, who will you listen to? The ones that are making money on this project, or the ones who really live here? And if we have concern for more electricity for our people, it's about time that we start asking questions to the government why aren't there better ways, other than the ways that seemingly are going to bring out destruction on this whole earth, allow them to have more publicity, more emphasis, and as much as we should think about this ourselves. Ask yourselves that question here. Thank you.

CHAIRMAN: I'd like to respond in one thing, you know. This is not only the source of energy we've been dealing with on this island. We've already given two special permits for small wind generators in the Kohala area. We have got the OTEC project going in Kailua, I mean Keahole in Kona. So this is not the only ball of wax. We're trying to, one of the objectives of our County is to become energy self-sufficient. And these are things that are just exploratory, remember that. They're not finalized. They're just trying to experiment. I'm not saying I'm in favor of this or anything, but I just wanted to let you know this is not the only source of energy we're dealing with at the present time. We've given permits for other measures; and I wanted you to know that.

SAKAMOTO: Mr. Chairman?

CHAIRMAN: Yes.

SAKAMOTO: I think it's time to make the applicant's rebuttal.

CHAIRMAN: It's actually no rebuttal tonight. He may respond to some of the questions -.

SAKAMOTO: Yes, respond to some of the questions.

CHAIRMAN: Some of the questions that had been made. I'd like to cut off the public testimony at this time inasmuch as this is going to be continued. And in the contested case procedure, there is a place for further public testimony. So this will take place. It is one of the steps in where testimony from the public can be taken. So those of you who have not had a chance to speak tonight possibly can speak at that time.

AKAKA: May I ask a question?

CHAIRMAN: What is your question?

AKAKA: We had a public hearing for a two 10-story hotel development along the Wailuku River; and at that time it was postponed; and since that time, three months have gone by. And I would like to know when it will be taken up and why it has been held up.

FUKE: Mr. Chairman, just in the interest of time, I guess I should respond to it. But essentially what had happened on that petition was that the Commission had elected to continue or defer the public hearing until such time that the applicant provided the Commission with all of the information that they had requested; and as of this date, the applicant has not submitted it. So if and when that, when that information comes in, then the Commission would schedule it for a public hearing; but until that time, it would be premature.

AKAKA: We will get more than three days' notice though?

FUKE: The normal hearing requirement, the minimum hearing requirement, I think is -.

HAYASHI: Ten days.

FUKE: Ten days. Mr. Chairman, I'd like to, if I may, just reconfirm what was discussed earlier with respect to the possibility of going into a contested case procedure. We have sent out, and those who have expressed an interest have already signed up; and those who have not, after the conclusion of tonight's meeting, those who have not signed up and are still interested in signing up, I would like to suggest that you contact the Commission's Secretary. But essentially, for those who have signed up, what we will be doing is, in addition to the applicant, sending a letter from, I guess the Chairman will be sending a letter to all nine of you who had signed up thus far, we'll be sending you a letter. And in that letter, explaining to you what the contested case procedures are and to ask you to submit certain information required under the contested case procedures by July 18th. And if that information is not received before that time, the Commission will just assume that after your having read the procedures and the date of requirements, that you've elected to forego the contested case procedures.

As the Chairman further mentioned that while tonight's meeting would be ended, the hearing on this particular item would not end. There would still have to be a continuation yet. The time and place for that next meeting has not been set. Nevertheless, you have the option of providing either a written or verbal comments before the Planning Commission. As long as, if you're going to submit written comments, we would appreciate having the written comments prior to the date of the next scheduled public hearing inasmuch as we can then make copies available to all of the Planning Commissioners.

CHAIRMAN: For the people who are going to intervene as interested parties, I think we should pick a date when we'd want them to have the affidavits in, their articles of incorporation, everything, before we adjourn this meeting tonight.

FUKE: Mr. Chairman, it's intended that, in the letter which should go out either tomorrow or Wednesday at the very latest, in that letter we will clearly indicate that by July 18th we would want to have certain information from those who have expressed an interest in proceeding under the contested case procedure.

CHAIRMAN: Thank you. Does the applicant at this time wish to make any comment, further comment?

CRADDICK: No, I don't have anything much to say. I did notice though that in the testimony of Mr. Kinney, for instance, I believe he was, and some of the others, they are dwelling on points that really are going to be brought up later if and when we find the geothermal power. We have to go through this whole thing again before we can ever produce it. And a lot of these questions will have to be discussed and decided upon at that time. Right now we're merely out there looking for it. We may not even find it; and these questions may be all moot in that case. Thank you very much.

SAKAMOTO: I have one question.

CHAIRMAN: Commissioner Sakamoto.

SAKAMOTO: Mr. Craddick, I have one question. You folks are drilling 24 hours a day, five days a week. What is one good reason? I want to know one reason why you're drilling 24 hours a day.

CRADDICK: Well, when you're drilling a deep hole like that, once you start the operation, you literally can't, you can't interrupt it by stopping and starting or you'll never get the hole down. You actually will get stuck in the hole all the time, you never will get the thing down. What happens, it's a continuous operation where as you're drilling, you're clearing these rocks from the bottom of the hole and trying to get them up to the top so you can penetrate the hole farther. But if you got down and started to drill and clear the rocks and then have a stop, that thing could probably come in on you again. You know, it's not a practical thing to do. You'd never be able to complete a hole, that's really what it amounts to.

PUBLIC: Then why do you have to stop it then?

CRADDICK: All right, and Saturday, you'll have to go through the whole procedure of shutting, of clearing out the hole, and pulling all your drills back of the whole. It takes them perhaps eight hours to do that. Then to start up again, they've got to go through the whole procedure. It's very expensive and time consuming for us to do it this way. The preferable way is to go seven days a week as they do on the mainland in 99 percent of the cases. We have done this because we feel -.

PUBLIC: How come -.

CHAIRMAN: Let's get some courtesy in this room and go one time at a time.

CRADDICK: We are doing this because we feel it's our responsibility to cut down as much as possible the nuisance factor in this.

CHAIRMAN: Thank you very much. I'd like to say something at this time. I'd like to say that we Commissioners here serve you without any compensation of any sort. We come to the meetings to take your testimony; and, as such, we are individuals also. We don't like to be insulted, we don't like to be subjected to sarcasm. So when you make your presentation, try and be objective. I know this is an emotional thing, but by throwing bricks and stones you don't get anywhere. Many times you will aggravate a person. He may be altogether on your side; but just because you use abusive tactics, sometimes he'll change his mind. And I just want to warn you, let's extend the Commissioners your courtesy. I'm just asking you to do this in the future. We serve you without any compensation; and, as such, I think we deserve a little courtesy.

PUBLIC: We appreciate you.

CHAIRMAN: And I would like, when we're having a meeting, when somebody has the floor, let him have the floor; and reserve your comments until he is through.

I have said that we will continue this hearing at a future date. July 18th has been set as the cutoff for you to send in your affidavits and for the reasons why you'd want to be admitted as interested parties. I believe we've given you all a fair time to speak tonight; and at the public testimony portion of the hearing, those of you who want to make comments, I'll afford you a time to speak at that time.

AKAKA: In the public hearing that you'll take testimony, does it have any weight as the interested parties under the contested case procedure?

CHAIRMAN: It certainly has. We, as Commissioners take it into consideration. That's why I was taking notes during all your testimonies tonight. We certainly like to analyze all the testimony that is given.

AKAKA: Well, as interested parties though, it seems as though there's some, you know, some accountability when you're an interested party; and whereas under public testimony it doesn't have to as far as accountability and being certified. It's as though they're different roles.

CHAIRMAN: We have explained that when you're admitted as an interested party, you have the right to cross-examine the other parties concerned. In the beginning and at the end, you have a place in there for you to give rebuttal; and then you, at the end of your presentation, you give your concluding statement. You are able to make a conclusion. So you have several times where you can speak and make cross-examination and other things.

I think, Commissioners, we've spent quite a long time on this hearing tonight; and we are recommending that we continue the

hearing until such time as we receive all the affidavits and documents that the interested parties will be submitting to us. We'll possibly set a date for a pre-hearing meeting where we can get together and go over the rules of the road for the hearing with all the parties that are concerned. So at this time, a motion to continue the public hearing would be in order.

SAKAMOTO: Mr. Chairman, I so move.

CHAIRMAN: Its been moved by Commissioner Sakamoto to continue the public hearing. Is there a second?

ORITA: Second, Mr. Chairman.

CHAIRMAN: Seconded by Commissioner Orita. All those in favor signify by saying aye?

COMMISSIONERS: Aye.

CHAIRMAN: Contrary minded, same sign? Thank you very much.

The discussion ended at 10:08 p.m.

Respectfully submitted,

Sharon M. Nomura

Sharon M. Nomura
Secretary

A T T E S T:

William J. Paris Jr.
William J. Paris, Jr.
Chairman, Planning Commission

LUC

PLANNING COMMISSION

Planning Department
County of Hawaii

MINUTES
August 7 and 8, 1980

The Planning Commission met in regular session at 1:05 p.m. on August 7, and at 9:12 a.m. on August 8, 1980, in the Councilroom, County Building, South Hilo, Hawaii, with Chairman William J. Paris, Jr. presiding.

PRESENT:	William J. Paris, Jr.	ABSENT:	Glenn Frias
	Clyde Imada		George Ponte
	Roy Kagawa		Ex-officio Member
	Bert H. Nakano		H. William Sewake
	Alfredo Orita		
	Charles H. Sakamoto		
	Tina Whitmarsh		

Sidney M. Fuke, Planning Director
Norman Hayashi, Staff Planner
Blake Shigii, Staff Planner
Virginia Goldstein, Staff Planner

David Murakami, representing Ex-officio Member Edward Harada

and approximately 17 people at 1:05 p.m., 12 people at 4:02 p.m., 6 people at 4:28 p.m., 70 people at 7:05 p.m. on August 7th and 30 people at 9:12 a.m. on August 8th were in attendance

All those testifying were duly sworn in.

EXHIBIT Y

opinions that the Corporation Counsel must render before the application can be processed.

It was moved by Commissioner Kagawa and seconded by Commissioner Imada that the public hearing be continued until the Corporation Counsel renders some opinions; motion was carried.

MINUTES: It was moved by Commissioner Nakano and seconded by Commissioner Orita that the minutes of July 16 and 17, 1980, be approved with a correction to the minutes of July 16th on Fred Swearingen's application to read that the subject property was previously owned by Chairman Paris' father's family and not his father; motion was carried.

RECESS: The meeting recessed at 5:15 p.m. until the scheduled public hearing at 7:00 p.m.

RECONVENED: The meeting reconvened at 7:05 p.m.

SPECIAL PERMIT
GEOTHERMAL
EXPLORATION AND
DEVELOPMENT CORP.
LAEPAAO, PUNA Continuation of a public hearing on the application of Geothermal Exploration and Development Corp. 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. 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, Laepaoo, Puna, TMK: 1-4-02:10.

Susan Orlando, the Puna Hui Ohana (Sonny Kinney), and the State Department of Agriculture (James Woodruff), requested to be admitted as interested parties and stated their reasons why they felt they should be admitted as parties. Planning Director Fuke, along with the petitioner's attorney, George M. Sheets, stated they had no objections in admitting them as interested parties.

It was moved by Commissioner Kagawa and seconded by Commissioner Nakano to admit Susan Orlando as an interested party; motion was carried.

It was moved by Commissioner Nakano and seconded by Commissioner Orita to admit the Puna Hui Ohana as an interested party; motion was carried.

It was moved by Commissioner Imada and seconded by Commissioner Sakamoto to admit the DPED as an interested party; motion was carried.

The Chair explained the purpose of the hearing and the procedures to be used for the hearing.

The following is a recapitulation of those testifying under the public testimonies portion of the hearing:

Frank Orlando, although he was not necessarily against geothermal development, expressed his concerns on noise and smell. He said there should be someone to monitor them constantly and if there is a violation there should be a specific time to having the problem resolved or the operation be required to shut down. He added he felt the overall picture should be looked at as this is where the project will end up.

Henry Chow on behalf of his family and 12 other families living in Opihikao spoke in favor of geothermal energy.

Eliot Merk read and submitted a written testimony (See Attachment A).

Doris Smith read and submitted a written testimony (See Attachment B).

Germaine Marquais read and submitted a written testimony (See Attachment C).

James Miles on behalf of the Kanoēlehua Industrial Association read and submitted a written testimony (See Attachment D).

Robert J. Santos on behalf of the Chamber of Commerce read and submitted a written testimony (See Attachment E).

Gregory C. Pommerenk of Love and Light Church questioned what the poor people can really gain from this project. He said he was neither for nor against geothermal energy in general if it is regulated properly and used for the people. He added that he felt there was no need for additional exploratory drilling as exploratory drilling is already being done at Pohoiki and expressed his concern that GEDCO will eventually sell this power to Helco or a big corporation.

Andrew Sarhanis said he was not against geothermal development per se but against geothermal development that endangers his environment, causes obnoxious sounds and affects the health of people and agricultural products.

Bob Williamson spoke in favor of the proposed development and noted that concerns for noise and odor abatement can be properly controlled. He said it must be admitted that the one well at Opihikao would not supply a sufficient amount of energy for the entire Big Island.

Katherine Kahaloa read portions of and submitted a written testimony (See Attachment F).

Alex Smyklo said he was in favor of geothermal energy under the right conditions and the conditions under which this proposal has come is not one that he would agree with. He said he felt the issue here was really is this resources going to be given away to a group of private individuals, a resource that is collectively owned by the taxpayers; and also that these wells are not merely to test the magnitude of heat energy as eventually it will be sold to a big corporation. He added he felt this was a concentrated effort to acquire title to a vast resource which the Hawaiian people own and will regret the day they acceded to this. He noted that he could not see the hurry in drilling these wells as an outstanding authority has assured that there is more energy on this island that could be used in the next 100 years five times as much.

Moanikeala Akaka said no additional permits should be granted to drill exploratory wells until the whole question of ownership is settled; if it's going to be developed, it should be done safely, ecologically, health wise and environmentally; it should be

municipally owned by the people of this island so that they can have cheap electricity rates; and also that the native Hawaiian people should get a percentage of the profits as part of their native rights. She urged the Commission to be careful of what they do to the future of Puna.

Dr. Donald Thomas spoke in favor of the proposed wells. He said he has worked with the Hawaii Geothermal wells for the last four to five years and to date have found that the water and gas coming out of the HGPA well is more free of toxic elements and probably far cleaner than most other geothermal areas in the world. He said these nine will be vitally necessary to determine where the resource is and the extent of it.

RECESS: The Chair called a short recess at 8:41 p.m.

RECONVENED: The meeting reconvened at 8:55 p.m.

Joe Hogue noted that Mr. Craddick said he did not want to live near a well.

As there was no one wishing to give further testimony, it was moved by Commissioner Orita and seconded by Commissioner Kagawa that the public testimony portion of the hearing be closed; motion was carried.

The Commission then proceeded to the contested case portion of the hearing. The Chair briefly described the procedures that will be used.

There were no objections from any of the parties to any of the procedures, notices and records thus far and to the issues as framed; and, there were no motions to be made or disposed of at present.

With regard to the list of witnesses and exhibits, Planning Director Fuke noted that there were no witnesses and as far as exhibits, the Department has circulated a copy of the staff's background report and recommendation to all interested parties as well as the Commission; Mr. Woodruff stated that they had no witnesses or changes in the list of exhibits; Mr. Sheets stated they may choose not to call certain witnesses that were listed and submitted a graphic aerial photograph marked GEDCO-2; Susan Orlando said she had no witnesses, graphs or maps; and Sonny Kinney noted that Dr. Jerry Johnson, Dr. James Kent and Mr. David Hess will not be witnesses for the Hui, the slide show will not be shown and submitted a series of photographs depicting geothermal development in New Zealand marked PHA-2 and also scenarios with regard to long-term planning marked PHA-3, which the Chair admitted over the objections of Mr. Sheets and Mr. Woodruff.

There were no objections to or any questions on the matters covered thus far and each of the parties acknowledged his understanding of his rights and privileges as the Chair related.

The following is a recapitulation of the interested parties' presentation:

Planning Director Fuke waived the reading of the background and recommendation as it was circulated and noted that the staff's position was based upon the specific request that it is for exploratory drilling. He clarified that with regard to the proposed condition number seven the Planning Department will coordinate the enforcement with the Department of Health and that the Department's thought was to obtain stabilized energy or energy cheaper than oil instead of "cheap" oil. Mr. Sheets suggested the adjectives be left out and to just say available power. The Director further clarified that the Department did not intend to imply the locations of new industries.

Mr. Woodruff stated they supported the proposed development as it is necessary to plan for the possible development of geothermal energy in an environmentally sound and economic viable manner; it was urgent that Hawaii develop their natural energy resources to reduce dependency on outside fuel; and it is essential to our economy to reduce the outflow of dollars.

Mr. Sheets said in general GEDCO will stand on its application. He called upon Dr. Sanford Siegel who explained in great length his work on gathering baseline data at the HGPA well, of which there has been no evidence that there has been any effects on any aspects of vegetation or impact on bird behaviour. Dr. Siegel added that he felt monitoring should be done quarterly, perhaps every two months at the beginning, then six months, then a year, etc, depending upon what is found as they go along. Mr. Sheets then called on Murray Gardner to explain the difference between exploration and development. It was pointed out by GEDCO that it will be a 24-hour five day a week operation (3 shifts); drilling time would be between 40 to 90 days for a well of nominal 70,000 feet in depth, with minor construction activities at the well head perhaps a week; any where from 3 to 30 days of testing for a single well to determine capability; and that the cost of such a well is approximately one and a half million dollars.

RECESS: The Chair called a recess at 10:15 p.m.

RECONVENED: The meeting reconvened at 9:12 a.m. on August 8, 1980.

Susan Orlando made her presentation (See Attachment G).

Sonny Kinney called on Dr. Craig Severence who conducted a social baseline study for the Hui. He pointed out that usually social impact concerns come along mid-point in the process which actually should be made at the very beginning of a project, that baseline studies should be done as the project develops; and also that the key important resource of valid useful information on community values and community cultural standards are from the community members themselves. Mr. Kinney urged the Commission to begin to look at this project as part of a long-range plan and to develop a plan so that there would be an orderly development as far as geothermal and economic developments are concerned. He then gave a lengthy presentation on the Puna Hui Ohana's concerns and explained the scenarios in detail. He then called on Peter Hauanio, president of Puna Hui Ohana, who gave some background information and explained the Ohana's concerns. Mr. Hauanio

offered a compromise of limiting the wells to two or three and having them in a straight line within a corridor because of aesthetic concerns and the potential impact to surrounding agricultural activities. He clarified that 80 percent of its members were actually in favor of geothermal development if it is properly controlled by their members becoming a part of the planning process for developments in Puna in terms of where such developments should go and if it should go in at all.

RECESS: The Chair called a short recess at 10:30 a.m.

RECONVENED: The meeting reconvened at 10:35 a.m.

Mr. Kinney clarified that the Department of Energy's grant to the Hui was to make a social cultural impact assessment of the Hawaiian community based upon the impact of geothermal, of which the expected completion date is October 1980. He added if they are able to obtain a second year funding, the study would start with the premise that if geothermal is successful then how do they involve the community, how do they prepare a program so that the community knows what's happening, etc. Mr. Sheets then made a very lengthy cross-examination of the witnesses.

RECESS: The Chair called a short recess at 11:15 a.m.

RECONVENED: The meeting reconvened at 11:22 a.m.

The interested parties all agreed not to provide any rebuttal testimony and gave their closing summaries.

There were no objections from any of the parties on the following items posed by the Deputy Corporation Counsel: a field trip be taken in or out of their presence; a field trip being taken by less than five commissioners; and the Commissioners taking final action even though some may have not attended the field trip.

Upon Commissioner Kagawa's questioning whether or not the petitioner would agree to a condition whereby they would stop whenever three or four wells proved successful, Mr. Sheets noted that although it was their intent to drill enough wells to prove the reservoir that is involved with this project, which will probably be three or four at the most anyway, they could not agree to it as they felt it would change the application and the Commission could not act on it. Commissioner Kagawa pointed out that the Commission has imposed similar conditions on other permits.

It was moved by Commissioner Nakano and seconded by Commissioner Kagawa that the public hearing be closed, with a field trip to be conducted in the afternoon; motion was carried.

As there was a conflict between the Planning Commission's meeting dates and the requirements of the Planning Commission's rules that proposed findings of facts be submitted 15 days after the close of the public hearing and action taken within 30 days thereafter, Planning Director Fuke gave his opinion that if all parties agreed to waive their right to submit proposed findings, the Commission could then schedule this matter on its agenda for the August 21st meeting in Kona.

For the Commission's information, Deputy Corporation Counsel Tsukazaki gave his opinion that the 30-day requirement of the Commission's rule may not be applicable in this case as, one, the rules were drafted in contemplation of a legislative public hearing and not a quasi-judicial proceeding and, two, all parties have stipulated in their agreement to waive that requirement; therefore, he did not think the Commission should feel it is legally required to act on this application within 30 days.

At this time, all parties, with the exception of Mr. Woodruff who left the proceedings, agreed to waive their right to submit proposed findings of facts; and the Chair stated this application will be placed on the Commission's August 21st agenda.

The public hearing adjourned at 12:15 p.m.

A field trip was taken, leaving the County Building at 1:30 p.m. to Ashida's property with Commissioners Orita, Whitmarsh, Imada, Chairman Paris, Norman Hayashi, Bill and Ed Craddick, George M. Sheets in attendance. They drove through the forest area where noise could not be heard until they came through the clearing. The petitioners claim the noise level is below the 65 decibels requirement of the Department of Health. They pointed out that there were six motors - two generators (which are used alternately and one functional at all times), two drill rigs, and two mudding level motors (which are put in cubicles to reduce the noise so it does not have the same effect as the other geothermal project). The Commission then drove to the mauka portion of the Daiichi property, the apex of the property, where they could get a view of where the nine wells are proposed to be located; and the petitioners referred to an aerial map. The Commission then looked at the old GEDCO project and concluded their field trip at 3:30 p.m. at the County Building.

Respectfully submitted,

Sharon M. Nomura
Sharon M. Nomura
Secretary

A T T E S T:

William J. Paris, Jr.
William J. Paris, Jr.
Chairman, Planning Commission

HILO CONTRACTORS' ASSOCIATION

494-C Kalanikoa St.—Phone 935-1316

Hilo, Hawaii 96720

TO: MEMBERS OF THE PLANNING COMMISSION
COUNTY OF HAWAII

I AM ELIOT MERK, SECRETARY, TESTIFYING ON BEHALF OF THE HILO CONTRACTORS' ASSOCIATION PRESENTING OUR POSITION ON THE SUBJECT MATTER BEFORE THIS COMMISSION.

WE SUPPORT THE APPROVAL OF THE APPLICATION FOR A SPECIAL PERMIT BEING SOUGHT BY GEOTHERMAL EXPLORATION AND DEVELOPMENT CORPORATION TO ALLOW THE EXPLORATORY DRILLING OF A MAXIMUM OF NINE WELLS ON 180 ACRES OF LAND IN PUNA, NEAR THE POHOIKI ROAD.

OUR ORGANIZATION HAS LONG BEEN INTERESTED IN THE ADVANCEMENT OF THE TOTAL ECONOMIC OUTLOOK FOR THIS COUNTY. IT HAS BEEN OUR POSITION THAT GEOTHERMAL EXPLORATION IS ONE OF THE KEYS TO PROVIDING SUBSTANTIAL ENERGY REQUIREMENTS AND POTENTIAL WITHOUT THE NEED TO IMPORT FUEL FROM OTHER AREAS.

WE AGREE WITH BOTH THE STATE OF HAWAII AND THE COUNTY OF HAWAII IN GOING ON RECORD TO SUPPORT THE DEVELOPMENT OF GEOTHERMAL POWER. WE STRONGLY URGE THE RAPID APPROVAL OF THIS APPLICATION.

THANK YOU.

HILO CONTRACTORS' ASSOCIATION


ELIOT MERK
SECRETARY

8-7-80

EXHIBIT

Attachment A

min. Aug. 7/8

My name is Doris Smith. I am the President of the Hawaii Island Board of Realtors. Since 1978, the Hawaii Island Board of Realtors has supported exploratory drilling and development of geothermal energy on this Island. I appear tonight to testify ^{on behalf of the} Bd of ^{Directors} in favor, not only of the application presented to you by Geothermal Exploration and Development Corporation, but in favor of the general area of geothermal exploration.

Much has already been said about energy shortages when consumer prices are forced higher and higher by the rising costs of oil. I can only add our concern to those made by others that it is vitally important for our Nation, our State and our County to do all they can to reduce our dependency on foreign energy sources.

We wholly support the application provided there are sufficient safeguards in State and County noise and health regulations to protect the people who might be affected by these wells. We would suggest that sufficient monitoring be provided to insure that there are no detrimental impacts.

We would encourage not only the approval of this application, but the speedy processing of this and other similar efforts in our attempts to gain consumer utilization of energy self-sufficiency development with a minimum of delay.

EXHIBIT

Attachment B

Min. Aug. 7, 8

INSPIRED BY THOUGHTS ON GEOTHERMAL WELLS ON HAWAII ISLAND

Germain Marquais
POB 1864
Hilo, Hi

Many years ago monopoly minded industrialists came to this island and lured the people with modernized, mechanized, living conveniences (like dangling the carrot before the horse). Over the years they have managed to get the populace to accept this form of living. Now thru increased industrialization, speculation and exportation of local wealth, they are withdrawing the very means for local people to procure such a life style. This creates internal struggle, confusion on a personal level within the people and finally a resentment for the system which has 1) enticed the people to the mechanized life style which is now beyond their means, 2) made them dependant on the systems' welfare and foodstamps in order to survive. This crushes a people. Any system which does not attempt to exact from it's people their individual worth, is inviting unrest.

At the onset, hugh industrial combines appear to provide increased living opportunities for people while fulfilling their needs. But after closer examination we find that industrial monopolies are equivilant to production by the fewest number possible, for the most financial return. This then limits rather than increases the outflow of wages needing to be paid by substituting mechanization for people or cutting human involvement and concentrating profits in the hands of the few.

The root of listlessness and lack of direction among the youth, dissatisfaction among the adults; the root of unemployment, illiteracy, poverty and crime is, forced technological growth and industrial expansion which envelopes peoples' precious time and gives them only pieces of paper in return as the reward for their human worth. The industrial forces can never successfully build an advanced technological superstructure and force it on a simple, nature loving people without violating basic human rights thru the false creation of material and spiritual poverty. We must remember that progress of any kind is not an end in itself. We must judge all material advances by their moral effect on human beings and on their contribution to the stature of the individual.

All true systems must be infused with freedom which allows people to progress. True industrial forms should serve to free the people from all outer conditions which do not exalt them in their pursuit for harmonious, self-sufficient living.

The attempt by the few to speed up the evolution of a culture faster than it is organically moving, means the corruption and downfall of that culture and the subsequent creation of a new culture based on the original motivations of the imposing modernalizers, be they to serve humanity or to exploit it. Exporting goods and profits from local industry, take away with them the moral strength of the people, as they are left belittled and bewildered in their life's work.

What must happen here is localized industry serving local needs in goods and in profits. Whether or not geothermal wells are ecologically sound, with air and noise pollution as well as future geological weaknesses, yet remains unclear.

Min. Aug. 7, 8

Attachment C

EXHIBIT

Marquais

GEOHERMAL

The creation of new geothermal wells on Hawaii for any other purpose than to provide 1) more local electrical energy 2) cheaper electrical energy 3) more local jobs 4) profit sharings for all native aboriginal and local peoples, is in effect the creation of a symbol and a system which limits freedom, is the seed of injustice, stimulates moral and political unrest, and ultimately, inspires some form of peoples' revolution. So I ask that we be clear on our intentions and have them grounded in TRUTH as we decide on the outcome of this issue.



Hawaii Island

Chamber of Commerce

Established in 1897 • 180 Kinoole St., Suite 203 • Hilo, Hawaii 96720 • Phone (808) 935-7178

August 7, 1980

The Honorable Chairman and Members
Planning Commission
County of Hawaii
Hilo, Hawaii

Ladies and Gentlemen,

For more than two years, the Hawaii Island Chamber of Commerce has endorsed the continuing efforts to obtain funding for additional wells to demonstrate the practicability of geothermal energy. We feel that the development of the geothermal resource and its expected application in electrical generation, food processing and the processing of minerals will create a substantial number of new job opportunities on the Big Island. The Chamber of Commerce of Hawaii, our state-wide organization, has taken a similar position on the subject.

We are in complete support of the application of Geothermal Exploration and Development Corporation to drill nine geothermal energy wells in the Puna District.

Since both our state and county governments are on record as being in support of the development of geothermal energy, we ask that this application be speedily approved in line with the established long range goals of our community.

Respectfully submitted,

ROBERT J. SANTOS
President

RJS:kb

Min. Aug. 7, 8

Affiliated with the Chamber of Commerce of the United States

Attachment D

County Planning Commission members:

Thank you.

I am James Miles, speaking on behalf of the Kanoelehua Industrial Area Association. Our organization has gone on record in support of the concept of geothermal energy, and I appear here today to support the application that you have before you.

Our Island has been, for many years, totally dependent on imported fuel, and the more we can reduce that dependency by developing alternate energy sources, the better it will be for the long-range future of our people. We are not in a position to speak in specific terms about the technical details of the application before you tonight, but we do want to go on record in support of the overall concept of the development of geothermal energy on our Island.

Yours truly,

Kanoelehua Industrial Area
Association

James E. Miles
James E. Miles
President

Min. Aug. 7, 8

Attachment E

GEOHERMAL EXPLORATION & DEVELOPMENT COMPANY'S PUBLIC HEARING
THURSDAY, AUGUST 7, 1980 -- 7 P.M.COUNTY COUNCIL ROOM

HELLO, MY NAME IS KATHERINE LEONG KAHALOA

I speak for the Kahaloa Family. We are land owners
Papaya and Macadamia Nut Farmers in Opihikao, Puna.

Concerns were raised in the past, and will continue
to be raised now and forever on the environmental impact should
GEOHERMAL, EXPLORATION & DEVELOPMENT COMPANY'S application for
another and future exploratory wells be granted.

We, too, are very concerned, but at the same time we
know for a fact that it is the responsibility of the County,
the State and the Federal government's agencies to protect our
environment by applying its trained scientific, technical and
knowledgeable experts whose prime purpose is to study and apply
its expertise on this subject matter.

When the application GEOHERMAL, EXPLORATION &
DEVELOPMENT COMPANY for its first exploratory well came up,
this room was packed to capacity with protestors echoing the

PAGE ONE

EXHIBIT

Min. Aug. 7, 8

Attachment F

uproar that such a plant would be a definite interference and a hindrance to the neighboring communities, the area of its location, the scenery, create a negative and adverse reaction and enhance the emotional trauma of "the local people of the area, namely the hawaiians" were raised. This category also included the retired, elderly, now either resident or part-time resident-mainlanders.

At that same meeting, an elderly haole man, retired, financially comfortable and definitely not living a happy, robust old age, coughed his way through the meeting for four hours, I think it was longer, I lost count, even though, four hours later his cough sounded forced, he left this room, probably got tired of coughing and joined other protestors outside in the hallway inhaling the cool night air of Hilo. He was definitely AGAINST, he even got a doctor's paper stating the cause of his chronic coughing was definitely caused by the Pohoiki Exploration Well, and that another EXPLORATORY WELL was not going to correct

PAGE TWO

his health situation at all. He said there were numerous others flocking to the local doctor's office for relief and yes, it was causing an epidemic.

That man is still alive and going strong, in fact he hasn't moved from where he is living, he even had time to organize and lead the protest against the registration of young men 19 and 20 year olds for the draft, just a few short weeks ago.

His health must have improved as he got adjusted to the Pohoiki Well. The government didn't shut it down. The epidemic must have stopped because the Pohoiki Well steams away and its beat goes on.

Then, there was the local lower Puna hawaiian organization, presenting its position paper, they too were against that first application by the GEOTHERMAL EXPLORATION & DEVELOPMENT COMPANY, they even had a young man from Opihikao read the text prepared by, at that time, their appointed leader who was educated and resident of Oahu.

That position paper was laced and stacked with \$10 and \$20 words, that young man struggled reading it, needless to say, it lost its intended impact.

All they were trying to say was, "we speak for all the hawaiians of lower Puna, the land belongs to the hawaiians, so let us, this organized body, decide how, where and when to use the land, if ever, and especially, we speak for all the hawaiian landowners."

This organization and any ethnic organization will never speak for the Kahaloea family, the Leong Family, and the Chow Family. There is enough intelligence amongst us, individually, and collectively to make our own decisions, and we speak for ourselves.

GEOHERMAL, EXPLORATION AND DEVELOPMENT COMPANY'S first exploratory well is up. Its drilling rig, looms over the lehua forest. During its construction stages, not a single protest march, sign carrying, road entrance blocking or ad-

verse publicity was carried on.

The sight of that first drilling rig doesn't look anywhere out of place, as that dome shape building sitting on top of Mauna Kea Mountain, nor does it look out of place as the many shacks and windmills and junks fronting those shacks, popping out of the bushes of the Kamaili Hillside and all over the Opihikao area. Each of you can see this for yourselves, these shacks from the mountain to the sea.

In fact, it was the intent of the Hawaiian ancestors that these very same hillsides to the sea be populated with young up and coming hawaiians and not haole hippies.

That sight of the first, private, independent drilling rig spells, PROGRESS. It spells inhabitants, yes just like those shacks with its windmills that pops out of the bushes of Kamaili Hillside and most of Opihikao. That drilling rig spells JOB POSSIBILITIES. That drilling rig spells ECONOMY. That drilling rig spells MONEY.

And who would object to money? Not the Big Island's business community, not you, not me.

You know as well as I do, that private money was used to build that first GEOTHERMAL EXPLORATION AND DEVELOPMENT COMPANY'S DRILLING RIG, yes, some \$3.500 million of private money.....not tax payers money like the well at Pohoiki which has already cost \$7.600 million of tax payers money. More tax payers money is still being poured into that Pohoiki Well.

Above all, private money, some of that \$3.500 million will be used to build the second, the third and each succeeding exploratory well.

Mr. Morton Kinzler, President of Barnwell Industries of Chattanooga, Tenn. GEDCO'S new majority partner said "you can learn a lot from a dry hole." In essence and in part he was saying we will invest our money to be willing to take a chance to drill and explore.

One of the many good points about the Pohoiki Well

is that the County roadway to the lower coastal road have been improved immensely and traffic flows with great regularity.

Everyone taking a shortcut to somewhere.

I'd like to focus on the social and economic impact that such an application of GEDCO'S would present. We believe, that the social and economic impacts go hand in hand. We ask,

QUESTION 1: WHAT WILL GEOTHERMAL, EXPLORATION AND DEVELOPEMENT COMPANY'S EXPLORATORY WELL DO TO THE PRESENT AGRICULTURE AREA OF LOWER PUNA?

WE CONCLUDED

ANSWER: Idle lands will be put to use and be made to be productive lands. The present and productive farmers in the area will gain indirectly. The roadways of lower Puna will be congested with commutting farmers and workerswhich will than place a burden on our County Council to improve the roadways of Lower

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Puna bearing in mind the need for wider and safer roads to travel. All this, paid for by tax dollars each automobile and user will be paying to Hawaii County. And, yes, the Big Island business community must and will capitalize on the opportunities that will arise.

WE ALSO ASK,

QUESTION 2: WHAT WILL GEOTHERMAL, EXPLORATION AND DEVELOPMENT COMPANY'S EXPLORATORY WELL DO TO THE LAND USE OF LOWER PUNA, WILL IT BE POSITIVE OR WILL IT BE NEGATIVE?

WE CONCLUDED,

ANSWER: NEGATIVE, if those people who fear that this kind of Exploratory Well will create a Realtors' bonanza.

Those against GEOTHERMAL, EXPLORATION AND DEVELOPMENT COMPANY would like the public to think so and they would dwell on this false concept. But you and I know it will not create a Realtors Bonanza.

POSITIVELY, land would be put to use by heirs of many idle lands. Heirs to land holdings need not sell at prices lower than profitable because of the need to move away and relocate away from lower Puna.

A CASE IN POINT:

We were once owners of a house and lot in Nanawale Estates, Pahoā. We had to sell at a less than comfortable profit because of the need to relocate in Hilo because of my husband's job at Hilo Coast Processing Company which is located in Pepeekeo. He also had a part time job as a security guard. All of the security jobs were located in Hilo. So the end result is, the dollar that is earned is not spent in Pahoā, Keāau or any store in the Puna area, but in Hilo. There was also the need to be closer to Hilo College and jobs for our children.

A SECOND CASE IN POINT:

On June 1, 1980, a little over two months ago, our son and our daughter-in-law moved to Honolulu. The jobs and money was in Honolulu, and Manoa Campus of our University of Hawaii had the subjects they both needed to complete and obtain their master's degrees. Last month upon returning to Hilo for a weekend and for a significant family gathering, both said, "we have mixed feelings about Honolulu, the jobs are there, the money is there, but we feel lousy having to pay taxes to the City and County of Honolulu and not Hawaii County, we feel bad that our hard earned dollars will turn over many times in Honolulu and not here in Hawaii County."

Although our land in Opihikao is not sitting idle, many other lands are idle and heirs to these lands will contem-

plate selling at less than profitable margins because there is no jobs for them to make a decent living and working their own lands simultaneously.

Of the many more questions that comes to our minds I'd like to share another.

QUESTION 3: HOW WILL GEDCO'S EXPLORATION CHANGE THE PRESENT ATMOSPHERE OF LOWER PUNA?

ANSWER: This time I am not talking about the air we breathe. But don't forget the story I told you about the old guy with the coughing spell at a previous public hearing. This kind of exploration will present a possibility of a job market. You will have to agree with me that this is a great and positive possibility. Needless to say, GEOTHERMAL EXPLORATION AND DEVELOPMENT COMPANY is already charged with the responsibility to train and re-train local people for the jobs the exploration activity will bring.

Let me share with you two incidents that could have been avoided if JOBS such as GEDCO is willing to offer was already available.

Just recently, and less than a month ago, Hilo Radio Station KPUA'S Police Blotter, the Hawaii Tribune Herald's "Crime Report Column and the Honolulu Advertiser's "Neighbor Island News Column" singled out a young hawaiian adult from lower Puna, yes, Opihikao, being charged with burlary, terroristic threatening, assault, battery and criminal property damage on an older fellow hawaiian, and was being held in jail in lieu of \$1,000 bail.

The incident saddened us personally because our six children grew up with that young man from infancy to adulthood.

And as recend as a week ago, the same story appeared in the Honolulu Advertiser under the heading of "Neighbor Island News"....only this time a paragraph ahead mentioned of the Hawaii County's grand jury indictment of another Opihikao youth, age 18,

for two counts of burglary.

We asked ourselves.....could this have been avoided if there were jobs in lower Puna area to keep these healthy, able bodied 27 and 18 year old young hawaiians from committing this dreadful act of crime?

Granted these are isolated cases, but the fact is the fact and the fact is that it happened.

We do not want to be counted in favor of stopping this kind of PROGRESS, that an exploratory well will bring. For in doing so, we sacrifice jobs, possibilities of jobs, the money flow, a better standard of living, and growth in every sense of its meaning.

QUESTION 4: WILL THE RESULT OF JOBS LEAD TO INCREASE OF MONEY FLOW FOR THE PAHOA COMMUNITY, KEAAU COMMUNITY AND HAWAII COUNTY?

ANSWER: You'll have to agree with me with a resounding yes!

Remember Bank of Hawaii's TV Commercial on how the dollar earned by the farmer kept turning and turning in that little village on Molokai, in Kamuela, that little Village on Maui and in its course of turnover touched the lives of the banker, the homemaker, the grocer, the neighbor, the clothing store, the shopper, the borrower, that list is endless.

It's a very realistic story of the turnover of the dollar. Again, you'll have to agree with me that the banking service of Hawaii County is telling us that it is very possible for lower Puna too, otherwise why would they put a Bank of Hawaii and a Pioneer Savings and Loan branches in Pahoehoe?

QUESTION 5: WHO REAPS SUCH BENEFITS FROM THIS KIND OF FLOW OF
MONEY?

ANSWER: Indirectly each of you commissioners, me the homemaker,
my neighbor.....from this the very foreseeable possibi-
lity of increase in fire protection, and police protec-
tion, by the way there are only 8 police officers to
cover the entire Puna district.....not all 8 goes
on duty at once.....8 police officers, just like
parts of Maui County, and , an even better school
system for Pahoehoe.

This kind of money flow would definitely keep the
young able bodied so busy with earning power, spending
money for wives to do their share of providing a decent
comfortable home, food, good and different kind of food
in their stomach, clothes on their backs and roofs over
their heads that they earned themselves, a different

and/or a new kind of life style, a better standard of living, self-sufficiency, and not merely surviving from what they can get out of welfare, food stamps, county housing, families, growing and selling pakalolo, and yes, committing many unpardonable crime including assault, battery, burglary, terroristic threatening on another fellow human being.

A CASE IN POINT: Our nephew Hiram Chow wasn't always the progressive young man he now is. He, too, was a young, restless man, seeking a way out, married, now with the responsibility of a wife and child, commuting daily to a job in Hilo. He is now employed by GEOTHERMAL, EXPLORATION & DEVELOPMENT COMPANY. His new job is close at home. Working, earning, self supporting.....does it end there? We hope not. We believe that this is only a beginning. That, this is a possibility for others, just like him.

QUESTION 6: IS GEOTHERMAL, EXPLORATION AND DEVELOPEMENT COMPANY
WILLING AND ABLE TO PROVIDE CHANGES TO THE SOCIAL
AND ECONOMIC STANDARDS OF LOWER PUNA?

ANSWER: GEOTHERMAL, EXPLORATION AND DEVELOPMENT COMPANY is
using its own time, money, initiative, personal
energy to explore geothermal possibilities in lower
Puna.

The Present Geothermal well in Pohoiki is presently
funded partially by your and my tax dollar, all
\$7.600 million worth.

But here is GEOTHERMAL, EXPLORATION AND DEVELOPMENT
COMPANY, A private firm who is willing to spend
its own money, some \$3.500 million worth, and here are
landowners like Howard Ashida, Vern Yamanaka, Henry
Chow, Enoch Kahaloa and yes, Daiichi Seiko who owns
enough land to grant such an exploration.

Needless to say, there is enough intelligence in this group of land owners, individually and collectively to know how, when and where to use its own land.

We didn't go to New Zealand to compare notes with the Maoris, we have access to Journals, technical materials, teams of experts and a legal staff to take care of our needs.

The end result is, you and me and many others will directly and indirectly benefit from such a venture.

We have six children, , ages 24 to 19 years of age. Although my husband and I graduated from Pahoa High School, our children ^{was} educated at either Kamehameha or Hilo High Schools.

Each has a high school diploma, four with a B. A. degree from Hilo College, the twins just graduated from Hawaii Community College, both working towards a B.A. degree from University of Hawaii. Three with a masters' degree of one kind or other, three working towards a masters degree. It was hard raising six children

in Opihikao. We moved to Hilo, to Pahoa and back to Hilo to make things easier to get to our jobs, to school, which included summer school, public library and sports activities. But it doesn't end there, all six children, their respective and prospective spouses are all gainfully employed.

Ironically, only two contributes to the taxes of Hawaii County and whose hard earned dollar does quite a turnover here in Hilo.

On the weekend of July 12th all six children returned for a significant family gathering and prior to returning to their respective homes, they treated themselves to picking their own papaya from our farm to take back to Honolulu.

Our oldest son said, "I wish there were jobs here. I'd sure like to come back, build, and live here in Opihikao." Our youngest son said, "I feel good knowing we have tenants working our land.....and yet I know that's only temporary. I,

too, would like to return here." I feel so guilty that I am not yet ready to work the land myself. I feel bad that I am contributing to the taxes for the City and County of Honolulu and not here in Hawaii County." I, too wish there were jobs here to make a decent living. I'd move back if I know I could get a job here make a decent living for me and my family." Above all, dad, mom, I now feel like a stranger on my own land, in this area where I was born, and spent my early growing up years, where I had dreamed of living, earning, and building prosperity here in Opihikao."

The ride back to Hilo was very quiet, no more laughter, no more teasing, no more clowning, a saddened bunch, shedding a tear or two.

I ask you, how do you respond to this kind of statement, it really needs an answer.

The present ethnic organizations is not the answer,

nor do they have the answer, nor can they answer. All the government funded programs isn't really the answer, although it does present some relief, to a few.

What do we do? Do we stampede GEDCO out of lower Puna and send them packing back to the mainland. After all, it is a bunch of mainland haoles that dares to enter lower Puna to do prospecting and dares to change the life style of my fellow hawaiians. Lower Puna is like a sleeping giant. Remember Rip Van Winkle, the guy who slept for 20 years, he was one of my many childhood heroes, he'd be very comfortable in lower Puna, *nothing wrong but have a good sleep.*

But on the other hand, do we get ready to roll out the red carpet for the Dillingham Corp. Will Dillingham Corp. be our life saver and end all our economic woes? And, besides, Dillingham is a local firm, a kamaaina firm. Dillingham now has its runner in the area, sseeking, asking, waiting for the

for the right time to move in! Do we dare protest their initiative when the time comes?

Here is GEDCO, GEOTHERMAL, EXPLORATION AND DEVELOPMENT COMPANY, willing and able to assist all of us, and YOU, who can bridge that slump in our County's economy.

I close with this statement: "On the Plains of Hesitation, bleach the bones of countless millions, who, at the dawn of victory, sat down to wait and waiting died....."

My name is Katherine Leong Kahaloo, and I thank you for your attention.



MRS. ENOCH KAHALOA
464 Kalanikoa Street, #108
Hilo, Hawaii 96720
(Telephone: 961-2726)

Testimony:

July 7, 1980

I have decided not to call any witnesses as they would simply reiterate the points I wish to make. These points are simply that first of all, I am in favor of decreasing our dependence on fossil fuels - whether that means geothermal, wind power, or solar power depends on methodology and environmental + socio-economic impact.

In the case of geothermal, if the drilling and subsequent noises can be kept down to acceptable levels, + the odors + possible toxicants can be controlled to the extent that there would be immediate action upon any infringement, I have no problem with a project of this kind. The fact is that currently the Opikikao activity has been audible + disturbing to me + many of my neighbors during the middle of the night. It doesn't appear that any monitoring is taking place with regard to decibel levels now, so how do you propose to control these infringements in the future - what guarantees can you give me now?

Therefore if these conditions can not be met + if the future of the Puna district is to become an industrial park displacing residents and damaging their property then I would have to recommend that the applicant be denied. In many of the reports + background material that I have read in regards to the geothermal project it has been stated or implied that "the big island should become a model of living where

Min. Aug. 7, 8

Attachment G

economic gains are in balance with social and physical amenities. Development should be reviewed on the basis of total impact on the residents, NOT only in terms of immediate short run economic benefits. Well then, if this is truly your ~~of~~ intention as a body of people who plan the future of the Big Island then I ask you to listen to your own words and ~~to~~ also hear me as a spokesperson for many of the residents in the Puna district.

Mahalo & Thankyou,
Susan Olands

Concluding Statement:

Aug 8, 1980

In the light of the testimony heard last night the question comes to mind "What is meant by competitive prices here - - - - The same price? a little lower? a lot lower? Mr. Sheets implied that it would most likely be the same; so as oil prices go up so will geothermal - who is really benefiting?

We spend one billion dollars a year on energy, it certainly shouldn't cost 1 billion to develop the project and even if it does, how long will it take to pay for the energy development and once paid for what's the cost of maintenance? Utility costs should reflect actual development and maintenance costs after it's installed with reasonable profit to the contracting company. Once the machinery and installation has been paid for at possibly the current electricity rate (obviously it costs more to get things started) the price should be lowered in the long run. May I suggest the geothermal should be a state owned public utility with private competitive contracting for drilling, construction, and maintenance as opposed to just privately owned.

If the intent of this project is to make possible stable and inexpensive energy - then the Big Island will be attractive to new business.

However, if the price is the same why would a new business want to relocate here, there wouldn't be any point. The Big Island isn't known for having raw materials for industry - so if energy costs the same and an industry would have to ship over

Attachment #

raw materials in addition to the cost of energy why should they move.

It has been stated that as power becomes available perhaps more mom and pop or cottage industries will be able to utilize this energy, however the truth is that they will have to pay for their energy consumption so whatever goods or services they are selling will reflect the price they pay for energy and that brings it down to you and I the consumer - in the end we pay.

Again, may I suggest that the test site be state owned and all operations to be privately contracted thereby keeping the true benefits of this project in the hands of the people.

Susan Orlando

PLANNING COMMISSION

Planning Department
County of Hawaii

HEARING TRANSCRIPT
August 7 and 8, 1980

A regularly advertised public hearing on the application of Geothermal Exploration and Development Corporation was called to order at 7:05 p.m. on August 7th and at 9:12 a.m. on August 8th, in the Councilroom, County Building, South Hilo, Hawaii, with Chairman William J. Paris, Jr. presiding.

PRESENT: William J. Paris, Jr.
Clyde Imada
Roy Kagawa
Bert H. Nakano
Alfredo Orita
Charles H. Sakamoto
Tina Whitmarsh

ABSENT: Glenn Frias
George Ponte

Ex-officio Member
H. William Sewake

Sidney M. Fuke, Planning Director
Norman Hayashi, Staff Planner
Virginia Goldstein, Staff Planner
Blake Shiigi, Staff Planner

David Murakami, representing Ex-officio Member Edward Harada
Ben Tsukazaki, Deputy Corporation Counsel
and approximately 70 people at 7:05 p.m. on August 7th and 30 people at 9:12 a.m. on August 8th were in attendance

CHAIRMAN: We'll call the public hearing scheduled for 7:00 p.m. here at the County Council Chambers of the Hawaii County Planning Commission to order at this time.

(Introduced staff and Commissioners.)

At the last meeting it was indicated by some members of the public that they would like to go into a contested case proceeding. Since that time, we've had a meeting with the parties and have come down to two people, three people who would be interested as participating as parties. That would be the Department of Economic Development, State of Hawaii, Puna Hui Ohana represented by Sonny Kinney, and Susan Orlando. So before we begin the meeting tonight, we've had written testimony and excerpts of what these people represent circulated to all the Commissioners and we will have to determine whether we'll admit them as parties of the fact as interested parties.

Before we go into this nature, I'd like to say that I was very thankful for the people who met with us prior to this meeting. We went over certain ground rules that we will follow. First of all, the Planning Commission must decide to accept or deny the

EXHIBIT Y-1

request of certain persons to be parties for the purpose of the contested case hearing. Such request were filed timely by Susan Orlando, Puna Hui Ohana, State Department of Planning and Economic Development. If the Commission feels that further information about these persons or groups is unnecessary, then it would be appropriate for there to be motions to accept or reject the individual request beginning with that of Susan Orlando. Before beginning with the contested case portion of this hearing, the Commission will hear testimony from those members of the public who have come to the meeting tonight. Before I ask for indications, I'll get to that when I come to there, but I'm just going over some of the things that we'll be following tonight.

So I think tonight we have to determine before we get off and get the show on the road whether we are going to admit the three people who have indicated they'd like to be admitted as interested parties for these proceedings tonight. First of all that is required by all of us, we must ascertain if the applicant is here tonight, and I think I see them quite well represented in the front row. This is a must before we commence. We have received written items from Puna Hui Ohana and the State Department of Planning and Economic Development.

We'd like to have Susan Orlando come forward tonight and state her reasons for the Commission why she'd like to be admitted as an interested party. Raise your right hand please. Do you swear to tell the truth in the testimony that you're about to give on this application now before the Hawaii County Planning Commission

ORLANDO: Yes, I do.

CHAIRMAN: Will you state your name into the microphone for the record please.

ORLANDO: Susan Orlando.

CHAIRMAN: Susan, I'm going over to the definition of a party. A party is one whose legal rights, duties, or privileges will be determined or affected by this proceeding; that such person's interest is clearly distinguishable from that of the general public. Some example of legal rights are as follows: (1) A property interest in the land in question, including the property interest of a lessee or a tenant residing on the land; (2) A legal right protected by Statute or constitution. Do you think you are qualified more than that as a member of the general public to be admitted as a party tonight?

ORLANDO: Well, I think I'm qualified as part of the general public and also because of where I live in relationship to what's going on, other than, you know, I don't live right on the property site itself. But I think I can offer testimony that would be, that would have some impact on this proceeding.

CHAIRMAN: Exactly how far from this drill site, proposed drill sites, do you live?

ORLANDO: In Leilani Estates as you can see, part of what's adjacent.

CHAIRMAN: Leilani Estates.

ORLANDO: See up there in the left, up left-hand corner.

CHAIRMAN: And where about in Leilani Estates do you live?

ORLANDO: In the, I should say, in the western section of it, I guess, you'd, no, the eastern. The second road in, I don't know who to describe that to you.

CHAIRMAN: And how far are you actually from the nearest portion of this area?

ORLANDO: In miles, I can't tell you. Approximately three, I'd say.

CHAIRMAN: Thank you. Commissioners, do you have any questions of the applicant, I mean, the person desiring to be admitted as an interested party?

ORITA: Mr. Chairman?

CHAIRMAN: Commissioner Orita.

ORITA: Mrs. Orlando, is noise one of the things that you're concerned about?

ORLANDO: Yes, it's definitely one of the concerns.

ORITA: Just noise?

ORLANDO: Noise and possible odors and any other toxicants that might come from the well.

ORITA: When you say odors, can you define what type of odors you mean?

ORLANDO: Rotten eggs. It's like a sulfur smells that's usually associated with this type of drilling.

ORITA: Presently, you do not encounter any type of problems up there now?

ORLANDO: Not right at this very moment, no. But I'd like to offer testimony and find out what could be done with relationship to that.

ORITA: All right, thank you.

CHAIRMAN: Do any of you other Commissioners have any questions you'd like to pose at this time?

NAKANO: Mr. Chairman?

CHAIRMAN: Commissioner Nakano.

NAKANO: Mrs. Orlando, are you opposing this project?

ORLANDO: No, I'm not exactly opposing it. I want to know that there will be strict guidelines that could be followed. I'm not opposed to any alternate energy resources or development. I'd

like for us to all get off of our dependency on fossil fuel; and if there is some way that there can be some control made on whatever it is that's taking place that I would be in favor of it.

NAKANO: Thank you.

CHAIRMAN: Any of you other Commissioners have any questions at this time? Susan, do you have anything else that you could give to further qualify yourself as being a interested party, outside of your interest in noise control, smell, emission control?

ORLANDO: Well, I'm not sure exactly what you want. What would qualify me? What would you need that would do it? I'll find it for you.

CHAIRMAN: Well, I just read briefly what your property rights are, etc.; and, go ahead, Ben, you want to say something?

TSUKAZAKI: I think that a big factor in determining if you should be a party is whether or not you have a legal right, whether it's a property interest or some other right that is protected by State law or constitution. I think an example would be if you were living adjacent to the subject property, then I think you might have an argument that, you know, with the noise, etc. and smell, etc., you would not be able to live there any longer and without suffering health problems perhaps.

ORLANDO: Well, I think that's true of the area that I live in. It doesn't have to be adjacent to it. It's definitely upwind.

TSUKAZAKI: Right, well, I'm using that as an example.

ORLANDO: Yeah, okay.

TSUKAZAKI: I mean, you know, the further away you get then, obviously, you know, the more and more you move into the groups which is the general public because you -.

ORLANDO: Well, who is to decide exactly where far enough away is? For instance, -.

TSUKAZAKI: The Commission is going to decide if, you know, what, from what you say, if you can show how you'll be immediately and directly affected by the proposed use.

ORLANDO: I would be, definitely. Do any of you live in Leilani Estates? Do you know what it would be like or live near the Opihikao site? Do you know what that's like? How many decibels is enough decibels in noise level to determine whether it's too much for one particular person? And, also, I'd like to ask you when I brought this up at the guidelines meeting and asked you about why should I spend my way of preparing a case, and at that time you could have given me all this information you're giving me now as to what would qualify us as an interested party. Why didn't you do it then?

TSUKAZAKI: I believe we did give you some information regarding the nature of a contested case hearing and what parties would be entitled to participate.

ORLANDO: Not quite like that.

TSUKAZAKI: I think that was in a letter; but also, I think what our response to that was at the prehearing conference was that even if you should not be accepted as a party tonight, you would still be able to introduce what you plan to introduce as a public witness. So there's no intention to keep you from presenting your testimony.

ORLANDO: But you also said that day that probably that I would be accepted, that most times people are accepted as interested parties, very rarely are they not. Chairman Paris said that.

TSUKAZAKI: Yeah, I don't remember him saying that but I think what he said was that the state of the law in this state is that if there is a reasonable doubt in the Commission's mind then they should be liberal, you know, rather than conservative in granting somebody as a party.

ORLANDO: Well, here's a great time to be liberal.

TSUKAZAKI: But that doesn't mean that it feels obligated to accept everybody as a party.

ORLANDO: Okay.

CHAIRMAN: Do you have anything else to say, Susan?

ORLANDO: No.

CHAIRMAN: Okay. Commissioners, at this time, we'll have to determine whether Susan, we want to accept Susan, admit Susan Orlando as a interested party. And I'll go through some of the grounds for denying status as a part as well as, we've already given those for accepting. If we think other parties will fairly represent his or her interest; the person will overly broaden the issues or unduly the proceeding; or the person's participation as a party will not serve the public interest; and then, lastly, as I said to Susan at the prehearing conference, when in doubt, a person should be accepted as a party because if denied improperly, that person's legal right might be violated to such an extent that a court might later find the proceeding to be void. So, I'd just like you to be cognizant of this fact.

KAGAWA: Mr. Chairman?

CHAIRMAN: Commissioner Kagawa.

KAGAWA: Is there anybody else in the audience in this so-called three-mile radius would be, want to be considered as an interested party also?

CHAIRMAN: That has been eliminated already because we gave them a certain time limitation to file this in; and only three people have filed as interested parties.

KAGAWA: Okay.

FUKE: Mr. Chairman, if I might add, I guess, has it already been established that both the Planning Department as well as the petitioners are already admitted as parties?

TSUKAZAKI: They would be necessary parties if there's a contested case hearing.

FUKE: Okay.

CHAIRMAN: All we want to see if these people who have applied as interested parties would qualify at this time.

FUKE: Okay, so, as already then a member admitted, or considered admitted as a member of the interested party group, I'd like to make a suggestion if I may, Mr. Chairman, in the interest of time. But inasmuch as you had indicated at the last meeting that there were ample opportunities for those who wanted to apply and become admitted as a party at the last meeting that inasmuch as all those who have expressed an interest really amount to Ms. Orlando, the Puna Hui Ohana, and the State Department of Planning and Economic Development; just in the interest of time, I would like to officially note that the Planning Department has absolutely no objection to having those three aforementioned named parties to be admitted as part and parcel of the proceedings.

CHAIRMAN: Thank you.

FUKE: And maybe if you, you might want to also poll the petitioner to see if he has any objections.

CHAIRMAN: Mr. Sheets, you're going to represent the petitioner here?

SHEETS: Yes.

CHAIRMAN: Would you have any objection?

SHEETS: It is not in the form of an objection, Mr. Chairman. I wonder what the status an interested party has over everyone else.

CHAIRMAN: Just as we said before, just the right, she has a little more -.

SHEETS: As it seems, it's a matter of dignity, why don't agree with these two interested parties, they be admitted as a interested party and agree with Mr. Fuke...(inaudible).

CHAIRMAN: Thank you. Commissioners, it has been indicated that both the Planning Department and the applicant have no objections. What is your pleasure?

KAGAWA: I so move, Mr. Chairman.

NAKANO: I second the motion, Mr. Chairman.

CHAIRMAN: All right. Thank you very much. It's been moved and seconded. Is there any further discussion? All those in favor, signify by saying aye?

COMMISSIONERS: Aye.

CHAIRMAN: Next, thank you, Susan, you will be admitted. The group asked to be admitted as an interested party is the Puna Hui Ohana, represented by Sonny Kinney. Sonny, are you here?

KINNEY: Yes.

CHAIRMAN: Do you swear to tell the truth in the testimony that you're about to give on this application now before the Hawaii County Planning Commission?

KINNEY: I do.

CHAIRMAN: Will you state your name into the microphone for the record please.

KINNEY: My name is Everett Kahiliokalani Sonny Kinney.

CHAIRMAN: And, Sonny, you're representing the Puna Hui Ohana who has asked to be admitted as an interested party tonight?

KINNEY: Yes, yes.

CHAIRMAN: And you've submitted some background information such as questions that you'd like to ask and further information the drill site plus your bylaws and everything, newsletters, I received them.

KINNEY: Yes, I have.

CHAIRMAN: Do you have anything, a short statement on why you really want to be interested, I mean, admitted?

KINNEY: Why the Puna Hui Ohana wants to be admitted?

CHAIRMAN: Yes.

KINNEY: Yes, we have several reasons. If I may, I want to point to two legal reasons that were called to our attention by our attorney. One is the, I refer to the Diamond Head Association versus Hawaii Five-O case where the Court had appealed a lower court decision allowing groups standing as an interested party. The second was, I believe, the Life of the land versus Hawaiian Electric Company in a rate case, where a group of people had been given standing to represent, an organization, rather, had been given standing to represent a group of people.

The one reason why we feel we do have an interest and invested right here is because the Puna Hui Ohana, number one, has been researching and studying geothermal issues and problems and projections for the last three years. There are or is no other organization in the Puna area, or in the lower Puna area, that is, who have had this opportunity. We are currently involved also in a DOE funded research project which wants to measure social-cultural impact on a group of people as a result of geothermal development. So we do have a history of concern, of credibility, and academic research with regard to geothermal development and recognize some of the issues that are likely to develop or likely to occur as a result of geothermal, and the economic development that will follow geothermal development.

CHAIRMAN: Thank you, Sonny. The parties have indicated that since there's just you and Susan and the State Department of Planning and Economic Development that they'd have no objection to you being admitted, you and the Puna Hui, as being admitted as an interested party. Commissioners, do you have any questions?

NAKANO: You need a motion, Mr. Chairman?

CHAIRMAN: Yeah, motion is in order.

NAKANO: I thought the Chair determines that, it's not so. Then I move that the Puna Hui Ohana be admitted as a interested party.

CHAIRMAN: Is there a second?

ORITA: Second, Mr. Chairman.

CHAIRMAN: Seconded by Commissioner Orita. All those in favor signify by saying aye?

COMMISSIONERS: Aye.

CHAIRMAN: Contrary minded? Thank you. You will be admitted.

KINNEY: Thank you, Mr. Chairman and Members of the Planning Commission.

CHAIRMAN: Okay, and, lastly, we have the State Department of Planning and Economic Development; and we have letters from the Director, Hideto Kono, stating their role, saying the agency appointed by the Governor to be his right hand as far as energy is concerned, and he has sanctioned that Mr. Woodruff represent them here tonight. Mr. Woodruff, will you please come forward. Do you swear to tell the truth and nothing but the truth in the testimony you're about to give on this application now before the Hawaii County Planning Commission?

WOODRUFF: I do.

CHAIRMAN: Will you state your name into the microphone for the record.

WOODRUFF: My name is James Woodruff; and I'm an employee of DPED. There are two factors here involved, I think, as to why we are interested parties. Mr. Kono, for whom I'm speaking, has been appointed by the Governor as the State Energy Resources Coordinator. So this is definitely of interest to him. Also, DPED has been designated as the lead agency for developing geothermal energy; and we feel that ~~the development and use of natural steam and hot water as a replacement of fossil fuels is definitely~~ in the interest of the people in the State of Hawaii.

CHAIRMAN: Thank you. I'd like to, I did not get it clearly at that time, I know they said two people by the GEDCO people, Mr. Sheets, do you object to DPED being admitted as an interested party?

SHEETS: No, we'd be happy to have them.

CHAIRMAN: And I know Sidney has already indicated it'll be okay with him. So a motion would be in order to, whether they'd be admitted as an interested party.

IMADA: So move, Mr. Chairman.

CHAIRMAN: It's been moved by Commissioner Imada. Is there a second?

SAKAMOTO: Second, Mr. Chairman.

CHAIRMAN: Seconded by Commissioner Sakamoto. You will be admitted as an interested party. Now, we'll, if you'll take your place, we'll just go over some of the rules, things we will follow tonight for the public hearing. Before beginning with the contested case portion of this hearing, the Commission will heard testimonies from those members of the public who have come to the meeting tonight. Before I ask for any statements, I just thought that we might just say that this is, the purpose of this permit is for exploratory wells. Before anything else goes on, we would have to have another hearing, such as for power generation plants, lines, or anything else. The sole purpose of this permit is to determine whether there is good geothermal energy in the area that these nine drill sites are proposed for; and that's it, lock, stock and barrel. It's not for a great big gigantic power plant or for steam lines or anything else. The sole purpose is to see if this field has a good geothermal source; and that's what we'll be addressing ourselves. Before we go into any other use, we would have to hold another public hearing and they would have to get other special permits. So, at this time, the sole purpose of this use, their application, is to drill exploratory wells and find if this is a good geothermal field.

May I see by a showing or raising of the hands how many of you, oh, wait, I have it here. Is there any more that have come in since that time? I have eleven people who have signed up thus far.

PUBLIC: What's this? I came in late.

CHAIRMAN: There's a sign-up sheet on the front table.

PUBLIC: I don't know what you're saying. I came in a little late.

CHAIRMAN: The purpose of this is whether you plan to give public testimony tonight, that's all I'm trying to get by a show, to ascertain at this time. I have eleven people who signed up to speak. So those of you have signed up as wanting to give public testimony tonight, will you please stand and I'll swear you all in at one time. Eleven, we jive. Will you raise your right hands please. Do you swear to tell the truth in the testimony that you're about to give on this application now before the Hawaii County Planning Commission?

TESTIFIERS: I do.

CHAIRMAN: Thank you. Be seated. We'll start, so, if you would try and limit your remarks to about five minutes, we'd sure appreciate it. That way we can, I think, get the business conducted at hand tonight. I'd like also, those of you who have signed up tonight, did any of you give testimony at the last hearing? If not, then I was just going to say if you had, please confine your remarks to additional information and not repeat the same information that you gave at the last hearing because what you said is all in our transcript and we have it at hand and we've all read it. So I'll start with the gentleman in the second row. Will you state your name into the microphone please.

F. ORLANDO: My name is Frank Orlando; and, basically, I want to start out by saying that I'm not necessarily against geothermal development. I also want to say that having lived in Leilani Estates I found that there's much that Hawaii has to offer; and that being peace and quiet and clean air. I think that if we have energy, more energy, and if it's handled properly it could be a true blessing. There's a lot of jobs in Hawaii that are lacking, I think, at this time. I know because I've been trying to get one. The questions that come to my mind is that so far I haven't heard anything about specifically what are going to be acceptable sound levels and, let's say, smell levels, sulfer, or whatever. And that's probably the thing that's disturbing me the most about this whole question of geothermal development. It really worries me that maybe, you know, there's going to be this constant sound, you know, always going on and maybe every now and again some sulfer smells, I think, would be a really, really be a terrible thing.

I know I've grown up in an area where the development has happened overnight; and I've seen what can happen in these situations. It really can be devastating. It doesn't make for happy living, you know. It's kind of detrimental to people, really, it is. And so I think that before a question is decided upon as far as yay or nay whether a permit should be granted, I think that there should be some agreement as to what sound levels will be tolerated at, let's say, the drill site property lines and also what amounts of sulfer smells or whatever kind of smells may come out of this, I guess they use parts per million. Something like that, what would, you know, what monitored system and levels would be acceptable and, also, there should be, of course I'm sure there's always somebody around that would monitor these things and enforce them. And then if there is a violation of this effect that there should be a specific time frame agreed upon for this to be eradicated; and, if not taken care of in this time, then the operation should be shut down until, in fact, it is taken care of.

And another thing, too, that I think that is, although you just got done saying that we're only talking about permit for a test site, right now just strictly a test, I think that the overall picture should be looked at because ultimately those questions are going to be, have to be answered anyway and that's really the crux of it, is where is it all going to end up. That's what really has to be looked at. And if there are people that are in, like let's assume that 80 decibels are what's going to be agreed upon for

levels at the property line, let's just say assuming, okay, why should the person living next to that have to put up with that? For example, I wouldn't, it would be a terrible thing for me to constantly have a motor reveling, let's say, next to my neighbor's house and let's say exhaust of whatever. It's a terrible thing. I do know, and I have personally done construction on a jet engine test site, for example, where we would run engines, jet engines, wide open inside a building and it'd be so quiet outside the building that you could hardly hear it. I mean you have to listen to hear this thing. And so I know it can be made quiet, at least I believe it can, you know, I don't really know. But, anyway, and so I think that essentially, I think that the overall picture should be looked and there should be more specific outlines made before any decision is made yay or nay as to whether or not this permit should be granted. And, that's it.

CHAIRMAN: Commissioners, do you have any questions? If not, thank you very much. We have a person who's not feeling well tonight, so I'll ask him to come up at this time and present his testimony. Mr. Henry Chow.

CHOW: My name is Henry Chow. I live in Opihikao and I speak up for my wife and family. And I have a list of names of people living in Opihikao, what we call the kamaaina people. Many of these families have been living for generations dating back to, oh, couple hundred years already. Many of them have been here in Opihikao, living there, before the haoles ever came. And these are the names of the people over here - the Peleiholani family, the Manuel family, Konanui family, Whittington family, Aiona family, Gabriel Keahola, Jr. family, Kuamoo family, William Hua, Pupuhi family, the Louis family, and the Kahaaloa family. We are against nuclear power for energy; and everyone over here is in favor of geothermal steam.

CHAIRMAN: So, in other words, you don't oppose geothermal energy?

CHOW: Definitely not. And everyone of them are God-fearing people, everyone of them are working people with the exception of one man who is on food stamp and welfare because he's physically disabled. The rest are construction workers, they even have a policeman over here, fishermen, heavy equipment operators, and everybody works. And should you want to talk, speak to any of them, come down to Opihikao, get a hold of me, and I'll take you or anyone of you to meet the people.

CHAIRMAN: Thank you very much, Mr. Chow.

CHOW: All right.

CHAIRMAN: Have any of you Commissioners have any questions?

NAKANO: Mr. Chairman?

CHAIRMAN: Yes.

NAKANO: Mr. Chow, just how many names did you read out right now?

CHOW: Could you speak a little louder?

NAKANO: How many names did you read out right now?

CHOW: Twelve.

CHAIRMAN: Those are families though, huh?

CHOW: Twelve families.

CHAIRMAN: Yeah.

CHOW: These are all landowners now.

CHAIRMAN: Okay, Mr. Chow, thank you very much.

SAKAMOTO: I have one question.

CHAIRMAN: Commissioner Sakamoto.

SAKAMOTO: Mr. Chow, the people that you read over there, the names, about how far are they from this position here. Just more or less, I just want to know, more or less.

CHOW: Right at the bottom the derrick is one of them, you know what I mean at the bottom of the derrick now.

SAKAMOTO: Yeah.

CHOW: I'd say about a mile and a half. Maybe I could be wrong, maybe two miles.

SAKAMOTO: Thank you.

CHAIRMAN: Thank you, Mr. Chow. The next person I'd like to call is Eliot Merk, Eliot. Let the record show that the person giving testimony is Eliot Merk. You may proceed.

MERK: (See Attachment A.)

CHAIRMAN: Thank you, Mr. Merk. Any Commissioners have any questions at this time?

SAKAMOTO: I have one.

CHAIRMAN: Commissioner Sakamoto.

SAKAMOTO: When you talk about that, how many members are you talking for?

MERK: We have approximately 180 members.

SAKAMOTO: Thank you.

MERK: Mostly located on the Hilo side.

SAKAMOTO: Thank you.

CHAIRMAN: Thank you, Mr. Merk. The next person who signed up is Peter K. Hauanio.

HAUANIO: Mr. Chairman, I'd like to pass by since I'll be speaking later with Hui Hanalike.

CHAIRMAN: Oh, you're going to be with Sonny?

HAUANIO: Yeah.

CHAIRMAN: Okay. All right, Doris Smith.

SMITH: (See Attachment B.)

CHAIRMAN: Thank you very much, Mrs. Smith. Do any of you Commissioners have any questions that you'd like to ask at this time? If not, thank you.

SMITH: Thank you.

CHAIRMAN: The next person wishing to give testimony is Germain Marquais.

MARQUAIS: (See Attachment C.)

CHAIRMAN: Do any of you Commissioners have any questions?

NAKANO: Mr. Chairman?

CHAIRMAN: Commissioner Nakano.

NAKANO: Mr. Marquais, I don't know whether I heard you or not, but I didn't hear you speak against it. You know, you were just taking a blast at industrialists, but I haven't heard you say anything whether you're for the project or against the project.

MARQUAIS: You won't hear me say that.

NAKANO: Did you say it?

MARQUAIS: You said that you didn't hear me say whether I was for against the project?

NAKANO: Yeah.

MARQUAIS: And you will not hear me say that one way or another.

CHAIRMAN: Any other questions, Commissioners? If not, thank you very much. James E. Miles, representing KIAA. Will you explain here what that is.

MILES: My names is James Miles and Kanoelehua Industrial Area Association is a group of small businesses located in the industrial area here in Hilo. And I'm here representing this group of people, groups of firms, which amounts to about 300 small businessmen in this community.

(See Attachment D.)

CHAIRMAN: Do any of you Commissioners have any questions of the person giving testimony? If not, thank you very much.

MILES: Thank you.

CHAIRMAN: The next person giving testimony will be Robert J. Santos, Chamber of Commerce.

SANTOS: (See Attachment E.)

CHAIRMAN: Commissioners, you've heard Mr. Santos read his letter. Do you have any further questions of him at this time? If not, thank you very much, Mr. Santos. Next person will be Gregory C. Pommerenk, Love and Light Church, Kapoho.

POMMERENK: Mr. Chairman, Members, it's really a touchy situation here, this geothermal. It's really nice to hear all these businessmen talking about the benefits that is obvious, the benefits that they're going to receive. The main thing I'm trying to feel out is what the people, I seem to perhaps say more people rather than monetary gain, and I'm trying to wonder what the people are really going to gain from this geothermal well and this drilling. Such as, you talk about that these sites are going to be for an experiment. Well, it seems like there has always been millions of dollars put into a Pohoiki experiment that all of a sudden got sold to HELCO. So, what are the people getting out of that when they're going to get rates that are the same as when they were using petroleum, and the steam is free? Who's regulating how much steam is worth? How much processing do you have to do on steam? We're not talking about crude oil that you have to process, you know, in barrels and stuff like this.

Also, too, we get into the legalities of mineral rights. It seems like that the State owns the mineral rights; and, I assume that the State is the people, which seems to get kind of faded away in the picture here. And I don't see how any people or any representatives who really represent the people have decided, who decided to sell this energy to HELCO? What people voted on this? What representatives voted on this? I just thought through the Mayor signing it over and that was the big thing and now HELCO is in charge of it. What are the people getting out of this, you know?

I live less than a mile from the present Pohoiki well. I live right on the other side of the old, down at the old State, down there where it is, not too far. There's a little hill right in the way, I can't see it, but it's less than a mile from me. And we have a spiritual community planned for the area. We have about 40 acres in that area that we're going to be developing a true self-sufficient, I mean everyone here talks about self-sufficiency, well, I don't think people really know what self-sufficiency is. Self-sufficiency comes from wind, sun, and hydro-electric. That's when poor people can buy the energy. You're talking about energy that only the rich magnets can buy, which is also being set up by the bureaucratic government which is working together to control the whole situation. I'm trying to see what the poor people are going to get out of this.

I've been to a few of these meetings. I haven't been satisfied. I haven't felt clear about it at all, you know. I've just been trying to, please, this is, feel some clarity here. Okay, let the spirit come down and manifest something that's real in front of our eyes. I mean, we're all in it to, and to some degree, everyone is, for some kind of monetary gain. Okay, let's see that everyone gets something to gain from this, again. I mean, we see that the petroleum trip didn't work because the big corporations, you know, Rockefeller, all these people, control the whole trip. I mean, maybe people need to be more educated to see who's really in control, what's going on. You know, I know, I myself seem to read about it, just to kind of, cause it interests me. You know, it's over my head. You know, these magnets are up there and they're controlling it, you know, the state representatives, all these people, are coming down, it's all monetary profit. They're not doing for it, well, I'm a public servant. They've lost this now. They get elected and it's all of a sudden, well, I'm King Kong. Well, they don't realize that their job is a public servant. They're civil service. You're suppose to be serving your brother, helping your brother, your representative. While he's out there busting his butt working, you're in there making decisions for him. I mean, you know, it might be funny and you might smile and all kind. I don't think it's really funny myself. You've got a really big responsibility. You know, and it's kind of like a comic like coming here. I don't see much getting done. You know, I see all these formalities and yes, we'll accept you, and we'll accept you. And I'm very privileged to be here speaking. I'm very privileged. I really am. I think it's a great honor; and I wish that everyone around here would feel that honor and feel the privilege and the freedom that we have in this country to create a true self-sufficient America. We have that right, you know. It's really beautiful. That's all I have to say. Thank you very much.

CHAIRMAN: Commissioners, do you have any questions to ask of Mr. Pommerenk? Mr. Pommerenk?

POMMERENK: Yes.

CHAIRMAN: You know, you went off on several things. But, basically, are you against exploratory drilling or not?

POMMERENK: Well, I feel the exploratory drillings have already been done at Pohoiki. I mean, why do you have to drilling some more? To me, it's obvious, that you say it's exploratory, but after you put in six million dollars to drill a well, you're not going to say, well, let's go drill somewhere else. You're going to sell it to HELCO and then HELCO is going to sell it to the big corporations. Is that not obvious? Am I lying to you? Do you not know that answer?

CHAIRMAN: That is besides the fact.

POMMERENK: I have no, I mean, I know it's besides the fact and you don't want to make any statements on it, but -.

CHAIRMAN: No, no.

POMMERENK: The thing that I'm getting at is that I'm not for it or against it. I think if it is regulated the energy is there; and if it's used for the people, it's good. If the people are going to be charged the same or higher rates as they do for petroleum which definitely costs money to refine, well, that's bad, especially when the people are setting it up. I don't see a corporation coming in and drilling the wells. They sit back and let the government drill all the wells; and then after they drill the wells, the government doesn't want to manage it because it's too big of a problem, so they turn it over to the big corporations. Is that not true?

CHAIRMAN: I'm not here to answer those questions. I'm -.

POMMERENK: Thank you very much. You answered the question. Thank you.

CHAIRMAN: I'm to poll you to see if you people giving testimony are giving either favorable testimony or against, and I just wanted to know your stand.

POMMERENK: I never knew that a testimony had to be for or against.

CHAIRMAN: It does not have to be. But you didn't define it so it was hard to tell what exactly you were meaning.

POMMERENK: I'm trying to see exactly what you are meaning. You are the decision makers. I'm just here to give you some more insight. Thank you.

CHAIRMAN: Thank you. The next person wishing to give testimony is Andrew Sarhanis. Go ahead, Mr. Sarhanis.

SARHANIS: Thank you. Mr. Chairman and Members of the Planning Commission, I'm a resident in Kapoho and a landowner also about one mile from the proposed drilling site. And I feel very sensitive about what is going to happen to the quality of my environment and to the quality of the environment of all the people in the immediate area and in Puna and in the island in general.

I raise fruits and vegetables for people to eat and I have heard evidence from the Puna Hui Ohana that in other places where there has been geothermal development and power plants that vegetation as far as five miles away was severely damaged. And, now, if I tried to raise crops and if anything, anyone or anything, does something that, and hinders my ability to crops, say I have an animal that comes in and eat my crops. Well, if it takes, I don't mind if it takes a little bit; but if it takes too much of it, I'm going to shoot it. And I'm not a violent person but I'll shoot it cause it's taking away from my ability for my livelihood and what I love to do. And I just feel that this whole geothermal development should be very careful about how it affects what all the people who are already there doing what they're doing now and also all the people who may come into the area and do different things such as, I guess I'm speaking from an agricultural standpoint that this is an agricultural area right now and that this geothermal well drilling and, seems inevitable development after power plants whenever should, must bear liability for inhibiting someone's ability to pursue their

livelihood, in my case, farming - the backbone of this country, I may add.

And if you look at the history of the United States, all its fine leaders and statemen and men of finance were from rural origins and I'm just saying that there's a lot of fine people like that right now who live in my vicinity and these are going to be the future leaders of this country. I guess that's mainly what I have to say is that I'm not against geothermal development per se anywhere on the earth. I'm against geothermal energy that damages my environment, fumes, obnoxious sounds to an unreasonable degree and poisonous products that they poison animals, cause people to get sick, and cause plants to get sick. And I feel that there's better ways to produce power from wind, sun, and such things as that; but I guess it's too small for people to look at. And I guess that's all I have to say that I ask the people who are dealing with this situation to have a geothermal development that is clean and not obnoxious, not unsightly, not a mess, and is sensitive to people and plants.

CHAIRMAN: Thank you, Mr. Sarhanis. Is there any question, Commissioners? If not, thank you. Next person is Bob Williamson.

WILLIAMSON: My name is Bob Williamson. Mr. Chairman, Members of the Planning Commission, I'm here tonight to testify in favor of the application before you for the proposed drilling of nine additional wells. We have had one successful well drilled in Opihikao which shows us that there is potential geothermal energy in the area under consideration. I believe we must admit that the one well will not be adequate to supply a sufficient supply of energy to make a great impression upon our island. I feel certain that we need more wells to support the one that we already have. I feel that the controls for the noise or sound abatement, the odor abatement which has been spoken of, can be controlled by proper authorities and by proper controls at the wellhead site. I feel very much in favor of the drilling of the additional wells in the hopes that we can find additional sources to support an adequate supply of energy for our requirements. I thank you.

CHAIRMAN: Thank you, Mr. Williamson. Do any of the Commissioners have any questions they'd like to pose at this time? If not, thank you very much. Next speaker is Katherine Kahaloa.

KAHALOA: (See Attachment F, which she read portions of.)

CHAIRMAN: Thank you, Mrs. Kahaloa. Do any of you Commissioners have any questions of her at this time? If not, Mahalo Anui Loa. I have two new people who signed up. I'll have to swear you both in. So will you stand at this time. Moanikeala Akaka and Alex Smyklo, do you swear to tell the truth in the testimony that you're about to give in this application now before the Hawaii County Planning Commission?

AKAKA: I do.

SMYKLO: I do.

CHAIRMAN: Thank you. Alex, will you start.

SMYKLO: Thank you, gentlemen, madam. First, let me, my name is Alex Smyklo. I am, by profession, an engineer, or I was an engineer in the aerospace industry for 20 years. I had taken an interest in economics so I got a degree in economics also, so that gives me perhaps a little wider horizon than I otherwise might have had. The question is am I in favor of geothermal energy. Mr. Chairman, I think you asked that of everybody; and let me say this that very clearly I am under the right conditions. And the conditions under which this proposal has come to you is not one that I would agree with.

Let us first look at the nature of this geothermal energy. It is something owned, the State has indicated their interest in the geothermal energy and has stated that it belongs to the State. Now certain private individuals have stated that they have a right in geothermal energy as have had the average old Hawaiian. And no one can dispute their prior claim to this energy. Certainly, they utilized it in various ways in the past. Now since we have three groups of claimants and is not yet been determined who actually owns the geothermal energy, I wonder on what authority this Commission is operating on in this respect. Are you empowered to make a decision to dispose of energy that belongs to three widely divergent claimants? Do you have the right to do this and on what basis? I'd like someone to answer that.

CHAIRMAN: You're asking us if we have the right to dispose of it?

SMYKLO: Yes.

CHAIRMAN: I've stated earlier tonight, we are not making that decision tonight. We are just giving people the permit to drill experimental wells.

SMYKLO: I see. Well, if -.

CHAIRMAN: We're not giving permission for the final disposition or factories or anything of that nature at this time, or transmission lines or geothermal generators, etc. We are not doing that tonight. All we are ascertaining is whether to give a permit to further see if this area is an active and productive geothermal field; and that's the basic request for this application tonight.

SMYKLO: You don't think that someone's going to sink several million dollars into the land to determine whether there's energy down there when there's a well producing energy today at different form. It's a steam energy under pressure. And, therefore, to suggest that you give the key to the vault to a group that sees there's money in the place, why, it's a little ridiculous, I think.

CHAIRMAN: Mr.-?

SMYKLO: Yes.

CHAIRMAN: Smyklo?

SMYKLO: Yes.

CHAIRMAN: May I say something -?

SMYKLO: Yes.

CHAIRMAN: At this time, you know, I'd like to use a different resource that we had, that we experimented with in Kona. And if we had quit on the first well, we wouldn't have water that we have today. The first well we drilled in the Palani-Kealakehe area brought in the Pacific Ocean. It had a greater salt content ever. We've drilled wells in the Kailua area and they're just about the same, about half as much salt. But, finally, we struck it rich when we hit the Kahaluu well, Kahaluu well; and now we have the best water in the State of Hawaii. Now, just because we have one successful well does not mean that there are other wells in the area. I just give this as food for thought. And in Kona, it was the reversal, and this is what they're trying to ascertain here.

SMYKLO: Well, I think a rather recognized authority on this subject has already stated that there is enough geothermal energy in the Puna load to supply five times the population and industry of this island for the next one hundred years. Now, I've heard a lot of emotional talk here about sharing, about we're going to create jobs, we're going to destroy the environment. I'm for orderly development of geothermal energy indeed. I foresaw this twenty years ago; and one of the reasons I came here was because I anticipated this development, but I didn't anticipate that a governmental agency would be given a license to give away the energy. And whether you may assure me that the purpose of these wells is merely to test the magnitude of the heat energy, and I say to you that I don't believe that. I believe that it's a concentrated effort to acquire title to a vast resource which the Hawaiian people, the aboriginal Hawaiians, will regret the day that they acceded to this.

Now Mrs. Kahaloa spoke a little while ago in a very convincing manner. I know her, I think she's a very fine person. But, am I to believe that her group down there can compete with economists, the civil engineers, the electrical engineers, the chemists, the thermal engineers and that she understands what they are talking about when they're saying we're going to drill in your land and we're going to make you wealthy? Look at what has happened to the various other resources in this country and coals and oil and everything else? People like the American Indians in the Southwest signed contracts that they hadn't the faintest idea of what they were signing. And I say to you that you have a responsibility, this Board, has a responsibility to look beyond the question, the narrow question, of should we drill exploratory wells or not. That is not the issue, really. The issue is is this resource going to be given away to a group of private individuals, a resource that we all collectively own, we taxpayers. We own the property. I own twenty acres in the Puna district, nine of which have not reserved any geothermal energy right. I do not expect reserving myself by this ownership, and I don't expect any private individual to do so also. And when we have a private group that's coming in here, now, remember, we talk about jobs and creating great things here, remember that

the price of all alternative energies must be tied to the price of oil. So when a private group comes in here and takes our geothermal energy, converts it to electricity, they'll sell that electricity at the same rates that you'd use to pay for the oil to generate the same electricity. So you're not going to get a reduction in your electric bill.

Now Mr. MacKenzie of Hilo Electric said over and over it is not going to lower the electric bills. So how can you say that we're going to benefit from this, the citizens are going to benefit? If they benefit from it, they will receive the crumbs that fall off the table of the organizations that developed this resource. So I think that you are obligated to just hold fire just a moment and say to yourself, well, maybe we better take another look at this. There's no hurry to develop more exploratory wells. The energies there will remain there for hundreds of years more. And we've already been assured by an outstanding authority there's more energy on this island which could be used in the next one hundred years five times as much. So what is the hurry about drilling these wells? And do you think that the Hawaiians are going to benefit greatly from this? I've heard the Hawaiians say, my father owned the area from Wailuku River down to the Puna Sugar, and now I live in a house I rent. They will be saying the same thing about the geothermal energy fifteen, twenty years from now, my dad owned the geothermal energy in this area and now there's a giant corporation that owns it. All you have to do is look at the history of developments like this and you will reject it forthwith. Thank you.

CHAIRMAN: Mr. Smyklo, thank you very much. I'd just like to say I'm a proud descendant of Hawaiian people. Every 2100 acres that my family owned, we've kept in the family for years. It came from the Hawaiian side of our family; and we did not squander it for profit. So I think we've done well by our Hawaiian heritage; and we've done it in Hawaii. We didn't give it away.

KAHALOA: The Kahaloa's, too.

CHAIRMAN: The next speaker will be Moanikeala Akaka.

AKAKA: Aloha. First of all, I'd like to say that I don't think that there should be the nine wells that this permit is for. Well, first of all, I don't think that there should be any more wells that are given any kind of permission until the whole question of ownership is settled under geothermal resource. That resource is a pool. It's a pool and it's a gift from the aina. And that resource, if it is going to be developed, should be done safely, ecologically, health-wise and environmentally; and it should also be made municipally owned so that it is owned by the people of this island. And in that way, and also that the native Hawaiian people get a percentage as part of our native rights. Give the people of the Big Island a break.

We pay some of the highest electricity bills in the whole country right here on this island. I believe they had three counties that pay the highest electric rates in the whole country. That resource should not be owned by the oil companies or by HELCO. That resource

should be owned jointly by the people of this island so that at least we can get cheap electric rates for the people of our aina. It's only fair, considering the fact that it costs so much money to live, and, also, because the economic situation isn't that good.

Now you talk about jobs. It's pretty common knowledge that when these geothermal wells are pau that it will only give jobs to four full-time and two half-time employees. Is that the price that we're going to pay for the desecration and the destruction of our aina, of our resource, giving it to the oil company? And why is it that this research that comes from the aina has to be sold back to us at the same rate as oil that comes from Iran or Saudi Arabia or somewhere else? This isn't fair; and it means that you're not looking out after our best interest. When are you public officials who are appointed to look after our best interest going to begin to do just that? The aina is a very fragile, fragile entity; and you haven't even paid any attention to the fact that you may be provoking Madam Pele.

And one of the experts that was here, I believe his name was Dr. Hennesey, for this geothermal symposium about a month or so ago, he didn't want to say it publicly in front of the big shots up at the head of the room, but he did tell some of the brothers, talking aside with them, that he didn't think that the geothermal should be in a populated area. And, here, for years, people have been encouraged to move into Puna. Puna has become one of our fastest growing districts; and, yet, now, with the geothermal going in, if it does, it's going to help to deteriorate that very environment, that very aina, that all you real estate speculators have been cutting up and selling to people coming from some place else.

When are you going to stop and consider the responsibility and the destruction and this deterioration that you are partially responsible for by allowing these things to happen. Please consider what you're doing by approving these next wells and there should not be any kind of wells going in until the whole issue of ownership is cleared up or there is going to be a lot of pilikia here on this aina. You're responsible for a lot of what's going to happen to our futures, to our children's futures, to your moopuna's future. This responsibility weighs heavily on you. Be cautious. Makaala. Be careful of what you do to our future and Puna. Mahalo.

CHAIRMAN: Thank you very much, Moanikeala. We have one more person who is the last person who signed up to give public testimony tonight, Dr. Donald Thomas.

THOMAS: Good evening. I would like to speak in favor of having these wells go in. I am presently working at Hawaiian Institute of Geophysics. I've worked with the Hawaii Geothermal well in Puna for the last four or five years working on geochemistry trying to analyze the materials that are coming out, trying to determine whether there are toxic materials in the well, whether there is a potential for degradation of the environment as a result of the geothermal development. And, to date, we have found that the water and the gas coming out of HGPA is more free from toxic elements. Now these kind of things that I'm speaking of are

boron, arsenic, ballian, lead, this type of thing. So fluids from HGPA are probably far cleaner than most other geothermal areas in the world. As compared to a lot of the California developments, HGPA is, orders a magnitude, lower concentrations of toxic elements.

Now in regards to exploration and the need for further exploration, we have one well in Puna. We are trying to interpret what is happening in the rest of the Puna area and the rest of the east rift and, in fact, in the rest of the State of Hawaii based on that one well. Now, there's no way in the world that we're going to be able to do that. We know that there is a geothermal resource there. We have no idea exactly where it is. As I understand this application, this is an exploration application. This, I feel, is vitally necessary to determine where the resource is and the extent of it. We have one well that we produced for aggregate total time of maybe two months, possibly a little longer than that. There's no way, based on this information that we can say that we will have a long-term geothermal resource in this area. These wells are necessary to see how large the resource is; and from the information gained, we may be able to determine whether we have a really viable resource there or not. I thank you.

CHAIRMAN: Thank you, Dr. Thomas. Do any of you Commissioners have any questions? If not, thank you very much. This concludes the public hearing portion of the hearing, I mean of this application tonight. At this time, the Chair will recess the meeting until 8:50.

RECESS: The meeting recessed at 8:41 p.m.

RECONVENED: The meeting reconvened at 8:55 p.m.

CHAIRMAN: To stress the point that once the public hearing is closed, there will be no more testimony taken from the public. So that is the order of business we're coming to right now. So, one last chance. If there's anyone other than those that signed up who desire to give testimony at this time, kindly raise your hand. One, all right. Will you please come forward. Do you swear to tell the truth in the testimony that you're about to give on this application now before the Hawaii County Planning Commission?

HOGYE: Yes.

CHAIRMAN: Will you be seated please and state your name into the microphone.

HOGYE: Joe Hogye.

CHAIRMAN: Joe -?

HOGYE: Hogye.

CHAIRMAN: Hogye?

HOGYE: Hogye, H-o-g-y-e.

CHAIRMAN: H-o-g-y-e?

HOGYE: Yes.

CHAIRMAN: Okay, you may proceed.

HOGYE: I'd just like to share that after our last meeting here, I and a few friends of mine were talking to Mr. Craddick, and he said he wouldn't want to live near a well.

CHAIRMAN: Is that all you wanted to say?

HOGYE: Yes, yes.

CHAIRMAN: Okay, thank you very much, Joe. At this time, if there's no further testimony from the public, a motion in order would be to close the public hearing, I mean, close the public testimony portion of the hearing.

ORITA: I so move, Mr. Chairman.

CHAIRMAN: Is there a second?

KAGAWA: Second.

CHAIRMAN: All those in favor signify by saying aye?

COMMISSIONERS: Aye.

CHAIRMAN: Contrary minded, same sign? The public testimony portion of the proceedings will be closed. We will not begin the contested case hearing. First, I will briefly describe the procedure we will use based upon the agreement of the parties which should be made part of the record. I'd like to say that all parties have signed the agreement and we will formally enter it as part of the record. The parties are the County Planning Department, Department of Economic Development, GEDCO, Puna Hui Ohana, and Susan Orlando.

First, we will confirm the admissibility of witnesses and exhibits. Then, the parties will begin their presentation in this order - the County Planning Department, State Department of Planning and Economic Development, Geothermal Exploration and Development Corp., Susan Orlando, and, lastly, the Puna Hui Ohana. After each party has made its presentation, the other parties may direct responsive questions to that party through the Chair. After all presentations are completed, each party will have an opportunity to make a closing summary of its position. Then the hearing will be closed. Within fifteen calendar days after the close of the hearing, the parties may file proposed findings of fact and conclusions of the law with the Planning Commission subject to the terms in the agreement between the parties. Within thirty calendar days of the close of the hearing, this matter shall be placed on the Planning Commission hearing agenda. Within a reasonable time thereafter, the Commission acts on the matter and issues a decision. We will conduct this hearing along certain basic guidelines. The informal rules of evidence shall apply. However, irrelevant, immaterial, or unduly

repetitious evidence will be excluded. Material evidence means that the particular item of evidence must tend to prove or disprove an issue in dispute. Relevant evidence means that the item of evidence must have a logical relation to what you are trying to prove. As Chairman of the Planning Commission, I shall make all final rulings of law.

Are there any objections to any procedures that have gone before this hearing, this pertains to all parties? If so, please voice them at this time. I'll start with the County of Hawaii Planning Department.

FUKE: Planning Department has no objections, Mr. Chairman.

CHAIRMAN: GEDCO?

SHEETS: No objections.

CHAIRMAN: DPED?

WOODRUFF: No.

CHAIRMAN: Susan Orlando?

ORLANDO: No.

CHAIRMAN: Puna Hui Ohana?

KINNEY: No.

CHAIRMAN: Okay. At this time, I think we'll have the parties' representatives come up and be seated at the head table. Are there any objections to the notices and records thus far? We'll start with you, Sid, and go down the table.

FUKE: No objection, Mr. Chairman.

CHAIRMAN: Susan?

ORLANDO: No objection.

CHAIRMAN: DPED?

WOODRUFF: No.

CHAIRMAN: GEDCO?

SHEETS: No objection.

CHAIRMAN: Sonny?

KINNEY: None.

CHAIRMAN: Are there any motions to be made and disposed of at this time? ~~Planning Department?~~

FUKE: None.

ORLANDO: None.

CHAIRMAN: GEDCO?

SHEETS: No motions at this time.

CHAIRMAN: DPED?

WOODRUFF: No.

CHAIRMAN: Any motions to be made at this time?

KINNEY: No.

CHAIRMAN: Are there any objections to the issues as framed?

FUKE: None.

ORLANDO: No.

WOODRUFF: No.

CHAIRMAN: Sonny?

KINNEY: I beg your pardon?

CHAIRMAN: Any objections to the issues as framed?

KINNEY: No, no objections.

SHEETS: I'm not sure I understand what issues have been framed, Mr. Chairman.

TSUKAZAKI: The basic issue is whether or not this application should be granted based upon the criteria of the special permit law at the State level which is Chapter 205, and at the County level would be the Planning Commission's Rule 8. In other words, whether the use is -.

SHEETS: I would accept that as a statement of the issue. I didn't know there was more than one issue, that's all.

CHAIRMAN: Do the parties have any changes to make to the present list of witnesses and exhibits? Do any parties object to the witness or exhibits to be presented by another party? I think at this time, do the parties have any changes to make to the present list of witnesses and exhibits? You want to through those, Ben, for me. You keep the log for me on this and it'll be a lot easier.

TSUKAZAKI: Okay. Does the Planning Department have any changes to its list of witnesses?

FUKE: No, Mr. Chairman. The Planning Department has, we intend to, at this point in time, call no witness. We have no witness. And as far as the list of exhibits, we've already circulated it in the interest of time a copy of our background report and our recommendation to all of the affected parties as well as the Planning Commission.

TSUKAZAKI: Okay. Do the rest of, do any of the other parties have any objections to the, I guess, the exhibits that's being presented by the Planning Department?

WOODRUFF: I have no changes and no objections.

SHEETS: No objections. No objections on the part of the applicant.

CHAIRMAN: Puna?

KINNEY: No, no.

ORLANDO: No objections.

CHAIRMAN: Okay, go to the other -.

TSUKAZAKI: The next party is the State Department of Planning and Economic Development. Do you have any changes to the list of witnesses and exhibits?

WOODRUFF: I have no witnesses and no changes in my list.

TSUKAZAKI: Do the other parties have any objections to the list of exhibits presented by DPED? No objections?

FUKE: No.

ORLANDO: No.

KINNEY: No.

SHEETS: No.

TSUKAZAKI: Okay, let the record show there are no objections by the parties.

CHAIRMAN: No objections by all, all concerned.

TSUKAZAKI: Next party is the applicant, GEDCO. Do you have any changes to your list?

SHEETS: We may choose not to call certain witnesses, depending on what comes out, what seems to need to be explained as we go along. But we will have no additional witnesses beyond those that are given in the list.

CHAIRMAN: Thank you.

TSUKAZAKI: Does that also mean that there's no changes to the exhibits, the special permit application and the attached maps?

SHEETS: We have one graphic aerial photograph expanded that we may refer to as we go along. It isn't up and it hasn't been shown; but we would put it to you that it is an aerial -.

TSUKAZAKI: As a visual aid or something?

SHEETS: Yes. It's an aerial view and it is not going to be a piece of evidence as such, but an assist in pointing out certain relationships, that's all.

CHAIRMAN: For the purpose of this hearing, let's number that GEDCO three, I think. That's the third exhibit, huh?

TSUKAZAKI: Two.

CHAIRMAN: Okay, it'll be GEDCO two then. All right.

TSUKAZAKI: Do the other parties have any objections to GEDCO's witnesses or exhibits as listed? Let the record show there are no objections. The next party is Susan Orlando. Do you have any changes to your -?

ORLANDO: No changes. I have no witnesses or graphs or maps.

TSUKAZAKI: Puna Hui Ohana, do you have any changes?

KINNEY: Yes, we do.

CHAIRMAN: Will you please state them for the record.

KINNEY: Dr. Jerry Johnson, our community psychologist is unable to be here. Dr. James Kent, our sociologist attorney is unable to be here; he's back in Colorado. Peter Hauanio will be here. Craig Severance will be here. But David Hess, president of Pahoia Community Association, will not be here.

CHAIRMAN: Will you go through that one more time please.

KINNEY: Okay. Dr. Jerry Johnson, Dr. James Kent, and Mr. David Hess will not be witnesses for the HUI.

TSUKAZAKI: Do you plan to make any changes to your list of exhibits?

KINNEY: Yes, we do. The slide show materials will not be shown. We would like to add, however, a series of photographs depicting geothermal developments in New Zealand for our arguments with regard to certain points in the argument itself in the presentation.

CHAIRMAN: Is that all?

KINNEY: And, we still have the map. We would also like to present as an exhibit with regard to long-term planning, scenarios presented to the Geothermal Advisory Council, the State Geothermal Advisory Council.

CHAIRMAN: And that concludes -?

KINNEY: Yes.

CHAIRMAN: Let's have the photographic exhibits be PHA-three; and this list of the scenarios, PHA-four. Now, we've got to determine whether they, you have scratched on so we'll number the photos PHA-two, and the scenario exhibit as PHA-three.

TSUKAZAKI: Do the other parties have any objections to those additional exhibits at this time? Planning?

FUKE: No.

TSUKAZAKI: Susan?

ORLANDO: No.

TSUKAZAKI: No.

SHEETS: The applicant would object to the photographs that there are no relationship, whatever; and, there will be no opportunity to show relevance. There has been no such operation in Hawaii. It is well known that the resource is quite different from that resource in New Zealand to the extent that it's known. So the showing of a great muddy area is, from a very wet resource, is considered absolutely irrelevant by the applicant.

CHAIRMAN: May I take a peak at those, Sonny, please. We'll take a slight pause to look at these.

SHEETS: We're going to have the same objection to the scenario for development as having no, there's no means, whatever, to show its relevance, as being valid; and, therefore, it's being relevant or useful in any way.

CHAIRMAN: Will you pass that on to the rest of them. As far as the photographic exhibits, although they may not be of Hawaii, the Chair at this time will rule that they can be admitted as evidence. However, we'll note it that the applicant has voiced his, that he feels that they are irrelevant and objects thereto; but, however, I shall overrule and admit them as an exhibit.

WOODRUFF: Mr. Chairman, I would like to state the same position in that I have visited the Geyser area recently and I realize that the photographs are not necessarily objective. It depends on who takes them, what angle, what they show, what they don't show; and I also feel that they are not completely relevant to the Puna district. And as far as the scenarios, I'll take the same position. Scenarios are developed mainly for the sake of discussion for finding facts and making plans, and they're not necessarily related to what will be. Thank you.

ORLANDO: Mr. Chairman -?

CHAIRMAN: So you are also voicing an objection as far as the, both items?

WOODRUFF: Yes.

SHEETS: Well, what it amounts to, if the Chairman will please bear with us, it amounts to talking about something that's not before the Commission at this time. It amounts to talking about development. The Chair has been clear -.

CHAIRMAN: Yes.

SHEETS: That the Chair understands that we're talking about exploration, the operations to be permitted if they are, are not of the nature that the party is intending to make a showing about. If this were an application for development, possibly even the photographs would have some use. But it's an application to explore, to do a very simple operation, to make very simple tests, which can in no way run into what the objecting party is about to show us. He's going far afield, beyond what anything that we would do out of any permit here would bring about.

CHAIRMAN: In other words, you feel he's getting ahead of what's at hand.

SHEETS: In other words, certainly ahead of what would be permitted here at the outside, possibly, no doubt ahead of whatever will happen here because they have a different kind of resource.

ORLANDO: Mr. Chairman? May I go on record in supporting the use of the photos and the scenario materials by nature of the fact that you are a planning commission. Planning is usually connected with development and what goes on in the future. So could we please use these items?

CHAIRMAN: How are you, Mr. Director?

FUKE: Mr. Chairman, as explained earlier, I have no objections to having both the photos and the development scenarios. And the position is, I can understand the petitioner's concern that the principal issue at hand is just the idea of exploration or drilling; but, nevertheless, I think that it's informative to know and I think in the findings of fact we all have a responsibility to sift out which is or is not relevant to a decision.

CHAIRMAN: Thank you, Mr. Director. I will maintain my position and rule that both can be admitted as evidence over the objections of both GEDCO and DPED. Are there any objections to or any questions about any of the matters I have covered thus far? Is there any objection?

SHEETS: No, no objection.

WOODRUFF: No objection.

KINNEY: No.

ORLANDO: No.

FUKE: No.

CHAIRMAN: Let the records show there are no objections. Will each party acknowledge his understanding of his rights and privileges as I have just related.

ORLANDO: I acknowledge.

FUKE: I acknowledge.

KINNEY: I do.

WOODRUFF: I acknowledge.

SHEETS: We acknowledge.

CHAIRMAN: Okay, let the records show that all parties acknowledged. We'll not get into the presentation of the case. The Planning Staff will make its presentation.

FUKE: Mr. Chairman, I think the Chair at its previous meeting had called for a pre-hearing conference among all of the potential parties. The pre-hearing conference was scheduled on July 30th; and the intent behind the pre-hearing conference was to expedite tonight's proceedings. In that light, I have already formally transmitted a copy of our background report as well as a copy of our recommendation to all of the admitted parties on August 1st. Copies were also made available to the Planning Commission. As such, I respectfully request the waiving of the reading of both the staff's background report as well as our recommendation.

In summary, Mr. Chairman, our position is recommending, again, recognizing that what is really being requested is a request to allow exploratory drilling, and based upon that specific request, exploratory drilling, no more, no less, that the staff is recommending favorably on this petition, subject to certain conditions which were outlined.

CHAIRMAN: Commissioners, the staff's background and recommendation has been circulated. Do you have any questions from that packet that was mailed to you that you would like to direct to him at this time.

KAGAWA: Mr. Chairman?

CHAIRMAN: Go ahead, Commissioner Kagawa.

KAGAWA: Sid, on condition seven, since there was a lot of comments about noise and fumes, what kind of standards would they be using or is there some kind of ballpark figure?

FUKE: Mr. Chairman, the question raised by Commissioner Kagawa and, again, for the other parties, it's in reference to the recommendation. And the item number seven reads as follows as a condition: That the petitioner or representative shall be responsible to assure that every precaution is taken to reduce any nuisances whether it be noise or fumes which may affect the residents or properties in the immediate area. Should it be determined that these precautionary measures are not being applied, the Planning Department is authorized to cease any further activity in the area.

The intent behind that, Commissioner Kagawa, is that we would coordinate our enforcement end with the Department of Health. Under normal procedures, the State Department of Health is principally charged with the responsibility of enforcing noise, air pollution. What we are doing here, in addition to the standard condition, which is the catch-all standard condition found in item number nine, that all other applicable rules and regulations be complied with.

Now what we're suggesting here in proposed condition number seven is that the Planning Department also be somewhat authorized to assist in the policing of any potential nuisances generated by the approval of this project.

CHAIRMAN: Does that answer your question, Commissioner Kagawa?

KAGAWA: Yes.

CHAIRMAN: Are there any other questions, Commissioners? Now, I'll begin with the parties in order. We'll start with, well, we'll go to the Department of Planning and Economic Development. Do you have any questions or anything you'd like clarified as far as the Planning Department's background report and their recommendation and their conditions of approval?

WOODRUFF: I don't have my copy with me, but, I believe, yes, could I? I believe there's a word in here that might be misleading. You might help me find it. Did you use the word cheap power in here in the text? I believe once or twice, and I did highlight it in my copy.

FUKE: Yes, we did; and I think that it should have read, really, inexpensive indigenous source of energy.

WOODRUFF: Well, I would, I would be wary of using cheap or inexpensive; and I say this so as not to mislead anyone. No form of energy these days is cheap or even inexpensive. It costs a million and a half dollars, approximately, to drill one well. It costs something like \$1200 per kilowatt to build a plant. If you talk about a 50 megawatt plant, you're talking about 60 some million dollars. This has to be paid for some way, so we can't think about cheap energy, but we can think about stable energy and energy that should be cheaper than oil. I just wanted to make sure that that is clear.

FUKE: That was the intent, Mr. Chairman, and that may have been a -.

CHAIRMAN: In other words, you'd like to reflect your thoughts to read that energy that may be more economical than fossil fuel, something like that?

FUKE: Well, I think that the basic intent was just that, you know, if you increase the supply under normal economic theory, then that the price would somewhat reflect the increased amount of supply. And to the extent you have only one source of energy, which is at this point in time fossil fuel, then, you know, the price invariably soars up. So by having an alternative source, then, presumably, the price, the market price, would somewhat reflect the added supply.

CHAIRMAN: Thank you. Any other, GEDCO?

SHEETS: No objection. I might enter into the discussion about the price; and the fact is the price is going to float somewhere around the price of competitive energy, and to say cheap is a relative term. You can say it's cheap. You can say it's inexpensive. And you can say it's stable. The fact is, it's going to cost a certain amount of money and that's going to be relative to what the market and your competitive fuels and so forth are, and it's not going to vary much around that. So I would leave out the adjectives and that we say available power; and it may go, be cheaper because it probably will be captive power; and, therefore, not be exportable. And that may be the controlling factor in the long run, is that it's captive power. It can't be put on inter-tide, it can't very well be put on a boat and shipped out; and, therefore, may stabilize for that reason. To say it's cheaper, who knows.

CHAIRMAN: Thank you. We'll now, is there any, Susan?

ORLANDO: Yes, I have some questions that I'd like to ask.

CHAIRMAN: All right, pose them through me please.

ORLANDO: In Mr. Fuke's background report in point five he talks about stringent controls and in condition seven he talks about, you know, what might be done. What I'd like to ask is who specifically? You mentioned the State Department of Health and the Planning Commission. Who specifically is going to monitor the noise level and decibels and the toxicants, the parts per million of sulfur smells? And if the noise and odor levels do exceed acceptable limit, what exactly do you intend to do about it, very specifically, and in what time frame?

CHAIRMAN: Can you answer that, Sid?

FUKE: I'll try. As far as the, it's our understanding, Mr. Chairman, that if this permit is ever issued by the, or recommended for approval by this Commission and ultimately approved, possibly approved by the State Land Use Commission, there still would be a series of other permits that would be required before the actual construction can begin. One of the permits would be securing some sort of permit from the State Department of Land and Natural Resources. Another permit would be from the State Department of Health. The principal responsibility for assuring that the noise level, the emission level, or whatever have you dealing with smell or noise, that responsibility would fall within the State Department of Health. As far as their enforcement timetable, how often they go out and check, I really have, I really can't respond to that; and that is specifically the reason we had attached as a proposed condition item number seven wherein that if we are made aware of that, then we can then coordinate the enforcement end with the State Department of Health, unlike traditional permits wherein if it's within the kuleana of the Department of Health we've never, you know, gone out and assist in the enforcement.

ORLANDO: And how would you conduct an investigation?

FUKE: If there are calls made to our office regarding certain problems or whatever have you, then our normal practice for any potential violations, zoning violations for example, we would immediately proceed to conduct an investigation. I expect that this procedure would also apply for this particular permit should it ever be approved with this condition, that if we do receive calls from surrounding property owners or whomever it would be our responsibility to smell out and sniff out the violation together with the Department of Health.

CHAIRMAN: You'd coordinate that with the Department of Health?

FUKE: That's correct. So, specifically, to answer Ms. Orlando's question, we would do it immediately upon receipt of the complaint.

CHAIRMAN: Thank you. Any further questions?

ORLANDO: Yes, I have some further questions. In point four, you talk about new industries being attracted as a result of this project; and I would like to know where you foresee any future locations or sites for this new industry; and if they do come, there would have to be some sort of power corridors to them from the sites, what do you see as, you know, what effect do you see that that would have on local residents that are in the proximity of that or in the way?

FUKE: I think in the same way that Mr. Woodruff raised about how do you define cheap energy I think also, probably, certain terminologies may have been misinterpreted, maybe we may have selected poor choice of words in certain instances. But the basic thrust behind the reason number four was just that we wanted to point out that through such explorations, if these explorations prove to be successful, then all we're suggesting is that it increases development options for that area. As far as where, what kind, we did not say where or what kind. We did not intend to imply where or what kind. It's just like water as a resource. If you find that there is water, then we know that it increases development options for an area, that's all.

CHAIRMAN: Any further questions?

ORLANDO: No further questions, Mr. Chairman. Puna?

KINNEY: Yes, I have one question; and that's on item six. And, perhaps, this is the key to what the Hui is especially concerned with. "Finally," it says, "we are cognizant of the fact that the granting of the particular special permit may lead to similar types of requests. As such, it should be pointed out that we are working on a policy of such exploratory programs to minimize rampant development of test wells." Our concern is, therefore, the question I would like to ask Mr. Fuke is, do you believe

that there is a possibility of designing such a policy where exploratory wells in a not too well-planned, long-term program can be prevented from becoming production wells?

FUKE: I don't really quite understand the question, Mr. Kinney. Could you rephrase it?

KINNEY: Well, if there are going to be a series of test wells allowed, do we have any assurance at some future date that these test wells, wherever they might be, will not become production wells?

FUKE: I think that, as was pointed out earlier by the Chairman that what is being considered is merely trying to explore what kinds of resources are in that area. If there is any decision to be made with regards to future land use or whether it turns to be commercialized operation or whatever have you, there is a series of other permits that are required; hearings, either conducted by the Commission or, if appropriate, before the State Land Use Commission or the County Council. And that's a decision that hasn't been made yet and will have to be made if and when all of these prove to be successful.

Our whole thrust was just done with the understanding we just want to see what the extent is of the resource in that area. Our position is not one of supporting any kinds of development or any developments in any particular area within the Puna district. The support is, again, purely for in the interest of determining the level of resource that we have in that area.

CHAIRMAN: Any further questions? Thank you. This concludes the Planning Department's presentation. We'll next go into the Department of Economic Development, State of Hawaii, at this time.

WOODRUFF: Yes, Mr. Chairman. You've already mentioned that you've received a letter from Mr. Kono authorizing me to make this presentation on his behalf as the Director of the Department of Planning and Economic Development, also, in his role as the State Energy Resources Coordinator.

The State Energy Resources Coordinator supports the application of GEDCO for a special permit to allow exploratory drilling for geothermal resources. This research activity produces knowledge that is essential in determining the location of the geothermal resources and their potential commercial value. The knowledge gained from the proposed exploratory drilling is necessary in order to plan for the possible development of geothermal energy in an environmentally sound and economically viable manner. Because Hawaii is approximately 90 percent dependent upon imported petroleum for its energy needs, it is urgent that we develop our natural energy resources to reduce this dependency on outside sources. The use of geothermal energy is one of the important and very promising ways of reducing our dependence on imported fuel.

The people of this State are now paying approximately one billion dollars annually for imported petroleum products; and it is essential to our economy to reduce this outflow of dollars.

Hawaii County offers many potentials for developing alternative energy resources and has been a leader in this effort. The Department of Planning and Economic Development has been designated by Governor George R. Ariyoshi to be the lead State agency in encouraging the development of Hawaii's geothermal energy resources. Thus, we recommend your favorable action on this application. Thank you.

CHAIRMAN: We'll go - Commissioners, do you have any questions that you'd like to ask of the Department of Economic Development at this time? If not, does the County of Hawaii Planning Department have any?

FUKE: No questions, Mr. Chairman.

CHAIRMAN: Does the GEDCO have any questions to pose at this time?

SHEETS: No questions, Mr. Chairman.

CHAIRMAN: Susan?

ORLANDO: Yes. I'd like to ask, you mentioned that we pay one billion annually on imported energy and there's an implication that therefore geothermal would be cheaper. Yet, we just heard that possibly it would not. So what do you mean, you know, why are you using this as an example?

WOODRUFF: Well, that one billion dollars is leaving the State and leaving the country. The money that would be spent supporting geothermal energy, much of it would stay in the State, hopefully, much of it would go to small industries. We talked a lot tonight about big industries. We're hoping, sincerely hoping, that we can find small industries, I mean mom and pop industries that can use geothermal energy that the people of Puna can get into, can own businesses, whether it be a laundry, a restaurant, a carwash or whatever, but at least that money would stay in the State and much of it in the community; and that's what I'm referring to.

ORLANDO: How do you mean specifically? Who would be getting this, you know, say the one billion doesn't go out of the country or out of the State, now who would it be going to? It wouldn't be going to the mom and pop industries. They'd be using the energy, so who would it be going to?

WOODRUFF: Well, it definitely would be going to mom and pop if their business operates on geothermal energy.

ORLANDO: If it operates on geothermal energy, they'll have to pay for the energy don't they? That's all. I just wanted to bring that up.

WOODRUFF: Well, I -.

CHAIRMAN: What was your last question, exactly?

ORLANDO: Well, he talked about one billion dollars annually coming out of our State for energy use and going either out of the State or out of the country; and the implication being that if geothermal were a successful project that we would, one, have reduced energy rates, which obviously isn't true from what we just heard; and that, two, that all this money would be spread around, which obviously isn't true either.

CHAIRMAN: I think what he means is there'd be no, when he said that, there would be no money going out to, leaving our economy forever, when it goes and is sent to Saudia Arabia or one of those places. It would stay and circulate right within the State or within the country.

ORLANDO: Well, he tried to say what you're saying in another way; but I don't think that's quite true, but that's what I wanted to bring up.

WOODRUFF: Well, Mr. Chairman, that's approximately what I meant to say. The money, if it went to a distributor of steam, we might say, or hot water, in this case, we're talking about what's left over in a lot of cases after electricity is generated. We're talking about steam and hot water which are byproducts of these wells. Now this steam and hot water can be distributed by the County. Someone could buy that, the right or the pipes, and distribute this to local businesses. It needn't be a large utility company, that's my understanding. But, however, there would be jobs related to this distribution and the salaries and so forth would stay in this County. That's what I was referring to.

CHAIRMAN: Any more, Susan?

ORLANDO: No. No further questions.

CHAIRMAN: Puna?

KINNEY: No questions.

CHAIRMAN: No questions. Well, we're going faster than I thought. We'll now go to GEDCO's presentation.

SHEETS: Generally speaking, GEDCO will stand on its application and the report of the Planning Department. However, we anticipated that this would be an opportunity to make a little more sense for a few more people, and I'm glad to see they're still here, a lot of people who wonder what about geothermal, what does it do, how does it change the environment, what effects does it have. To the extent that we know, we have one witness here who has done a lot of work; and I call Dr. Sanford Siegel to be a witness. I don't know how we're going to handle this. This is the first witness we've had.

CHAIRMAN: I'd like to swear you in. Do you swear to tell the truth in the testimony that you're about to give on this application now before the Hawaii County Planning Commission?

SIEGEL: I do.

CHAIRMAN: You can direct your questions.

SHEETS: All right. Could you please tell us your name yourself.

SIEGEL: Sanford Siegel.

SHEETS: And how are you generally employed, and what is your academic history, your degrees, etc.? We have to qualify you as being expert.

SIEGEL: I understand. I am professor of the University of Hawaii, Manoa Campus, and Chairman of the Botany Department. I hold a PHD in botany and biochemistry from the University of Chicago, with previous work there; and MIT in a cal-tec.

SHEETS: Given this background of knowledge, have you been able to apply your knowledge to the environmental affects of geothermal energy in Hawaii and other places? And, please, in your words, tell us how these relate, if you will, Dr. Siegel.

SIEGEL: Well, perhaps, Mr. Chairman, Commissioners, it would be best to say a little bit as to how I got involved in the first place. As an environmental biologist, I guess if I begin from getting my doctorate -.

SHEETS: Your microphone has gone off.

SIEGEL: Is that better?

SHEETS: Yes?

SIEGEL: For some twenty-seven years, coming to Hawaii in 1967, presented a new and interesting environmental situation, namely, the presence of the extended volcanic history of the State. And, out of this, I, together with my wife, who's a colleague, developed an active research program concerned with what could be called geobiology, the interspace between the earth and the life sciences. And to a large extent, the name of the game here is chemistry. This is the principal tool. The target is living matter and the sources of impact are natural thermal processes.

When we first described mercury emissions from Kilauea in 1969, a member of the Hilo chapter of the Lung Association said, "Surely they must be measuring mercury from broken thermometers in some of the experimental research wells that people like Dr. Norton had established here years ago. Now there couldn't be mercury in Hawaii." We were the first, after the Russians in Siberia, to demonstrate mercury emission as a natural gaseous product of volcanoes. So we've been in this business for a long time. And with this in mind, when the geothermal project came along, I should say this got an interest up so that I became a member, and have been for eleven years, of the Environmental Health Committee of the Lung Association itself. So we went right to the source of some of the questions about could we have mercury in Hawaii.

In any case, to continue, since that time, we have been actively involved in measurements. And because we published in 1975, my wife and I, in a very respectable review journal, Environmental Science and Technology, a precautionary paper concerning geothermal development because of toxic elements that might come out and urged a little circumspection in geothermal development, because of these, largely through Bob Cahmens, whom some of you know is an economist and attorney involved from the very beginning as head of the environmental, social and economic section of the geothermal project, we were brought into the project, shall we say as the devil's advocates. Under that context then, we have been working, and we have provided the first, and, as far as I know at present, only baseline environmental measurements that have been done anywhere in the world with respect to geothermal development. First, at HGPA, in 1975, not a drill bit -.

SHEETS: Excuse me, excuse me, Dr. Siegel. I don't know that everyone present would know what you mean when you say baseline studies.

SIEGEL: Okay, I'll get to that.

SHEETS: Okay.

SHEETS: In 1975, at the variously called Pohoiki or Kapoho site of the University's experimental wells, not a drill bit had touched the ground. And at that point, we went in and did the things that biologists and geochemists do - measured air, measured water, marked off areas with vegetation, counted the plants, identified the species, and so on. And this was all eventually incorporated in the environmental impact statement that was issued and approved.

By baseline, we mean before technological operations begin to go in and assess an area for what is there. Essentially, if you wish, an inventory. And that inventory is the only basis on which any rational kind of monitoring and corrective program can be developed. This is why in terms of such things as the devastated areas in New Zealand, the devastated areas in California around Geyser's, we don't know. The litigation is and will be endless in these places because there's no way of saying what it was like before. In some of these areas, we do know from geologic history that there's little pieces held before any engineer even looked at them. In other cases, the engineering community bears a heavy responsibility for reckless exploitation of the land. But if we adopt the policy, first of site specific, baseline measurements and then monitoring follow-up and then as we get more and more knowledgeable, and we are turning up species lists, soil chemistry, all sorts of things about Hawaii that without the impetus of geothermal development would never had been turned up. So, eventually, we hope to develop a concept never before developed of regional baseline that we can talk about areas of square miles in terms of environmental assessment.

Now, realistically, we know, that nobody can ever look under every last rock and in every last puka in the soil and say that there is

not some kind of endangered organism. But if the organism is that scarce that it can't be found and brought to light by experts, then the chances are statistically that you'll more likely be runned over crossing the street than there will be an endangered organism. And this is an opinion which is not just mine, but is also of the people that we have used as colleagues and collaborators in our environmental assessments over here. Very recently, three young ladies, all kamaainas, one born in Hilo, two born in Honolulu, who represent ornithology, botany and archaeology of the sites, and they're of the same, of the opinion that we can't learn everything; but then this is beyond the scope and purview of mankind. But to the best estimates, we can establish whether or not an area is likely to be raped. You think about birds, what you have to think about in terms of baseline is that, for example, in the area of Opihikao where there have been a new geothermal exploration started, there is one and only one native specie that is on the endangered list and that area around Ashida Well number one is the minor part of its total range. This is the Ilio, the Hawaiian hawk. Every other bird in that area is an exotic and most of them are regarded by the ornithologist as nuisance; and they are more of a danger to native species than they are of benefit.

So, what we are trying to do is put a perspective on things like finding out what is there from the very beginning. And this applies to taking samples of things like leaves or plants, upwind and downwind, from a perspective drill site, measuring the air at various stations, and so on.

Now, speaking of the professionals, let me say this, that in terms of the people that we've interacted with that represent the private sectors, as a professional, I don't care about the value on the market of Dillingham stocks, of the GEDCO, or Barnwell, or anybody else. As a professional, my only concern and that of my partner and wife in this venture, my only concern is to establish what the environmental baseline information is and provide, at least, a first go-around when if a well is brought in of analysis of its impact on the environment.

The question has come up repeatedly about who will watchdog these things. Well, we can give you examples. Part of it, of course, you've heard in terms of the fact that if the community complains somebody looks into it. This is a matter of fact because this happened in 1977 after a test run on the University's geothermal well. And, at that time, the Hawaii County Health Office instituted a water catchment analysis; and it did it upwind and downwind from the well at five different houses, Mr. Rikes' house, Mr. Capura's house, and several others. All of this established there was absolutely nothing chemically deleterious about the water. Yet, the rumor was going through the Puna district that everybody's lung and catchment were both going to be corroded up by acid. We know that the Hawaii Geothermal Project well has never produced acid. In fact, it tends to be rather low in acidity

and high in alkalinity. We know, further, that sulfur dioxide, which is the prime source of sulfuric acid, is much more characteristic of Kilauea at every point along the east rift, and not just during an eruption but any time and any place. And if there is acidity, well, we have found sulfuric acid at the geothermal well site, the University well. We found it when it was shut down for six months; and we found it because it was coming down from Kilauea. The first time, the well was flashed. On July 22, 1976, and I know this because it happens to be my wife's birthday, so I over measuring the well and couldn't celebrate her birthday, at that time, the air mercury level, it was flashing, seemed to have risen up until an absolutely intolerable range, which in numbers which don't mean much to most of you, was ten micrograms per cubic meter of air. The fact is that at the same time, Keheahulu, which is about ten mile to the west along the east rift, was acting up terribly and producing the mercury that was being measured at the well. It was a matter of guilty by association. The fact is, that normally in the Puna area, and as a matter of fact in most of the State of Hawaii, the air mercury levels are in violation of at least the recommended EPA maxima for residential areas. It is part of the State we live in. I mean, this raises questions about how dangerous it really is and maybe it isn't; but I can't answer that now because we always live with high mercury.

Some people have been concerned about contamination of their vegetables. I can speak about the agricultural aspects because my wife and I hold grants in the amount of \$100,000 from the Department of Agriculture which, I guess, qualifies us as knowing a little bit. We're trying to grow papayas in salt water, which could be useful in terms of sparing fresh water. But, for example, in terms of agriculture, in terms of truck crops, sure they're all high in Hawaii; but so is the marijuana. Mercury is a part of the environment, so are some of these other elements; and we're still quite alive and healthy.

So what I question, if I have to question anything, is that our health standards are necessarily realistic in terms of the place we live. Be that as it may, the fact is that we couldn't have known about some of these things that were going on at Hawaii Geothermal Project well if we hadn't had baselines before there was a well in the place. It's the same that applies elsewhere.

SHEETS: I wanted to ask you, Dr. Siegel, were your baseline studies made out of government grants, or who was the sponsor who originally put you to making baseline studies?

SIEGEL: The original work, as a matter of fact, the original work going back on such things as general geothermal, natural geothermal measurements, was supported by the National Aeronautics and Space Administration because they're interested in processes relating to planetary chemistry and its possible impact on planetary life, not only somewhere else but even on the earth. So, they were involved as a principal supporter, as a matter of fact, for ten years. In addition to that, we have funding from the U. S. Department of Energy for an overview program to assess the overall Statewide impact of geothermal development in Hawaii;

and a document under the contract managership of my wife is now being draft reviewed by the Department of Energy through the Lewers Livermore Laboratory. It should be available as a public document by the end of 1980. It's somewhat of a laborious project to get these things reviewed. Because the environmental section which I prepared, it itself is this thick, not counting the sociological impact done by Professor Penelope Austin Canan at the University or Dr. Cahmen's section on land uses and land laws and ownership problems, Dr. Burgess' section on acoustical, noise problems, and so on. The whole thing is quite a document; and this will be available through Federal agencies later in the year. So we have funding principally from the public sector, also including the Hawaii Natural Energy Institute.

Finally, for reasons that were prompted not so much by the profit motive, in fact, very little by the profit motive, but by the need for flexibility which states, with due respect, which Federal agencies do not have. My wife and I organized ourselves, registered ourselves as a partnership called Ecotrobics(?) on February 11 of this year. This was in response to the fact that the need that had been recognized in connection with the Ashida number one well couldn't wait until possibly six months when the Department, when the State Department of Planning and Economic Development, might come up with some funds or perhaps a year by the Department of Energy might come up with a few dollars. So on an expense basis, we offered to do the environmental work. We did so, did a baseline, and built in a plan follow-up with permanent plant sites marked off, analyzed, looked at the bird life, looked at the whole thing. The report has been sent to Mr. Craddick and the same process is something that we are now engaged in from time to time as our commitments to the University permit. This is all, of course, quite proper under the policy for University employees allowing twenty percent of our work time to be spent in consultations outside the University. We do not use twenty percent of our time. We spend most of our weekends doing this.

SHEETS: All right, I appreciate the narration.

SIEGEL: I'm a teacher.

SHEETS: Yes. A specific answer, I guess I'll give you the answer and you tell me the question. If you are asked "is the environment being monitored?" I think you can honestly say that you have the baseline data from which anyone could determine whether the environment has been deteriorated by geothermal development, its exploration in this case.

SIEGEL: Yes. The answer to that is yes.

SHEETS: As far as the question or answer I get from you that if anyone here was interested, yes, somebody is watching the store and one of them is Dr. Sanford Siegel.

SIEGEL: I should point out that part of what you store is making intensive color photo documentation of the areas around a projected drill site; and those we keep on file, hopefully, forever, or until such time as it is decided that it's

either necessary or not necessary to haul them out in court to prove whether or not, and I say whether or not, not to prove that everything's clear and okay, but to prove whether or not it is; and this is in addition to the objective records of chemical analysis of vegetation and so on.

SHEETS: Well, thank you, Dr. Siegel. I very much appreciate it. I'd like to call now Murray Gardner for a short testimony on some distinctions that only his kind of expert can make for.

CHAIRMAN: Murray Gardner.

SHEETS: Mr. Gardner, give us your name and your background so that we know what your expertise is.

GARDNER: Murray Gardner. I'm the Executive Vice President of a company called Geothermex; and I'm a graduate in geology, specifically, economic exploration geology, holding my doctorate from the University of Arizona; and have worked in geothermal exploration since 1960 sporadically and on a full-time and exclusive basis since 1971.

SHEETS: Specifically, what I would ask you is to distinguish from your experience, you've heard this evening what appears to be some confusion, we are applying for a permit to do exploration, we are hearing testimony as against development and later follow on expansion. From your experience, how are these two concepts distinguished technically?

GARDNER: The exploration phase, which is what we are in here, is only over when several successful wells have been drilled and sufficiently close to and related to each other by the geologic structure and hydrology such that our reservoir engineers can make tests to see the extend, the size of the reservoir, how much fluid can be produced, with what pressures, and with what decline in temperature or volume as years go by. For example, SUNEDCO, Sun Exploration and Development Company, drilled a successful, a discovery hole in an area in central Nevada about a year ago. And they flow tested this and produced it for about thirty days and appeared to have the well with a five megawatt capacity. This obviously made them very cheerful. They moved approximately, well, less than one-half mile, about 2,000 feet, along what was determined by the consulting geologists working with them to be the beneficial or preferential structure, you might say like moving in the direction of the rift zone in Puna, and put down a second hole. Two and a half million dollars and about 8,000 feet later in depth, they walked away disconsolably from a duster, a dry hole. The first hole did not prove the existence of a viable resource. In other areas, they were still very much in the exploration phase. Fortunately and subsequently, two additional, a third and a fourth, holes have, in fact, validated the first; and they are now making reservoir engineering tests. These tests are being evaluated by the respective utilities to see even so whether there is a resource there and whether there is going to be the investment of some sixty or seventy million dollars for a fifty megawatt plant because SUNEDCO is in competition with

three or four other operators, developers, in the State to get that utility significant investment. So, if by this illustration I've told you the difference between exploration and development, I'll stop there.

SHEETS: I think that's what we wanted to show. In the interest of time, I should point out, Mr. Chairman, I failed to give the other parties an opportunity to ask questions of the previous witness. Maybe we can start with Mr. Gardner, if that's your procedure.

CHAIRMAN: I was just going to say the exact same thing. We agreed in our pre-conference hearing that you would present your case and call your witnesses, then we would ask questions after you completed your portion of the case.

SHEETS: Now maybe Dr. Siegel can come up with Dr. Murray, and both of you be subjected to questions through the Chairman from the other parties. These are all the witnesses we'll be showing tonight.

CHAIRMAN: Okay, thank you very much. Commissioners, do you have any questions to make of GEDCO or the two witnesses they have called thus far at this time? Any questions in your mind? If not, Mr. Director?

FUKE: Yeah, Mr. Chairman, I just have one question of Dr. Siegel. You mentioned that back in '76 or '77 you began developing your baseline data at the HGPA well. Subsequent to that, have you had a chance to evaluate the impact over the last two or three years and could you describe for us what the impacts were?

SIEGEL: Let me make one correction. In 1975, we started our baseline work. We have made measurements on the average quarterly for five years in that area which represents fairly well how often we commute to the Big Island. And during this time, we have continued to take samples of soil, vegetation, and measure the air, even when coming over here just for fun. So, during this time, we have found, and I should say that always when we do this we also take measurements at a standard reference point that goes back to 1969; and this is at the sulfur bank up in the park. So we always have at least that specific area and also at the edge of Halemaumau and other sites. We're also the only people, by the way, who've measured on top of Mauna Loa. So we do get around the island. We have maps of the four major islands, as I mentioned, for air mercury at the human head level of all the way around and in some places, all the way up. So we do follow these things closely, not only mercury. I used that as an example because it was our starting point.

Our opinion, as of the last two weeks, is that the Hawaii Geothermal Project, which of course is not a fair example of a continuously operating facility, and this should be understood by all, but to the best of our knowledge, the worst damage that has been done to the immediate envirance, that is the kilometer a half mile range, radius around the well head, has been from the rather unwise

application of herbicides to keep the weeds down. I say unwise because in a community that is very sensitive to what's going on ecologically at a new geothermal development, it really looks like hell to see dead vegetation there; and we have advised the generator project people to have somebody pull the weeds out rather than kill them chemically and leave the dead remains there for everybody to see. There has been no evidences beyond the immediate area that it would disturb in an engineering sense, and it's disturbed by trucks and heavy equipment, there's no evidence that there has been any effects on the lichens, on the ohias, on the ferns, on any aspect of the vegetation that we can see. According to Dr. Sheila Konand who is our consultant on ornithology, there has been no impact on bird behaviour in the area; and, certainly, the chemistry of the area as I indicated is and always will be high and sensitive and responsive to what goes on uprift. Is that satisfactory?

FUKE: Yes.

CHAIRMAN: Any further questions? We'll go to DPED.

WOODRUFF: I have no questions.

CHAIRMAN: Susan?

ORLANDO: Yeah, I have a question, not necessarily of your two witnesses, but to you as representative of Mr. Craddick and the geothermal group. Are you currently drilling in the Puna district?

SHEETS: Yes. There's the Ashida one well.

ORLANDO: That's Opihikao?

SHEETS: That's Opihikao.

ORLANDO: Okay.

SHEETS: And the hours of drilling are what's suggested in the presentation? What's the status of that?

CRADDICK: Five days a week, 24 hours a day.

SHEETS: It's a 24 hours, five day a week operation, two days off.

ORLANDO: Saturday and Sunday off, yes.

SHEETS: Two days, I guess, Saturday and Sunday, makes sense, yeah?

ORLANDO: Yeah, okay.

SHEETS: Three shifts, anyway.

ORLANDO: Three shifts, okay. And you talked about at what point the well is no longer exploratory and becomes maybe a developmental well, and I was curious, well, maybe Mr. Gardner could answer this - how long does it generally take from drilling time to whether it can be tested for those two items you mentioned.

GARDNER: The drilling time, to begin with, maybe somewhere between forty and ninety days for a well of nominal 70,000 feet in depth. After that, with some minor construction activities at the wellhead, perhaps, a week. There may be anywhere from three to thirty days of testing of the single well to determine that individual well's capability.

ORLANDO: Okay, and at that point in time, where does the geothermal company, Mr. Craddick's company, fit in, at that point that it's determined that the exploration is complete, that you can test for pressure of water, and what is the other thing, fluid and pressure?

SHEETS: Well, there are many interactions. For instance, this is a drilling project, that's the stage that you're talking about. Then, Mr. Gardner, Dr. Gardner, is talking about a testing, an exploration testing phase. There may be a more prolonged testing phase to support the reservoir evaluation. That probably will be a highly muffled phase. This is the end of testing into the atmosphere, you have found that it's worth testing further now, you have got steam coming out, you put on mufflers, you cut the noise down to a lot and then you flow away the whole bunch until you find out what you really got there. At that point, you begin to get data to determine whether you want to go into the development phase. You're at the end of exploration and you know what you have in that well, you know what you have in x, y, z well; and at that point you can begin to think about what a development might be like in this reservoir and what might be in the reservoir. It's quite a long time between the first one and -.

ORLANDO: Okay, thank you, Mr. Sheets.

SHEETS: You know -.

ORLANDO: Also, I have another, just out of curiosity. What is the cost of drilling one well.

SHEETS: It varies again. It's going to be a million, a million and a half, anyway.

ORLANDO: That's just a rough estimate.

SHEETS: Probably more.

ORLANDO: Okay, thank you.

SHEETS: That's all you can do because you don't run into the same thing with every well.

ORLANDO: That's an approximation, in that neighborhood.

SHEETS: Yes, it's probably more than that.

ORLANDO: If I wanted to drill a well, I could plan on spending a million and a half.

SHEETS: Yeah, if you're some people who talked here tonight and you want to have your resource, go buy ten acres and drill yourself a well. It'll only cost you a couple of million, that's right.

ORLANDO: That's what I wanted to know. Okay.

SHEETS: Because it ought to be free, shouldn't it? Sure.

ORLANDO: Okay, thank you.

SHEETS: Well, not everybody for nothing, but they got to put in their ten percent or something, you know. It's not to be -.

CHAIRMAN: Any further questions, Susan?

ORLANDO: No further questions, Mr. Chairman.

CHAIRMAN: Puna?

KINNEY: Yes, just one question which may possibly lead to two questions. I fully, this is to, this is directed to Dr. Siegel. I fully concur with you Dr. Siegel that monitoring is an important part of the baseline program. What I'd like to find out from you is at what point or in what intervals do you feel monitoring should occur?

SIEGEL: Let me, let me answer first of all by saying that my wife and I wrote the environmental plan for the generator project, you know that, but perhaps the Commissioners don't and the audience doesn't. We wrote the environmental plan and established the bases for the request for bids that was sent out from the generator project which is now no longer simply the University's, pure University's function, but a State function, and look for an outside contract monitor independent and objectively. Since we were University people, we could hardly be directly involved any more since this was now aimed toward producing a electric generator.

In this, we established a concept of phase down, that certain things were monitored totally and exhaustively during the first, let's say, few quarters of operation of a well after it has been brought in. Following this, the items in the inventory as they were found not to be there, for example, we start out by assuming that the well will produce arsenic and mercury and all those other bad things. If they're not there after so many repeated efforts spread over quarterly bases, and, perhaps, even every two months, then some of these things are stretched out to six months, to one year, and so on. Certain things like hydrogen sulfide are to be monitored continuously and unendingly. This is now a producing well and not an exploratory, of course. Well, we, again, must draw that distinction. And we have had arrangements, as you know, during the testing of HGPA for monitoring equipment that would make a continuous record of hydrogen sulfide production. And, so far, I should say as a footnote, it has been distressingly dull. We can't even meet the California maximum standard of 30 parts per billion of hydrogen sulfide at a half a mile away from the wellhead during full operation.

But, okay, the answer is it depends on the toxicants, it depends on what we find as we go along because, otherwise, the cost to everybody would be absolutely impossible if we had to monitor everything all the time. So you establish, first of all, your worst possible case and then you take it down from there in

degree of surveillance as you go along and learn what you don't have to look for. We don't have to worry about boron, for example, which Don Thomas mentioned before. We don't have to worry about boron as a toxicant here. In California, they can't get away from it, and the western states generally. But, the program, therefore, and we have prescribed for Dr. Yuen for HNEI several different models. We have a grant from HNEI to develop baselines for geothermal, wind, solar, and biomass at selected different areas in the islands of the State so that we can get an idea of the need for baseline and monitoring programs of various kinds of energy development, not just geothermal. But it's something that you don't simply set a blind formula for and then follow; but it's not enough to wait for the local community to complain, that certainly must be true. You're going to have to set up some kind of a rational program based on experience; and the worst possible case is the best one to start with.

KINNEY: Thank you.

CHAIRMAN: Any further questions, Sonny, at this time?

KINNEY: No, no, not at this time.

CHAIRMAN: Okay, and do you have anything more to present, Mr. Sheets?

SHEETS: No, Mr. Chairman. That would conclude what we had to present.

CHAIRMAN: All right. Well, thank you very much. This concludes the GEDCO's presentation. We will recess at this time and continue the proceedings tomorrow morning at 9 o'clock. At that time, Susan, you be prepared to present your case. Thank you.

RECESS: The Chair recessed the meeting at 10:15 p.m.

RECONVENED: The meeting reconvened at 9:12 a.m. on August 8, 1980.

CHAIRMAN: At this time, I'd like to reconvene the meeting; and we agreed last night that we'd start out with Susan Orlando making her presentation. So, Susan, you're ready to start?

ORLANDO: (See Attachment G.)

CHAIRMAN: Thank you, Susan. Does the Planning Department wish to question her at this time?

FUKE: No.

CHAIRMAN: Oh, excuse me, I'm jumping the gun. Do any of you Commissioners have any questions of Susan at this time? All right, then the basis of your punch line is, I'm trying to summarize, that if the drilling can be done so that we don't have audible or any smells or toxicants that affect the air and if the area in your immediate vicinity does not become a great big industrial park, you would have no objections?

ORLANDO: Yes, that's correct.

CHAIRMAN: Thank you. Now, does GEDCO, do you have any questions you'd like to direct at this time?

SHEETS: We wanted to clear up just one small point, not make a big point of it. But you asked us yesterday if we were working three shifts; and, from what you said today, I would imagine you didn't need to ask that since you say you have been disturbed in the middle of the night.

ORLANDO: I didn't need to, but I wanted to clarify that for everybody that was listening.

SHEETS: Oh, in the way of bringing it up. Thank you.

CHAIRMAN: DPED?

WOODRUFF: I have no comments.

CHAIRMAN: Puna?

KINNEY: We have no comment either.

CHAIRMAN: Thank you. Thus, then, we will proceed with the Puna Hui Ohana's testimony at this time, presentation.

KINNEY: Thank you. Aloha mai. Before we start, I'd like to call our, before we call our first witness, I'd like to open up with a very brief remark. In essence, as a social scientist, a discussion of human concerns in a rural base -.

CHAIRMAN: Excuse me, will you use that mike please, Sonny.

KINNEY: Okay. A discussion of human concerns in a rural base within a framework of industrial development is quite difficult; and I'm saying this to the Commission because I would like it to take into consideration that difficulty as we proceed with our testimony. Measurements of social cost in the presentation of evidence in an objective sense, therefore, is extremely difficult. The methodology for who is to be measured, what is to be measured, what other variable, and how will it be measured, is very difficult to establish. So what we are really trying to do then, in a sense, at this point in time as far as the Hui is concerned is to learn from the experience of others, that is, other people who are involved or who are a part of geothermal developments. We don't say that the issues will be the same, but we do say that the issues are generally universal. The only differences might be or the only exception would be with regard to unique peculiarities of the area as per topographical differences and social and cultural differences. So with that in mind, let me call our first witness, Dr. Craig Severence.

CHAIRMAN: Dr. Severence, I'm going to have to swear you in. Do you swear to tell the truth in the testimony that you're about to give on this application now before the Hawaii County Planning Commission?

SEVERENCE: I do.

CHAIRMAN: Thank you. Will you restate your name into the microphone so we'll pick it up on tape, please.

SEVERENCE: My name is Craig Severence. I'm an assistant professor of anthropology in the College of Arts and Sciences at the University of Hawaii at Hilo. My research area is on the impact of social and technological change on Pacific island people; and I've been working in this area since 1972 doing field research. My PHD is from the University of Oregon, granted in 1976; and I've been teaching at the university level since 1973.

CHAIRMAN: You may proceed, Sonny.

KINNEY: Dr. Severence, would you please, at this time, outline your position and your feelings with regard to the Hui's position with regard to the development in the lower Puna area.

SEVERENCE: I should clarify my position with the Hui since I'm appearing on their behalf. I serve in a voluntary, unpaid capacity as a member of the advisory board to the Hui's Department of Energy social impact assessment grant. I serve in this capacity along with my colleague Jerry Johnson of the University. My primary role in that capacity is as an advisor on the methodology being utilized in this on-going study.

And I wish to simply make two brief comments today, both of which should be taken as supporting the developing expertise and the credibility of the Hui in the general area of studying social impact assessments. Both of my points are drawn from my own survey of the literature of social science.

First point is that when attention is paid to concern for social impacts, this attention is usually too little and too late because projects, whether they're called development projects or not, tend to get started and tend to develop an impetus of their own. And, usually, attention to social impact concern comes along at some point mid-point in the process. There's widespread agreement then among social scientists that attention to social impact concerns should be paid at the beginning; and that baseline studies should be done as a project develops and as a project goes on. So I want to emphasize that as far as Hui is concerned while the baseline study has been started, it is not complete. So we have not yet established a baseline for cultural concerns in the Puna area.

My second point is that whatever methodologies are used in social impact assessments, and there's a lot of debate on this, there is general agreement that one key important resource of valid useful information on community values and community cultural standards is the community members themselves. Many social scientists, therefore, feel that useful research in this area must include attention to community concerns and collaboration with community members. This is why the Hui's project represents a rather unique project in this area since the Department of Energy has contracted to the Hui to do this research; and the Hui is working in collaboration with social scientists from the University.

So I simply want to emphasize that the social impact assessment grant that the Hui is now conducting is only in the preliminary stages. Baseline data is still being gathered. But given the state of the art of social impact assessments, the methodologies that are being used are valid and credible. And with that, I want to turn, directing particular concern, back to the Hui. Thank you.

KINNEY: Thank you, Craig.

CHAIRMAN: Are you going to have him provide anything further or not?

KINNEY: No.

CHAIRMAN: We agreed we'll go through with your whole presentation, then we'll ask questions all at one time at the end. So you can proceed.

KINNEY: That completes your statement, Dr. Severence?

SEVERENCE: Yes.

KINNEY: Thank you.

CHAIRMAN: All right, you can call your next witness.

KINNEY: Before calling our next witness, I would like to issue a short statement with regard to resource use. And some of the constraints that should be considered from the point of view of long-term planning and from the point of view of social-cultural impact on the community, I realize that it's going to be very difficult to directly point to the issue at heart, that is the special use permit; but I urge the Commission to begin to look at this as part of a long-range plan. If we don't do something about all of this, I believe that we'll be having a continuation of hearings such as this for every special use permit that comes out. So we must begin to, with the help of the Commission and with help of the community, to begin to design some plan so we can have an orderly development as far as geothermal and economic development is concerned.

My short statement is as follows. I would like to state that resource use is always controversial, especially now as we're looking at resource development, utilization of geothermal resources in the Opihikao-Kapoho area. The underlying position of those informed people in the area may be interpreted as wide use, not non-use. However, there are basic concerns regarding growth, resource exploitation, employment, religious tradition, and ownership of the resource. Some feel that growth is inherently bad and that increasing social and economic problems in the area will result from uncontrolled growth. Many people came to that area originally for the quality of life that was there. The prevalent attitude of those interviewed in connection with other research and with regard to geothermal development is supportive of types of land use that would preserve the natural environment. This sentiment is held by people regardless of their sect, their social economic, or their ethnic background, and regardless of

the regional area which they live. The overwhelming majority would like to see more emphasis placed on protecting the wild plants and animal ecology, especially protecting areas of scenery, the natural character and historical significance. Many also feel surface things due to pipeline, mining, power generating plant, and electric transmission line, having negative effect over the enjoyment of the beautiful scenery of lower Puna. Yet, at this time, there is no strong indication that the prevalent attitude in the area is specifically opposed to geothermal development. Many are still without geothermal knowledge base and are thus unable to freely recognize the developmental hazards and impacts.

With this in mind and the background, the Puna Hui Ohana, a lower Puna Hawaiian organization, began investigating impacts as seen in geothermal complexes in both the mainland and in New Zealand. Two major constraints stand out. One, change in character and quality of life. The insertion of industrial use in an area of great natural tranquility and beauty. And two, social equity, the balance between social benefits and social costs, who will benefit and who will lose. These two constraints point to the importance of a very, or a possible, a precise planning program. Another equally serious constraint is the capability of the government to effectively manage geothermal-related developments. Questions of concern in this area include: (1) The capability of the affected community to effectively participate in the planning and the policy affecting it; (2) The capability of the government to effectively assess, to plan, and to control geothermal development, that is, to provide adequate safeguards; (3) Fragmented permitting regulation and control processes, that is, in effect, a noncomprehensive area wide management; (4) A fragmented EIR process, that is, noncomprehensive evaluations; and, (5) Consideration in the establishment of a municipal geothermal utility. Besides several other constraints including, one, the physical impact of geothermal development; and, two, the change in value and utilization of land resources due to geothermal development. One final and important constraint should be discussed here. This category is connected with viability of geothermal development and the change in economic character of the area in regards to its recreation and its cultural base. Concerns examined in this category include: (1) changes in the structure of the labor forces, that is, skills needed versus skills of the existing labor force; (2) the effect of noise during development, exploration, construction and operation; (3) surface disturbances, that is, disturbances from dust, from excavation, from changes in the topograph; (4) heat, gas and dust effects leading to vegetational stresses; (5) the stimulation of commercial and industrial development; (6) the secondary use of fluids before reinjection, if there is to be any reinjection; and (7) the stability and the reliability of the product with regard to processing for domestic dependence by the affected community. By that I mean, economics resulting from disruption of the resource, which are very important constraints that I believe we should be considering as we discuss geothermal development in the processes that we are looking at now.

The discussion of the foregoing constraints lead certainly to the consideration of this special use permit; and, certainly, with the connection, or in connection with the community's

concern for an adequate long-term planning, in an atmosphere of resource exploitation may and could undoubtedly lead to very serious consequences, not only for the affected areas but for the County as a whole.

With that, I'd like to point out in a report on geothermal development, the Geysers, which was taken by or made by the large Livermore Laboratory by Dr. Donald L. Irmac and Paul L. Felt, the issue, this research discusses issues and conflicts. And I point to this because in the recommendation of land use conflicts, which is what the Hui had referred to in its earlier presentation, on July 8th, the absence of a long-range plan, the research states as follows: Forecast of geothermal energy development. Forecast of likely locations and time for geothermal energy development are essential for environmental and social economic assessments. Forecast should be based on developmental plant, and utility company, results of carrot(?) exploration, projections of the total resource size and the public policy on the siting of geothermal power plants. This developed out of the issue that neither all of the environmental, economic and social economic impacts of the geothermal resource development depend highly on the location of the power plants. So we need as part of the long-range program to do this.

Now, what I would like to do at this point in time, if I may, is to show you a map of the area and what the Hui is hoping we can develop a, from which we can develop a long-term program. This is a geological survey map that has been give to the Hui by Dr. Chuck Hellesley of the Hawaii Institute of Geophysics. The area in red is what Dr. Hellesley informs us is the rift zone. So you can see that it's extending from the National Park to the Kapoho shoreline. We, at this time, and I don't know if anyone at this time, are not prepared to say or to make note at this particular hearing where the geothermal zone is. What the Hui would like to see developed as part of the long-range plan is somewhere in this area to designate where the geothermal zone is going to be, that is, to define its boundaries so that the people in the area or in the total community will understand and know and not have any unpredictable feelings that geothermal development will take place only in that area. We, too, believe that there are some places in this earth that should remain untouched; and there are, certainly, areas there that do have that kind of tranquility that should remain untouched. There's possibly enough resources within this area, according to Dr. Hellesley, from which to develop geothermal energy. So it is with utmost concern that the Hui present in its case here that a firm decision be made establishing the boundaries of the geothermal zone.

And one other reason why we're concerned is because it has come to our attention that there may be other developers other than the Craddick Brothers or GEDCO or WRI to come into the area to do exploration. I don't know how many there are, but I think the trade people know that there are other people who are interested; and if they are, and wild catting is involved, we may see a total desecration of the area. This is one reason why the hui is calling as much as possible from the Planning Department and from the Planning Commission a firm designation of the geothermal zone.

Here's a geothermal scenario. Now there was some discussion made as to what is the significance of it and whether it is relevant. I believe that it is relevant; and it is relevant because it proposes to try and understand or to try to prepare for what future developments may take place as a result of geothermal and economic developments on the Big Island. These two, these scenarios were developed in a legal public hearing by duly appointed members, including myself, to the Geothermal Advisory Council. All I want to do with this is not to say that one person or the other is responsible for the scenario. All I want to do is advise you that because of what may be planned over a time period, it becomes then that much more essential that a long-term planning program be developed immediately. The general consensus was that development of energy is a set function, that is, it will develop demands are created for it. This Hellesey geothermal scenario, as you can see, sees 400 megawatts on geothermal energy produced by 1987. Now 400 megawatts, if I may say at this point in time and in using 5 megawatts as a reasonable figure per well, could mean as much as 200 wells in the area.

Now, the other scenario shows a much greater development of the area by the year 1990, as much as 750 megawatts. Some of it could be used for the reasons that you see here, for economic development. Now 750 megawatts is a tremendous amount of electricity to produce, geothermal energy to be developed in the area, which would, of course, begin to utilize a great deal of investment, exploration, and production. It would be a very serious problem insofar as our development is concerned, and more reason than why the Hui is urging caution and calling for a plan for development in that area.

CHAIRMAN: I'd like to just interject that the Puna rift zone map was the Puna Hui Ohana's exhibit number one, and the scenarios graphs were Puna Hui Ohana's exhibit number three. Just let the records show that.

KINNEY: Next, I would like to call Mr. Peter Hauanio please to the witness stand.

CHAIRMAN: You're under oath. I swore you in the rest, no, I swore you in yesterday when -.

HAUANIO: No, you didn't.

CHAIRMAN: You did not stand?

HAUANIO: No.

CHAIRMAN: Okay, I'll swear you in. Do you swear to tell the truth in the testimony that you're about to give on this application now before the Hawaii County Planning Commission?

HAUANIO: I do.

CHAIRMAN: Thank you. Be seated. You may commence, Sonny.

KINNEY: Peter, would you describe your position, your association with the Hui and how long you've been associated in this capacity?

HAUANIO: Yes, Sonny. Members of the Board, my name is Peter K. Hauanio and I'm a resident of lower Puna. I became associated with the Puna Hui Ohana beginning in the year of 1971, when at that time, perhaps there were problems among the Hawaiian children in the Puna area. And it was through the efforts of Queen Liliuokalani Trust I came into Puna and tried to form a group of people together to try to ease many of the problems that had been existing in the Puna area because of these new residents moving into the Puna area which has been causing problems, misbehavior among different ethnic backgrounds.

And today is 1980, 1980, I'm still the president of the Puna Hui Ohana. How this came about is that under the Puna Hui contract, we had formed three other organizations, which is the Puna Hawaiian organizations, which consists of all makua or the elderly people, and the Hui Opio or the younger people from the ages of ten to twelve, and also the Hawaiian Parents Association, which takes care of the school problems, strictly only school problems. And these are residents of Hawaiian ancestry from the Puna area. A couple of years ago, we also picked up another group which is known as the Young Adults of Puna, and these are within the age bracket of 18 through 35; and many of them are members of the Jaycees in Puna; and their sole purpose is to try to keep all the youngsters all back here in Puna and get to know everybody and try to build themselves up correctively rather than try to work against one another or one against another ethnic group, but work collectively with everybody.

Two years ago, in fact, Mr. Chairman, when this geothermal first came up, it was back, perhaps, maybe in 1975, that's when we first heard of geothermal energy being explored in Puna that the residents of Opihikao, Puna, became concerned about geothermal because they were not fully knowledgeable of what geothermal energy was all about. Why they became concerned was that the GEDCO at that time through sources in Hilo were out to get all the list of all the Hawaiian owners' properties in the Opihikao area so that they could tie up the properties should any development take place in the Opihikao area. Okay, several of the parties had signed the leases without their full knowledge of what geothermal energy was all about. Many of the residents did not sign the contract. And as a result, we got together, as a result, the residents of the area called us to assist them and try to iron out the problem of what happened, what is coming about as far as geothermal energy is concerned. So we hastily got everybody together at the Opihikao Hall, church hall; and through the help of URCC(?) we were able to get assistance of the legal aid services here in Hilo trying to interpret the contract through the residents of the Opihikao area. During the course of that meeting, it was stated by the ~~association's~~ representative, voluntarily now, that it would have been much better if we would get the developers themselves or the lawyers from the developers to come to a meeting and to explain everything in detail so that he himself could understand the contract better because he was kind of vague himself what the meaning of twenty pages of legal documents sent to the community of Opihikao.

As a result, we felt that, not only the people of Opihikao would have been involved, but we find that people of Kalapana, anyway, along the rift zone towards Leilani Estates, Kapoho area, would become affected by some degree or whatever. So we got ourselves involved in this. And, as a result, we petitioned the, not we petitioned, but we wrote a grant to the DOE to sort of help us fund a project that we would like to do some research as far as social economic benefits for the Hawaiian people. It took us almost, was three to four months, with the help of many people trying to come out with all kinds of questions - what is geothermal, what affect will it have, what affect it will have on the landowner, and what will happen to the ground, what will happen to the well when they find the energy, and, lastly, who owns the resource. Now this is the biggest item that we are still concerned about today - who will own the resource eventually.

The DOE has given us this fund to do this research; and, as a result, we hired Sonny Everett Kinney to be our project director for this project. And I think he's a very knowledgeable person who has been digging into the various government agencies for information. As a result of that funding from the DOE, we were, we became a member of the State Geothermal Advisory Council, the Geothermal Legislative Subcommittee, and the Hawaii County Energy Commission because of our efforts and concern of what geothermal energy will do to the people of lower Puna. When we talk about lower Puna, we didn't think of actually our Hawaiian groups. It became a problem where we felt that this must be done for the benefit of all the people of Puna. In other words, Puna has become an affected area, an affected area which means that Keaau or Hilo or no matter what other district you may come from is not going to suffer the consequences whereas the affected area may suffer if improper planning is carried on. So keep this in mind when you go through these nine wells that have been proposed by the GEDCO, GEDCO Company.

This morning, I guess it must have come over the radio, and the local people have called me this morning, "Hey, what's happening? I just heard over the radio that a matter of nine exploratory wells are coming up again and they say it has been passed." I said, "No, it's not. The hearing is still being continued this morning at 9 o'clock. Now they told me, "You know what you should do, try go and stop that project." It means that the people are not all against the project. We are for the project; but we are concerned that it should be developed in an orderly manner and the proper planning has to follow; and the proper planning has to be done together with the community rather than the developers themselves proceeding and develop their plans and present it to the Planning Commission for okay, for their okay. And this is what the people does not want.

Now we talk about exploratory wells. We've listened in here that it's an exploratory well that if there is steam that they will cap then use it, perhaps use it or not use it. But anytime when you dig an exploratory well, there's not way that it's not going to be used. Eventually it's going to be used. And the way how the plans have been set up to dig up these nine wells, I think, this is not right.

I have been to New Zealand and I thank the Chairman for accepting those photographs as an exhibit to show the Planning Commission and to tell everybody here that once you dig an exploratory well it may not be in use today, but maybe within five or ten years GEDCO will go back and tap that resource because development is coming along the line. And nobody's going to dig a two million dollar hole and just cap it and that's it, nobody. But the plans that they have, can I use the blackboard?

CHAIRMAN: Yes.

HAUANIO: I think I saw this on the map.

CHAIRMAN: You mean the map underneath?

HAUANIO: Underneath, yes.

CHAIRMAN: Okay.

HAUANIO: We should at sometime in the very near future propose a boundary line where all such developments can take place rather than just, if we let one development dig nine wells here, Good Lord, who knows what the next developer may ask. Okay, anyway, as we look through this map here, it has about 180 acres as stated on the plan here. They are about 1,000 feet apart. My proposal is that if the Planning Department ever approves this, I'm speaking of that nine wells, maybe we should make some kind of a compromise. Rather than drilling nine wells, perhaps they should drill only two or three wells. Because of the setup of the wells, once these wells become into a producing well, this is where the problem comes in, all that pipeline that will come in; and the pipeline is in terrible mess that you or I don't want to see. They say well you'll spread it all over that area. You will see pipelines criss-crossing one another and, Good Lord, we do not know where the exact site of the power station will be. This is worse yet. And I'm pretty sure that the HELCO, I mean the generator plant, will probably be about one mile or two miles away from the site because of the resource area.

So if any future developments or any exploratory wells are to be dug, I think they should follow a pattern, some kind of corridor where they don't go digging all over the place and start running all these pipelines all over the area to the power station.

The photographs that we had shown you last night, I hope the Commissioners had a good chance to look at those photos, that we cannot allow this thing to happen here, really. We cannot. We're going to kill Puna if we do this. As was stated in a testimony yesterday that there are a lot of people moving here into Puna, I'd like to pass on, particularly the, you know, pass it down. You folks -.

CHAIRMAN: Peter, will you just hold it for a second. These will be circulated amongst the Commissioners and then after Puna Hui Ohana is through with their presentation and we've had the cross-examination, I will return those photos to the table so all parties may view them and start your closing summation. So you can continue now.

HAUANIO: In addition to the forty or more wells that they plan for the future in the scenario that Sonny has just mentioned, when we talk about the power station, a 50 megawatt versus a 750 megawatt power station, it's a huge monster. This has happened in New Zealand; and it's still under construction. So if we're talking about 750 megawatts, I think we have to have about three or four of these types of power stations located in the Puna area and where the land, there's no doubt that portion has to be located close to a residential area; and this is not what we want in Puna. But, perhaps, if an orderly development takes place from now gradually, rather than work something in, to try to force something down into our throat and say we want to dig wells and this is going to be capped, this is wrong. It's not going to be capped. Today, maybe they say yes it will be capped, but it's going to be used as a producing well in the future.

In summary, we have mailed you our statement to the Chairman on July 17, 1980, and hope that everyone of you have seen a copy of that. I hope all of you have the time to really take a good look at what is written in there. And if you're not sure, I would urge you to question us so that you'll be fully aware of what is happening in the Puna area. This is all I have at this time.

CHAIRMAN: Thank you, Peter. You may continue, Sonny.

KINNEY: All right. I just wanted to ask Peter one final question. And my question is in connection with the Hui's public position, that is, public in the sense that a resolution was passed announcing the intentions of the Hui with regard to development. Peter, could you tell the people about that date and that time when the Hui made a resolution?

HAUANIO: I tried to look for my copy this morning, Sonny, but I couldn't find my copy, so I don't know what was written on it; but I know I signed a copy of a resolution designating Mr. Kinney to represent the Puna Hui Ohana -.

KINNEY: No, Peter, I'm talking about a resolution in which the Hui took a position with regard, a positive position with regard to geothermal development.

HAUANIO: Oh, excuse me. This resolution happened somewhere in 1976, when we first started helping the people of Opihikao. And at that time, we did not have any, we were not for or against the geothermal projects until many studies have been completed and we can thoroughly make up our minds with the assistance of our Board of Directors and members of our Puna Hui Ohana. So we have in no way endorsed or ... (inaudible).

KINNEY: Thank you. Mr. Chairman, that concludes our presentation. Am I to understand that we will be making a summary later on?

CHAIRMAN: That's right. We'll give you, after the cross-examination, the other parties have had a chance to question you and your witnesses, then we will take a break and you can prepare your closing statement.

KINNEY: Fine, thank you.

CHAIRMAN: All right. Commissioners, do you have any questions at this time?

SAKAMOTO: Mr. Chairman, I have one.

CHAIRMAN: Go ahead, Commissioner Sakamoto.

SAKAMOTO: Peter, you said about compromising. If the applicant did, you know, compromise with you and if they went with two or three wells, would you approve of this application?

HAUANIO: Yes. Compromise in the sense that they drill in a straight line, rather from east to west, not from east to west or north to east, but rather in a straight line.

SAKAMOTO: Right, thank you.

NAKANO: Mr. Chairman?

CHAIRMAN: Yes, Commissioner Nakano.

NAKANO: Mr. Hauanio, you say that, you know, the parties should get together and compromise, put up three wells or so. But what in case, now, if they dig the three wells and then find out that there's not enough available source there?

HAUANIO: Well, I'll tell you the truth - a reliable information has been given to us that one of the hottest areas in Puna runs for a distance of about a half a mile from, no, for a distance of one mile from, half a mile from the center of where the present rig is, half a mile below Kapoho, half a mile mauka toward Kalapana. Now they can't tell us that they're not going to hit, they're going to hit 'um. They're right on the rift zone.

NAKANO: Mr. Chairman?

CHAIRMAN: Go ahead, Commissioner Nakano.

NAKANO: Everette?

KINNEY: Yes.

NAKANO: I think you showed a map with the rift zone and what not, can you point out on the map just where that GEDCO project is going to be?

CHAIRMAN: Your exhibit one. You'll have to put it up again.

KINNEY: This designation here in red represents HGP. This area is where GEDCO is presently drilling. This is the approximate area where the nine wells will be drilling. It's about a mile and a half to two miles south.

SAKAMOTO: Mr. Chairman, I think you have to tell him to use the mike.

CHAIRMAN: Will you use the mike please so we can all hear what's going on.

KINNEY: I'm sorry, Mr. Chairman. For all of you, I don't want to block you out, could you hold this a minute? Oh, thank you. This is the present HGP well. This is the well, these are the wells that are being drilled now in Kaliku(?) and the proposed wells according to Bill Craddick is not quite at this location but a little further over, but still, of course, within this proposed area.

NAKANO: That's what I wanted to find out, Mr. Kinney.

CHAIRMAN: Thank you.

NAKANO: I have one more question here. Mr. Hauanio, you have as an exhibit here a resolution passed by the Puna Hui Ohana; and in that resolution you said denial, you know, you are requesting a denial by the Planning Commission of this application. But, yet, then, you stand up and say you're talking about compromise -.

HAUANIO: Well, we denied the entire, what you call -.

NAKANO: Well, this is not clear because you say denial of the application. So I just want to be sure, see, whether the intent of this resolution was being pursued by you people.

HAUANIO: Yes, denial of exploratory wells, yes.

NAKANO: So actually -.

HAUANIO: Until we compromise.

NAKANO: So actually you're not living up to this resolution, then?

HAUANIO: No, I'm living up to it.

NAKANO: It says here to deny the application, the application for the nine holes, but you're coming out and said now you want to compromise.

HAUANIO: Yes. If we don't compromise, then I would deny it.

NAKANO: I just want to be sure, you know, that's the reason why I asked you that question here. Thank you.

CHAIRMAN: I have a question. Oh, go ahead, Commissioners, I'll let you folks go first.

ORITA: Mr. Chairman?

CHAIRMAN: Yes, Commissioner Orita.

ORITA: Peter, you made a statement saying that not all of the people are against it if it's properly planned.

HAUANIO: Yes.

ORITA: What percentage of the people that you represent are you talking about?

HAUANIO: Well, -.

ORITA: I'll ask you this, the other segment, the other half, that isn't against it, what are their feelings? I presume that they are members of your Puna Hui Ohana, so you have a conflict there. Some say they are against it and some say they are not, what percentage of the people?

HAUANIO: Well, I would say about eighty percent is for.

ORITA: Eighty percent is for?

HAUANIO: Yes.

ORITA: Without any questions?

HAUANIO: Without any questions, without proper development, um, with proper guidance.

ORITA: Thank you.

CHAIRMAN: Commissioners, any further questions? If not, I'd like to pose one. In his earlier statement, Peter indicated that there was a rush to tie up leases or purchase properties, he implied that, anyway. I just want to know exactly what he meant by that.

HAUANIO: Yes, well, GEDCO or ARCO, at that time, came in to try and lease all the landowners' properties for the purpose of exploratory, if they can get the permit to come in and explore or drilling, to acquire the piece of property. In other words, not to do that to any other contractors that may want to come in and do exploratory work.

CHAIRMAN: Thank you. Okay, any further questions, Commissioners? If not -.

IMADA: Mr. Chairman.

CHAIRMAN: Commissioner Imada.

IMADA: I have one. I think I should direct it to Mr. Kinney, yeah. He mentioned that, you know, they were talking about this, you know, geothermal boundary, you know. So let's say if they do drill in that area and they find that there's not, it's not that successful. Okay, what area do you propose to confine that project, you know, as far as for future? Like you just want them in a ten-mile radius or they can go up and down the rift zone or what?

KINNEY: Well, I think that, to answer your question, there are several variables that we need to look at in defining that zone; and these variables would be connected not only with where the

resources might be estimated to be, but the amount of resource or the characteristic of the resources. I think before we begin to look in defining a zone, what are the demands or what are the concerns of the community. We have a community that on the whole, and I think a vast majority of the whole, accept geothermal development. They are only saying that we don't want to see geothermal development or a proliferation of development in an uncontrolled and an unorderly manner. We are saying this because in our experiences, that is experiences travelling through other geothermal complexes, people who were prominent in planning, community leaders, government leaders that we talked to, have all advised us that because or since the Hawaii Geothermal Development program is in its infancy that this would be a important time with which to lay out a boundary. I don't know where the boundary is going to be or where it should be. We can only recommend a boundary based on, I think, a conglomeration of ideas from the Planning Commission, from the Planning Department, from the community; and that this boundary, this area, would be the result of all the variables that I just mentioned to you. It may be just outside of those red lines if we were to presume now that that is the boundary, a very productive source of geothermal energy. But we should, if we had defined the boundary, be able to say regardless of how valuable that resource might be, we will stick to a plan, that we will not exceed the boundary.

You see, a good deal of it, too, also depends on our self-sufficiency requirement. Theoretical assumptions now indicate that there is more than adequate electrical energy or possibility of converting energy in that area as much as a 1,000 megawatts, maybe even more, more than adequate to supply not only the needs of the Big Island but perhaps the needs of the other islands as well as technology develops with which converted energy can be provided to the other islands.

So what need would it be to overly develop or to exceed development in an area that is pristine, that has, as I said earlier, a natural tranquility and beauty. We can, I believe, find a boundary that fits within these human needs. We need to look at those needs, too.

CHAIRMAN: Any further questions? If not, we will turn it over to the other parties' question at this time. We'll start with the Planning Department.

FUKE: I have several questions, Mr. Chairman. First, inasmuch as Mr. Hauanio is sitting here, you mentioned, Mr. Hauanio, earlier that there should be perhaps as a compromise a limit of two or three wells.

HAUANIO: Yes.

FUKE: Is there any particular reason why you say two or three and maybe not one or two or five or six?

HAUANIO: Because of the Federal, on the maps. The intention is to become a producing well. The pipelines that have to be put on, wherever they put it, on any of the positioned wells will not, DE an excess.

FUKE: So you're talking about principally from an aesthetic standpoint -.

HAUANIO: Yes.

FUKE: That if you have in a straight line maybe two or three wells, then, aesthetically it could be less obstrusive as opposed to maybe having nine wells scattered all over the parcel?

HAUANIO: Right.

FUKE: Does the fact that the proposed wells are to be on a 180-acre site parcel have any bearing on this, I mean, as distinguished from maybe having two or three wells on an eight-acre parcel where it's a little bit more visually, I guess, seen from roadways or whatever have you?

HAUANIO: Oh, it cannot be seen from the roadway, actually, if it's properly landscaped. But my other concern, too, is if they put in nine wells then you'll be coming pretty close to the old railroad grading there which is once a supply of farmers, down there by papaya farms, or in that area; and we are afraid that one of these days the pollution could hurt the farm area. And it has happened in New Zealand where all these things, emission from the wells, have affected the growth in the surrounding areas.

FUKE: So if I can summarize then. You're stating that it should be two or three - initially was that from a aesthetic standpoint and, secondly, as you just explained right now, that the potential adverse impact it might have to the surrounding agricultural activities -.

HAUANIO: That is correct.

FUKE: Principally papayas. What happens if, following up on one of the earlier questions raised by the Commissioners that there is a possibility, although this supposedly has a higher probability of a success, but nevertheless there's a possibility that, you know, they might go up to five or six or seven or eight, nine wells and all prove to be zero. Is the two or three that you're referring to like the two or three successes or just absolute two or three drills and that's it, and if after the third drilling it still proves unsuccessful then everything must terminate?

HAUANIO: Well, let me answer this, it's pretty hard for me to answer that question; but I know definitely through reading a lot of books and through information that I've had that the resource is abundant.

FUKE: But what happens if it fails? I mean, you know, for example, there have been other experiences like in the North Kona area where they suspect that there's a good possibility of water but it turns out to be with high salt content so they got to move away, and in the same vicinity and then they strike so call the better water. So I'm just raising that as a prospect and kind of trying to get your reaction to that.

HAUANIO: Providing, again, they stay in a straight line.

FUKE: So the straight line is the key then?

HAUANIO: Yeah.

FUKE: In response to a question asked by the Commission, well, one of the Commissioners, you mentioned that eighty percent of the members of the association, Puna Hui Ohana Association, were in favor of the project or were they against the project?

HAUANIO: They were in favor of the project provided it's controlled, a controlled development.

FUKE: Controlled development. Okay, this goes back to another question then. When you talk about a kind of plan and when you talk about a controlled development, can you be more descriptive as far as what you really mean by plan, what you really mean by controlled development? If I can add one more question, and that is when you talk about a plan of controlled development, are you referring to, first of all, controlling the number of drills or controlling the level of resources; or, secondly, control in terms of in the event the resource proves to be successful, how will the resource be used, you know, for what kind, whether it's for residential development, industrial development, papaya processing, so on and so forth?

HAUANIO: Yes. In the first place, the controlled development meant that the members of our group would like to become part of a planning process on any development in the Puna area. For example, the nine wells that were requested that they drill in Puna, many of them, in fact, we didn't know why dig nine wells in one phase and what's the ramification behind that nine wells. There is ramification behind the nine wells, but the developers or planners haven't come forth and tell us what's behind the nine wells. They'd like to become part of a planning process, to share their ideas, and then to prevent any kind of a community uproar because we are working only amongst our group and some of the other groups. And I think you can find more people who are against the project because of failure to communicate with the people. They don't know what's going on until it's too late. And I think that proves, our theory has proved it, because we have sponsored a symposium in Pahoia about two months ago and we had over, almost 300 people at our symposium questioning the panel members about the planning process. This was the main argument, becoming involved in the planning process. We're not against any kind of -.

FUKE: So when you talk about having the community get involved in the planning process, you're referring to getting the community involved in determining where these exploratory drillings should occur and also in the event it proves to be successful how the resource is to be used?

HAUANIO: Well, not necessarily where the wells are to be dug cause we don't have that kind of expertise, but -.

FUKE: So it's more in relation to, if it proves to be successful, where developments should go and if developments should go at all?

HAUANIO: Yes.

FUKE: It's in that phase?

HAUANIO: I think it is in that phase.

FUKE: Thank you. I have other questions, Mr. Chairman, that I wish to direct to Mr. Severence. Dr. Severence, you mentioned earlier about the need for social baseline study before any project of this magnitude should begin. Could you briefly describe what would be the kind of components that would go into the baseline, social baseline study? I mean, what exactly are you talking about - you're trying to find out the kinds of people that are living in the area, their demographic statistics, or whatever have you?

SEVERENCE: From my reading of the literature, generally, these baseline studies vary quite a bit depending upon the amount of time available, expertise available. Often, as well, they take place in a somewhat hostile political climate. But, there seems to be agreement that there should be an intensive survey of all the written literature about the cultural background of the area, including the history of the area, the settlement of the area, the kinds of people, as well, of course, that there would be attention to demographic variables such as the actual population and the division of the population into various kinds of subgroupings.

One of the most important things that is usually mentioned is the idea that when you take a region or some kind of a sub-regional unit, you must pay attention to the various different groups because different groups are likely to be impacted differently. And if they are lumped together rather than being kept separate, sometimes, one group can be differentially affected so that such a study would generally include, if it could be done, an updated census of the area, rather than just relying on available census blocked data. In addition to that, there are usually surveys of community attitudes that are done with some kind of formal survey technique using scaling techniques. Often, as well, there are various types of informal interviews with selected community members who are recognized as community experts.

The Hui's methodology at present includes a number of those things. It is still being developed; and as I said before, the baseline is not yet established. But it includes a full census of all the Hawaiian families, it has a pre and post site visit for the New Zealand site visit people. An attitude survey has been conducted and preliminary analysis of that is in progress; and a large scale attitude survey for all of the Hawaiian families in Puna is in the process of being developed. It should be administered within the next few months; and the exact specifics of this could probably be answered better by Sonny.

FUKE: How long would it take you to get this so-called social baseline data?

SEVERENCE: Again, it would depend upon the resources available; but the work on the cultural-historical background is on-going and the survey that I mentioned is a large scale survey of community attitudes -.

FUKE: Is that survey on-going right now?

SEVERENCE: The, I'm not sure at what stage the draft of the questionnaire is, but it's expected to be conducted within the next two or three months as I understand it at this point.

FUKE: Okay, so a survey is planned or on-going?

SEVERENCE: Yes.

FUKE: And that would be under the sponsorship of the Hui's project with the grants issued by the DOE?

SEVERENCE: Yes.

FUKE: I don't know if you were here earlier, well, late last night, hearing Dr. Siegel's testimony regarding gaining baseline data on flora and fauna. And, it's my understanding that when we discussed it at the, you know, his baseline data essentially was in conjunction with the development of the HGPA well. Could something like that not work hand in hand with the social baseline study or does everything have to come to a grinding halt until such time that all of the information that you're calling for, you know, is available? I mean, a community constantly changes with the addition of a new person, exposure to the media or whatever have you, you know, it's constantly changing. I mean, it's kind of like wondering, how long do we have to wait, you know, how long does society have to wait before we can actually begin to say that we have enough baseline, social baseline data, and we can now begin to proceed?

SEVERENCE: As I mentioned earlier in my presentation, generally, this kind of data is collected at mid-point in the process if it's collected at all. Why I consider the Hui's project unique is because it is in progress. And I don't feel that the establishment of a social baseline should be viewed as an impediment to development, but, I feel that as with the physical data that the baseline should begin with or before the project or the development occurs. Now this is an ideal, of course.

FUKE: Dr. Siegel also mentioned that once you got the initial flora, fauna kind of baseline data, what was also critical was the constant monitoring, you know, every quarterly. And what I'm hearing you saying is that that's also critical too, the monitoring aspect.

SEVERENCE: I consider the monitoring critical; and my understanding is that the Hui is in the preliminary stages and are planning in continuing monitoring.

FUKE: In your professional estimation, would this special permit or the construction of these nine exploratory wells adversely impact upon your developing the so-called social baseline study data?

SEVERENCE: That is a difficult one to answer. I feel that the distinction between exploration and development, while it's a useful one, should turn the permit process into a step by step process, I also feel that projects often develop an impetus of their own. And, in this sense, then, I agree with the Hui's position that community participation in the planning process is necessary and that some kind of overall plan is needed in the beginning, or at least early enough. My feeling is that the process on the social baseline study is in progress, but it may well be disturbed in terms of community attitudes if new drilling occurs before there has been adequate communication to the community, the purpose of that drilling and the ramifications of that drilling.

FUKE: Is it also not, well, okay, let me rephrase it, Dr. Siegel talked about a need for baseline data in terms of the flora, fauna. You mentioned the need for baseline data from a social-cultural standpoint.

SEVERENCE: Yes.

FUKE: Isn't it also rather critical that in developing any growth scenario or developing scenario of an area, the social cultural baseline data is critical; the flora, fauna data is also critical; but equally important, knowing and understanding what the resources, natural resources, are available are also critical? Example, you deal with a area that you have, like shoreline, for example, isn't it critical to know that if you have sandy beaches or if you have areas that are good fishing grounds or whatever have you, this is all for your natural resource data that gets plugged into the whole planning process.

SEVERENCE: Of course.

FUKE: Thank you.

CHAIRMAN: Anything further, Sid?

FUKE: No.

CHAIRMAN: Thank you.

FUKE: I'm sorry. I have some questions for Mr. Kinney.

CHAIRMAN: Okay, but could we just take about five minutes. One of the parties says she has to feed her parking meter. So go right down and do it and we'll be back here in five minutes to continue.

RECESS: The Chair called a short recess at 10:30 a.m.

RECONVENED: The meeting reconvened at 10:35 a.m.

CHAIRMAN: Mr. Director, continue with your questions please.

FUKE: Thank you, Mr. Chairman. Just a couple of questions to Mr. Kinney.

KINNEY: All right.

FUKE: Everett, you mentioned earlier about the Department of Energy's project that was assigned to the, the grant, rather, that was assigned to the Puna Hui Ohana. Could you describe it in somewhat more detail what the purpose behind the grant was and what you hope to accomplish as a result of this project?

KINNEY: Yes. The main and general purpose of the grant was to make an assessment of social cultural impact on an aboriginal population, the aboriginal population being the Hawaiian community. The reason that we asked for this is because we saw a specific connection with ownership with the Hawaiian culture in the area and in all of that in relationship to geothermal development and the economic development to follow. The methodology, as mentioned earlier by Dr. Severence, involves mostly trying to find out what kind of attitudes that the Hawaiians had with regard to geothermal development - religious attitudes, developmental attitudes, cultural attitudes, work attitudes, attitudes that were connected with the social, the economic, political environmental, and physical environment.

FUKE: So the intent was to, as you mentioned earlier, to get a social cultural assessment?

KINNEY: Yes.

FUKE: Based upon the impact of geothermal.

KINNEY: Uh huh.

FUKE: Is the impact based upon geothermal as a resource or geothermal, or will the impact be based upon if geothermal resources were found to be in that area and it proves to be a success, then what kind of impacts would the community would have in the event that there is development? I'm just trying to understand the level of impact that -.

KINNEY: Yeah, it's a hairline, I agree, because in one you're talking the attitudes of geothermal resource itself and the other you're talking about economic development. And in both cases, the original intent of the program was to develop an assessment of attitudes towards geothermal, the geothermal resource itself.

FUKE: Both as a resource as the potential use of geothermal?

KINNEY: Yes, yes.

FUKE: What is the expected completion date of this grant, this project?

KINNEY: October.

FUKE: Of this year?

KINNEY: Yes. I might add at this time with regard to the study, we have, as a result of the study, proposed or about to propose to the DOE an action funded program. I've just returned

from San Francisco where we were discussing this program with Mr. John Crockett of Region Nine. What we're looking at now are the means by which we can do the following: How do we involve the community into planning? How do we prepare an educational program so the community has an idea what is happening to it? How do we develop a job procurement standard? How do we protect jobs, or how do we assure that the local community is going to get the job? How do we monitor the program? These are specific areas that will be, or we hope we can get funding from the Department of Energy or any other governmental group with which to investigate these particular activities and look for solutions to them rather than going to another abstract research program.

FUKE: So your proposed second-year funding would involve, would start with the premise that in the event geothermal as a resource proves to be successful in that area, then how, the question that you had raised, how it will benefit the local people, how, or whatever other questions you just raised would be raised?

KINNEY: Uh huh. Uh huh.

FUKE: Thank you. I have no further questions.

CHAIRMAN: Thank you, Sidney. We'll now go to Department of Economic Development. Do you wish to pose any questions at this time?

WOODRUFF: Mr. Chairman, I think I'll just save my comment for the summary.

CHAIRMAN: Thank you. GEDCO?

SHEETS: We will have an extensive examination of the witnesses. I suggest if Susan has any questions that we might allow her to go on since it will probably be a delay in their presentation; and then we will pass to her with the reservation that we do have quite a few questions to ask. If that's compatible with the parties.

CHAIRMAN: Is that agreeable with the rest of the parties?

KINNEY: Yes.

CHAIRMAN: Fine, Susan will you?

ORLANDO: I have no questions, Mr. Chairman.

CHAIRMAN: No questions. Okay, that terminates that. Go ahead, sir.

SHEETS: We would like to begin by inviting all the members of the Planning Commission, who have apparently taken this part of their morning anyway, to adjourn after the end of the hearing to the rig to experience what happens at this drill site and know some of the facts first hand. I think it would be useful. And GEDCO people are willing to setup whatever is necessary to allow

you to experience this thing in operation as it normally operates so that you'll know what would be proposed to be done, more or less the same thing on the site we're talking about at this time. They are now working the Ashida well and they're working fairly deeply so they're making about as much noise as they would ever make in terms of noise. And they're bringing up what normally is brought up in the process of the drilling. So, it's an invitation that is made; and I'm sure it can be extended to the other parties in interest and their witnesses so that everyone is better informed exactly what's happening, and also the Planning Department. So think about that, if you will, so that as many as possible might make the trip this morning or whenever you want to arrange it, as a matter of fact. This morning just seems convenient.

We need to know more about Puna Hui Ohana now that we have the apparently conflict. How do you make a resolution? Who are your members? Can we have a list of your members to know what it is we're dealing with? Generally speaking, the applicant has revealed his soul to the Commission; and I don't know and we don't know how many members. Who are they? Would it be possible to have a list of your members so that we might talk to them? And since you say under one hand that eighty percent of them would be for it under proper controls, we know that what you're presenting is more to get a planning process rather than to object to it, anyway. What kind of planning process could we assist in that? How can we make contact with your members in order to get that started? They don't necessarily object to a planning process. We simply want to get on with the very narrow issue of exploration. It seems to me you're interested in exploration, you know, the facts of geothermal. So, could we begin with, if it's possible to have a membership list for whatever purposes it would be useful and then we'll go on from there to understand the Puna Hui Ohana better.

HAUANIO: Yes; and we have a total membership of 125 members... (inaudible). So I'd say we're talking about, I would say, between 100 and 125.

SHEETS: Is it possible for us to have a list of these people and their addresses so that we might invite them to educational sessions that we could offer, for instance, and offer them the opportunity to know more about what we're doing? Is that possible? Would you object?

HAUANIO: No, providing that the meeting be held in an open area and all the members concerned can come to the meeting, rather than try to have them individually -.

SHEETS: It would certainly be with your concurrence, but we would want to make the invitation clearly from us with your auspices.

HAUANIO: That's all right.

SHEETS: If we could have such a list either through you or, well, whatever is necessary. We'd like to know more about Puna Hui Ohana because this is our first opportunity.

KINNEY: Could I clarify something. With regard to the membership of the Puna Hui Ohana, the governing board or the umbrella organization consists of board of directors from these organizations that Mr. Hauanio is talking about. And most of the, to understand how the Puna Hui Ohana operates, one must first look at the concept. Each one of the organizations send three members to sit on the board of directors on the Puna Hui Ohana because the decisions for the Puna Hui Ohana is not made at the top level. People at the lower level first decide what they think is necessary, that is, in all the four organizations; and this filters upwards, not downwards.

SHEETS: So it's a representative form rather than a large membership meeting.

KINNEY: Yes, yes.

SHEETS: Even it seems, to me, more necessary that we have some contact -.

KINNEY: Yeah, theoretically -.

SHEETS: So that we can assist in allowing people to know where we're going.

KINNEY: Theoretically, the member organizations form an opinion. They present the opinion to the Hui. The Hui sees whether it's possible or not, comes to a decision and is reflected back down to the membership of the umbrella organizations.

SHEETS: It has some field for the social organizations. What, are most of your members landowners in the area, are they Hawaiians generally, and what is, possibly Dr. Severence knows, he's doing the baseline, just what is the character of the membership of the Puna Hui Ohana as it goes down to the grass roots? Do you know, Dr. Severence?

SEVERENCE: I think I should refer that question to Sonny. As I stated in my initial presentation, I'm simply an advisor on the methodology and my involvement has been primarily in terms of the form of the questionnaire and advice to the Hui personnel as to how to go about beginning the baseline study.

KINNEY: I think to answer that question, we need to look in history whether it's an accident of history or not. But, lower Puna is the, is a place where there is, it's the largest concentration of Hawaiians and yet there is no Hawaiian Homes development. By that, we infer, then, that most if not all of the Hawaiians at one time in Puna, and many of them still are, are property owners. This is a very unique situation. It does not exist in other parts of the State.

SHEETS: And, possibly, you can explain to me, Mr. Kinney, how can you have a resolution from an organization who you can honestly say eighty percent favors something and, in this case, this application, or under controls, and yet have a resolution that would ask that it be denied? Is that resolution of your membership? Is that some select committee resolution? Is it definable in those terms?

KINNEY: In this case, I think we're talking about two resolutions. The first resolution refers to a policy resolution. That resolution, taken many years ago, or at least three years ago, states in effect that the Puna Hui Ohana will not object or oppose geothermal exploration; but it, however, reserves its right, this is an internal resolution, incidentally, but it reserves the right from its members to decide how it will proceed with regard to economic development and production. It was at the early onset of the geothermal program. The question was mostly one to proceed with exploration; and that was resolution number one.

Resolution number two is the resolution that was filed with these papers which originally asked for denial of the permit on several of the grounds that we've discussed here.

SHEETS: But how can you make up your mind that you want it to happen on the rift zone, you want it to happen under certain controls, and at the same time deny the public, the rest of Hawaii, the opportunity to know what the resource is? Because, in a sense, isn't this what you're doing if you object to this kind of permit? You're objecting to the possibility of acquiring the information necessary to know what could happen or couldn't.

KINNEY: Yeah, I think we can rationalize that by looking at the intent of the resolution which calls for denial and compare that with the history of the Puna Hui Ohana with regard to geothermal exploration and development.

SHEETS: I think I haven't been clear.

KINNEY: It favors, it favors geothermal development. Now, in terms of the resolution and in keeping with its overall and long-term viewpoint with regard to development, it felt, and I think it's fairly well outlined in the original papers that were presented, that it could not in good conscience approve of an exploration plant without adequate safeguards. It may be that with the safeguards that the Hui membership under Mr. Hauanio can then decide that it is proper and that it can withdraw objections to further exploration.

SHEETS: I'm trying to get at the question of a simple project which goes out to acquire knowledge about the reservoir or lack of it as distinguished from, and that's all the application is for as you well know, as distinguished from a series and kind of lengthy objections that your group is making about the whole process that might take four or five years. We're talking about maybe a year or two of learning about the resource; and you come in and object to that because we don't know what we're going to do with the four or five years beyond that. And you must admit that there's some irrelevancy and some, almost, obstructionism going on because you'll never know. Because if you stop this, as you say, then you don't even have the opportunity to know until somebody else is willing to risk his money. You don't even have the opportunity to know whether you got anything to talk about. And, true, you make some assumptions; and I would ask your president, if he would like to guarantee us that these are going to be good holes, we'll

guarantee you we'd only drill three wells. If you'll, you know, put your money where your mouth is, we'll guarantee you three holes if you'll guarantee us that all three are going to be good. You know, then no use thinking about the others. The point is, you have to have some options; and I don't think you're considering that.

KINNEY: Well, I think that irrelevance and obstructionism was not the purpose of the Hui with regard to this permit, and with regard to possibly other permits under the same circumstance. Because if you would review our earlier objections as we had outlined it, it in no way specifically objected to exploration; and that is quite clear. I don't see in our papers that we presented, after discussion with the Director, any motivation towards preventing exploration. And I think if we look at that in that sense, one would have to conclude that the Hui's rationale for its objection in this particular case is based on the long-term needs which we see the exploration proceeding at a very rapid rate. Many of the people, not only Hawaiians, but other people, and Susan might also testify to this in representing the young new comers, that there appears to be a rapid series of events taking place. People are confused, and even members of the Hui Ohana are confused with regard to the HGP project.

SHEETS: Well, what do you base your use of the term rapid? You know how long its been since there has been any drilling in Hawaii for geothermal until very recently?

KINNEY: Well, rapid in the sense that in comparison to the feasibility project from which, and this is a good deal of the opinion from which everyone had thought that the feasibility project would determine the efficiency as well as the -.

SHEETS: You're talking of HGP?

KINNEY: HGP, and that at the conclusion of HGP then people would begin to decide whether further exploration or further development would become necessary. I think you'll find that if you were to talk to people, many people in the community, that they would be expressing this very thought - everyone thought that it would be a two-year program, there would be a kind of a rest period inbetween while we wait for the results of a scientific program; and while waiting for that, we see events for further exploration and further development.

SHEETS: Well, I don't think that you are proposing that from the HGPA well you can predict anything about geothermal, sufficient to even initiate the program, the planning that you would suggest. I mean, is it going to be 400 megawatts? Is it going to be the 5 that they can produce there and that's all? Is it going to be 1,000? Is it going to be 20? You see, that well, you know, very well that is not a sufficient show to even justify the planning process that you are proposing. I think you know that. And you talk in much different terms from time to time.

KINNEY: But we're really not using the well, the HGP well; and that hasn't been mentioned in any of our papers, either, as a criteria for developing a big plant and process.

SHEETS: Okay, I presume you're using it simply to illustrate your rapid term. As a matter of fact, its been very slow, hasn't it? Its taken a long time between operations here, considering that the first drilling at HGPA is now about, what is it, about two years, two years old? And now we're going on one, the permits for which was applied for, again, about two years, two and a half years ago. I wonder if it justifies rapid, that's all; and I cannot have your answer.

What other contracts for hire does Puna Hui Ohana have besides the one with DOE?

KINNEY: For research purposes?

SHEETS: No, well, just for hire. The Puna apparently does contract to produce studies and advice about this area. What other contracts are you now involved with?

KINNEY: We have been asked to participate in looking for social barriers for a industrial park, a proposal for an industrial park in the Pahoia area. The purpose of our participation in that program is to discover social barriers to an industrial park. As an adjunct to that, we have also been asked, and this is by the Dillingham people, to look into social barriers for the construction or the development of an ethanol plant in this proposed industrial park. The industrial park proposal was funded by the Department of Energy. The new proposal by the Dillingham people I understand is also to be funded by the Department of Energy in search of alternate fuel. I act in my capacity or because of my profession as a social urban geographer for the project in looking for the social barriers. If I might add that, Dr. Siegel is not here, but Dr. Siegel is also a consultant on that program. And we are fellow consultants to those programs, to those various proposals.

SHEETS: Well, I refer to some of the newspapers, some of the publicity that has been, and I wonder what the background and truth of it is. This is your opportunity, really, to clarify so that rumors be dispelled, if such there be, you know.

KINNEY: Yeah. So both of us, Dr. Siegel and as well as I think of some county agencies, serve in that capacity. We are not employees. We are consultants.

SHEETS: And the fact that there are agreements between Dillingham and other interested developers of geothermal power that you're aware of do not make you feel in conflict when you come here to object to this one?

KINNEY: No.

SHEETS: This is on the first phase.

KINNEY: On the contrary, because both projects do not involve geothermal production. Both projects involve economic development, assuming that the geothermal resources be provided by someone for the development of a direct use application program. I know of no plan by Dillingham, and I'm sure Dr. Siegel

does not either or any of the public agencies involved, with which the Dillingham people plan to become involved in well drilling because we've never, I know I've never been asked to comment on that, only in the location of social barriers. And I might add, there were something like thirty-five hours, which is a minimal amount. It doesn't even call for a longitudinal survey, but rather a measurement of community sentiment which was or has been one of the reasons why we've been able to pick up so many of the comments that we've been using in our discussion today. Because in the process of looking for social barriers, we see people commenting on the need for long-term planning; and they're very concerned about future development. They're very concerned about what's called here or referred to here as uncontrolled development.

SHEETS: In the process of surveying and discussing with people their attitudes, did you take the time to talk to the owners of the property in question here and their attitude about what might happen to the usefulness of their property, the value?

KINNEY: No, no.

SHEETS: Understanding, we only have a lease with them.

KINNEY: No, no, not with those people no.

SHEETS: You don't think it would be useful as part of your total survey of the area to know what the landowner in question is concerned about in uses of his property?

KINNEY: Well, with regard to our survey, cause our survey really didn't cover social attitudes of the developer. The survey, the purpose of the survey was to cover social attitudes of the community. It did not involve absentee owners. At no time was I instructed to make that particular observation or measurement.

SHEETS: Are you aware that the landowner intends to devote this parcel to agriculture even while the exploration is going on, are you aware of that?

KINNEY: Yes. We have been apprised of that; and we did state in our paper that we thought that this is a precluded judgment in view of the fact that we've seen other areas where geothermal development is taking place where such a practice did not seem to be very practical and was not even used.

SHEETS: Have you been to Ordello in Italy?

KINNEY: No, no, only to, the only two places that I can say that I visited were the Geyser complex and the Wairakei complex, as well as the proposed Waihee Broadland complex in New Zealand.

SHEETS: What we know of the geothermal energy resource here in the way of its quality parallels very well the Italian experience of being dry and hot; and I don't want to be testifying, but if you were to have chosen to go to that one, rather than

New Zealand, and I don't know why you made your choice and I'm not commenting upon your choice, but if you had gone there, you would have found cows grazing around the conductor pipes, crops being raised... (inaudible); and that's the plan that Daiichi means to make with their property, that is to grow papaya in and around whatever takes place in the future; and a long-term contract is being made with a very big company to do that. It might be well if you could look into things like that to know that that's the kind of planning that private money is going into; and, apparently, the things you're saying are going to be harmed may well not be harmed. That's all.

KINNEY: We would applaud such a use or a continued use of agriculture under those circumstances. Our inability to go to Italy was measured more by lack of funds rather than a desire not to go. Furthermore, the reason for going to New Zealand was part of the requirements of the survey. The Maori people and the Hawaiian people are geneologically and anthropologically related, and it would be, would then better serve for purposes of the result of the survey to examine another group of people whose cultural connections were similar to ours.

SHEETS: It's possible that the DOE would be willing to send you there after you have the additional experience.

KINNEY: Gee, I didn't see any connection with Italians.

SHEETS: Yeah, well, they are certainly an ethnic, agricultural group in a very remote area and they might fit, not to go into that, but just a couple of more questions to give you a chance to comment.

I think it's clear that you do not object to exploration under proper controls, that you may or may not trust this body, and the Planning Department and the State agencies are going to control it sufficiently, but you're going to keep after it. What you're really here for is to initiate the longer, broader range, planning process; and if I can get you to say yes to that, I'll shut up.

KINNEY: Well, in essence, I think Mr. Hauanio eloquently expressed that same viewpoint - that, yes, the Hui is not against exploratory development and, as I said earlier, it's still reserving judgment on production and economic development. But, yes, and yes, we are here very much concerned about future planning and the future programs for the area; and we feel that the Planning Commission, the members of the Planning Commission, who, I'm sure want to do an excellent job, and the members of the Planning Department, want to protect the interest of the people in that area, would like to know of the Hui's position. But we also feel that to ask the commission on a continuing basis from now until I don't know when, to continue to make decisions piece by piece without an adequate plan is wrong. And I think that you would agree, the businessmen should agree, the total community should agree, that someday, somehow, and we have the opportunity to do so because we have a virgin situation here, untouched, it could become the model, it really could become the model for resource development in the

United States, that we need to develop a long-term planning program in which not only you, representing Bill and Ed Craddick, but the Hui, the Planning Commission, the Planning Department can all share a responsibility in seeing to it that it does happen, that there is a maximum of benefits and a minimal loss in social benefits to the community and to everyone else.

SHEETS: I would have to agree with it as a citizen. As a lawyer, I'd have to say to the Planning Commission it's irrelevant to this application, but it's certainly a good point to be made.

CHAIRMAN: Does that rest your -?

SHEETS: We want to reaffirm the invitation so that if in case it skips your mind, you're invited now or in the near future, Members of the Commission and the parties.

CHAIRMAN: It is now 11:15. About how long do you people think you can get your act together for the closing?

FUKE: Two minutes.

KINNEY: I can give mine now.

WOODRUFF: Three minutes.

CHAIRMAN: Well, let's say we'll break now until 11. Susan, how long will it take you?

ORLANDO: I'm ready.

CHAIRMAN: You don't have it?

ORLANDO: I'm ready.

CHAIRMAN: You're ready. Okay, we'll break until 11:20 and then we'll assemble here.

RECESS: The Chair called a short recess at 11:15 a.m.

RECONVENED: The meeting reconvened at 11:22 a.m.

CHAIRMAN: Let's assemble please. Before we begin with the closing summary by all of the parties concerned, I'd like to state that you all agreed to this procedure; but I did want to note that one step has been eliminated. Ordinarily, you'd have the right to rebuttal, but you agreed to eliminate this and signed the procedure that you agreed that this meeting would be conducted under. And I just wanted to get an indication if you wanted to have the right for rebuttal or would you be willing to stick to the agreement you signed and you can have a combination rebuttal and closing summary all in one. What is your pleasure?

FUKE: Mr. Chairman, in light of the presentation given today, I have no intention to provide any rebuttal testimony, so I have no objection.

CHAIRMAN: Puna?

KINNEY: No, no, none at all.

ORLANDO: None.

WOODRUFF: None.

SHEETS: We have no rebuttal testimony. I would point out that Mr. Southward never got to make whatever his last presentation was. I don't know, he said he was going to limit himself to a summary at the end, I think.

CHAIRMAN: That's right.

SHEETS: I'm satisfied. We have no rebuttal testimony; and we will combine whatever we have to say at the end.

CHAIRMAN: Okay, thank you very much. I just wanted that for the record. Okay, we'll proceed with the closing summary by the Planning Department.

FUKE: Mr. Chairman, I'll make it as brief as possible. When I was going to school, initially I was studying history, and I still have a keen interest in history. And I recall there was this, well, American journalist way back about in the mid 1800's, his name is Horace Greeley. And he had a saying, and that was, "Go West, Young Man". And it came at a time when the east coast was beginning to develop and they needed to seek out other areas. What he was really reflecting was that America was built based upon a pioneering spirit.

And I think this is essentially where we are today with respect to the whole geothermal exploration and the search for alternative energy. All we're looking at is just trying to see what kind of potential there is on this island, let alone for the whole State of Hawaii and not to determine at this point the social economic and political organizations that may come about as a result of a successful geothermal exploration.

Our position has been, for the previous as well as this petition, on this petition is that, you know, we're looking at geothermal exploration as like a resource. It's like someone looking for water. And if it proves to be a success, then all it does is it increases options, it increases development options for an area, it increases development options for the community and, of course, the state. There are, obviously, many more decisions that have to be made, land use decisions. But part of the decision-making, of course, or part of it in terms of trying develop an effective plan for an area, I think, as was pointed out earlier, you need to have certain baseline data. You need to have, as Dr. Severinsen pointed out, social cultural kind of baseline data; you need to have baseline data with regard to what's on the ground, archaeological or whatever have you; you need to have the flora, fauna kind of information that Dr. Siegel mentions. But equally important, I think, we need to know what's

there; we need to know what kind of resources we have. And water, energy, whether it's geothermal or otherwise, I think is all part and parcel of the whole data gathering stages. And, as such, we have absolutely no objections to the exploration of this special permit.

I think some of the concerns that were raised by the members of the public and the other parties should be taken into consideration; and, as a result, what the staff's background report has provided, we're proposing certain mitigated measures, particularly in the area of trying to assure greater monitoring of the smell and the possible adverse impact as a result of the exploratory activities. We've also asked that the other agencies, that we, the Planning Department, give or lend our assistance to other State agencies which are normally charged with the responsibility of enforcement, particularly the Department of Health.

Just as a sideline, I think that another point I'd like to make is that both the State and Counties have well expressed policies, you know, dealing with the search for alternative energy, whether it's wind, geothermal, ocean thermal, or whatever have you. But I think what's really important is that the other State and County agencies have to develop, I guess, appropriate standards or appropriate programs to assure that the concerns that were raised by the public and by the other interested parties are effectively mitigated. You know, for example, like in the area of the Department of Health standards, it's my understanding that all they have are standards based upon Honolulu's standards and other regulations would have to be developed more specifically to accommodate a standard dealing with geothermal kind of development. I think that inasmuch as the State has taken, State and the County, have both made an aggressive commitment for development of alternate energy, I think, similarly, this is where, I think, the priority should lie, with the Department of Health, to make sure that the standards are effectively developed.

At the same time, I think, there's got to be also further emphasis given on the part of government to the community in trying to educate them, that, you know, like geothermal may have had successes in other jurisdictions, in Europe, in New Zealand, in Japan. But I think that this is fairly, it's a relatively new concept here in the State. Maybe it's well renowned within the academic circles, but when you deal with the average man on the street or a person on the street, rather, it's really a new field. So this is where I think, similarly, an aggressive campaign has to be initiated by government, both on the State and County level to assure the public that this is not really what it's, it's not really a monster. It's, you know, there designed to help a community.

One final comment, and I'd like to just really compliment both the Puna Hui Ohana and, especially, to Susan for really having the courage to come up and, you know, become a member of the so-called whole proceedings. It's really tough enough for us guys, you know, we do it like twice a month, and let alone for somebody like Susan or Everett and others, just come up and speak their piece to the Commission and to guys like the State and the petitioner. I think, I really give them a lot of credit.

CHAIRMAN: Thank you, Sidney. We'll now go to Mr. Woodruff, Department of Economic Development.

WOODRUFF: In view of the fact that it's the opinion of the leaders of our country from the President down that alternative energy development will be beneficial to the economy of the Nation, State, and the County; also considering that geothermal energy in particular among the many choices we have is the most promising to increase self-sufficiency; and whereas, even though there are many optimistic evaluations of the nature; and the extent of the resource presently drilling is the only definitive way of deciding and finding about this resource, and exploratory drilling is a part of the planning process; the geothermal zone cannot be determined by legislation or by consensus; and in view of the fact that GEDCO appears to have gone through considerable effort to satisfy the permitting requirements, we hope that the Commissioners' decision on this application will be favorable. Thank you.

CHAIRMAN: Thank you. Now we'll go to the applicant. Mr. Sheets, proceed please.

SHEETS: Yes. Thank you, Mr. Chairman. Probably will at this point to get back to what is the bottom line of the application, which is a recognition that in an agriculturally zoned or districted area, geothermal exploration is not a permitted use. Therefore, we've attempted to satisfy the requirements of the law that are set out in the application that it be a sort of use that has come up since the land use law was developed and was, therefore, not considered in the process of developing land use law. The districting and the boundaries were set long before geothermal was considered and whether it would or would not have been a permitted use in agriculture is not really the question. It simply isn't.

However, we think we are working for the public welfare and that this use on the land in question is not going to destroy the usefulness of the land for the purposes they were districted, and is not going to be an operation that is contrary to the purposes and objectives set forth in the land use law. It will not put an unreasonable burden on the existing infrastructure of roads, pollution, that sort of things. It's not going to cause an expense to the county of any magnitude or maybe none at all. That the proposed use will not permanently alter the other uses of the area. And we submit that much of the testimony which was presented, while it's interesting and should be useful to initiate a further process, that that process is something above and beyond the requirements of the present application. And we can't disagree with their position except that if they object to this stage, they missed the chance to even know whether it's worth doing a planning process, and they're not going to be, lots of people come in here and spend their money to prove their resource if this kind of application is not granted. So, for this reason, we think that we are within the public interest, public welfare, and we hope that the Commission will see fit to pass this forward with a favorable recommendation.

CHAIRMAN: Thank you, Mr. Sheets. Susan?

ORLANDO: (See Attachment H.)

CHAIRMAN: Thank you, Susan. Puna Hui?

KINNEY: Thank you, Mr. Chairman. With the advent of geothermal development and other alternative energy developments, it would appear that the community, the State, the County, has done an exciting but yet sometimes one might feel a depressing time because this exciting change is about to take place implies that there will be change. We don't know what kind of change or how extensive that change or whether the change will foresee good things or bad things. It all depends on how each individual, each group sees his role and his function in the total community. We have said here, on behalf of the members of the Hui, including the umbrella organization, the overall Hui position has been, as of this point, will continue to be one of cooperation with regard to exploration for resource development. We are aware that in order to determine the nature and the characteristic and the extent of the resource in the Puna area that it will be necessary to promote and to develop a broad exploration program. We are, however, as we have testified earlier, very much concerned about the fragmented approach towards this total development. We are, on record, as having appeared before other bodies, as well as legislative bodies, where we had suggested in an effort to remove this fragmentation that a permitting course as a planning process be one unified process. That is, all the jurisdictions that are involved, the State, the County, the community, business, as well as certain other interests, whatever they might be, financial interest let's say, are legally organized and formed into a permitting group; and that in this way, we will have a better control over how the area is developed. To go through this process where everything is not dependent on a decision you make, but on the decision someone else makes, is one that leaves us with some loss of confidence in that total process. I think it would not be right if this presentation was not part of the permitting process.

We cannot, at this time make any particular suggestions with regard to how this decision should be made. This is your kuleana. We do, however, reiterate once again that our total interest is the planning process and commensurate with this decision that you're about to make, we invite, truly, we urge a getting together, a coming together of the community and the governmental processes to plan for the future. We believe that it can be done. We believe that social conditions are an up front issue. We cannot wait until the land is descretated, until economic development has so changed the character of the community, the character of the county, that that damage is irretrievable and cannot ever again become a part of the quality and the life style of the community. This social position has been one that the Hui Ohana from the very beginning with regard to geothermal development has taken a very, very strong position. We see before us a multitude of cultures, a multitude of social characteristics which if one changes drastically could in turn drastically affect the other. If we like what we have, if we feel that we can develop our resources and still maintain this quality, then we would have, that is the Hui, we would feel that we have accomplished our purpose. With that, I urge that the Commission strongly, when it renders or prepares its decision, take that in mind. Thank you.

CHAIRMAN: Thank you, Sonny. Now we come to the final part of the meeting. It's to determine whether we're going to close or continue the hearing. I'll have to ask the question if there's any further evidence to be offered or any other business relating to the case that needs to be taken up.

SHEETS: The Commission's invitation to take a field trip to the site is still open.

CHAIRMAN: I was just going to point that out. Some of the Commissioners have indicated to me yesterday that they felt we should go and take a look at the proposed site in question; and it was also suggested by the applicant that they'd be willing to accommodate us. I just wondered if you Commissioners feel we should continue the hearing for the specific purpose of just going out to pay a visitation to the site, and when we should do so.

SHEETS: And, in addition, if you will, Mr. Chairman, visit the site upon which the building is taking place now so that you can consider the two in the same context.

CHAIRMAN: Now the rig is in operation, we'd be able to hear the noise today, if we went today. I asked the applicant if they felt that the rig would be in operation on September 4th when we come into Hilo for the 4:30 meeting because I felt possibly we could visit the site on that day. However, they say they cannot guarantee because they're down at 3500 feet, they're going to change the casing, and once they do that, things should go relatively fast. So they would not guarantee us that it would be in operation on September 4th. So I just wanted to field if you people wanted to break for lunch and go out today or set another date, if you desire to visit the site at all.

ORITA: Mr. Chairman?

CHAIRMAN: Commissioner Orita.

ORITA: I will make a motion that we do have an on-site inspection. I would assume that today would be a good time if the rest of the Commissioners can make it. But I, for one, would like to hear what type of sound effect is being created now; and if this new application would be approved, again, I would like to maybe field have another field trip then and somehow compare the sound effect.

CHAIRMAN: I know, but we could only continue this portion, the contested case hearing for the specific purpose of visiting the site now; and we couldn't continue it until after the application was granted. But we've got to decide whether you're going to want to visit the site today or at some future date when, this month, it would have to be this month because he said they may be all pau by September 4th.

ORITA: Then, Mr. Chairman, I make a motion that I would like to see the job site today.

CHAIRMAN: Before we do so, is it agreeable with the rest of the Commissioners?

NAKANO: Mr. Chairman?

CHAIRMAN: Commissioner Nakano.

NAKANO: I myself, I believe that the field trip is good, but I don't think I can make it today.

CHAIRMAN: You can't make it today?

NAKANO: Can't make it today.

CHAIRMAN: When could you?

NAKANO: Some other day, any other day.

CHAIRMAN: We'd have to decide. It would mean coming into Hilo probably prior to going to Kauai or thereafter. I think after would be getting close to September 4th anyway.

SHEETS: Well, we're talking about a two-week period of time from now, during which they can pretty well guarantee the rig would still be working. Maybe you could set another date other than today if it's the wish. But about two weeks is as long as you can expect that it will for sure be still working. So within that time frame, maybe individual members can go at their own schedule and make arrangements with GEDCO.

CHAIRMAN: We could not do that. We'd have to have all parties present, everything else. It would be in violation of our Sunshine Law if we so did, going on our own.

TSUKAZAKI: Commissioner Nakano, do you think that you need to visit the proposed site and the existing site of the drilling right now before you can make a decision?

NAKANO: No.

TSUKAZAKI: Before you can cast your vote?

NAKANO: No.

CHAIRMAN: You could not go today. Would you be opposed if the rest of the Commissioners and the parties went today if you could not go? I know you would like to go, but we're just trying to figure when we can sandwich this in.

NAKANO: Well, I think if the rest of the Commissioners want to go, I think that's their privilege, you know, they could go.

FUKE: Mr. Chairman, it's my understanding that if the Commission wants to visit the site, or Members of the Commission want to visit the site, this would be done prior to the close of the public hearing then?

CHAIRMAN: That's right.

FUKE: Okay. So then if the field trip were scheduled this afternoon, does the Commission intend to reconvene and make a determination as far as whether it is or it's not going to close the public hearing?

CHAIRMAN: We would do it right out there.

FUKE: Okay.

TSUKAZAKI: I believe that another option is is that this Commission can decide right now that the public hearing portion will be closed as soon as the field trip is taken, that that's the only purpose for which the hearing is being continued and that there's not going to be any further proceedings after that - no more evidence taken, etc.

FUKE: Mr. Chairman, for the public hearing to be closed, we would need to have, my understanding, at least five members of the Commission attending there. If two, you know, like, for example, if Commissioner Nakano cannot make it today, or another one cannot make it, would there be any problem in all of the parties kind of waiving and saying, that's okay, Commissioner Nakano, as long as there's five, and after the five persons visit the site you close the hearing. Would there be any problems behind that?

CHAIRMAN: I'd have to ask the parties concerned.

NAKANO: Well, Mr. Chairman, as far as I'm concerned, I have no objection, for the Commission to go and visit the site to close the hearing. I have no objection there.

SAKAMOTO: Mr. Chairman, I won't be able to make it, too. I'm not feeling up to, you know, going up there. But I can make my decision because I did go to that University site and I've seen the old site when the other old Commissioners were on; and I did hear the sound, when they were visiting the University's one.

CHAIRMAN: Now we're down to one, two, three, four, five. And, Roy, could you go this afternoon?

KAGAWA: I don't think so.

CHAIRMAN: We're just going to have to make a decision one way or the other.

KAGAWA: Yeah, I think I would rather go some other time because -.

CHAIRMAN: So now we're down to four, so we can't make a decision without a quorum. Do you think it'd be possible -?

TSUKAZAKI: Excuse me, Mr. Chairman. I don't think, I'm saying that you can decide right now that the hearing, you can vote right now with the people that you have here that the public hearing of the contested case will be closed, not the future, you're not leaving the decision of whether or not to close or continue

until the time of the future. You would be deciding right now. But I think that the Planning Director's comment is a good one, which is that however it's arranged, however the field trip is arranged, the parties should be asked if they have any objections - one, to the field trip being taken in their presence or out of their presence; and, two, whether or not they would object to the field trip being attended by less than five Commissioners; and, also, would they object to these Commissioners voting, taking final action, on this permit even though some of them may have not attended the field trip. I think the parties should be asked on all those matters.

NAKANO: Corporation Counsel, that's what I had in mind, see, whether we would be contested, you know, in voting for, you know, in closing the hearing if we do not take the field trip. I don't think that has any bearings at all, but I don't know what the parties are thinking about.

FUKE: Mr. Chairman, in response to all of the questions that your counsel has advised, the Planning Department, as a party, does not have any objections.

CHAIRMAN: How about you, Susan?

ORLANDO: I have no objections.

KINNEY: Neither have I.

CHAIRMAN: Go right around the table.

WOODRUFF: No objections.

SHEETS: No objections, Mr. Chairman.

CHAIRMAN: Okay. Well, thank you very much. Then if there's no further evidence to be admitted by the parties, in order would be to, at this time, would be either to close or continue the public hearing. And if we do close the public hearing, we make the exception that the Commissioners can go out and have, just to have an on-site view of the sites this afternoon.

KAGAWA: Mr. Chairman, is it possible for me to just ask one question of one of the parties?

CHAIRMAN: Sure, before we do. Go right ahead.

KAGAWA: It's not in conflict with whatever was moved, huh?

CHAIRMAN: No.

KAGAWA: I'd like to ask GEDCO, what if one of the parties offered a compromise of maybe with three wells, would you be willing to go along with that type of condition where if the first three wells proved fruitful or whatever your standards are that you would stop at that point or do you need the nine wells or what? You know, I just wanted to -.

SHEETS: Well, our reaction is that it was more than one part offered as a compromise is if the three wells were in a straight line, and I presume of the president's choosing. I think at this stage of the game it would be unwise of us to change the application, one, because you're looking then at a different kind of application. And on very technical grounds, I would have to say, no, the compromise is not acceptable. And it's not that we have an attitude because we probably, as a matter of fact, will only drill three, maybe four, wells if we have success. But the condition that was put on that it be in a straight line and all this sort of thing, it's too unclear what the compromise would be. I think we probably, well, we could sit down and hammer out, if Peter was in the kind of position that we'd like him to be in the way of knowledge, we could probably hammer out a compromise, but it would have to give us flexibility. And the way it is, we've asked for nine, there's probably no intention of going more than three or four if we have success; but we're going to have to go the whole nine if we don't have success. It was a well thought out application; and if we start changing it now, my suspicion is you couldn't act on it if we agreed to change it now. And we'd rather go the way we are and tell you that it's our intention to drill enough wells to prove the reservoir that's involved with this property; and that probably is three or four at the most.

KAGAWA: Yeah, if the condition is any three. You know, you have nine sites; and we would say okay you drill any three, and if you're successful you stop. If two out of the three are successful, then you can go on to the next site, that type of condition.

SHEETS: See, the difficulty is that we asked technical experts to tell us what sites on that property would be at the maximum necessary to drill in order to prove the resource. Now, we don't have that technical expert with us today; and I don't know how long it would take to get him back. But no one of that category is here that could give you a spontaneous off the cuff evaluation. All I can say is we wanted enough sites so that if the worse came to worse we'd have enough places to drill to satisfy ourselves whether this property has valuable resource.

KAGAWA: Right. I agree with you. But all I'm saying is what you're saying is that all you need is maybe three or four, right?

SHEETS: Yeah.

KAGAWA: So on an incremental basis that maybe you don't start building all nine at one time, well -.

SHEETS: Well, we had no intention of that. You realize what it costs is about a couple of million dollars to drill one well. We're not going to put eighteen million dollars on this property because we're not permitted to do development, we're permitted to do exploration. We think that three or four wells, if we're successful, we can prove the reservoir; and we're not going to spend money just for that. We're not going to do development based on this exploration permit, maybe that's what you're getting at - no, we're not.

KAGAWA: Three or four is about what you expect?

SHEETS: Three or four if they are fruitful in the way of what they tell us. Really, all we want to do, we want a choice of which three or four and we want that choice after the first one and after the second one and after the third one. And we certainly couldn't go along with this straight line thing necessarily. It may turn out that way and it may be the most economical, you know, but it's difficult to make that kind of a decision under these circumstances. And, frankly, I think it changes our application; and we probably shouldn't do it anyway.

KAGAWA: Not necessarily, cause we've set other conditions.

SHEETS: Yes, I understand you can set conditions, yeah.

KAGAWA: Like you have to build so many homes on twenty-five percent of whatever -.

SHEETS: Sure.

KAGAWA: And the same conditions can be imposed.

SHEETS: I understand you set conditions and we wouldn't know how to advise you on how to set those conditions until we drill the first hole, maybe after that we can talk to you about it.

CHAIRMAN: Thank you. Any other questions of any of the applicants by you Commissioners? I just had one. I know, I thought of it when Mr. Sheets was asking for a membership list, but are the original board of directors that are listed in your packets with their post office box numbers, etc., are they same or have they changed?

KINNEY: No, they've changed.

CHAIRMAN: Okay, thank you. All right, what is your pleasure?

NAKANO: Mr. Chairman, I move the public hearing be closed.

CHAIRMAN: With the condition that -.

NAKANO: That's right.

CHAIRMAN: We'll just have the field trip for the Commissioners that can attend this afternoon.

NAKANO: That's right.

CHAIRMAN: Okay, is there a second?

KAGAWA: Second.

CHAIRMAN: ~~Seconded~~ by Commissioner Kagawa. All those in favor signify by saying aye?

COMMISSIONERS: Aye.

CHAIRMAN: Contrary minded, same sign? Okay, public hearing is closed.

The public hearing adjourned at 12:15 p.m.

As there was a conflict between the Planning Commission's meeting dates and the requirements of the Planning Commission's rules that proposed findings of facts be submitted 15 days after the close of the public hearing and action taken within 30 days thereafter, Planning Director Fuke gave his opinion that if all parties agreed to waive their right to submit proposed findings, the Commission could then schedule this matter on its agenda for the August 21st meeting in Kona.

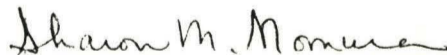
For the Commission's information, Deputy Corporation Counsel Tsukazaki gave his opinion that the 30-day requirement of the Commission's rule may not be applicable in this case as, one, the rules were drafted in contemplation of a legislative public hearing and not a quasi-judicial proceeding and, two, all parties have stipulated in their agreement to waive that requirement; therefore, he did not think the Commission should feel it is legally required to act on this application within 30 days.

At this time, all parties, with the exception of Mr. Woodruff who left the proceedings, agreed to waive their right to submit proposed findings of facts; and the Chair stated this application will be placed on the Commission's August 21st agenda.

A field trip was taken, leaving the County Building at 1:30 p.m., to Ashida's property with Commissioners Orita, Whitmarsh, Imada, Chairman Paris, Norman Hayashi, Bill and Ed Craddick, George M. Sheets in attendance. They drove through the forest area where noise could not be heard until they came through the clearing. The petitioners claim the noise level is below the 65 decibels requirement of the Department of Health. They pointed out that there were six motors - two generators (which are used alternately and one functional at all times), two drill rigs, and two mudding level motors (which are put in cubicles to reduce the noise so it does not have the same effect as the other geothermal project). The Commission then drove to the mauka portion of the Daiichi property, the apex of the property, where they could get a view of where the nine wells are proposed to be located; and the petitioners referred to an aerial map. The Commission then looked at the old GEDCO project and concluded their field trip at 3:30 p.m. at the County Building.

A T T E S T:

Respectfully submitted,



Sharon M. Nomura
Secretary



William J. Paris, Jr.
Chairman, Planning Commission

PLANNING COMMISSION

Planning Department
County of Hawaii

MINUTES
September 11, 1980

The Planning Commission met in regular session at 1:00 p.m. in the Seven Seas Luau House, Waiakea, South Hilo, Hawaii, with Chairman William J. Paris, Jr. presiding.

PRESENT: William J. Paris, Jr.
Glenn Frias
Clyde Imada
Roy Kagawa
Bert H. Nakano
Alfredo Orita
George Ponte
Charles H. Sakamoto
Tina Whitmarsh

ABSENT: Ex-officio Member
H. William Sewake

Duane Kanuha, Deputy Planning Director
Norman Hayashi, Staff Planner
Brian Nishimura, Staff Planner

David Murakami, representing Ex-officio Member Edward Harada
Ben Tsukazaki, Deputy Corporation Counsel (From 1:25 p.m.)

and approximately 5 people at 1:00 p.m., 8 people at 2:00 p.m., 13 people at 2:44 p.m., and 4 people at 4:30 p.m. were in attendance

SPECIAL PERMIT
GEOTHERMAL
EXPLORATION
DEVELOPMENT
CORPORATION
LAEPAAO, PUNA

Deputy Corporation Counsel Ben Tsukazaki submitted a draft of the proposed findings of fact, conclusions of law, and decision and order for the Commission's consideration and adoption, noting that the word "Commissioner" should be added to Commissioner Kagawa's name after the signature line.

He pointed out that the findings of fact, conclusions of law, and decision and order were prepared based upon the staff's background report and information that came out of the public hearing transcripts and that the conditions were what the Planning Department had recommended along with the Commission's added condition number nine, "That there shall be no more than nine (9) exploratory drillings; provided that upon the discovery of three (3) successful wells, all further exploratory drillings shall immediately cease."

With regard to condition number nine, he said it was his understanding that the Commission's intent of the word "successful" was that they would locate the geothermal resource in an amount

EXHIBIT AA

or to a degree that they could go ahead and test, rather than to allow for further development of geothermal energy production, to which the Commission Members agreed.

It was moved by Commissioner Kagawa and seconded by Commissioner Nakano that the Commission adopt the findings of fact, conclusions of law, and decision and order; motion was carried.

LUC



PLANNING COMMISSION

Planning Department
County of Hawaii

MINUTES
August 21, 1980

The Planning Commission met in regular session at 10:00 a.m. in the Kealakehe School Cafetorium, Kealakehe, North Kona, Hawaii, with Chairman William J. Paris, Jr. presiding.

PRESENT:	William J. Paris, Jr.	ABSENT:	Roy Kagawa
	Glenn Frias		
	Clyde Imada (From 1:30 p.m.)		Ex-officio Member
	Bert H. Nakano		H. William Sewake
	Alfredo Orita		
	George Ponte		
	Charles H. Sakamoto		
	Tina Whitmarsh		

Sidney M. Fuke, Planning Director
Norman Hayashi, Staff Planner
Brian Nishimura, Staff Planner

Galen Kuba, representing Ex-officio Member Edward Harada
Ben Tsukazaki, Deputy Corporation Counsel

and approximately 70 people at 10:00 a.m., 18 people at 2:58 p.m., 19 people at 3:19 p.m., and 16 people at 4:17 p.m. were in attendance

All those testifying were duly sworn in.

EXHIBIT Z

and Chairman Paris) and one no (Commissioner Orita). Chairman Paris said his aye vote was because the SMA has already been approved.

It was moved by Commissioner Whitmarsh and seconded by Commissioner Frias that the Commission go into executive session to discuss certain procedures with regard to a letter some of the Commission Members received from Mr. Richard Thomas, president of the Kona Bali Kai Association on Robert Smelker's application; motion was carried.

The Commission went into executive session at 4:22 p.m. and came out at 4:36 p.m.

SMA AND PDP
ROBERT SMELKER
HOLUALOA,
NORTH KONA

Application of Robert Smelker for a Special Management Area (SMA) Use Permit and a Planned Development Permit (PDP) to allow the development of a 76-unit condominium project and related improvements. The area involved is along the mauka side of Alii Drive and adjacent to the Kona Bali Kai II condominium development, Holualoa, North Kona, TMK: 7-6-15:7, 20, and 21.

With regard to the letter dated August 15, 1980, from Mr. Richard Thomas, essentially requesting the Commission to reopen the hearing so that additional information dealing with the overall traffic circulatory system within the area and questions dealing specifically to the petitioner's failure to fulfill certain obligations or promises within the existing Kona Bali Kai development, Planning Director Fuke expressed his reservations in discussing it any further unless the Commission elects to open up the public hearing to officially discuss the contents of the letter as part of the record.

It was moved by Commissioner Nakano and seconded by Commissioner Orita that Mr. Richard Thomas' letter be filed and not made a part of the record as the public hearing has been closed.

The petitioner, Robert Smelker, stated he was agreeable in having Commissioners Ponte and Frias participate in the decision even though they were not present at the last meeting.

On the SMA Use Permit application, it was moved by Commissioner Imada and seconded by Commissioner Whitmarsh that it be approved for the reasons and with the conditions as outlined and amended by the staff. A roll call vote was taken and motion carried with six ayes (Commissioners Frias, Imada, Nakano, Ponte, Sakamoto and Whitmarsh) and two noes (Commissioner Orita and Chairman Paris).

On the PDP application, it was moved by Commissioner Whitmarsh and seconded by Commissioner Imada that it be approved for the reasons and with the conditions as outlined and amended by the staff. A roll call vote was taken and motion carried with six ayes (Commissioners Frias, Imada, Nakano, Ponte, Sakamoto and Whitmarsh) and two noes (Commissioner Orita and Chairman Paris).

✓ SPECIAL PERMIT
GEOTHERMAL
EXPLORATION AND
DEVELOPMENT CORP.
LAEPAOO, PUNA

Application of Geothermal Exploration and Development Corp. 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. 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, Laepaoo, Puna, TMK: 1-4-02:10.

It was moved by Commissioner Imada and seconded by Commissioner Whitmarsh to send a favorable recommendation to the State Land Use Commission for the reasons and with the conditions as outlined by the staff with the added condition, "That there shall be no more than nine exploratory drillings, provided that upon the discovery of three successful wells, all further exploratory drillings shall immediately cease." Upon Commissioner Nakano's suggestion, the maker and seconder of the motion, Commissioners Imada and Whitmarsh respectively, agreed that the motion was made with the understanding that the Planning Department and Corporation Counsel's Office would be preparing a proposed findings of fact reflecting the Commission's position to be submitted at a future Planning Commission meeting for confirmation; motion was carried with eight ayes.

SMA USE PERMIT
NO. 100 AND
PDP NO. 19
NORTH PARK
INDUSTRIAL
KEAUHOU,
NORTH KONA

Upon the Planning Director's detailed explanation of North Park Industrial's request as per their letter dated August 19, 1980, it was moved by Commissioner Imada and seconded by Commissioner Whitmarsh that the Commission consider their proposal to change the four duplexes into fourplexes not to be of a significant or substantial change of the initially approved SMA Use Permit

No. 100 and PDP No. 19. A poll was taken and motion carried with seven ayes (Commissioners Frias, Imada, Nakano, Ponte, Sakamoto, Whitmarsh and Chairman Paris) and one no (Commissioner Orita.)

MINUTES

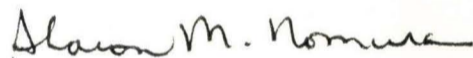
It was moved by Commissioner Imada and seconded by Commissioner Orita that the minutes of

August 7, and 8, 1980 be approved as circulated; motion was carried.

ADJOURNMENT

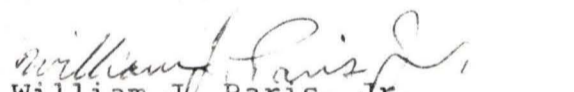
There being no further business the Chair declared the meeting adjourned at 4:43 p.m.

Respectfully submitted,



Sharon M. Nomura
Secretary

A T T E S T:



William J. Paris, Jr.
Chairman, Planning Commission

Owners of Parcel 14:
Moses Makuakane, Jr. 940
etal

- 36 Hoshi International, Inc.
- 54 Haruo Taira & wf Satsuyo Harold H. Taira - J/T
- 58 Haruo Taira & wf Satsuyo - J/T
- 60 Glenn K. Oda Albert Y. Yoshizawa - T/C
- 55 Peter S. Fithian & wf Roberta M. - J/T

NOTICE: Owner's, lessee's and vendee's names recorded on this tax map print may not be current. Refer to Administrative Directive 24-68 (Rev.) dated November 21, 1958, as amended by RPT Procedure 4-76, dated July 2, 1976.

SP80-347 GEOTHERMAL DEVELOPMENT AND EXPLORATION CORPORATION

- 7 Oneloa Co. Inc.
- 49 Ralph E. Allison & wf Leona D. - 1/2
- 61 Maxine W. Carlsmith - 1/3 Robert W. Carlsmith - 1/3 Curtis H. Carlsmith - 1/3
- 73 Oneloa Co. Inc.
- 74 George H. Melvin
- 75 Kenneth S. Sanborn & wf Esther - 1/4 - 1/2 Martin H. Katz & wf Barbara - 1/4 - 1/2
- 29 Thelma L. Hall - 1/2
- 26 Leona K. Kekoa - 1/2
- 28 Leopold Campbell
- 6 Carolyn S. May - 1/3 First Hawaiian Bank - Trustee - 1/2
- 5 James W. Hodges Inc. - 1/4 Sundown Inc. - 1/4 Waipapa Ash - 1/4 Auto Imports of Hawaii, Inc. - 1/4
- 50 Roger Schock & wf Antoinette - 1/2 A's

LAEPAOO - PUUA, PUNA, HAWAII

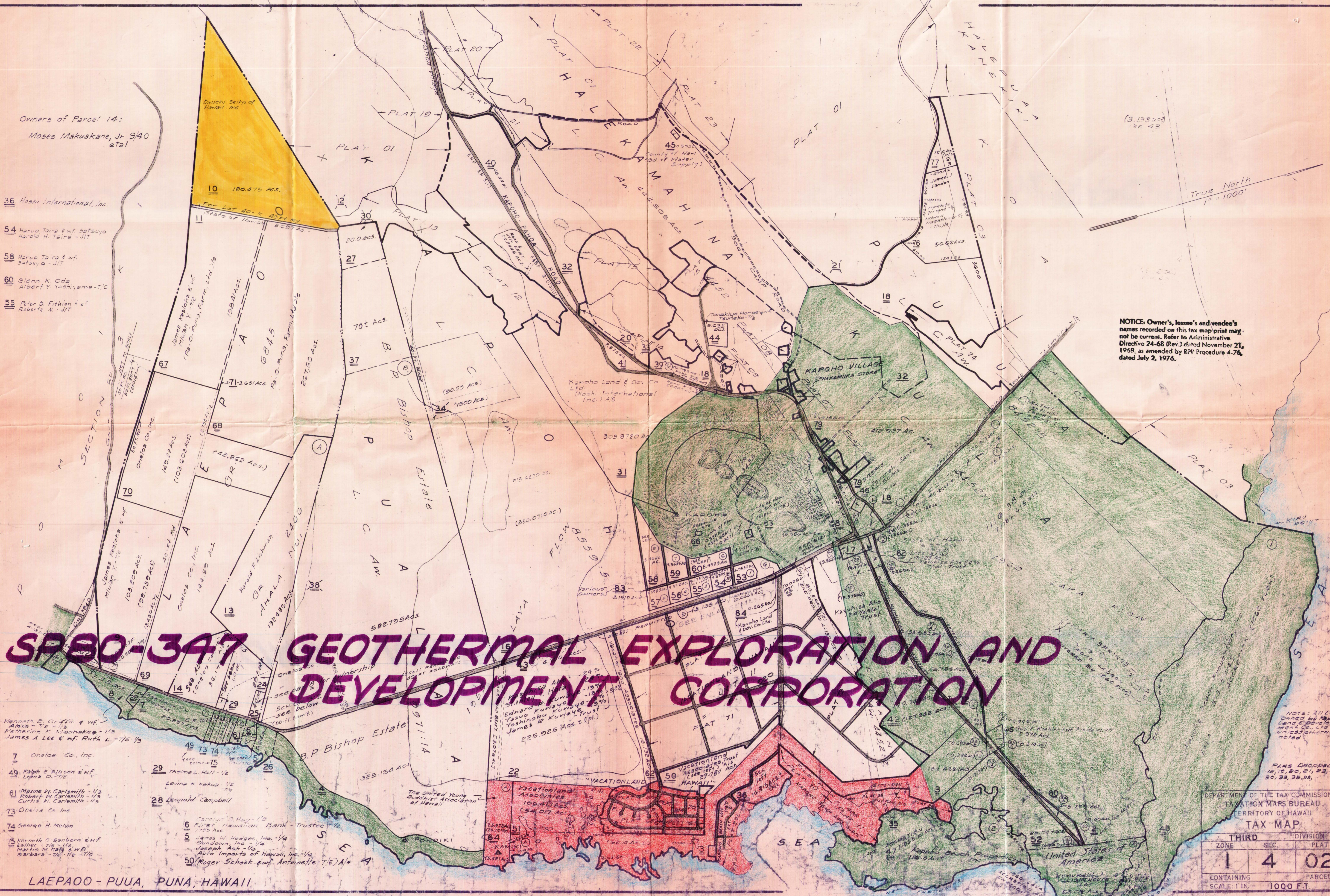
DEPARTMENT OF THE TAX COMMISSIONER
TAXATION MAPS BUREAU
TERRITORY OF HAWAII
TAX MAP

THIRD	DIVISION
ZONE	SEC. PLAT
1	4 02
CONTAINING	PARCELS
SCALE: 1 IN.	1000 FT.

NOTE: 211 LOTS OWNED BY KAPOHO LAND & DEV. CO. LTD. UNLESS OTHERWISE NOTED

PARCELS DROPPED:
12, 15, 20, 21, 23, 30, 33, 35, 38

DWG. NO. 2272 Revised Nov 1952
SOURCE: B.C.U.G.I. map
BY: P.K. & J.N. Nov 1952



UPOLU POINT

KOHALA

HONOKAA

KAWAIIHAE

WAIMEA

DIVISION OF HYDROGRAPHY
Territory of Hawaii
TOPOGRAPHIC MAP
OF THE
ISLAND OF HAWAII
COUNTY OF HAWAII

DIRECTED BY THE GEOLOGICAL SURVEY, UNITED STATES DEPARTMENT OF THE INTERIOR
SUPERVISOR IN CHARGE
W. M. STANBACH, GOVERNOR
A. LESTER WEAVER, COMMISSIONER OF PUBLIC LANDS
PREPARED BY THE
NATIONAL BUREAU OF SURVEYING
IN CHARGE
W. T. STEARNS



1944

HILO BAY

HILO

KEAAU

PAHOA

KAPOHO



KALAPANA

KILAUEA

KILAUEA VOLCANO

PAHALA

NAALEHU

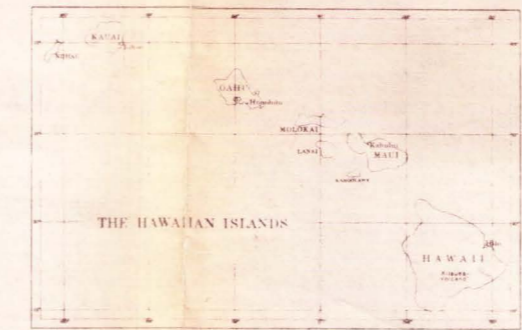
SOUTH POINT

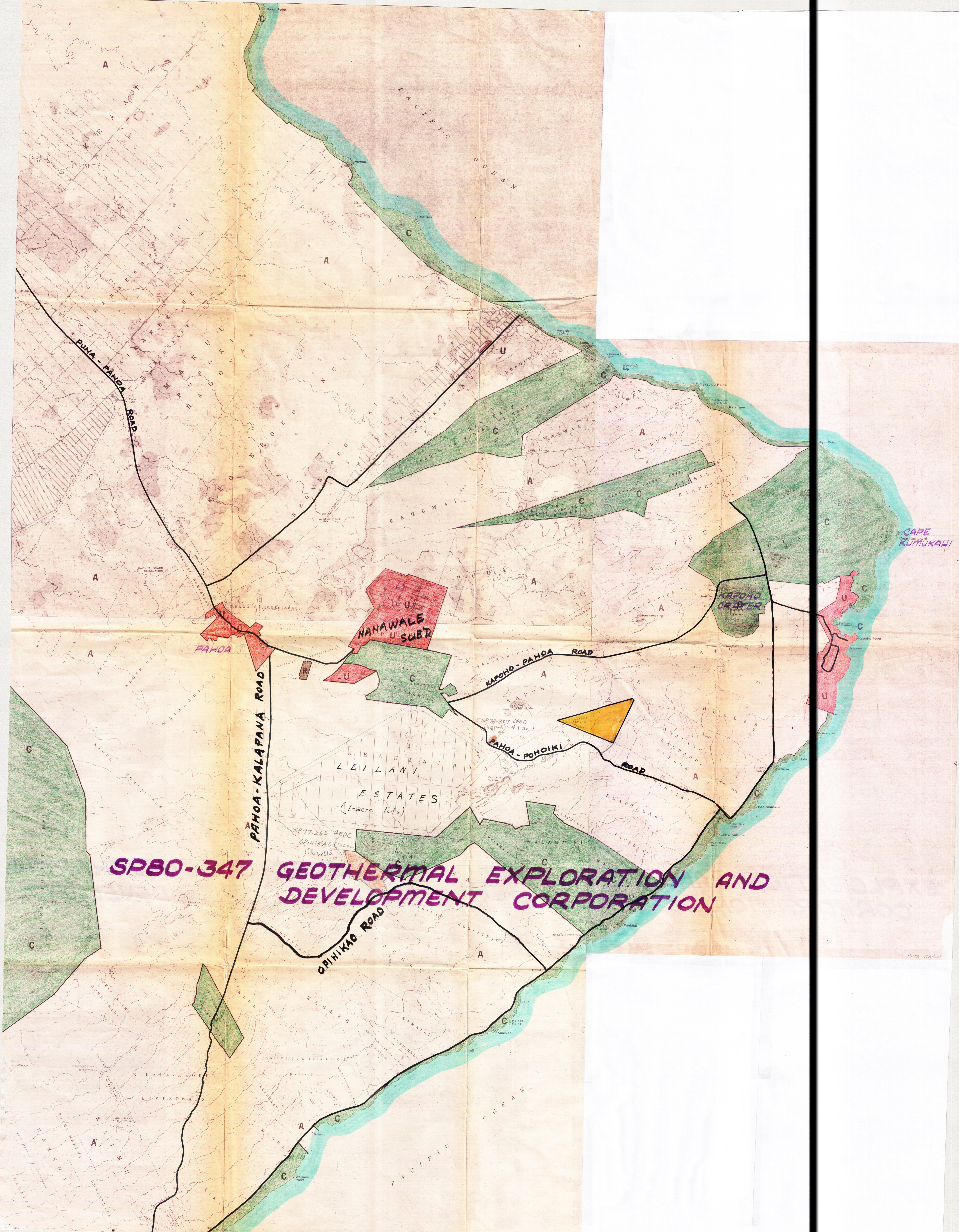
EXPLANATION

Table with symbols and descriptions for map features: Contour lines, Spot heights, Elevation, etc.

TOPOGRAPHIC TERMS

Table with symbols and descriptions for topographic terms: Ridge, Trench, etc.





SP80-347 GEOTHERMAL EXPLORATION AND DEVELOPMENT CORPORATION

PAHOA

NANAWALE U SUB'D

KAPOHO CRATER

LEILANI ESTATES (1-acre lots)

PAHOA-POHOIKI ROAD

PAHOA-KALAPANA ROAD

KAPOHO-PAHOA ROAD

PUNA-PAHOA ROAD

ORIHIKAO ROAD

CAPE KUMUKAHI

H-79, KAPPAI





EXPLORATION AND T CORPORATION

CAPE KUMUKAHI

KAPOHO CRATER

KAPOHO - PAHOIA ROAD

PAHOIA - POHOIKI ROAD

SP 78-307 DPED (HGP-A) 4.1 ac

H-73 KAPOHO

H-72 PAHOIA SOUTH



SP80-347 GEOTHERMAL EXPLORATION AND DEVELOPMENT CORPORATION

NANAWALE SUB'D

KAPOHO CRATER

LEILANI ESTATES (1-acre lots)

PĀHOA-KALAPANA ROAD

KAPOHO-PĀHOA ROAD

PĀHOA-POHOIKI ROAD

OPHIKAO ROAD

CAPE KUMUKAHI