**CHECKLIST**

- **WELL CONSTRUCTION PERMIT**
- **PUMP INSTALLATION PERMIT**

**WELL NAME or LOCATION:** Keahole - HELCO  
**ISLAND:** Hawaii

**WELL NUMBER:** 4461-02  
**Tax Map Key:** 7-3-49:36

**OWNER/OPERATOR:**
- **Firm Name:** Hawaii Electric Light Co., Inc.
- **Contact Person:** Clyde Nakata
- **Address:** P.O. Box 1027
  - Hilo, HI 96721
- **Phone:** 935-1171

**LANDOWNER:**
- **Firm Name:**
- **Contact Person:**

**Date application received:** 6-19-92

**Date acknowledged receipt/request more info:** 7-22-92

**Date application accepted:**

**Suspense date (90 days):**

**Date filing fee deposited:**

- **Application sent to following:**
  - Dept. of Hawn Home Lands: 7-21-92
  - Dept. of Health: 7-22-92
  - Office of Hawn. Affairs: 7-21-92
  - State Hist Pres Div: 7-22-92
  - Dept/Bd of Water Supply: 7-22-92
  - Sierra Club L. D. F.: 7-22-92
  - Koolauloa NB #28 (Oahu):
  - Additional List (Molokai):
    - Eric Hirano / L. Yann

**Date agenda due:** 5 Aug 92

**Date submittal due:** 5 Aug 92

**Date submittal sent to applicant:**

**Date application approved or**

**disapproved:** 19 Aug 92

**Date applicant notified of decision:**

**REMARKS:** Need to determine status of Cooper Well (4461-01) to see how it could be affected.

---

**Post-It** brand fax transmittal memo 7671

<table>
<thead>
<tr>
<th>To</th>
<th>From</th>
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<tbody>
<tr>
<td>Al Lee</td>
<td>Pae Lorii</td>
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<th>Dept.</th>
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<tr>
<td></td>
<td>587-0214</td>
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<tr>
<th>Fax #</th>
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<tr>
<td>599-14657</td>
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</table>
WCR 2 Check for Well No. 4461-02 (survey to regulation memo)

1. **Pump Tests Check** (special condition of PIP? Yes/No) Glenn Bauer (initial if yes)
   
<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
<th>If no, describe deficiency</th>
</tr>
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<tbody>
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</tbody>
</table>

   **Step-Drawdown Test:**
   
   followed WCPI Stds
   analysis attached
   proposed pump cap o.k.

   **Aquifer Pump Test:**
   
   followed WCPI Stds
   T & S analysis attached

   **Well Interference:**
   
   estimated Steady-State drawdown at 1-mile radius is ________ ft.
   analysis attached

   **Stream Surface Water Impacted:**
   
   Geology Code for Well Index: □

   **Pump Installation Check** Mitch Ohye (initial)
   
   data complete
   followed Special Cond & Elev.
   well database updated

   **Charley/Lenore/Ryan** (initial) take action based on above analysis

   **Roy** (initial) check

   **Subia** (initial) finalize w/electronic signature

   **Charley/Lenore/Ryan** File
Mr. Clyde Nagata  
Hawaii Electric Light Company, Inc.  
P.O. Box 1027  
Hilo, HI 96721-1027

Dear Mr. Nagata:

Well Completion Report for Well No. 4461-02

We received your Well Completion Report Part II for the Keahole-HELCO Well (Well No. 4461-02) on August 2, 2004 and acknowledge that it is complete.

If you have any questions, please contact Ryan Imata of the Commission staff at 587-0255 or toll-free at 974-4000 (Hawaii), 274-3141 (Kauai), 984-2400 (Maui), or 1-800-468-4644 (Lanai & Molokai), extension 70255.

Sincerely,

YVONNE Y. IZU  
Deputy Director

RI:ss
July 30, 2004

Department of Land and Natural Resources
Attn: Mr. Peter T. Young
Commission on Water Resource Management
PO Box 621
Honolulu, HI 96809

Dear Mr. Young:

Subject: Keahole HELCO Well (Well No. 4461-02) Well Completion Report

In reference to your letter of March 3, 2004 pertaining to the pump installation permit, HELCO has completed the installation of the well pump. In accordance with the permit and special conditions, we are hereby submitting the following:

1. Well Completion Report – Part II
2. Instrument Piping with flow meter
3. Completed WCR2 Form showing as-built
4. Photograph showing the pump and elevation marker
5. Copy of the pump specification and rating curve

One copy of the original pump installation permit was sent back to your office attached to my March 17, 2004 letter, copy attached.

If you have any questions, please call me at (808) 969-0321.

Thank you for your assistance.

Sincerely,

[Signature]

Clyde H. Nagata, P.E.
Manager, Engineering Department

CHN:In
Enclosures
cc: Warren Lee
    Casey Cummings
March 17, 2004

Department of Land and Natural Resources
Attn: Mr. Peter T. Young
Commission on Water Resource Management
PO Box 621
Honolulu, Hawaii 96809

Dear Mr. Young:

Subject: Keahole HELCO Well (Well No. 4461-02) Pump Installation Permit

In accordance with your letter of March 3, 2004 (copy attached), we have completed the pump installation permit form and returning one original as requested.

If you have any questions, please call me at (808) 969-0321.

Thank you for your assistance.

Sincerely,

Clyde H. Nagata, P.E.
Manager, Engineering Department

CHN:In

Enclosures

cc: Warren Lee
Tony Koyamatsu
Melvin Lima
1. State Well No.: 4461-02  
   Well Name: Keahole HELCO  
   Island: Hawaii

2. Address: Keahole Generating Station  
   Tax Map Key: 7-3-49: 36

3. Pump Installation Company: Mel's Water Work's Hawaii INC.

4. Date Pump Installed: 07/29/04

5. PERMANENT PUMP INFORMATION
   Pump Type, Make, Serial No.: Ingersoll Dresser, Model GH 48-14, 94-70-101004-1
   Rated Capacity: 500 gpm at head of: 294 ft.
   Motor Type, H.P., Voltage, rpm: U.S. Motor, 50, 480V 3 ph, 1800 rpm
   Type of flow meter: ORIFICE which measures in GALLONS
   Model Number NA  
   Serial Number PLTW-006H-X-1

6. Method of flow measurement:
   □ Flowmeter  
   □ Weir  
   □ Open Pipe  
   □ Orifice  
   □ Other*, explain below
   *attach schematic

7. Fill in the as-built section on the other side of this sheet.

8. Attach photograph of well and concrete pad clearly showing benchmark on concrete pad.

9. Other remarks/comments:
   PUMP DISCHARGE QUANTITY RECORDED IN PLANT CONTROL COMPUTER SYSTEM

---

Pump Installation Contractor (print) Mel's Water Work's  
Signature: [Signature]  
Date: [Date]

Permittee (print) Hawaii Electric Light Company, Inc.  
Signature: [Signature]  
Date: 17 Mar 2004
9. AS-BUILT PUMP SECTION

(Please attach as-built if different from diagram provided below)

Bench mark elevation surveyed to nearest 0.01 ft. = 208.63 ft. mean sea level

Elevation of top of chase tube = N/A ft. mean sea level

Pump intake depth = 21.67 ft.
(referenced to bench mark)

Chase tube depth = N/A ft.
(referenced to bench mark)

If airline installed, bottom of airline elevation = 9.03 ft. mean sea level
TECHNICAL DATA BY SELLER

STONE & WEBSTER ENGINEERING CORPORATION

DRESSER PUMP

PUMP WEIGHT DRY 8073#
MOTOR WEIGHT 720#

MINIMUM SUBMERGENCE (AT 500 GPM) 16"
BAY INLET VELOCITY, MIN/MAX 1

VERTICAL PUMP OUTLINE

DIMENSIONS BY SELLER

A. LENGTH 249"
B. HEIGHT 47"
C. DIAMETER OF MOTOR 17"
D. BELL DIAMETER 7.5"
E. OPENING DIAMETER 15.75"
F. FLOOR CLEARANCE N/A
G. PIPE DIAMETER 4"
H. BOLT CENTERLINE
I. REQUIRE DISTANCE TO REAR WALL N/A
J. DISCHARGE ELEVATION 7.75"
K. CENTERLINE TO DISCHARGE 10.25"
L. SOLEPLATE THICKNESS 1"
M. SOLEPLATE WIDTH 9.2"
N. BASE THICKNESS 0.75"
O. BASE WIDTH 3.8"
P. FLANGE SIZE
FLANGE RATING 1.25#
Q. LENGTH BTWN. FLANGES 10"
R. MTR FLANGE DIA 16.4"
S. MTR. CAP DIA. 17"
THIS DETAIL TO BE USED FOR THE FOLLOWING INSTRUMENTS:

1. FOR GENERAL NOTES AND BILL OF MATERIALS SEE DWG 53900 SHS 1 & 2.
### Supply Well Pump

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date</td>
<td>10/16/92</td>
</tr>
<tr>
<td>Name of Seller</td>
<td>Ingersoll Dresser Pum</td>
</tr>
<tr>
<td>Manufacturer's Model No.</td>
<td>Worthington 8H48-14</td>
</tr>
<tr>
<td>Pump Curve Number</td>
<td>A 24H15-K</td>
</tr>
<tr>
<td>Pump Speed, rpm</td>
<td>1760</td>
</tr>
<tr>
<td>Impeller Diameter, in.</td>
<td>5.0</td>
</tr>
<tr>
<td>Rated Efficiency, % (<em>PUMP EFFICIENCY</em>)</td>
<td>72.6%</td>
</tr>
<tr>
<td>Rated Capacity, gpm*</td>
<td>500</td>
</tr>
<tr>
<td>Number of Stages</td>
<td>14</td>
</tr>
<tr>
<td>Shutoff Head (per stage), ft.</td>
<td>32</td>
</tr>
<tr>
<td>Head Per Stage, ft.</td>
<td>28</td>
</tr>
<tr>
<td>Total Rated Head, ft.*</td>
<td>280</td>
</tr>
<tr>
<td>BHP (rated/max.)</td>
<td>48.7/48.9</td>
</tr>
<tr>
<td>Required NPSH at rated capacity/runout, gpm/ft.</td>
<td>10'/34</td>
</tr>
<tr>
<td>(datum equals eye of first stage impeller)</td>
<td></td>
</tr>
<tr>
<td>Minimum Submergence, ft.</td>
<td>16</td>
</tr>
<tr>
<td>Rotation, from driven end</td>
<td>CCW</td>
</tr>
<tr>
<td>Wt^2 of Driven Assembly Including Water, lb-ft^2</td>
<td>22.6</td>
</tr>
<tr>
<td>Weight of Pump and Motor, lb.</td>
<td>8793</td>
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<tr>
<td>Breakdown Torque of Driven Assembly</td>
<td>16%</td>
</tr>
<tr>
<td>Lubrication Type</td>
<td>Pump Age</td>
</tr>
<tr>
<td>Suction Size, in.</td>
<td>6&quot;</td>
</tr>
<tr>
<td>Discharge Size, in.</td>
<td>6&quot;</td>
</tr>
<tr>
<td>Hydrostatic Test Pressure (discharge column &amp; other pressure-retaining parts), psi (1.5 times shutoff discharge head)</td>
<td>725 - Column = 263, Head = 263</td>
</tr>
</tbody>
</table>

(* Guaranteed Item)
Discharge: FX
FY
FZ
NX
NY
NZ

**Materials** (ASTM No./corrosion allowance, in.)

Discharge Column
  connection type: flanged or threaded
Bowl
  Lining
Impeller
Casing Wear Ring, ASTM No. hardness, BHN
Impeller Wear Ring, ASTM No. hardness, BHN
Shaft, ASTM No./diameter (in.)
  coupling, ASTM No.
    Type: flanged or threaded
Sleeve, ASTM No./hardness BHN
Enclosing tube, ASTM No./I.D./corrosion allowance, in.
Shaft seal
  Type: packing or mechanical
  Cooling water requirements,
    if applicable
  Flow, gpm
  Pressure, psi
Pump Bearings
  Discharge bowl
  Suction bowl
  Intermediate bowl

<table>
<thead>
<tr>
<th></th>
<th>FX</th>
<th>FY</th>
<th>FZ</th>
<th>NX</th>
<th>NY</th>
<th>NZ</th>
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<tr>
<td></td>
<td>8,240 lb</td>
<td>8,200 lb</td>
<td>7,100 lb</td>
<td>7,000 lb</td>
<td>7,900 lb</td>
<td>7,800 lb</td>
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<td></td>
<td>750 ft-lb</td>
<td>750 ft-lb</td>
<td>750 ft-lb</td>
<td>750 ft-lb</td>
<td>750 ft-lb</td>
<td>750 ft-lb</td>
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**Steel - Epoxy**
Flanged
Alum Bronze *
None
Alum Bronze *
**Hastelloy C-276**

**Packaging**

**Not Applicable**

**Zincless Bronze**

**Zincless Bronze**
Lineshaft
Water requirement, if applicable
flow, gpm
quality
Motor Bearings
Forced or flood oil lube required?
Water cooling required?
Mounting plate, ASTM No.
Discharge Head, ASTM No.
Design pressure, psi

NI - 50
Not applicable

Yes/No

Yes/No

Steel

Cast Iron - Epoxy

* Cast Iron - ASTM A 48, CL 30

175 psi
**COMMISSION ON WATER RESOURCE MANAGEMENT**

**ROUTE SLIP FOR PERMIT ISSUANCE**

FROM: **RYAN**  
DATE: **31/04**  
SUSPENSE DATE: 

<table>
<thead>
<tr>
<th>TO</th>
<th>INIT.</th>
<th>TO</th>
<th>INIT.</th>
<th>FOR</th>
<th>PLEASE:</th>
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<tr>
<td>ANAKALEA, P.</td>
<td></td>
<td>3</td>
<td>LAU, E.</td>
<td></td>
<td>3 Approval</td>
</tr>
<tr>
<td>BAUER, G.</td>
<td></td>
<td>4</td>
<td>NAKAMA, L.</td>
<td></td>
<td>3 Signature</td>
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<tr>
<td>CHING, F.</td>
<td></td>
<td>5</td>
<td>NAKANO, D.</td>
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<td>4 Information</td>
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<tr>
<td>DANBARA, S.</td>
<td></td>
<td></td>
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<td>FUJI, N.</td>
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<td>GOODING, K.</td>
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<td>HARDY, R.</td>
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<td>1</td>
<td>MATHIAS, T.</td>
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<td>1 Review &amp; Comment</td>
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<td>HIGA, D.</td>
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<td>NAKANO, D.</td>
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<td>ICE, C.</td>
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<td>3</td>
<td>OHYE, M.</td>
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<td>IMATA, R.</td>
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<td>SAKODA, E.</td>
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<tr>
<td>KUNIMURA, I.</td>
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WELL NUMBER: **U461-02**  
WELL NAME: **Keamile Hele**

**ATTACHMENTS FOR WELL CONSTRUCTION PERMIT:**
1. COVER LETTER
2. PERMIT (2x)
   COMMENTS:
3. SDWB
4. WWB
5. CWB
6. HEER
7. LD
8. HP
9. PUMP TEST
10. WCR I FORM

**ATTACHMENTS FOR PUMP INSTALLATION PERMIT:**
1. COVER LETTER
2. PERMIT (2x)
   COMMENTS:
3. SDWB
4. WWB
5. CWB
6. HEER
7. LD
8. HP
9. WCR II FORM
10. WUR FORM

**FOR OFFICE USE ONLY**
March 3, 2004

Mr. Clyde Nagata
Hawaiian Electric Light Co., Inc.
P.O. Box 1027
Hilo, HI 96721-1027

Dear Mr. Nagata:

Pump Installation Permit
Keahole HELCO Well (Well No. 4461-02)

Enclosed are two (2) originals of your approved Pump Installation Permit for the captioned well(s) that authorize permanent pump installation work for your well(s). As part of the Chairperson's approval, the following special conditions were added and are part of your permit under Permit Condition 11:

**Special Conditions**

1. If the elevation benchmark needs to be altered, the permittee, well operator, and/or well owner shall ensure that the benchmark is transferred (or the well resurveyed) and documentation of the new benchmark shall be submitted to the Commission within sixty (60) days after the pump is installed.

2. Please enclose the pump specification and rating curve for the installed pump with the Well Completion Report.

The permittee, well operator, and/or well owner are responsible for all conditions of the permit. This includes ensuring that the pump installation contractor submits a completed Part II of the Well Completion Report form (enclosed) within sixty (60) days after the pump installation work is completed. Be advised that you may be subject to fines of up to $1000 per day for any violations of your permit conditions starting from the permit approval date.

Please sign and have the contractor sign both permit originals and return one for our files. A copy of the Well Completion Report (Part II) and a copy of your water use report form are enclosed for your use.
Mr. Clyde Nagata  
Page 2  
March 3, 2004

IMPORTANT • Pump installation shall not commence until a fully signed permit is returned to the Commission. Except for the monthly water use report form, please provide copies of all the information in this packet to your pump installation contractor.

If you have any questions, please call Ryan Imata of the Commission staff at 587-0255 or toll-free at 974-4000 (Hawaii), 274-3141 (Kauai), 984-2400 (Maui), or 1-800-468-4644 (Lanai & Molokai), extension 70255.

Sincerely,

Peter T. Young  
Chairperson

Enclosure

C: DLNR, Land Division
PUMP INSTALLATION PERMIT
Keahole HELCO Well, Well No. 4461-02

Note: This permit shall be prominently displayed at the site until the work is completed

In accordance with Department of Land and Natural Resources, Commission on Water Resource Management's Administrative Rules, Section 13-168, entitled "Water Use, Wells, and Stream Diversion Works", this document permits the pump installation for Keahole HELCO Well (Well No. 4461-02) at Keahole Generating Station, Hawaii, TMK 7-3-49: 036, subject to the Hawaii Well Construction & Pump Installation Standards (1/23/97) which include but are not limited to the following conditions:

1. The Chairperson to the Commission on Water Resource Management (Commission), P.O. Box 621, Honolulu, HI 96809, shall be notified, in writing, at least two (2) weeks before any work covered by this permit commences and staff shall be allowed to inspect installation activities in accordance with §13-168-15, Hawaii Administrative Rules.

2. The pump installation permit shall be for installation of a 500 gpm rated capacity, or less, pump in the well.

3. The permittee, well operator, and/or well owner shall provide and maintain an approved meter or other appropriate means for measuring and reporting withdrawals and water levels, and appropriate devices or means for measuring chlorides and temperature. These data shall be measured monthly and reported to the Commission on a monthly basis, on forms provided by the Chairperson (attached).

4. The proposed use shall not adversely affect existing or future legal uses of water in the area, including any surface water or established instream flow standards. This permit or the authorization to pump water from a well shall not constitute a determination of correlative water rights. The permittee, well operator, and/or well owner are notified and by this provision understands that the quantity of water taken from the well could be reduced by the Commission in the future. This permit is not a commitment that the pump capacity permitted here or even some lesser amount is guaranteed in the future.

5. The permittee, well operator, and/or well owner shall complete and submit as-built drawings and Part II - (Permanent) Pump Installation Report of the Well Completion Report (attached) to the Chairperson within sixty (60) days after completion of work.

6. The permittee, well operator, and/or well owner shall comply with all applicable laws, rules, and ordinances, and non-compliance may be grounds for revocation of this permit.

7. The pump installation permit application and any related staff submittal approved by the Commission are incorporated into this permit by reference. This permit is also subject to the Hawaii Well Construction & Pump Installation Standards (1/23/97). If the HWCPIS are not followed and as a consequence water is wasted or contaminated, a lien on the property may result.

8. The permit may be revoked if work is not started within six (6) months after the date of approval or if work is suspended or abandoned for six (6) months, unless otherwise specified. The work proposed in the pump installation permit application shall be completed within two (2) years from the date of permit approval, unless otherwise specified. The permit may be extended by the Chairperson upon a showing of good cause and good-faith performance. A request to extend the permit shall be submitted to the Chairperson no later than three (3) months prior to the date the permit expires. If the commencement date is not met, the Commission may revoke the permit after giving the permittee, well operator, and/or well owner notice of the proposed action and an opportunity to be heard.

9. If the well is not to be used it must be properly capped. If the well is to be abandoned then the permittee, well operator, and/or well owner must apply for a well abandonment permit in accordance with §13-168-12(f) prior to any well sealing or plugging work.

10. The permittee, its successors, and assigns shall indemnify, defend, and hold the State of Hawaii harmless from and against any loss, liability, claim, or demand for property damage, personal injury, or death arising out of any act or omission of the applicant, assigns, officers, employees, contractors, and agents under this permit or relating to or connected with the granting of this permit.

11. Special conditions in the attached cover transmittal letter are incorporated herein by reference.

Date of Approval: February 26, 2004
Expiration Date: February 26, 2006

PETER T. YOUNG, Chairperson
Commission on Water Resource Management

I have read the conditions and terms of this permit and understand them. I accept and agree to meet these conditions as a prerequisite and underlying condition of my ability to proceed and understand that I shall not commence work until I and the pump installer have signed, dated, and returned the permit to the Commission. I also understand that non-compliance with any permit condition may be grounds for revocation and fines of up to $1000 per day starting from the permit date of approval.

Permittee's Signature: ___________________________ Date: ___________________________
Printed Name: ___________________________ Firm or Title: ___________________________

Installer's Signature: ___________________________ C-57, C-57a, or A License #: __________ Date: __________
Printed Name: ___________________________ Firm or Title: ___________________________

Please sign both copies of this permit, return one to the Chairperson, and retain the other for your records.

Attachments
USGS
Department of Health/ Safe Drinking Water & Wastewater Branch
Hawaii Department of Water Supply
DLNR, Land Division
December 30, 2003

TO: Honorable Chiyome L. Fukino, M.D., Director
   Department of Health
   Attention: Harold Yee, Wastewater Branch
             William Wong, Safe Drinking Water Branch
             Dr. Keith Kawaoka, Hazardous Evaluation and Emergency Response
             Alec Wong, Clean Water Branch

FROM: Peter T. Young, Chairperson
       Commission on Water Resource Management

SUBJECT: Pump Installation Permit Application
         Keahole HELCO Well (Well No. 4461-02)

Transmitted for your review and comment is a copy of the captioned Pump Installation permit application.

We would appreciate your comments on the captioned application for any conflicts or inconsistencies with the programs, plans, and objectives specific to your department. Please respond by returning this cover memo form by January 30, 2004. If we do not receive comments or a request for additional review time by this date, we will assume that you have no comments.

Please find the attached maps to locate the proposed well. If you have any questions about this permit application, request additional information, or request additional review time, please contact Ryan Imata of the Commission staff at 587-0255.

RESPONSE:

[ ] This well qualifies as a source which will serve as a source of potable water to a public water system (defined as serving 25 or more people at least 60 days per year or has 15 or more service connections) and must receive Director of Health approval prior to its use to comply with Hawaii Administrative Rules (HAR), Title 11, Chapter 20, Rules Relating to Potable Water Systems, §11-20-29.

[ ] This well does not qualify as a source serving a public water system (serves less than 25 people or more people at least 60 days per year or 15 service connections) and if the well water is used for drinking, the private owner should test for bacteriological and chemical presence before initiating such use and routinely monitor the water quality thereafter. However, if future planned use from this source increases to meet the public water system definition then Director of Health approval is required prior to implementation.

[ ] If the well is used to supply both potable and non-potable purposes in a single system, the user shall eliminate cross-connections and backflow connections by physically separating potable and non-potable systems by an air gap or an approved backflow preventer, and by clearly labeling all non-potable spigots with warning signs to prevent inadvertent consumption of non-potable water. Backflow prevention devices should be routinely inspected and tested.

[ ] It does not appear that this well will be used for consumptive purposes and is not subject to Safe Drinking Water Regulations.

[ ] For the applicant's information, a source of possible wastewater contamination is not located near the proposed well site (information attached).

[ ] An NPDES permit is required.

[ ] Other relevant DOH rules/regulations, information, or recommendations are attached.

[ ] No comments/objections

Contact Person: \[sept; tank. info\] \[tan. info\] Phone: 586-290

Signed: \[tan. info\] \[tan. info\] Date: 2/25/04
A septic tank file has been found and the following information is provided. In general, the Department of Health has reviewed and approved of the plans based on the information submitted as verification that a treatment individual wastewater system (IWS) such as a septic tank was constructed and authorized to be used for wastewater disposal from a building/dwelling.

<table>
<thead>
<tr>
<th>Tax Map Key number</th>
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<td>Percolation Rate / Capacity</td>
<td>0 min / in, 0 gal</td>
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Wastewater Branch Engineer PD Section (Oahu) Johnny

For further information, you may also call the Wastewater Branch neighbor island engineers:

- [X] Mr. Dane Hiromasa at the Kealakekua Health Center, Kona at (808)322-1507
- [ ] Mr. Jerry Nunogawa at the Hawaii District Health Office, Hilo at (808)933-0401
- [ ] Mr. Joe Tateyama at the Kauai District Health Office at (808)241-3323
- [ ] Mr. Roland Tejano at the Maui District Health Office at (808)984-8232

cesspool faxes, wpd sam rev October 10, 2003
HAWAI'I HISTORIC PRESERVATION
DIVISION REVIEW

APPLICANT/AGENCY: Hawaii Electric Light Co., Inc.
ADDRESS: P.O. Box 1027
Hilo, HI 96721-1027

PROJECT: Chapter 6E-42 Review (State) Commission on Water Resource Management Keahole HELCO Well (Well No. 4461-02)

LOCATION: Kalaoa 1st – 4th, North Kona, Hawai‘i Island
TAX MAP KEY: (3) 7-3-049: 036

1. We believe there are no historic properties present because:
   a. intensive cultivation has altered the land
   b. residential development /urbanization has altered the land
   c. previous grubbing/grading has altered land
   d. an acceptable archaeological assessment or inventory survey found no historic properties
   e. other:

2. This project has already gone through the historic preservation review process.
   a. mitigation has been completed
   b. other:
   c. Thus, we believe that “no historic properties will be affected by this undertaking.

Signed Jeanne M. Knapp
Historic Preservation Division
Kona
Jeanne M. Knapp

Date 1-15-04
December 30, 2003

TO:                  Dede Mamiya, Administrator
                     Land Division

FROM:                Ernest Y. W. Lau, Deputy Director
                     Commission on Water Resource Management

SUBJECT:             Pump Installation Permit Application
                     Keahole HELCO Well (Well No. 4461-02)

Transmitted for your review and comment is a copy of the captioned Pump Installation permit application.

We would appreciate your comments on the captioned application with regard to the programs, plans, and objectives specific to your division. Please respond by returning this cover memo form by January 30, 2004. If we do not receive comments or a request for additional review time by this date, we will assume you have no comments.

Please find the attached maps to locate the proposed well. If you have any questions about this permit application, request additional information, or request additional review time, please contact Ryan Imata of the Commission staff at 587-0255.

RESPONSE:

XX] A water lease/permit is required of this applicant and an application for such will be requested by our division. Land Div. is currently processing the HELCO Keahole Generating Plant's water permit approved by the Bd. 12/12/3

[ ] A water lease/permit is not required of this applicant.

[ ] A water lease/permit has been obtained by the applicant through lease no. ____________________________

XX] This well project requires [ ] does not require a CDUP. If a CDUP is required it [XX] has [ ] has not been approved and [XX] is [XX] is not currently active.

[ ] Other relevant Land Division rules/regulations, information, or recommendations are attached.

[ ] No objections

XX] Other comments: Original source of private title is Grant No. S-15,591 issued after statehood in 1959. Accordingly, the Grant reserved, unto the State, the land's water rights.

Contact Person:       Gary Martin
                     Phone: 587-0421

Signed:  Gary Martin
Date:    JAN - 6 2004
TO: Honorable Chiyome L. Fukino, M.D., Director
Department of Health
Attention: Harold Yee, Wastewater Branch
William Wong, Safe Drinking Water Branch
Dr. Keith Kawaoka, Hazardous Evaluation and Emergency Response
Alec Wong, Clean Water Branch

FROM: Peter T. Young, Chairperson
Commission on Water Resource Management

SUBJECT: Pump Installation Permit Application
Keahole HELCO Well (Well No. 4461-02)

Transmitted for your review and comment is a copy of the captioned Pump Installation permit application.

We would appreciate your comments on the captioned application for any conflicts or inconsistencies with the programs, plans, and objectives specific to your department. Please respond by returning this cover memo form by January 30, 2004. If we do not receive comments or a request for additional review time by this date, we will assume that you have no comments.

Please find the attached maps to locate the proposed well. If you have any questions about this permit application, request additional information, or request additional review time, please contact Ryan Imata of the Commission staff at 587-0255.

RESPONSE:

This well qualifies as a source which will serve as a source of potable water to a public water system (defined as serving 25 or more people at least 60 days per year or has 15 or more service connections) and must receive Director of Health approval prior to its use to comply with Hawaii Administrative Rules (HAR), Title 11, Chapter 50, Rules Relating to Potable Water Systems, §11-35-30.

This well does not qualify as a source serving a public water system (serves less than 25 people or more people at least 50 days per year or 15 service connections) and if the well water is used for drinking, the private owner should test for bacteriological and chemical presence before initiating such use and routinely monitor the water quality thereafter. However, if future planned use from this source increases to meet the public water system definition then Director of Health approval is required prior to implementation.

If the well is used to supply both potable and non-potable purposes in a single system, the user shall eliminate cross-connections and backflow connections by physically separating potable and non-potable systems by an air gap or an approved backflow preventer, and by clearly wording all non-potable signs with warning signs to prevent inadvertent consumption of non-potable water. Backflow prevention devices should be routinely inspected and tested.

It does not appear that this well will be used for consumptive purposes and is not subject to Safe Drinking Water Regulations.

For the applicant's information, a source of possible wastewater contamination [13] is located near the proposed well site (information attached).

An NPDES permit is required.

Other relevant DOH rules/regulations, information, or recommendations are attached.

No comments/objections

Contact Person: William Phone: 808-4258
Signed: William Date: JAN 6, 2004
To: Ryan Imata  
Commission On Water Resource Management  
Department of Land and Natural Resources  

Via Fax No. (808) 587-0219  

From: Alec Wong  
Clean Water Branch  

Subject: Well Construction/Pump Installation Permit Applications  
Hale O Kai Well (Well No. 3687-09)  
Waiaha Well (Well No. 3857-04)  
Luawai Well (Well No. 3487-02)  

Date: January 7, 2004  

The Department of Health, Clean Water Branch has the following comments:  

1. For Well-Drilling Activities  

Any discharge to State waters of treated process wastewater effluent associated with well drilling activities is regulated by Hawaii Administrative Rules, Title 11, Chapter 55, Appendix I, effective September 22, 1997. Treated process wastewater effluent covered by this general permit includes well drilling slurries, lubricating fluids wastewater, and well purge wastewater. This general permit does not cover well pump testing. The applicable Notice of Intent Forms and filing fee shall be submitted at least thirty (30) days before the start of discharge to the Department of Health, Clean Water Branch at 919 Ala Moana Boulevard, Room 301, Honolulu, Hawaii 96814-4920 or P.O. Box 3378, Honolulu, Hawaii 96801-3378. Inquiries may be directed to the Clean Water Branch at (808) 586-4309 or by fax (808) 586-4352.  

2. For Well Pump Testing  

The discharger shall take all measures necessary to prevent the discharge of pollutants from entering State waters. Such measures shall include, if necessary, containment of initial discharge until the discharge is essentially free of pollutants. If the discharge is entering a stream or river bed, best management practices shall be implemented to prevent the discharge from disturbing the clarity of the receiving water. If the discharge is entering a storm drain, the discharger must obtain written permission from the owner of the storm drain prior to discharge. Furthermore, best management practices shall be implemented to prevent the discharge from collecting sediments and other pollutants prior to entering the storm drain.
STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT
P.O. BOX 221
HONOLULU, HAWAII 96820

December 30, 2003

TO: Honorable Chiyome L. Fukino, M.D., Director
Department of Health
Attention: Harold Yee, Wastewater Branch
William Wong, Safe Drinking Water Branch
Dr. Keith Kawaoka, Hazardous Evaluation and Emergency Response
Alec Wong, Clean Water Branch

FROM: T. Young, Chairperson
Commission on Water Resource Management

SUBJECT: Pump Installation Permit Application
Keahole HELCO Well (Well No. 4481-02)

Transmitted for your review and comment is a copy of the captioned Pump Installation permit
application.

We would appreciate your comments on the captioned application for any conflicts or
inconsistencies with the programs, plans, and objectives specific to your department. Please
respond by returning this cover memo form by January 30, 2004. If we do not receive
comments or a request for additional review time by this date, we will assume that you have no
comments.

Please find the attached maps to locate the proposed well. If you have any questions about
this permit application, request additional information, or request additional review time, please
contact Ryan Imata of the Commission staff at 587-0255.

R: ss
Attachment(s)

RESPONSE:
[ ] This well qualifies as a source which will serve as a source of potable water to a public water system (defined as serving 25 or more people
at least 60 days per year or has 16 or more service connections) and must receive Director of Health approval prior to its use to comply

[ ] This well does not qualify as a source serving a public water system (serves less than 25 people or more people at least 60 days per year
or 16 service connections) and if the well water is used for drinking, the private owner should test for bacteriological and chemical
presence before initiating such use and routinely monitor the water quality thereafter. However, if future planned use from this source
increases to meet the public water system definition then Director of Health approval is required prior to implementation.

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device should be routinely inspected and tested.

[ ] It does not appear that this well will be used for consumptive purposes and is not subject to Safe Drinking Water Regulations.

[ ] For the applicant's information, a source of possible wastewater contamination [ ] is [ ] not located near the proposed well site
(information attached).

[ ] An NPDES permit is required.

[ ] Other relevant DOH rules/regulations, information, or recommendations are attached.

[ ] No comments/objections.

Contact Person: [Signature]
Phone: 586-4349
Date: 1/4/04

Signed: [Signature]
To: Ryan Imata  
Commission On Water Resource Management  
Department of Land and Natural Resources  

Via Fax No. (808) 587-0219  

From: Alec Wong  
Clean Water Branch  

Subject: Well Construction/Pump Installation Permit Application  
Keahole HELCO Well (Well No. 4461-02)  

Date: January 7, 2004  

The Department of Health, Clean Water Branch has the following comments:  

1. For Well-Drilling Activities  

Any discharge to State waters of treated process wastewater effluent associated with well drilling activities is regulated by Hawaii Administrative Rules, Title 11, Chapter 55, Appendix I, effective September 22, 1997. Treated process wastewater effluent covered by this general permit includes well drilling slurries, lubricating fluids wastewater, and well purge wastewater. This general permit does not cover well pump testing. The applicable Notice of Intent Forms and filing fee shall be submitted at least thirty (30) days before the start of discharge to the Department of Health, Clean Water Branch at 919 Ala Moana Boulevard, Room 301, Honolulu, Hawaii 96814-4920 or P.O. Box 3378, Honolulu, Hawaii 96801-3378. Inquiries may be directed to the Clean Water Branch at (808) 586-4309 or by fax (808) 586-4352.  

2. For Well Pump Testing  

The discharger shall take all measures necessary to prevent the discharge of pollutants from entering State waters. Such measures shall include, if necessary, containment of initial discharge until the discharge is essentially free of pollutants. If the discharge is entering a stream or river bed, best management practices shall be implemented to prevent the discharge from disturbing the clarity of the receiving water. If the discharge is entering a storm drain, the discharger must obtain written permission from the owner of the storm drain prior to discharge. Furthermore, best management practices shall be implemented to prevent the discharge from collecting sediments and other pollutants prior to entering the storm drain.
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Application is for 250,000 gpd. Permit here implies 200,000 gpd.
December 29, 2003

Mr. Ernest Lau, P.E.
c/o Mr. Ryan Imata
Commission on Water Resource Management
Department of Land and Natural Resources
Commission of Water Resource Management
P.O. Box 621
Honolulu, Hawaii 96809

Dear Mr. Imata:

Subject: Pump Installation Permit Application
HELCO Keahole Well (Well No. 4461-02)
Board Approval of Revocable Permit

Attached you will find the approved issuance document of Hawaii Electric Light Company’s (HELCO) revocable permit for the Keahole Well (No. 4461-02). The Board of Land and Natural Resources approved HELCO's request for a revocable permit at their meeting on December 12, 2003. This board-approved document is being forwarded to you for your information and files, and is meant to supplement our application for a Pump Installation Permit for the Keahole Well.

Please let me know if you have any questions. You can reach me in Honolulu at 543-7339.

Sincerely,

Anthony Koyamatsu, P.E.
Project Manager

AHK
Enclosures

Copy: Clyde Nagata (HELCO-WA)
Linnel Nishioka (Oshima Chun Fong & Chung, Davies Pacific Center, Suite 400, 841 Bishop St., Honolulu, HI 96813)
Board of Land and Natural Resources
State of Hawaii
Honolulu, Hawaii

Issuance of Revocable Permit to Hawaii Electric Light Company, Inc., Keahole, North Kona, Hawaii, Tax Map Key: 7-3-49:36

APPLICANT:
The law firm of Oshima Chun Fong & Chung, LLP on behalf of Hawaii Electric Light Company, Inc. (HELCO), a Hawaii corporation, whose address is P.O. Box 1027, Hilo, Hawaii 96720.

LEGAL REFERENCE:
Sections 171-13, 55 and 58, Hawaii Revised Statutes (HRS), as amended.

LOCATION AND AREA:
Portion of Government lands of Kalaoa 1-4 situated at Keahole, North Kona, Hawaii, identified by Tax Map Key: 7-3-49:36, as shown on the attached map labeled Exhibit A.

The groundwater extracted under this revocable permit would come from the Keauhou aquifer system, which covers an area of 167 square miles.

ZONING:
State Land Use District: Conservation
County of Hawaii CZO: Open

TRUST LAND STATUS:
Former Section 5(b) lands of the Hawaii Admission Act:
The HELCO-owned land on which the well is located was former Public Trust Lands previously owned by the State. The State transferred title to HELCO through Land Patent Grant No. S-15,591 reserving for itself, successors and assigns, "All surface and ground waters appurtenant to the said land the right on its own behalf, or through persons authorized by it, to capture, divert or impound the same to occupy and use so much of the said land as may be required in the exercise of this right reserved." Accordingly, the water rights were not transferred to HELCO. This is in accord with Section 171-58(a), HRS.

DHHL 30% entitlement lands pursuant to the Hawaii State Constitution: Yes

APPROVED BY THE BOARD OF LAND AND NATURAL RESOURCES AT ITS MEETING HELD ON December 12, 2003

ITEM D-31
DCCA VERIFICATION:

Place of business registration confirmed: YES
Registered business name confirmed: YES
Applicant in good standing confirmed: YES

REMARKS:

A request, by HELCO, for a water lease that would serve its Keahole generator plant has been before the Board on three (3) previous occasions. At its October 9, 1998 meeting (agenda item D-3) the Board deferred the matter for thirty (30) days to allow the Department of Hawaiian Home Lands more time to review the request. It was deferred again on November 30, 1998 (agenda item D-35) to allow the Department of the Attorney General to complete its own review of the matter. The matter came back to the Board on June 9, 2000 (item D-22) and was again deferred for a Department of the Attorney General legal opinion on the proper process to use for a water lease.

In early November 2003 HELCO entered into a settlement to terminate all pending litigation by and between HELCO, Keahole Defense Coalition, Peggy J. Ratliff, Mahi Cooper, Department of Hawaiian Home Lands, Department of Health and Department of Land and Natural Resources, State of Hawaii. The settlement ended over 10 years and many lawsuits between the parties. One entity was not part of the settlement, however, the Circuit Court found, in part, that entity did not have standing in the matter.

Part of the settlement included a commitment by HELCO to give up 90% of its additional incremental potable water allocation from the County of Hawaii (COH), Department of Water Supply (DWS) system to the Department of Hawaiian Home Lands (DHHL) for their surrounding homestead lands upon the issuance of a long-term water lease. HELCO will retain 10% for landscaping and other land cover since the water from the Keahole well is too brackish for vegetation.

Before HELCO can seek COH approval for the transfer, HELCO must secure another source of water for its industrial use and emergency fire suppression at its Keahole Plant. Since 1993, HELCO has had a well on the property. The well is currently capped and not in use. HELCO estimates that it will need on average approximately 200,000 gallons per day.

HELCO's long-term interest is in obtaining a water lease under Section 171-58, HRS, as amended. However, because of the many requirements under Section 171-58, HRS, as amended, it may take a year or more to complete the process. In the meantime, HELCO requests the Department issue a revocable permit for the use of the water so that it can replace the potable water with brackish water for its industrial and fire suppression needs as soon as possible.

The Keauhou aquifer system is the ground water source for HELCO's well. The EIS reported that this system covers an area of 167 square miles and has an estimated sustainable yield of 38 million gallons per day.

The applicant has not had a lease, permit, easement or other disposition of State lands terminated within the last five years due to non-compliance with such terms and conditions.
December 30, 2003

Mr. Clyde Nagata
Hawaii Electric Light Co., Inc.
P.O. Box 1027
Hilo, HI 96721-1027

Dear Mr. Nagata:

Pump Installation Permit Application for Well No. 4461-02

We acknowledge receipt, on December 12, 2003, of your completed Pump Installation permit application and filing fee for the Keahole HELCO Well (Well No. 4461-02). You can expect your application to be processed within ninety (90) days from this date.

For clarification, we are processing your current application, not your previous application that was cancelled on November 6, 1999.

For your information, the process of constructing a well is normally regulated and permitted in two (2) steps. First, a well construction permit is issued for drilling and testing purposes only. Based upon information provided by you through a Well Completion Report Part 1 (Well Construction), a pump installation permit (upon completed application) may then be issued to authorize pump work. If a pump is installed then a Well Completion Report Part 2 (Pump Installation) is required.

If you have any questions about your permit application, please contact Ryan Imata of the Commission staff at 587-0255 or toll-free at 974-4000 (Hawaii), 274-3141 (Kauai), 984-2400 (Maui), or 1-800-468-4644 (Lanai & Molokai) extension 70255.

Sincerely,

ERNEST Y.W. LAU
Deputy Director

RI:ss
TO: Honorable Chiyome L. Fukino, M.D., Director
Department of Health
Attention: Harold Yee, Wastewater Branch
William Wong, Safe Drinking Water Branch
Dr. Keith Kawaoka, Hazardous Evaluation and Emergency Response
Alec Wong, Clean Water Branch

FROM: Peter T. Young, Chairperson
Commission on Water Resource Management

SUBJECT: Pump Installation Permit Application
Keahole HELCO Well (Well No. 4461-02)

Transmitted for your review and comment is a copy of the captioned Pump Installation permit application.

We would appreciate your comments on the captioned application for any conflicts or inconsistencies with the programs, plans, and objectives specific to your department. Please respond by returning this cover memo form by January 30, 2004. If we do not receive comments or a request for additional review time by this date, we will assume that you have no comments.

Please find the attached maps to locate the proposed well. If you have any questions about this permit application, request additional information, or request additional review time, please contact Ryan Imata of the Commission staff at 587-0255.

RESPONSE:

This well qualifies as a source which will serve as a source of potable water to a public water system (defined as serving 25 or more people at least 60 days per year or has 15 or more service connections) and must receive Director of Health approval prior to its use to comply with Hawaii Administrative Rules (HAR), Title 11, Chapter 20, Rules Relating to Potable Water Systems, §11-20-29.

This well does not qualify as a source serving a public water system (serves less than 25 people or more people at least 60 days per year or 15 service connections) and if the well water is used for drinking, the private owner should test for bacteriological and chemical presence before initiating such use and routinely monitor the water quality thereafter. However, if future planned use from this source increases to meet the public water system definition then Director of Health approval is required prior to implementation.

If the well is used to supply both potable and non-potable purposes in a single system, the user shall eliminate cross-connections and backflow connections by physically separating potable and non-potable systems by an air gap or an approved backflow preventer, and by clearly labeling all non-potable spigots with warning signs to prevent inadvertent consumption of non-potable water. Backflow prevention devices should be routinely inspected and tested.

It does not appear that this well will be used for consumptive purposes and is not subject to Safe Drinking Water Regulations.

For the applicant's information, a source of possible wastewater contamination is not located near the proposed well site (information attached).

An NPDES permit is required.

Other relevant DOH rules/regulations, information, or recommendations are attached.

No comments/objections

Contact Person: ____________________________ Phone: ____________________________
Signed: ____________________________ Date: ____________________________
TO: Dede Mamiya, Administrator
Land Division
FROM: Ernest Y.W. Lau, Deputy Director
Commission on Water Resource Management
SUBJECT: Pump Installation Permit Application
Keahole HELCO Well (Well No. 4461-02)

Transmitted for your review and comment is a copy of the captioned Pump Installation permit application.

We would appreciate your comments on the captioned application with regard to the programs, plans, and objectives specific to your division. Please respond by returning this cover memo form by January 30, 2004. If we do not receive comments or a request for additional review time by this date, we will assume you have no comments.

Please find the attached maps to locate the proposed well. If you have any questions about this permit application, request additional information, or request additional review time, please contact Ryan Imata of the Commission staff at 587-0255.

RESPONSE:

[ ] A water lease/permit is required of this applicant and an application for such will be requested by our division.

[ ] A water lease/permit is not required of this applicant.

[ ] A water lease/permit has been obtained by the applicant through lease no. ____________________________

[ ] This well project [ ] requires [ ] does not require a CDUP. If a CDUP is required it [ ] has [ ] has not been approved and [ ] is [ ] is not currently active.

[ ] Other relevant Land Division rules/regulations, information, or recommendations are attached.

[ ] No objections

[ ] Other comments:

Contact Person: __________________________ Phone: ____________

Signed: __________________________ Date: ____________
December 30, 2003

TO: Holly McEldowney, Acting Administrator
    Historic Preservation

FROM: Ernest Y.W. Lau, Deputy Director
      Commission on Water Resource Management

SUBJECT: Pump Installation Permit Application
          Keahole HELCO Well (Well No. 4461-02)

Transmitted for your review and comment is a copy of the captioned Pump Installation permit application.

We would appreciate your comments on the captioned application with regard to the programs, plans, and objectives specific to your division. Please respond by returning this cover memo form by January 30, 2004. If we do not receive comments or a request for additional review time by this date, we will assume you have no comments.

Please find the attached maps to locate the proposed well. If you have any questions about this permit application, request additional information, or request additional review time, please contact Ryan Imata of the Commission staff at 587-0255.

RESPONSE:

[] There may be areas in the vicinity of the well site that contain subsurface cultural remains such as artifacts, burials or concentrations of shells or charcoal.

[] Other relevant Historic Preservation rules/regulations, information, or recommendations are attached.

[] No objections

[] Other comments:

Contact Person: _______________________________ Phone: ____________

Signed: _______________________________ Date: ____________
LICENSE SCREEN

Please click a link listed below to display the other screen.

***** GENERAL LICENSEE *****

LIC ID: CT-17980
NAME: MELVIN E LIMA
TRADE NAME: ***** GENERAL LICENSEE *****
STATUS: CURRENT, VALID & IN GOOD STANDING
ENTITY: INDIVIDUAL
ORIG LIC DATE: 1/15/93
CLASS PREFIX: C
RESTRICTION:
BUSINESS ADDR:
MAILING ADDR:

Active/Inactive: ACTIVE
BUSINESS CODE:
EXPIRE DATE: 9/30/04
SPECIAL PRIVILEGE:
EDUCATION CODE:

Click here to enter search criteria for prior complaints history ->
For prior complaints and disciplinary history, contact licensing and business information center at (808)587-3295.

<-Back New Search->

EMPLOYEES LIST || EMPLOYERS LIST || INSURANCE/BOND || LICENSE CLASS

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http://www.ehawaiigov.org/serv/pvl?_a=d&_f=n&lictp=CT&licno=17980&off=&nm=M... 12/24/2003
**PUBLIC RECORD DATA**

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<th>Tnr</th>
<th>Property Address</th>
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<td>73-4249 QUEEN</td>
<td>HAWAII ELECTRIC LIGHT CO IN /ETAL</td>
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This information has been supplied by third parties and has not been independently verified by Hawaii Information Service and is, therefore, not guaranteed.
## Well Background Check

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<td>SRC/CTR</td>
<td>PROJECT</td>
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</tr>
</tbody>
</table>

TOTAL $150.00

REMARKS:
- LINE (1) USGS Kiehi Well A1, A2, B1, B2, C1
- LINE (2) Well No. -024461
- LINE (3)
- LINE (4)
- LINE (5)
- LINE (6)
- LINE (7)
- LINE (8)
- LINE (9)
- LINE (10)
December 12, 2003

Mr. Ernest Lau, P.E.
Deputy to Commission on Water Resource Management
Department of Land and Natural Resources
Commission of Water Resource Management
P.O. Box 621
Honolulu, Hawaii 96809

Dear Mr. Lau:

Subject: Application for Pump Installation Permit
HELCO Keahole Well (Well No. 4461-02)

This letter serves to submit an application for a Pump Installation Permit for Well No. 4461-02 for the Hawaii Electric Light Company, Inc. (HELCO) Keahole Generating Station. Also attached is a $25.00 check for the filing fee.

HELCO has also requested a revocable permit for groundwater withdrawal from the Board of Land and Natural Resources (BLNR). This request will be considered at a BLNR meeting on December 12, 2003.

Please contact Mr. Anthony Koyamatsu, Project Manager for Hawaiian Electric Co., if you have any questions regarding this application. He can be contacted in Honolulu by telephone at 543-7339.

Sincerely,

Clyde H. Nagata, P.E.
Manager, Engineering Department

Enclosures
State of Hawaii
COMMISSION ON WATER RESOURCE MANAGEMENT
Department of Land and Natural Resources
APPLICATION FOR PERMIT

Instructions: Please print in ink or type and send completed application with attachments to the Commission on Water Resource Management, P.O. Box 621, Honolulu, Hawaii 96806. Application must be accompanied by 5 copies and a non-refundable filing fee of $380 payable to the Dept. of Land and Natural Resources. The Commission may not accept incomplete applications. For assistance, call the Regulation Branch at 887-0226. For further information and updates to this application form, visit http://wtr.state.hi.us/stwtrform.

APPLICANT INFORMATION: (Fill out all three. If applicable, and place a check near to the primary contact)

1. (a) WELL OWNER: Hawaii Electric Light Co., Inc. Contact Person: Clyde Nagata
   Mailing Address: P.O. Box 1027, Hilo, HI 96721-1027
   Phone: (808) 969-0321
   Fax: (808) 969-0256
   E-mail: cmnagata@hel.com

(b) LAND OWNER: Hawaii Electric Light Co., Inc. Contact Person: Clyde Nagata
   Mailing Address: P.O. Box 1027, Hilo, HI 96721-1027
   Phone: (808) 969-0321
   Fax: (808) 969-0256
   E-mail: cmnagata@hel.com

(c) CONTRACTOR: Mel’s Water Works Hawaii, Inc. Contact Person: Melvin Lima
   Mailing Address: 3075 Ala Paha Pl. #510, Honolulu, HI 96818
   Phone: (808) 939-5919
   Fax: (808) 939-5919
   E-mail: Melswaterworks@juno.com
   Lic #: C-17980

WELL & PUMP INFORMATION: (Please fill in the diagram on the back of this form)

2. WELL NAME: HELCO Keahole Well No. 4461-02
   Island: Hawaii
   Address: Keahole Generating Station, Queen Kaahumanu Hwy. Tax Map Key:
   Zone: 3 49 36
   Section: 7
   Plat: 2
   Parcel: 3

   Attach: (a) portion of a 7.5-Minute Series USGS topographic map (scale 1:24,000) with well location labeled and include the name of the quad map (b) a property tax map. showing well location referenced to established property boundaries

3. PROPOSED WORK: (check all that apply)
   - Construct New Well
   - Install New Pump
   - Modify Existing Well
   - Determine use
   - Abandon/Seal

   State Well No.: 4461-02
   (if unknown, please call Commission at 887-0225)

4. CONSTRUCTION:
   - [ ] Dug
   - [ ] Shaft
   - [ ] Tunnel
   - [ ] Is this well part of a battery of wells? Yes [x] No
   - [ ] Is there more than one well? No
   - [ ] Does this well serve 25 or more people? Yes [x] No
   - [ ] Is this well part of a battery of wells? Yes [x] No

5. PROPOSED PUMPING RATE: 50 gallons per minute

6. PROPOSED USE: (check all that apply)
   - [ ] Municipal (including hotels, stores, etc.)
   - [ ] Irrigation (crop)
   - [ ] Industrial
   - [ ] Domestic (individual, non-commercial water system)
   - [ ] Military
   - [ ] Other (please explain):

   - [ ] City
   - [ ] County
   - [ ] Water District
   - [ ] Irrigation
   - [ ] Other (please explain):

7. (a) PROPOSED AMOUNT OF WITHDRAWAL:
   - [ ] 250,000 gallons per day
   - [ ] 500,000 gallons per day

(b) METHOD OF FLOW MEASUREMENT:
   - [ ] Flowmeter
   - [ ] Open-pipe
   - [ ] Weir
   - [ ] Office
   - [ ] Other (please explain):

8. LEGAL REQUIREMENTS: If required, these permit must be obtained before the Commission can legally issue a permit
   Conservation District Use Permit (CDUP): To find out if a CDUP is necessary, call DLNR Land Division at 867-0414
   - [ ] Not Required
   - [ ] Required, date approved, See Attachment

   Environmental Impact Statement (EIS) or Environmental Assessment (EA): To determine if an EIS or EA is necessary, call OECG at 886-4185
   - [ ] Not Required
   - [ ] Required, data published in OECG bulletin Revised Final EA published in December 1993.

   Special Management Area Permit (SMAP): To determine if a SMAP is necessary, call Oahu, (808) 527-5374; on Maui, call 881-8200; for Kauai, call 270-7235
   - [ ] Not Required
   - [ ] Required, date approved

9. ARCHAEOLOGICAL REQUIREMENTS:
   - [ ] Archeological work to be performed
   - [ ] Project is to be performed in accordance with the requirements of the applicable laws and regulations
   - [ ] Required, date approved

10. REMARKS, EXPLANATIONS:
   - [ ] Additional remarks, explanations:

NOTE: Signing below indicates the signatories understand and agree to the terms of the application and agree to the terms of the application. They also understand that approval of this application attaches the following requirements. Conditions 1) the proposed work is to be completed within two (2) years of the issuance of the permit; 2) the contractor shall submit to the Commissioner a well completion/declaration report within 60 days after the completion of the original work; 3) if the contractor submits a completed report, the permit shall be renewed for the extension of the application; 4) the permit shall constitute water use to the extent of the permit; 5) the application is not completed correctly, any permit may be suspended until the item is brought into compliance, and any work done while the permit is in suspense may result in fines of up to $1000/day.

Well Owner
Warren W. Lee, President
Signature
Date 12/12/03

Landowner
Warren W. Lee, President
Signature
Date 12/12/03

Contractor
Melvin Lima, President
Signature
Date 12/9/03

Well Owner
Warren W. Lee, President
Signature
Date 12/12/03

Landowner
Warren W. Lee, President
Signature
Date 12/12/03

Contractor
Melvin Lima, President
Signature
Date 12/9/03

For official use only
Latitude
Aguliter System No.
Longitude
State Well No.
10. PROPOSED WELL SECTION

**Please attach schematic if different from diagram provided below**

- **Hole Diameter:** 16 in
- **Minimum of 2' Radius & 4" Thick Concrete Pad (to contain benchmark surveyed to nearest 0.01 ft)**
- **Ground Elevation:** 210 ft, msl

**Solid Casing:**
- `(90% x (Ground Elevation - Water Level Elev))`
- **Total Length:** 203 ft
- **Nominal Diameter:** 12 in
- **Wall Thickness:** 0.687 in
- **Bottom Elevation:** 7 ft, msl

**Open Casing:**
- **Nominal Diameter:** 12 in
- **Wall Thickness:** 0.687 in
- **Bottom Elevation:** -33 ft, msl

**Estimated Water Level Elevations:**
- **Rock or Gravel Packing:** 58 ft
- **Material:**
  - Rolled Basalt
  - CRushed Basalt
  - Rounded Gravel

**Total Depth:** 243 ft

---

*The approximate elevation must be referenced to mean sea level (msl) at the time of application filing. Final elevations of well components shall be submitted in the Well Completion/Well Abandonment reports and referenced to a benchmark which has been established by a surveyor licensed by the State.*

For non-salt water Basal Wells - bottom elevation of well shall not be deeper than 1/4 of aquifer thickness or,

Bottom Elevation of Well Limit = (Water Elevation - 4/11 Water Level Elev)

**Example:** Estimated + 2 ft Water Level Elev. → Bottom Elevation of Well Limit = (2 - 0.185) = -1.85 ft.

**Solid Casing Material:**
- Carbon Steel: compliant with (check one or more):
  - ANSI/AWWA C200
  - API Spec. 5L
  - ASTM A53
  - ASTM A139
  - And compliant with (check one or more):
    - ASTM A242
    - Type E
    - Type S
    - Grade B
    - Other Stainless Steel: (check one):
      - ASTM A409 (production wells)
      - ASTM A214 (mogular wells)
- ABS Plastic conforming to ASTM F480 and ASTM D1527: (check one)
  - Schedule 40
  - Schedule 80
- PVC Plastic conforming to ASTM F480 and ASTM D1785 or ASTM D2241: (check one)
  - Schedule 40
  - Schedule 80
  - Schedule 120
- Thermoset Plastic: (check one)
  - Filament Wound Resin Pipe conforming to ASTM D2996
  - Centrifugally Cast Resin Pipe conforming to ASTM D2997
  - Reinforced Plastic Mortar Pressure Pipe conforming to ASTM D3517
  - Glass Fiber Reinforced Resin Pressure Pipe conforming to AWWA C950
  - PTFE Fluorocarbon Tubing conforming to ASTM D3299
  - FEP Fluorocarbon Tubing conforming to ASTM D3296

**Open Casing Material:**
- Carbon Steel: compliant with (check one or more):
  - ANSI/AWWA C200
  - API Spec. 5L
  - ASTM A53
  - ASTM A139
  - And compliant with (check one or more):
    - ASTM A242
    - Type E
    - Type S
    - Grade B
    - Other Stainless Steel: (check one):
      - ASTM A409 (production wells)
      - ASTM A214 (mogular wells)
- ABS Plastic conforming to ASTM F480 and ASTM D1527: (check one)
  - Schedule 40
  - Schedule 80
- PVC Plastic conforming to ASTM F480 and ASTM D1785 or ASTM D2241: (check one)
  - Schedule 40
  - Schedule 80
  - Schedule 120
- Thermoset Plastic: (check one)
  - Filament Wound Resin Pipe conforming to ASTM D2996
  - Centrifugally Cast Resin Pipe conforming to ASTM D2997
  - Reinforced Plastic Mortar Pressure Pipe conforming to ASTM D3517
  - Glass Fiber Reinforced Resin Pressure Pipe conforming to AWWA C950
  - PTFE Fluorocarbon Tubing conforming to ASTM D3299
  - FEP Fluorocarbon Tubing conforming to ASTM D3296

---

**Hawaii Well Construction and Pump Installation Standards**

To ensure that your well is in compliance with applicable standards.
COMMISSION ON WATER RESOURCE MANAGEMENT
ROUTE SLIP FOR NEW APPLICATIONS

FROM: RYAN
DATE: 16-Dec-03
SUSPENSE DATE: 23-Dec-03

TO: BATUR NAKAM, L.
INIT: LUM, A.
FOR: 3 Approval
3 Signature
4 Information

PLEASE:
1 Review & Comment
Take Action
2 Type Final, label new file folder
5 File
3 Xerox ___ copies

WELL NUMBER 4461-02 WELL NAME Keahole HELCO

☐ WELL CONSTRUCTION ☑ PUMP INSTALLATION ☐ BOTH

ATTACHMENTS FOR APPLICATION PROCESSING - Both applicant & staff generated
1 TRANS. LETTER
2 CWRM MAP
3 APPL. FORM (SCOPIES)
4 USGS MAPS (5 COPIES)
5 TAX MAPS (5 COPIES)
6 PARCEL OWNER VERIF. MLS PRINTOUT
7 CONTRACTOR VERIF. DCCA LICENSE SCREEN PRINTOUT
8 ALL INFO FILLED IN
9 BACKGROUND CHECK
10 $25 FEE DEPOSIT SLIP

FOLDER:
☐ MADE NEW FILE FOLDER, ATTACHED
☐ FILE FOLDER ALREADY MADE, IN FILE CABINET

INCOMPLETE ACTION DATES:

DATE ACTION

need to clarify that we are revoking earlier permit (since expired) and using this new one.

status of BLNR revocable permit at 12/12/03 mtg? Approved? - Item 8-31

Approved

3-7-3
49-36
Attachment for HELCO application for Pump Installation Permit for Keahole Generating Station

(Application submitted to the State of Hawaii, Commission on Water Resource Management, Department of Land and Natural Resources on December 12, 2003)

Explanation for Item 8. "Legal Requirements... Conservation District Use Permit (CDUP)."

The Hawaii Supreme Court, on August 25, 2003, affirmed the final judgment of the Third Circuit Court dated February 11, 1998, which determined that HELCO's CDUP amendment application had been deemed automatically approved on the basis that the Board of Land and Natural Resources did not approve or deny the application within the 180 day period ending April 26, 1996.
Pumping Test No. 1
Well 4461-02
Test conducted on: January 14, 1998
Discharge 525.00 U.S. gal/min

Transmissivity [ft²/d]: 6.24 x 10^4
Hydraulic conductivity [ft/d]: 5.20 x 10^2
Aquifer thickness [ft]: 120.00
Pumping Test No. 1

Well 4461-02

Discharge 525.00 U.S. gal/min

Transmissivity [ft²/d]: 6.24 x 10⁴

Hydraulic conductivity [ft/d]: 5.20 x 10²

Aquifer thickness [ft]: 120.00
Michael J. Matsukawa, Esq.
75-167E Hualalai Road
Kailua-Kona, Hawaii 96740

Dear Mr. Matsukawa:

SUBJECT: Petition of Keahole Defense Coalition, Inc. for Declaratory Ruling Under Section 91-8, HRS

This letter acknowledges that the Department of Land and Natural Resources, on behalf of the Board of Land and Natural Resources, received the subject petition submitted by you on August 7, 1998.

Aloha,

MICHAEL D. WILSON
Chairperson
Board of Land and Natural Resources

xc: HELCO, Benjamin A. Kudo, Dwyer Imanaka Schraff Kudo Meyer & Fujimoto
Paul Shigenaga, Administrator, PUC
Charles Totto, Executive Director, Division of Consumer Advocacy
DOH, Clean Air Branch
Randall Young, Deputy Attorney General
LETTER OF TRANSMITTAL

DATE: August 6, 1998

TO: MS. ESTHER UEDA
EXECUTIVE OFFICER
LAND USE COMMISSION
DEPT. OF BUSINESS, ECONOMIC
DEVELOPMENT & TOURISM
P.O. BOX 2339
HONOLULU, HI 96804-2359

FROM: MICHAEL J. MATSUKAWA

RE: IN THE MATTER OF THE PETITION OF KEAHOLE DEFENSE COALITION, INC.

ITEM(S) BEING TRANSMITTED:

O+4: Petition for Declaratory Ruling Under Section 91-8, HRS; Exs. 
"1" to "11"; C/S
Petitioner's Request for Hearing; C/S

Self-Addressed, Stamped Envelope

( ) For your information/files ( ) For signature in BLACK INK and return
( ) For your review/comment ( ) For signature in BLACK INK and forward
( ) Per your request to
( ) Per our conversation (X) For filing/recording
( ) For Judge's approval ( ) Check attached to cover filing/
( ) Courtesy copy for Judge recording fee of $______
( ) For processing/necessary ( ) See Remarks below
action
( ) For payment

REMARKS:

/s/ Michael J. Matsukawa

MICHAEL J. MATSUKAWA
To: Al Lyman
Company: CH2M Hill
Fax Number: 941-8225
Phone Number: 943-7135 x 218

From: Ryan Imata
Date: June 1, 1998
Pages Including Header: 3
Subject: Keahole HELCO

Notes/Comments:
Info you requested
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<td>JINNAI, R.</td>
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<td>Take Action</td>
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<td>SUBIA, S.</td>
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<td>SWANSON, S.</td>
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<td>UWAIN, J.</td>
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**Date:** 2/9/98

**SUSPENSE DATE:**

**PLEASE:**

**File:**

**Xerox copies:**

**Waiver:**

**Waiver:**

**Waiver:**
Mr. Clyde Nagata  
Hawaiian Electric Light Company, Inc.  
P.O. Box 1027  
Hilo, HI 96721  

Dear Mr. Nagata:

Well Completion Report for Well No. 4461-02

We have received your Well Completion Report (Part II) for the Keahole-HELCO Well (Well No. 4461-02) and acknowledge that it is complete.

If you have any questions, please contact Mr. Ryan Imata of the Commission staff at 587-0255 or toll-free at 974-4000 (Hawaii), extension 70255.

Sincerely,

EDWIN T. SAKODA  
Acting Deputy Director

RI:ss
WCR 1 Check for Well No. 4461-02 (survey to regulation memo)

1. **Pump Tests Check**
   Glenn Bauer (initial)
<table>
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<tr>
<th>Yes</th>
<th>No</th>
<th>If no, describe deficiency</th>
</tr>
</thead>
<tbody>
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</table>
   **Step-Drawdown Test:**
   acceptable                         □   □
   followed WCPI Stds                 □   □
   analysis attached                  □   □
   proposed pump cap o.k.             □   □

   **Aquifer Pump Test:**
   acceptable                         □   □
   followed WCPI Stds                 □   □
   T & S analysis attached            □   □

   **Well Interference:**
   estimated Steady-State drawdown at 1-mile radius is ____ ft.
   analysis attached                  □   □

   **Stream Surface Water Impacted:**
   □   □ ← If yes, identify most probable stream

2. **Construction Check**
   Mitch Ohye (initial)
<table>
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<th>No</th>
<th>If no, describe deficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>
   data complete                      □   □
   followed WCPI Stds                 □   □
   wellphys.dbf updated               □   □
   welaplic.dbf updated               □   □
WELL COMPLETION REPORT

1. STATE WELL NO. 4461-02 WELL NAME KEAHOLE HELCO WELL ISLAND HAWAII
2. LOCATION: Address KEAHOLE PLANT ACCESS ROAD Tax Map Key 7-3-10-2
3. DRILLING OR PUMP INSTALLATION CONTRACTOR ROSCOE MOSS HAWAII, INC.
4. CONTRACTOR'S C-57 LICENSE NUMBER C-16437
5. NAME OF DRILLER WHO PERFORMED WORK ROYDIE COUGH
6. TYPE OF RIG/CONSTRUCTION CABLE TOOL
7. DATE OF WELL DRILLING COMPLETION 07/03/93

8. GROUND ELEVATION (msl) 210 ft.
   Top of Drilling Platform (msl) 213 ft.
   Height of Drilling Platform above Ground surface
   Bench Mark and Method Used to Determine Ground Elevation

9. DRILLER'S LOG:
<table>
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<tr>
<th>Depth (ft.)</th>
<th>Rock Description, Remarks, Dates</th>
<th>Water Level</th>
<th>Depth (ft.)</th>
<th>Rock Description, Remarks, Dates</th>
<th>Water Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 28</td>
<td>BROKEN BROWN LAVA</td>
<td></td>
<td>118 to 128</td>
<td>HARD LAVA</td>
<td></td>
</tr>
<tr>
<td>28 to 62</td>
<td>HARD GRAY LAVA</td>
<td></td>
<td>128 to 135</td>
<td>BROKEN LAVA &amp; BOULDERS</td>
<td></td>
</tr>
<tr>
<td>62 to 63</td>
<td>BROKEN LAVA &amp; BOULDERS</td>
<td></td>
<td>135 to 150</td>
<td>BROKEN LAVA FIRM</td>
<td></td>
</tr>
<tr>
<td>63 to 98</td>
<td>BROKEN LAVA SOLID</td>
<td></td>
<td>150 to 155</td>
<td>CLINKERS</td>
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<td>75 to 98</td>
<td>BROKEN LAVA BOULDERS</td>
<td></td>
<td>155 to 165</td>
<td>BROKEN GREY LAVA</td>
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</tr>
<tr>
<td>98 to 118</td>
<td>BROKEN LAVA BROKEN</td>
<td></td>
<td>165 to 180</td>
<td>BROKEN LAVA FIRM</td>
<td></td>
</tr>
</tbody>
</table>

10. TOTAL DEPTH OF WELL BELOW GROUND 253 ft.
11. HOLE SIZE: 16 in. dia. from 0 ft. to 253 ft. below ground
    inch dia. from 0 ft. to 253 ft. below ground
    inch dia. from 0 ft. to 253 ft. below ground

12. CASING INSTALLED:
   12 in. I.D. x 687 ft. in. wall solid section to 203 ft. below ground
   12 in. I.D. x 687 ft. in. wall perforated section to 243 ft. below ground

13. ANNULUS:
   Grouted from 0 ft. below ground to 195 ft. below ground
   Gravel packed from 195 ft. below ground to 253 ft. below ground

14. INITIAL WATER LEVEL 209 ft. below ground. Date and time of measurement 06/16/93 9:00 AM
15. INITIAL CHLORIDE 5900 ppm Date and time of sampling 06/26/93
16. INITIAL TEMPERATURE 71.4 °F Date and time of sampling 06/25/93
17. DATE OF PUMP INSTALLATION
18. PUMP INSTALLATION:
   Pump Type, Make, Serial No. Capacity __________ ppm
   Motor type, H.P., Voltage, rpm
   Depth of Pump Intake Setting ft. below ground, which elevation is ft.
   Depth of bottom of airline ft. below ground, which elevation is ft.
   Pumping Head is ft.

19. PUMPING TESTS:
   Reference Point (R.P.) used: CASING, which elevation is 212 ft.
<table>
<thead>
<tr>
<th>Date</th>
<th>Start water level</th>
<th>End water level</th>
<th>Depth of well</th>
</tr>
</thead>
<tbody>
<tr>
<td>06/24/93</td>
<td>210.7 ft. below R.P.</td>
<td>210.7 ft. below R.P.</td>
<td>253 ft. below R.P.</td>
</tr>
<tr>
<td>06/25/93</td>
<td>210.7 ft. below R.P.</td>
<td>210.7 ft. below R.P.</td>
<td>253 ft. below R.P.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Elapsed Time (hours)</th>
<th>Pumping Rate (gpm)</th>
<th>Drawdown (ft.)</th>
<th>Temp. (°F)</th>
<th>Elapsed Time (hours)</th>
<th>Pumping Rate (gpm)</th>
<th>Drawdown (ft.)</th>
<th>Temp. (°F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 0.5</td>
<td>500</td>
<td>25</td>
<td>900</td>
<td>0.5 to 1.0</td>
<td>500</td>
<td>500</td>
<td>0</td>
</tr>
<tr>
<td>1.0 to 3.0</td>
<td>3.0</td>
<td>10</td>
<td>0.0</td>
<td>3.0 to 5.0</td>
<td>2.0</td>
<td>0</td>
<td>0.0</td>
</tr>
</tbody>
</table>

   Remarks: ATTACHED LAB CHLORIDE ANALYSIS

Contractor (print): TRACY RUNNELL
Title: FIELD SUPERINTENDENT
Signature: [Signature]
Date: JULY 23, 1993

For Official Use: Well No., Longitude, Latitude
For Driller's Use: Job Name, Job No.
8. Remarks, Explanations (cont'd):

Heco Keahole No. 4461-02

9. As Built Well Section

Elevation at top of casing

208.36 ft, masl

Ground Elevation: 206 ft, masl Approx

Cement Grout: 195 ft

Rock Packing: 58 ft

Hole Diameter: 16 in.

Total Depth: 263 ft

Solid Casing:

Material: 10" Stainless Steel on Top
Length: 205 1/8" PVC
Diameter: 12" I.D.
Wall Thickness: 0.187" PVC, 0.87 in.

Casing: Perforated Screen
Material: PVC
Length: 40 ft
Diameter: 12" I.D.
Wall Thickness: 0.87 in.
Openings: 82 sq. in. A.F.

Open Hole:
Length: N/A
Diameter: N/A

*Approximate elevation at time of filing application. Ground elevation above mean sea level (msl) by a surveyor licensed by the State must be submitted at start of construction. Final elevations of well components shall be submitted in the well completion/well abandonment reports.
# LONG-TERM AQUIFER TEST DATA

<table>
<thead>
<tr>
<th>Pumped Well No.</th>
<th>Observation well no.</th>
<th>Distance between Obs. &amp; Pumped Well ft.</th>
<th>Reference pt. for depth to water TOC + 8.5&quot; ft. msl</th>
<th>Static Water Level @ start of test 204.33 ft. msl</th>
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</thead>
<tbody>
<tr>
<td>4461-02</td>
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<table>
<thead>
<tr>
<th>Pumped Well Name</th>
<th>Keahole Helco</th>
<th>Target Q</th>
<th>500 gpm</th>
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</table>

<table>
<thead>
<tr>
<th>Water level measurements by:</th>
<th>steel tape</th>
<th>pressure transducer</th>
<th>airline</th>
</tr>
</thead>
</table>

**START TEST Date:** 1/14/98  **Hour of day:** 8:00 a.m.

Flow Meter Reading Start: 000 229 gals  **END: 015 135**

<table>
<thead>
<tr>
<th>Time (min)</th>
<th>Flow Meter Reading (gals)</th>
<th>Depth to Water (ft)</th>
<th>Drawdown (ft)</th>
<th>Pumping Rate (gpm)</th>
<th>TOC (ppm)</th>
<th>CF (mg/l)</th>
<th>Sample</th>
</tr>
</thead>
<tbody>
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**Note:** all measurements.

**Taking at 8.5" from TOC cut + marked for survey.

**Mark at 70° F.**
<table>
<thead>
<tr>
<th>Sample Waterflood</th>
<th>Date of Pumping</th>
<th>Initial Drawdown</th>
<th>Duration of Pumping (hrs)</th>
<th>Pumping Rate (gpm)</th>
<th>BE (ppm)</th>
<th>Cl (ppm)</th>
<th>Temp. (°F)</th>
<th>Remarks</th>
</tr>
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<tbody>
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<td>207</td>
<td>517</td>
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<td>206.33</td>
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<td>Max possible duration, water level or quality did not stabilize for any 24 period</td>
</tr>
<tr>
<td>8:05 am</td>
<td>206.33</td>
<td>Use same ending drawdown figure as start for recovery</td>
<td>0</td>
<td>Begin recovery data next page</td>
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<td></td>
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</table>

Flow meter reading at end of pumped period: 153135 gals
<table>
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<tr>
<th>Suggested</th>
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<tbody>
<tr>
<td>Distance</td>
</tr>
<tr>
<td>Start</td>
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<tr>
<td>Actual</td>
</tr>
<tr>
<td>Depth</td>
</tr>
<tr>
<td>Recovery</td>
</tr>
<tr>
<td>Pumping</td>
</tr>
<tr>
<td>So</td>
</tr>
<tr>
<td>Date</td>
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<td>Remarks</td>
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<td>Time</td>
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<td>Rate</td>
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<td>(min)</td>
</tr>
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</tr>
<tr>
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</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

**Recovery 1-16-98**

|       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|
| 0     | 8:05  | 206.33| 0     |       |       |       | Start recovery |
| 1     | 8:06  | 206.41| 0     |       |       |       |
| 1.5   | 8:06:30| 206.35| 0     |       |       |       |
| 2     | 8:07  | 206.35| 0     |       |       |       |
| 2.5   | 8:07:30| 206.35| 0     |       |       |       |
| 3     | 8:08  | 206.35| 0     |       |       |       |
| 4     | 8:09  | 206.34| 0     |       |       |       |
| 5     | 8:10  | 206.33| 0     |       |       |       | Recovery 100% |
| 6     | 8:11  | 206.33| 0     |       |       |       |
| 7     | 8:12  | 206.33| 0     |       |       |       |
| 8     | 8:13  | 206.33| 0     |       |       |       |
| 10    | 8:15  | 206.33| 0     |       |       |       |
| 15    | 8:20  | 206.33| 0     |       |       |       |
| 20    | 8:25  | 206.35| 0     |       |       |       |
| 25    | 8:30  | 206.37| 0     |       |       |       |
| 30    | 8:35  | 206.41| 0     |       |       |       |
| 40    | 8:45  | 206.41| 0     |       |       |       |
| 50    | 0     |       |       |       |       |       |
| 60    | 0     |       |       |       |       |       |
| 70    | 0     |       |       |       |       |       |
| 80    | 0     |       |       |       |       |       |
| 90    | 0     |       |       |       |       |       |
| 100   | 0     |       |       |       |       |       |
| 150   | 0     |       |       |       |       |       |
| 200   | 0     |       |       |       |       |       |
| 250   | 0     |       |       |       |       |       | 80% recovery achieved |

**END TEST**  Date: 1-16-98  Hour of day: 8:50 am

**ADDITIONAL REMARKS:**

Person in charge of pump test (print): __________________________

Signature: __________________________

The signature above indicates that the data reported on this form is accurate and true to the best of the person's knowledge who operated this aquifer test.

CWRM LTAT Form 3/7/97
Table 1

Pumped Well No. 4461-02
Pumped Well Name: Keahole Heleo
Target Q: 500 gpm

<table>
<thead>
<tr>
<th>Observation well no.</th>
<th>Distance between Obs. &amp; Pumped Well ft.</th>
<th>Reference pt. for depth to water ft. msl</th>
<th>Static Water Level @ start of test ft. msl</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Water level measurements by: 
- [ ] steel tape
- [ ] pressure transducer
- [ ] airline

START TEST Date: 1-13-98 Hour of day: 1:40

Flow Meter Reading Start: 999920 gals

<table>
<thead>
<tr>
<th>Superficial drawdown (min)</th>
<th>Actual drawdown (min)</th>
<th>Depth to water (feet elevation)</th>
<th>Drawdown S (at least 3 different rates) (gpm)</th>
<th>Pumping rate (at least 3 different rates) (gpm)</th>
<th>FC (m)</th>
<th>GC (m)</th>
<th>Pump (gpm)</th>
<th>Date in readable ft. msl</th>
<th>Distance in readable ft. msl</th>
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<tr>
<td>-15</td>
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<tr>
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- remove sounder - dry out - not working right
- collect sample 41
- increase gpm
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<th>Supposed pumped time (min)</th>
<th>Actual pumped time (min)</th>
<th>Depth to water table (ft)</th>
<th>Drawdown (at least 8 different rates) (ft)</th>
<th>Pumping rate (at least 8 different rates) (gpm)</th>
<th>EC (mg/l)</th>
<th>Cl (ppm)</th>
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**Note:**
- Max possible duration, water level or quality did not stabilize for any 24 period.
- Begin recovery data next page.
- Flow meter reading at end of pumped period: 000 216 gals.

1. Starting pumping rate Q
2. Minimum length of step period of constant pumping rate
3. Minimum mandatory Cl measurement / sampling at end of every step.
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<th>Humidity</th>
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END TEST Date: 1-13-98 Hour of day: 5:25

ADDITIONAL REMARKS: Flow meter reading at end = 000218

Person in charge of pump test (print): Tracy Runne
Signature: Tracy Runne

The signature above indicates that the data reported on this form is accurate and true to the best of the person's knowledge who operated this aquifer test.
TO: Roscoe Moss Hawaii, Inc
91-259A Olai Street
Kapolei, HI 96707

ATTN: Tracy Runnels

SUBJECT: Chlorides

SAMPLE RECEIVED: 01/16/98

Aloha Tracy,

Following are the results for the following samples:

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Karen Klein, Director
### Chain of Custody Form

**Project File No.:**

**Log Number:**

**RUSH**

**SEE REVERSE**

**Special Instructions:**

**Client:** Roscoe Moss

**Address:** 91-259A Ola1 St Ewa Beach, HI 96707

**Contact:** Tracy Runnels

**Phone No.:** (808) 636-3554

**Purchase Order No.:**

---

### Sample Information

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<th><strong>Time</strong></th>
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<th><strong>Requested Analyses</strong></th>
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**Sampled By:** John Romano

**Date:** 01/10/1998

**Relinquished:**

**Date:** 11/29/1997

**Signature:**

**Remarks:**

**Received By:**

**Date:** 01/10/1998

**Signature:**

**Precautions:**

**Disposal:**

**Return Sample to Client:**

**Comments:**

*Job #: 1897

HELCO - Keahole*
TO: Ryan
DATE: 12-19
TIME: 8:30

WHILE YOU WERE OUT

M: Tracey Forrels
of: 
Phone: 672-2350

<table>
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<tr>
<th>TABLED</th>
<th>PLEASE CALL</th>
<th>CALLED TO SEE YOU</th>
<th>WILL CALL AGAIN</th>
<th>URGENT</th>
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<tbody>
<tr>
<td>☑</td>
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RETURNED YOUR CALL

Message:
Re: Keandre Power-Last week they would like to stand next to pump test ASAP 2 weeks from now want a letter from us that it is ok.

Operator
December 18, 1997

Chairperson Michael D. Wilson  
Commission on Water Resource Management  
P. O. Box 621  
Honolulu, Hawaii  96809  

Attention: Mr. Ryan Imata  

Subject: Notification Pursuant to Condition One (1) of Pump Installation Permit, Keahole-HELCO Well (Well No. 4461-02)  

Pursuant to condition one (1) of the Pump Installation Permit for Well No. 4461-02, this letter is to notify you that the work covered by this permit will be commencing, and to confirm that staff for the Commission on Water Resource Management shall be allowed to inspect installation activities in accordance with Section 13-168-15, Hawaii Administrative Rules.  

Prior to commencing the work under this permit, an original copy of the permit will be signed by the contractor and submitted to the Commission.  

Please contact Al Lyman, Senior Project Manager, if you have questions regarding this notification. He may be contacted by telephone at (808) 943-7135, extension 218.  

Sincerely,  

CH2M HILL  

Al Lono Lyman,  
Senior Project Manager
December 18, 1997

Chairperson Michael D. Wilson
Commission on Water Resource Management
P. O. Box 621
Honolulu, Hawaii 96809

Attention: Mr. Ryan Imata

Subject: Notification Pursuant to Condition One (1) of Pump Installation Permit, Keahole-HELCO Well (Well No. 4461-02)

Pursuant to condition one (1) of the Pump Installation Permit for Well No. 4461-02, this letter is to notify you that the work covered by this permit will be commencing, and to confirm that staff for the Commission on Water Resource Management shall be allowed to inspect installation activities in accordance with Section 13-168-15, Hawaii Administrative Rules.

Prior to commencing the work under this permit, an original copy of the permit will be signed by the contractor and submitted to the Commission.

Please contact Al Lyman, Senior Project Manager, if you have questions regarding this notification. He may be contacted by telephone at (808) 943-7135, extension 218.

Sincerely,

CH2M HILL

Al Lono Lyman,
Senior Project Manager
Mr. Clyde Nagata  
Hawaii Electric Light Co., Ltd.  
P.O. Box 1027  
Hilo, Hawaii  96721  

Dear Mr. Nagata:  

Pump Installation Permit  
Keahole-HELCO Well (Well No. 4461-02)  

Enclosed are two (2) originals of your approved Pump Installation Permit for the captioned well(s) which authorizes permanent pump installation work for your well(s). As part of the Chairperson’s approval, the following special condition was added and is part of your permit under Permit Condition 10:  

Special Conditions  

1. A pump test shall be performed in accordance with the Hawaii Well Construction and Pump Installation Standards and the results shall be submitted to the Commission no later than 90 days of the completion of the test.  

The well owner is responsible for all conditions of the permit. This includes ensuring that the pump installation contractor, or other party who installs the pump, submits a completed Part II of the Well Completion Report form (enclosed) within sixty (60) days after the pump installation work is completed. Be advised that you may be subject to fines of up to $1000 per day for any violations of your permit conditions.  

To validate your pump installation permit, please sign and have the contractor sign both permit originals and return one for our files.  

A copy of the Well Completion Report (Part II) and a copy of your water use report form are enclosed for your use. Except for the monthly water use report form, please provide copies of all the information in this packet to your pump installation contractor.  

Finally, this letter is notice that we have accepted your Well Completion Report - Part I as complete.  

If you have any questions, please call the Commission staff at 587-0255 or toll-free at 974-400 (Hawaii), extension 70255.  

Aloha,  

MICHAEL D. WILSON  
Chairperson  

Enclosures
PUMP INSTALLATION PERMIT

Keahole-HELCO Well, Well No. 4461-02

In accordance with Department of Land and Natural Resources, Commission on Water Resource Management's Administrative Rules, Section 13-168, entitled "Water Use, Wells, and Stream Diversion Works", this document permits the pump installation for Keahole-HELCO Well (Well No. 4461-02) at Keahole Generating Station, Hawaii, TMK 7-3-49:36, subject to the Hawaii Well Construction & Pump Installation Standards (1/23/97) which include but are not limited to the following conditions:

1. The Chairperson to the Commission on Water Resource Management (Commission), P.O. Box 621, Honolulu, HI 96809, shall be notified, in writing, at least two (2) weeks before any work covered by this permit commences and staff shall be allowed to inspect installation activities in accordance with §13-168-15, Hawaii Administrative Rules.

2. The pump installation permit shall be for installation of a 500 gpm capacity, or less, pump in the well.

3. The permittee shall provide and maintain an approved meter or other appropriate means for measuring and reporting withdrawals and water levels, and appropriate devices or means for measuring chlorides and temperature. These data shall be measured monthly and reported to the Commission on a monthly basis, on forms provided by the Chairperson (attached).

4. The proposed use shall not adversely affect existing or future legal uses of water in the area, including any surface water or established instream flow standards. This permit or the authorization to pump water from a well shall not constitute a determination of correlative water rights. The permittee is notified and by this provision understands that the quantity of water taken from the well could be reduced by the Commission in the future. This permit is not a commitment that the pump capacity permitted here or even some lesser amount is guaranteed in the future.

5. The permittee shall complete and submit as-built drawings and Part II - (Permanent) Pump Installation Report of the Well Completion Report (attached) to the Chairperson within sixty (60) days after completion of work.

6. The permittee shall comply with all applicable laws, rules, and ordinances, and non-compliance may be grounds for revocation of this permit.

7. The pump installation permit application is incorporated into this permit by reference and is subject to the Hawaii Well Construction & Pump Installation Standards (1/23/97).

8. The permit may be revoked if work is not started within six (6) months after the date of approval or if work is suspended or abandoned for six (6) months, unless otherwise specified. The work proposed in the pump installation permit application shall be completed within two (2) years from the date of permit approval, unless otherwise specified. The permit may be extended by the Chairperson upon a showing of good cause and good-faith performance. A request to extend the permit shall be submitted to the Chairperson no later than three (3) months prior to the date the permit expires. If the commencement date is not met, the Commission may revoke the permit after giving the permittee notice of the proposed action and an opportunity to be heard.

9. If the well is not to be used it must be properly capped. If the well is to be abandoned then the permittee must apply for a well abandonment permit in accordance with §13-168-12(f) prior to any well sealing or plugging work.

10. Special conditions in the attached cover transmittal letter are incorporated herein by reference.

Date of Approval: November 6, 1997
Expiration Date: November 6, 1999

I have read the conditions and terms of this permit and understand them. I accept and agree to meet these conditions as a prerequisite and underlying condition of my ability to proceed. I also understand that non-compliance with any permit condition may be grounds for revocation and fines of up to $1000 per day.

Permittee's Signature: _______________________________ Date: __________________
Printed Name: _________________________ Firm or Title: _______________________ License #: __________ Date: ________________
Installer's Signature: ___________________________ License #: __________ Date: ________________
Printed Name: ___________________________ Firm or Title: ______________________

Please sign both copies of this permit, return one to the Chairperson, and retain the other for your records.

Attachments

USGS
Department of Health/ Safe Drinking Water & Wastewater Branches
Hawaii Department of Water Supply
In accordance with the Department of Land and Natural Resources, Commission on Water Resource Management's Administrative Rules, Section 13-168, entitled "Water Use, Wells, and Stream Division Works", this document permits the pump installation for Keahole-HELCO Well (Well No. 4461-02) at Keahole General Station, Kealakekua, HI 96750-4936, subject to the Hawaii Well Construction & Pump Installation Standards (1/23/97) which include but are not limited to the following conditions:

1. The Chairman to the Commission on Water Resource Management (Commission), P.O. Box 621, Honolulu, HI 96809, shall be notified, in writing, at least two (2) weeks before any work covered by this permit commences and staff shall be allowed to inspect installation activities in accordance with §13-168-15, Hawaii Administrative Rules.

2. The pump installation permit shall be for installation of a 500 gpm capacity, or less, pump in the well.

3. The permittee shall provide and maintain an approved meter or other appropriate means for measuring and reporting withdrawals and water levels, and appropriate devices or means for measuring chlorides and temperature. These data shall be measured monthly and reported to the Commission on a monthly basis, on forms provided by the Chairperson (attached).

4. The proposed use shall not adversely affect existing or future legal uses of water in the area, including any surface water or established instream flow standards. This permit or the authorization to pump water from a well shall not constitute a determination of correlative water rights. The permittee is notified and by this provision understands that the quantity of water taken from the well could be reduced by the Commission in the future. This permit is not a commitment that the pump capacity permitted here or even some lesser amount is guaranteed in the future.

5. The permittee shall complete and submit as-built drawings and Part II - (Permanent) Pump Installation Report of the Well Completion Report (attached) to the Chairperson within sixty (60) days after completion of work.

6. The permittee shall comply with all applicable laws, rules, and ordinances, and non-compliance may be grounds for revocation of this permit.

7. The pump installation permit application is incorporated into this permit by reference and is subject to the Hawaii Well Construction & Pump Installation Standards (1/23/97).

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I have read the conditions and terms of this permit and understand them. I accept and agree to meet these conditions as a prerequisite and underlying condition of my ability to proceed. I also understand that non-compliance with any permit condition may be grounds for revocation and fines of up to $1000 per day.

Permittee's Signature: Clyde H. Nagata
Printed Name: Clyde H. Nagata
Firm or Title: HELCO, Manager of Eng.
Date: 11/19/97
License #: AC16437 Date: 12/19/97
Installer's Signature: Tracy Runnels
Printed Name: Tracy Runnels
Firm or Title: Roscoe Moss Hawaii, Inc.

Please sign both copies of this permit, return one to the Chairperson, and retain the other for your records.
This is the newer one.
### COMMISSION ON WATER RESOURCE MANAGEMENT (10/96)

**FROM:** [Name]
**DATE:** 11/12
**SUSPENSE DATE:**

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<th>INIT.</th>
<th>TO</th>
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<th>FOR</th>
<th>PLEASE</th>
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<td>NAKAMA, L.</td>
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<td>KUNIMURA, I.</td>
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Handwritten notes:

- need to start talking to AG about this — I am used to handle.
- I proposed to submit 11/13
FACSIMILE TRANSMITTAL PAGE

Please deliver the following pages:

To

Linne

Company

A.G.

From

Rae

Message: we have a pump installation permit on this, ready to be sent. Should I be concerned about this?

Total number of pages (including Transmittal Page) 3

Please call back if not legible: (808) 587-0214

Sending Facsimile No.: (808) 587-0219

Receiving Facsimile No.: (____)
November 10, 1997

Chairperson
Board of Land and Natural Resources
State of Hawaii
1151 Punchbowl Street
Honolulu, Hawaii 96813

Chairperson
Commission on Water Resource Management
State of Hawaii
Post Office Box 621
Honolulu, Hawaii 96809

Re: Keahole Generator Station
Kalaoa, North Kona, Island of Hawaii
Ground and Surface Water Reservation

Dear Chairpersons:

I received a letter dated October 8, 1997 from Ms. Rae Loutgarding Hawaii Electric Light Company, Inc.'s intention to utilize groundwater for its generator station. On behalf of various clients, I have pointed out in the past that Patent 15,591 (the issuance of which is now being questioned in Civil No. 97-017K) on its face sets forth a mandatory statutory reservation of all water rights to the State of Hawaii. This topic was also the subject of extensive comment in HELCO's Revised Final Environmental Impact Statement for the station.

On several occasions, the subject was also brought to the attention of the Board of Land and Natural Resources, with specific identification of the statutory reservation, supporting statute and provision in the Patent itself. Despite these objections, HELCO continues to assert in statements to the Public Utility Commission and other agencies that its actually has the right to draw on the groundwater, the statutory and Patent reservation notwithstanding.

Furthermore, the Kona Hawaiian Civic Club filed a Petition for Declaratory Ruling on this subject in 1994 and we have not heard from the Board of Land and Natural Resources as to any public hearings or other action on the Petition.

Finally, HELCO continues its construction activity at the station under its pre-PSD approval from the Department of Health, the August 18, 1997 order of Judge Ibarra notwithstanding, claiming the right to use the groundwater. This subject is not within the
Complaint filed in Civil 97-017K at this time.

For your information, my clients have filed a motion for summary judgment on Count V of the Complaint in Civil 97-017K, Third Circuit Court, asking the Court to determine once and for all exactly what "use" HELCO is entitled to make at the station and under what "conditions." The hearing is set for December 1, 1997. This does not include the subject of groundwater because we have always felt that HELCO must follow the terms of Chapter 171, HRS and its Patent (if the Patent is valid) as to groundwater.

It now seems that no one is willing to address the subject of groundwater. As you know, even as recently as the November 1995, during the contested evidentiary hearing on HELCO’s CDUA held before the BLNR, the Hearing Officer excluded any evidence on HELCO’s use of groundwater or claim to have the right to such use. I hope that there is no deliberate effort on the part of anyone to ignore discussion of such an important issue. If there has been an oversight, I would ask that the appropriate persons address the issue as soon as possible.

Closing

I cannot stress again how important it is that the Board of Land and Natural Resources and the Commission on Water Resource Management exercise their respective duties relating to this matter. My clients have already had to expend time and money to enforce the law and find it difficult to understand why the State of Hawaii has taken no action on the subject of groundwater and HELCO’s claim to use the groundwater -- especially since the matter has been raised many times since 1994.

Can you please advise by the end of November 1997 exactly what the State of Hawaii intends to do about protecting the groundwater, enforcing the reservation in Patent 15,591 (assuming the validity of the Patent in the first instance), enforcing the ceded land trust obligations as to the groundwater and taking action on the Kona Hawaiian Civic Club’s petition for declaratory ruling.

If the State of Hawaii intends to do nothing, please so advise as soon as possible so that the public and other concerned persons can commence further litigation, including any potential claims for violations of federal rights reserved to the public by the Admission Act of 1959, Section 5, against the State of Hawaii and all public officials affected. Time is of the essence and your soonest reply will be appreciated. Thank you very much.

Very truly yours,

Michael J. Matsukawa

copy: All Counsel in Civil 96-131K & 97-017K
Chairperson
Board of Land and Natural Resources
State of Hawaii
1151 Punchbowl Street
Honolulu, Hawaii 96813

Chairperson
Commission on Water Resource Management
State of Hawaii
Post Office Box 621
Honolulu, Hawaii 96809

Re: Keahole Generator Station
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Dear Chairpersons:

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Complaint filed in Civil 97-017K at this time.

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Very truly yours,

Michael J. Matsukawa

copy: All Counsel in Civil 96-131K & 97-017K
**WELL CONSTRUCTION OR PUMP INSTALLATION PERMIT FOR:**

**ATTACHMENTS FOR WELL CONSTRUCTION PERMIT:**
1. COVER LETTER
2. PERMIT
3. DOH COMMENTS
4. WELL COMP. REPORT
5. USGS MAP
6. DATABASE PRINTOUT
7. WELL CHECK PRINT

**ATTACHMENTS FOR PUMP INSTALLATION PERMIT:**
1. COVER LETTER
2. PERMIT
3. DOH COMMENTS
4. WELL COMP. REPORT
5. WUR FORM
6. USGS MAP
7. DATABASE PRINTOUT
8. GLENN'S WORKSHEET

**PLEASE:**
1. Review & Comment
2. Take Action
3. Type Draft
4. Type Final
5. Approval
6. Signature
7. Information

**TO BE SENT TO APPLICANT**

**FOR OFFICE USE ONLY**

---

**Special Condition:**

**Check Legal Notes**
STATE OF 
Land P

(G) Issued On
SALE PURSUANT TO SECTION 171-95(a) (2) HAWAII REVISED STATUTES

By THIS PATENT the State of Hawaii, in conformity with the laws of the State of Hawaii relating to public lands and pursuant to the approval by the Board of Land and Natural Resources on December 14, 1973

makes known to all men that it does this day grant and confirm unto HAWAII ELECTRIC LIGHT COMPANY, INC., a Hawaii corporation, hereinafter called the "PATENTEE,"

for the consideration of FIFTY-EIGHT THOUSAND SIX HUNDRED AND NO/100 DOLLARS ($58,600.00), the receipt whereof is hereby acknowledged,

all of the land situate at KALAOA 1ST - 4TH, NORTH KONA, ISLAND OF HAWAII, STATE OF HAWAII, designated as Keahole Diesel Generation Site and Easements 2 and 3, consisting of KEAHOLE DIESEL GENERATION SITE, containing an area of 14.998 acres, more or less; EASEMENT 2, containing an area of 0.552 acre, more or less; EASEMENT 3, containing an area of 1.541 acres, more or less, more particularly described in Exhibit "A" and delineated on Exhibit "B", both of which are attached hereto and made parts hereof, said exhibits being, respectively, a survey description and a survey map prepared by the Survey Division, Department of Accounting and General Services, State of Hawaii, both being designated C.S.F. No. 19,676 and dated February 18, 1983.

RESERVING TO THE STATE OF HAWAII, ITS SUCCESSORS AND ASSIGNS, THE FOLLOWING:

(1) All minerals as hereinafter defined, in, on or under the land and the right, on its own behalf or through persons authorized by it, to prospect for, mine and remove such minerals and to occupy and use so much of the surface of the ground as may be required for all purposes reasonably extending to the mining and removal of such minerals by any means whatsoever, including strip mining.
"Minerals", as used herein, shall mean any or all oil, gas, coal, phosphate, sodium, sulphur, iron, titanium, gold, silver, bauxite, bauxitic clay, diaspore, boehmite, laterite, gibbsite, alumina, all ores of aluminum and, without limitation thereon, all other mineral substances and ore deposits, whether solid, gaseous or liquid, including all geothermal resources, in, on, or under the land, fast or submerged; provided, that "minerals" shall not include sand, gravel, rock, or other material suitable for use and used in general construction in furtherance of the Grantee's permitted activities on the land and not for sale to others.
(2) All surface and ground waters appurtenant to the said land and the right on its own behalf or through persons authorized by it, to capture, divert or impound the same and to occupy and use so much of the said land as may be required in the exercise of this right reserved.

(3) All prehistoric and historic remains found in, on or under said land.

Provided, however, that as a condition precedent to the exercise of the rights reserved in paragraphs 1 and 2, just compensation shall be paid to the Patentee for any of Patentee's improvements taken.

SUBJECT, HOWEVER, TO THE FOLLOWING CONDITIONS:

1. Purpose. That the Patentee shall use the land herein granted for public utility purposes only.

2. Easement Abandonment. If the Patentee shall, at any time for a continuous period of one (1) year, fail or cease to use, or abandon all or any portion of the easement area, the easements shall cease and terminate as to such portion so abandoned or not used.

3. Repurchase of Diesel Generation Site. That the Patentee, for itself, its successors and assigns, covenants with the State of Hawaii that the Board of Land and Natural Resources shall have the right to repurchase the land at the original sales price or fair market value, whichever is lower, and to purchase improvements thereon at the depreciated value or fair market value, whichever is lower.

4. Public Use of Easements. That the Patentee shall allow the State of Hawaii and the general public unobstructed and free use of the easement area for roadway and utility purposes.

5. Indemnity. That the Patentee shall at all times use due care for public safety and agrees to defend, hold harmless and indemnify the State of Hawaii, its officers, agents and employees or any person acting for or on its behalf, from and against all claims for property damage, personal injury or death, arising on, about or in connection with the exercise of the rights and privileges herein granted, caused directly or proximately by any failure on the part of the Patentee to use due care in accordance with the terms and conditions of this Grant, or arising out of or caused by any act or omission of the Patentee.

6. Maintenance of Easements. That the Patentee shall be required to maintain the easement area at its own expense.

7. Approval of Construction Plans. That all construction shall be in accordance with plans and specifications submitted to and approved by the Chairman of the Department of Land and Natural Resources prior to such construction and in full compliance with all laws, ordinances, rules and regulations applicable thereto.

8. Landscaping. That the Patentee shall landscape the area herein granted in accordance with plans submitted to and approved by the Chairman of the Department of Land and Natural Resources prior to planting.

9. Improvements Placed on the Easements. All improvements placed in or upon the easement area shall be and remain the property of the Patentee and may be removed or otherwise disposed of by the Patentee at any time, provided, that such removal shall be accomplished with minimum disturbance to the easement area, which shall be restored to its original state, or as close thereto as possible, within a reasonable time after removal.

10. Easements to be Kept in Clean Condition. The Patentee shall keep the easement areas herein granted and improvements thereon in a clean, sanitary, and orderly condition, and shall not make, permit or suffer, any waste, strip, spoil, nuisance or unlawful, improper or offensive use of the easement area.
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<th>SECTION 1: WELL LOCATION INFORMATION</th>
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<th>SECTION 2: WELL SECTION DATA (enter data in grey cells only)</th>
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<td>Elevation at top of casing: 246 ft., m.s.l.</td>
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<tr>
<td>Ground Elevation: 61.5 ft.</td>
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<tr>
<td>Cement Grout: 246 ft.</td>
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<td>Hole Diameter: 2 in.</td>
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<td>Total Depth: 246 ft.</td>
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<td>Estimated Head: 246 ft.</td>
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<td>Calculated Aquifer Thickness: 61.5 ft.</td>
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<td>County Water Supply (Y/N?): N</td>
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<th>SECTION 3: CHECKLIST (values to check are shaded)</th>
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<tr>
<td>Well Depth</td>
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<td>Depth of Well below Sea Level: 50 ft. okay</td>
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<td>County or Non-County: non-county</td>
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<td>Minimum Thickness per standards: 0.250 in.</td>
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<td>Wall Thickness Provided: 0.375 in. okay</td>
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<tr>
<td>Minimum Length of Solid Casing: 188.1 ft.</td>
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<td>Length of solid casing Provided: 215 ft. okay</td>
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<td>Casing Material: ASTM A-242 #N/A</td>
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<td>Annular Space</td>
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<td>If the cell above reads #N/A, reference HWCPIS</td>
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</tbody>
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Mr. Michael J. Matsukawa  
75-167E Hualalai Road, No. 2  
Kailua-Kona, HI 96740  

Dear Mr. Matsukawa

Keahole-HELCO Well (Well No. 4461-02)

This is in response to your letter dated September 3, 1997. A well construction permit for this well was approved on November 30, 1992 and construction of the well was completed on July 3, 1993. A pump installation permit application submitted to us on August 1, 1997 has not been issued, pending pump test information required under the well construction permit.

With respect to a reservation of groundwater, the Commission on Water Resource Management (CWRM) reviews reservation requests in ground water management areas. Since the Keauhou Aquifer System is not a designated ground water management area, there is no reservation which has been made by the CWRM under Section 174C-49, HRS. However, this does not mean that the Board of Land and Natural Resources (BLNR) may not have the authority to include standard conditions on land matters between BLNR and other entities.

If you have any questions, please call Mr. Ryan Imata of the Commission staff at 587-0255 or toll-free at 974-4000 (Hawaii), extension 70255.

Aloha,

Michael D. Wilson  
Chairperson
September 29, 1997

Ms. Rae M. Loui, Deputy
Commission on Water Resource Management
State of Hawaii
P. O. Box 621
Honolulu, Hawaii 96809

Attention: Mr. Ryan Imata

Dear Ms. Loui:

Subject: Grout Depth for Well No. 4461-02

This letter discusses the grout depth for Hawaii Electric Light Company's (HELCO) supply well at Keahole, North Kona. The well is identified as State Well No. 4461-02.

One of the conditions of the Commission on Water Resource Management well permit for this well was to grout to a depth of 205 feet.

Prior to drilling the well, it was estimated that the well would be drilled to an approximate depth of 265 feet. However, upon drilling, the initial water level was reached at a depth of 209 feet. This represents a shallower depth than was originally anticipated, which is not unusual in well drilling, as estimates of the anticipated water depth are subject to numerous variables and imponderables that make it impossible to precisely project the initial water depth.

With the initial water level at 209 feet and in consideration of best engineering practices, the well was grouted to a depth of 195 feet, with an eight (8) foot gravel rock pack from 195 feet to 203 feet, followed by a perforated casing from 203 to 253 feet. The depth of grouting to 195 feet rather than 205 feet is consistent with best engineering practices.

Please contact Al Lyman, Senior Project Manager, if your staff has any further questions regarding the depth of grouting. He may be contacted by telephone at (808) 943-7135, extension 218.

Sincerely,

CH2M HILL, INC.

Robert T. Chuck, P.E.
Vice President
The information in this fax is confidential and proprietary and is intended only for the individual or entity named on the cover sheet. If you are not the intended recipient, disclosure, copying, distribution or use of this information is prohibited. If you do not receive all of the pages or have received this fax in error, please notify us immediately at 808-943-7135 ext. 206.
September 29, 1997

Ms. Rae M. Loui, Deputy
Commission on Water Resource Management
State of Hawaii
P. O. Box 621
Honolulu, Hawaii 96809

Attention: Mr. Ryan Imata

Dear Ms. Loui:

Subject: Grout Depth for Well No. 4461-02

This letter discusses the grout depth for Hawaii Electric Light Company’s (HELCO) supply well at Keahole, North Kona. The well is identified as State Well No. 4461-02.

One of the conditions of the Commission on Water Resource Management well permit for this well was to grout to a depth of 120 feet. Prior to drilling the well, it was estimated that the well would be drilled to an approximate depth of 265 feet. However, upon drilling, the initial water level was reached at a depth of 209 feet. This represents a shallower depth than was originally anticipated, which is not unusual in well drilling, as estimates of the anticipated water depth are subject to numerous variables and imponderables that make it impossible to precisely project the initial water depth.

With the initial water level at 209 feet and in consideration of best engineering practices, the well was grouted to a depth of 205 feet. However, upon drilling, the initial water level was reached at a depth of 209 feet. This represents a shallower depth than was originally anticipated, which is not unusual in well drilling, as estimates of the anticipated water depth are subject to numerous variables and imponderables that make it impossible to precisely project the initial water depth.

With the initial water level at 209 feet and in consideration of best engineering practices, the well was grouted to a depth of 195 feet, with an eight (8) foot gravel rock pack from 195 feet to 203 feet, followed by a perforated casing from 203 to 253 feet. The depth of grouting to 195 feet rather than 205 feet is consistent with best engineering practices.

Please contact Al Lyman, Senior Project Manager, if your staff has any further questions regarding the depth of grouting. He may be contacted by telephone at (808) 943-7135, extension 218.

Sincerely,

CH2M HILL, INC.

Robert T. Chuck, P. E.
Vice President

Al Lono Lyman
Senior Project Manager
MICHAEL J. MATSUZAWA  
75-167E Hualalai Road, No. 2  
Kailua-Kona, HI 96740  
Telephone No. 329-1385  

September 3, 1997

Ms. Donna Faye Kiyosaki  
Chief Engineer  
Dep’t of Public Works  
County of Hawaii  
25 Aupuni Street  
Hilo, Hawaii 96720

Ms. Virginia Goldstein  
Planning Director  
Planning Department  
County of Hawaii  
25 Aupuni Street  
Hilo, Hawaii 96720

Dr. Lawrence Miike  
Director  
Dep’t of Health  
State of Hawaii  
1250 Punchbowl Street  
Honolulu, Hawaii 96813

Chairman  
Commission on Water Resource Management  
State of Hawaii  
1151 Punchbowl Street  
Honolulu, Hawaii 96813

Mr. Dean Uchida  
Land Division  
Dep’t of Land and Natural Resources  
1151 Punchbowl Street  
Honolulu, Hawaii 96813

Mr. Charles Totto  
Consumer Advocate  
Dep’t of Commerce and Consumer Affairs  
State of Hawaii  
1010 Richards Street  
Honolulu, Hawaii 96813

Re: HELCO Proposal to Expand Keahole Generator Station  
At Kalaoa, North Kona, Hawaii, TMK (3) 7-3-49: 36

Greetings:

I represent the Keahole Defense Coalition and other parties in several law actions pending before Judge Ibarra, Third Circuit Court. These include Civil Nos. 94-059K, 94-070K, 94-123K, 95-094K, 95-285K, 96-131K, 96-141K, 96-142K, 96-143K, 96-144K and 97-017K. In addition, there are several administrative proceedings pending which are related to these civil actions.

I am writing this letter to “keep the facts straight” on HELCO’s proposal to expand the Keahole Generator Station. On August 18, 1997, Judge Ibarra ruled that “the conditions in the [HELCO] Use Application must be complied with.” Regardless of any prior news articles that HELCO had an “automatic” or “default” permit to expand the Keahole station, the Judge’s ruling upheld the arguments of the Keahole Defense Coalition and others that:
The BLNR’s 3-2 vote to deny HELCO’s application (even if invalid for a lack of a four-vote majority) had no effect on HELCO’s obligation to comply with all rules published by the BLNR governing use of land in the state Conservation District.

HELCO must prove that it can comply with all of the conditions and terms set forth in the BLNR rules.

In 1996, the BLNR’s Hearing Officer found that HELCO cannot comply with those conditions and terms.

However, I was recently advised that HELCO filed a public document stating that it has applied for and/or obtained agency approvals for certain activity. These approvals are for the expansion of the Keahole station and were described as:

1. Permit for Pump Installation for New Source Well
2. Building Permits
3. Grading Permits
4. Construction Noise Permit

Nonetheless, I believe HELCO did not address the following important facts in its publication and the effect of the same on its proposal to expand the Keahole station:

A. On August 18, 1997, Judge Ibarra issued an order that the conditions in HELCO’s CDUA still "must be complied with" (a copy of the order is enclosed);

B. The Deputy Attorney General representing the BLNR filed pleadings stating that these conditions include the standard conditions of Title 13, Chapter 2, including HAR 13-2-21;

C. In 1996, the BLNR’s hearing officer, Justice Frank Padgett, issued findings that HELCO cannot meet the BLNR’s standard conditions and recommended that the BLNR deny the proposed expansion of the Keahole station;

D. Patent 15,591, which the BLNR issued for HELCO’s use of the 14.9 acres for the Keahole generator station, conveyed to HELCO only a limited interest in the land, which was then part of the public (ceded) land inventory; in accordance with state statute, the state reserved all groundwater under the 14.9-acre parcel;

E. In addition, the BLNR reserved the right to repurchase the 14.9-acre parcel for the benefit and use of the beneficiaries of the public (ceded) land trust;
F. The BLNR, in satisfaction of its accord with native Hawaiians, set aside lands at Kalaoa, North Kona adjoining HELCO’s 14.9-acre parcel to the Department of Hawaiian Home Lands (DHHL) for native Hawaiian uses;

G. The state and county masterplanned the Kalaoa region for other public uses, consistent with the public (ceded) land trust, for university, housing, farming and open space/recreational uses;

H. The DHHL, as well as others, is contesting HELCO’s application to expand the Keahole station; the Department of Hawaiian Home Lands also has specific statutory rights to any groundwater in the area;

I. In Civil No. 97-017K, the Keahole Defense Coalition is asking the Third Circuit Court to review apparent irregularities in Patent 15,591 and the BLNR’s administration of the public (ceded) land trust, including the state’s right to repurchase the 14.9-acre parcel for a nominal sum, the state’s reservation of all groundwater and the patentee’s (HELCO) obligations under the patent;

J. Judge Ezra recently held that the BLNR had no authority to dispose of public (ceded) land at Waikoloa for private use or to allow a private developer to utilize public (ceded) submerged land at Waikoloa;

K. Judge Ibarra has not entered a final judgment on the pending civil actions as of this date and, further, has not rendered a decision on the cross-appeals now pending in the Third Circuit Court relating to HELCO’s CDUA in question;

L. HELCO still has not obtained approval from the Department of Health or Administrator of the EPA, Region IX to construct or to operate CT-4, CT-5 or ST-7; in the event that a permit issues, Keahole Defense Coalition intends to appeal the air permit through the established federal process (the effect of an appeal is to stay the effect of the air permit until the appeal is determined).

As I mentioned, Judge Ibarra ruled that HELCO must obtain further discretionary approvals from the BLNR. The Deputy Attorney General has clearly stated that these approvals include satisfaction of HAR 13-2-21. The BLNR’s hearing officer has already ruled that HELCO cannot satisfy HAR 13-2-21. The BLNR has not scheduled further hearings on the matter.

I request that you carefully review any applications, permits or approvals which HELCO described in its publication and determine whether they are consistent with governing law and the court’s decision. Further, you should be aware that HELCO has already requested (twice) the
Public Utilities Commission to order all Big Island ratepayers to pay for all costs and expenses HELCO has incurred to expand the Keahole station (whether it is built or not).

For example, HELCO wants to recover all expenses incurred to draw on groundwater sources under the 14.9-acre parcel in Kalaoa, North Kona, even though the groundwater has been reserved to the state and for the Department of Hawaiian Home Lands’s use by law and Patent 15,591, even if HELCO never expands the Keahole station. In Order No. 15745, Docket No. 94-0079, August 7, 1997, the Public Utilities Commission held that “we refuse to be so bound” to HELCO’s attempt “to tie the commission’s hands” as to HELCO’s request to pass its expenses on to Big Island ratepayers in Docket No. 94-0079.

I trust that you are not a party, and will not be made a party, to any effort to avoid governing law, court rulings and Public Utility Commission decisions. If you have any questions, you may call me or examine the records of the Third Circuit Court. Thank you very much.

Yours truly,

Michael J. Matsukawa

ENC: August 18, 1997 Order

c: Counsel of Record, Civil No. 96-131K & 97-017K (w/o enc.)
Staff Attorney, Public Utilities Commission
To: Ryan Emata
Company: DLNR, COWRA

Message:
Well completion report and chemical analysis on well water for well number 4461-02.
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<th>Casing Dia.</th>
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<th>Temp (°F)</th>
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Well count for the KEAHOU Aquifer System: 6
Well count for the Island of HAWAII: 6
TO: Honorable Lawrence Miike, Director
    Department of Health
Attention: Dennis Tulang, Wastewater Branch
William Wong, Safe Drinking Water Branch

FROM: Michael D. Wilson, Chairperson
    Commission on Water Resource Management

SUBJECT: Well Construction Permit Application
    HELCO Keahole Well (Well No. 4461-02)

Transmitted for your review and comment is a copy of the captioned well application.

We would appreciate your comments on the captioned application for any conflicts or
inconsistencies with the programs, plans, and objectives specific to your department. Please respond
by returning this cover memo form by August 30, 1997.

Please find a map, attached, to locate the proposed well. If you have any questions about this
permit application, request additional information, or request additional review time, please contact Mr.
Ryan Imata of the Commission staff at 587-0255.

RI:ss
Attachment(s)

RESPONSE:

This well qualifies as a source which will serve as a source of potable water to a public water system (serving 25 or more people at least 60 days per year or has 15 or more service connections) and must receive Director of Health approval prior to its use to comply with Hawaii Administrative Rules (HAR), Title 11, Chapter 20, Rules Relating to Potable Water Systems, §11-20-29.

This well does not qualify as a source serving a public water system (serves less than 25 people or more people at least 60 days per year or 15 service connections) and if the well water is used for drinking, the private owner should test for bacteriological and chemical presence before initiating such use and routinely monitor the water quality thereafter. However, if future planned use from this source increases to meet the public water system definition then Director of Health approval is required prior to implementation.

If the well is used to supply both potable and non-potable purposes in a single system, the user shall eliminate cross-connections and backflow connections by physically separating potable and non-potable systems by an air gap or an approved backflow preventer, and by clearly labeling all non-potable spigots with warning signs to prevent inadvertent consumption of non-potable water. Backflow prevention devices should be routinely inspected and tested.

It does not appear that this well will be used for consumptive purposes and is not subject to Safe Drinking Water Regulations.

For the applicant’s information, a source of possible wastewater contamination [ ] is [] located near the proposed well site (information attached).

Other relevant DOH rules/regulations, information, or recommendations are attached.

No comments/objections

Contact Person: Lani N. Kajiwara
Phone: 586-4294

Signed: Lani N. Kajiwara
Date: 8-12-97
IN THE CIRCUIT COURT OF THE THIRD CIRCUIT

STATE OF HAWAI'I

HAWAII ELECTRIC LIGHT COMPANY, ) CIVIL NO. 96-131K
INC. a Hawaii corporation ) (Kona)

Appellant, ) (Agency Appeal)

vs. ) ORDER DENYING MOTION

DEPARTMENT OF LAND AND NATURAL ) TO ALTER OR AMEND THE
RESOURCES, STATE OF HAWAI'I ) COURT'S AMENDED FINDINGS
BOARD OF LAND AND NATURAL ) OF FACT, CONCLUSIONS OF
RESOURCES, as the executive ) LAW AND DECISION AND ORDER
head of the Department of ) DATED 7/9/97 AND ENTERED
Land and Natural Resources, ) 7/10/97
State of Hawaii, DEPARTMENT OF )
HAWAIIAN HOME LANDS, STATE OF )
HAWAII; WAIMANA ENTERPRISES, )
INC., A Hawaii corporation; )
PEGGY RATLIFF; MAHI COOPER, )

Appellees. )

ORDER DENYING MOTION TO ALTER OR AMEND THE COURT'S
AMENDED FINDINGS OF FACT, CONCLUSIONS OF LAW, DECISION
AND ORDER DATED 7/9/97 AND ENTERED 7/10/97

A hearing was held August 4, 1997, Kumu Vasconellos, Esq. appeared on behalf of Department of Hawaiian Homelands, Michael J. Matsukawa, Esq. appeared on behalf of Waimana Enterprises, Alfred Lerma Esq. appeared on behalf of Mahi Cooper, Randall Y.K. Young, Esq. appeared on behalf of the DLNR and the BLNR, Wesley Fujimoto, Esq. appeared on behalf of HELCO and Peggy Ratliff appeared pro se. The Court after considering the pleading, records and files of this
case and the arguments of the parties,

IT IS HEREBY ORDERED ADJUDGED AND DECREED:

The Motion is denied. The Court does clarify the order and concludes that the conditions in the Use Application must be complied with.

Dated: Kealakekua, Hawaii  

AUG 13 1997

Ronald Ibarra (seal)

JUDGE OF THE ABOVE-ENTITLED COURT
TO: Honorable Lawrence Miike, Director  
Department of Health  
Attention: Dennis Tulang, Wastewater Branch  
William Wong, Safe Drinking Water Branch

FROM: Michael D. Wilson, Chairperson  
Commission on Water Resource Management

SUBJECT: Well Construction Permit Application  
HELCO Keahole Well (Well No. 4461-02)

Transmitted for your review and comment is a copy of the captioned well application.

We would appreciate your comments on the captioned application for any conflicts or inconsistencies with the programs, plans, and objectives specific to your department. Please respond by returning this cover memo form by August 30, 1997.

Please find a map, attached, to locate the proposed well. If you have any questions about this permit application, request additional information, or request additional review time, please contact Mr. Ryan Imata of the Commission staff at 587-0255.

RESPONSE:

This well qualifies as a source which will serve as a source of potable water to a public water system (serving 25 or more people at least 60 days per year or has 15 or more service connections) and must receive Director of Health approval prior to its use to comply with Hawaii Administrative Rules (HAR), Title 11, Chapter 20, Rules Relating to Potable Water Systems, §11-25-29.

This well does not qualify as a source serving a public water system (serves less than 25 people or more people at least 60 days per year or 15 service connections) and if the well water is used for drinking, the private owner should test for bacteriological and chemical presence before initiating such use and routinely monitor the water quality thereafter. However, if future planned use from this source increases to meet the public water system definition then Director of Health approval is required prior to implementation.

If the well is used to supply both potable and non-potable purposes in a single system, the user shall eliminate cross-connections and backflow connections by physically separating potable and non-potable systems by an air gap or an approved backflow preventer, and by clearly labeling all non-potable spigots with warning signs to prevent inadvertent consumption of non-potable water. Backflow prevention devices should be routinely inspected and tested.

It does not appear that this well will be used for consumptive purposes and is not subject to Safe Drinking Water Regulations.

For the applicant's information, a source of possible wastewater contamination is not located near the proposed well site (information attached).

Other relevant DOH rules/regulations, information, or recommendations are attached.

No comments/objections

Contact Person: William Wong  
Phone: 586-4258

Signed: William Wong  
Date: August 12, 1997
Mr. Clyde Nagata  
Hawaii Electric Light Co., Inc.  
P.O. Box 1027  
Hilo, HI 96721  

Dear Mr. Nagata:  

Pump Installation Permit Application for Well No. 4461-02  

We acknowledge receipt, on August 1, 1997, of your completed well construction / pump installation permit application for the HELCO Keahole Well (Well No. 4461-02). You can expect your application to be processed within ninety (90) days from this date.  

For your information, the process of constructing a well is normally regulated and permitted in two (2) steps. First, a well construction permit is issued for drilling and testing purposes only. Based upon information provided by you through a Well Completion Report Part I (Well Construction), a pump installation permit (upon completed application) may then be issued to authorize pump work. If a pump is installed then a Well Completion Report Part 2 (Pump Installation) is required.  

If you have any questions about your permit application, please contact Mr. Ryan Imata of the Commission staff at 587-0255.  

Sincerely,  

[Signature]  
for  
RAE M. LOUI  
Deputy Director  

RI:ss  
c: CH2M Hill
TO: Honorable Lawrence Miike, Director
Department of Health
Attention: Dennis Tulang, Wastewater Branch
William Wong, Safe Drinking Water Branch

FROM: Michael D. Wilson, Chairperson
Commission on Water Resource Management

SUBJECT: Well Construction Permit Application
HELCO Keahole Well (Well No. 4461-02)

Transmitted for your review and comment is a copy of the captioned well application.

We would appreciate your comments on the captioned application for any conflicts or inconsistencies with the programs, plans, and objectives specific to your department. Please respond by returning this cover memo form by August 30, 1997.

Please find a map, attached, to locate the proposed well. If you have any questions about this permit application, request additional information, or request additional review time, please contact Mr. Ryan Imata of the Commission staff at 587-0255.

RESPONSE:

[ ] This well qualifies as a source which will serve as a source of potable water to a public water system (serving 25 or more people at least 60 days per year or has 15 or more service connections) and must receive Director of Health approval prior to its use to comply with Hawaii Administrative Rules (HAR), Title 11, Chapter 20, Rules Relating to Potable Water Systems, §11-25-29.

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[ ] It does not appear that this well will be used for consumptive purposes and is not subject to Safe Drinking Water Regulations.

[ ] For the applicant's information, a source of possible wastewater contamination is not located near the proposed well site (information attached).

[ ] Other relevant DOH rules/regulations, information, or recommendations are attached.

[ ] No comments/objections

Contact Person: ___________________________ Phone: ___________________________

Signed: ___________________________ Date: ___________________________
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REMARKS:
LINE (1) Well No. 4461-02 (PTPA)
LINE (2) 
LINE (3) 
LINE (4)

ALBERT L. LYMAN 576-59-6984
PO BOX 5896 (808) 944-1984
HONOLULU, HAWAII 96812

PAY TO THE ORDER OF Department of Land and Natural Resources $25.00

Twelve Five Hundred

Bank of Honolulu
Main Branch
841 Bishop Street
Honolulu, Hawaii 96813

FOR HELCO pump equipment well 4461-02

2686
59-224/1213

7-25 97

Albert Lyman
TO:  State of Hawaii  
Commission on Water Resource Management  
P.O. Box 621  
Honolulu, HI 96809

ATTN: Mr. Ryan Imata

DATE: July 24, 1997

RE: HELCO Keahole Well No. 4461-02 - Application for Pump Installation Permit

PROJECT NUMBER: 107406.A0.ZZ

WE ARE SENDING YOU:

- ATTACHED UNDER SEPARATE COVER VIA
  
  SHOP DRAWINGS DOCUMENTS
  PRINTS SPECIFICATIONS
  COPY OF LETTER OTHER:

<table>
<thead>
<tr>
<th>QUANTITY</th>
<th>DESCRIPTION</th>
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<tbody>
<tr>
<td>1</td>
<td>Original application for pump installation permit with USGS and TMK maps showing the well location</td>
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<tr>
<td>2</td>
<td>Copies of the above pump installation permit with maps showing well location</td>
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IF MATERIAL RECEIVED IS NOT AS LISTED, PLEASE NOTIFY US AT ONCE

REMARKS:

Dan Lum with Water Resource Associates is engaged as a technical consultant for this project and is assisting CH2M HILL to satisfy COWRM permitting requirements. Please direct your questions to CH2M HILL staff, Al Lyman at 943-7135, ext. 216 or Dina Ueoka at ext. 213.

COPY TO: Clyde Nagata/HELCO w/ attachments  
Barry Nakamoto/HELCO w/ attachments
APPLICATION FOR PERMIT

APPLICANT: (circle primary contact a, b, or c) Primary Fax: 808-969-0262
(a) WELL OWNER
Firm Name: Hawaii Electric Light Co., Inc.
Contact Person: Clyde Nagata Phone: (808) 969-0321
Address: P.O. Box 1027
Hilo, HI 96721

(b) LANDOWNER
Firm Name: Hawaii Electric Light Co., Inc.
Contact Person: Clyde Nagata Phone: (808) 969-0321
Address: P.O. Box 1027
Hilo, HI 96721

(c) CONTRACTOR
To be determined
Contractor’s License No. ____________________________
(please circle type: C-57, Gen C, or C-57a, Gen A)
Address ____________________________

WELL LOCATION/NAME: HELCO Keahole Well No. 4461-02 Island: Hawaii
Address: Keahole Generating Station, Queen Kaahumanu Hwy
Tax Map Key: 7-3-49:25

Attach the relevant portion of (a) a 7.5-Minute Series USGS topographic map (scale 1"=24,000'), and (b) a property tax map, showing well location referenced to established property boundaries.

PROPOSED WORK:
- New Pump
- New Well
- Deepen
- MODIFY EXISTING

PROPOSED PUMP INFORMATION:
- Deep Well Turbine
- Submersible
- Centrifugal
- Deep well turbine
- Deep well pump
- Submersible pump
- Centrifugal pump

PROPOSED USE:
- D Domestic
- D Ornamental
- D Irrigation
- D Military
- Other:

PROPOSED AMOUNT OF WITHDRAWAL: 250,000 gallons per day

METHOD OF FLOW MEASUREMENT:
- Flow-meter
- Open-pipe
- Orifice Plate
- Weir

REMARKS, EXPLANATIONS:

I understand that approval of this application attaches the following standard conditions: 1) the proposed work is to be completed within two (2) years of the approval date; 2) the contractor shall submit to the Commission a well completion/abandonment report within 30 days after the completion date of the permitted work; 3) monthly water use data shall be submitted to the Commission; 4) such approval shall not constitute a determination of correlative water rights and shall not guarantee the pump capacity or future use up to the permitted pump capacity.

Well Owner: Warren Lee, President
Hawaii Electric Light Co., Inc.
Signature:
Date 24 July 1997

Landowner: Warren Lee, President
Hawaii Electric Light Co., Inc.
Signature:
Date 24 July 1997

Contractor: Warren Lee, President
Hawaii Electric Light Co., Inc.
Signature:
Date 24 July 1997

For Official Use Only:
Date Received
Date Accepted
Field Checked By
Date
Longitude
Latitude
Aquifer System Name
State Well No.

3 Jan 97 WCRIA Form
9. **AS-BUILT WELL SECTION**

- Elevation at top of casing: 212 ft., msl.
- Ground Elevation: 210 ft., msl*
- Cement Grout: 195 ft.
- Rock Packing: 58 ft.
- Hole Diameter: 16 in.
- Total Depth: 253 ft.
- Solid Casing:
  - Material: PVC
  - Length: 203 ft.
  - Diameter: 12 in.
  - Wall thickness: 0.687 in.
- Casing:
  - Material: PVC
  - Length: 40 ft.
  - Diameter: 12 in.
  - Wall thickness: 0.687 in.
  - Openings: 82 sq. in./F.
- Open Hole:
  - Length: N/A
  - Diameter: N/A

*Approximate elevation at time of filing application. Ground elevation above mean sea level (msl) by a surveyor licensed by the State must be submitted at start of construction. Final elevations of well components shall be submitted in the well completion/well abandonment reports.
NOTE: Tax Map Key Number - Zone 7 Section 3 Plat 49

FIGURE 3-24

KEAHOLE AGRICULTURAL PARK

KEAHOLE GENERATING STATION

BRACKISH WATER SUPPLY WELL

Source: State of Hawaii, Department of Taxation, 1992
REGULATION BRANCH
Commission on Water Resource Management

FROM: ___________________________ DATE: 4/13/91 FILE IN: ___________________________

TO: INIT: ___________________________ PLEASE: ___________________________ REMARKS: Keahole-HELCO Well (4461-02)

☑ E. SAKODA
☐ F. Ching
☑ R. Hardy
☑ L. Nakama
☑ D. Higa
☑ J. Zhang
☑ Glenn
☑ Mitch

☐ R. LOUI
☐ S. KOKUBUN
☐ Y. SHIROMA
☐ E. HIRANO

☐ See Me
☐ Call
☐ Review & Comment
☐ Take Action
☐ Investigate & Report
☐ Draft Reply
☐ Acknowledge Receipt
☐ Type Draft
☐ Type Final
☐ Xerox ___ copies

☐ Approval
☐ Signature
☐ Information

FOR YOUR:

☐ R. LOUI
☐ S. KOKUBUN
☐ Y. SHIROMA
☐ E. HIRANO
MEMORANDUM

TO: Commission on Water Resource Management, Division of Land Management

FROM: Roger C. Evans, Administrator

SUBJECT: Proposed Keahole Generator Station Expansion

We are sending you the attached memo from the Department of Attorney General for your information.
The Honorable Keith W. Ahue  
Chairperson, Board of Land and Natural Resources  
P.O. Box 621  
Honolulu, Hawaii 96809  

Dear Mr. Ahue:  

Re: Waimana Enterprises v. Ahue, et al., Civil No. 94-1113-03(1st Cir.) (HELCO Keahole EIS)  

I have been assigned to represent you in your official capacity and the DLNR in the above-entitled litigation. Please inform all your divisions, if they do not already know, that this case has been filed. Henceforth, any requests to inspect the DLNR’s records on HELCO’s pending CDUA, and the EIS, should be referred to me prior to any action being taken.  

I have spoken to Don Horiuchi at OCEA, and have asked him to comment on the factual allegations contained in the Complaint. It is my understanding that a similar lawsuit has been filed in Kona, although I am not aware of any formal service of that lawsuit upon the State. Should you have any questions on this, please feel free to call me at 7-2994.  

Very truly yours,  

Randall Y.K. Young  
Deputy Attorney General  

RYKY  
c. D. Horiuchi, OCEA  
11503
STATE OF HAWAII

Land Patent No. 8-15,591

Issued On
SALE PURSUANT TO SECTION 171-93(a) (2)

By THIS PATENT the State of Hawaii, in conformity with the laws of the State of Hawaii relating to public lands and pursuant to the approval by the Board of Land and Natural Resources on December 14, 1973

makes known to all men that it does this day grant and confirm unto

HAWAII ELECTRIC LIGHT COMPANY, INC., a Hawaii corporation,
hereinafter called the "PATENTEE,"

for the consideration of FIFTY-EIGHT THOUSAND SIX HUNDRED AND NO/100 DOLLARS ($58,600.00), the receipt whereof is hereby acknowledged,

all of the land situated at
KALAOA 1ST - 4TH, NORTH KONA, ISLAND OF HAWAII, STATE OF HAWAII, designated as KAHOLA DIAZEL GENERATION SITE and Basements 2 and 3, consisting of 14.99 ACRES, MORE OR LESS, containing an area of 14.99 ACRES, MORE OR LESS:

all of the land situated at
KALAOA 1ST - 4TH, NORTH KONA, ISLAND OF HAWAII, STATE OF HAWAII, designated as KAHOLA DIAZEL GENERATION SITE and Basements 2 and 3, consisting of 14.99 ACRES, MORE OR LESS, MORE PARTICULARLY described in Exhibit "A" and delineated on Exhibit "B", both of which are attached hereto and made parts hereof, said exhibits being, respectively, a summary description and a survey map prepared by the

Survey Division, Department of Accounting and General Services, State of Hawaii, both being designated C.S.F. No. 13,576 and dated February 19, 1983.

RESERVING TO THE STATE OF HAWAII, ITS SUCCESSORS AND Assigns, THE FOLLOWING:

(1) All minerals as hereinafter defined, in, on or under the land and the right, on its own behalf or through persons authorized by it, to prospect for, mine and remove such minerals and to occupy and use the surface thereof, for all purposes reasonably extending to the mining and removal of such minerals by any means whatsoever, including strip mining. "Minerals", as used herein, shall mean any or all oil, gas, coal, phosphate, sodium, sulphur, iron, titanium, gold, silver, bauxite, taconitic clay, diaspore, bronzite, laterite, gibbsite, alumina, all ores of aluminum and, without limitation thereon, all other mineral substances and ore deposits, whether solid, gaseous or liquid, including all geothermal resources, in, on, or under the land, fast or submerged; provided, that "minerals" shall not include sand, gravel, rock, or other material suitable for use and used in general construction in furtherance of the grantee's permitted activities on the land and not for sale to others.

TRANSMISSION REPORT

THIS DOCUMENT (REDUCED SAMPLE ABOVE) WAS SENT

** COUNT **

# 11

*** SEND ***

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TOTAL 0:07'07" 11 XEROX TELECOPIER 7020
State of Hawaii  
Department of Land and Natural Resources  
Commission on Water Resource Management  
P.O. Box 621  
Honolulu, HI 96809  

Attention: Ms. Rae Loui, Deputy  

Dear Ms. Loui:  

Subject: HELCO Keahole Combined Cycle Project  
Well No. 4461-02  

Enclosed for your records is a copy of the water quality report for Well No. 4461-02. This supplements the Well Completion Report which was sent to you earlier.  

Also enclosed is a map which shows the location of the supply well at coordinates N-1170.00, E-1010.00. (Mark No. 26 on the map.)  

Please contact Barry Nakamoto at (808) 543-7982 if you have any questions.  

Sincerely,  

[Signature]  
Clyde H. Nagata  
Manager,  
Engineering Department  

CHN/BMN/JMA:mac  
Enclosures  

An HEI Company
### LABORATORY ANALYSIS REPORT

**CLIENT:** BREWER ENVIRONMENTAL SERVICES  
1930 AUIKI STREET  
HONOLULU, HAWAII 96819  

**SAMPLE LOCATION:** KONA/KEAHOLE HELCO  
JOB #3675  

**Date/Time Sampled:** 08/23/93 @ 1205  
**Date/Time Received:** 08/25/93 @ 0800  

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<th>METHOD NUMBER</th>
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BRL = BELOW REPORTING LIMIT
CLIENT: BREWER ENVIRONMENTAL SERVICES  
1930 AUIKI STREET  
HONOLULU, HAWAII 96819

ATTN: DAVE GRIFFIN
JOB NUMBER: 0895
DATE: SEPT. 07, 1993

SAMPLE LOCATION: KONA/KEAHOLE HELCO  
JOB #3675
Matrix: WATER
SAMPLE #: KEAHOLE HELCO POWER PLANT

Date/Time Sampled: 08/23/93 @ 1205
Date/Time Received: 08/25/93 @ 0800

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**BRL = BELOW REPORTING LIMIT**
CLIENT: BREWER ENVIRONMENTAL SERVICES  
1930 AUIKI STREET  
HONOLULU, HAWAII 96819

ATTN: DAVE GRIFFIN  
JOB NUMBER: 0895  
DATE: SEPT. 07, 1993

SAMPLE LOCATION: KONA/KEAHOLE HELCO  
JOB #3675  
Matrix: WATER  
SAMPLE #: KEAHOLE HELCO POWER PLANT

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BRL = BELOW REPORTING LIMIT
CLIENT: BREWER ENVIRONMENTAL SERVICES  
1930 AUIKI STREET  
HONOLULU, HAWAII 96819

SAMPLE LOCATION: KONA/KEAHOLE HELCO  
JOB #3675

Date/Time Sampled: 08/23/93 @ 1205  
Date/Time Received: 08/25/93 @ 0800

ANALYSIS | RESULT | REPORTING LIMIT | ANALYSIS DATE | METHOD NUMBER
---|---|---|---|---
BARIUM | BRL | 0.10 | 09/10/93 | 200.7

BRL = BELOW REPORTING LIMIT

ATTN: DAVE GRIFFIN  
JOB NUMBER: 0895  
DATE: SEPT. 14, 1993

Matrix: WATER  
SAMPLE #: KEAHOLE HELCO  
POWER PLANT

Approved by: [Signature]

BREWER ENVIRONMENTAL LABORATORIES  
PO BOX 552  
PAPAHOOU, HI 96781  
PHONE: (808) 964-5522  
FAX: (808) 964-5309
## QUALITY CONTROL INFORMATION

### FOR BARIUM

### KEAHOLE HELCO POWER PLANT

**CLIENT:** BREWER ENVIRONMENTAL SERVICES  
1930 AUKI STREET  
HONOLULU, HAWAII 96819  

**ATTN:** DAVE GRIFFIN  
**JOB NUMBER:** 0895  
**DATE:** SEPT. 14, 1993

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**Date Sampled:** 08/23/93  
**Date Digested:** 09/01/93  
**Date Analyzed:** 09/03/93

Approved by: [Signature]
### WELL COMPLETION REPORT

**State of Hawaii**
**COMMISSION ON WATER RESOURCE MANAGEMENT**
**Department of Land and Natural Resources**

- **WEU COMPLETION REPORT**
- **I. STATE WELL NO:** 4461-02
- **WELL NAME:** KEAROLE HELCO WELL
- **ISLAND:** HAWAII
- **LOCATION:** Address: KEAROLE PLANT ACCESS ROAD
  - **Tax Map Key:** 2-7-10:2
- **NAME OF DRILLER WHO PERFORMED WORK:** RODNEY COON
- **DATE OF WELL DRILLING COMPLETION:** 07/03/93

**GROUND ELEVATION (msl):** 210 ft.

**DRAULER’S LOG:**

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<tr>
<th>Depth (ft)</th>
<th>Rock Description, Remarks, Date</th>
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<td>BROKEN LAVA</td>
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<tr>
<td>28 to 62</td>
<td>HARD LAYA</td>
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<td>62 to 63</td>
<td>BROKEN LAVA &amp; BOUNDERS</td>
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<td>CREEK LAYA &amp; MUD</td>
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<td>75 to 98</td>
<td>CREEK LAYA &amp; BOUNDERS</td>
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<td>98 to 118</td>
<td>BROKEN LAVA BROKEN</td>
</tr>
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</table>

**Hole Size:** 16 inch dia. from 0 ft. to 253 ft. below ground

**Casing Installed:**
- 12 in. L.D. x .687 in. wall solid section to 203 ft. below ground
- 12 in. L.D. x .687 in. wall perforated section to 243 ft. below ground

**Annulus:**
- Grouted from 0 ft. below ground to 195 ft. below ground
- Gravel packed from 195 ft. below ground to 233 ft. below ground

**Initial Water Level:** 209 ft. below ground.

**Initial Chloride:** 5900 ppm

**Initial Temperature:** 71.4 °F

**DATE OF PUMP INSTALLATION:**

**Pump Installation:**
- **Pump Type, Make, Serial No.:**
- **Capacity:** 500 gph
- **Motor type, H.P., Voltage, rpm:**
- **Depth of Pump Intake Setting:** 210 ft. below, which elevation is
- **Depth of bottom of alint mou:** 253 ft. below ground
- **Pumping Head:** 121 ft.

**Pumping Tests:**
- **Reference Point (R.P.) used:** CASTING
- **Elevation:** 212 ft.

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Q. DRILLER'S LOG:

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<th>Water Level, ft.</th>
<th>Depth, ft.</th>
<th>Rock Description &amp; Remarks</th>
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<td>235.0 to 246.0</td>
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<td>185.0 to 190</td>
<td>GRAY LAVA LOOSE</td>
<td>246.0 to 253.0</td>
<td>GRAY LAVA FIRM</td>
<td>209.0</td>
<td></td>
</tr>
<tr>
<td>190.0 to 195</td>
<td>BROKEN BROWN &amp; GRAY LAVA</td>
<td>253.0 to 260.0</td>
<td>BROKEN LAVA</td>
<td>209.0</td>
<td></td>
</tr>
<tr>
<td>195.0 to 200</td>
<td>GRAY LAVA HARD</td>
<td>260.0 to 265.0</td>
<td>HARD LAVA</td>
<td>209.0</td>
<td></td>
</tr>
<tr>
<td>200.0 to 205</td>
<td>GRAY LAVA BROKEN</td>
<td>265.0 to 270.0</td>
<td>LAVA BROKEN</td>
<td>209.0</td>
<td></td>
</tr>
<tr>
<td>205.0 to 210</td>
<td>RED CINDERS &amp; KLINERS</td>
<td>270.0 to 275.0</td>
<td>CINDERS &amp; LAVA</td>
<td>209.0</td>
<td></td>
</tr>
<tr>
<td>210.0 to 215</td>
<td>RED CINDERS &amp; KLINERS</td>
<td>275.0 to 280.0</td>
<td>CINDERS &amp; LAVA</td>
<td>209.0</td>
<td></td>
</tr>
</tbody>
</table>

REMARKS:

FOR DRILLER'S USE

FOR OFFICIAL USE

Title: FIELD SUPERINTENDENT

Date: JULY 23, 1993
Briefly describe the proposed work:

KEAROLE PRODUCTION WELL # (4461-02)

PROPOSED SECTION OF WELL

Elevation at top of casing 212 ft., mal.

Ground Elev. 210 ft., mal.

Cement Grout 195 ft.

Hole Dia. 16 in.

Total Depth 253 ft.

Rock Packing 58 ft.

Casing: / /Perforated / /Screen

Material PVC

Length 40 ft.

Diameter 12 in.

Wall thickness .687 in.

Openings 82 sq. in./L.F.

Open Hole:

Length N/A

Diameter in.
The results of the analysis of an initial (1:05 pm) and final (1:30 pm) water sample were as follows:

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Chloride (mg/l)</th>
<th>Temperature (°F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6/24/93</td>
<td>1:05 pm</td>
<td>5,900</td>
<td>71.4</td>
</tr>
<tr>
<td>6/25/93</td>
<td>1:30 pm</td>
<td>3,100</td>
<td>71.8</td>
</tr>
</tbody>
</table>

In addition, chloride content was estimated from field measurements for the following:

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Estimated Chloride (mg/l)</th>
<th>Temperature (°F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6/24/93</td>
<td>5:30 pm</td>
<td>7,200 mg/l</td>
<td>70.3</td>
</tr>
<tr>
<td>6/24/93</td>
<td>11:30 pm</td>
<td>7,400 mg/l</td>
<td>70.2</td>
</tr>
<tr>
<td>6/25/93</td>
<td>6:00 am</td>
<td>4,800 mg/l</td>
<td>70.3</td>
</tr>
<tr>
<td>6/25/93</td>
<td>10:00 am</td>
<td>2,800 mg/l</td>
<td>70.7</td>
</tr>
</tbody>
</table>

Please send me a copy of the Well Completion Report and the drilling log.
STATE OF HAWAII

(Grant)
Issued On

SALE PURSUANT TO SECTION 171-95(a)(2)
HAWAII REVISED STATUTES

By THIS PATENT the State of Hawaii, in conformity with the laws of the State of Hawaii relating to public lands and pursuant to the approval by the Board of Land and Natural Resources on December 14, 1973

makes known to all men that it does this day grant and confirm unto

HAWAII ELECTRIC LIGHT COMPANY, INC.,
a Hawaii corporation,

hereinafter called the "PATENTEE,"

for the consideration of FIFTY-EIGHT THOUSAND SIX HUNDRED AND NO/100 DOLLARS ($58,600.00), the receipt whereof is hereby acknowledged,

all of the land situate at KALAOA 1ST - 4TH, NORTH KONA, ISLAND OF HAWAII, STATE OF HAWAII, designated as Keahole Diesel Generation Site and Easements 2 and 3, consisting of KEAHOLE DIESEL GENERATION SITE, containing an area of 14.998 acres, more or less; EASEMENT 2, containing an area of 0.552 acre, more or less; EASEMENT 3, containing an area of 1.541 acres, more or less, more particularly described in Exhibit "A" and delineated on Exhibit "B", both of which are attached hereto and made parts hereof, said exhibits being, respectively, a survey description and a survey map prepared by the Survey Division, Department of Accounting and General Services, State of Hawaii, both being designated C.S.F. No. 19,676 and dated February 18, 1983.

RESERVING TO THE STATE OF HAWAII, ITS SUCCESSORS AND ASSIGNS, THE FOLLOWING:

(1) All minerals as hereinafter defined, in, on or under the land and the right, on its own behalf or through persons authorized by it, to prospect for, mine and remove such minerals and to occupy and use so much of the surface of the ground as may be required for all purposes reasonably extending to the mining and removal of such minerals by any means whatsoever, including strip mining.

"Minerals", as used herein, shall mean any or all oil, gas, coal, phosphate, sodium, sulphur, iron, titanium, gold, silver, bauxite, bauxitic clay, diasporic, boehmite, laterite, gibbsite, alumina, all ores of aluminum and, without limitation thereon, all other mineral substances and ore deposits, whether solid, gaseous or liquid, including all geothermal resources, in, on, or under the land, fast or submerged; provided, that "minerals" shall not include sand, gravel, rock, or other material suitable for use and used in general construction in furtherance of the Grantee's permitted activities on the land and not for sale to others.
(2) All surface and ground waters appurtenant to the said land
and the right on its own behalf or through persons authorized by it,
to capture, divert or impound the same and to occupy and use so much
of the said land as may be required in the exercise of this right
reserved.

(3) All prehistoric and historic remains found in, on or under
said land.

Provided, however, that as a condition precedent to the
exercise of the rights reserved in paragraphs 1 and 2, just
compensation shall be paid to the Patentee for any of Patentee's
improvements taken.

SUBJECT, HOWEVER, TO THE FOLLOWING CONDITIONS:

1. Purpose. That the Patentee shall use the land herein
granted for public utility purposes only.

2. Easement Abandonment. If the Patentee shall, at any time
for a continuous period of one (1) year, fail or cease to use, or
abandon all or any portion of the easement area, the easements shall
cease and terminate as to such portion so abandoned or not used.

3. Repurchase of Diesel Generation Site. That the Patentee,
for itself, its successors and assigns, covenants with the State of
Hawaii and the Board of Land and Natural Resources shall have the
right to repurchase the land at the original sales price or fair
market value, whichever is lower, and to purchase improvements
thereon at the depreciated value or fair market value, whichever is
lower.

4. Public Use of Easements. That the Patentee shall allow the
State of Hawaii and the general public unobstructed and free use of
the easement area for roadway and utility purposes.

5. Indemnity. That the Patentee shall at all times use due
care for public safety and agrees to defend, hold harmless and
indemnify the State of Hawaii, its officers, agents and employees or
any person acting for or on its behalf, from and against all claims
for property damage, personal injury or death, arising on, about or
in connection with the exercise of the rights and privileges herein
granted, caused directly or proximately by any failure on the part
of the Patentee to use due care in accordance with the terms and
conditions of this Grant, or arising out of or caused by any act or
omission of the Patentee.

6. Maintenance of Easements. That the Patentee shall be
required to maintain the easement area at its own expense.

7. Approval of Construction Plans. That all construction
shall be in accordance with plans and specifications submitted to
and approved by the Chairman of the Department of Land and Natural
Resources prior to such construction and in full compliance with all
laws, ordinances, rules and regulations applicable thereto.

8. Landscaping. That the Patentee shall landscape the area
herein granted in accordance with plans submitted to and approved by
the Chairman of the Department of Land and Natural Resources prior
to planting.

9. Improvements Placed on the Easements. All improvements
placed in or upon the easement area shall be and remain the property
of the Patentee and may be removed or otherwise disposed of by the
Patentee at any time; provided, that such removal shall be
accomplished with minimum disturbance to the easement area, which
shall be restored to its original state, or as close thereto as
possible, within a reasonable time after removal.

10. Easements to be Kept in Clean Condition. The Patentee
shall keep the easement areas herein granted and improvements
thereon in a clean, sanitary, and orderly condition, and shall not
make, permit or suffer, any waste, strip, spoil, nuisance or
unlawful, improper or offensive use of the easement area.
11. Non-Discrimination. The Patentee covenants for itself, its successors and assigns, that the use of the lands and easements herein granted shall not be in support of any policy which discriminates against anyone based upon race, creed, sex, color, national origin or a physical handicap.

12. Relocation of Easements. Should future development necessitate a relocation of any pole or line granted herein, such relocation shall be accomplished at the Patentee's own cost and expense; provided, however, that if other lands of the State of Hawaii are available, the State will grant to the Patentee without payment of any monetary consideration, a substitute easement of similar width within the reasonable vicinity of the original alignment, which substitute easement shall be subject to the same terms and conditions as that herein granted and as required by law.

13. Compliance with Municipal, State and Federal Laws. The Patentee shall comply with all of the requirements of the municipal, state and federal authorities and observe all county ordinances, state and federal statutes, rules and regulations now in force or which may hereinafter be in force.

14. Subject to Legislative Disapproval. This Land Patent Grant shall be subject to disapproval of the Legislature by two-thirds vote of either the Senate or the House of Representatives or by majority vote of both, in any regular or special session next following the date of such disposition.

TO HAVE AND TO HOLD said granted land unto the said

HAWAII ELECTRIC LIGHT COMPANY, INC.,
a Hawaii corporation,

its successors and assigns forever, subject, however, to the reservations and covenants herein set forth.

IN WITNESS WHEREOF, the State of Hawaii, by its Board of Land and Natural Resources, has caused the Seal of the Department of Land and Natural Resources to be hereunto affixed and this Patent to be duly executed this 23rd day of _______________, 19__.

STATE OF HAWAII
Board of Land and Natural Resources

By __________________________
Chairman and Member

APPROVED AS TO FORM:

Nutem Hanno
Deputy Attorney General
Dated: _______________}

Written by: __________________________

Proofed by: __________________________
STATE OF HAWAII
SURVEY DIVISION
DEPT. OF ACCOUNTING AND GENERAL SERVICES
HONOLULU

KEAHOLE DIESEL GENERATION SITE
AND EASEMENTS 2 AND 3
Kalaoa 1st-4th, North Kona, Island of Hawaii, Hawaii


KEAHOLE DIESEL GENERATION SITE:

Beginning at a nail "A" in concrete at the northwest corner of this parcel of land and on the northeast corner of Keahole Substation Site, the coordinates of said point of beginning referred to Government Survey Triangulation Station "AKARIPUU" being 6972.44 feet South and 20,389.20 feet West, thence running by azimuths measured clockwise from True South:

1. Along Government Land on a curve to the left with a radius of 3063.86 feet, the chord azimuth and distance being:
   264° 41' 22"
   533.09 feet to a nail in concrete;

2. 259° 41' 55"
   312.39 feet along Government Land to a nail in "A" in concrete;

3. 9° 19' 55"
   940.46 feet along Government Land to a 1/2-inch pipe in concrete;

4. 99° 19' 55"
   810.00 feet along Lots 6 and 5, Keahole Agricultural Park, Phase I, File Plan 1691 and along the north end of Pukiawe Street to a nail in concrete;

5. 189° 19' 55"
   700.75 feet along Lot 5, Keahole Agricultural Park, Phase I, File Plan 1691 and Keahole Substation Site, to the point of beginning and containing an AREA OF 14.998 ACRES.

TOGETHER, WITH, Easements 2 and 3, as shown on plan and more particularly described as follows:

-1-

EXHIBIT "A"
EASEMENT 2: Non-exclusive easement for access and utility purposes.

Beginning at a nail in "++" in concrete at the southeast corner of this easement, the northeast corner of Keahole Substation Site and on the northwest corner of Keahole Diesel Generation Site, the coordinates of said point of beginning referred to Government Survey Triangulation Station "AKAHIPU" being 6972.44 feet South and 20,389.20 feet West, thence running by azimuths measured clockwise from True South:

1. Along Keahole Substation Site and Government Land on a curve to the right with a radius of 3063.86 feet, the chord azimuth and distance being: 92° 16' 07" 216.73 feet;

2. 94° 51' 25" 30.50 feet along Government Land;

3. 189° 19' 55" 80.24 feet along the east side of Queen Kaahumanu Highway;

4. 274° 51' 25" 24.24 feet along Government Land;

5. Thence along Government Land on a curve to the left with a radius of 2983.86 feet, the chord azimuth and distance being: 272° 16' 07" 269.50 feet;

6. 359° 40' 49" 80.00 feet along Government Land to the point of beginning and containing an AREA OF 0.552 ACRE.

EASEMENT 3: Non-exclusive easement for access and utility purposes.

Beginning at a nail in "++" in concrete at the southwest corner of this easement, the northeast corner of Keahole Substation Site and on the northwest corner of Keahole Diesel Generation Site, the coordinates of said point of beginning referred to Government Survey Triangulation Station "AKAHIPU" being 6972.44 feet South and 20,389.20 feet West, thence running by azimuths measured clockwise from True South:

1. 179° 40' 49" 80.00 feet along Government Land;

2. Thence along Government Land on a curve to the left with a radius of 2983.86 feet, the chord azimuth and distance being: 264° 41' 22" 519.17 feet;
February 18, 1983

3. 259° 41' 55"
   312.39 feet along Government Land;

4. 349° 41' 55"
   80.00 feet along Government Land to a nail in "c" in concrete;

5. 79° 41' 55"
   312.39 feet along Keahole Diesel Generation Site to a nail in concrete;

6. Thence along Keahole Diesel Generation Site on a curve to the right with a radius of 3063.86 feet, the chord azimuth and distance being:
   84° 41' 22" 533.09 feet, to the point of beginning and containing an AREA OF 1.541 ACRES.

SURVEY DIVISION
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
STATE OF HAWAII

By: ________________________________
Paul T. Nuha
Land Surveyor

Compiled from survey
and map by R. Kuba and
Govt. Survey Records.
RECORDATION REQUESTED BY: 

AFTER RECORDATION, RETURN TO: 

RETURN BY: MAIL ( ) PICKUP ( )

AMENDMENT TO LAND PATENT GRANT
NO. S-15,591 DATED APRIL 29, 1983

KNOW ALL MEN BY THESE PRESENTS:

WHEREAS, the HAWAII ELECTRIC LIGHT COMPANY, INC., a Hawaii corporation, whose business and postal address is P. O. Box 1027, Hilo, Hawaii 96720, hereinafter referred to as the "PATENTEE," is the owner of land situated at Kalaoa 1st-4th, North Kona, Island of Hawaii, State of Hawaii, identified as KEAHOLE DIESEL GENERATION SITE, containing an area of 14.998 acres, more or less; EASEMENT 2, containing an area of 0.552 acre, more or less; and EASEMENT 3, containing an area of 1.541 acres, more or less, and more particularly described in Land Patent Grant No. S-15,591 dated April 29, 1983, issued by the State of Hawaii; and

WHEREAS, said Land Patent Grant No. S-15,591 contains the following two conditions:

"3. Repurchase of Diesel Generation Site. That the Patentee, for itself, its successors and assigns, covenants with the State of Hawaii that the Board of Land and Natural Resources shall have the right to repurchase the land at the original sales price or fair market value, whichever is lower, and to purchase improvements thereon at the depreciated value or fair market value, whichever is lower."

"12. Relocation of Easements. Should future development necessitate a relocation of any pole or line granted herein, such relocation shall be accomplished at the Patentee's own cost and expense; provided, however, that if other lands of the State of Hawaii are available, the State will grant to the Patentee without payment of any monetary consideration, a substitute easement of similar width within the reasonable vicinity of the original alignment, which substitute easement shall be subject to the same terms and conditions as that herein granted and as are required by law."

DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF LAND MANAGEMENT
P. O. BOX 507
HONOLULU, HAWAII 96808
WHEREAS, the Patentee has requested that the Board of Land and Natural Resources of the State of Hawaii amend condition numbers 3 and 12 to read as follows:

"3. Repurchase of Diesel Generation Site. That the Patentee, for itself, its successors and assigns, covenants with the State of Hawaii that if the land ceases to be used at any future time for public utility purposes the Board of Land and Natural Resources shall have the right to repurchase the land at the original sales price or fair market value, whichever is lower, and to purchase improvements thereon at the depreciated value or fair market value whichever is lower.

12. Relocation of Easements. Should future development necessitate a relocation of any pole or line granted herein, such relocation shall be accomplished at the Patentee's own cost and expense. The State will grant to the Patentee without payment of any monetary consideration, a substitute easement of similar width within the reasonable vicinity of the original alignment, which substitute easement shall be subject to the same terms and conditions as that herein granted and as required by law."

WHEREAS, the Board of Land and Natural Resources finds that the public interest will be served by the aforementioned amendments; and

WHEREAS, the Board of Land and Natural Resources, at its meeting of December 28, 1984, approved the Patentee's request for amendment of Land Patent Grant No. 15,591.

NOW, THEREFORE, for and in consideration of the sum of FIFTY EIGHT THOUSAND SIX HUNDRED AND NO/100 DOLLARS ($58,600.00) originally paid to the Department of Land and Natural Resources for Land-Patent Grant No. S-15,591 and the covenants and conditions contained therein, the Board of Land and Natural Resources under the authority in it vested by Section 171-63(a), Hawaii Revised Statutes, does hereby amend Land Patent Grant No. S-15,591 as aforesaid.

AND that except as modified by the aforesaid amendment, the terms, covenants, and conditions set forth in said Land Patent Grant No. S-15,591 shall continue in full force, and that nothing herein contained shall serve or release or discharge the
Grantee from the observance and performance of such terms, covenants and conditions.

IN WITNESS WHEREOF, the STATE OF HAWAII, the Grantor herein by its Board of Land and Natural Resources, has caused the seal of the Department of Land and Natural Resources to be hereunto affixed and these presents to be duly executed this 27th day of March, 1985, and the HAWAII ELECTRIC LIGHT COMPANY, INC., a Hawaii corporation, the Patentee herein, has caused these presents to be duly executed this 27th day of March, 1985.

STATE OF HAWAII

By

Chairperson and Member
Board of Land and Natural Resources

And By

Member
Board of Land and Natural Resources

HAWAII ELECTRIC LIGHT COMPANY, INC.

By

Its President

By

Its Assistant Secretary

APPROVED AS TO FORM:

Deputy Attorney General
Dated: March 16, 1985

helco

Approved

Land

3
STATE OF HAWAII
) ss.
COUNTY OF HAWAII

On this 27th day of March, 1986,
before me appeared __________ Norman A. Ooi and
__________ John P. Corbell, to me personally known, who,
being by me duly sworn, did say that they are the
President and Assistant Secretary,
respectively of HAWAII ELECTRIC LIGHT COMPANY, INC., a Hawaii
corporation, and that the seal affixed to the foregoing
instrument is the corporate seal of said corporation and that
said instrument was signed and sealed in behalf of said
corporation by authority of its Board of Directors, and the said
__________ Norman A. Ooi and __________ John P. Corbell
acknowledged said instrument to be the free act and deed of said
corporation.

____________________________
Notary Public State of Hawaii
My Commission Expires: 2/4/89
**DRILLER'S LOG:**

<table>
<thead>
<tr>
<th>Depth, ft.</th>
<th>Rock Description &amp; Remarks</th>
<th>Water Level, ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>180 to 185</td>
<td>RED CINDERS &amp; KLINKERS</td>
<td></td>
</tr>
<tr>
<td>185 to 190</td>
<td>GRAY LAVA LOOSE</td>
<td></td>
</tr>
<tr>
<td>190 to 198</td>
<td>BROKEN BROWN &amp; GRAY LAVA</td>
<td></td>
</tr>
<tr>
<td>198 to 214</td>
<td>GRAY LAVA HARD</td>
<td></td>
</tr>
<tr>
<td>214 to 228</td>
<td>GRAY LAVA BROKEN</td>
<td></td>
</tr>
<tr>
<td>228 to 235</td>
<td>RED CINDERS &amp; KLINKERS</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**REMARKS:**

Submitted by (print)  
TRACY RUNNELLS

Title  
FIELD SUPERINTENDENT

Signature

Date  
JULY 23, 1993

FOR OFFICIAL USE

Latitude ..................................
Longitude ..............................
Well No. ................................
The results of the analysis of an initial (1:05 pm) and final (1:30 pm) water sample were as follows:

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Chloride (mg/l)</th>
<th>Temperature (°F)</th>
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<tbody>
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<td>5:30 pm</td>
<td>7,200 mg/l</td>
<td>70.3</td>
</tr>
<tr>
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<td>11:30 pm</td>
<td>7,400 mg/l</td>
<td>70.2</td>
</tr>
<tr>
<td>6/25/93</td>
<td>6:00 am</td>
<td>4,800 mg/l</td>
<td>70.3</td>
</tr>
<tr>
<td>6/25/93</td>
<td>10:00 am</td>
<td>2,800 mg/l</td>
<td>70.7</td>
</tr>
</tbody>
</table>

Please send me a copy of the Well Completion Report and the drilling log.
WELL COMPLETION REPORT

Institution: Please attach and submit completed report within 30 days after well completion to the Commissioner on Water Resource Management, P.O. Box 623, Honolulu, Hawaii 96809. An uncr GERT drawing of the well and chemical anaylsis t o be submitted. For assistance call the Commission Regulation Branch at 587-0025.

1. STATE WELL NO. 4461-02
2. LOCATION: Address KEAHOLE PLANT ACCCESS ROAD
3. DRILLING OR PUMP INSTALLATION CONTRACTOR ROSEMOSS HAWAII, INC.
4. CONTRACTOR'S C-57 LICENSE NUMBER C-16437
5. NAME OF DRILLER WHO PERFORMED WORK ROSE ROUGH
6. TYPE OF RIG/CONSTRUCTION CABLE TOOL
7. DATE OF WELL DRILLING COMPLETION 07/03/93
(NOTE: Report must be submitted within 30 days after this date.)

8. GROUND ELEVATION (msl) 210 ft.
   Top of Drilling Platform (msl) 213 ft.
   Height of Drilling Platform above Ground surface 3 ft.
   Bench Mark and Method Used to Determine Ground Elevation ESTIMATE ft.

9. DRILLER'S LOG:

<table>
<thead>
<tr>
<th>Depth (ft.)</th>
<th>Rock Description, Remarks, Dates</th>
<th>Water Level (ft.)</th>
<th>Depth (ft.)</th>
<th>Rock Description, Remarks, Dates</th>
<th>Water Level (ft.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 28</td>
<td>BROKEN BROWN LAVA</td>
<td>118 to 128 HARD LAVA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>28 to 62</td>
<td>BAND GRAY LAVA</td>
<td>128 to 135 BROKEN LAVA &amp; BOULDERS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>62 to 63</td>
<td>BROKEN LAVA &amp; BOULDERS</td>
<td>135 to 150 BROWN LAVA FIRM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>63 to 65</td>
<td>GREY LAVA SOLID</td>
<td>150 to 155 CLINKERS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>75 to 98</td>
<td>GREY LAVA BOULDERS</td>
<td>155 to 165 BROKEN GREY LAVA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>98 to 118</td>
<td>BROWN LAVA BROKEN</td>
<td>165 to 180 BROWN LAVA FIRM</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(If more space is needed, continue on back.)

10. TOTAL DEPTH OF WELL BELOW GROUND 253 ft.
11. HOLE SIZE:
   | Depth (ft.) | Diameter |
   | 0 to 28     | 16 inch dia. |
   | 28 to 62    | 17 inch dia. |
   | 62 to 63    | 17 inch dia. |
   | 63 to 65    | 17 inch dia. |

12. CASING INSTALLED:
   | Depth (ft.) | Diameter |
   | 0 to 28     | 12 in. I.D. x 687 in. |
   | 28 to 62    | 12 in. I.D. x 687 in. |

13. ANNULUS:
   | Depth (ft.) | Diameter |
   | 0 to 28     | 12 in. I.D. x 687 in. |

14. INITIAL WATER LEVEL 209 ft. below ground.
15. INITIAL CHLORIDE 5900 ppm
16. INITIAL TEMPERATURE 71.4 °F
17. DATE OF PUMP INSTALLATION 06/24/93
18. PUMP INSTALLATION:
   | Pump Type, Make, Serial No. |
   | Capacity (gpm) |
   | Motor type, H.P., Voltage, rpm |
   | Depth of Pump Intake Setting (ft. below ground), which elevation is (ft. below ground) |
   | Depth of bottom of airline (ft. below ground), which elevation is (ft. below ground) |
   | Pumping Head is (ft. below ground) |

19. PUMPING TESTS:
   | Reference Point (R.P.) used: CASING, which elevation is 212 ft. |
   | Date 06/24/93 |
   | Start water level 210.7 ft. below R.P. |
   | Depth of well 210.7 ft. below R.P. |
   | Elapsed Time (hours) | Rate (gpm) | Drawdown (ft.) | Temp. °F |
   | 0105 to 0530 | 500 | 2.5 | 0900 |
   | 0530 to 730 | 500 | 0 |

(If more space is needed, continue on back.)

Remarks: ATTACHED LAB CHLORIDE ANALYSIS

Contractor (print) TRACY ROLLINS
Title FIELD SUPERINTENDENT
Signature

For Driller's Use
Job Name
Job No.

For Official Use
Well No. 4461-02
Well No. 4461-02
West No. 4461-02
Longitude 156 01 50
Latitude 19 44 06

Date JULY 23, 1993
Briefly describe the proposed work:

KEAHOLE PRODUCTION WELL # (4461-02)

Elevation at top of casing
212 ft., msl.

Cement Grout 195 ft.

Hole Dia. 16 in.

Total Depth 253 ft.

Rock Packing 58 ft.

Ground Elev. 210 ft., msl.

Solid Casing:
- Material: PVC
- Length: __________ ft.
- Diameter: __________ in.
- Wall thickness: __________ in.

Casing: / /Perforated / /Screen
- Material: PVC
- Length: 40 ft.
- Diameter: 12 in.
- Wall thickness: .687 in.
- Openings: 82 sq. in./L.F.

Open Hole:
- Length: N/A
- Diameter: __________ in.
Briefly describe the proposed work:

HELCO's Keahole power plant groundwater investigations at proposed facility site will include drilling and testing one or more 20-inch diameter water wells to evaluate groundwater supply. Water samples will be taken and analyzed for future treatment system specifications.

PROPOSED SECTION OF WELL

Elevation at top of casing: 217 ft., msl.

Ground Elevation: 215 ft., msl

Cement Grout: 220 ft.

Hole Diameter: 24 in.

Total Depth: 300 ft.

Rock Packing: 30 ft.

Solid Casing:

- Material: Steel
- Length: 210 ft.
- Diameter: 20 in.
- Wall thickness: 3/8 in.

Casing: □ Perforated □ Screen

- Material: Steel
- Length: 40 ft.
- Diameter: 20 in.
- Wall thickness: 3/8 in.
- Openings: 130 sq. in./L.F.
- Min. Area of opening for L.F.

Open Hole:

- Length: 50 ft.
- Diameter: 16 in.

*Approximate elevation at time of filing application. Final elevation (msl) by a surveyor licensed by the State must be submitted at start of construction.
COMMISSION ON WATER RESOURCE MANAGEMENT

FROM: ________________ DATE: 6/17/93 FILE IN: ________________

TO: INIT: PLEASE:

- G. Matsumoto     - See Me
- E. Sakoda
- Y. Shiroma
- E. Hirano
- D. Higa
- G. Bauer
- R. Hardy
- R. LOUI
- S. KOKUBUN
- M. TAGOMORI
- L. NANBU

- Call
- Review & Comment
- Take Action
- Investigate & Report
- Draft Reply
- Acknowledge Receipt
- Type Draft
- Type Final
- Xerox ___ copies

FOR YOUR:

- Approval
- Signature
- Information

please file in 8-4461-02
June 11, 1993

Mr. Mahi Cooper  
P.O. Box 4961  
Kailua-Kona, HI 96745

Subject: HELCO Keahole Power Plant  
Water Supply Test Well  
Well No. 4461-02

Dear Mr. Cooper:

In accordance with the request of the State of Hawaii Commission on Water Resource Management, we are respectfully notifying you of HELCO’s intent to conduct a pump test on our test well at the Keahole Power Plant. The 24-hour pump test is expected to be conducted within the next two or three weeks.

Please contact me at 935-1171 if you have any concerns with respect to the wells within your property.

Sincerely,

Clyde H. Nagata  
Manager,  
Engineering Department

cc: F. Kennedy  
G. Jenkins  
B. Nakamoto  
Ms. Rae Loui (Commission on Water Resource Management)
June 11, 1993

State Department of Transportation
Airports Division
869 Punchbowl Street
Honolulu, HI 96813

Attention: Mr. Owen Miyamoto
Administrator, Airports Division

Subject: HELCO Keahole Power Plant
Water Supply Test Well
Well No. 4461-02

Dear Mr. Miyamoto:

In accordance with the request of the State of Hawaii Commission on Water Resource Management, we are respectfully notifying you of HELCO's intent to conduct a pump test on our test well at the Keahole Power Plant. The 24-hour pump test is expected to be conducted within the next two or three weeks.

Please contact me at 935-1171 if you have any concerns with respect to impacts to the wells within your property.

Sincerely,

[Signature]

Clyde H. Nagata
Manager,
Engineering Department

cc: F. Kennedy
    G. Jenkins
    B. Nakamoto
    Ms. Rae Loui (Commission on Water Resource Management)
Commission on Water Resource Management  
P.O. Box 621  
Honolulu, Hawaii 96809  

Attention: Ms. Rae Loui  
Deputy  

Gentlemen:  

Subject: HELCO Keahole Combined Cycle Project  
Well No. 4461-02  

We are hereby advising the Commission that work on the subject well was initiated on Monday, April 26, 1993. Due to a miscommunication with our subcontractor, we were not able to inform you in advance. Corrective action has been taken with the contractor to prevent this from happening again. 

Please do not hesitate to contact me at 543-7982 if you have any questions. 

Sincerely,  

Barry Nakamoto  
Project Engineer  

BMN  

cc: C. Nagata
Facsimile Cover Sheet

Date: 4-28-93

To: MO. RAE LOUI
Company: UDRER RESOURCE MGT
Phone: 
Fax: 587-0219

From: BABEY NACAMOTO
Company: Hawaiian Electric Company, Inc.
Phone: 
Fax: (808) 543-7519

Pages including this cover page: 2

Comments:

We are transmitting from a RICOH 4000L -- (808) 543-7519.
If you do not receive all the pages, please call (808) 543-7926.
April 28, 1993

Commission on Water Resource Management
P.O. Box 621
Honolulu, Hawaii 96809

Attention: Ms. Rae Loui
Deputy

Gentlemen:

Subject: HELCO Keahole Combined Cycle Project
Well No. 4461-02

We are hereby advising the Commission that work on the subject well was initiated on Monday, April 26, 1993. Due to a miscommunication with our subcontractor, we were not able to inform you in advance. Corrective action has been taken with the contractor to prevent this from happening again.

Please do not hesitate to contact me at 543-7982 if you have any questions.

Sincerely,

Barry Nakamoto
Project Engineer

cc: C. Nagata

An HEI Company
COMMISSION ON WATER RESOURCE MANAGEMENT

FROM: ___________ DATE: 4/13/98 FILE IN: 8-4461-02

TO: INIT:  

G. Matsumoto  
E. Sakoda  
Y. Shiroma  
E. Hirano  
D. Higa  
G. Bauer  
R. Hardy  

PLEASE:  

See Me  
Call  
Review & Comment  
Take Action  
Investigate & Report  
Draft Reply  
Acknowledge Receipt  
Type Draft  
Type Final  
Xerox ______ copies

FOR YOUR:  

Approval  
Signature  
Information
April 7, 1993

Chairperson Keith Ahue  
Commission of Water Resource Management  
Department of Land and Natural Resources  
P.O. Box 621  
Honolulu, Hawaii 96809

Attention: Ms. Rae M. Loui, Deputy


"The applicant shall contact the State Historic Preservation Division (Telephone: Oahu 587-0007) before starting any work on the project. Prior to any land altering construction, an archaeological inventory survey shall be conducted to determine if significant historical sites are present. A final report shall be submitted to the State Historic Preservation Division for review and comments. If significant historic sites are present, an acceptable mitigation plan shall also be submitted for approval prior to construction.

"The applicant shall obtain a written statement from the State Historic Preservation Division indicting that their concerns have been addressed, and a copy of that statement shall be sent to the Commission before work is started on the project."
Acting on HELCO's behalf, CH2M HILL contracted with Paul Rosendahl, Ph. D., Inc. (PHRI) to conduct an archaeological inventory survey of TMK: 7-3-49:036. PHRI conducted the survey and related mitigation measures, and PHRI prepared a final report titled "Archaeological Inventory Survey: HELCO Keahole Parcel Project Area, Lands of Kalaoa 1-4, North Kona District, Island of Hawaii (TMK: 7-3-49: 36)," (PHRI Report 1265-0603920). The final report summarizes the survey work conducted, describes the historic sites identified, and sets forth a recommended mitigation action for the aforementioned sites.

The final report was submitted to the State Historic Preservation Division, Department of Land and Natural Resources, for their review and comment and for the approval of the mitigation plan. The State Historic Preservation Division commented on the report and mitigation plan in a memorandum dated December 3, 1992 addressed to the Administrator of the Office of Conservation Environmental Affairs. The memorandum was prepared by the State Historic Preservation Division in conjunction with their review of Conservation District Use Application HA-2600 for TMK: 7-3-49:036.

Pursuant to condition six of the Well Construction Permit for Keahole-Hawaii Electric Light Company, Inc. (HELCO) Well No. 4461-02, CH2M HILL is submitting a copy of the State Historic Preservation Division Administrator's December 3, 1992 memorandum addressed to the Administrator of the Office of Conservation Environmental Affairs. The memorandum summarizes how HELCO has addressed and satisfied the concerns set forth in the State Historic Preservation Division's September 1, 1992 memorandum to Ms. Rae Loui, Deputy for Water Resource Management, Commission on Water Resource Management. The memorandum also documents the State Historic preservation Division acceptance of the mitigation action recommended by PHRI for the historic sites contained within TMK: 7-3-49:036. With respect to the mitigation action, the memorandum states:

"...these sites were significant solely for their information content, and sufficient amounts of this information were recorded in the survey, making these sites 'no longer significant'. Therefore, no significant sites remain within the project area. Hence the subject Conservation District Use Application will have 'no effect' on historic sites."
With the submittal of the State Historic Preservation Division Administrator's December 3, 1992 memorandum, HELCO has satisfied condition six (6) of the Well Construction Permit for Keahole-Hawaii Electric Light Company, Inc. (HELCO) Well No. 4461-02.

Please feel free to contact me if you or your staff have any questions concerning HELCO's satisfaction of condition six (6) of the Well Construction Permit for Keahole-Hawaii Electric Light Company, Inc. (HELCO) Well No. 4461-02.

Sincerely,

CH2M HILL

Al Lono Lyman
Senior Project Manager

cc: F. Kennedy, Manager, HELCO Production Department
    C. Nagata, Manager, HELCO Engineering Department
    B. Nakamoto, HECO Engineering Department

Attachment: December 3, 1993 Memorandum From D. Hibbard, SHPD, to R. Evans, OCEA.
December 3, 1992

MEMORANDUM

TO:        Roger Evans, Administrator
           OCEA

FROM:      Don Hibbard, Administrator
           State Historic Preservation Division

SUBJECT:   CDUA HA-2600 -- HELCO, Meteorological Tower (File No. 92-2600)
           Kalaau, North Kona, Island of Hawaii
           TMK: 7-3-49: 036

HISTORIC PRESERVATION PROGRAM CONCERNS:

Our office reviewed the report by Dowden and Graves (1992) documenting the results of
the archaeological inventory survey for the subject parcel (PHRI Report 1265-0603920--
"Archaeological Inventory Survey: HELCO Keahole Parcel Project Area, Lands of
Kalaau 1-4, North Kona District, Island of Hawaii (TMK: 7-3-49: 36)", Appendix D in
the CDUA and Environmental Assessment documents). We find that the field survey
adequately covered the project area, finding 4 historic sites (site numbers 18076, 18077,
18078 and 18079).

The description of these sites is sufficient to evaluate their significance. These sites are all
very small excavations in the pahoehoe, probable very small prehistoric quarry sites. We
agree that these sites were significant solely for their information content and that
sufficient amounts of this information were recorded in the survey, making these sites "no
longer significant". Therefore, no significant sites remain within the project area. Hence,
the subject Conservation District Use Application will have "no effect" on historic sites.

If your office should have any further questions, please contact Kanalei Shun at 587-0007

KS: sty

bc: Paul Rosendahl, Ph.d.
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**PLEASE:**

- See Me
- Call
- Review & Comment
- Take Action
- Investigate & Report
- Draft Reply
- Acknowledge Receipt
- Type Draft
- Type Final
- Xerox ___ copies

**FOR YOUR:**

- Approval
- Signature
- Information
FAX MEMORANDUM

TO: Chairperson Keith Ahue, Commission of Water Resource Development

ATTENTION

COPIES: Mr. Prank Kennedy, Manager, Production Department, Hawaii Electric Light Company, Inc.
Mr. Clyde H. Nagata, Manager, Engineering Department, Hawaii Electric Light Company, Inc.
Mr. Barry Nakamoto, Project Engineer, Engineering Department, Hawaiian Electric Company, Inc.

FROM: Al Lono Lyman, Senior Project Manager, CH2M HILL

DATE: April 7, 1993

PAGES, INCLUDING THIS PAGE: Five (5)

SUBJECT: Satisfaction of Condition Six (6), Well Construction Permit for Keahole-HELCO Well No. 4461, Keahole, North Kona, Hawaii, TMK: 7-3-49:036

Accompanying this fax is a copy of a letter and attached copy of a memorandum from the State Historic Preservation Office. These are submitted to satisfy condition six (6) for Well Construction Permit for Keahole-HELCO Well No. 4461. Copies of the letter and attached memorandum will also be mailed to Chairperson Ahue and Ms. Loui.
April 7, 1993

Chairperson Keith Ahue  
Commission of Water Resource Management  
Department of Land and Natural Resources  
P.O. Box 621  
Honolulu, Hawaii 96809

Attention: Ms. Rae M. Loui, Deputy

Subject: Satisfaction of Condition Six (6), Well Construction Permit for  
Keahole-HELCO Well No. 4461-02, Keahole, North Kona, Hawaii,  
TMK: 7-3-49:036.


"The applicant shall contact the State Historic Preservation Division (Telephone: Oahu 587-0007) before starting any work on the project. Prior to any land altering construction, an archaeological inventory survey shall be conducted to determine if significant historical sites are present. A final report shall be submitted to the State Historic Preservation Division for review and comments. If significant historic sites are present, an acceptable mitigation plan shall also be submitted for approval prior to construction.

"The applicant shall obtain a written statement from the State Historic Preservation Division indicating that their concerns have been addressed, and a copy of that statement shall be sent to the Commission before work is started on the project."
Acting on HELCO's behalf, CH2M HILL contracted with Paul Rosendahl, Ph. D., Inc. (PHRI) to conduct an archaeological inventory survey of TMK: 7-3-49:036. PHRI conducted the survey and related mitigation measures, and PHRI prepared a final report titled "Archaeological Inventory Survey: HELCO Keahole Parcel Project Area, Lands of Kalaoa 1-4, North Kona District, Island of Hawaii (TMK: 7-3-49:36)." (PHRI Report 1265-06Q3920). The final report summarizes the survey work conducted, describes the historic sites identified, and sets forth a recommended mitigation action for the aforementioned sites.

The final report was submitted to the State Historic Preservation Division, Department of Land and Natural Resources, for their review and comment and for the approval of the mitigation plan. The State Historic Preservation Division commented on the report and mitigation plan in a memorandum dated December 3, 1992 addressed to the Administrator of the Office of Conservation Environmental Affairs. The memorandum was prepared by the State Historic Preservation Division in conjunction with their review of Conservation District Use Application HA-2600 for TMK: 7-3-49:038.

Pursuant to condition six of the Well Construction Permit for Keahole-Hawaii Electric Light Company, Inc. (HELCO) Well No. 4461-02, CH2M HILL is submitting a copy of the State Historic Preservation Division Administrator's December 3, 1992 memorandum addressed to the Administrator of the Office of Conservation Environmental Affairs. The memorandum summarizes how HELCO has addressed and satisfied the concerns set forth in the State Historic Preservation Division's September 1, 1992 memorandum to Ms. Rae Loui, Deputy for Water Resource Management, Commission on Water Resource Management. The memorandum also documents the State Historic preservation Division acceptance of the mitigation action recommended by PHRI for the historic sites contained within TMK: 7-3-49:036. With respect to the mitigation action, the memorandum states:

"...these sites were significant solely for their information content, and sufficient amounts of this information were recorded in the survey, making these sites 'no longer significant'. Therefore, no significant sites remain within the project area. Hence the subject Conservation District Use Application will have 'no effect' on historic sites."
With the submittal of the State Historic Preservation Division Administrator's December 3, 1992 memorandum, HELCO has satisfied condition six (6) of the Well Construction Permit for Keahole-Hawaii Electric Light Company, Inc. (HELCO) Well No. 4461-02.

Please feel free to contact me if you or your staff have any questions concerning HELCO's satisfaction of condition six (6) of the Well Construction Permit for Keahole-Hawaii Electric Light Company, Inc. (HELCO) Well No. 4461-02.

Sincerely,

CH2M HILL

[Signature]

Al Lono Lyman
Senior Project Manager

cc: F. Kennedy, Manager, HELCO Production Department
    C. Nagata, Manager, HELCO Engineering Department
    B. Nakamoto, HECO Engineering Department

Attachment: December 3, 1993 Memorandum From D. Hibbard, SHPD, to R. Evans, OCEA.
MEMORANDUM

TO: Roger Evans, Administrator
    OCEA

FROM: Don Hibbard, Administrator
      State Historic Preservation Division

SUBJECT: CDUA HA-2600 -- HELCO, Meteorological Tower (File No. 92-2600)
         Kalaoa, North Kona, Island of Hawaii
         TMK: 7-3-49: 036

HISTORIC PRESERVATION PROGRAM CONCERNS:

Our office reviewed the report by Dowden and Graves (1992) documenting the results of
the archaeological inventory survey for the subject parcel (PHRI Report 1265-0603920--
"Archaeological Inventory Survey: HELCO Kekaha Parcel Project Area, Lands of
Kalaoa 1-4, North Kona District, Island of Hawaii (TMK: 7-3-49: 36)", Appendix D in
the CDUA and Environmental Assessment documents). We find that the field survey
adequately covered the project area, finding 4 historic sites (site numbers 18076, 18077,
18078, and 18079).

The description of these sites is sufficient to evaluate their significance. These sites are all
very small excavations in the pahoehoe, probably very small prehistoric quarry sites. We
agree that these sites were significant solely for their information content and that
sufficient amounts of this information were recorded in the survey, making these sites "no
longer significant". Therefore, no significant sites remain within the project area. Hence,
the subject Conservation District Use Application will have "no effect" on historic sites.

If your office should have any further questions, please contact Kanalei Shun at 587-0007

KS:sty

bc: Paul Rosendahl, Ph.d.
April 8, 1993

Board of Land and
Natural Resources
State of Hawaii
Honolulu, Hawaii

PETITION FOR CONTESTED CASE HEARING
on Conservation District Use Application HA-487A
Expansion of the Keahole Generator Station

APPLICANT: Hawaii Electric Light Company, Inc.
P.O. Box 1027
Hilo, Hawaii 96721-1027

AGENT: CH2M Hill
1585 Kapiolani Blvd., Suite 1312
Honolulu, Hawaii 96814-4530

LANDOWNER: Applicant

LOCATION: Keahole, North Kona, Hawaii
TMK: 7-3-49: 36

AREA: 14.998 acres

SUBZONE: General

BACKGROUND:

On August 26, 1992, a Conservation District Use Application for expansion of
the Keahole Generating Station was submitted to the Department. For
administrative purpose, the application was designated as an amendment to
Conservation District Use Permit HA-487.

ITEM H-5
On January 21, 1993, the application was presented at a public hearing before the Board in Kona, Hawaii. During the hearing, three verbal requests for a contested case hearing on the application were made.

Within ten days following the hearing, two written petitions for contested case hearing on the application were received by the Department.

The petitions were referred to the Department of Attorney General to substantiate the standing of the petitioners in this matter.

DISCUSSION:

Both the verbal and written requests for contested case hearing were made in accordance with administrative rule 13-1-29 (request for contested case hearing).

The Department of Attorney General has reviewed the petitions and has determined that both petitioners have standing to challenge the proposed action.

The issues presented in the petitions are concerned with property values, electromagnetic field exposure, noise, exhaust fumes, and traffic. These issues do not involve unique public policy questions that have not been heard by the Board of Land and Natural Resources in other applications. The contested case proceedings, therefore, may be conducted by a hearing officer.

RECOMMENDATIONS:

Staff recommends that the petitions for contested case hearing on this matter be granted subject to the following.

1. The Chairperson shall designate a hearing officer to conduct the contested case hearing.

2. Petitioners Peggy Ratliff and Mahi T. Cooper shall be parties to the contested case hearing.

Respectfully submitted,

DON HORIZUCHI
Staff Planner

Attachments

Approved for Submittal:

KEITH W. AHUE, Chairman
Board of Land and Natural Resources
FAX MEMORANDUM

TO: Chairperson Keith Ahue, Commission of Water Resource Development

ATTENTION

COPIES: Mr. Frank Kennedy, Manager, Production Department, Hawaii Electric Light Company, Inc.
        Mr. Clyde H. Nagata, Manager, Engineering Department, Hawaii Electric Light Company, Inc.
        Mr. Barry Nakamoto, Project Engineer, Engineering Department, Hawaiian Electric Company, Inc.

FROM: Al Lono Lyman, Senior Project Manager, CH2M HILL

DATE: April 7, 1993

PAGES, INCLUDING THIS PAGE: Five (5)

SUBJECT: Satisfaction of Condition Six (6), Well Construction Permit for Keahole-HELCO Well No. 4461, Keahole, North Kona, Hawaii, TMK: 7-3-49:036

Accompanying this fax is a copy of a letter and attached copy of a memorandum from the State Historic Preservation Office. These are submitted to satisfy condition six (6) for Well Construction Permit for Keahole-HELCO Well No. 4461. Copies of the letter and attached memorandum will also be mailed to Chairperson Ahue and Ms. Loui.
April 7, 1993

Chairperson Keith Ahue  
Commission of Water Resource Management  
Department of Land and Natural Resources  
P.O. Box 621  
Honolulu, Hawaii 96809  

Attention: Ms. Rae M. Loui, Deputy  


"The applicant shall contact the State Historic Preservation Division (Telephone: Oahu 587-0007) before starting any work on the project. Prior to any land altering construction, an archaeological inventory survey shall be conducted to determine if significant historical sites are present. A final report shall be submitted to the State Historic Preservation Division for review and comments. If significant historic sites are present, an acceptable mitigation plan shall also be submitted for approval prior to construction.

"The applicant shall obtain a written statement from the State Historic Preservation Division indicating that their concerns have been addressed, and a copy of that statement shall be sent to the Commission before work is started on the project."

808 941-8225  
Fax No. 808 941-8225
Acting on HELCO's behalf, CH2M HILL contracted with Paul Rosendahl, Ph. D., Inc. (PHRI) to conduct an archaeological inventory survey of TMK: 7-3-49:036. PHRI conducted the survey and related mitigation measures, and PHRI prepared a final report titled "Archaeological Inventory Survey: HELCO Keahole Parcel Project Area, Lands of Kaloa 1-4, North Kona District, Island of Hawaii (TMK: 7-3-49: 36)," (PHRI Report 1265-0603920). The final report summarizes the survey work conducted, describes the historic sites identified, and sets forth a recommended mitigation action for the aforementioned sites.

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Pursuant to condition six of the Well Construction Permit for Keahole-Hawaii Electric Light Company, Inc. (HELCO) Well No. 4461-02, CH2M HILL is submitting a copy of the State Historic Preservation Division Administrator's December 3, 1992 memorandum addressed to the Administrator of the Office of Conservation Environmental Affairs. The memorandum summarizes how HELCO has addressed and satisfied the concerns set forth in the State Historic Preservation Division's September 1, 1992 memorandum to Ms. Rae Loui, Deputy for Water Resource Management, Commission on Water Resource Management. The memorandum also documents the State Historic preservation Division acceptance of the mitigation action recommended by PHRI for the historic sites contained within TMK: 7-3-49:036. With respect to the mitigation action, the memorandum states:

"...these sites were significant solely for their Information content, and sufficient amounts of this information were recorded in the survey, making these sites 'no longer significant'. Therefore, no significant sites remain within the project area. Hence the subject Conservation District Use Application will have 'no effect' on historic sites."
With the submittal of the State Historic Preservation Division Administrator's December 3, 1992 memorandum, HELCO has satisfied condition six (6) of the Well Construction Permit for Keahole-Hawaii Electric Light Company, Inc. (HELCO) Well No. 4461-02.

Please feel free to contact me if you or your staff have any questions concerning HELCO's satisfaction of condition six (6) of the Well Construction Permit for Keahole-Hawaii Electric Light Company, Inc. (HELCO) Well No. 4461-02.

Sincerely,

CH2M HILL

Al Lono Lyman
Senior Project Manager

cc: F. Kennedy, Manager, HELCO Production Department
C. Nagata, Manager, HELCO Engineering Department
B. Nakamoto, HECO Engineering Department

Attachment: December 3, 1993 Memorandum From D. Hibbard, SHPD, to R. Evans, OCEA.
December 3, 1992

MEMORANDUM

TO: Roger Evans, Administrator
OCEA

FROM: Don Hibbard, Administrator
State Historic Preservation Division

SUBJECT: CDUA HA-2600 -- HELCO, Meteorological Tower (File No. 92-2600)
Kalaoa, North Kona, Island of Hawaii
TMK: 7-3-49: 036

HISTORIC PRESERVATION PROGRAM CONCERNS:

Our office reviewed the report by Dowden and Graves (1992) documenting the results of
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KS: sty

bc: Paul Rosendahl, Ph.d.
Mr. Bill Paty  
Commission on Water Resource Management  
Department of Land & Natural Resources  
State of Hawaii  
P. O. Box 621  
Honolulu, HI 96809

Dear Mr. Paty:

Subject: Keahole – HELCO Well  
Well No. 4461-02  
Keahole, North Kona, Hawaii

We have signed off on the well construction permit and are returning one copy as requested in your letter of November 30, 1992.

Sincerely,

Clyde H. Nagata  
Manager  
Engineering Department

CHN:ts  
Enclosure  
cc: Frank Kennedy
WELL CONSTRUCTION PERMIT

for

Keahole-HELCO Well
Well No. 4461-02
Keahole, North Kona, Hawaii

TO: Hawaii Electric Light Company, Inc.
P.O. Box 1027
Hilo, HI 96721

In accordance with the Department of Land and Natural Resources Administrative Rules, Section 13-168, entitled "Water Use, Wells, and Stream Diversion Works", your application to construct and test Keahole-HELCO Well (Well No. 4461-02), for future use and estimating ground water supply in the vicinity of the power plant, is approved subject to the following conditions:

1. The Commission on Water Resource Management (Commission), P.O. Box 621, Honolulu, HI 96809, shall be notified, in writing, before any work covered by this permit commences.

2. The permit shall be for construction and testing of the well only. No permanent pump may be installed and no water withdrawn from the well without first obtaining a pump installation permit from the Commission.

3. The proposed well construction shall not adversely affect existing or future legal uses of water in the area, including any surface water or established instream flow standards. This permit or the authorization to construct a well shall not constitute a determination of correlative water rights.

4. The grouted annulus of the well shall be from 0 to 205 ft. instead of from 0 to 20 ft. as proposed.
5. The following shall be submitted to the Commission within 30 days after completion of the work:
   
   a. Well Completion Report.
   
   b. As-built sectional drawing of the well.
   
   c. Plot plan and map showing the exact location of the well.
   
   d. Complete pumping test record; including time, pumping rate, drawdown, chloride content, and water quality data.

6. The applicant shall contact the State Historic Preservation Division (Telephone: Oahu 587-0007) before starting any work on the project. Prior to any land altering construction, an archaeological inventory survey shall be conducted to determine if significant historical sites are present. A final report shall be submitted to the State Historic Preservation Division for review and comments. If significant historic sites are present, an acceptable mitigation plan shall also be submitted for approval prior to construction.

   The applicant shall obtain a written statement from the State Historic Preservation Division indicating that their concerns have been addressed, and a copy of that statement shall be sent to the Commission before work is started on the project.

7. Prior to the pump test, the applicant shall notify well owners Mr. Cooper and the State Department of Transportation that a pump test will occur. The applicant shall monitor water quality in these wells during the pump test phase if the owners request that it be done. These results will also be submitted to the Commission with the Well Completion Report.

8. The applicant shall comply with all applicable laws, rules, and ordinances.

9. This permit may be revoked if work is not started within six months of the date of issuance or if work is suspended or abandoned for six months. The work proposed in the permit application shall be completed within two years from the date of permit issuance.

WILLIAM W. PATY, Chairperson
Commission on Water Resource Management

NOV 30 1992
Date of Issuance
I have read the conditions and terms of this permit and understand them. I accept and agree to meet these conditions as a prerequisite and underlying condition of my ability to proceed.

Applicant's Signature: [Signature] Date: 9 Dec 97

Printed Name: Warren H. W. Lee

Firm or Title: President

Please sign and return one copy of this permit to the Commission and retain a copy for your record.

cc: USGS
Department of Health
   Safe Drinking Water Branch
   Ground Water Protection Program
   Hawaii Department of Water Supply
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<td>G. Matsumoto</td>
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<td>M. TAGOMORI</td>
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<td>L. Nanbu</td>
<td>Information</td>
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Ms. Rae M. Loui  
Deputy Director  
Commission on Water Resource Management  
1151 Punchbowl Street, Room 227  
Honolulu, Hawaii 96813

Dear Ms. Loui:

Subject: HELCO's Application for a Well Construction Permit at Keahole Power Plant

I have reviewed the Waimana Enterprises, Inc.'s letter to you dated September 28, 1992 and would like to make some comments. In the letter, Waimana lists five concerns which I would like to address.

1. Can HELCO proceed with this application since they do not have the required permission from the Public Utilities Commission to proceed with the Keahole expansion?

HELCO has an application with the PUC to expend funds for the Keahole CT4 project. As with any major capital project, preliminary engineering work is performed and expenses collected to acquire base data to facilitate the decision making process. Determination of the available water resource requires preliminary engineering data to make such decisions. The PUC recognizes that engineering work may be performed prior to their approval of the project.

2. Does HELCO need to withdraw 3.0 mgd for a 20MW combustion turbine or is HELCO attempting to reserve a water allocation for possible future use?

The 3.0 mgd was based on the possible use of a "once-thru" condenser system. The once-thru system uses water pumped from a subsurface source, circulates the water through a condenser system, then reinjects the water. In parallel, HELCO has conducted feasibility analyses on 1) once-thru, 2) cooling towers and 3) air cooled condensers. The analyses concluded that the air-cooled condenser was the best application. Subsequently, our water application has been revised to reflect the lower estimated withdrawal rates of .144 mgd. The withdrawal rates in the revised application are based on the installation of a 56MW dual train combined cycle, which consists of two 20MW combustion turbines and one 16MW steam turbine generator. HELCO expects to phase-in the dual train combined cycle unit to meet the forecasted load growth.

3. Can HELCO utilize another technology which does not require water for cooling (air cooled)?

Yes. Air cooled condensers as explained above. The analyses indicated that air-cooled condensers are recommended.
4. What is HELCO going to do with its waste water?

HELCO intends to treat all plant wastewater to meet Department of Health standards and then reinject into deep wells. An application to the Department of Health for approval to construct an injection well has been submitted. Observation wells are also proposed. HELCO has reviewed these plans with the NELHA and has received positive feedback on the supply and injection well plans.

5. Is an Environmental Impact Statement required prior to the Water Commission considering this application in view of 1) the current land use classification for the area is conservation and 2) the State's and County's current Keahole to Kailua plan which includes Kealakehe affordable housing, a University of Hawaii campus, Queen's medical facility, golf course(s) etc. all of which will be drawing both potable and non-potable water from the same aquifer?

An Environmental Assessment was submitted to the DLNR as part of HELCO's application to drill the test wells on HELCO's Keahole Power Plant property. The DLNR has indicated a negative declaration on our application.

HELCO has received several proposals from Waimana Enterprises, a non-utility generator, to construct and operate a power plant at Kawaihae Harbor in 1996. HELCO plans to install CT4 in late 1996 to meet its generation requirements.

In 1988, CH2M Hill, HELCO's consultant, completed the "West Hawaii Site Study." The purpose of the study was to identify several feasible sites for the development of a new power generation facility in West Hawaii to accommodate up to 200MW of generation capacity. HELCO has pursued the recommended sites but have not been able to acquire the land to develop the new power plant in a timely manner. Although the Keahole Power Plant site was not one of the final three sites recommended by CH2M Hill, it was screened because of limited acreage (15 acres only) and water availability to service 200MW of generating capacity. However, our current plans are to add a 20MW unit and perhaps expand up to 56MW total at the existing Keahole Power Plant.

If you require additional questions, please call me at 969-0321.

Sincerely,

Clyde H. Nagata, Manager
Engineering Department

CHN:ts
Hawaii Electric Light Co., Inc.
P.O. Box 1027
Hilo, Hawaii 96721-1027

ATTN: Clyde Nagata

Dear Mr. Nagata:

SUBJECT: Notice of Acceptance and Environmental Determination of your Temporary Variance Request

Your Temporary Variance request for exploratory well drilling and geotechnical investigations at the Keahole generator site is accepted for processing. The environmental assessment accompanying your variance request will be reviewed by appropriate State and County agencies and a report will be submitted to the Board of Land and Natural Resources. The matter will then be decided by a majority vote of the Board at a publicly held meeting. We will formally notify you, by mail, of the time and place of that meeting.

According to the information provided, you propose to drill two injection wells and water supply well at the Keahole generator site to test groundwater conditions. The injection wells will be 10 inches in diameter with 6-inch casings, and will be drilled to a depth of 500 feet. The water supply well will be 265 feet deep and 16 inches in diameter with a 12-inch casing.

Six 3 inch diameter observation wells, three 300 feet deep and three 500 feet deep, will also be drilled to measure groundwater level.

You also propose to conduct 20 test borings 20 to 50 feet deep in the vicinity of the proposed expansion area. The borings will be 3 to 4 inches in diameter.
Six additional holes, 2 to 5 feet deep, will be drilled to test rate of fall of the water level.

The project will be completed at the site in approximately six months. All holes drilled will be capped or filled at the end of the project.

After initial review of the application, we have determined that:

1. The proposed use qualifies for a temporary variance in accordance with our Administrative Rules, Title 13, Chapter 2, as amended;

2. A public hearing pursuant to Section 183-41, Hawaii Revised Statutes (HRS), as amended, is not required in that the proposed use is of a commercial nature; and

3. In conformance with Title 11, Chapter 200, of the Administrative Rules, an anticipated negative declaration was submitted to the Office of Environmental Quality Control.

We acknowledge Exhibit E of your environmental assessment as satisfying the provision stipulated by Section 205A-29(b) Hawaii Revised Statutes on Interim Coastal Zone Management (Special Management Area).

If you have any questions regarding this notice or your application, please contact Don Horiuchi of our Office of Conservation and Environmental Affairs at 587-0377.

Very truly yours,

[Signature]

WILLIAM W. PATY

cc: Hawaii Board Member
    County of Hawaii Planning Dept.
    DOH/CRA/OSP

xc: F. Kennedy
    B. Nakamoto
    A. Lyman
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- Hawaii Electric Light Co., Inc.  
  **HA-TV-93-3**
Chairperson and Members
Commission on Water Resource Management
State of Hawaii
Honolulu, Hawaii

Gentlemen:

Hawaii Electric Light Company, Inc.
Application for a Well Construction Permit
Keahole-HELCO Well
Keahole, North Kona, Hawaii

Applicant: Hawaii Electric Light Co., Inc.
P. O. Box 1027
Hilo, HI 96721

Landowner: Same

Action Requested: Permission to construct and test a well at the HELCO Keahole Power Plant (Well No. 4461-02) for future use and estimating ground water supply in the vicinity of the power plant. Total proposed use from this well is estimated to be 250,000 gallons per day (0.25 mgd).

Well Location: The proposed well will be located near the HELCO Keahole Power Plant (see attached map) at Tax Map Key: 7-3-49:36.

Well Description:

- Ground elevation: 215± ft.
- Casing diameter: 12 inches
- Solid casing depth: 215 ft.
- Screen casing depth: 25 ft.
- Open hole: 27 ft.
- Total depth: 267 ft.
- Grouted annulus: 0 to 20 ft.
- Proposed pump capacity: 500 gpm

Agency Review: The application has been sent to the Hawaii Departments of Water Supply and Public Works, the State Historic Preservation Division, the Office of Hawaiian Affairs, and to the State Departments of Health and Hawaiian Home Lands for review. The State Historic Preservation Division has recommended that no drilling take place until an archaeological inventory survey is undertaken. The Hawaii County of Public Works reports the existence of a County dry well approximately 900 feet south of the proposed well. There have been no objections to the project.

Analysis: The well is expected to develop brackish water. A possible adverse impact may occur to the Keahole-DOT Wells (4462-01 to 04) which are directly downstream of the proposed well. The Department of Transportation, Airports Division, the owners of the Keahole-DOT Wells,
have reviewed the application and have no objections. Another well (Well No. 4461-01), owned by Ms. Mahi Cooper, is approximately 1,000 feet west of the proposed well. Although this well is presently unused, it has been used in the past for agriculture. Pumpage from the Keahole-HELCO well could adversely impact the water quality in the Cooper well. The applicant has tried, unsuccessfully, to contact the owner.

This well is not listed in the Hawaii County Water Use and Development Plan.

Water Availability. The well will be located in the Hualalai Sector, Keauhou System of Hawaii. Sustainable yield for the Keauhou System is estimated at 38 mgd. The Hawaii Water Plan indicates ground water withdrawn from the system is about 10 mgd. Water needs from the aquifer by the year 2010 are estimated to be 38 mgd.

RECOMMENDATION:

That the Commission on Water Resource Management (Commission) approve the issuance of a well construction permit for Keahole-HELCO Well, subject to the following conditions:

1. The Commission shall be notified before work commences.
2. The permit shall be for construction and testing of the well only. No permanent pump may be installed and no water withdrawn from the well without first obtaining a pump installation permit from the Commission.
3. The proposed well construction shall not adversely affect existing or future legal uses of water in the area, including any surface water or established instream flow standards. This permit or the authorization to construct the well shall not constitute a determination of correlative water rights.
4. The grouted annulus of the well shall be from 0 to 205 ft. instead of from 0 to 20 ft. as proposed.
5. The following shall be submitted to the Commission within 30 days after completion of the work:
   a. Well Completion Report.
   b. As-built sectional drawing of the well.
   c. Plot plan and map showing the exact location of the well.
   d. Complete pumping test records; including time, pumping rate, drawdown, chloride content, and water quality data.
6. The applicant shall contact the State Historic Preservation Division (Telephone: Oahu 587-0007) before starting any work on the project. Prior to any land altering construction, an archaeological inventory survey shall be conducted to determine if significant historical sites are present. A final report shall be submitted to the State Historic Preservation Division for review and comments. If significant historic sites are present, an acceptable mitigation plan shall also be submitted for approval prior to construction.
   The applicant shall obtain a written statement from the State Historic Preservation Division indicating that their concerns have been addressed, and a copy of that statement shall be sent to the Commission before work is started on the project.
7. Prior to the pump test, the applicant shall notify well owners Ms. Cooper and the State Department of Transportation that a pump test will occur. The applicant shall monitor water quality in these wells during the pump test phase if the
Chairperson and Members  
Commission on Water Resource Management  
October 14, 1992

owners request that it be done. These results will also be submitted to the Commission with the Well Completion Report.

8. The applicant shall comply with all applicable laws, rules, and ordinances.

9. The permit may be revoked if work is not started within six months of the date of issuance or if work is suspended or abandoned for six months. The work proposed in the permit application shall be completed within two years from the date of permit issuance.

Respectfully submitted,

RAE M. LOUI  
Deputy Director

Attach.

APPROVED FOR SUBMITTAL:

WILLIAM W. PATY, Chairperson
Department of Land and Natural Resources  
Commission on Water Resource Management  
State of Hawaii  
P.O. Box 621  
Honolulu, Hawaii 96809  

Attention: Mr. Glen Bauer  

Gentlemen:  

Subject: Hawaii Electric Light Company, Inc.  
Application for Well Construction  
Keahole Generating Station  

As requested in your telephone conversation with Barry Nakamoto of HECO's Engineering Department on September 9, 1992, we are advising that a briefing was provided by HELCO staff to the Natural Energy Laboratory of Hawaii Authority on Friday, September 25, 1992.  

A copy of our application was reviewed and provided for their reference. The preliminary assessment provided by the NELHA staff was favorable. We encouraged their comments and reiterated our previous commitment to work together as we continue with our plans for the Keahole plant.  

Our efforts to contact the Cooper residence have continued to be unsuccessful. We will mail a copy of our application with a letter requesting their comments shortly.  

If you have any questions on this matter, please do not hesitate to contact Barry Nakamoto in Honolulu at 543-7982.  

Sincerely,  

Clyde H. Nagata  
Manager,  
Engineering Department  

An HEI Company
September 29, 1992

Mr. Mahi Cooper
73-4252 Pukiawe Street, #6
Kailua-Kona, Hawaii 96740

Attention: Mr. Mahi Cooper

Gentlemen:

Subject: Hawaii Electric Light Company, Inc.
Application for Well Construction
Keahole Generating Station

Enclosed for your review is an application for the construction of a water supply well submitted by HELCO to the Department of Land and Natural Resources. We encourage you to review the application and contact us if you have any questions or concerns. We would be pleased to meet with you to discuss your comments.

If you have any questions on this matter, please do not hesitate to contact me at 969-0321.

Sincerely,

Clyde H. Nagata
Manager,
Engineering Department

cc: F. Kennedy
    G. Jenkins
    B. Nakamoto

An HEI Company
APPLICATION FOR: □ Well Construction or □ Pump Installation PERMIT

Instructions: Please print or type and send completed application with attachments to the Div. of Water Resource Management, P.O. Box 373, Honolulu, Hawaii 96809. Application must be accompanied by a non-refundable filing fee of $25.00 payable to the Dept. of Land and Natural Resources. (Filing fee waived for government agencies.) If necessary, phone 548-7643, Hydrology/Geology Section for assistance.

1. WELL LOCATION/NAME: KEAHOLE, NORTH KONA
   Address KEAHOLE POWER PLANT, QUEEN KAUMANU HIGHWAY
   Island HAWAII
   Tax Map Key 7-3-49:36
   (Attach a USGS map, scale 1"=2000', and a property tax map showing well location referenced to established property boundaries.)

2. (a) WELL OWNER:
   Firm Name Hawaii Electric Light Co., Inc.
   Contact Person Clyde Nagata
   Address Manager of Engineering, P.O. Box 1027
   Hilo, HI 96721 Ph: 935-1171

   (b) LANDOWNER:
   Firm Name Hawaii Electric Light Co., Inc.
   Contact Person Clyde Nagata
   Address Manager of Engineering, P.O. Box 1027
   Hilo, HI 96721 Ph: 937-1171

3. PROPOSED CONTRACTOR:
   Name To be determined
   Contractor's License No. ____________________________
   Address ____________________________
   Ph: ____________________________

4. PROPOSED WORK:
   □ Drill New Well □ Deepen □ Redrill
   □ Alter □ Seal □ Abandon
   □ Install New Pump □ Replace Pump □ Modify Pump
   (Briefly describe the proposed work and fill in the diagram on the back of this form.)

5. PROPOSED USE:
   □ Municipal (including hotels, stores, etc.) □ Military
   □ Domestic (individual, noncommercial water sys.) □ Industrial
   □ Irrigation (specify) □ Other (specify)

6. PROPOSED AMOUNT OF WITHDRAWAL: 250,000 gallons per day

7. PROPOSED PUMP INFORMATION:
   Pump Type: □ Vertical Turbine □ Diesel
   □ Submersible □ Gas
   □ Centrifugal □ Electric, at a rated horsepower of _______
   Motor: □ Rated Pump Capacity:
   Gallons per minute 500

---

Well Owner (print) Hawaii Electric Light Co., Inc. Landowner (print) Hawaii Electric Light Co., Inc.
Signature ____________________________ Signature ____________________________
Date ____________________________ Date ____________________________

Official Use Only:
Field Checked By ____________________________ Latitude ____________________________ Hydrologic Unit ____________________________
Date ____________________________ Longitude ____________________________ State Well No. ____________________________
Briefly describe the proposed work:

HELCO's Keahole power plant groundwater investigations at proposed facility site will include drilling and testing one 12-inch diameter water wells to evaluate groundwater supply. Water samples will be taken and analyzed for future treatment system specifications.

PROPOSED SECTION OF WELL

Elevation at top of casing: 217 ± ft., msl.

Cement Grout: 20 ft.

Hole Diameter: 16 in.

Total Depth: 265 ft.

Rock Packing: 30 ft.

Ground Elevation: 215 ± ft., msl

Solid Casing:
- Material: Steel
- Length: 215 ft.
- Diameter: 12 in.
- Wall thickness: 3/8 in.

Casing: ☐ Perforated ☐ Screen

Material: Steel
- Length: 25 ft.
- Diameter: 12 in.
- Wall thickness: 3/8 in.
- Openings: 50 sq. in./sq. ft.
- Min. Area of opening for L.F.

Open Hole:
- Length: 27 ft.
- Diameter: 16 in.

*Approximate elevation at time of filing application. Final elevation (msl) by a surveyor licensed by the State must be submitted at start of construction.
Ms. Rae M. Loui  
Deputy Director  
Commission on Water Resource Management  
1151 Punchbowl Street, Room 227  
Honolulu, Hawaii 96813 

Dear Ms. Loui;

Re: HELCO's Application for a Well Construction Permit at Keahole, Hawaii

Waimana Enterprises, Inc. wishes to know more about HELCO's application. Waimana is a Non-Utility Generator and is currently proposing two possible alternatives to HELCO's proposed expansion of its Keahole Power Plant. The alternatives include either Waimana building a 56 - 58 MW combined cycle at Kawaihae or HELCO building a 20 MW combustion turbine at Kawaihae. Both alternatives will have less impact on the environment than HELCO's proposed expansion of Keahole.

As was confirmed in CH2M Hill's 1988 "West Hawaii Site Study", Kawaihae is the preferred site for constructing a power plant. The criteria for the final recommendation was land use and ownership, water, civil engineering and related costs, air quality, noise, visual resources, flora and fauna, archaeology, generator options, and permitting requirements. In the study, expansion of Keahole was not retained for further evaluation when the list of potential sites was narrowed from thirteen sites to seven sites. Eventually, the study recommended four sites, two of which were at Kawaihae.

This application gives rise to the following concerns:

1) Can HELCO proceed with this application since they do not have the required permission from the Public Utilities Commission to proceed with the Keahole expansion?

2) Does HELCO need to withdraw 3.0 mgd for a 20 MW combustion turbine or is HELCO attempting to reserve a water allocation for possible future use?

3) Can HELCO utilize another technology which does not require water for cooling (air cooled)?

4) What is HELCO going to do with its waste water?
5) Is an Environmental Impact Statement required prior to the Water Commission considering this application in view of 1) the current land use classification for the area is conservation and 2) the State's and County's current Keahole to Kailua plan which includes Kealakehe affordable housing, a University of Hawaii campus, Queen's medical facility, golf course(s) etc. all of which will be drawing both potable and non-potable water from the same aquifer?

We would welcome the opportunity to meet with you and your staff to discuss this matter. Please feel free to contact either myself or Albert Hee at 599-4441.

Very Truly Yours,

[Signature]
Sandra-Ann Y.H. Wong
Ms. Rae M. Loui  
State of Hawaii  
Department of Land and  
Natural Resources  
Commission on Water  
Resource Management  
P. O. Box 621  
Honolulu, Hawaii  96809

Dear Ms. Loui:

Subject: Well Construction Permit Application

The Airports Division has no objections to the Keahole/HELCO Well No. 4461-02 construction permit application.

Very truly yours,

Ernest T. Kurosawa  
Engineering Program Manager
WEST HAWAI'I
SITE STUDY

AUGUST 1988
CITIZEN'S ADVISORY GROUP*

- Citizens (3)
- Na Ala Hele (3)
- Audubon Society
- Kona Outdoor Circle
- Kona-Kohala Chamber of Commerce
- C. Brewer and Company
- Hawaii Leeward Planning Conference
- South Kohala Resort Association
- Parker Ranch
- Kahua Ranch
- Kamehameha Schools/Bernice Pauahi Bishop Estate
- Bank of Hawaii
- Mac Farms of Hawaii
- Owner, Puuwaawaa Ranch
- Chairperson, Department of Hawaiian Home Lands

EX-OFFICIO REPRESENTATIVES OF:

- Senator Malama Solomon
- Senator Robert Herkes
- Representative Virginia Isbell
- Representative Mike O'Kieffe
- Office of State Planning
- Department of Land and Natural Resources
- Mayor Dante Carpenter
- County Council
- County Planning Department
- County Public Works Department
- Hawaii County Planning Commission

* Selection by independent consultant.
FIGURE 3-6
Initial Inventory of Sites Identified for Consideration
WEST HAWAII SITE STUDY

Kawaihae
Kohala
Seahole Point
South Point
Project Boundary

012
5 MILES
(APROXIMATE SCALE)
Thirteen Potential Sites Identified and Screened
WEST HAWAII SITE STUDY

FIGURE 3-7

- HALAULA
- KAWAIHAE 'A'
- KAWAIHAE 'B'
- WAIKOLOA
- KONA BENCH
- PROPOSED LANDFILL
- MUHEENUI CONE
- KEAHOLE POWER PLANT ENERGY LAB
- EXISTING LANDFILL
- KAHUKU
- HONUAPO
- WINDFARM

Project Boundary

0.1 = 5 MILES
APPROXIMATE SCALE
FIGURE 3-8
Seven Sites Evaluated for Ranking
WEST HAWAII SITE STUDY

- HALAULA
- KAWAIHAE 'A'
- KAWAIHAE 'B'
- WAIKoloa
- KONA BENCH
- PROPOSED LANDFILL
- MUHEENUI CONE

Project Boundary
FIGURE 4-1
Four Alternative Sites
WEST HAWAII SITE STUDY
FIGURE 4-2
Kawaihae A Site
WEST HAWAII SITE STUDY

Kawaihae Harbor
Harbor

Honokaa Gulch

Industrial Park

Akolii Pule Hwy.

Underground Injection Control Line

0 1,000 2,000 FEET
(APPROXIMATE)
FIGURE 4-5
Kawaihae B Site
WEST HAWAII SITE STUDY
FIGURE 4-7
Proposed Landfill Location Map
WEST HAWAII SITE STUDY

[Map showing proposed landfill location with labels for Anaehoomalu Bay, Pueo Bay, Ohiki Bay, Kiholo Bay, and South Kohala District, North Kohala District.]
FIGURE 4-9
Muheenui Cone Site
WEST HAWAII SITE STUDY
KAWAIHAE SITES

89/90: OBTAINING RIGHT-OF-ENTRY
JAN 91: METEOROLOGICAL FACILITIES INSTALLED
MAY 91: REQUEST TO DLNR TO PURCHASE 7 ACRES
MAY 91: PRESENTATION TO HHL FOR A KAWAIHAE SITE
AUG 91: OFFER OF LAND EXCHANGE TO HHL
SEP 91: SECOND PRESENTATION TO HHL
FEB 92: HHL DECISION OF FIRST PREFERENCE TO A NATIVE HAWAIIAN CORPORATION

PUU ANAHULU

MAY 90: FIRST CONSULTANT ON-SITE VISIT
AUG 90: LANDFILL SITE CONTESTED; SITE MOVED
JUN 91: STATE LUC APPROVES NEW LANDFILL SITE
DEC 91: SECOND CONSULTANT ON-SITE VISIT
JAN 92: 10 METER METEOROLOGICAL FACILITIES INSTALLED
FEB 92: REQUEST TO DLNR FOR 15 ACRES
FEB 92: EIS PREP NOTICE

KEAHOLE

JUN 92: APPLICATION TO WATER COMMISSION TO INSTALL TEST WELLS
AUG 92: ENVIRONMENTAL ASSESSMENT ON A 65 METER MET TOWER SUBMITTED TO DLNR
AUG 92: CDUA AND KEAHOLE POWER PLANT PREP NOTICE SENT TO DLNR
## WEST HAWAII GENERATION EXPANSION MEETING

### 1992 THROUGH 1999

#### CAPACITY ADDITIONS AND RETIREMENTS

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WEST HAWAII GENERATION EXPANSION MEETING

1992 THROUGH 1999

CAPACITY ADDITIONS AND RETIREMENTS

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

DEPARTMENT MASTER APPLICATION FORM

I. LANDOWNER/WATER SOURCE OWNER
(If State land, to be filled in by Government Agency in control of property)

Name Hawaii Electric Light Co., Inc.
Address P.O. Box 1027
Hilo, HI 96721-1027

Telephone No. (808) 935-1171

II. APPLICANT (Water Use, omit if applicant is landowner)

Name
Address

Telephone No.
Interest in Property

SIGNATURE
Date 29 September 1992

III. TYPE OF PERMIT(S) APPLYING FOR

( ) A. State Lands
(x) B. Conservation District Use
( ) C. Withdraw Water From A Ground Water Control Area
( ) D. Supply Water From A Ground Water Control Area
( ) E. Well Drilling/Modification

IV. WELL OR LAND PARCEL LOCATION REQUESTED

District North Kona
Island Hawaii
County Hawaii
Tax Map Key 7-3-49:36
Area of Parcel 14.988 acres
(Indicate in acres or sq. ft.)
Term (if lease) N/A

FOR DLNR USE ONLY
Reviewed by
Date
Accepted by
Date
Docket/File No.
180-Day Exp.
EIS Required
PH Required
Board Approved
Disapproved
Well No.
V. Environmental Requirements - See attached Environmental Assessment

Pursuant to Chapter 343, Hawaii Revised Statutes, and in accordance with Title 11; Chapter 200, Environmental Impact Statement Rules for applicant actions, an Environmental assessment of the proposed use must be attached. The Environmental assessment shall include, but not be limited to the following:

(1) Identification of applicant or proposing agency;
(2) Identification of approving agency, if applicable;
(3) Identification of agencies consulted in making assessment;
(4) General description of the action's technical, economic, social, and environmental characteristics;
(5) Summary description of the affected environment, including suitable and adequate location and site maps;
(6) Identification and summary of major impacts and alternatives considered, if any;
(7) Proposed mitigation measures, if any;
(8) Determination;
(9) Findings and reasons supporting determination; and
(10) Agencies to be consulted in the preparation of the EIS, if applicable.

VI. Summary of Proposed Use (what is proposed)

This project is drilling exploratory test wells and conducting geotechnical investigations at Keahole Generating Station in the North Kona District. The purpose of the project is to gather information for a proposed expansion to the generation station.

HELCO is proposing to expand the generating capacity of the existing Keahole facility. The generating capacity would be expanded from 30.25 megawatts (MW) to 86.25 MW in three phases. The expansion would include additional diesel fuel combustion turbine generators and related facilities.
INFORMATION REQUIRED FOR ALL USES—See Attached.

I. Description of Parcel

A. Existing structures/Use. (Attach description or map).

B. Existing utilities. (If available, indicate size and location on map. Include electricity, water, telephone, drainage, and sewerage).

C. Existing access. (Provide map showing roadways, trails, if any. Give street name. Indicate width, type of paving and ownership).

D. Vegetation. (Describe or provide map showing location and types of vegetation. Indicate if rare native plants are present).

E. Topography; if ocean area, give depths. (Submit contour maps for ocean areas and areas where slopes are 40% or more. Contour maps will also be required for uses involving tall structures, gravity flow and other special cases).

F. If shoreline area, describe shoreline. (Indicate if shoreline is sandy, muddy, rocky, etc. Indicate cliffs, reefs, or other features such as access to shoreline).

G. Existing covenants, easements, restrictions. (If State lands, indicate present encumbrances).

H. Historic sites affected. (If applicable, attach map and descriptions).

II. Description: Describe the activity proposed, its purpose and all operations to be conducted. (Use additional sheets as necessary).

III. Commencement Date: ________________________

Completion Date: ________________________

IV. TYPE OF USE REQUESTED (Mark where appropriate) (Please refer to Title 13, Chapter 2)

1. Permitted Use (exception occasional use);
   DLNR Title 13, Chapter 2, Section _____; Subzone ____.

2. Accessory Use (accessory to a permitted use);
   DLNR Title 13, Chapter 2, Section _____; Subzone ____.

3. Occasional Use: Subzone ______.

4. Temporary Variance: Subzone ______.

5. Conditional Use: Subzone ______.
I. Description of Parcel

A. Existing Structures/Use. The parcel is being used for power generating and related facilities. The existing structures include six diesel generators, one combustion turbine, two fuel oil storage tanks, a control house, two switchgear buildings, a switchyard, two transformers, and a cesspool.

B. Existing utilities. The following utilities are available at the site:

- Electricity – Hawaii Electric Light
- Company Water – County of Hawaii
- Telephone – GTE Hawaiian Telephone Company

No public sewer facilities are available. The site has a cesspool. The drainage from the site does not connect into a public storm drainage system. The generating station has an onsite drainage system.

C. Existing access. The access road to the Keahole Generating Station is a 16-foot paved road off Queen Kaahumanu Highway (see Figure).

D. Vegetation. A botanical survey of the site, which is in the Environmental Assessment, was prepared by Char & Associates. The site consists of lava flows with scattered patches of fountain grass and a few shrubs. The botanical survey concluded that there is little of botanical interest or concern on the site.

E. Topography. Keahole Generating Station is located in terrain that gently slopes from the mountains east of the site to the Pacific Ocean. The site elevation is approximately 190 to 230 feet above sea level.

F. Shoreline. The site has no shoreline. It is approximately 1.6 miles east of the Pacific Ocean.

G. Existing Covenants, Easements, Restrictions. The site is owned in fee by Hawaii Electric Light Company, Inc. The 14.998-acre site also has easements for transmission lines and roadways.
H. Historic Sites Affected. An archaeological and cultural resources survey was conducted by Paul H. Rosendahl, Ph.D., Inc. The report is in the Environmental Assessment. No historic sites were identified. The archaeological sites identified during the survey were determined to be of low significance. No further work was recommended for these sites.

II. Description of Project

This project is drilling exploratory test wells and conducting geotechnical investigations at Keahole Generating Station in the North Kona District. It includes 3 exploratory wells, 6 observation wells, 20 geotechnical borings, and 6 percolation tests located throughout the 14.998-acre site (see Figure). The purpose of the project is to gather information for a proposed expansion to the Keahole Generating Station.

HELCO is proposing to expand the existing generating station from 30.25 megawatts (MW) to 86.25 MW. The developed portion of the site is approximately 3 acres, and the expansion would be on the undeveloped area. The expansion will include additional diesel fuel combustion turbine generators and related facilities.
Area of Proposed Use: 14.988 Acres

(Indicate in acres or sq. ft.)

Name & Distance of Nearest Town or Landmark

North Kona District, 1 mile east of Keahole Airport

Boundary Interpretation (If the area is within 40 feet of the boundary of the Conservation District, include map showing interpretation of the boundary by the State Land Use Commission).

Conservation District Subzone: General
County General Plan Designation: Open

V. FILING FEE

1. Enclose $50.00. All fees shall be in the form of cash, certified or cashier's check, and payable to the State of Hawaii.

2. If use is commercial, as defined, submit additional public hearing fee of $50.00.
View of the background.
LOCATION OF EXPLORATORY WELLS AND GEOTECHNICAL BORINGS

LEGEND
- Supply Well
- Injection Well
- Test Boring
- Percolation Tests
- Observation Well

0 1000 FEET
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<td>Y. Shiroma</td>
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<td>S. Samuels</td>
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September 22, 1992

Department of Land and Natural Resources
Commission on Water Resource Management
State of Hawaii
P. O. Box 621
Honolulu, Hawaii 96809

Attention: Mr. Glen Bauer

Gentlemen:

Subject: Hawaii Electric Light Company, Inc.
Application for Well Construction
Keahole Generating Station

As requested in your telephone conversation with Barry Nakamoto of HECO's Engineering Department on September 9, 1992, we are providing a brief explanation of the need for the 500 gallon per minute (gpm) pump included in our application.

The need for a 500 gpm pump is based on meeting the guidelines for fire protection for the plant based on recommendations issued by the National Fire Protection Association (NFPA). These guidelines require a minimum of 250,000 gallons of fire water to be stored on site and further require that the supply must be able to be replaced within 8 hours.

The estimated withdrawal rate of 250,000 gallons per day (gpd) is based on the estimated plant water consumption of approximately 170 gpm. HELCO is currently working with the County in securing additional supply water from the County system. If these efforts are successful, the supply well in our application will then serve to supplement the County supply and meet fire protection needs.

If you have any questions on this matter, please call Barry Nakamoto in Honolulu at 543-7982.

Sincerely,

Barry Nakamoto
Manager, Engineering Department
Mr. Ernest Kurosawa  
Airports Division  
Department of Transportation  
Honolulu International Airport Gate 29  
Honolulu, Hawaii 96819

Dear Mr. Kurosawa:

Well Construction Permit Application

Transmitted for your review and comment is a copy of the following permit application:

<table>
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<th>Island</th>
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<th>Well No.</th>
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<td>Hawaii</td>
<td>Keahole-HELCO</td>
<td>4461-02</td>
<td>Well Construction</td>
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Please review the application pursuant to your area of concern and submit your comments to us, orally or in writing, ten (10) working days from the date of this letter.

Should you have any questions, please contact the Commission on Water Resource Management staff at 587-0225.

Sincerely,

RAE M. LOUI
Deputy Director

GB:ky
TO: Rae M. Loui, Deputy for Water Resource Management  
Commission on Water Resource Management  

FROM: Don Hibbard, Administrator  
State Historic Preservation Division  

SUBJECT: New Well Construction Permit Application -- HELCO, Keahole Power Plant, Queen Kaahumanu Highway (Well No. 4461-02)  
Kalaoa, North Kona, Island of Hawaii  
TMK: 7-3-49: 036  

HISTORIC PRESERVATION PROGRAM CONCERNS:  

Our records show that the subject parcel is in an area where significant historic sites such as habitation caves and human burial features, were identified. Hence, we recommend that no action be taken on the subject application until an archaeological inventory survey has been undertaken to determine presence of significant historic sites. The findings of the survey should be submitted in report format to our office for review and approval. If significant historic sites are present, a mitigation plan that must include a data recovery program should also be submitted to our office for review and approval.

If your office should have any further questions, please contact Kanalei Shun at 587-0007.

KS: sty
Mr. Glen Bauer  
Commission on Water Resource Management  
Department of Land and Natural Resources  
Division of Water Resource Management  
P. O. Box 621  
Honolulu, Hawaii  96809

Dear Mr. Bauer:

Subject: HELCO Keahole CT-4 Supply Well  
Revised Application for Well Construction

Per your discussions with Barry Nakamoto of Hawaiian Electric, enclosed is a revised application.

Sincerely,

Clyde H. Nagata, Manager  
Engineering Department

Enclosure  
cc: B. Nakamoto  
A. Lyman
APPLICATION FOR: □ Well Construction or □ Pump Installation PERMIT

Instructions: Please print or type and send completed application with attachments to the Div. of Water Resource Management, P.O. Box 373, Honolulu, Hawaii 96809. Application must be accompanied by a non-refundable filing fee of $25.00 payable to the Dept. of Land and Natural Resources. (Filing fee waived for government agencies.) If necessary, phone 548-7643, Hydrology/Geology Section for assistance.

1. WELL LOCATION/NAME: KEAHOLE, NORTH KONA Island Hawaii

Address KEAHOLE POWER PLANT, QUEEN KAARUMANU HIGHWAY Tax Map Key 7-3-89:36

(Attach a USGS map, scale 1:2000, and a property tax map showing well location referenced to established property boundaries.)

2. (a) WELL OWNER:

Firm Name Hawaii Electric Light Co., Inc.
Contact Person Clyde Nagata
Address Manager of Engineering, P.O. 1027 Hilo, HI 96721 Ph. 935-1171

(b) LANDOWNER:

Firm Name Hawaii Electric Light Co., Inc.
Contact Person Clyde Nagata
Address Manager of Engineering, P.O. 1027 Hilo, HI 96721 Ph. 937-1171

3. PROPOSED CONTRACTOR:

Name To be determined
Contractor's License No.
Address
Ph.

4. PROPOSED WORK: □ Drill New Well □ Deepen □ Redrill □ Alter □ Seal □ Abandon □ Install New Pump □ Replace Pump □ Modify Pump

(Briefly describe the proposed work and fill in the diagram on the back of this form.)

5. PROPOSED USE: □ Municipal (including hotels, stores, etc.) □ Military □ Domestic (individual, noncommercial water sys.) □ Industrial □ Irrigation (specify) □ Other (specify)

6. PROPOSED AMOUNT OF WITHDRAWAL: 250,000 gallons per day

7. PROPOSED PUMP INFORMATION:

Pump Type: □ Vertical Turbine □ Submersible □ Centrifugal
Motor: □ Diesel □ Gas □ Electric at a rated horsepower of □

Rated Pump Capacity: Gallons per minute 500

Well Owner (print) Hawaii Electric Light Co., Inc. Landowner (print) Hawaii Electric Light Co., Inc.

Signature Clyde Nagata Signature Clyde Nagata
Date 8/27/96 Date 8/27/96

For Official Use Only:
Field Checked By Latitude
Date Longitude Hydrologic Unit State Well No.
Briefly describe the proposed work:

HELCO's Keahole power plant groundwater investigations at proposed facility site will include drilling and testing one 12-inch diameter water wells to evaluate groundwater supply. Water samples will be taken and analyzed for future treatment system specifications.

PROPOSED SECTION OF WELL

Elevation at top of casing: 217 + ft., msl.

Ground Elevation: 215 + ft., msl

Cement Grout: 20 ft.

Solid Casing:

Material: Steel
Length: 215 ft.
Diameter: 12 in.
Wall thickness: 3/8 in.

Casing: □ Perforated □ Screen

Material: Steel
Length: 25 ft.
Diameter: 12 in.
Wall thickness: 3/8 in.
Openings: 50 sq. in./L.F.
Min. Area of opening for L.F.

Open Hole:
Length: 27 ft.
Diameter: 16 in.

*Approximate elevation at time of filing application. Final elevation (msl) by a surveyor licensed by the State must be submitted at start of construction.
Department of Land and Natural Resources
Commission on Water Resource Management
State of Hawaii
P.O. Box 621
Honolulu, Hawaii 96809

Attention: Mr. Glen Bauer

Gentlemen:

Subject: Hawaii Electric Light Company, Inc.
Application for Well Construction
Keahole Generating Station

On behalf of Hawaii Electric Light Company, Inc. (HELCO), we hereby submit for your consideration the enclosed revisions to the previously submitted application.

The original copy of this revised application will be forwarded to you shortly. If you have any questions on this matter, please do not hesitate to contact me at 543-7982.

Sincerely,

Barry Nakamoto
Project Engineer

An HEI Company
APPLICATION FOR: □ Well Construction or □ Pump Installation PERMIT

Instructions: Please print or type and send completed application with attachments to the Div. of Water Resource Management, P.O. Box 373, Honolulu, Hawaii 96809. Application must be accompanied by a non-refundable filing fee of $23.00 payable to the Dept. of Land and Natural Resources. (Filing fee waived for government agencies.) If necessary, phone 348-1643, Hydrology/Geology Section for assistance.

1. WELL LOCATION/NAME: KEAHOLE, NORTH-KONA
   Address KEAHOLE POWER PLANT, QUEEN KA'AHUNAU HIGHWAY
   Island HAWAII
   (Attach a USGS map, scale 1"=2000', and a property tax map showing well location referenced to established property boundaries.)

2. (a) WELL OWNER:
   Firm Name Hawaii Electric Light Co., Inc.
   Contact Person Clyde Nagata
   Address Manager of Engineering, P.O. 1027
   Hilo, HI 96721 Ph. 937-1171

(b) LANDOWNER:
   Firm Name Hawaii Electric Light Co., Inc.
   Contact Person Clyde Nagata
   Address Manager of Engineering, P.O. Box 1027
   Hilo, HI 96721 Ph. 937-1171

3. PROPOSED CONTRACTOR:
   Name To be determined
   Contractor’s License No.
   Ph.

4. PROPOSED WORK: □ Drill New Well □ Deepen □ Redrill
   □ Alter □ Seal □ Abandon
   □ Install New Pump □ Replace Pump □ Modify Pump
   (Briefly describe the proposed work and fill in the diagram on the back of this form.)

5. PROPOSED USE:
   □ Municipal (including hotels, stores, etc.) □ Military
   □ Domestic (individual, noncommercial water sys.) □ Industrial
   □ Irrigation (specify) □ Other (specify)

6. PROPOSED AMOUNT OF WITHDRAWAL: 530,000 gallons per day

7. PROPOSED PUMP INFORMATION:
   Pump Type: □ Vertical Turbine □ Submersible □ Centrifugal
   Motor: □ Diesel □ Gas □ Electric, at a rated horsepower of
   Rated Pump Capacity: Gallons per minute 500
   State Well No.
   Long. No.
   Lat. No.
   Hydrologic Unit
   Date
   For Official Use Only:
   Field Checked By Signature
   Date

Well Owner (print) Hawaii Electric Light Co., Inc. Landowner (print) Hawaii Electric Light Co., Inc.

Signature Date Signature Date
Briefly describe the proposed work:

HELCO's Keahole power plant groundwater investigations at proposed facility site will include drilling and testing one 1/2-inch diameter water well to evaluate groundwater supply. Water samples will be taken and analyzed for future treatment system specifications.

PROPOSED SECTION OF WELL

Elevation at top of casing: 217 + ft., msl.

Cement Grout: 20 ft.

Ground Elevation: 215 ft., msl

Hole Diameter: 1 1/2 in.

Solid Casing:

Total Depth: 265 ft.

Material: Steel

Rock Packing: 30 ft.

Length: 2/5 ft.

Diameter: 1/2 in.

Wall thickness: 3/8 in.

Casing: [ ] Perforated [ ] Screen

Material: Steel

Length: 2/5 ft.

Diameter: 1/2 in.

Wall thickness: 3/8 in.

Openings: 30 sq. in./L.F.

Min. Area of opening for L.F.

Open Hole:

Length: 27 ft.

Diameter: 15 in.

*Approximate elevation at time of filing application. Final elevation (msl) by a surveyor licensed by the State must be submitted at start of construction.
Department of Land and Natural Resources
Commission on Water Resource Management
State of Hawaii
P.O. Box 621
Honolulu, Hawaii 96809

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Sincerely,

Barry Nakamoto
Project Engineer

EMN
Attachment

cc: F. Kennedy
C. Nagata
A. Lyman

An HEI Company
APPLICATION FOR: □ Well Construction or □ Pump Installation PERMIT

Instructions: Please print or type and send completed application with attachments to the Div. of Water Resource Management, P.O. Box 373, Honolulu, Hawaii 96806. Application must be accompanied by a non-refundable filing fee of $25.00 payable to the Dept. of Land and Natural Resources. (Filing fee waived for government agencies.) If necessary, phone 548-7643, Hydrology/Geology Section for assistance.

1. WELL LOCATION/NAME: KEAHOLE, NORTH-KONA
   Island HAWAII
   Address KEAHOLE POWER PLANT, QUEEN KAAMUNA HIGHWAY
   Tax Map Key 7-3-49:36
   (Attach a USGS map, scale 1"=2000', and a property tax map showing well location referenced to established property boundaries.)

2. (a) WELL OWNER:
   Firm Name Hawaii Electric Light Co., Inc.
   Contact Person Clyde Nagata
   Address Manager of Engineering, P.O. Box 1027
   Hilo, HI 96721 Ph. 935-1171

(b) LANDOWNER:
   Firm Name Hawaii Electric Light Co., Inc.
   Contact Person Clyde Nagata
   Address Manager of Engineering, P.O. Box 1027
   Hilo, HI 96721 Ph. 937-1171

3. PROPOSED CONTRACTOR:
   Name To be determined
   Contractor's License No.
   Address
   Ph.

4. PROPOSED WORK:
   □ Drill New Well □ Deepen □ Redrill
   □ Alter □ Seal □ Abandon
   □ Install New Pump □ Replace Pump □ Modify Pump
   (Briefly describe the proposed work and fill in the diagram on the back of this form.)

5. PROPOSED USE:
   □ Municipal (including hotels, stores, etc.) □ Military
   □ Domestic (individual, non-commercial water sys.) □ Industrial
   □ Irrigation (specify)
   □ Other (specify)

6. PROPOSED AMOUNT OF WITHDRAWAL: 500,000 gallons per day

7. PROPOSED PUMP INFORMATION:
   Pump Type:
   □ Vertical Turbine □ Diesel
   □ Submersible □ Gas
   □ Centrifugal □ Electric, at a rated horsepower of
   Motor:
   Rated Pump Capacity: Gallons per minute 300

Well Owner (print) Hawaii Electric Light Co., Inc.  Landowner (print) Hawaii Electric Light Co., Inc.
<table>
<thead>
<tr>
<th>Field Checked By</th>
<th>Latitude</th>
<th>Hydrologic Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Date</td>
<td>Longitude</td>
<td>State Well No.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Signature: [Signature]
Date: [Date]

Signature: [Signature]
Date: [Date]
Briefly describe the proposed work:

HELCO's Keahole power plant groundwater investigations at proposed facility site will include drilling and testing one 1/2-inch diameter water well to evaluate groundwater supply. Water samples will be taken and analyzed for future treatment system specifications.

PROPOSED SECTION OF WELL

Elevation at top of casing: 217 ft. msl.

Cement Grout: 20 ft.

Hole Diameter: 16 in.

Total Depth: 265 ft.

Rock Packing: 30 ft.

Ground Elevation, 215 ft. msl.

Solid Casing:

<table>
<thead>
<tr>
<th>Material</th>
<th>Steel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length</td>
<td>215 ft.</td>
</tr>
<tr>
<td>Diameter</td>
<td>12 in.</td>
</tr>
<tr>
<td>Wall thickness</td>
<td>3/8 in.</td>
</tr>
</tbody>
</table>

Casing: □ Perforated □ Screen

<table>
<thead>
<tr>
<th>Material</th>
<th>Steel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length</td>
<td>25 ft.</td>
</tr>
<tr>
<td>Diameter</td>
<td>12 in.</td>
</tr>
<tr>
<td>Wall thickness</td>
<td>3/8 in.</td>
</tr>
<tr>
<td>Openings</td>
<td>50 sq. in./L.F.</td>
</tr>
</tbody>
</table>

Min. Area of opening for L.F.

Open Hole:

| Length | 27 ft. |
| Diameter | 15 in. |
Approximate elevation at time of filing application. Final elevation (msl) by a surveyor licensed by the State must be submitted at start of construction.
July 28, 1992

MS RAE M LOUI  DEPUTY DIRECTOR
DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT
P O BOX 621
HONOLULU HI  96809

SUBJECT: WELL CONSTRUCTION AND PUMP INSTALLATION PERMIT APPLICATIONS

We have reviewed the subject permit applications and have no objections to the following proposed pump installation:

<table>
<thead>
<tr>
<th>Well Name</th>
<th>Well No.</th>
<th>Application Type</th>
<th>TMK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Keei Well 4</td>
<td>2753-03</td>
<td>Pump Installation</td>
<td>8-3-11:08</td>
</tr>
</tbody>
</table>

For the following proposed well construction, our records indicate the existence of a County drywell approximately 900 feet south of the proposed water well (map enclosed):

<table>
<thead>
<tr>
<th>Well Name</th>
<th>Well No.</th>
<th>Application Type</th>
<th>TMK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Keahole-HELCO</td>
<td>4461-02</td>
<td>Well Construction</td>
<td>7-3-49:36</td>
</tr>
</tbody>
</table>

ROBERT K. YANABU, Division Chief
Engineering Division

Enclosure
Mr. Clyde Nagata  
Hawaii Electric Light Co., Inc.  
P.O. Box 1027  
Hilo, Hawaii 96721

Dear Mr. Nagata:

We have received your application and filing fee for a permit to construct a well (Well No. 4461-02) at Keahole Point, Hawaii, (TMK 7-3-49:36). We are reviewing the application for completeness.

Should you have questions, please call the Commission on Water Resource Management staff at 587-0225.

Sincerely,

RAE M. LOUI
Deputy Director

NF:ky
Mr. William Sewake, Manager
Department of Water Supply
County of Hawaii
25 Aupuni Street
Hilo, Hawaii 96720

Dear Mr. Sewake:

Well Construction and Pump Installation Permit Applications

Transmitted for your review and comment is a copy of the following permit applications:

<table>
<thead>
<tr>
<th>Island</th>
<th>Well Name</th>
<th>Well No.</th>
<th>Application Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hawaii</td>
<td>Keel 4</td>
<td>2753-03</td>
<td>Pump Installation</td>
</tr>
<tr>
<td>Hawaii</td>
<td>Keahole-HELCO</td>
<td>4461-02</td>
<td>Well Construction</td>
</tr>
</tbody>
</table>

Please review the applications pursuant to your area of concern and submit your comments to us, orally or in writing, ten (10) working days from date of this letter.

Should you have any questions, please contact the Commission on Water Resource Management staff at 587-0225.

Sincerely,

RAE M. LOUI
Deputy Director

NF:ky
Enc.
Mr. Bruce C. McClure  
Chief Engineer  
Department of Public Works  
County of Hawaii  
25 Aupuni Street  
Hilo, Hawaii  96720

Dear Mr. McClure:

Well Construction and Pump Installation Permit Applications

Transmitted for your review and comment is a copy of the following permit applications:

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Please review the applications pursuant to your area of concern and submit your comments to us, orally or in writing, ten (10) working days from date of this letter.

Should you have any questions, please contact the Commission on Water Resource Management staff at 587-0225.

Sincerely,

RAE M. LOUI  
Deputy Director
MEMORANDUM

TO: Don Hibbard, Director
   Historic Preservation Program

FROM: Rae M. Loui, Deputy Director
       Commission on Water Resource Management

SUBJECT: Well Construction and Pump Installation Permit Applications

Transmitted for your review and comment is a copy of the following permit applications:

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<th>Application Type</th>
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<td>Manoa-Bishop Estate</td>
<td>1948-03</td>
<td>Well Construction</td>
</tr>
<tr>
<td>Kauai</td>
<td>Kekaha-Sunkiss</td>
<td>5844-01</td>
<td>Well and Pump</td>
</tr>
<tr>
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<td>Kei 4</td>
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Please review the applications pursuant to your area of concern and submit your comments to us, orally or in writing, ten (10) working days from date of this memo.

Should you have any questions, please contact the Commission on Water Resource Management staff at 587-0225.

Enc.
Ms. Marjorie Ziegler  
Sierra Club Legal Defense Fund, Inc.  
212 Merchant Street, Room 202  
Honolulu, Hawaii 96813

Dear Ms. Ziegler:

Well Construction and Pump Installation Permit Applications

Transmitted for your information are copies of recent well permit applications:

<table>
<thead>
<tr>
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<td>Keahole-HELCO</td>
<td>4461-02</td>
<td>Well Construction</td>
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Should you have questions, please contact the Commission on Water Resource Management staff at 587-0225.

Sincerely,

RAE M. LOUI  
Deputy Director

NF:ky  
Enc.
Mr. Thomas Arizumi, Chief
Environmental Management Division
State Department of Health
Five Waterfront Plaza
500 Ala Moana Blvd., Suite 250
Honolulu, Hawaii 96813

Attn: Mr. William Wong

Dear Mr. Arizumi:

Well Construction and Pump Installation Permit Applications

Transmitted for your review and comment is a copy of the following permit applications:

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Please review the applications pursuant to your area of concern and submit your comments to us, orally or in writing, ten (10) working days from date of this letter.

Should you have any questions, please contact the Commission on Water Resource Management staff at 587-0225.

Sincerely,

RAE M. LOUI
Deputy Director

NF:ky
Enc.
Mr. Clayton H. W. Hee  
Chairman & Trustee At Large  
Office of Hawaiian Affairs  
711 Kapiolani Blvd., Suite 500  
Honolulu, Hawaii 96813-5249

Attn: Ms. Linda Delaney, Land & Natural Resources Division

Dear Mr. Hee:

Well Construction and Pump Installation Permit Applications

Transmitted for your review and comment is a copy of the following permit applications:

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Please review the applications pursuant to your area of concern and submit your comments to us, orally or in writing, ten (10) working days from date of this letter.

Should you have any questions, please contact Rae M. Loui, Deputy Director at 587-0214.

Very truly yours,

[Signature]

WILLIAM W. PATY

Enc.
Honorable Hoaliku L. Drake  
Director  
Department of Hawaiian Home Lands  
State of Hawaii  
P.O. Box 1879  
Honolulu, Hawaii 96805

Dear Mrs. Drake:

Well Construction and Pump Installation Permit Applications

Transmitted for your review and comment is a copy of the following permit applications:

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<td>Well Construction</td>
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</table>

Please review the applications pursuant to your area of concern and submit your comments to us, orally or in writing, ten (10) working days from date of this letter.

Should you have any questions, please contact Rae M. Loui, Deputy Director at 587-0214.

Very truly yours,

[Signature]

WILLIAM W. PATY

Enc.
June 18, 1992

PDX34061.A0

Ms. Rae Shikuma Loui
Deputy Director
Commission on Water Resource Management
Department of Land and Natural Resources
Division of Water Resource Management
1151 Punchbowl Street
Honolulu, Hawaii 96813

Dear Ms. Loui:

Re: Test Wells at Keahole Generating Station

Attached are two applications for a Well Construction Permit. One application is for a 20-inch diameter well to take samples. The second application is for six 3-inch diameter wells that will be used for monitoring.

Hawaiian Electric Light Company, Inc. (HELCO) is proposing to expand their existing generation station at Keahole on the Island of Hawaii. The purpose of the wells is to ascertain the feasibility of using groundwater in expanding the plant.

If you have any questions or would like further information, please call me at 943-1133.

Sincerely,

Al Lono Lyman
Senior Project Manager

Enclosures (2)

cc: Clyde H. Nagata, HELCO
APPLICATION FOR: ☐ Well Construction or ☐ Pump Installation PERMIT

Instructions: Please print or type and send completed application with attachments to the Div. of Water Resource Management, P.O. Box 373, Honolulu, Hawaii 96809. Application must be accompanied by a non-refundable filing fee of $25.00 payable to the Dept. of Land and Natural Resources. (Filing fee waived for government agencies.) If necessary, phone 548-7643, Hydrology/Geology Section for assistance.

KEAHOLE-HELCO

1. WELL LOCATION/NAME: KEAHOLE, NORTH-KONA
   Island: HAWAII
   Address: KEAHOLE POWER PLANT, QUEEN KAHAUMANU HIGHWAY
   Tax Map Key: 7-3-49: 36
   (Attach a USGS map, scale 1"=2000', and a property tax map showing well location referenced to established property boundaries.)

2. (a) WELL OWNER:
   Firm Name: Hawaii Electric Light Co., Inc.
   Contact Person: Clyde Nagata
   Address: Manager of Engineering, P.O. Box 1027
   Hilo, HI 96721 Ph: 935-1171

(b) LANDOWNER:
   Firm Name: Hawaii Electric Light Co., Inc.
   Contact Person: Clyde Nagata
   Address: Manager of Engineering, P.O. Box 1027
   Hilo, HI 96721 Ph: 935-1171

3. PROPOSED CONTRACTOR:
   Name: To be determined
   Contractor's License No.
   Address: ____________________________

4. PROPOSED WORK:
   ☐ Drill New Well ☐ Deepen ☐ Redrill
   ☐ Alter ☐ Seal ☐ Abandon
   ☐ Install New Pump ☐ Replace Pump ☐ Modify Pump
   (Briefly describe the proposed work and fill in the diagram on the back of this form.)

5. PROPOSED USE:
   ☐ Municipal (including hotels, stores, etc.) ☐ Military
   ☐ Domestic (individual, noncommercial water sys.) ☐ Industrial
   ☐ Irrigation (specify) ☐ Other (specify)

6. PROPOSED AMOUNT OF WITHDRAWAL: 3,000,000 gallons per day

7. PROPOSED PUMP INFORMATION:
   Pump Type:
   ☐ Vertical Turbine ☐ Submersible ☐ Centrifugal
   Motor:
   ☐ Diesel ☐ Gas ☐ Electric, at a rated horsepower of _______
   Rated Pump Capacity: 2,000 Gallons per minute
   Aquifer System: Keahou
   State Well No. 5-4961-02

Well Owner (print): Hawaii Electric Light Co., Inc.
Signature: ____________________________
Date: 6/20/92

For Official Use Only:
Field Checked By _______ Latitude _______ Hydrologic Unit _______
Date _______ Longitude _______ State Well No. _______

Landowner (print): Hawaii Electric Light Co., Inc.
Signature: ____________________________
Date: _______
**REMITTANCE STATEMENT—DETACH BEFORE DEPOSITING**

<table>
<thead>
<tr>
<th>INVOICE DATE</th>
<th>REFERENCE</th>
<th>GROSS AMOUNT</th>
<th>DEDUCTIONS</th>
<th>NET AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>6/10/92</td>
<td>Filing fee for Water Commission application/Keahole water well.</td>
<td></td>
<td></td>
<td>$50.00</td>
</tr>
<tr>
<td></td>
<td>Keahole-HELLI Well (4461-02)</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Keahole-HELLI Monitor Wells (4461-01A 06H)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>201 WA 3191 100</td>
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