PUMP INSTALLATION PERMIT

Kilauea-Earnhart Well, Well No. 1325-03

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 Kilauea-Earnhart Well (Well No. 1325-03) at 2970 Kalihiwai Road, Kauai, TMK 5-2-10-28 Lot 11-B-3, 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 80 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 an annual 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 - (Permanant) Pump Installation Report of the Well Completion Report (attached) to the Chairperson within sixty (60) days after completion of work.

6. 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).

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 19, 1998
Expiration Date: November 19, 2000

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 do not hold a valid permit 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.

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

× Installer's Signature: William C. Moore License #: AC-16437 Date: _____________
Printed Name: William C. Moore  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.

Attachments

C: USGS
Department of Health/ Safe Drinking Water & Wastewater Branches
Kauai Department of Water Supply
Sharman Noguchi, Hawaiian Trust Co., Ltd.
**PART II.**

**PERMANENT PUMP INSTALLATION REPORT**

20. Pump Installation Company: **ROScoe MOss HAWAII, A DIVISION OF BEyLIEK DRILLING, INC.**

21. Name of person performing work: **CLAYTON IGARASHI**

22. Date Pump Installation Completed: **MAY 25, 1999**

23. **PUMP INSTALLATION:**

   - Pump Type, Make, Serial No.: **SUB/GRuNDFOs/80S100-8**
   - Capacity: **80 gpm**
   - Motor type, H.P., Voltage, rpm: **SUB/10/230/3450**
   - Depth of Pump Intake Setting: **182 ft. below GRADE**, which elevation is **134.22 ft.**
   - Depth to bottom of airline: **182 ft. below GRADE**, which elevation is **134.22 ft.**
   - Pumping Head is **297 ft.** Type of flow meter: **which measures in**

24. As-built drawings attached: **Yes**

25. Other remarks/comments: **(See below)**

<table>
<thead>
<tr>
<th>Pump Installation Contractor (print)</th>
<th>BEYLIEK DRILLING, INC. C-57 Lic. No. C-28196 2-896</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signature</td>
<td>WILLIAM C. MOORE, VICE PRES.</td>
</tr>
<tr>
<td>Applicant (print)</td>
<td>Anne G. EarlHart</td>
</tr>
<tr>
<td>Signature</td>
<td>Anne G. EarlHart</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>8. (cont'd) DRILLER'S LOG (cont'd):</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Level Dates (ft.)</td>
</tr>
<tr>
<td>-------------------------</td>
</tr>
<tr>
<td>19. &amp; 25. Remarks:</td>
</tr>
</tbody>
</table>

**NOTE:**

- All measurements are approximate and subject to error.
# WELL COMPLETION REPORT

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

**WELL COMPLETION REPORT**

<table>
<thead>
<tr>
<th>PART I. WELL CONSTRUCTION REPORT</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. Drilling Company:</td>
</tr>
<tr>
<td>4. Name of driller who performed work:</td>
</tr>
<tr>
<td>5. Type of rig/construction:</td>
</tr>
<tr>
<td>6. Date(s) Well Construction and pump tests (if any) completed:</td>
</tr>
<tr>
<td>7. GROUND ELEVATION (referenced to mean sea level, msl): ft.</td>
</tr>
<tr>
<td>Well Bench Mark (description/location): Elevation(msl): ft.</td>
</tr>
<tr>
<td>8. DRILLER'S LOG: Please attach geologic log (if available or if required by permit)</td>
</tr>
<tr>
<td>Depths (ft.)</td>
</tr>
<tr>
<td>(If more space is needed, continue on back)</td>
</tr>
<tr>
<td>9. Total depth of well below ground: ft.</td>
</tr>
<tr>
<td>10. Hole size: inch dia. from ft. to ft. below ground</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>11. Casing installed: in. I.D. x in. wall solid section to ft. below ground</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Casing Material Slot Size:</td>
</tr>
<tr>
<td>12. Annulus: Grouted from ft. below ground to ft. below ground</td>
</tr>
<tr>
<td>Gravel packed from ft. below ground to ft. below ground</td>
</tr>
<tr>
<td>13. Initial water level: ft. below ground. Date and time of measurement:</td>
</tr>
<tr>
<td>14. Initial chloride: ppm Date and time of sampling:</td>
</tr>
<tr>
<td>15. Initial temperature: °F Date and time of measurement:</td>
</tr>
<tr>
<td>16. PUMPING TESTS: Reference Point (R.P.) used: which elevation is ft.</td>
</tr>
<tr>
<td>(1) Step-Drawdown Test Date: Start water level ft. below R.P.</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>(2) Long-term Aquifer Test Date: Start water level ft. below R.P.</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>17. Aquifer Pump Test Procedures data &amp; graphs (1/8/95 LTAT Form) attached? _ Yes _ No</td>
</tr>
<tr>
<td>18. As-built drawings attached? _ Yes _ No</td>
</tr>
<tr>
<td>19. Other remarks/comments: (On back of this form)</td>
</tr>
</tbody>
</table>

**Well Drilling Contractor (print):** C-57 Lic. No.  
**Signature:** Date

**Surveyor (print):** Lic. No.  
**Signature:** Date

**Applicant (print):**  
**Signature:** Date
Dear Mr. Imala,

Enclosed please find the signed Well Completion Report. Sorry for the delay in getting it submitted.

Please call if you have any questions.

Regards,

Ann Wigely
949-494-8718
Mr. William C. Moore  
Roscoe Moss Hawaii Inc.  
91-259A Olai Street  
Kapolei, HI 96707

Dear Mr. Moore:

Well Completion Report for Well No. 1325-03

We have received your Well Completion Report Part II for the Kilauea-Earhart Well (Well No. 1325-03) and acknowledge that it is complete. Thank you for your attention to this matter.

Sincerely,

Linnel T. Nishioka  
Deputy Director
### WCR 2 Check for Well No. 1325-03

1. **Pump Tests Check**

   - Special condition of PIP? Yes/No: 
     - Glenn Bauer: "\[Signature\]" (initial if yes)
     - Yes No
     - If no, describe deficiency

   **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. **Pump Installation Check**

   - Mitch Ohye: "\[Signature\]" (initial)

   - Data complete: ☐ ☐
   - Followed WCPI Stds: ☐ ☐
   - Wellphys.dbf updated: ☐ ☐
   - Welaplic.dbf updated: ☐ ☐

3. Item: "\[Signature\]" missing applicant's signature

4. Item: Applicant/permittee is Roscoe Moss, who is also pump installer.

5. Item: "\[Signature\]"

6. Item: "\[Signature\]"

7. Item: "\[Signature\]" - file
**PART II. (PERMANENT) PUMP INSTALLATION REPORT**

20. Pump Installation Company: **ROSCOE MOSS HAWAII, A DIVISION OF BEYLIK DRILLING, INC.**

21. Name of person performing work: **CLAYTON IGARASHI**

22. Date Pump Installation Completed: **MAY 25, 1999**

23. **PUMP INSTALLATION:**

   - **Pump Type, Make, Serial No.:** SUB/GRUNDFOS/805100-8
   - **Capacity:** 80 gpm
   - **Motor type, H.P., Voltage, rpm:** SUB/10/230/3450
   - **Depth of Pump Intake Setting:** 182 ft. below GRADE, which elevation is 134.22 ft.
   - **Depth to bottom of airline:** 182 ft. below GRADE, which elevation is 134.22 ft.
   - **Pumping Head is:** 297 ft. Type of flow meter: ____________ which measures in ____________

24. As-built drawings attached: ____________ Yes ____________ No

25. Other remarks/comments: (See below)

**Pump Installation Contractor (print) BEYLIK DRILLING, INC. C-57 Lic. No. C-28162 21896**

**Signature**  
**WILLIAM C. MOORE**

**Date**  
**MAY 11, 2000**

**Applicant (print)**

**Signature**  

**Date**

8.(cont'd) **DRILLER'S LOG (cont'd):**

<table>
<thead>
<tr>
<th>Water Level Dates (ft.)</th>
<th>Depth (ft.)</th>
<th>Rock Description, Remarks,</th>
</tr>
</thead>
<tbody>
<tr>
<td>____________ to ____________</td>
<td>____________</td>
<td>____________</td>
</tr>
<tr>
<td>____________ to ____________</td>
<td>____________</td>
<td>____________</td>
</tr>
<tr>
<td>____________ to ____________</td>
<td>____________</td>
<td>____________</td>
</tr>
<tr>
<td>____________ to ____________</td>
<td>____________</td>
<td>____________</td>
</tr>
<tr>
<td>____________ to ____________</td>
<td>____________</td>
<td>____________</td>
</tr>
<tr>
<td>____________ to ____________</td>
<td>____________</td>
<td>____________</td>
</tr>
</tbody>
</table>

19. **Remarks:**  
**1325-02 KILAUEA - EARTH**
# WELL COMPLETION REPORT

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

WELL COMPLETION REPORT  

1. State Well No.: 1325-03  
   Well Name: KILAUEA–EARHART  
   Island: KAUAI  

2. Location/Address: 2970 KALIHILLI ROAD  
   Tax Map Key: 4-5-2-10:28 LOT 11B-  

PART I.  
WELL CONSTRUCTION REPORT

3. Drilling Company:  

4. Name of driller who performed work:  

5. Type of rig/construction:  

6. Date(s) Well Construction and pump tests (if any) completed:  

7. GROUND ELEVATION (referenced to mean sea level, msl): ______ ft.  
   Well Bench Mark (description/location): ______ Elevation(msl): ______ ft.  

8. DRILLER'S LOG: Please attach geologic log (if available or if required by permit)  

<table>
<thead>
<tr>
<th>Depths (ft.)</th>
<th>Rock Description, Water Level, Dates, etc.</th>
<th>Depths (ft.)</th>
<th>Rock Description, Water Level, Dates, etc.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

9. Total depth of well below ground: ______ ft.  

10. Hole size:  
   - inch dia. from ______ ft. to ______ ft. below ground  
   - inch dia. from ______ ft. to ______ ft. below ground  
   - inch dia. from ______ ft. to ______ ft. below ground  

11. Casing installed:  
   - in. I.D. x ______ in. wall solid section to ______ ft. below ground  
   - in. I.D. x ______ in. wall perforated section to ______ ft. below ground  
   Casing Material/Slot Size:  

12. Annulus:  
   - Grouted from ______ ft. below ground to ______ ft. below ground  
   - Gravel packed from ______ ft. below ground to ______ ft. below ground  

13. Initial water level: ______ ft. below ground.  
   Date and time of measurement: ______  

14. Initial chloride: ______ ppm  
   Date and time of sampling: ______  

15. Initial temperature: ______ °F  
   Date and time of measurement: ______  

16. PUMPING TESTS: Reference Point (R.P.) used: ______, which elevation is ______ ft.  
   (1) Step-Drawdown Test Date ______  
   Start water level ______ ft. below R.P.  
   End water level ______ ft. below R.P.  
   (2) Long-term Aquifer Test Date ______  
   Start water level ______ ft. below R.P.  
   End water level ______ ft. below R.P.  

17. Aquifer Pump Test Procedures data & graphs (1/9/96 LTAT Form) attached? __ Yes __ No  

18. As-built drawings attached? __ Yes __ No  

19. Other remarks/comments: (On back of this form)

Well Drilling Contractor (print)  
C-57 Lic. No.  
Signature  
Date  

Surveyor (print)  
Lic. No.  
Signature  
Date  

Applicant (print)  
Signature  
Date
Kilauea Earhart Well 4Q325-03 10/23/93

Elev. +134.22' (MSL)

14" borehole -> 8" Blank casing

134.22 ft

120' (4.97 msl)

295' (-162.09 msl)

W.L. 105 gpm

W.L. 105 gpm

295' (-162.09 msl)

Elev. +132.91' (MSL)
Mr. Tracy Runnells  
Roscoe Moss Hawaii Inc.  
91-259A Olai Street  
Kapolei, HI 96707-1719

Dear Mr. Runnells:

Well Abandonment Report for Well No. 1325-02

We have received your Well Abandonment Report for the Kilauea-Earhart Well (Well No. 1325-02) and acknowledge that it is complete.

If you have any questions, please contact Lenore Nakama of the Commission staff at 587-0218.

Sincerely,

EDWIN T. SAKODA  
Acting Deputy Director

LN:ss
WE ARE SENDING YOU ☑ Attached □ Under separate cover via __________________________ the following items:

☐ Shop drawings  ☐ Prints  ☐ Plans  ☐ Samples  ☐ Specifications
☐ Copy of letter  ☐ Change order  ☐

<table>
<thead>
<tr>
<th>COPIES</th>
<th>DATE</th>
<th>NO.</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>12-24-98</td>
<td></td>
<td>WELL ABANDNMENT REPORT</td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td>SIGNED PERMIT TO ABANDON EARHART WELL 132502</td>
</tr>
</tbody>
</table>

THese ARE TRANSMitted as checked below:

☐ For approval  ☐ Approved as submitted  ☐ Resubmit ______ copies for approval
☐ For your use  ☐ Approved as noted  ☐ Submit ______ copies for distribution
☐ As requested  ☐ Returned for corrections  ☐ Return ______ corrected prints
☐ For review and comment  ☐

☐ FOR BIDS DUE ___________________________ 19 ☐ PRINTS RETURNED AFTER LOAN TO US

REMARKS


COPY TO ____________________________________________

SIGNED:  TRACY RUNNELLS

If enclosures are not as noted, kindly notify us at once.
WELL CONSTRUCTION PERMIT TO ABANDON/SEAL

Kilauea-Earthart Well, Well No. 1325-02

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 abandonment/sealing of Kilauea-Earthart Well (Well No. 1325-02) at 2970 Kaliihiwai Road, Kauai, TMK S-2-10:28, subject to the Hawaii Well Construction & Pump Installation Standards (1/23/77) which include but are not limited to the following conditions:

1. The Chairperson of the Commission on Water Resource Management, P.O. Box 621, Honolulu, Hawaii 96809, shall be notified in writing before any work covered by this permit commences.

2. The permit may be revoked by the Commission 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.

3. The owner or operator of any well which has been determined by the department or voluntarily declared by the owner or operator to be abandoned as defined in §13-168-2, after written notification, shall be required, at owner's or operator's expense, to re-case, cement, plug back, cap, or otherwise repair the well or fill and seal the well with cement in a manner approved by the commission.

4. The well construction permit application is incorporated into this permit by reference and is subject to the Hawaii Well Construction & Pump Installation Standards (January 23, 1997; HWCPIS). If the HWCPIS are not followed and as a consequence water is wasted or contaminated, a lien on the property may result.

5. The Well Abandonment Report form (attached) shall be submitted to the Commission on Water Resource Management within sixty (60) days after completion of the work.

6. The permittee shall comply with all applicable laws, rules, and ordinances.

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

Date of Approval: December 9, 1998
Expiration Date: When well is sealed in a manner acceptable to the Commission

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: 

Printed Name: ANNE G. EARTHART
Firm or Title: OWNER

Contractor's Signature: 

Printed Name: Tracy Runells
License #: AC-16437 Date: 12/13/98
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.

Attachment: USGS
Department of Health, Safe Drinking Water, Wastewater, and Clean Water Branches
Kauai Department of Water Supply
Sherman Noguchi, Pacific Century Trust
Anne Earthart
WELL ABANDONMENT REPORT

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

WELL ABANDONMENT REPORT

Instructions: Please print or type and submit completed report within 30 days after sealing completion to the Commission on Water Resource Management, P.O. Box 621, Honolulu, Hawaii 96806. An as-built drawing of the well and chemical analysis should also be submitted. For assistance call the Commission Regulation Branch at 587-2205.

1. STATE WELL NO. 1325-02  
   WELL NAME Kilauea-Earhart  
   ISLAND Kauai

2. LOCATION: Address 2970 Kalihiwai Rd. Kilauea, HI 96754 Tax Map Key 4-5-2-10:28

3. DRILLING OR PUMP INSTALLATION CONTRACTOR Roscoe Moss Hawaii Inc.  
   CONTRACTOR'S C-57 LICENSE NUMBER AC-16437

4. NAME OF DRILLER WHO PERFORMED WORK Rodney Couch

5. TYPE OF RIG/CONSTRUCTION Crane Truck

6. DATE OF WELL SEALING COMPLETION 12-21-98

(NOTE: Report must be submitted within 30 days after this date)

Finished Grade Elevation 97.1 ft.

Casing Diameter NA in.

Check Material Used
Grout Seal: ☐ Cement ☑ Sand/Cement Sand/Cement Ratio 1:1

Total Measured Depth 189 ft.

Measured Depth Blank Casing NA ft.

Measured Depth Perforated Casing NA ft.

Measured Depth to Bottom of Grout 189 ft.

Measured Depth of Sand Fill NA ft.

Remarks: All well casings were removed. Well was grouted via tremie 0'-189'

(If more space is needed, continue on back)

Contractor (print) Roscoe Moss Hawaii Inc.
Signature Tracy Runnels

Date 12-24-98

For Official Use:

Job Name Job No.

Contract No.

For Driller's Use:

Latitude

Longitude

Wall No. 1325-02

Drilling Activities

DATE 12/24/98

TO: State Water Commission

FROM: Tracy Runnels

REF: Anne C. Earhart

Mailing Address: 105 Crescent Bay Drive Suite M
Laguna Beach CA 92651

Well Address 2970 Kaliihiwai Road
Kiluaea, HI 96754

Merry Christmas!

[Signature]
Mr. Tracy Runnels  
Roscoe Moss Hawaii Inc.  
91-259A Olai Street  
Kapolei, Hawaii 96707  

Dear Mr. Runnels:

Well Construction Permit to Abandon/Seal  
Kilauea-Earhart (Well No. 1325-02)  

Enclosed are two (2) copies of your approved Well Construction Permit for the captioned well(s) which authorizes well abandonment/sealing activities. As part of the Chairperson’s approval, the following special condition was added and is part of your permit under Permit Condition 12:

Special Conditions

1. Attached for your information is a copy of the Department of Health’s review comments.

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

IMPORTANT - The permittee is responsible for all conditions of the permit. This includes ensuring that the your licensed contractor, submits a completed Well Abandonment Report form (enclosed) within sixty (60) days after the well construction 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.

If you have any questions, please call the Commission staff at 587-0218.

Aloha,

MICHAEL D. WILSON  
Chairperson

Enclosures
WELL CONSTRUCTION PERMIT TO ABANDON/SEAL

Kilauea-Earthart Well, Well No. 1325-02

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 abandonment/sealing of Kilauea-Earthart Well (Well No. 1325-02) at 2970 Kalihiwai Road, Kauai, TMK 5-2-10:28, 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 of the Commission on Water Resource Management, P.O. Box 621, Honolulu, Hawaii 96809, shall be notified in writing before any work covered by this permit commences.
2. The permit may be revoked by the Commission 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.
3. The owner or operator of any well which has been determined by the department or voluntarily declared by the owner or operator to be abandoned as defined in §13-168-2, after written notification, shall be required, at owner's or operator's expense, to re-case, cement, plug back, cap, or otherwise repair the well or fill and seal the well with cement in a manner approved by the commission.
4. The well construction permit application is incorporated into this permit by reference and is subject to the Hawaii Well Construction & Pump Installation Standards (January 23, 1997; HWCPIS). If the HWCPIS are not followed and as a consequence water is wasted or contaminated, a lien on the property may result.
5. The Well Abandonment Report form (attached) shall be submitted to the Commission on Water Resource Management within sixty (60) days after completion of the work.
6. The permittee shall comply with all applicable laws, rules, and ordinances.
7. Special conditions in the attached cover transmittal letter are incorporated herein by reference.

Date of Approval: December 9, 1998
Expiration Date: When well is sealed in a manner acceptable to the Commission

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: ___________________________

Contractor'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.

Attachment

USGS
Department of Health/ Safe Drinking Water, Wastewater, and Clean Water Branches
Kauai Department of Water Supply
Sharran Noguchi, Pacific Century Trust
Anne Earhart
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 to Abandon/Seal
Kilauea-Earhart (Well No. 1325-02)

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 December 9, 1998.

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 Lenore Nakama of the Commission staff at 587-0218.

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 not located near the proposed well site (information attached).

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

[] No comments/objections

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

Signed: Lori N. Kajiwara
Date: 11-30-98
November 30, 1998

To: Lenore Nakama, Commission on Water Resource Management

From: Lori Kajiwara, Planning & Design Section, Wastewater Branch

Subject: Well Construction Permit Application to Abandon/Seal Kilauea - Earhart (Well No. 1325-02)
TMK: (4) 5-2-10: 28

Regarding the above mentioned subject, the following is a source possible wastewater contamination located near the proposed well site.

DOH-Wastewater Branch Individual Wastewater System (IWS) File # 3109

for address: 2960 G Kalihiwai Road, Kilauea

Submit Date: November 21, 1995
Plan Approval Date: November 30, 1995
Inspection Date: August 29, 1997
System Approved Date: December 9, 1997
DOH Engineer: Felix Udasco

For: Septic Tank with disposal system - Trench serving 5 bedroom dwelling

For more information - please contact Felix Udasco (the original reviewing engineer) of the Wastewater Branch on Oahu at telephone 586-4294 or Joe Tateyama of the Wastewater Branch at the Kauai District Health Office at telephone 241-3323.

(This memo was also sent with the Kilauea - Earhart Well No. 1325-03 Well Construction Permit Application dated September 24, 1998.)
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 to Abandon/Seal
Kilauea-Earhart (Well No. 1325-02)

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 December 9, 1998.

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 Lenore Nakama of the Commission staff at 587-0218.

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, §§11-20-10, 11-20-20.

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.

William Wong
Phone: 586-4258

Signed: William Wong
Date: 12/01/98
Mr. Tracy Runnells  
Roscoe Moss Hawaii Inc.  
91-259A Olai Street  
Kapolei, Hawaii 96707  

Dear Mr. Runnells:

Pump Installation Permit  
Kilauea-Earhart (Well No. 1325-03)

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

**Special Conditions**

1.  **(NONE)**

The permittee 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 permittee 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 annual 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 587-0218.

Aloha,

Aloha,

Timothy E. Johns  
Chairperson

Enclosures
PUMP INSTALLATION PERMIT

Kilauea-Earhart Well, Well No. 1325-03

In accordance with Department of Land and Natural Resources, Commission on Water Resource Management's Administrative Rules, Section 13-156, entitled "Water Use, Wells, and Stream Diversion Works", this document permits the pump installation for Kilauea-Earhart Well (Well No. 1325-03) at 2970 Kalihawai Road, Kauai, TMK 5-210:28 Lot 11-B-3, 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 §13-156-15, Hawaii Administrative Rules.

2. The pump installation permit shall be for installation of a 80 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 an annual 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 §13-156-12(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 19, 1998
Expiration Date: November 19, 2000

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 do not hold a valid permit 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.

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

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
C:
USGS
Department of Health/ Safe Drinking Water & Wastewater Branches
Kauai Department of Water Supply
Sharman Noguchi, Hawaiian Trust Co., Ltd.
Mr. Tracy Runnells  
Roscoe Moss Hawaii Inc.  
91-259A Olai Street  
Kapolei, HI 96707  

Dear Mr. Runnells:

Well Construction Permit Application to Abandon/Seal Well No. 1325-02

We acknowledge receipt, on November 9, 1998, of your completed well construction permit application to abandon/seal the Kilauea-Earhart Well (Well No. 1325-02). You can expect your application to be processed within ninety (90) days from this date.

If you have any questions about your permit application, please contact Lenore Nakama of the Commission staff at 587-0218.

Sincerely,

[Signature]

TIMOTHY E. JOHNS  
Deputy Director

LN:ss
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 to Abandon/Seal
    Kilauea-Earhart (Well No. 1325-02)

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 December 9, 1998.

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 Lenore Nakama of the Commission staff at 587-0218.

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 [ ] 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: __________________

LN:ss
Attachment(s)
State of Hawaii
COMMISSION ON WATER RESOURCE MANAGEMENT
Department of Land and Natural Resources

APPLICATION FOR PERMIT
☐ Well Construction or ☐ Pump Installation

Institution: Please print in ink or type and send completed application with attachments to the Commission on Water Resource Management, P.O. Box 621, Honolulu, Hawai 96809. Application must be accompanied by a non-refundable filing fee of $25.00 payable to the Dept. of Land and Natural Resources. The Commission may not accept incomplete applications. For assistance, call the Regulation Branch at 587-0225.

1. APPLICANT: (circle primary contact a, b, or c) (Primary Fax 682-5866
(a) WELL OWNER: Anne Earhart
Firm Name Hawaii Trust Co Ltd
Contact Person Sharmen Noguchi Ph 808-538-4583
Address 2970 Kalihi Road Honolulu, HI 96813
(b) LANDOWNER: Hawaii Trust Co Ltd
Address 2970 Kalihi Road Honolulu, HI 96813
(c) CONTRACTOR: Roscoe Moss Hawaii Inc Ph 682-5856
Contractor's C-57 License No. AC-16437
Address 91-259A Olai Street Kapolei, HI 96707

2. WELL LOCATION/NAME: Kilauea-Earhart Well
Island Kauai
Address 2970 Kalihi Road
Tax Map Key X-5-2-10:28
(Attach a USGS map, scale 1"=2000', and a property tax map showing well location referenced to established property boundaries.)

3. (a) PROPOSED WORK: ☐ Drill New Well ☐ Deepen ☐ Install New Pump ☐ Modify Existing Well ☐ Redrill ☐ Modify Pump ☐ Abandon Seal ☐ Replace Pump
* Be sure to complete and submit well abandonment report upon completion of work.
(b) WELL TYPE: ☐ Dug ☐ Bored ☐ Driven ☐ Drilled ☐ Radial
Is this well a part of a battery of wells? ☐ Yes ☐ No

4. PROPOSED PUMP INFORMATION: Rated Pump Capacity: NA gallons per minute
Pump Type
☐ Deep Well Turbine ☐ Rotary ☐ Propeller ☐ Diesel
☐ Submersible ☐ Rotary-Displacement ☐ Reciprocating ☐ Gas
☐ Centrifugal ☐ Rotary-Gear ☐ Impulse ☐ Electric, rated horsepower.
If Pump Replacement, Existing Pump Capacity: gallons per minute

5. PROPOSED USE: ☐ Municipal (including hotels, stores, etc.) ☐ Industrial
☐ Domestic (individual, noncommercial water systems) ☐ Irrigation (crop)
☐ Other (explain)

6. (a) PROPOSED AMOUNT OF WITHDRAWAL: NA gallons per day
(b) METHOD OF FLOW MEASUREMENT: ☐ Flow-meter ☐ Open pipe ☐ Office Plate ☐ Weir

7. PENDING ACTIONS: ☐ CDUA ☐ SMA ☐ EIS ☐ EA ☐ NONE ☐ Other (explain)
Completion Date

8. REMARKS, EXPLANATIONS: This well was drilled to 203', cemented back to 189' due to high chlorides. Poor yield and a better test bore nearby opted the permitting and completion of the test bore. 8' casing was removed from this well and installed

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 approval date; 2) the contractor shall submit to the Commission a well completion (abandonment) report within 30 days after the completion date of the permit 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 to the permitted pump capacity.

Well Owner: Anne Earhart
Landowner:
Contractor: Roscoe Moss Hawaii Inc
Signature: __________________________________________________________________________
Date: 2/25/99

For Official Use Only:
Date Received
Date Accepted
Field Checked By
Date
Longitude
Aquifer System Name: 1526-02
LatITUDE
State Well No.

11/08/99 WCN. F.
8. Remarks, Explanations (cont'd) in test bore. We wish to now abandon this well as an open bore hole and will remove 16" diameter conductor also on completion of cementing. We would suggest future well projects like this be streamlined in some way. The test bore should be well # 1325-02A and this be an abandoned test bore having never been a completed cased well. The applications, approvals and signatures of Surveyor, Landowner, Well owner and DOH comments etc have made this a paper chase traveled 1000's of miles. I would suggest a simplified abandonment application be drafted also, one that resembles the abandonment report. There is no place to put Well #1325-02 on this application is one good reason. Thanks for your help, Lenore...Tracy

**PROPOSED ABANDONMENT DETAIL**

---

**Elevation at top of casing**

<table>
<thead>
<tr>
<th>m.s.l.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

---

**Ground Elevation**

<table>
<thead>
<tr>
<th>97.1 m.s.l.</th>
</tr>
</thead>
</table>

---

**Cement Grout**

<table>
<thead>
<tr>
<th>189'</th>
</tr>
</thead>
</table>

---

**Rock Packing**

<p>| |</p>
<table>
<thead>
<tr>
<th></th>
</tr>
</thead>
</table>

---

**Hole Diameter**

<table>
<thead>
<tr>
<th>14 in.</th>
</tr>
</thead>
</table>

---

**Total Depth**

<table>
<thead>
<tr>
<th>189'</th>
</tr>
</thead>
</table>

---

**Solid Casing**

<table>
<thead>
<tr>
<th>Material:</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length:</td>
<td></td>
</tr>
<tr>
<td>Diameter:</td>
<td></td>
</tr>
<tr>
<td>Wall thickness:</td>
<td></td>
</tr>
</tbody>
</table>

---

**Casing**

<table>
<thead>
<tr>
<th>Perforated:</th>
<th>Screen:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material:</td>
<td>N/A</td>
</tr>
<tr>
<td>Length:</td>
<td></td>
</tr>
<tr>
<td>Diameter:</td>
<td></td>
</tr>
<tr>
<td>Wall thickness:</td>
<td></td>
</tr>
<tr>
<td>Openings:</td>
<td>sq.in.</td>
</tr>
</tbody>
</table>

---

**Open Hole**

| Length: | 189' |
| Diameter: |      |

---

We propose abandonment via 1:1 cement/sand grout. We will tremie grout filling the total 189'.

*Approximate elevation at time of filing application. Ground elevation above mean sea level (m.s.l) 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.*
APPLICATION FOR PERMIT

1. APPLICANT. (circle primary contact a, b, or c)
   (a) WELL OWNER
   Firm Name: Pacific Century Trust
   Address: 391-2598 Olai Street, Kapolei, HI 96707
   Signature: 
   Date: October 29, 1998

   (b) LANDOWNER
   Firm Name: Roscoe Moss Hawaii Inc
   Address: 391-2598 Olai Street, Kapolei, HI 96707
   Signature: 
   Date: 

2. WELL LOCATION/NAME: Kīlauea-Earhart Well
   Island: Kauai
   Address: 2970 Kalihiwai Road
   Tax Map Key: 5-2-10-28

3. (a) PROPOSED WORK
   □ Drill New Well
   □ Deepen
   □ Modify Existing Well
   □ Radian
   □ Abandon/Seal
   *Be sure to complete and submit well abandonment report upon completion of work.

   (b) WELL TYPE:
   □ Dug
   □ Bored
   □ Driven
   □ Radial
   □ New Well
   Is this well part of a battery of wells? □ Yes □ No (Briefly describe and fill in the diagram on the back of this form)

4. PROPOSED PUMP INFORMATION:
   □ Rated Pump Capacity: 5682-5866 gallons per minute
   Pump Type:
   □ Deep Well Turbine
   □ Rotary
   □ Submersible
   □ Centrifugal
   □ Impulse
   If Pump Replacement, Existing Pump Capacity:
   gallons per minute

5. PROPOSED USE:
   □ Municipal (Including hotels, stores, etc.)
   □ Domestic (Individual, noncommercial water use)
   □ Irrigation (crop)

6. (a) PROPOSED AMOUNT OF WITHDRAWAL:
   □ NA gallons per day
   (b) METHOD OF FLOW MEASUREMENT:
   □ Flow-meter
   □ Open-pipe
   □ Office Pipe

7. PENDING ACTIONS:
   □ CDUA
   □ SMA
   □ EIS
   □ EA
   □ NONE
   □ Other (explain)
   Completion Date: 

8. REMARKS, EXPLANATIONS: This well was drilled to 203', cemented back to 189' due to high chlorides. Poor yield and a better test bore nearby opted the permitting and completion of the test bore. 8" casing was removed from this well and installed for more ease and continued use.

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

Well Owner: Pacific Century Trust as Trustee for the NISA Trust

Landowner: Roscoe Moss Hawaii Inc

Affix System Name: 

Water System: 

Owner's Sign: 

Date: 10/29/98
APPLICATION FOR PERMIT

☐ Well Construction  or  ☐ Pump Installation

Institutions: Please print in Ink or type and send completed application with attachments to the Commission on Water Resource Management, P.O. Box 621, Honolulu, Hawai'i 96822. Application must be accompanied by a non-refundable filing fee of $250 payable to the Dept. of Land and Natural Resources. The Commission may not accept incomplete applications. For assistance, call the Regulation Branch at 847-0225.

1. APPLICANT: (circle primary contact a, b, or c)
   (a) Primary Contact: Anne Earhart
   (b) Contact Person: Same
   (c) Address: 2970 Kalanianaole Rd. Kailua, HI 96734

2. WELL LOCATION/NAME: Kailua-Earhart Well
   Island: Kauai
   Address: 2970 Kalanianaole Road
   Map Key: 5-2-10-26

3. (a) PROPOSED WORK: (b) WELL TYPE:
   ○ Drill New Well  ○ Deepen  ○ Install New Pump
   ○ Modify Existing Well  ○ Redef  ○ Modify Pump
   ○ Abandon Gea  ○ Replace Pump
   - Be sure to complete and submit Well abandonment report upon completion of work
   ○ Dug  ○ Bored  ○ Driven  ○ Drilled  ○ Radial
   Is this well part of a battery of wells?  ○ Yes  ○ No
   (Briefly describe and fill in diagram on the back of this form)

4. PROPOSED PUMP INFORMATION: Rated Pump Capacity: NA gallons per minute
   Pump Type  Motor:
   ○ Deep Well Turbine  ○ Rotary  ○ Propeller  ○ Diesel
   ○ Submersible  ○ Rotary Displacement  ○ Reciprocating  ○ Gas
   ○ Centrifugal  ○ Rotary Gear  ○ Impulse  ○ Electric, rated horsepower
   If Pump Replacement, Existing Pump Capacity: NA gallons per minute

5. PROPOSED USE: NA
   ○ Municipal (Including hotels, schools, etc.)
   ○ Irrigation (crop)
   ○ Industrial
   ○ Other (explain)

6. (a) PROPOSED AMOUNT OF WITHDRAWAL: NA gallons per day
   (b) METHOD OF FLOW MEASUREMENT:
       ○ Flow-meter  ○ Open Pipe  ○ Orifice Plate  ○ Weir

7. PENDING ACTIONS:  ○ ODUA  ○ SMA  ○ EA  ○ NONE
   Completion Date  

8. REMARKS, EXPLANATIONS: This well was drilled to 203', cemented back to 189' due to high chlorides. Poor yield and a better test bore nearby opted the permitting and completion of the test bore. 8" casing was removed from this well and installed.

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

Well Owner: Anne Earhart
Contractor: Roscoe Moss Hawaii Inc

Signature: Anne Earhart
Signature: Roscoe Moss Hawaii Inc

Date: 10/27/98
Date: 10/30/98
## WCR 1 Check for Well No. 1325-03 (survey to regulation memo)

### 1. Pump Tests Check

<table>
<thead>
<tr>
<th>Step-Drawdown Test:</th>
<th></th>
<th></th>
<th>If no, describe deficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>acceptable</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>followed WCPI Stds</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>analysis attached</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>proposed pump cap o.k.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Aquifer Pump Test:</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>acceptable</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>followed WCPI Stds</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>T &amp; S analysis attached</td>
<td></td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Well Interference:</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>estimated Steady-State drawdown at 1-mile radius is 0.08 ft.</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>analysis attached</td>
<td></td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Stream Surface Water Impacted:</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

---

### 2. Construction Check

<table>
<thead>
<tr>
<th>Construction Check</th>
<th></th>
<th></th>
<th>If no, describe deficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mitch Ohye</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>data complete</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>followed WCPI Stds</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>wellphys.dbf updated</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>welaplic.dbf updated</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

11/09/98
Theis Drawdown Calculation

by Glenn Bauer & Roy Hardy with numerical approximations by Huntion (1980)

FILE NAME = Kilauea-Earhart Well No. 1325-02 (Analysis Uses Obs. Well Data 1325-02)
TEST NAME = Long-Term Test
DATE = October 8, 1998

INPUT PARAMETERS GREEN VALUES

Transmissivity \(T\) = 50,050 ft.²/day
Storage Coeff. \(S\) = 0.100 dimensionless
Time \(t\) = 200,000 days
Aquifer thickness \(b\) = 205 ft.
Pumping Rate \(Q\) = 19.443.85 cubic ft./day
Hydraulic Conductivity \(K\) = 244.1 ft./day

Radial distance \(r\) from well ft.

<table>
<thead>
<tr>
<th>(r)</th>
<th>(u)</th>
<th>(W(u))</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.000000</td>
<td>26.139</td>
</tr>
<tr>
<td>10</td>
<td>0.000000</td>
<td>21.533</td>
</tr>
<tr>
<td>50</td>
<td>0.000000</td>
<td>18.314</td>
</tr>
<tr>
<td>100</td>
<td>0.000000</td>
<td>16.928</td>
</tr>
<tr>
<td>250</td>
<td>0.000000</td>
<td>15.096</td>
</tr>
<tr>
<td>500</td>
<td>0.000000</td>
<td>13.709</td>
</tr>
<tr>
<td>1000</td>
<td>0.000000</td>
<td>12.323</td>
</tr>
<tr>
<td>1500</td>
<td>0.000000</td>
<td>11.512</td>
</tr>
<tr>
<td>2000</td>
<td>0.000010</td>
<td>10.937</td>
</tr>
<tr>
<td>2500</td>
<td>0.000016</td>
<td>10.490</td>
</tr>
<tr>
<td>3000</td>
<td>0.000022</td>
<td>10.126</td>
</tr>
<tr>
<td>5000</td>
<td>0.000032</td>
<td>9.014</td>
</tr>
<tr>
<td>10000</td>
<td>0.000062</td>
<td>7.718</td>
</tr>
</tbody>
</table>

Theoretical drawdown a mile (5,280 ft) from the pumping well when \(u <= 0.01\)

\[ T = 50050 \text{ ft}^2/\text{d} \]
\[ \text{Sp. yield} = 0.1 \]
\[ t = 365 \text{ days} \]
\[ s = 0.08 \text{ ft.} \]
Predicted rise of the saltwater interface $Z_t$ is given by Bear and Dagan (1968) from Herman Bouwer "Groundwater Hydrology".

$$Z_t = \frac{pfQ}{2\pi(ps-pf)KxL} \left(1 - \frac{2pfnL}{2pfnL + (ps - pf)Kz} t\right)$$

Where:

- $Z_t$: rise of cone center at time $t$
- $Q$: well discharge (ft$^3$/d)
- $L$: depth of mid-pt. below bottom of well before pumping
- $K_x$: horizontal K
- $K_z$: vertical K
- $n$: porosity of aquifer
- $p_s$: density of salt water
- $p_f$: density of freshwater
- $t$: time since start of pumping

<table>
<thead>
<tr>
<th>$t$ (days)</th>
<th>$t$ (years)</th>
<th>$Z_t$</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>0.27</td>
<td>4.69</td>
</tr>
<tr>
<td>500</td>
<td>1.37</td>
<td>9.01</td>
</tr>
<tr>
<td>1000</td>
<td>2.74</td>
<td>10.18</td>
</tr>
<tr>
<td>2500</td>
<td>6.85</td>
<td>11.04</td>
</tr>
<tr>
<td>5000</td>
<td>13.70</td>
<td>11.35</td>
</tr>
<tr>
<td>10000</td>
<td>27.40</td>
<td>11.53</td>
</tr>
<tr>
<td>25000</td>
<td>68.49</td>
<td>11.63</td>
</tr>
<tr>
<td>50000</td>
<td>136.99</td>
<td>11.67</td>
</tr>
<tr>
<td>100000</td>
<td>273.97</td>
<td>11.69</td>
</tr>
<tr>
<td>500000</td>
<td>1369.86</td>
<td>11.70</td>
</tr>
</tbody>
</table>

Well Name: Kilauea-Earhart Well 1325-03 (using aquifer parameters derived from obs. well 1325-02)

Kx analysis by: Glenn Bauer

Assume $K_x/K_z = 200$
THEIS DRAWDOWN CALCULATION
by Glenn Bauer & Roy Hardy with numerical approximations by Huntcon (1980)

FILE NAME = Kilauea-Earhart Well No. 1328-02 (Analysis Uses Obs. Well Data 1325-02)
TEST NAME = Long-Term Test
DATE = October 8, 1998

INPUT PARAMETERS

Transmissivity T = 50,050 ft.^2/day
Storage Coeff. S = 0.100 dimensionless
Time t = 200,000 days
Pumping Rate Q = 19,443.85 cubic ft./day

THEIS FILE
Storage Coeff. S =
Transmissivity T =

TEST NAME = Long-Term Test
DATE = October 8, 1998

DRAWDOWN

Aquifer thickness b = 205 ft.
Hydraulic Conductivity K = 244.1 ft./day
Pumping rate Q = 101 gpm
0.145 mgd
0.225 cfs

OBSERVATION WELL

Radial distance r from pumping well = 1000 ft.

<table>
<thead>
<tr>
<th>Time, t (days, years)</th>
<th>u</th>
<th>W(u)</th>
<th>ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.1 0.00000000</td>
<td>4.995005</td>
<td>0.001</td>
<td>0.000</td>
</tr>
<tr>
<td>1.0 0.00099500</td>
<td>0.0195</td>
<td>0.560</td>
<td>0.017</td>
</tr>
<tr>
<td>2.0 0.010249750</td>
<td>0.0405</td>
<td>0.605</td>
<td>0.032</td>
</tr>
<tr>
<td>3.0 0.010653000</td>
<td>0.1375</td>
<td>0.043</td>
<td>0.043</td>
</tr>
<tr>
<td>4.0 0.011248750</td>
<td>0.1624</td>
<td>0.050</td>
<td>0.050</td>
</tr>
<tr>
<td>5.0 0.010999000</td>
<td>0.1824</td>
<td>0.055</td>
<td>0.055</td>
</tr>
<tr>
<td>6.0 0.010832500</td>
<td>0.1990</td>
<td>0.062</td>
<td>0.062</td>
</tr>
<tr>
<td>7.0 0.010713570</td>
<td>0.2133</td>
<td>0.066</td>
<td>0.066</td>
</tr>
<tr>
<td>8.0 0.010624380</td>
<td>0.2258</td>
<td>0.070</td>
<td>0.070</td>
</tr>
<tr>
<td>10.0 0.010499500</td>
<td>0.2489</td>
<td>0.076</td>
<td>0.076</td>
</tr>
<tr>
<td>36.0 0.010383750</td>
<td>3.714</td>
<td>0.115</td>
<td>0.115</td>
</tr>
<tr>
<td>200.0 0.002249800</td>
<td>5.418</td>
<td>0.167</td>
<td>0.167</td>
</tr>
<tr>
<td>500.0 0.000999999</td>
<td>6.333</td>
<td>0.196</td>
<td>0.196</td>
</tr>
<tr>
<td>1000.0 0.00050000</td>
<td>7.025</td>
<td>0.027</td>
<td>0.217</td>
</tr>
<tr>
<td>2000.0 0.00025000</td>
<td>7.718</td>
<td>0.239</td>
<td>0.239</td>
</tr>
<tr>
<td>5000.0 0.00010000</td>
<td>8.634</td>
<td>0.287</td>
<td>0.287</td>
</tr>
<tr>
<td>10000.0 0.00005000</td>
<td>9.327</td>
<td>0.288</td>
<td>0.288</td>
</tr>
<tr>
<td>20000.0 0.00002500</td>
<td>10.020</td>
<td>0.310</td>
<td>0.310</td>
</tr>
<tr>
<td>50000.0 0.00001000</td>
<td>10.937</td>
<td>0.338</td>
<td>0.338</td>
</tr>
<tr>
<td>100000.0 0.00000500</td>
<td>11.630</td>
<td>0.360</td>
<td>0.360</td>
</tr>
</tbody>
</table>

Theoretical drawdown a mile (5,280 ft.) from the pumping well when u^2 < 0.01

T = 50050 ft.^2/day
Sp. yield = 0.1
t = 365 days
s = 0.08 ft.
Pumping Test No. Constant Rate

Well No. 1325-03
Discharge 101.00 U.S.gal/min

Transmissivity [ft²/d]: $1.73 \times 10^2$
Storativity: $1.75 \times 10^{-1}$
Pumping Test No. Constant Rate
Well No. 1325-03
Discharge 101.00 U.S. gal/min

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.00035</td>
<td>142.35</td>
</tr>
<tr>
<td>2</td>
<td>0.00069</td>
<td>146.40</td>
</tr>
<tr>
<td>3</td>
<td>0.00104</td>
<td>148.35</td>
</tr>
<tr>
<td>4</td>
<td>0.00139</td>
<td>151.95</td>
</tr>
<tr>
<td>5</td>
<td>0.00174</td>
<td>152.90</td>
</tr>
<tr>
<td>6</td>
<td>0.00208</td>
<td>155.60</td>
</tr>
<tr>
<td>7</td>
<td>0.00278</td>
<td>159.15</td>
</tr>
<tr>
<td>8</td>
<td>0.00347</td>
<td>161.32</td>
</tr>
<tr>
<td>9</td>
<td>0.00417</td>
<td>162.79</td>
</tr>
<tr>
<td>10</td>
<td>0.00486</td>
<td>164.05</td>
</tr>
<tr>
<td>11</td>
<td>0.00556</td>
<td>164.68</td>
</tr>
<tr>
<td>12</td>
<td>0.00694</td>
<td>165.56</td>
</tr>
<tr>
<td>13</td>
<td>0.01042</td>
<td>166.59</td>
</tr>
<tr>
<td>14</td>
<td>0.01389</td>
<td>167.04</td>
</tr>
<tr>
<td>15</td>
<td>0.01736</td>
<td>167.32</td>
</tr>
<tr>
<td>16</td>
<td>0.02083</td>
<td>167.35</td>
</tr>
<tr>
<td>17</td>
<td>0.02778</td>
<td>167.80</td>
</tr>
<tr>
<td>18</td>
<td>0.03472</td>
<td>168.84</td>
</tr>
<tr>
<td>19</td>
<td>0.04167</td>
<td>169.21</td>
</tr>
<tr>
<td>20</td>
<td>0.04861</td>
<td>169.38</td>
</tr>
<tr>
<td>21</td>
<td>0.05556</td>
<td>169.50</td>
</tr>
<tr>
<td>22</td>
<td>0.06250</td>
<td>169.61</td>
</tr>
<tr>
<td>23</td>
<td>0.06944</td>
<td>169.60</td>
</tr>
<tr>
<td>24</td>
<td>0.10417</td>
<td>169.90</td>
</tr>
<tr>
<td>25</td>
<td>0.13889</td>
<td>169.97</td>
</tr>
<tr>
<td>26</td>
<td>0.20833</td>
<td>169.96</td>
</tr>
<tr>
<td>27</td>
<td>0.27778</td>
<td>169.81</td>
</tr>
</tbody>
</table>
Pumping Test No. Constant-Rate Test conducted on: October 8, 1998

Obs. Well 1325-02
Discharge 101.00 U.S.gal/min

<table>
<thead>
<tr>
<th>t/r² [d/ft²]</th>
<th>s [ft]</th>
</tr>
</thead>
<tbody>
<tr>
<td>10⁻⁹</td>
<td>0.00</td>
</tr>
<tr>
<td>10⁻⁸</td>
<td>0.02</td>
</tr>
<tr>
<td>10⁻⁷</td>
<td>0.08</td>
</tr>
<tr>
<td>10⁻⁶</td>
<td>0.12</td>
</tr>
<tr>
<td>10⁻⁵</td>
<td>0.18</td>
</tr>
<tr>
<td>10⁻⁴</td>
<td>0.20</td>
</tr>
</tbody>
</table>

Transmissivity [ft²/d]: 5.05 x 10⁴
Hydraulic conductivity [ft/d]: 2.46 x 10²
Aquifer thickness [ft]: 205.00
<table>
<thead>
<tr>
<th>Pumping test duration</th>
<th>Water level</th>
<th>Drawdown</th>
<th>Corrected drawdown</th>
</tr>
</thead>
<tbody>
<tr>
<td>[d]</td>
<td>[ft]</td>
<td>[ft]</td>
<td>[ft]</td>
</tr>
<tr>
<td>1</td>
<td>0.00069</td>
<td>88.34</td>
<td>0.00</td>
</tr>
<tr>
<td>2</td>
<td>0.02778</td>
<td>88.44</td>
<td>0.10</td>
</tr>
<tr>
<td>3</td>
<td>0.06944</td>
<td>88.51</td>
<td>0.17</td>
</tr>
<tr>
<td>4</td>
<td>0.17361</td>
<td>88.48</td>
<td>0.14</td>
</tr>
</tbody>
</table>
Pumping test analysis
Recovery method after
THEIS & JACOB
Unconfined aquifer

Project: Kilauea-Earhart Well
Evaluated by: Glenn Bauer

Pumping Test No. Recovery Test  Test conducted on: October 8, 1998
Well No. 1325-03
Discharge 101.00 U.S. gal/min

Pumping test duration: 0.34722 d

Transmissivity [ft²/d]: 6.58 x 10²
Hydraulic conductivity [ft/d]: 3.21 x 10⁰
Aquifer thickness [ft]: 205.00
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>153.95</td>
<td>153.95</td>
<td>96.14</td>
</tr>
<tr>
<td>2</td>
<td>145.22</td>
<td>145.22</td>
<td>93.78</td>
</tr>
<tr>
<td>3</td>
<td>144.64</td>
<td>144.64</td>
<td>93.61</td>
</tr>
<tr>
<td>4</td>
<td>138.65</td>
<td>138.65</td>
<td>91.76</td>
</tr>
<tr>
<td>5</td>
<td>135.83</td>
<td>135.83</td>
<td>90.83</td>
</tr>
<tr>
<td>6</td>
<td>132.40</td>
<td>132.40</td>
<td>89.64</td>
</tr>
<tr>
<td>7</td>
<td>131.53</td>
<td>131.53</td>
<td>89.33</td>
</tr>
<tr>
<td>8</td>
<td>130.84</td>
<td>130.84</td>
<td>89.09</td>
</tr>
<tr>
<td>9</td>
<td>130.50</td>
<td>130.50</td>
<td>88.96</td>
</tr>
<tr>
<td>10</td>
<td>130.31</td>
<td>130.31</td>
<td>88.89</td>
</tr>
<tr>
<td>11</td>
<td>129.81</td>
<td>129.81</td>
<td>88.71</td>
</tr>
<tr>
<td>12</td>
<td>129.58</td>
<td>129.58</td>
<td>88.63</td>
</tr>
<tr>
<td>13</td>
<td>129.52</td>
<td>129.52</td>
<td>88.60</td>
</tr>
<tr>
<td>14</td>
<td>129.46</td>
<td>129.46</td>
<td>88.58</td>
</tr>
<tr>
<td>15</td>
<td>129.46</td>
<td>129.46</td>
<td>88.58</td>
</tr>
</tbody>
</table>
State of Hawaii  
COMMISSION ON WATER RESOURCE MANAGEMENT  
Department of Land and Natural Resources  

WELL COMPLETION REPORT  

2/27/98 WCR Form  

Part I. Well Construction & Part II. Permanent Pump Installation  

Instructions: Please print or type and submit completed report within 60 days after well completion to the Commission on Water Resource Management, P.O. Box 621, Honolulu, Hawaii 96809. An as-built drawing of the well and chemical analysis should also be submitted. For assistance call the Commission Regulation Branch at 587-0225, or 1-800-468-4644 Extension 70225.  

1. State Well No.: 1325-03  
   Well Name: Kilauea-Earhart  
   Island: Kauai  

2. Location/Address: 2970 Kalihiwai Road, Kauai  
   Tax Map Key: X-5-2-10-28 Lot 11-B-3  

PART I. WELL CONSTRUCTION REPORT  

3. Drilling Company: Roscoe Moss Hawaii Inc.  
4. Name of driller who performed work: Rodney Couch  
5. Type of rig/construction: Cable Tool  
6. Date(s) Well Construction and pump tests (if any) completed: 10-08-98  
    Well Bench Mark (description/location): 4x4x6" slab at well head Elevation(msl): +132.91 ft.  
7. GROUND ELEVATION (referenced to mean sea level, msl): +132.91 ft.  
8. DRILLER'S LOG: Please attach geologic log (if available or if required by permit)  

<table>
<thead>
<tr>
<th>Depths (ft.)</th>
<th>Rock Description, Water Level, Dates, etc.</th>
<th>Depths (ft.)</th>
<th>Rock Description, Water Level, Dates, etc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 46</td>
<td>Brown Dirt, Clay</td>
<td>74 to 115</td>
<td>Weathered molten basalt w/boulders</td>
</tr>
<tr>
<td>46 to 74</td>
<td>Hard Blue Basalt</td>
<td>115 to 135</td>
<td>Weathered basalt-less boulders</td>
</tr>
</tbody>
</table>

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

9. Total depth of well below ground: 295 ft.  
10. Hole size: 14 inch dia. from 0 ft. to 295 ft. below ground  
    8 in. I.D. x .250 in. wall solid section to 175 ft. below ground  
    8 in. I.D. x .250 in. wall perforated section to 295 ft. below ground  
11. Casing installed: 1.0. x .250 in. wall solid section to 175 ft. below ground  
    1.0. x .250 in. wall perforated section to 295 ft. below ground  
    Casing Material/Slot Size: Carbon Steel/Louver 14.6sq inch per ft.  
12. Annulus: Grouted from 0 ft. below ground to 124 ft. below ground  
    Gravel packed from 124 ft. below ground to 295 ft. below ground  
13. Initial water level: 127.90 ft. below ground. Date and time of measurement: 10/7/98  
14. Initial chloride: 120 ppm Date and time of sampling: 10/8/98 0740 Hours  
15. Initial temperature: 70 °F Date and time of measurement: 10/8/98 0740 Hours  
16. PUMPING TESTS: Reference Point (R.P.) used: Top of casing, which elevation is 134.22 ft.  
    (1) Step-Drawdown Test Date 10/8/98  
        Start water level 129.25 ft. below R.P.  
        End water level 129.46 ft. below R.P.  
    (2) Long-term Aquifer Test Date 10/8/98  
        Start water level 129.25 ft. below R.P.  
        End water level 129.46 ft. below R.P.  
17. Pump Test Procedures data & graphs (12/17/97 SDPTD & CRPTD Forms) attached? X Yes _ No  
18. As-built drawings attached? X Yes _ No  
19. Other remarks/comments: (On back of this form)  

Well Drilling Contractor (print) Roscoe Moss Hawaii Inc  
C-57 Lic. No. AC-16437  
Signature  
Date 10/28/98  

Surveyor (print) Ronald J Wagner  
Lic. No. 5074  
Signature  
Date  

Applicant (print) Anne Earhart  
Signature  
Date
### PART II. (PERMANENT) PUMP INSTALLATION REPORT

20. Pump Installation Company: _______________________________

21. Name of person performing work: _______________________________

22. Date Pump Installation Completed: _______________________________

23. PUMP INSTALLATION:

   Pump Type, Make, Serial No.: _______________________________
   Capacity: _______ gpm
   Motor type, H.P., Voltage, rpm: _______________________________
   Depth of Pump Intake Setting _________ ft. below □ ground □ well bench mark
   Depth to bottom of airline _________ ft. below □ ground □ well bench mark
   Pumping Head is _________ ft. Type of flow meter: _________ which measures in _________

24. As-built drawings attached? _ Yes _ No

25. Other remarks/comments: (See below)

<table>
<thead>
<tr>
<th>Pump Installation Contractor (print)</th>
<th>C-57 Lic. No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signature</td>
<td>Date</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Applicant (print)</th>
<th>Signature</th>
<th>Date</th>
</tr>
</thead>
</table>

8.(cont’d) DRILLER’S LOG (cont’d):

<table>
<thead>
<tr>
<th>Depths (ft.)</th>
<th>Rock Description, Water Level, Dates, etc.</th>
<th>Depths (ft.)</th>
<th>Rock Description, Water Level, Dates, etc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>135 to 140</td>
<td>Grayish brown basalt W.L. 84'</td>
<td>to</td>
<td></td>
</tr>
<tr>
<td>140 to 150</td>
<td>Black basalt</td>
<td>to</td>
<td></td>
</tr>
<tr>
<td>150 to 222</td>
<td>Reddish Brown weathered basalt W.L. 119'</td>
<td>to</td>
<td></td>
</tr>
<tr>
<td>222 to 255</td>
<td>Red cinders W.L. 129</td>
<td>to</td>
<td></td>
</tr>
<tr>
<td>255 to 295</td>
<td>Broken Basalt W.L. 129</td>
<td>to</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

19. & 25. Remarks:

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________
# CONSTANT-RATE PUMP TEST DATA

Pumped Well No. 1325-03  
Pumped Well Name Kilauea Farhart  
Target Q 100 gpm  
Observation well no. 1325-03  
Distance between Obs. & Pumped Well 500 Approx. ft. msl  
Reference pt. for depth to water 134.26 ft. msl  
Static Water Level @ start of test 129.25 ft. msl

Water level measurements by:  
- ☐ steel tape  
- ☑ pressure transducer  
- ☐ airline

## START TEST

Date: 10-8-98  
Time of day: 7:15 A.M.

Flow Meter Reading Start: 01188300 gals

<table>
<thead>
<tr>
<th>Elapsed time</th>
<th>Actual elapsed time</th>
<th>Depth to water</th>
<th>Drawdown</th>
<th>Pumping rate Q</th>
<th>EC</th>
<th>Field Hatch Analysis</th>
<th>Temp. °F or °C</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>45</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>7:30</td>
<td>129.25</td>
<td>0.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>7:31:30</td>
<td>142.35</td>
<td>13.10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.5</td>
<td>7:31</td>
<td>146.40</td>
<td>17.15</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>7:32</td>
<td>151.95</td>
<td>22.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.5</td>
<td>7:33</td>
<td>152.90</td>
<td>23.65</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>7:34</td>
<td>155.60</td>
<td>26.35</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>7:35</td>
<td>159.15</td>
<td>29.90</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>7:36</td>
<td>161.32</td>
<td>32.07</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>7:37</td>
<td>162.79</td>
<td>33.54</td>
<td>109</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>7:38</td>
<td>164.05</td>
<td>34.80</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>7:40</td>
<td>165.56</td>
<td>36.31</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>7:45</td>
<td>166.59</td>
<td>37.34</td>
<td>105</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>7:50</td>
<td>167.04</td>
<td>37.79</td>
<td>105</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>7:55</td>
<td>167.32</td>
<td>38.07</td>
<td>105</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>8:00</td>
<td>167.56</td>
<td>38.31</td>
<td>105</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>8:10</td>
<td>167.80</td>
<td>38.55</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40</td>
<td>8:20</td>
<td>168.84</td>
<td>39.59</td>
<td>106</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50</td>
<td>8:30</td>
<td>169.21</td>
<td>39.96</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>60</td>
<td>8:40</td>
<td>169.38</td>
<td>40.13</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>70</td>
<td>8:50</td>
<td>169.50</td>
<td>40.25</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>80</td>
<td>9:00</td>
<td>169.61</td>
<td>40.36</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>90</td>
<td>9:10</td>
<td>169.60</td>
<td>40.35</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>100</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suggested elapsed time (min)</td>
<td>Actual elapsed time (min)</td>
<td>Depth to water (nearest 0.1 ft)</td>
<td>Drawdown (unadjusted to nearest 0.1 ft)</td>
<td>Pumping rate Q (gpm)</td>
<td>EC (μhos)</td>
<td>Cl⁻ (mg/l)</td>
<td>Temp. °F or °C</td>
<td>Data in this table is for</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>---------------------------</td>
<td>---------------------------------</td>
<td>----------------------------------------</td>
<td>----------------------</td>
<td>----------</td>
<td>-----------</td>
<td>-------------</td>
<td>-------------------------</td>
</tr>
<tr>
<td>150</td>
<td>10:00</td>
<td>169.90</td>
<td>40.65</td>
<td>≤120</td>
<td></td>
<td></td>
<td></td>
<td>Observation Well</td>
</tr>
<tr>
<td>200</td>
<td>10:50</td>
<td>169.97</td>
<td>40.72</td>
<td>≤120</td>
<td></td>
<td></td>
<td>88.48</td>
<td>Sample 2</td>
</tr>
<tr>
<td>250</td>
<td>11:40</td>
<td>169.91</td>
<td>40.66</td>
<td>≤120</td>
<td></td>
<td></td>
<td>88.42</td>
<td>Observation Well</td>
</tr>
<tr>
<td>5hrs 300</td>
<td>12:30pm</td>
<td>169.96</td>
<td>40.71</td>
<td>≤120</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>400</td>
<td>2:10</td>
<td>169.81</td>
<td>40.56</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8hrs 500</td>
<td>3:30</td>
<td>169.68</td>
<td>40.43</td>
<td>105</td>
<td>&lt;120</td>
<td>70</td>
<td></td>
<td>Sample 3</td>
</tr>
<tr>
<td>600</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Observation Well</td>
</tr>
<tr>
<td>700</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>88.42</td>
<td></td>
</tr>
<tr>
<td>800</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>900</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Observation Well</td>
</tr>
<tr>
<td>1000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>88.42</td>
<td></td>
</tr>
<tr>
<td>1500</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>88.42</td>
<td></td>
</tr>
<tr>
<td>2000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2500</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Cl⁻ sample taken</td>
<td></td>
</tr>
<tr>
<td>8000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Cl⁻ sample taken</td>
<td></td>
</tr>
<tr>
<td>9000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Cl⁻ sample taken</td>
<td></td>
</tr>
</tbody>
</table>
| 10000                       |                           |                                 |                                        |                      |          |           | 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: 1239000 gals

1 Chloride sampling required
2 Use same ending drawdown figure as start for recovery
### Table 2 (CRPTD Form 12/17/97)

<table>
<thead>
<tr>
<th>Actual elapsed time (min)</th>
<th>Actual recovery time (min)</th>
<th>Depth to water (nearest 0.1 ft)</th>
<th>Recovery Drawdown (unadjusted to nearest 0.1 ft)</th>
<th>Pumping rate Q (gpm)</th>
<th>EC (umhos)</th>
<th>Cl⁻ (mg/l)</th>
<th>Temp. °F °C</th>
<th>Data in this table is for: Pumped Well Observation Well Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>169.67</td>
<td>40.42</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td>Start recovery</td>
</tr>
<tr>
<td>1</td>
<td>3:31</td>
<td>153.95</td>
<td>24.70</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td>01239.0</td>
</tr>
<tr>
<td>1.5</td>
<td>3:32</td>
<td>145.22</td>
<td>15.97</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>3:32</td>
<td>144.64</td>
<td>15.39</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.5</td>
<td>3:32</td>
<td>138.65</td>
<td>9.4</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>3:33</td>
<td>135.83</td>
<td>6.58</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>3:34</td>
<td>132.40</td>
<td>3.15</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>3:35</td>
<td>131.53</td>
<td>2.28</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>3:36</td>
<td>130.84</td>
<td>1.59</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>3:37</td>
<td>130.50</td>
<td>1.25</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>3:38</td>
<td>130.31</td>
<td>1.06</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>3:40</td>
<td>129.81</td>
<td>.55</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>3:45</td>
<td>129.58</td>
<td>.33</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>3:50</td>
<td>129.52</td>
<td>.27</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>3:55</td>
<td>129.46</td>
<td>.21</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>4:00</td>
<td>129.46</td>
<td>.21</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40</td>
<td>4:10</td>
<td>129.46</td>
<td>.21</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50</td>
<td>4:10</td>
<td>129.46</td>
<td>.21</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>60</td>
<td>4:10</td>
<td>129.46</td>
<td>.21</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>70</td>
<td>4:10</td>
<td>129.46</td>
<td>.21</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>80</td>
<td>4:10</td>
<td>129.46</td>
<td>.21</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>90</td>
<td>4:10</td>
<td>129.46</td>
<td>.21</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>100</td>
<td>4:10</td>
<td>129.46</td>
<td>.21</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>150</td>
<td>4:10</td>
<td>129.46</td>
<td>.21</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>200</td>
<td>4:10</td>
<td>129.46</td>
<td>.21</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>250</td>
<td>4:10</td>
<td>129.46</td>
<td>.21</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**END TEST** Date: **10-8-98** Time of day: **4:30 p.m.**

**ADDITIONAL REMARKS:**

Person in charge of pump test (print): _JoAnn Romano_

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 pump test.
Kilauea Earhart Well 1325-03 10/23/9

Eleu +134.22' (MSL)
Eleu +132.91' (MSL)

14" borehole

8" Blank Casing

Static W.L. 120'

W.L. 105gpm 129.25' (+4.97msl)

169.90' (-35.64msl)

175' (-42.09msl)

295' (-162.09msl)
Roscoe Moss Hawaii, Inc.
91-259A Olai Street
Kapolei, HI. 96707

Attn: Tracy Runnells

Project: 1572

Subject: Well Head Elevation - Earhart Well Project # 1325-03,
Kalihiwai, Kauai, Hawaii   TMK: 5-2-10:28

Gentlemen;

On October 8, 1998, we performed a survey on the subject project and found the elevation of the well head (8” diameter pipe) to be 134.26 MSL. The concrete slab at the well head was 132.91 MSL.

WAGNER ENGINEERING SERVICES, INC.

October 15, 1998
P.O. Box 851
Hanalei, Hawaii 96714

Ronald J. Wagner
Licensed Professional Land Surveyor Certificate No. 5074
State of Hawaii
COMMISSION ON WATER RESOURCE MANAGEMENT
Department of Land and Natural Resources

WELL COMPLETION REPORT
22/7/6 WCR Form

Part I. Well Construction

1. State Well No.: 5325-03
   Well Name: Kikua-Eaheh
   Island: Kauai
   Location/Address: 3970 Kalaniku Road, Kauai
   Tax Map Key: X4-2-48-26 Lot 11-9-3

2. Drilling Company: Roscoe Moss Hawaii Inc.

3. Name of driller who performed work: Rodney Couch

4. Type of rig/construction: Cable Tool

5. Date(s) Well Construction and pump basis (if any) completed: 10/06/98

6. GROUND ELEVATION (referenced to mean sea level, msl): 132.91 ft.


8. DRILLER'S LOG: Please attach log from (if available or if required by permit)

   Depth (ft.) Rock Description, Water Level, Dates, etc.
   0 to 46 Brown Dirt, Clay
   46 to 74 Hard Blue Basalt W.L. 36'
   74 to 112 Weathered molotd basalt w/boulders
   112 to 135 Weathered basalt-less boulders

9. Total depth of well below ground: 295 ft.

10. Hole size: 14 inch dia. from 0 ft. to 295 ft. below ground

11. Casing installed:
   a. 8 in. I.D. x 250 in. well solid section to 175 ft. below ground
   b. 8 in. I.D. x 250 in. well perforated section to 295 ft. below ground
   Casing Material/Slot Size: Carbon Steel/Louver 14.6 sq in.

12. Annulus:
   Gruitted from 0 ft. below ground to 124 ft. below ground
   Gravel packed from 124 ft. below ground to 295 ft. below ground

13. Initial water level: 129.90 ft. below ground

14. Initial chloride: 70 ppm

15. Initial temperature: 70 °F

16. PUMPING TESTS: Reference Point (R.P.) used: Top of casing, which elevation is 132.92 ft.

   (1) Step-Drawdown Test Date: 10/7/98
   Start water level: 129.25 ft. below R.P.
   End water level: 129.45 ft. below R.P.

   (2) Long-term Aquifer Test Date: 10/7/98
   Start water level: 129.45 ft. below R.P.
   End water level: 129.45 ft. below R.P.

17. Pump Test Procedures data & graphs (7/27/98 SDPTD & CRPTD Form) attached? Yes _ No

18. Other remarks/comments: (On back of this form)

Well Drilling Contractor (print): Roscoe Moss Hawaii Inc.
Lic. No.: AC-16437
Date: 10/06/98

Surveyor (print): Ronald J. Keener
Lic. No.: 5074
Date: 10/06/98

Applicant (print): Anne Earhart
Date: 10/06/98

Signature: [signature]

[Official Seal]

John X. L. Wagner
In accordance with Department of Land and Natural Resources, Commission on Water Resources Management's Administrative Rules, Section 13-168, entitled “Water Use, Wells, and Stream Diversion Works”, this document permits the construction and testing of Kilauea-Earhart Well (Well No. 152003) at 270 Kalihiwai Road, Kauai, HI 96754-1228, Lot 11-8-4, subject to the Hawaii Well Construction & Pump Installation Standards (1997) which include but are not limited to the following conditions:

1. The Chairperson of the Commission on Water Resources Management (Commission), P.O. Box 621, Honolulu, HI 96809, shall be notified, in writing, at least two (2) weeks before any work authorized by this permit commences.

2. The well construction permit shall be for construction and testing of the well only. A minimum one-inch diameter monitor tube shall be permanently installed, in a manner acceptable to the Chairperson, to accurately record water levels. The permittee shall coordinate with the Chairperson and conduct a pumping test in accordance with the Standards (a pump testing worksheet is attached). The permittee shall submit to the Chairperson the test results as a basis for supporting an application to install a permanent pump and withdraw water for use. No permanent pump may be installed until a pump installation permit is approved and issued by the Chairperson.

3. In basal ground water, the depth of the well may not exceed one-fourth (1/4) of the theoretical thickness (41 times initial head) of the basal ground water unless otherwise authorized by the Chairperson.

4. The permittee shall incorporate mitigation measures to prevent construction debris from entering the aquatic environment, to schedule work to avoid periods of high rainfall, and to revegetate any cleared areas as soon as possible.

5. In the event that subsurface cultural remains such as artifacts, burials or concentrations of shells or charcoal are encountered during construction, the permittee shall stop work and contact the Department's Historic Preservation Division (957-0045) immediately.

6. 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 cumulative water rights.

7. The following shall be submitted to the Chairperson within sixty (60) days after completion of work:
   b. Elevation (referenced to mean sea level, msl) survey by a Hawai'i licensed surveyor.
   c. As-built sectional drawing of the well.
   d. Plot plan and map showing the exact location of the well.
   e. Complete pumping test records, including time, pumping rate, drawdown, chloride content, and other data.

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

9. The well construction permit application is incorporated into this permit by reference and is subject to the Hawaii Well Construction & Pump Installation Standards (January 23, 1997, HWCPIS). If the HWCPIS are not followed and as a consequence water is wasted or contaminated, a lien on the property may result.

10. The permit may be revoked by the Commission 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 well construction 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.

11. 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 §13-168-120(1) prior to any well sealing or plugging work.

12. Special conditions in the attached cover transmitted letter are incorporated herein by reference.

Date of Approval: October 6, 1998
Expiration Date: October 6, 2000

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 do not hold a valid permit until I and the driller 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.

Permittee's Signature: 
Printed Name: ANNE EARHART
Firm or Title: OWNER

Driller's Signature: 
Printed Name: Tracy Runnels
License #: MC 1657
Date: 10/28/98
Firm or Title: Roesel Moss, Hawaii, Inc.

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

Attachment

USGS
Department of Health/State Drinking Water, Wastewater, and Clean Water Branches
Kauai Department of Water Supply
Sheman Noguchi, Hawaiian Trust Co., Ltd.
Mr. Tracy Runnels
Roscoe Moss Hawaii, Inc.
91-259A Olai Street
Kapolei, Hawaii 96707

Dear Runnels:

Well Construction Permit
Kilauea-Earhart (Well No. 1325-03)

Enclosed are two (2) copies of your approved Well Construction Permit for the captioned well(s) which authorizes well construction activities but excludes installation work for your permanent pump. As part of the Chairperson's approval, the following special conditions were added and are part of your permit under Permit Condition 12:

Special Conditions

1. Attached for your information is a copy of the Department of Health's (DOH) review comments. Please note DOH's requirements related to discharge of effluent from well drilling and testing activities.

2. Well No. 1325-02 shall be used as an observation well during the pump test for Well No. 1325-03.

3. The water well shall be cased with new steel casing conforming to one of the manufacturing standards listed in Table 6 of Hawaii Well Construction and Pump Installation Standards (January, 1997) and in the standards of AWWA publication ANSI/AWWA A100-90, as may be amended. The physical properties of the steel shall conform to ASTM A-242, ASTM A53, Type E or S, Grade B, or approved equal. The well casing shall be manufactured in accordance with applicable sections of ASTM A139, as may be amended.

This permit does not authorize work for your permanent pump installation. Approval and issuance of your pump installation permit is contingent upon completed application and information provided to and accepted by Commission staff as required in the Well Construction & Pump Installation Standards (1/23/97) and any special conditions performed under this permit. However, in accordance with the Commission's April 15, 1998 Declaratory Ruling No. DEC-ADM98-G5, which states that:

"Permanent pump installation for capacities between 0-70 gpm and where the proposed use is for private individual needs in non-ground-water management areas may be allowed prior to the final pump installation permit issuance. When required as a condition of the well construction permit, subsequent pumping tests shall validate the acceptability of the permanent pump. The permanent pump installed prior to final pump installation permit issuance is subject to removal if the testing shows that a smaller pump is required to reduce the potential of affecting neighboring wells and localized upconning at the applicant's well."
a permanent pump may be installed prior to the permanent pump installation permit issuance. If you qualify and wish to take advantage of this ruling, please include a written request to install the permanent pump prior to final pump installation permit issuance when you return to us your validated well construction permit.

To validate your permit, please sign and have the landowner sign both permit originals and return one for our files. Also, copies of the aquifer pump test worksheet and the well completion report form are enclosed for your use.

IMPORTANT - The well owner is responsible for all conditions of the permit. This includes ensuring that the well construction contractor, or other party who constructs the well(s), submits a completed Part I of the Well Completion Report form (enclosed) within sixty (60) days after the well construction 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.

If you have any questions, please call the Commission staff at 587-0218.

Aloha,

MICHAEL D. WILSON
Chairperson

Enclosures
WELL CONSTRUCTION PERM

Kilauea-Earhart Well, Well No. 1325-03

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 construction and testing of Kilauea-Earhart Well (Well No. 1325-03) at 2970 Kalilihal Road, Kauai, TMK 5-2-10:28 Lot 11-B-3, subject to the Hawaii Well Construction & Pump Installation Standards (1/22/97) which include but are not limited to the following conditions:

1. The Chairperson of 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 authorized by this permit commences.

2. The well construction permit shall be for construction and testing of the well only. A minimum one-inch diameter monitor tube shall be permanently installed, in a manner acceptable to the Chairperson, to accurately record water levels. The permittee shall coordinate with the Chairperson and conduct a pump test in accordance with the Standards (pump testing worksheet is attached). The permittee shall submit to the Chairperson the test results as a basis for supporting an application to install a permanent pump and withdraw water for use. No permanent pump may be installed until a pump installation permit is approved and issued by the Chairperson.

3. In basal ground water, the depth of the well may not exceed one-fourth (1/4) of the theoretical thickness (41 times initial head) of the basal ground water unless otherwise authorized by the Chairperson.

4. The permittee shall incorporate mitigation measures to prevent construction debris from entering the aquatic environment, to schedule work to avoid periods of high rainfall, and to revegetate any cleared areas as soon as possible.

5. In the event that subsurface cultural remains such as artifacts, burials or concentrations of shells or charcoal are encountered during construction, the permittee shall stop work and contact the Department's Historic Preservation Division (587-0043) immediately.

6. 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.

7. The following shall be submitted to the Chairperson within sixty (60) days after completion of work:
   b. Elevation (referenced to mean sea level, msl) survey by a Hawaii-licensed surveyor.
   c. As-built sectional drawing of the well.
   d. Plot plan and map showing the exact location of the well.
   e. Complete pumping test records, including time, pumping rate, drawdown, chloride content, and other data.

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

9. The well construction permit application is incorporated into this permit by reference and is subject to the Hawaii Well Construction & Pump Installation Standards (January 23, 1997; HWCPIS). If the HWCPIS are not followed and as a consequence water is wasted or contaminated, a lien on the property may result.

10. The permit may be revoked by the Commission 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 well construction 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.

11. 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.

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

Date of Approval: October 6, 1998
Expiration Date: October 6, 2000

[Signature]
MICHAEL D. WILSON, 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 do not hold a valid permit until I and the driller 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.

Permittee’s Signature: ___________________________ Date: ____________
Printed Name: ___________________________ Firm or Title: ____________

Driller’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.

Attachment

C: USGS
Department of Health/ Safe Drinking Water, Wastewater, and Clean Water Branches
Kauai Department of Water Supply
Sharman Noguchi, Hawaiian Trust Co., Ltd.
**SECTION 1: WELL LOCATION INFORMATION**

<table>
<thead>
<tr>
<th>Island</th>
<th>KAUAI</th>
<th>Proposed Use</th>
<th>Domestic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aquifer System</td>
<td>HANALEI</td>
<td>Proposed Withdrawal</td>
<td>70000</td>
</tr>
<tr>
<td>Aquifer Sector</td>
<td>KALHIIWAI</td>
<td>System Sustainable Yield</td>
<td>16</td>
</tr>
</tbody>
</table>

**SECTION 2: WELL SECTION DATA** *(enter data in grey cells only)*

<table>
<thead>
<tr>
<th>Elevation at top of casing</th>
<th>Solid Casing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ground Elevation</td>
<td>Material</td>
</tr>
<tr>
<td>Cement Grout</td>
<td>Designation</td>
</tr>
<tr>
<td>Rock Packing</td>
<td>Length</td>
</tr>
<tr>
<td>Hole Diameter</td>
<td>Diameter</td>
</tr>
<tr>
<td>Total Depth</td>
<td>Wall Thickness</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Estimated Head</th>
<th>Casing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calculated Aquifer Thickness</td>
<td>Material</td>
</tr>
<tr>
<td>County Water Supply (Y/N ?)</td>
<td>Designation</td>
</tr>
</tbody>
</table>

| County Water Supply (Y/N ?) | YES |

**SECTION 3: CHECKLIST** *(values to check are shaded)*

<table>
<thead>
<tr>
<th>Well Depth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theoretical Thickness of Aquifer</td>
</tr>
<tr>
<td>1/4 Aquifer Thickness</td>
</tr>
<tr>
<td>Depth of Well below Sea Level</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Well Casing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum Wall Thickness</td>
</tr>
<tr>
<td>Material</td>
</tr>
<tr>
<td>County or Non-County</td>
</tr>
<tr>
<td>Minimum Thickness per standards</td>
</tr>
<tr>
<td>Wall Thickness Provided</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Minimum Length of Solid Casing</th>
</tr>
</thead>
<tbody>
<tr>
<td>90% of ground to top of aquifer</td>
</tr>
<tr>
<td>Length of solid casing Provided</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Casing Material</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Steel</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Annular Space</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depth of Grouting</td>
</tr>
<tr>
<td>Calculated Depth of Grouting</td>
</tr>
<tr>
<td>Depth of Grouting provided</td>
</tr>
<tr>
<td>Thickness of Annular Space</td>
</tr>
</tbody>
</table>

*If the cell above reads #N/A, reference HWCPIS)*
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  
         Kilauea-Earhart (Well No. 1325-03)

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 October 9, 1998.

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 Lenore Nakama of the Commission staff at 587-0218.

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 not located near the proposed well site (information attached).

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

No comments/objections however, be aware of possible contamination.

Contact Person: Lori N. Kajiwara              Phone: 586-4290

Signed: Lori N. Kajiwara                     Date: 9-24-98
September 24, 1998

To: Lenore Nakama, Commission on Water Resource Management

From: Lori Kajiwara, Planning & Design Section, Wastewater Branch

Subject: Well Construction Permit Application

Kilauea - Earhart (Well No. 1325-03)
TMK: (4) 5-2-10: 28

Regarding the above mentioned subject, the following is a source possible wastewater contamination located near the proposed well site.

DOH-Wastewater Branch Individual Wastewater System (IWS) File # 3109

for address: 2960 G Kalihiwai Road, Kilauea

Submit Date: November 21, 1995
Plan Approval Date: November 30, 1995
 Inspection Date: August 29, 1997
System Approved Date: December 9, 1997
DOH Engineer: Felix Udasco

For: Septic Tank with disposal system - Trench serving 5 bedroom dwelling

For more information - please contact Felix Udasco (the original reviewing engineer) of the Wastewater Branch on Oahu at telephone 586-4294 or Joe Tateyama of the Wastewater Branch at the Kauai District Health Office at telephone 241-3323.
TO:  
Honorable Lawrence Miike, Director
Department of Health
Attention:  Dennis Tuiang, Wastewater Branch
William Wong, Safe Drinking Water Branch

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

SUBJECT:  Well Construction Permit Application
Kilauea-Earhart (Well No. 1325-03)

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 October 9, 1998.

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 Lenore Nakama of the Commission staff at 587-0218.

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- .

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:  586-4223

Date:  09/22/98
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, Chapter 11-55, Appendix I, effective September 22, 1997. Treated process wastewater effluent covered by this general permit includes well drilling slurries, lubricating fluids wastewaters, and well purge wastewaters. 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 at (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 the 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 that 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.

JS/cr
TO:
Honorable Lawrence Miike, Director
Department of Health
Attention: Dennis Tuing, Wastewater Branch
William Wong, Safe Drinking Water Branch

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

SUBJECT: Well Construction Permit Application
Kilauea-Pearhart (Well No. 1325-03)

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 October 9, 1998.

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 Lenore Nakama of the Commission staff at 587-0218.

LN: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, §11-30-29.

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
Date: 09/22/98
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, Chapter 11-55, Appendix I, effective September 22, 1997. Treated process wastewater effluent covered by this general permit includes well drilling slurries, lubricating fluids wastewaters, and well purge wastewaters. 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 at (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 the 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 that 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.

JS/cr
Mr. Tracy Runnels  
Roscoe Moss Hawaii, Inc.  
91-259A Olai Street  
Kapolei, HI 96707

Dear Mr. Runnels:

Well Construction / Pump Installation Permit Application for Well No. 1325-03

We acknowledge receipt, on September 11, 1998, of your completed well construction/pump installation permit application for the Kilauea-Earhart Well (Well No. 1325-03). 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 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 Lenore Nakama of the Commission staff at 587-0218.

Sincerely,

TIMOTHY E. JOHNS  
Deputy Director

LN:ss
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
Kilauea-Earhart (Well No. 1325-03)

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 October 9, 1998.

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 Lenore Nakama of the Commission staff at 587-0218.

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-.

[ ] 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 [ ] 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: __________________________
August 12, 1998

DLNR/COMMISSION ON WATER RESOURCE MGMNT
P O BOX 621
HONOLULU, HI 96809
ATTN: LENORE NAKAMA

RE: STATE WELL #1325-02
KILAUEA E ArHART WELl & SUBSEQUENT "TEST BORE"

Dear Lenore:

Since our correspondence on March 31, 1998, we have moved our rig upgradient of the above referenced well and drilled a 295' deep 14" open bore hole. This "test bore" being at 132 elevation msl and approximately 100 yards from the currently permitted well + 97.1' elevation well. By moving away from the stream and out of the valley floor for the second bore, we have obtained a good well with basal lens characteristics. Therefore, our intentions are to remove the casing from our first well and install it in the test bore along with additional new pipe for completion, testing and permanent pump installation. This well easily yields the 80 gpm requirements.

The partial well construction report dated 3/9/98, for our first bore showed a maximum yield of 24 gpm, 140 ppm chloride water. The "test bore" was tested informally twice at 75 gpm, and 110 gpm. Drawdown stabilized at 25' and 40' respectively with 90 ppm chlorides. We agree that long term test pumping should include simultaneous water level recordings of the idle first well, after which the abandonment, or completion of the first well will be determined. Please accept our application for permit with regards to the "test bore" for Commission approval.

Please advise us of our options aside from the costly abandonment of the first well. Can a surface casing with a grouted annulus and concrete base be installed for monitoring purposes, future development or backup needs? The existing 16" conductor casing in well could be pulled and a 12" steel casing 20' long cemented in place by the use of a cement basket would leave the door open for future completion as a 6" cased well. Your consideration and advise on these matters is greatly appreciated.

Sincerely,

Tracy Runnells, Drilling Operations

cc: Anne Earhart
Sharman Noguchi (Hawaiian Trust)
APPLICATION FOR PERMIT

X ☐ Well Construction or ☐ Pump Installation

1. APPLICANT: (circle primary contact) X ☐ Primary Fax: (808) 682-5866
   (a) WELL OWNER
   Firm Name: Anne Earhart
   Address: 2970 Kaliihiwai Rd, Kilauea, HI 96754

   (b) LANDOWNER
   Firm Name: Hawaiian Trust Co., Ltd.
   Address: 111 S. King St, Honolulu, HI 96813

   (c) CONTRACTOR
   Firm Name: Roscoe Moss Hawaii, Inc.
   Address: 91-259A Olai St, Kapolei, HI 96707

2. WELL LOCATION/NAME: Kilauea - Earhart Well
   Island: Kauai
   Address: 2970 Kaliihiwai Rd
   Tax Map Key: 6-2-10:28 Lot 11-B-3

   (Attach a USGS map, scale 1"=2000", and a property tax map showing well location referenced to established property boundaries.)

3. (a) PROPOSED WORK:
   ☐ Drill New Well ☐ Deepen ☐ Install New Pump
   ☐ Modify Existing Well ☐ Radial ☐ Modify Pump
   ☐ Abandon/Seal (*) ☐ Replace Pump
   * Be sure to complete and submit well abandonment report upon completion of work.

   (b) WELL TYPE:
   ☐ Dug ☐ Bored ☐ Driven X☐ Drilled ☐ Radial
   Is this well a part of a battery of wells? ☐ Yes ☐ No
   (Briefly describe & fill in the diagram on the back of this form.)

4. PROPOSED PUMP INFORMATION: Rated Pump Capacity: 80 gallons per minute
   Pump Type:
   ☐ Deep Well Turbine ☐ Rotary ☐ Propeller ☐ Motor:
   ☐ Submersible ☐ Rotary-Displacement ☐ Reciprocating ☐ Diesel:
   ☐ Centrifugal ☐ Rotary-Gear ☐ Impulse ☐ Gas:
   ☐ Electric, rated horsepower: 5 HP
   If Pump Replacement, Existing Pump Capacity: ________________ gallons per minute

5. PROPOSED USE:
   ☐ Municipal (including hotels, stores, etc.) ☐ Military
   ☐ Domestic (individual, noncommercial water use) ☐ Industrial:
   ☐ Irrigation (crop) ☐ Other (explain)

6. (a) PROPOSED AMOUNT OF WITHDRAWAL: 70,000 gallons per day
   (b) METHOD OF FLOW MEASUREMENT: ☐ Flow-meter
   ☐ Open-pipe ☐ Orifice Plate ☐ Well

7. PENDING ACTIONS:
   ☐ COUA ☐ SMA ☐ EIS ☐ EA ☐ NONE
   ☐ Other (explain)
   Completion Date: ____________________

8. REMARKS, EXPLANATIONS:
   Second 14" diameter, 295' "test bore" has proven favorable to incomplete well #1325-02. Survey, pump testing and titration of well water has been done to insure design & yield. Cover letter with this application outlines (if more space is needed, continue on back)

   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.

   Pacific Century Trust, successor Trustee to C:
   Well Owner: Anne Earhart
   Landowner: Hawaiian Trust Co., Ltd.
   Contractor: Roscoe Moss Hawaii, Inc.

   Signature: ________________________________
   Date: ________________________________

   For Official Use Only:
   Data Received: ____________________
   Data Accepted: ____________________
   Field Checked: ____________________
   Date: ____________________

   By: ________________________________
   Date: ____________________

   By: ________________________________
   Date: ____________________

   By: ________________________________
   Date: ____________________
# APPLICATION FOR PERMIT

## Well Construction or Pump Installation

**Instructions:** Please print in ink or type and send completed application with attachments to the Commission on Water Resource Management, P.O. Box 521, 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. The Commission may not accept incomplete applications. For assistance, call the Regulation Branch at 808-587-0225.

### 1. APPLICANT: (circle primary contact)
- **Primary Fax:** (808) 682-5866

(a) **WELL OWNER**
- **Name:** Anne Earhart
- **Address:** 2970 Kalihui Rd.
- **City:** Aiea
- **State:** HI
- **Zip:** 96707

(b) **LANDOWNER**
- **Name:** Hawaiian Trust Co. Ltd
- **Address:** 111 S. King St
- **City:** Honolulu
- **State:** HI
- **Zip:** 96813

(c) **CONTRACTOR**
- **Name:** Roscoe Moss Hawaii, Inc.
- **Address:** 91-259A Olai St, Kapolei, HI 96707

### 2. WELL LOCATION/NAME: Kilauea - Earhart Well
- **Island:** Kauai
- **Location:** 2970 Kalihui Rd.
- **Tax Map Key:** 5-2-10:28 Lot 11-B

(Attach a USGS map, scale 1:"2000", and a property tax map showing well location referenced to established property boundaries.)

### 3. (a) PROPOSED WORK:
- **New Well**
- **Modify Existing Well**
- **Drill**
- **Abandon/Seal**

- **Proposed Work:**
  - **Modify Existing Well**
  - **Drill**
  - **Abandon/Seal**

  *Be sure to complete and submit well abandonment report upon completion of work.*

(b) **WELL TYPE:**
- **Dug**
- **Bored**
- **Drilled**
- **Radial**

- **Is this well a part of a battery of wells?**
  - **Yes**
  - **No**

- **Briefly describe and fill in the diagram on the back of this form.**

### 4. PROPOSED PUMP INFORMATION:
- **Rated Pump Capacity:** 80 gallons per minute

- **Pump Type:**
  - **Deep Well Turbine**
  - **Rotary**
  - **Reciprocating**
  - **Impulse**

- **Motor:**
  - **Gas**
  - **Electric**

- **Flow Meter:**
  - **Open Pipe**
  - **Orifice Plate**
  - **Weir**

**If Pump Replacement, Existing Pump Capacity:**

### 5. PROPOSED USE:
- **Municipal (including hotels, stores, etc.)**
- **Military**
- **Domestic (individual, noncommercial water system)**
- **Industrial**
- **Irrigation (crop)**
- **Other (explain)**

### 6. (a) PROPOSED AMOUNT OF WITHDRAWAL:
- **70,000 gallons per day**

(b) **METHOD OF FLOW MEASUREMENT:**
- **Flow-meter**

**Completion Date:**

### 7. PENDING ACTIONS:
- **COLA**
- **SMA**
- **EIS**
- **EA**

**EXPLANATION:**

### 8. REMARKS, EXPLANATIONS:
- **Second 14" diameter, 295’ "test bore" has proven favorable to incomplete well #1325-02. Survey, pump testing and titration of well water has been done to insure design & yield. Cover letter with this application outlines (if more space is needed, continue on back)**

---

**Signature:**

**Date:**

---

**Well Owner:** Anne Earhart

**Landowner:** Hawaiian Trust Co. Ltd

**Contractor:** Roscoe Moss Hawaii Inc.

---

For Official Use Only:

**Date Received:**

**Date Accepted:**

**Field Checked By:**

**Date:**

**Longitude:**

**Aquifer System Name:**

**State Well No.:** 1325-03

---

*Well location map submitted, Attached (Tracy came in & picked up.) 9/14/83*
8. Remarks, Explanations (cont'd): work to date. We request a permit to complete this authorized "test bore" designed per well section drawing below.

9. PROPOSED WELL SECTION

Elevation at top of casing
134 ft, msl

Cement Grout: 124 ft

Rock Packing 171 ft

Hole Diameter: 14 in.

Total Depth 295 ft

Ground Elevation: 132 ft, msl

Water level +5.6' elev msl

Sold Casing:
Material: Steel
Length: 145 ft
Diameter: 8 in.
Wall thickness: .250 in.

Casing: ☑ Perforated ☐ Screen
Material: Steel louver
Length: 150 ft
Diameter: 8 in.
Wall thickness: .250 in.
Openings: 14.6 sq.in./ft.

Open Hole:
Length: NA
Diameter:

*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.
APPLICATION FOR PERMIT

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

Well Construction or Pump Installation

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 96809. Application must be accompanied by a non-refundable filing fee of $25.00 payable to the Dept. of Land and Natural Resources. The Commission may not accept incomplete applications. For assistance, call the Regulation Branch at 587-0225.

1. APPLICANT: (circle primary contact) (X) (a) Well Owner (b) Landowner
(a) Firm/Name: Anne Earhart
(b) Firm/Name: Hawaiian Trust Co., Ltd.
Contact Person: Same
Address: 2970 Kaliihiwai Rd
Contact Person: Sharman Noguchi
Address: 111 S. King St
Kilauea, HI 96754
Honolulu, HI 96813

2. WELL LOCATION/NAME: Kilauea - Earhart Well
Island: Kauai
Address: 2970 Kaliihiwai Rd
Tax Map Key: 5-2-10:28 Lot 11-B

3. (a) PROPOSED WORK:
Drill New Well
Modify Existing Well
Abandon/Seal

(b) WELL TYPE:
Drilled
Radial

4. PROPOSED PUMP INFORMATION:
Rated Pump Capacity: 80

5. PROPOSED USE:
Municipal (including hotels, stores, etc.)
Domestic (individual, noncommercial water sys.)
Irrigation (irrig.)

6. (a) PROPOSED AMOUNT OF WITHDRAWAL:
70,000

(b) METHOD OF FLOW MEASUREMENT:
Flow-meter

7. PENDING ACTIONS:
CDUA
MA
EIS
EA

8. REMARKS, EXPLANATIONS:
Second 14" diameter, 295' "test bore" has proven favorable to incomplete well #1325-02. Survey, pump testing and titration of well water has been done to insure design & yield. Cover letter with this application outlines (if more space is needed, continue on back)

I understand that approval of this application attaches the following standard conditions: 1) the proposed work is to be completed within two 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: Anne Earhart
Landowner: Hawaiian Trust Co., Ltd
Contractor: Roscoe Moss Hawaii, Inc.

Signature:
Date:
Signature:
Date:
Signature:
Date:

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

11/06/95 WC/1 Form
8. Remarks, Explanations (cont'd): work to date. We request a permit to complete this authorized "test bore" designed per well section drawing below.

9. PROPOSED WELL SECTION

<table>
<thead>
<tr>
<th>Component</th>
<th>Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elevation at top of casing</td>
<td>134 ft, msl</td>
</tr>
<tr>
<td>Ground Elevation</td>
<td>132 ft, msl</td>
</tr>
<tr>
<td>Water level</td>
<td>+5.6 ft, elev msl</td>
</tr>
<tr>
<td>Cement Grout</td>
<td>124 ft</td>
</tr>
<tr>
<td>Rock Packing</td>
<td>171 ft</td>
</tr>
<tr>
<td>Hole Diameter</td>
<td>14 in.</td>
</tr>
<tr>
<td>Total Depth</td>
<td>295 ft</td>
</tr>
<tr>
<td>Solid Casing</td>
<td></td>
</tr>
<tr>
<td>Material</td>
<td>Steel</td>
</tr>
<tr>
<td>Length</td>
<td>145 ft</td>
</tr>
<tr>
<td>Diameter</td>
<td>8 in.</td>
</tr>
<tr>
<td>Wall thickness</td>
<td>250 in.</td>
</tr>
<tr>
<td>Perforated Screen</td>
<td></td>
</tr>
<tr>
<td>Material</td>
<td>Steel Towner</td>
</tr>
<tr>
<td>Length</td>
<td>150 ft</td>
</tr>
<tr>
<td>Diameter</td>
<td>8 in.</td>
</tr>
<tr>
<td>Wall thickness</td>
<td>250 in.</td>
</tr>
<tr>
<td>Openings</td>
<td>14.6 sq. in. A.F.</td>
</tr>
<tr>
<td>Open Hole</td>
<td></td>
</tr>
<tr>
<td>Length</td>
<td>NA</td>
</tr>
<tr>
<td>Diameter</td>
<td></td>
</tr>
</tbody>
</table>

*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.
TO

DATE _______ TIME _______

WHILE YOU WERE OUT

M _______

of _______

Phone _______

<table>
<thead>
<tr>
<th>TELEPHONED</th>
<th>PLEASE CALL</th>
</tr>
</thead>
<tbody>
<tr>
<td>CALLED TO SEE YOU</td>
<td>WILL CALL AGAIN</td>
</tr>
<tr>
<td>WANTS TO SEE YOU</td>
<td>URGENT</td>
</tr>
<tr>
<td>RETURNED YOUR CALL</td>
<td></td>
</tr>
</tbody>
</table>

Message

________________________
________________________
________________________
________________________
________________________
________________________
Dear Mr. Runnels:

Kilauea-Earhart Well No. 1325-02

Thank you for your March 8, 1998 letter, updating us on the status of the drilling and construction of the subject well and informing us of your plans to drill a second well.

As was discussed during a March 13, 1998 telephone conversation with Lenore Nakama, the drilling of a temporary "test bore" for the purposes of immediate determination of hydrologic conditions at the site may proceed without permit from the Commission on Water Resource Management, pursuant to Hawaii Well Construction and Pump Installation Standards (January, 1997; HWCPIS). We understand that an application for a well construction permit will be made if the test bore shows adequate yield. (You may consider conducting any pumping tests in accordance with HWCPIS, and using the Well No. 1325-02 as an observation well during the tests, as this will be required under a well construction permit to convert the test bore into a production well.)

For your information, we are planning to better define "test bore" in the next update of the HWCPIS to clarify the specific circumstance(s) under which drilling may proceed without a well construction permit.

Thank you also for providing the well completion report for the work completed to date for Well No. 1325-02. As you have indicated the well is not yet complete, we will look forward to receiving a final well completion report in the future. Please do not forget to show the concrete base and elevation benchmark on your as-built section. However, should you decide to abandon Well No. 1325-02, please complete and return the attached application to abandon/seal a well.

If you have any questions, please contact Lenore Nakama at 587-0218.

Sincerely,

EDWIN T. SAKODA
Acting Deputy Director

LN:ss
Attachment
WELL COMPLETION REPORT

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

WELL COMPLETION REPORT

(Check Appropriate Box) XX) Well Construction (Permanent) Pump Installation

Instructions: Please print or type and submit completed report within 30 days after well completion to the Commission on Water Resource Management, P.O. Box 621, Honolulu, Hawaii 96809. An as-built drawing of the well and chemical analysis should also be submitted. For assistance call the Commission Regulation Branch at 587-0225, or 1-800-468-4644 Extension 70225.

1. State Well No.: 1325-02 Well Name: KILAUEA-EARHART Island: KAUAI
2. Location/Address: 2970 KALIHIWAI ROAD Tax Map Key: 5-2-10:28 lot 11-B-3

PART I. WELL CONSTRUCTION REPORT

3. Drilling Company: ROSCOE MOSS HAWAII, INC.
4. Name of driller who performed work: RODNEY COUCH, T.J. SMITH
5. Type of rig/construction: CABLE TOOL
6. Date(s) Well Construction and pump tests (if any) completed: NOT COMPLETE AS OF 3/9/98
8. DRILLER'S LOG: Please attach geologic log (if available or if required by permit)

<table>
<thead>
<tr>
<th>Depths (ft.)</th>
<th>Rock Description, Water Level, Dates, etc.</th>
<th>Depths (ft.)</th>
<th>Rock Description, Water Level, Dates, etc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 3</td>
<td>red, brn, silt, clay</td>
<td>10 to 22</td>
<td>basalt boulders</td>
</tr>
<tr>
<td>3 to 10</td>
<td>red molten yellow clay</td>
<td>22 to 32</td>
<td>dense basalt</td>
</tr>
</tbody>
</table>

9. Total depth of well below ground: 189 ft.
10. Hole size: 14 inch dia. from 0 ft. to 170 ft. below ground
    8 inch dia. from 170 ft. to 189 ft. below ground
    8 inch dia. from 189 ft. to 32 ft. below ground

11. Casing installed: 8 in. I.D. x .250 in. wall solid section to 110 ft. below ground
    8 in. I.D. x .250 in. wall perforated section to 170 ft. below ground

Casing Material/Slot Size: steel .187" louver

12. Annulus: Grouted from incomplete ft. below ground to incomplete ft. below ground
    Gravel packed from incomplete ft. below ground to ft. below ground

13. Initial water level: 68.5 ft. below ground. Date and time of measurement:
14. Initial chloride: 140 ppm Date and time of sampling:
15. Initial temperature: 71° F Date and time of measurement:

16. PUMPING TESTS: Reference Point (R.P.) used: , which elevation is ft.
    (1) Step-Drawdown Test Date ________ (2) Long-term Aquifer Test Date ________
    Start water level DATA ft. below R.P. Start water level DATA ft. below R.P.
    End water level ATTACHED ft. below R.P. End water level ATTACHED ft. below R.P.

17. Aquifer Pump Test Procedures data & graphs (1/3/96 LTAT Form) attached? Yes X No
18. As-built drawings attached attached? Yes X No
19. Other remarks/comments: (On back of this form)

Well Drilling Contractor (print) ROSCOE MOSS HAWAII, INC. C-57 Lic. No. AC-16437
Signature
Date 3/9/98

Surveyor (print) Lic. No.
Signature Date

Applicant (print) Date
Signature

3/20/96 WCR Form
PART II. (PERMANENT) PUMP INSTALLATION REPORT

20. Pump Installation Company: ________________________________

21. Name of person performing work: ________________________________

22. Date Pump Installation Completed: ________________________________

23. PUMP INSTALLATION:
   Pump Type, Make, Serial No.: ________________________________  Capacity: ________ gpm
   Motor type, H.P., Voltage, rpm: ________________________________
   Depth of Pump Intake Setting ____________ ft. below ____________, which elevation is ____________ ft.
   Depth to bottom of airline ____________ ft. below ____________, which elevation is ____________ ft.
   Pumping Head is ____________ ft. Type of flow meter: ________________________________ which measures in ________

24. As-built drawings attached?  Yes  No

25. Other remarks/comments: (See below)

<table>
<thead>
<tr>
<th>Pump Installation Contractor (print)</th>
<th>C-57 Lic. No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signature __________________________</td>
<td>Date __________</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Applicant (print)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Signature __________________________</td>
<td>Date __________</td>
</tr>
</tbody>
</table>

8.(cont’d) DRILLER’S LOG (cont’d):

<table>
<thead>
<tr>
<th>Water Level Dates (ft.)</th>
<th>Depth (ft.)</th>
<th>Rock Description, Remarks,</th>
<th>Water Level Dates (ft.)</th>
<th>Depth (ft.)</th>
<th>Rock Description, Remarks,</th>
</tr>
</thead>
<tbody>
<tr>
<td>32 to 37</td>
<td>red brn clay</td>
<td></td>
<td>95 to 102</td>
<td>dense basalt</td>
<td></td>
</tr>
<tr>
<td>37 to 39</td>
<td>weathered basalt</td>
<td></td>
<td>102 to 104</td>
<td>weathered basalt</td>
<td></td>
</tr>
<tr>
<td>39 to 50</td>
<td>gray basalt</td>
<td></td>
<td>104 to 125</td>
<td>solid basalt w.l. 87.5</td>
<td></td>
</tr>
<tr>
<td>50 to 61</td>
<td>gray black basalt</td>
<td></td>
<td>125 to 161</td>
<td>weathered basalt layered</td>
<td></td>
</tr>
<tr>
<td>61 to 66</td>
<td>pack alluvium</td>
<td></td>
<td>161 to 165</td>
<td>vesicular basalt</td>
<td></td>
</tr>
<tr>
<td>66 to 70</td>
<td>weather basalt w/calcite</td>
<td></td>
<td>165 to 170</td>
<td>red &amp; blue loose rock</td>
<td></td>
</tr>
<tr>
<td>70 to 90</td>
<td>black basalt dense</td>
<td></td>
<td>170 to 172</td>
<td>solid basalt</td>
<td></td>
</tr>
<tr>
<td>90 to 95</td>
<td>weathered basalt</td>
<td></td>
<td>172 to 190</td>
<td>loose red sandy</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>190 193</td>
<td>med hard blue rock</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>193 200</td>
<td>loose red sandy</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>200 203</td>
<td>med hard blue rock</td>
<td></td>
</tr>
</tbody>
</table>


__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
March 9, 1998

KILAUEA EARHART WELL #1325-02

Informal Test Pumping Data

<table>
<thead>
<tr>
<th>Well Depth</th>
<th>W.L.</th>
<th>G.P.M.</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>167'</td>
<td>88.1 (+10')</td>
<td>80</td>
<td>Well breaks suction in 12 minutes at 145'. Chlorides 100 p.p.m.</td>
</tr>
<tr>
<td>180'</td>
<td>88.5 (+10.4')</td>
<td>30</td>
<td>Well pumps 30 g.p.m. short time. Starts breaking suction at 145'. Chlorides 140 p.p.m.</td>
</tr>
<tr>
<td>190'</td>
<td>88.1 (+10')</td>
<td>30</td>
<td>Well stabilizes at 140' for short term of test. (1 hour) Chlorides 320 p.p.m.</td>
</tr>
<tr>
<td>203'</td>
<td>94 (+4')</td>
<td>80</td>
<td>Water too salty for Hach titration. County lab also unable to titrate water sample. No drawdown recorded.</td>
</tr>
</tbody>
</table>

Well cemented back to 189'

| 189'       | 88.5 | 24     | Water level stabilizes at 131' or 42.5' drawdown 24 g.p.m. 140 p.p.m. chlorides |
March 8, 1998

State of Hawaii
DLNR
Commission on Water Resource Management
P.O. Box 621
Honolulu, HI 96809

ATTN: LENORE NAKAMA

RE: State well #1325-02
Kilauea Earhart Well

Dear Lenore,

Since my letter of February 27, 1998 (attached), we have neart cemented well back to 189 ft. from ground surface. Water level has returned to 88.5 ft. and well yield is 24 g.p.m. at 42.5 ft. drawdown stabilized. Water test with a field Hach kit is 140 p.p.m. chlorides.

The owner expressed a definite need for 80 g.p.m. and would like to drill another test well on the property. Should the second test well show 80 g.p.m. yield, our first well would most likely be sealed. However, poor results on the second well may require development of both.

Please advise me as to any submittals required by the Commission to drill this test well. We will be choosing a location on the property this week, and would like to get started with drilling while we have equipment available on site now. Well casing is installed in well #1, but not grouted or gravel packed. I have attached a Well Completion Report for your information, although the well is not complete. Should a second hole prove to be better, we can still pull the 8 in. casing from the first well for use on the second by leaving well at this status.

Always Appreciative,

Tracy Runnells

TR/sr
February 27, 1998

Ann G. Earhart
C/O Ann K. Wigley
105 Crescent Bay Drive, Suite M
Laguna Beach, CA 92651

RE: KILAUEA—EARHART WELL NO. 1325-02

Dear Ann:

We have deepened your well to 203'. The water level fell approximately 6' and subsequent pump testing shows 80 gpm capacity, but the water is salty.

During our 10' incremented deepening of the well we pumped the well when 190' was reached.

Pumping Data at 190':

<table>
<thead>
<tr>
<th>Total depth of well</th>
<th>190'</th>
</tr>
</thead>
<tbody>
<tr>
<td>Static water level (idle)</td>
<td>88'</td>
</tr>
<tr>
<td>Water level at 30 gpm</td>
<td>140'</td>
</tr>
<tr>
<td>Water quality</td>
<td>320 ppm chlorides</td>
</tr>
</tbody>
</table>

We recommend neat cementing well back to 190'. Installing test pump at 180' and retesting yield and chlorides. Pump test at this depth previously was with the pump set at 145'. With luck the 320 ppm chlorides will return and additional drawdown capacity from a deeper pump setting will increase well capacity to 40 gpm or so.

Any consideration of drilling a second well after this final 190' depth pump test should be done with a geologists advice as to its location.

We can provide geologic consultation, as we have had a geologist on site during drilling operations. I will also prepare a proposal to drill a less expensive test well when the existing well is complete and its capacity is known. There is no guarantee that this well will have the same results after cementing it back to 190'.
I assure you we will give our best effort to maximize this well with State Approvals. Some casing design changes may also be needed. I will visit the job on 3/3/98 and give you another update.

Sincerely,

Tracy Rupells
Drilling Activities

cc: Lenore Nakama, State Water Commission
    Robert E. Truskowski, Landscape Architects

TR: sr
Roscoe Moss Hawaii, Inc.
91-259A Olai Street
Kapolei, HI. 96707

Attn: Tracy Runnells

Project: 1572

Subject: Well Head Elevation - Earhart Well Project # 1325-02,
Kalihiwai, Kauai, Hawaii    TMK: 5-2-10;27

Gentlemen;

On January 23, 1998, we performed a survey on the subject project and found the elevation of the well head (16" diameter pipe) to be 98.92 MSL. The ground elevation at the well head was 97.1 MSL.

WAGNER ENGINEERING SERVICES, INC.

February 3, 1998
P.O. Box 851
Hanalei, Hawaii 96714

Ronald J. Wagner
Licensed Professional Land Surveyor Certificate No. 5074
Kilauea East Rift Well # 1305-02 3/9/98

Top 16" conductor 98.92 m.

Current Depth 189' after cement back

Total Depth Drilled 203'
February 27, 1998

Ann G. Earhart
C/O Ann K. Wigley
105 Crescent Bay Drive, Suite M
Laguna Beach, CA 92651

RE: KILAUEA--EARHART WELL NO. 1325-02

Dear Ann:

We have deepened your well to 203'. The water level fell approximately 6' and subsequent pump testing shows 80 gpm capacity, but the water is salty.

During our 10' incremented deepening of the well we pumped the well when 190' was reached.

Pumping Data at 190':

<table>
<thead>
<tr>
<th>Total depth of well</th>
<th>190'</th>
</tr>
</thead>
<tbody>
<tr>
<td>Static water level (idle)</td>
<td>88'</td>
</tr>
<tr>
<td>Water level at 30 gpm</td>
<td>140'</td>
</tr>
<tr>
<td>Water quality</td>
<td>320 ppm chlorides</td>
</tr>
</tbody>
</table>

We recommend neat cementing well back to 190'. Installing test pump at 180' and retesting yield and chlorides. Pump test at this depth previously was with the pump set at 145'. With luck the 320 ppm chlorides will return and additional drawdown capacity from a deeper pump setting will increase well capacity to 40 gpm or so.

Any consideration of drilling a second well after this final 190' depth pump test should be done with a geologists advice as to its location.

We can provide geologic consultation, as we have had a geologist on site during drilling operations. I will also prepare a proposal to drill a less expensive test well when the existing well is complete and its capacity is known. There is no guarantee that this well will have the same results after cementing it back to 190'.
I assure you we will give our best effort to maximize this well with State Approvals. Some casing design changes may also be needed. I will visit the job on 3/3/98 and give you another update.

Sincerely,

Tracy Runnels
Drilling Activities

cc: Lenore Nakama, State Water Commission
    Robert E. Truskowski, Landscape Architects

TR: sr
TO

COMMISSION ON WATER RESOURCE MGMT

P.O. BOX 621

HONOLULU, HI  96817

WE ARE SENDING YOU  XX Attached  □ Under separate cover via ____________the following items:

□ Shop drawings  □ Prints  □ Plans  □ Samples  □ Specifications
□ Copy of letter  □ Change order  □

<table>
<thead>
<tr>
<th>COPIES</th>
<th>DATE</th>
<th>NO.</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>DRILL LOGS ON EARHART WELL (1725-02)</td>
</tr>
</tbody>
</table>

THESE ARE TRANSMITTED as checked below:

□ For approval  □ Approved as submitted  □ Resubmit _______ copies for approval
□ For your use  □ Approved as noted  □ Submit _______ copies for distribution
□ As requested  □ Returned for corrections  □ Return _______ correctedprints
□ For review and comment  □  19  □ PRINTS RETURNED AFTER LOAN TO US

REMARKS  AS YOU REQUESTED

VEW No. 1725-02, Kaua'i

COPY TO ___________________________

SIGNED: ________________________

If enclosures are not as noted, kindly notify us at once.
**DRILLING LOG**

**Roscoe Moss Hawaii, Inc.**

91-259A OLAI STREET • KAPOLEI, HAWAII 96707
TELEPHONE (808) 682-5856 • 682-5554 • FAX (808) 682-5866

---

**Date:** 12-11-1997  
**Job No.:** 1597R  
**Hole No.:**  
**Elevation:**  

**Customer:**  
**Location:**  

**Driller:** Rodney Couch  
**Helper:** John Romano  

**Rig:** Betsy  
**Gas:**  
**Oil:**  
**Reps:**  

**Arv. Job:**  
**Lv. Job:**  
**Or. No.:**  

**Hrs. Rig:** 10  
**Hrs. Gas:**  
**Hrs. Oil:**  

**Hrs. Repairs:**  

**Bit-Size:** 14"  
**Type:** STAR  

**Casing-Size:** 16"  
**Length in hole:** 11 ft.  
**Amt. Perforated:**  

**Depth Start:**  
**Depth Stop:**  
**Feet Drilled:** 12  

**Water Levels, Time:** M ft., M ft., M ft.  

---

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Clayey Silt</td>
<td>dry, stiff</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Reddish brown</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Red, Mottled yellow</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Basalt boulders</td>
<td>Slightly weathered exterior, dense centers - hard drilling</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Install 11&quot; of conductor casing (16&quot;)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Measurements**

---

**Remarks:**

---

**Signed:** Rodney Couch  
**Date:** 12-11-1997
## DRILLING LOG

### Customer Information
- Roscoe Moss Hawaii, Inc.
- 91-259A Olai Street, Kapolei, Hawaii 96707
- Telephone (808) 682-5856, 682-5554
- Fax (808) 682-5866

### DRILLING LOG Details
- **Date:** 12-12 1997
- **Job No.:** 1591 R
- **Hole No.:** 1
- **Elevation:** ______ ft.
- **Driller:** Rodney Coach
- **Helper:** J. Romano
- **Bit-Size:** 14"
- **Casing-Size:** 16"
- **Depth Start:** ______ ft.
- **Depth Stop:** ______ ft.
- **Feet Drilled:** ______ ft.

### Measurements

<table>
<thead>
<tr>
<th>Depth</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
</tr>
<tr>
<td>17</td>
</tr>
</tbody>
</table>

### Remarks
- Drive to Kekaha to get more casing
- Cut + load 4' of 16" pipe
- Drive to site in Kilauea
- Welded on 4" casing - taped pushing in casing - resume drilling
- Basalt boulders
- Saprolite matrix

### Remarks (Continued)
- Hard drilling
- Some difficulty keeping hole straight without stem guide

### Signed
- **Signed:** Rodney Coach
- **Date:** 12-12 1997
**DRILLING LOG**

**Roscoe Moss Hawaii, Inc.**

91-259A Olai Street, Kapolei, Hawaii 96707
Telephone: (808) 692-5856, FAX: (808) 692-5966

---

**Date:** 1/13/98  
**Job No.:** 15-97R  
**Hole No.:** 1  
**Elevation:** ft.  
**Location:** Kalihi Wai

---

**Driller:** T.J. Smith  
**Hrs.:** 10  
**Rig:**

**Helper:** Earl Ching  
**Hrs.:** 10  
**Gas:**

**Helper:**

**Arv. Job:**

**Lv. Job:**

---

**Bit-Size:** 14"  
**Type:** Star

---

**Casing-Size:** in., Length in hole ft.  
**In., Amt. Perforated:** ft. in.

**Depth Start:** ft., Depth Stop ft., Feet Drilled

---

**Water Levels, Time:** M ft., Time M ft.

---

### Measurements

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/13</td>
<td></td>
<td>Board of Water Supply (Bill Eady)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Postponed well test until Thursday</td>
</tr>
<tr>
<td></td>
<td></td>
<td>at 8:00 AM. Due to conflicting</td>
</tr>
<tr>
<td></td>
<td></td>
<td>schedules.</td>
</tr>
<tr>
<td>27' 30&quot;</td>
<td>Hard Blue Rock</td>
<td>Well to Kalihwai well started</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Drilling built up bit &amp; drilled</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3' of Hard Blue Rock</td>
</tr>
</tbody>
</table>

---

**Remarks:**

---

**Signed:** J.A. Smith  
**Date:** 1/13/98
### DRILLING LOG

**Date:** 1/14/1997  
**Job No.:** 15-97  
**Hole No.:**  

**Customer:**  
**Location:** Kaliiwai, Kauai  

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>T. J. Smith</td>
<td></td>
<td></td>
<td>Earl Ching</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Bit-Size:** 14"  
**Type:** Star  
**Casing-Size:**  
**In., Length in hole:**  
**ft., In., Amt. Perforated:**  
**ft., In.**  

**Depth Start:**  
**ft., Depth Stop:**  
**ft., Feet Drilled:**  

**Water Levels, Time:**  
**M ft., Time:**  
**M ft.,**  

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Tap</th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
<td>Hard-Blue Rock</td>
<td>Drilling VERY hard in Blue Rock - Wield up bit 9 Times in 2'</td>
<td></td>
</tr>
<tr>
<td>33</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Remarks:**  

**Signed:** J. J. Smith  
**Date:** 1/14/1997
## DRILLING LOG

**Roscoe Moss Hawaii, Inc.**

**91-258A Olai Street • Kapolei, Hawaii 96707**

**Telephone (808) 692-5866 • Fax (808) 692-5866**

**Date:** 1/15/98  
**Job No.:** 15-271C  
**Hole No.:**  
**Location:**  
**Elevation:** __ ft.  

**Driller:** T.J. Smith  
**Helper:** Earl Ching  
**Rig:**  
**Gas:**  
**Oil:**  
**Hrs.:** 10  
**Hrs.:** 10  
**Reps.:**  
**Or. No.:**  
**Bit-Size:** 14"  
**Type:** Star  
**Casing-Size:** in., Length in hole ft., Amt. Perforated ft., In.  
**Depth Start:** ft., Depth Stop ft., Feet Drilled  
**Water Levels, Time:** M ft., Time M ft.,  

### Measurements

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>32/34</td>
<td>Hard - Blue Rock</td>
<td>Drilling in Hard Blue Rock weld on Bit every 30.45 min. lost step back of 2 corners &amp; flattened axe will pull bit off tomorrow &amp; turn upside down it weld on another axe rigging.</td>
<td>A</td>
</tr>
</tbody>
</table>

### Remarks:

-  

**Signed:**  
**Date:** 1/15/98
**DRILLING LOG**

**Roscoe Moss Hawaii, Inc.**

**91-259A OLAI STREET • KAPOLEI, HAWAII 96707**
**TELEPHONE (808) 682-5856 • 682-5854 • FAX (808) 682-5866**

**Date:** 1/16/97  
**Job No.:** 15-97  
**Hole No.:**  
**Elevation:** ft.  
**Location:**

---

**Driller:** T.J. Smith  
**8 Hrs.**

**Helper:** Earl Ching  
**8 Hrs.**

---

**Arv. Job**  
**Lv. Job**  
**Hrs.**  
**Or. No.**

---

**Bit-Size:** 14"  
**Type:** Star

**Casing-Size:** in., **Length in hole:** ft., **In., Amt. Perforated:** ft., **In.**

**Depth Start:** ft., **Depth Stop:** ft., **Feet Drilled**

**Water Levels, Time:** M ft., **Time:** M ft.

---

**Depth**  
**Formation**  
**Remarks**  
**Top**  
**A**  
**B**

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Broke of Bit Turned upside down &amp; welded BIT 6% lbs.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>30 lbs. of 1105 Rod.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Grease &amp; Service Rig. Changed</td>
<td></td>
</tr>
</tbody>
</table>

---

**Remarks:**

---

**Signed:**  
**Date:** 1/16/97
**DRILLING LOG**

**Roscoe Moss Hawaii, Inc.**

81-259A Olai Street, Kapolei, Hawaii 96707
Telephone (808) 682-5856 • 682-8554 • Fax (808) 682-5866

---

**Date:** 1/17/98  
**Job No.:** 15-97  
**Hole No.:** 14-97  
**Elevation:** ft.

**Customer:** Kaetner  
**Location:** Kalawao, Kauai

---

**Driller:** TJ Smith  
**Hrs.:** 10  
**Rig:**

**Helper:** Earl Ching  
**Hrs.:** 10  
**Gas:**

**Helper:**  
**Hrs.:**  
**Repairs:**

**Arv. Job:**  
**Lv. Job:**  
**Hrs.:**  
**Or. No.:**

---

**Bit Size:** 14"  
**Type:** 5 star

**Casing Size:**  
**In., Length in hole:** ft.  
**In., Amt. Perforated:** ft.  
**In., Amt. Drilled:**

**Depth Start:** ft.  
**Depth Stop:** ft.  
**Feet Drilled:**

**Water Levels, Time:** M ft.  
**Time:** M ft.

---

**Depth**  
**Formation**  
**Remarks**

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>34'</td>
<td>Hard Blue Rock</td>
<td>Make up Bit, Serv. Rig</td>
</tr>
<tr>
<td>37'</td>
<td></td>
<td>Drilled 3'</td>
</tr>
</tbody>
</table>

---

**Remarks:**

---

**Signed:** J.D.  
**Date:** 1/17/98
## DRILLING LOG

### 1-29-98

**Date:** 1-29-1998  
**Job No.:** 1597-R  
**Hole No.:**  
**Elevation:** 97.5 ft.

**Customer:** Ann Earhart  
**Location:** Kilauea, Kauai

**Driller:** Rodney Couch  
**Rig:** Betsy

**Helper:** Jack Ramone  
**Gas:**  
**Oil:**

**Arv. Job:**  
**Lv. Job:**  
**Hrs. Repairs:**

**Bit-Size:** 14"  
**Type:** Star

**Casing-Size:** 16" in., Length in hole 17 ft.  
**Amt. Perforated:**

**Depth Start:**  
**Depth Stop:**  
**Feet Drilled:**

**Water Levels:**  
**Time M ft.**

### Measurements

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
<td>hard basalt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>32</td>
<td>dense</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37</td>
<td>redish brown</td>
<td></td>
<td></td>
</tr>
<tr>
<td>39</td>
<td>clay</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37</td>
<td>slightly weathered</td>
<td></td>
<td></td>
</tr>
<tr>
<td>39</td>
<td>basalt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>39</td>
<td>gray basalt</td>
<td>occasional interstitial clay</td>
<td></td>
</tr>
</tbody>
</table>

**Remarks:**

---

**Signed:**  
**Date:** 1-31-1998
Date: 1-20-1978  
Job No.: 1597-K  
Hole No.: 1  
Elevation: 97.5 ft.

Customer: Ann Erhart  
Location: Klauea, Kauai

Driller: Rodney Couch  
Helper: John Yamano  
Arv. Job: Hrs.  
Lv. Job: Hrs.  
Rig: Hrs.  
Gas: Hrs.  
Oil: Hrs.  
Repairs: 

Bit-Size: 4  
Type:  
Casing-Size: 16 in.  
Length in hole: 17 ft.  
Amt. Perforated: 20 ft.  

Depth Start: 50 ft.  
Depth Stop: 80 ft.  
Feet Drilled: 

Water Levels, Time: M ft.  
Time: M ft.  

Measurements

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
<td>grayish black</td>
<td>Change from star bit to hubbard</td>
<td></td>
</tr>
<tr>
<td>60</td>
<td>basalt - dense</td>
<td></td>
<td></td>
</tr>
<tr>
<td>60</td>
<td>sand well-compacted.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>60</td>
<td>Alluvium w/ rock fragments</td>
<td></td>
<td></td>
</tr>
<tr>
<td>70</td>
<td>slightly weathered basalt w/ secondary calcite</td>
<td></td>
<td></td>
</tr>
<tr>
<td>70</td>
<td>black dense basalt</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Remarks:

Signed: Rodney Couch  
Date: 1-20-1978
Date: 1-23-1994

Job No.: 1597-R

Hole No.: 

Elevation: 97.5 ft.

Driller: Rodney Church 10 Hrs.

Helper: John Kanaka 10 Hrs.

Arv. Job 

Lv. Job 

Hrs. Repairs 

Or. No. 

Bit-Size: 14

Type: Hubbard

Casing-Size: 16 in., Length in hole: 17 ft. 

in., Amt. Perforated: ft. in.

Depth Start: 

Depth Stop: 

Feet Drilled: 

Water Levels, Time: M ft., Time: M ft.

Measurements

Depth | Formation | Remarks | Top

| 80 | black - dense |  |
| 90 | basalt |  |
| 95 | weathered basalt | surveys arrive |
| 102 | dense basalt | survey toc + ground elevation |
| 104 | weathered basalt |  |
| 116 | solid basalt | drop in water level to 75'5 |

Remarks:

Signed: Rodney Church

Date: 1-23 94
### Drilling Log

**Roscoe Moss Hawaii, Inc.**

91-259A OLAI STREET • KAPOLEI, HAWAII 96707

**TELEPHONE** (808) 682-5856 • 682-5554 • **FAX** (808) 682-5866

---

**Date:** 1-22-1978  
**Job No:** 1597-R  
**Hole No:** 1  
**Elevation:** 97.5 ft.

**Customer:**  
**Location:** Kauai

**Driller:** Rodney Couch  
**Hrs:** 10  
**Rig:**  

**Helper:** John Romano  
**Hrs:** 10  
**Gas:**  

**Arv. Job:**  
**Lv. Job:**  
**Hrs:**  
**Repairs:**  
**Or. No.:**

**Bit-Size:** 14  
**Type:** Hubbard

**Casing-Size:** 16 in., 
**Length in hole:** 12 ft.  
**Amt. Perforated:** ft. in.

**Depth Start:** ft., 
**Depth Stop:** ft., 
**Feet Drilled:**

**Water Levels, Time** M ft., 
**Time** M ft.

---

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>116</td>
<td>basalt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>125</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>125</td>
<td>slightly weathered basalt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>132</td>
<td>solid basalt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>140</td>
<td>some vesicles</td>
<td></td>
<td></td>
</tr>
<tr>
<td>140</td>
<td>broken slightly</td>
<td></td>
<td></td>
</tr>
<tr>
<td>143</td>
<td>weathered basalt</td>
<td>drop in water level</td>
<td></td>
</tr>
<tr>
<td>149</td>
<td></td>
<td>87.7' below grade</td>
<td></td>
</tr>
</tbody>
</table>

**Remarks:**

---

**Signed:** Rodney Couch  
**Date:** 1-22-1978
Date 1-26 98  Job No. 1597-R  Hole No.  __  Elevation 97.5 ft.

Customer  Location  

Driller  Rodney Couch  10 Hrs.  Rig  Betsy
Helper  Justin Lawano  10 Hrs.  Gas, Oil
Helper  Hrs.  Repairs

Bit-Size  14  Type  hubbard
Depth Start  ft., Depth Stop  ft., Feet Drilled 
Water Levels, Time  M  ft., Time  M  ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>143</td>
<td>Slightly weathered</td>
<td></td>
<td></td>
</tr>
<tr>
<td>161</td>
<td>Basalt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>161</td>
<td>Vesicular basalt</td>
<td>water level drops to 92' 1&quot;</td>
<td></td>
</tr>
<tr>
<td>96</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Remarks: ____________________________________

Signed: Rodney Couch  Date  1-26 98
Mr. Tracy Runnels  
Roscoe Moss Hawaii, Inc.  
91-259A Olai Street  
Kapolei, HI 96707

Dear Mr. Runnels:

Kilauea-Earhart Well No. 1325-02

This is in response to your February 6, 1998 letter, requesting approval to:

- install 167' of 8" casing, 60' louvered and 107' blank; and
- drill and test deeper than the 1/4 theoretical thickness of the lens.

We understand that you will be drilling and testing at 10 ft depth increments and will report your findings to us.

By this letter, your requests are approved provided that the well owner agrees that the well will be used for nonpotable purposes only in perpetuity. Exceeding the 1/4 aquifer thickness limit risks upconing, which may increase chlorides beyond usable limits for both potable and nonpotable needs.

We will look forward to receiving the data. Thank you for your attention to the conditions of the well construction permit and the requirements of the Hawaii Well Construction and Pump Installation Standards (January, 1997).

If you have any questions, please contact Lenore Nakama at 587-0218.

Sincerely,

EDWIN T. SAKODA  
Acting Deputy Director

LN:ss

c: Ann Earhart
February 6, 1998

STATE OF HAWAII (DLNR)
COMMISSION ON WATER RESOURCE MANAGEMENT
P.O. BOX 621
HONOLULU, HI  96809

ATTN: LENORE NAKAMA

REF: KILAUEA - EARNHART WELL NO. 1325-02

Dear Lenore,

We have drilled the above subject well to a depth of 167' below ground. Ground elevation is 97.1 MSL (survey attached), water level is 88.1 from this elevation. High level water fell to basal after 116' depth was reached in well.

At 167', a short pump test reveals 80 GPM draws well to 162' and breaks suction in 12 minutes. A field Hach kit test water to be 100 PPM chlorides.

With your approval, we will be installing 167' of 8" casing 60' louvered and 107' blank. Unstable hole at 167' will require the advancing of casing by drilling inside with 8" tools.

As we are close to 1/4 the theoretical lens, we will pump and test water quality at 10 ft depth increments and report our findings with your approval. Your consideration of these matters is greatly appreciated.

Sincerely,

TRACY RUNNELLIS, DRILLING ACTIVITIES

TR:gm
Roscoe Moss Hawaii, Inc.
91-259A Olai Street
Kapolei, HI. 96707

Attn: Tracy Runnells

Project: 1572

Subject: Well Head Elevation - Earhart Well Project # 1325-02,
Kalihiwai, Kauai, Hawaii  TMK: 5-2-10:27

Gentlemen;

On January 23, 1998, we performed a survey on the subject project and found the elevation of the well head (16" diameter pipe) to be 98.92 MSL. The ground elevation at the well head was 97.1 MSL.

WAGNER ENGINEERING SERVICES, INC.

February 3, 1998
P.O. Box 851
Hanalei, Hawaii 96714

Ronald J. Wagner
Licensed Professional Land Surveyor Certificate No. 5074
November 26, 1997

State of Hawaii  
Dept of Land & Natural Resources  
Commission on Water Resource Mgmt  
P.O. Box 621  
Honolulu, HI 96809

Attn: Michael D. Wilson

Re: Kilauea-Earhart Well No. 1325-02  

Dear Mr. Wilson:

Please accept this letter as official notification of our intent to begin work immediately on the above referenced well project.

A fully endorsed copy of the terms and conditions is enclosed for your records. We appreciate the timely review and issuance of this Well Construction Permit.

Sincerely,

Tracy Runnells  
Drilling Activities

TR:tg
Kilauea-Earthart Well, Well No. 1325-02

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 construction and testing of Kilauea-Earthart Well (Well No. 1325-02) at 2970 Kaliluwine Road, Kauai, TMK 5-210:28 lot 11-8-3, 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 of the Commission on Water Resource Management (Commission), P.O. Box 2465, Honululu, HI 96813, shall be notified in writing, at least two (2) weeks before any work authorized by this permit commences.

2. The well construction permit shall be for construction and testing of the well only. A minimum one-inch diameter monitor tube shall be permanently installed, in a manner acceptable to the Chairperson, to accurately record water levels. The permittee shall coordinate with the Chairperson and conduct a pumping test in accordance with the Standards (attached pump testing worksheet is attached). The permittee shall submit to the Chairperson the test results as a basis for supporting an application to install a permanent pump for withdraw water for use. No permanent pump may be installed until a pump installation permit is approved and issued by the Chairperson.

3. In basal ground water, the depth of the well may not exceed one-fourth (1/4) of the theoretical thickness (41 times initial head) of the basal ground water unless otherwise authorized by the Chairperson.

4. The permittee shall incorporate mitigation measures to prevent construction debris from entering the aquatic environment, to schedule work to avoid periods of high rainfall, and to revegetate any cleared areas as soon as possible.

5. In the event that subsurface cultural remains such as artifacts, burials or concentrations of shells or charcoal are encountered during construction, the permittee shall stop work and contact the Department's Historic Preservation Division (587-0045) immediately.

6. 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.

7. The following shall be submitted to the Chairperson within sixty (60) days after completion of work:
   b. Elevation (referenced to mean sea level, msl) survey by a Hawaii-licensed surveyor.
   c. As-built sectional drawing of the well.
   d. Plot plan and map showing the exact location of the well.
   e. Complete pumping test records, including time, pumping rate, drawdown, chloride content, and other data.

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

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

10. 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 well construction 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 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.

11. 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(4) prior to any well sealing or plugging work.

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

Date of Approval: November 14, 1997
Expiration Date: November 14, 1999

Michael D. Wilson, 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. 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: Anne G. Earhart
Printed Name: Anne G. Earhart
Firm or Title: Owner
Date: 12/4/97

Driller's Signature: Tracy Runnels
License #: AC-16437
Printed Name: Tracy Runnels
Firm or Title: Roscoe Moss Hawaii, Inc.
Date: 4/26/97

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

Attachment c: USGS
Department of Health/ Safe Drinking Water, Wastewater, and Clean Water Branches
Kauai Department of Water Supply
Sharman Noguchi, Hawaiian Trust Co., Ltd.
Ann Earhart
Mr. Tracy Runnells  
Roscoe Moss Hawaii, Inc.  
91-259A Olai St.  
Kapolei, Hawaii 96707

Dear Mr. Runnells:

Well Construction Permit  
Kilauea-Earhart Well (Well No. 1325-02)

Enclosed are two (2) copies of your approved Well Construction Permit for the captioned well(s) which authorizes well construction activities but excludes installation work for your permanent pump. As part of the Chairperson’s approval, the following special conditions were added and are part of your permit under Permit Condition 12:

Special Conditions

1. All water wells shall be cased with new steel casing conforming to one of the manufacturing standards listed in Hawaii Well Construction and Pump Installation Standards (January, 1997) and in the standards of AWWA publication ANSI/AWWA A100-90, as may be amended. The physical properties of the steel shall conform to ASTM A-242, ASTM A53, Type E or S, Grade B, or approved equal. The well casing shall be manufactured in accordance with applicable sections of ASTM A139, as may be amended.

This permit does not authorize work for your permanent pump installation. Approval and issuance of your pump installation permit is contingent upon completed application and information provided to and accepted by Commission staff as required in the Well Construction & Pump Installation Standards (1/23/97) and any special conditions performed under this permit. Please note that special conditions may simply highlight application deviations from the Standards.

The well owner is responsible for all conditions of the permit. This includes ensuring that the well construction contractor, or other party who constructs the well(s), submits a completed Part I of the Well Completion Report form (enclosed) within sixty (60) days after the well construction 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 permit, please sign and have the contractor sign both permit originals and return one for our files. Also, copies of the aquifer pump test worksheet and the well completion report form are enclosed for your use. Please provide all the information in this packet to your well drilling contractor.

Also attached for your information is a copy of the Department of Health’s review comments.

If you have any questions, please call the Commission staff at 587-0218.

Aloha,

MICHAEL D. WILSON  
Chairperson

Enclosures
Mr. Tracy Runnells
Roscoe Moss Hawaii, Inc.
91-259A Olai St.
Kapolei, Hawaii  96707

Dear Mr. Runnells:

Well Construction Permit
Kilauea-Earhart Well (Well No. 1325-02)

Enclosed are two (2) copies of your approved Well Construction Permit for the captioned well(s) which authorizes well construction activities but excludes installation work for your permanent pump. As part of the Chairperson's approval, the following special conditions were added and are part of your permit under Permit Condition 12:

Special Conditions

1. All water wells shall be cased with new steel casing conforming to one of the manufacturing standards listed in Hawaii Well Construction and Pump Installation Standards (January, 1997) and in the standards of AWWA publication ANSI/WWA A100-90, as may be amended. The physical properties of the steel shall conform to ASTM A-242, ASTM A53, Type E or S, Grade B, or approved equal. The well casing shall be manufactured in accordance with applicable sections of ASTM A139, as may be amended.

This permit does not authorize work for your permanent pump installation. Approval and issuance of your pump installation permit is contingent upon completed application and information provided to and accepted by Commission staff as required in the Well Construction & Pump Installation Standards (1/23/97) and any special conditions performed under this permit. Please note that special conditions may simply highlight application deviations from the Standards.

The well owner is responsible for all conditions of the permit. This includes ensuring that the well construction contractor, or other party who constructs the well(s), submits a completed Part I of the Well Completion Report form (enclosed) within sixty (60) days after the well construction 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 permit, please sign and have the contractor sign both permit originals and return one for our files. Also, copies of the aquifer pump test worksheet and the well completion report form are enclosed for your use. Please provide all the information in this packet to your well drilling contractor.

Also attached for your information is a copy of the Department of Health's review comments.

If you have any questions, please call the Commission staff at 587-0218.

Aloha,

MICHAEL D. WILSON
Chairperson

Enclosures
Kilauea-Earhart Well, Well No. 1325-02

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 construction and testing of Kilauea-Earhart Well (Well No. 1325-02) at 2970 Kalihiwai Road, Kauai, TMK 5-2-10:28 lot 11-B-3, 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 of 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 authorized by this permit commences.

2. The well construction permit shall be for construction and testing of the well only. A minimum one-inch diameter monitor tube shall be permanently installed, in a manner acceptable to the Chairperson, to accurately record water levels. The permittee shall coordinate with the Chairperson and conduct a pumping test in accordance with the Standards (a pump testing worksheet is attached). The permittee shall submit to the Chairperson the test results as a basis for supporting an application to install a permanent pump and withdraw water for use. No permanent pump may be installed until a pump installation permit is approved and issued by the Chairperson.

3. In basal ground water, the depth of the well may not exceed one-fourth (1/4) of the theoretical thickness (41 times initial head) of the basal ground water unless otherwise authorized by the Chairperson.

4. The permittee shall incorporate mitigation measures to prevent construction debris from entering the aquatic environment, to schedule work to avoid periods of high rainfall, and to revegetate any cleared areas as soon as possible.

5. In the event that subsurface cultural remains such as artifacts, burials or concentrations of shells or charcoal are encountered during construction, the permittee shall stop work and contact the Department's Historic Preservation Division (587-0045) immediately.

6. 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.

7. The following shall be submitted to the Chairperson within sixty (60) days after completion of work:
   b. Elevation (referenced to mean sea level, msl) survey by a Hawaii-licensed surveyor.
   c. As-built sectional drawing of the well.
   d. Plot plan and map showing the exact location of the well.
   e. Complete pumping test records, including time, pumping rate, drawdown, chloride content, and other data.

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

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

10. 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 well construction 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.

11. 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.

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

Date of Approval: November 14, 1997
Expiration Date: November 14, 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: ___________________________

Driller’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.

Attachment

USGS
Department of Health/ Safe Drinking Water, Wastewater, and Clean Water Branches
Kauai Department of Water Supply
Sharman Noguchi, Hawaiian Trust Co., Ltd.
Ann Earhart
### SECTION 1: WELL LOCATION INFORMATION

<table>
<thead>
<tr>
<th>Island</th>
<th>KAUAI</th>
<th>Proposed Use</th>
<th>Domestic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aquifer System</td>
<td>HANALEI</td>
<td>Proposed Withdrawal</td>
<td></td>
</tr>
<tr>
<td>Aquifer Sector</td>
<td>KALIHIWAI</td>
<td>System Sustainable Yield</td>
<td>70000</td>
</tr>
</tbody>
</table>

### SECTION 2: WELL SECTION DATA  
*(enter data in grey cells only)*

<table>
<thead>
<tr>
<th>Elevation at top of casing</th>
<th>ft., m.s.l.</th>
<th>Solid Casing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ground Elevation</td>
<td>ft., m.s.l.</td>
<td></td>
</tr>
<tr>
<td>Cement Grout</td>
<td>ft.</td>
<td></td>
</tr>
<tr>
<td>Rock Packing</td>
<td>ft.</td>
<td></td>
</tr>
<tr>
<td>Hole Diameter</td>
<td>in.</td>
<td></td>
</tr>
<tr>
<td>Total Depth</td>
<td>ft.</td>
<td></td>
</tr>
<tr>
<td>Estimated Head</td>
<td>ft., m.s.l.</td>
<td></td>
</tr>
<tr>
<td>Calculated Aquifer Thickness</td>
<td>287 ft.</td>
<td></td>
</tr>
<tr>
<td>County Water Supply (Y/N ?)</td>
<td>Y</td>
<td></td>
</tr>
</tbody>
</table>

### SECTION 3: CHECKLIST  
*(values to check are shaded)*

#### Well Depth
- **Theoretical Thickness of Aquifer**: 287 ft.
- **1/4 Aquifer Thickness**: 71.75 ft.
- **Depth of Well below Sea Level**: 20 ft. okay  
  *(refer to HWCPIS Section 2.2)*

#### Well Casing
- **Minimum Wall Thickness**
  - Material: Steel
  - County or Non-County: non-county
  - Minimum Thickness per standards: 0.250 in.
  - **Wall Thickness Provided**: 0.250 in. okay  
    *(refer to HWCPIS Section 2.4 c)*
- **Minimum Length of Solid Casing**
  - 90% of ground to top of aquifer: 128.7 ft.
  - **Length of solid casing Provided**: 150 ft. okay  
    *(refer to HWCPIS Section 2.4 d)*
- **Casing Material**: Steel
  - **Wall Thickness Provided**: 0.250 in. okay  
    *(refer to HWCPIS Section 2.4 e)*
- **Annular Space**
  - If the cell above reads #N/A, reference HWCPIS
- **Depth of Grouting**
  - Calculated Depth of Grouting: 100.1 ft.
  - **Depth of Grouting provided**: 145 ft. okay  
    *(refer to HWCPIS Section 2.6 c)*
  - **Thickness of Annular Space**: 3 in. okay  
    *(refer to HWCPIS Section 2.6 d)*
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
   Kilauea-Earhart (Well No. 1325-02)

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 November 15, 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 Lenore Nakama of the Commission staff at 587-0218.

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, §11-26-21.

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: Lori N. Kajirara
Phone: 586-4294
Signed: Lori N. Kajirara
Date: 10-27-97
TMK #: 5-02-010:028  FILE #: 3109-
OWNER: EARHART ANNE
LOT LOCATION: 2960G  KALIHIWAI RD KILAUEA
REMARK:

********** DATES **********
SUBMIT DATE:  11/21/95  PLAN APPROVAL DATE: 11/30/95
REVIEWED BY:  FU  INSPECTION DATE:  /  /
SYSTEM APP'D DATE:  /  /

***** TECHNICAL DATA *****
TREATMENT TYPE: SEPTIC TANK  DISPOSAL Via: TRENCH
USE FOR:  5 BEDROOMS  DESIGNED BY: SNYDER
PERCOLATION:  15 min/in  CAPACITY:  1250 gal.

PRESS ANY KEY TO CONTINUE.
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  
Kilauea-Earhart (Well No. 1325-02)  

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 November 15, 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 Lenore Nakama of the Commission staff at 587-0218.

LN: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 not located near the proposed well site (information attached).  

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

[ ] No comments/objections

Contact Person: Bill Wong  
Phone: 586-4258

Signed: Bill Wong  
Date: 10/27/97
Mr. Tracy Runnels
Roscoe Moss Hawaii, Inc.
91-259A Olai St.
Kapolei, HI 96707

Dear Mr. Runnels:

Well Construction / Pump Installation Permit Application for Well No. 1325-02

We acknowledge receipt, on October 20, 1997, of your completed well construction/pump installation permit application for the Kilauea-Earhart Well (Well No. 1325-02). 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 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 Lenore Nakama of the Commission staff at 587-0218.

Sincerely,

[Signature]

RAE M. LOUI
Deputy Director

LN:ss
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  
Kilauea-Earhart (Well No. 1325-02)  

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 November 15, 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 Lenore Nakama of the Commission staff at 587-0218.

LN: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 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: ___________________________
### DEPARTMENT OF LAND AND NATURAL RESOURCES

**UAC OR ATTACHED WORKSHEET**

**DATE:** 10/20/97

<table>
<thead>
<tr>
<th>F YR</th>
<th>APPD</th>
<th>SRC/OBJ</th>
<th>COST CTR</th>
<th>PROJECT</th>
<th>PH ACT</th>
<th>AMOUNT</th>
<th>NAME/DESCRIPTION (WANG INPUT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>G</td>
<td>000</td>
<td>C</td>
<td>1026</td>
<td>0752</td>
<td></td>
<td>(1) 25.00 (Cash)</td>
<td>Roscoe Moss, Inc.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(2)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(3)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(4)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>TOTAL</strong> 25.00 (cash)</td>
<td></td>
</tr>
</tbody>
</table>

**REMARKS:**

**LINE (1)** Earhart Well

**LINE (2)**

**LINE (3)**

**LINE (4)**

10/20/97 *0037* CASH 25.00
State of Hawaii
COMMISSION ON WATER RESOURCE MANAGEMENT
Department of Land and Natural Resources

APPLICATION FOR PERMIT
Well Construction or Pump Replacement

and send completed application with attachments to the Commission on Water Resource Management. Application must be accompanied by a non-refundable filing fee of $125.00 payable to the Dept. of Land and Natural Resources. The Commission may not accept incomplete applications. For assistance, call the Regulation Branch at 587-5225.

1. APPLICANT: (circle primary contact; primary contact must be a natural person)
   (a) WELL OWNER
   Firm Name: Ann Earhart
   Contact Person: Same
   Address: 91-259 A Olai St Kapolei, HI 96707
   (b) LANDOWNER
   Firm Name: HAWAIIAN TRUST CO LTD.
   Contact Person: Sharman Noguchi
   Address: 111 S. King Street
   Honolulu, HI 96813
   (c) CONTRACTOR
   Firm Name: Roscoe Moss Hawaii, Inc
   Contact Person: Tracy Runnells
   Address: 91-259 A Olai St Kapolei, HI 96707

2. WELL LOCATION/NAME: Kilauea - Earhart Well
   Island: Kauai
   Address: 2970 Kalihiwai Road
   (Attach a USGS map, scale 1"=2000", and a property tax map showing well location referenced to establish well property boundaries)

3. (a) PROPOSED WORK: Drill New Well
   □ Deep New Well  □ Deepen
   □ Modify Existing Well  □ Redrill
   □ Abandon/Seal*
   * Be sure to complete and submit well abandonment report upon completion of work

   (b) WELL TYPE:
   □ Dug  □ Bored  □ Driven  X□ Drilled
   □ Radial
   Is this well a part of a battery of wells? □ Yes □ No
   (Briefly describe and fill in the diagram on the back of this form)

4. PROPOSED PUMP INFORMATION: Rated Pump Capacity: 80 gallons per minute
   Pump Type:
   □ Deep Well Turbine  □ Rotary  □ Propeller
   □ Submersible  □ Rotary-Displacement  □ Reciprocating
   □ Centrifugal  □ Rotary-Gear  □ Impulse
   □ X□ Electric, rated horsepower 5 HP
   If Pump Replacement, Existing Pump Capacity: ___________ gallons per minute

5. PROPOSED USE:
   □ X□ Domestic (individual, noncommercial water use)
   □ Industrial  □ Military
   □ Irrigation (crop)  □ Other (explain)

6. (a) PROPOSED AMOUNT OF WITHDRAWAL: 70,000 gallons per day

   (b) METHOD OF FLOW MEASUREMENT: X□ Flow-meter
   □ Open-pipe  □ Orifice Plate  □ Weir

7. PENDING ACTIONS:
   □ CDUA  □ SMA  □ EIS  □ EA
   □ NONE  □ Other (explain)
   Completion Date: ___________

8. REMARKS, EXPLANATIONS:
   Well is to irrigate 16.7 acres of landscape. Well will be drilled and tested pumped before final design of well casing is installed. Completed well will be finished below grade in a vault.

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 approval date; 2) the contractor shall submit to the Commission a well completion/abandonment report within 30 days after the completion date of the permit 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: Ann Earhart
Landowner: Hawaiian Trust Co., Ltd.
Contractor: Roscoe Moss Hi, Inc

Signature: ____________________________  ____________________________  ____________________________
Date: ____________  ____________  ____________

For Official Use Only:
Date Received: ____________
Date Accepted: ____________
Field Checked By: ____________________________
Date: ____________

Latitude: ____________
Longitude: ____________
Aquifer System Name: Kilauea - Hanapepe
State Well No: 1325-12

11/25/97

APPROVED

11/25/97

ASSISTANT VICE PRESIDENT

KALIWAU - HANAPPE
9. PROPOSED WELL SECTION

Elevation at top of casing: 148 ft. msl.

Ground Elevation: 150 ft. msl. estimate

Cement Grout: 145 ft.

Rock Packing: 25 ft.

Hole Diameter: 14 in.

Total Depth: 170 ft.

Solid Casing:
- Material: Steel
- Length: 150 ft.
- Diameter: 8 in.
- Wall thickness: 0.250 in.

Casing: X·O Perforated: Screen
- Material: Steel
- Length: 20 ft.
- Diameter: 8 in.
- Wall thickness: 0.250 in.
- Openings: 14.6 sq. in. A.F.

Open Hole:
- Length: NA
- Diameter: ___ in.

*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.
APPLICATION FOR PERMIT

1. APPLICANT: (circle primary contact) (c) Primary Fax: (808) 682-5866
   (b) WELL OWNER
   Firm Name: HAWAIIAN TRUST CO. LTD.
   Contact Person: Sharan Noguchi
   Address: 111 S. King Street
   Honolulu, HI 96813

   (c) CONTRACTOR
   Firm Name: Roscoe Moss Hawaii, Inc.
   (808) 682-5856
   Contact Person: Tracy Runnels
   Address: 91-259 A Oia St Kapolei, HI 96707

2. WELL LOCATION/NAME: Kiliauea - Earhart Well
   Island: Kauai
   Address: 2970 Kalihiwai Road
   Tax Map Key: 8-5-2-10-28 101

3. (a) PROPOSED WORK: (b) WELL TYPE:
   Drill New Well
   Modify Existing Well
   Install New Pump
   Deepen
   Install New Pump
   Modify Pump
   Abandon/Seal
   Replace Pump
   Radial
   Drill

   (b) WELL TYPE:
   Dug
   Bored
   Driven
   Radial
   Deep
   Drilled
   Radial

4. PROPOSED PUMP INFORMATION: Rated Pump Capacity: 80 gallons per minute
   Pump Type:
   Deep Well Turbine
   Rotary
   Centrifugal
   Submersible
   Drilled-Displacement
   Reciprocating
   Impulse
   Impulse
   Deepwell
   Motor:
   Deepwell
   Submersible
   Impulse
   Submersible
   Impulse

5. PROPOSED USE:
   Municipal (including hotels, stores, etc.)
   Urban
   Industrial
   Other (explain)
   Domestic (individual, non-commercial water sys.)
   Irrigation (crop)
   Other (explain)

6. (a) PROPOSED AMOUNT OF WITHDRAWAL: 70,000 gallons per day
   (b) METHOD OF FLOW MEASUREMENT: Flow-meter
   Open-pipe
   Orifice Plate
   Weir

7. PENDING ACTIONS:
   CDUA
   SMA
   EIS
   EA
   None
   Other (explain)

8. REMARKS, EXPLANATIONS:
   Well is to irrigate 16.7 acres of landscape. Well will be drilled and test pumped before final design of well casing is installed. Completed well will be finished below grade in a vault.

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 approval date; 2) the contractor shall submit to the Commission a well completion/abandonment report within 30 days after the completion date of the permit 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 to the permitted pump capacity.

Well Owner: Anne Earhart
Landowner: Hawaiian Trust Co., Ltd.
Contractor: Roscoe Moss Hi, Inc.

Signature: Anne Earhart
Signature: Sharan Noguchi
Signature: Tracy Runnels

Date: 9/24/97
Date: 10/14/97
Date: 10/14/97

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

11/20/97 WCP 21
9. PROPOSED WELL SECTION

Elevation at top of casing: 148 ft, msl

Cement Grout: 145 ft

Rock Packing: 25 ft

Hole Diameter: 14 in.

Total Depth: 170 ft

Ground Elevation: 150 ft, msl estimate

Solid Casing:
- Material: Steel
- Length: 150 ft
- Diameter: 8 in.
- Wall Thickness: 0.250 in.

Casing: KD Perforated Screen
- Material: Steel
- Length: 20 ft
- Diameter: 8 in.
- Wall Thickness: 0.250 in.
- Openings: 14.6 sq. in./A.F.

Open Hole
- Length: NA
- Diameter

*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.