

## MANABU

(Notes for public info mtg.)

### Highlights

- o Act 296, SLH 1983
  - 1. assesment and impact analysis
- o Act 151, SLH 1984
  - 1. grandfathered subzone areas
    - a. geothermal resource mining lease (GRML) R-2 @ 815 acs.  
(Thermal Power, Dillingham, Amfac)
    - b. GRML R-3 @ 769 acs.  
( Barnwell Geothermal Corp.)
    - c. GRML S-4602 @ 4 acs.  
( RCUH)
- o Designated subzone areas ( Nov. 16, 1984)
  - 1. Haleakala southwest rift @ 4,108 acs.
  - 2. Kilauea lower east rift ( Kamaili ) @ 5,405 acs.
  - 3. Kilauea lower east rift ( Kapoho ) @ 5,211 acs.
- o Proposed Kilauea upper east rift (Kahaualea )
  - 1. contested case hearing ( Dec. 1984 )
  - 2. decision and order by BLNR ( Dec. 28, 1984 )
    - a. assessment and analysis of Kilauea middle east rift  
( Wao Kele O Puna natural area reserve and Puna forest reserve )
    - \*\* b. update of land exchange
- o Proposed Kilauea middle east rift GRS (refer to maps )
- o Proposed Kilauea southwest rift GRS ( refer to maps )

RATIONALE FOR SUBZONE BOUNDARY AT 90% RESOURCE LINE  
(excluding lower part of Bishop Property)

The 90% resource potential line was established by the Geothermal Resource Technical Committee after an extensive evaluation of geological, geophysical, and geochemical data.

Subsequently, additional information has been brought forth, some at the recent Kahaualea contested case hearing.

- Interpretation of available geologic data suggests that the rift has migrated southward to its present active location. This active rift location is presently situated in the 90% geothermal resource potential area.
- Due to the southward migration, a trailing residual heat source is thought to exist to the north of the 90% geothermal resource area.
- The area to the south of the southward moving (extremely slow) rift zone is not believed to have a similar residual heat source.
- The geothermal heat source is much broader in the northward direction and stops more sharply in the southward direction than would be indicated by surface expressions.
- Therefore, the above suggests that the resource potential exists between the 90% and 25% line to the north and that the 25% line to the south might be moved northward. In the absence of further information, the available information suggests that the resource potential may drop sharply to the south of the 90% resource potential area.
- Additionally, there is no need to extend the geothermal subzone into a doubtful (as indicated above)>25% resource potential area when ample area for geothermal development exists in the immediately adjacent 90% resource area to the north. >25% resource areas have been subzoned on Maui and are proposed in Kilauea's SW rift zone because these areas do not offer a more viable resource in the immediate area.  
(note: There are no 90% resource areas on Maui. The 90% resource in the Kilauea SW rift zone is almost entirely within the Hawaii Volcanoes National Park.)

Source: Dr. Don Thomas and others.


# University of Hawaii at Manoa

Hawaii Institute of Geophysics

## MEMORANDUM

October 22, 1984

MEMO TO: Manabu Tagomori

FROM: Donald Thomas 

SUBJECT: Testimony by J. Iovanitti re: Bishop Estate Lease

Review of Mr. Iovanitti's written testimony and attachments indicates that the data offered is virtually identical to that presented by Mr. Iovanitti to the Technical Committee earlier this year. The opinion of the Technical Committee with regard to Mr. Iovanitti's interpretation at that time was that it was at strong variance with accepted models of the rift zone and that the data used did not support Mr. Iovanitti's conclusions to such a degree that it invalidated the accepted models.

The data submitted more recently by Mr. Iovanitti still does not support a model that finds substantial temperatures associated with the coastal flank of the Kilauea East Rift Zone and hence a change in the proposed subzone in that area is not believed to be warranted.

DT:ctk

## Supplemental Discussion of Kilauea Middle Rift Zone

The Technical Committee evaluated the resource potential of the Kilauea East Rift Zone using available geophysical, geochemical and geological data. The evaluation of this data indicated that the potential for a geothermal resource on this rift zone was <sup>greater than</sup> 90% through its entire length. This finding was based on the following data: extensive eruption and <sup>ru</sup>intensive activity along the entire length of the rift during the last millenium; an aeromagnetic anomaly associated with the rift showing that temperatures in excess of 500°C were present at shallow depths in the rift; resistivity anomalies indicating shallow high temperature ground water; the presence of high temperature shallow wells within and adjacent to the rift; and productive deep geothermal wells. The evaluation of the rift zone suggested a <sup>greater than</sup> 90% probability for a resource along the presently visible trace of the rift with a gradual decline in probability out to the extent of the aeromagnetic anomaly. Oral and written testimony subsequent to the completion of the technical committee's assessment brought out the following additional considerations:

- (1) An interpretation of the aeromagnetic data by one of the technical committee members suggested that Curie temperatures <sup>greater than</sup> (500°C) may be present at depths of 2-3 kilometers out to the limits of the 25% probability line originally drawn.
- (2) An interpretation of the available geologic and gravity data suggests that the rift zone has migrated southward to its present active location and is much broader in the northward direction than the present surface expression.

These interpretations would therefore suggest that a high resource potential exists between the 90% and 25% lines originally drawn and that the 25% line might be moved northward; in the absence of further drilling data in this area; however, such a modification may not be justified. An assessment of the resource potential south of the

surface expression of the rift zone based on the latter interpretation suggests that the resource potential declines much more rapidly below the lower 90% line and may reach a 25% probability above the current 25% line. This is substantiated to some degree by deep drilling and production data from other wells in the lower rift where deep wells have repeatedly encountered lower temperatures and permeabilities than those on the rift. Production of fluids in the HGP-A well also indicates that lower temperature water is intruding into one of the production aquifers suggesting relatively lower temperature fluids near the well here. Therefore, the present assessment of the resource potential for the middle rift zone is that a 90% probability for a resource exists within the current surface expression and that the potential tapers off gradually toward the north but much more sharply to the south of the 90% zone.

Kilauea Southwest - Joe

KILAUEA SOUTHWEST RIFT ZONE  
GEOTHERMAL RESOURCE ASSESSMENT

The geothermal potential for the Kilauea Southwest Rift zone was evaluated by the Technical Committee on the basis of available geophysical data from surveys conducted during the last two decades. Resistivity and ground water temperature anomalies have been identified; the former on both the upper and lower rift areas and the latter in areas of steam <sup>-ing</sup> ground on the upper and middle rift and <sup>in</sup> is a coastal spring adjacent to the lower rift. Self potential data also indicates the presence of thermal activity on the upper rift and recent intrusions of magma into the upper and middle rift support the presence of at least an ephemeral thermal resource. Aeromagnetic data, however, do not show a significant curie temperature anomaly associated with the rift zone suggesting a much more limited resource than is present on the East Rift Zone. The absence of a significant offshore extension of this rift would also indicate far less magmatic intrusion into the land based portion ~~of~~ of the rift.

The overall assessment of the probability for a resource on the Kilauea Southwest Rift therefore, is that a geothermal resource has a very high probability <sup>greater than</sup> (90%) in the upper, more active portion of the rift but that this probability gradually declines toward the lower <sup>-ion</sup> ~~entens~~ ~~of~~ of the rift zone. (At the present time no additional data has been presented since the completion of the original assessment by the technical team that would indicate that the 90% resource line should be relocated.)

OFFICE OF HAWAIIAN AFFAIRS



Hokuikahi



Volume 2, No. 9

"The Living Water of OHA"

Kepakemapa (September) 1985

# Court Upholds OHA Suit Against State to Reclaim Ceded Land Income

Circuit Court Judge Edwin Honda on Aug. 9 threw out a motion by the State of Hawaii to declare the Office of Hawaiian Affairs' ceded land suit illegal. His action followed nearly one and one-half years of deliberations.

OHA filed that suit in March, 1984, in order to compel the State to turn over ceded land revenues as required by law.

Ceded lands are those former crown and government lands seized without payment by the federal government when Hawaii was annexed in 1898.

Following the 1978 Constitutional Convention, Hawaii's Legislature ordered the State to turn over 20 percent of all

ceded land income to OHA for use in native Hawaiian programs.

However, the State refused to comply fully with the law and has withheld ceded land revenue generated by airports and harbors.

After OHA filed suit to force compliance with the law, the State asked Judge Honda to dismiss OHA's suit, claiming that the State cannot be sued without its permission.

It was that motion which Judge Honda threw out of court on Aug. 9. At a news conference that day attended by OHA attorney Boyce Brown and several Trustees,

Resource Development Committee Chairman Louis Hao said Judge Honda "in effect has told OHA that it has the legal right to go to court and demand that the State comply with the law as it affects OHA's revenues.

Brown said Honda "recognized that the State can't hide behind the shield of sovereignty and that it has obligations to the people of the State and to Oahu."

Brown said he and co-council David Schutter now can get started on the trial itself . . . a trial which, he said, involves tens of millions of dollars. According to Brown, the trial should be underway by March of next year.

# TRUE GEOTHERMAL ENERGY COMPANY

TRUE GEOTHERMAL ENERGY COMPANY  
HAWAII OFFICE  
Suite 1717 Pacific Tower  
1001 Bishop Street  
Honolulu, Hawaii 96813

895 WEST RIVER CROSS ROAD

Phone (307) 237-9301  
P.O. Box 2360  
Casper, Wyoming  
82602

June 26, 1985

Mr. Dean Nakano  
Staff Geologist  
Division of Water and Land Development  
Kakauimoku Building  
1151 Punchbowl Street  
Honolulu, Hawaii 96813

Dear Dean:

Chapter 171, Hawaii Revised Statutes, requires that the details of an exchange of State owned land for private land be presented to the legislature for its consideration and possible veto. As you know, the Department of Land and Natural Resources ("DLNR") has the responsibility for presenting the details of a proposed land exchange to the legislature in the form of an exchange "package", prior to the legislative session.

The details of the format and requirements for the exchange "package" are not specified in the law and are presumably left to the discretion of the DLNR. Should an exchange of land be desired by the State and recommended to the legislature by the DLNR, a subdivision of the exchanged land parcels would seemingly be required. In such an event, would the following have to occur prior to the "package" being presented to the legislature for its consideration?

1. Would the exchanged land parcels have to be formally subdivided by application to the county prior to the legislative "package" being presented?

2. Would the parcels have to be surveyed by metes and bounds description prior to the legislature being presented with the "package"?

3. Would a "paper" survey be sufficient to meet the requirements for the land exchange and subdivision application?

The foregoing issues have an important influence on the amount of time and effort required to be undertaken for land exchange prior to the start of the next legislative session.



Mr. Dean Nakano  
Page Two  
June 26, 1985

Your response to the above questions will help in scheduling the work responsibilities to the Estate of James Campbell and the True/Mid-Pacific Geothermal Venture.

Thank you for your attention.

Very truly yours,

TRUE GEOTHERMAL ENERGY COMPANY



Allan G. Kawada

AGK/bh

Mr. O. K. Stender  
Chief Executive Officer  
The Estate of James Campbell  
828 Fort Street Mall Suite 500  
Honolulu, Hawaii 96813

Dear Mr. Stender:

On behalf of the Board of Land and Natural Resources, I am pleased to respond to Campbell Estate's conditions for consideration by the Board in facilitating the land exchange for geothermal resource activities at the Kilauea East Rift Zone, Island of Hawaii. This response is presented sequentially as numbered in your February 13, 1985 letter.

1. The Board accepts the proposal to obtain legislative position on the land exchange. SCR No. 30 and HCR No. 63 are currently under consideration by the Legislature.

2. The Department's staff has completed a preliminary assessment of the Puna Forest Reserve and Wao Kele O'Puna Natural Area Reserve and tentatively identified about 11,800 acres for possible subzoning. The first of several public information meetings were held at Keeau, Hawaii on March 13, 1985 to obtain public response to the initial assessment. Further meetings are being scheduled for late April or early May.

3. The Board accepts all data developed for the Kahaualea CDUA including the EIS with the requirements that new and supplemental data for the Kilauea Middle East Rift Zone be submitted to the Board.

4. Documentation by all parties not to oppose the land exchange is beyond the authority of the Board. In this matter, the Board would not object to any action by Campbell Estate to undertake such an effort to obtain commitments from the parties involved.

5. The Board prefers to exclude "Tract 22" in the exchange as originally specified in the Board's Decision and Order of December 28, 1984. This position is based on the premise that the National Park Service would seek acquisition of privately owned lands rather than government owned lands. In addition, informal contact with Mr. Dave Ames indicate that the Park Service may not be interested in pursuing acquisition should "Tract 22" become State-owned.

6. The Board is agreeable to allow access into the Puna Forest Reserve lands and allow entry for planning and surveys pending execution of the land exchange.

7. The Board plans to initiate action to withdraw/cancel the Wao Kele O'Puna Natural Area Reserve upon execution of the land exchange.

8. Upon execution of the land exchange, the Board will terminate the Decision and Order of February 25, 1983 and the Decision and Order of December 28, 1984.

9. The Board agrees to process an amended CDUA in accordance with the requirements of Acts 296/151 and the Department's Administrative Rules subject to the execution of the land exchange with a provision that no construction activities would occur until the exchange is completed.

10. The Board will give every consideration to process the amended CDUA in an expeditious manner.

11. The Board concurs that the land exchange is deemed final provided (a) that the legislature does not veto the Board's action and (b) that the Board issues a CDUA permit for geothermal resource activities in the geothermal resource subzone.

The above responses reflect the Board's position on the conditions proposed by Campbell Estate. Should there be issues still unresolved, we suggest that talks continue on only those items needing reconciling and allow the other activities such as appraisal, subzoning and environmental assessment to proceed.

In order to expedite matters, please feel free to contact Mr. Manabu Tagomori or Mr. James Detor of our staff.

Very truly yours,

SUSUMU ONO  
Chairperson of the Board

3-12-85 -

DOWALD - Lead

LAND MGT }  
NARS } feed  
PLNG OFC }  
DOFAW }

H.C.R. NO.

63

(To be made one and ten copies)

HOUSE OF REPRESENTATIVES  
Thirteenth LEGISLATURE, 1985  
STATE OF HAWAII

RECEIVED  
APR 18 10 55 AM '85  
DEPARTMENT OF WATER & LAND DEVELOPMENT

# HOUSE CONCURRENT RESOLUTION

REQUESTING THE BOARD OF LAND AND NATURAL RESOURCES TO PROCEED EXPEDITIOUSLY WITH ALL REQUIRED ACTIONS TO CONSUMMATE, IF FEASIBLE, A LAND EXCHANGE BETWEEN CAMPBELL ESTATE LANDS AT KAHAUALE'A WITH THE ADJACENT STATE-OWNED LANDS FOR THE PURPOSE OF FACILITATING THE DEVELOPMENT OF GEOTHERMAL RESOURCES ON THE EXCHANGED STATE LANDS.

WHEREAS, the state of Hawaii depends on petroleum supplies for 91.4 percent of all the energy consumed in the state; and

WHEREAS, the oil that Hawaii imports costs the state about \$1.5 billion per year in funds which flow out of the state for this purpose; and

WHEREAS, the Department of Planning and Economic Development has stated that geothermal energy is the largest, near-term alternate energy resource with the potential to provide baseload electric energy for Hawaii; and

WHEREAS, (<sup>Ornat</sup>large-scale) development of the geothermal resources on the Big Island is essential to attainment of the State and County of Hawaii objectives of energy self-sufficiency; and

WHEREAS, Hawaii is almost totally dependent on imported oil for its electrical energy and remains critically vulnerable to future world oil supplies, the disruption of those supplies and escalating oil costs; and

(<sup>Ornat</sup>WHEREAS) Acts 296 and 151 were passed by this Legislature in 1983 and 1984, respectively, and upon becoming law, have instituted a comprehensive (?) land use regulatory system to provide for orderly geothermal development in the State of Hawaii; and

WHEREAS, as part of this land use review procedure to designate a geothermal resource subzone in the upper portion of the Kilauea East Rift Zone at Kahauale'a, the Board of Land and Natural Resources has formally requested, by written decision dated December 28, 1984, Docket No. G.S. No. 8/27/84-1, The Estate of James Campbell to investigate the feasibility of a land exchange involving state-owned lands in the Kilauea middle East Rift Zone

(Puna Forest Reserve and Wao Kele O'Puna Natural Area Reserve) and the lands belonging to The Estate of James Campbell at Kahauale'a; and

WHEREAS, the exchange of lands between the State of Hawaii and The Estate of James Campbell in the upper and middle East Rift Zones appears to be consistent with the state goal of facilitating private development of geothermal resource within the state of Hawaii; and <sup>add</sup> (protection of H.V. NAT'L Park & Unique Forest)

WHEREAS, it is in the public interest to encourage fair and reasonable opportunities for private development of geothermal resources in the state of Hawaii without unnecessary delay; and

WHEREAS, the Board of Land and Natural Resources has acquired extensive technical and environmental knowledge through public meetings and contested hearings concerning geothermal development activities in the upper Kilauea East Rift Zone; and

WHEREAS, the Board of Land and Natural Resources has initiated action to immediately undertake an assessment of the Kilauea middle East Rift Zone in and adjacent to the Natural Area Reserve beginning on the western boundary of the Kamaili geothermal subzone as a potential geothermal resource subzone; now, therefore,

BE IT RESOLVED by the House of Representatives of the Thirteenth Legislature of the State of Hawaii, Regular Session of 1985, the Senate concurring, that a land exchange of state-owned land in the Puna Forest Reserve and Wao Kele O'Puna Natural Area Reserve, and such state land adjacent thereto as may be appropriate, <sup>(Nil to insert clause inclu private lands also.)</sup> for land owned by The Estate of James Campbell at Kahauale'a as proposed by the Board of Land and Natural Resources for the purpose of allowing geothermal development activities to proceed expeditiously, is consistent with the state goal of energy self-sufficiency and, therefore, in the public interest; and

BE IT FURTHER RESOLVED that the Board of Land and Natural Resources is requested to undertake steps, including delineation of terms, conditions, and contingencies, leading to an acceptable agreement between the State of Hawaii and The Estate of James Campbell on the above-described lands and upon such agreement, the Board is further requested to facilitate the <sup>omit</sup> early (consummation) of the land exchange through such procedures as may be <sup>add proposal</sup> appropriate by applicable law and administrative rules; and

BE IT FURTHER RESOLVED that the Board of Land and Natural Resources report to the Legislature twenty days before the convening of the Regular Session of 1986 the status of the exchange; and

BE IT FURTHER RESOLVED that a certified copy of this Resolution be transmitted to the Governor of the State of Hawaii, the Chairman of the Board of Land and Natural Resources and the Trustees of The Estate of James Campbell, House Speaker, and House Clerk.

OFFERED BY:

Calvin K. King

PROPOSED CRITERIA FOR LAND VALUATION

1. Land Use Zoning; ( Conservation versus Agriculture )
  - a. inclu: Conservation subzones; ( Protection<sup>ve</sup>, resource and limited )
2. Existing land uses; ( N.A.R.S., Puna Forest Reserve )
3. Potential Geothermal Resource; ( 90% probability vs. 25% - 90% range )
4. Topographic features; (ground elev. in terms of drilling and site selection)
5. Proximity to communities, access roads, and existing corridors for power transmission.
6. Existing vegetation; (re: relative importance of flora ecosystem)
7. Essential Habitat for Four Species of Endangered Forest Birds.  
( Hawaii Creeper, Hawaii Akepa, Akiapola'au and O'u )
8. Historical and Archaeological values.
9. Potential Impacts from geologic hazards; (current Puu O'o eruptive phases)
10. Regional rainfall and surface water, if any.
11. Groundwater resources; (perched, dike and basal)
12. Recreational values, if any.

3-13-85 ✓ DOWALD - LEAD  
(LAND MGT  
NARS  
PLNG OFF  
DOFAW)

(To be made one and twelve copies)

THE SENATE

Thirteenth LEGISLATURE, 19 85..

STATE OF HAWAII

RECEIVED

S.C.R. NO. 30

65 MAR 14 AID: 07

# SENATE CONCURRENT RESOLUTION

DEPT OF WATER & LAND DEVELOPMENT

REQUESTING THE BOARD OF LAND AND NATURAL RESOURCES TO PROCEED EXPEDITIOUSLY WITH ALL REQUIRED ACTIONS TO CONSUMMATE, IF FEASIBLE, A LAND EXCHANGE BETWEEN CAMPBELL ESTATE LANDS AT KAHUALE'A WITH THE ADJACENT STATE-OWNED LANDS FOR THE PURPOSE OF FACILITATING THE DEVELOPMENT OF GEOTHERMAL RESOURCES ON THE EXCHANGED STATE LANDS.

an  
New

WHEREAS, the state of Hawaii depends on petroleum supplies for 91.4 percent of all the energy consumed in the state; and

WHEREAS, the oil that Hawaii imports costs the state about \$1.5 billion per year in funds which flow out of the state for this purpose; and

WHEREAS, the Department of Planning and Economic Development has stated that geothermal energy is the largest, near-term alternate energy resource with the potential to provide baseload electric energy for Hawaii; and

WHEREAS, large-scale development of the geothermal resources on the Big Island is essential to attainment of the State and County of Hawaii objectives of energy self-sufficiency; and

WHEREAS, Hawaii is almost totally dependent on imported oil for its electrical energy and remains critically vulnerable to future world oil supplies, the disruption of those supplies and escalating oil costs; and

WHEREAS, Acts 296 and 151 were passed by this Legislature in 1983 and 1984, respectively, and upon becoming law, have instituted a comprehensive land use regulatory system to provide for orderly geothermal development in the State of Hawaii; and

WHEREAS, as part of this land use review procedure to designate a geothermal resource subzone in the upper portion of the Kilauea East Rift Zone at Kahauale'a, the Board of Land and Natural Resources has formally requested, by written decision dated December 28, 1984, Docket No. G.S. No. 8/27/84-1, The Estate of James Campbell to investigate the feasibility of a land exchange involving state-owned lands in the Kilauea middle East Rift Zone



(Puna Forest Reserve and Wao Kele O'Puna Natural Area Reserve) and the lands belonging to The Estate of James Campbell at Kahauale'a; and

WHEREAS, the exchange of lands between the State of Hawaii and The Estate of James Campbell in the upper and middle East Rift Zones appears to be consistent with the state goal of facilitating private development of geothermal resource within the state of Hawaii; and

WHEREAS, it is in the public interest to encourage fair and reasonable opportunities for private development of geothermal resources in the state of Hawaii without unnecessary delay; and

WHEREAS, the Board of Land and Natural Resources has acquired extensive technical and environmental knowledge through public meetings and contested hearings concerning geothermal development activities in the upper Kilauea East Rift Zone; and

WHEREAS, the Board of Land and Natural Resources has initiated action to immediately undertake an assessment of the Kilauea middle East Rift Zone in and adjacent to the Natural Area Reserve beginning on the western boundary of the Kamaili geothermal subzone as a potential geothermal resource subzone; now, therefore,

BE IT RESOLVED by the Senate of the Thirteenth Legislature of the State of Hawaii, Regular Session of 1985, the House of Representatives concurring, that a land exchange of state-owned land in the Puna Forest Reserve and Wao Kele O'Puna Natural Area Reserve, and such state land adjacent thereto as may be appropriate, for land owned by The Estate of James Campbell at Kahauale'a as proposed by the Board of Land and Natural Resources for the purpose of allowing geothermal development activities to proceed expeditiously, is consistent with the state goal of energy self-sufficiency and, therefore, in the public interest; and

BE IT FURTHER RESOLVED that the Board of Land and Natural Resources is requested to undertake steps, including delineation of terms, conditions, and contingencies, leading to an acceptable agreement between the State of Hawaii and The Estate of James Campbell on the above-described lands and upon such agreement, the Board is further requested to facilitate the early consummation of the land exchange through such procedures as may be appropriate by applicable law and administrative rules; and

BE IT FURTHER RESOLVED that the Board of Land and Natural Resources report to the Legislature twenty days before the convening of the Regular Session of 1986 the status of the exchange; and

BE IT FURTHER RESOLVED that a certified copy of this Resolution be transmitted to the Governor of the State of Hawaii, the Chairman of the Board of Land and Natural Resources and the Trustees of The Estate of James Campbell, Senate President, and Senate Clerk.

OFFERED BY: Richard A. H. Aron  
By request

MAR 11 1985



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
P. O. BOX 621  
HONOLULU, HAWAII 96809

SUSUMU ONO, CHAIRMAN  
BOARD OF LAND & NATURAL RESOURCES

EDGAR A. HAMASU  
DEPUTY TO THE CHAIRMAN

DIVISIONS:  
AQUACULTURE DEVELOPMENT  
PROGRAM  
AQUATIC RESOURCES  
CONSERVATION AND  
RESOURCES ENFORCEMENT  
CONVEYANCES  
FORESTRY AND WILDLIFE  
LAND MANAGEMENT  
STATE PARKS  
WATER AND LAND DEVELOPMENT

March 18, 1985

MEMORANDUM

TO: Honorable Richard M. Matsuura, Chairman  
Senate Committee on Energy

FROM: Susumu Ono, Chairperson  
Board of Land and Natural Resources

SUBJECT: S.C.R. No. 30, Requesting the Board of Land and Natural Resources to Proceed Expeditiously with all Required Actions to Consummate, if Feasible, a Land Exchange between Campbell Estate Lands at Kahaualea with the Adjacent State-owned Lands for the Purpose of Facilitating the Development of Geothermal Resources on the Exchanged State Lands

The Department of Land and Natural Resources supports Senate Concurrent Resolution No. 30, an Administration Resolution, requesting the Board of Land and Natural Resources to proceed expeditiously in investigating and executing a land exchange between the State and The Estate of James Campbell for geothermal development at the Kilauea East Rift Zone on the island of Hawaii.

The Board of Land and Natural Resources, having the responsibility of designating geothermal resource subzones under Act 296, SLH 1983, and Act 151, SLH 1984, designated several geothermal resource subzones in 1984. For the Kahaualea area at the Kilauea East Rift Zone, the Board proposed that an exchange of Campbell Estate lands with adjacent State lands be investigated before further activity would be allowed to proceed for the following reasons:

- (1) that the current series of eruptions that began in 1983 at Puu "O" is continuing,
- (2) law suits have been filed on the Board's Conservation District Use Application decision of February 1983 allowing Campbell Estate to explore for geothermal resources on approximately 800 acres of land at Kahaualea,
- (3) the adjacent State lands have been assessed to have equal geothermal resource potential for electrical power production, and

- (4) may have lesser environmental and geologic hazard impacts based upon currently available information.

Several affected organizations have indicated that the land exchange proposal of the Board of Land and Natural Resources be investigated. They include the Campbell Estate, National Park Service, the Volcano Community Association, the Natural Area Reserve Commission, and the County of Hawaii.

The Board of Land and Natural Resources, through SCR No. 30, is seeking a legislative expression in support of the land exchange proposal so that the Department may proceed expeditiously with the appraisal of the properties and to conduct an investigation of State-owned lands in the Puna Forest Reserve and Wao Kele O'Puna Natural Area Reserve for potential subzones. With the legislative expression in support of the land exchange, the Department intends to report and request for early legislative action next session on the land exchange. Time is an important factor in establishing the geothermal resource subzones to allow geothermal resource activities to take place in pursuit of the State's energy self-sufficiency goals and objectives.

The Department supports the passage of S.C.R. No. 30.

Board member

745

THE ESTATE OF JAMES CAMPBELL

February 13, 1985 AIO: 55

STATE OF HAWAII

DEPARTMENT OF WATER & LAND DEVELOPMENT

FEB 15 10:31

RECEIVED

Mr. Susumu Ono  
Chairman  
State Board of Land  
& Natural Resources  
1151 Punchbowl Street  
Honolulu, HI 96813

Dear Mr. Ono:

Re: Request of state of Hawaii for a land exchange involving state-owned Puna Forest Reserve lands and the Estate's lands at Kahauale'a (Ref: BLNR Decision and Order on the proposed Geothermal Resource subzone at Kahauale'a, Hawaii, December 28, 1984)

As requested by the BLNR, the Trustees of The Estate of James Campbell, in coordination with the principals of True Geothermal Energy Company and Mid-Pacific Geothermal, Inc., have considered and investigated the feasibility of a land exchange between the Estate's Kahauale'a lands and the state-owned land (Puna Forest Reserve) in the middle East Rift Zone of Kilauea. Essential to our consideration is whether such an exchange would leave us in relatively the same position as we are now with respect to various factors that govern our proceeding with geothermal activities at Kahauale'a.

While we remain ready to initiate geothermal activities at Kahauale'a, and are confident such activity can be accomplished in full compliance with all applicable regulations and standards without unacceptable impacts, we accept with an affirmative attitude the state's initiative in requesting our consideration of a land exchange.

It is our presumption that the Board desires consideration of a land exchange because of (1) the current eruptive activity at Puu'O which could continue for one or more years, thereby delaying exploration activity in the permitted area and an early determination of whether a geothermal resource exists in the upper Kilauea East Rift Zone, and (2) the prospect for further delay in the Kahauale'a project due to the

Mr. Susumu Ono  
February 13, 1985  
Page 2

current legal appeals and lawsuits regarding Kahauale'a. It is also presumed that the Board wishes to determine (before exploration activities are initiated in Kahauale'a) whether all parties to both sides of the issue regarding geothermal development of Kahauale'a could agree on relocating the planned development from Kahauale'a to the adjacent state land (Puna Forest Reserve).

In an effort to comply with the BLNR's request for a land exchange, the following outlines elements which must be considered in executing the land exchange. This outline, in essence, sets forth (1) our current position, and (2) considerations to be accepted by the BLNR.

#### CURRENT POSITION

The considerable investment and efforts we have made since the commencement of this project in 1981, together with various decisions by the Board of Land & Natural Resources, have resulted in: preparation and accumulation of voluminous technical and scientific data regarding geothermal activities, impacts, and mitigation measures; an approval of an Environmental Impact Statement (EIS); obtaining a Conservation District Use Permit for drilling of exploration wells within a specified area of Kahauale'a; and implementing at considerable cost various provisions contained in the Board's Decision and Order of February 25, 1983, such as a year-long air quality survey, an environmental monitoring plan, an exploration plan, and two years of meteorological monitoring. We participated in extensive contested case hearings on the CDUA for Kahauale'a and on designating a portion of Kahauale'a as a geothermal resources subzone (GRS). The Board has completed its evaluation of Kahauale'a as a prospective geothermal resources subzone on the basis of Act 296 and the subzone evaluation criteria therein; the Board's Decision and Order of December 28, 1984, designated a portion of the geothermal resources subzone recommended by the Department of Water & Land Development with a provision that the remainder of the recommended subzone would also be designated if the land exchange does not occur. Finally, we have a guaranteed access route into the Kahauale'a parcel from the north.

Mr. Susumu Ono  
February 13, 1985  
Page 3

There are also the negative factors we face related to the two appeals to the courts regarding the Board's Decision and Order of February 25, 1983, and the lawsuit regarding the approved EIS, and the inevitable direct and considerable costs to us and True/Mid-Pacific that will result from a land exchange. It is recognized, however, that some of the additional costs could be offset if appeals and lawsuit are dropped and no new suits or contested hearings of the CDUA for Puna Forest Reserve occur.

#### BLNR CONSIDERATIONS

For your consideration, we have identified the following provisions or conditions which we feel would facilitate the land exchange and allow us to maintain, relatively, the same status we now have with respect to geothermal activities in the Kilauea East Rift Zone:

1. In order to obtain an indication of the Legislature's concurrence in the land exchange and to preclude (pending review of exchange by Legislature in 1986) up to 16 months cessation of all project activity including pending court cases, the DLNR would cause to be introduced an administration-sponsored resolution (in the 1985 session) in which the Legislature would state its position on the exchange and request BLNR to undertake certain actions to expedite and facilitate the exchange.
2. The Board would designate a geothermal resource subzone within the Puna Forest Reserve of not less than 5,300 acres. It is believed that the Act 296 criteria on which the suitability of a portion of Kahauale'a as a geothermal resources subzone was determined can be applied equally to the Puna Forest Reserve. However, we believe the subzone for Puna Forest Reserve should not be limited to 5,300 acres since the conditions which influenced the outline of the Kahauale'a subzone do not exist in the Puna Forest Reserve; i.e., buffer zones of 2,000 feet between the National Park boundary, the boundary dog-leg which excluded an area of highest resource potential adjacent to the rift zone, consideration for a rain forest area on the north

side of the subzone, and limits on the south side of the rift zone due to the down slope gradient in that area and potential for more frequent and faster moving lava flows in that direction.

Further, consideration must be given to the broken nature of the surface area in the Puna Forest Reserve (extensive cracking) and the generally less sloping terrain with a slope trend on the north side of the rift zone more parallel to the rift zone rather than sloping towards the center and to the south as exists at Kahauale'a. For these reasons, more surface area would be needed in the Puna Forest Reserve for siting flexibility and mitigation of potential hazards; i.e., the need for protective barriers and trenches is more apparent in the Puna Forest Reserve.

3. The Board would accept all data in the record relative to the CDUA for Kahauale'a in support of an amended CDUA for the new subzone since the land parcels are adjoining and encompass the Kilauea East Rift Zone. However, new and supplemental data would be required as follows:
  - a. A new land description.
  - b. Revised project description, hazards analysis, and schedule.
  - c. An amendment to the EIS for Kahauale'a to provide supplemental base-line data for the Puna Forest Reserve related primarily to a botanical survey and an archaeological survey will be made on areas prior to clearing. The amendment would include an assessment as to any additional impacts not previously addressed in the EIS or before the Board that would be likely or possible as a result of the proposed geothermal development activities in the new subzone of Puna Forest Reserve. (Other environmental base-line data which were either obtained for or accepted as applicable to Kahauale'a may also be applied to the Puna Forest Reserve unless the data is applicable only to specific sites or for very limited distances.)



- d. We would request that in view of the contested hearing on designating Kahauale'a as a geothermal resources subzone, a contested hearing not be permitted in the selection of a subzone within the Puna Forest Reserve on adjacent state land.
4. All of the parties, collectively and individually, to the contested hearing on the CDUA for Kahauale'a and the contested hearing on designating the geothermal resources subzone within Kahauale'a would agree by appropriate documentation not to oppose, directly or indirectly, the land exchange or the conditions under which the exchange is to occur as outlined in this letter. In addition, such parties would agree on execution of the land exchange to withdraw their appeal of the Board's Decision and Order of February 25, 1983, and their lawsuit against the EIS for Kahauale'a. We would also withdraw our appeal.
5. The Board would agree in principle to exchange all of Campbell Estate's Kahauale'a lands zoned Conservation (21,600 acres more or less) including the area described in the Board's Decision and Order of December 28, 1984 as "Tract 22," for the state's Puna Forest Reserve (25,738 acres, more or less) subject to any adjustments that may be required on the basis of appraised value of the respective parcels. The National Park Service has indicated in the attached letter its plans to seek to acquire Tract 22. Since we need to apply the Tract 22 acreage in the land exchange, we feel the state should sell the land to the National Park. After the land exchange, Tract 22 would be of no value to the Estate as an isolated, inaccessible parcel of land.
6. Assure permanent suitable road access into Puna Forest Reserve lands and allow entry for planning and surveys pending execution of the land exchange.
7. Withdraw/cancel the designation of that portion of Puna Forest Reserve which is defined as a "Natural Area Reserve," or transfer to and designate a Natural Area Reserve of Kahauale'a.

Mr. Susumu Ono  
February 13, 1985  
Page 6

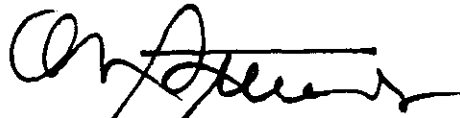
8. BLNR would suspend the Decision and Order of February 25, 1983 on the Kahauale'a CDUA pending the execution of the land exchange and issuance of a CDUA Permit for geothermal activities in Puna Forest Reserve at which time the Decision and Order of February 25, 1983 and the Decision and Order of December 28, 1984 would be terminated.
9. Upon indication of legislative intent by resolution to concur the proposed land exchange, the landowner would prepare and submit an amended Conservation District Use application for a permit to conduct geothermal activities in the new subzone in accordance with Acts 296/151 and the DLNR's Administrative Rules governing geothermal leasing and mining operations in Hawaii. Since the land exchange will not be completed at the time of application, the Board would agree to act "subject to execution of the land exchange" with a provision that no construction activity would occur until exchange is completed.
10. The Board would be requested to shorten the CDUA process as much as possible since the purpose of the CDUA for Puna Forest Reserve and much of the supporting data will be essentially the same as for Kahauale'a, and since the land areas involved are adjacent and encompass generally the same surface geologic features.
11. The land exchange transaction shall be deemed final provided (a) that the Legislature does not veto the action of the Land Board in effecting the land exchange, and (b) a CDU permit is issued by the Land Board for geothermal development activities in the geothermal resources subzone on the state land acquired by the land exchange.

We believe that the foregoing, when achieved by resolution or acts of the Legislature, executive order, or by authority of the Board would allow us, on execution of a land exchange, to maintain a position/status comparable to that which we now have.

Mr. Susumu Ono  
February 13, 1985  
Page 7

We will provide such assistance as requested by you, your staff, or other state agency in efforts to further evaluate and, upon agreement, implement the proposed land exchange of Kahauale'a lands for the Puna Forest Reserve.

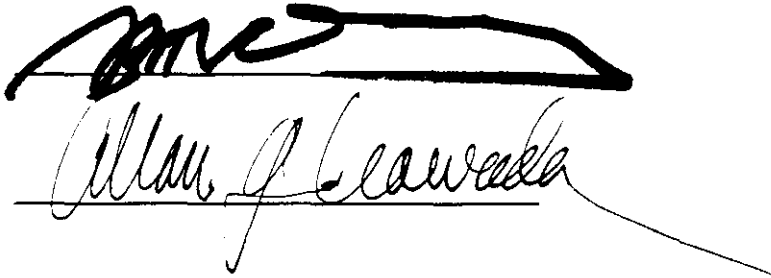
Sincerely,



O. K. Stender  
Chief Executive Officer

ACKNOWLEDGED & APPROVED:

TRUE/MID-PACIFIC GEOTHERMAL



bw:214a

February 12, 1985

MEMORANDUM FOR THE RECORD

FROM: Dean Nakano

SUBJECT: Proposed Land Exchange and Geothermal  
Resource Subzoning of the Kilauea Middle  
East Rift Zone

On February 12, 1985, an informal meeting was held at the DOWALD Conference Room to receive information concerning the proposed land exchange between the Estate of James Campbell and the State of Hawaii. In addition, data was presented relating to the assessment of the Kilauea Middle East Rift Zone as a potential geothermal resource subzone. In attendance were the following people:

Joe Kubacki	DOWALD
Sherrie Samuels	"
Dean Nakano	"
Jim Brock	NARS Commission
Rick Warshauer	

Mr. Warshauer presented information to the group concerning existing types of vegetation contained within the Wao Kele'O Puna Natural Area Reserve and the Puna Forest Reserve. A slide was also provided showing the location and age of lava flows drawn from data compiled by Robin Holcomb.

The following data and concerns were expressed by Mr. Warshauer:

- Most vegetation north of the Kilauea Middle East Rift is over 250 years old and is uniform in age and growth.
- Vegetation south of and along the rift zone is highly variable, young in age, and exhibits evolution or succession of growth.
- Successionary type vegetation, such as the Neo-Geo-Eolian and lava tube ecosystems, are more important than native closed canopy forests.
- Although pristine native forests, such as those found in Kahauale'a, are important habitats for the Adenophorus periens fern and the O'u bird, it is of equal or greater

value to preserve areas exhibiting early stages of vegetative growth to study the natural chain of succession of native and exotic plants.

- The Neo-Geo-Eolian ecosystem is limited to the southern portion of the Kilauea Middle East Rift Zone, in that, vegetation composition varies with elevation and climate (ie. wet vs. moist environment).
- Open canopy or shrublands that are native dominated are equally important as Category 1, closed canopy, exceptional native forest.
- Only a portion of the NARS area should be exchanged for Kahauale'a lands. The area south of the rift axis within the 90% probability line should be retained and protected by keeping the area designated as NARS. The area north of the rift axis including the Puna Forest Reserve should be fully considered as part of the exchange.
- The land area exchanged between the State and Campbell should be equal in size to the Kahauale'a parcel, and the State should preserve as much of the existing NARS area as possible.
- The value of Kahauale'a and State-owned lands should be assessed in terms of biological importance by a biologist most familiar with the area.
- The State lands proposed for exchange need not be contiguous, and that there may be other State lands (zoned Agriculture rather than Conservation) which may be of greater value and interest to Campbell.

Dr. Jim Brock, who is a new NARS Commission member, stated that he did not know enough of the land exchange proposal to comment or provide any additional data. Dr. Brock further stated that he was present only as an observer to gather information on the Decision and Order of the Board and the designated geothermal resource subzones. A copy of the D/O and the Report on Geothermal Resource Subzones for Designation by the Board of Land and Natural Resources was given to Dr. Brock at the close of the meeting.



DEAN NAKANO

(To be made one and twelve copies)

THE SENATE  
Thirteenth LEGISLATURE, 19 85  
STATE OF HAWAII

S.C.R. NO.

# SENATE CONCURRENT RESOLUTION

REQUESTING THE BOARD OF LAND AND NATURAL RESOURCES TO PROCEED EXPEDITIOUSLY WITH ALL REQUIRED ACTIONS TO CONSUMMATE, IF FEASIBLE, A LAND EXCHANGE BETWEEN CAMPBELL ESTATE LANDS AT KAHUALE'A WITH THE ADJACENT STATE-OWNED LANDS FOR THE PURPOSE OF FACILITATING THE DEVELOPMENT OF GEOTHERMAL RESOURCES ON THE EXCHANGED STATE LANDS.

WHEREAS, the state of Hawaii depends on petroleum supplies for 91.4 percent of all the energy consumed in the state; and

WHEREAS, the oil that Hawaii imports costs the state about \$1.5 billion per year in funds which flow out of the state for this purpose; and

WHEREAS, the Department of Planning and Economic Development has stated that geothermal energy is the largest, near-term alternate energy resource with the potential to provide baseload electric energy for Hawaii; and

WHEREAS, large-scale development of the geothermal resources on the Big Island is essential to attainment of the State and County of Hawaii objectives of energy self-sufficiency; and

WHEREAS, Hawaii is almost totally dependent on imported oil for its electrical energy and remains critically vulnerable to future world oil supplies, the disruption of those supplies and escalating oil costs; and

WHEREAS, Acts 296 and 151 were passed by this Legislature in 1983 and 1984, respectively, and upon becoming law, have instituted a comprehensive land use regulatory system to provide for orderly geothermal development in the State of Hawaii; and

WHEREAS, as part of this land use review procedure to designate a geothermal resource subzone in the upper portion of the Kilauea East Rift Zone at Kahauale'a, the Board of Land and Natural Resources has formally requested, by written decision dated December 28, 1984, Docket No. G.S. 1 8/27/84-1, The Estate of James Campbell to investigate the feasibility of a 1 exchange involving state-owned lands in the Kilauea middle East Rift Zone

(Puna Forest Reserve and Wao Kele O'Puna Natural Area Reserve) and the lands belonging to The Estate of James Campbell at Kahauale'a; and

WHEREAS, the exchange of lands between the State of Hawaii and The Estate of James Campbell in the upper and middle East Rift Zones appears to be consistent with the state goal of facilitating private development of geothermal resource within the state of Hawaii; and

WHEREAS, it is in the public interest to encourage fair and reasonable opportunities for private development of geothermal resources in the state of Hawaii without unnecessary delay; and

WHEREAS, the Board of Land and Natural Resources has acquired extensive technical and environmental knowledge through public meetings and contested hearings concerning geothermal development activities in the upper Kilauea East Rift Zone; and

WHEREAS, the Board of Land and Natural Resources has initiated action to immediately undertake an assessment of the Kilauea middle East Rift Zone in and adjacent to the Natural Area Reserve beginning on the western boundary of the Kamaili geothermal subzone as a potential geothermal resource subzone; and

NOW, THEREFORE, BE IT RESOLVED by the Thirteenth Legislature of the state of Hawaii, Regular Session of 1985, that a land exchange of state-owned land in the Puna Forest Reserve and Wao Kele O'Puna Natural Area Reserve, and such state land adjacent thereto as may be appropriate, for land owned by The Estate of James Campbell at Kahauale'a as proposed by the Board of Land and Natural Resources for the purpose of allowing geothermal development activities to proceed expeditiously, is consistent with the state goal of energy self-sufficiency and, therefore, in the public interest; and

BE IT FURTHER RESOLVED that the Board of Land and Natural Resources is requested to undertake steps, including delineation of terms, conditions, and contingencies, leading to an acceptable agreement between the State of Hawaii and The Estate of James Campbell on the above-described lands and upon such agreement, the Board is further requested to facilitate the early consummation of the land exchange through such procedures as may be appropriate by applicable law and administrative rules; and

S.C.R. NO.

Page 3

BE IT FURTHER RESOLVED that the Board of Land and Natural Resources report to the Legislature twenty days before the convening of the Regular Session of 1986 the status of the exchange; and

BE IT FURTHER RESOLVED that a certified copy of this Resolution be transmitted to the Governor of the State of Hawaii, the Chairman of the Board of Land and Natural Resources and the Trustees of The Estate of James Campbell, Senate President, and Senate Clerk.

OFFERED BY: \_\_\_\_\_



PROPOSAL FOR LAND EXCHANGE AND SUBZONE DESIGNATION OF KILAUEA MIDDLE EAST RIFT GEOTHERMAL SUBZONE

