CHECKLIST

WELL CONSTRUCTION PERMIT

WELL NAME or LOCATION: Grove Farm, Heilo, Mokau Island: Kanaila

WELL NUMBER: __________________________ Tax Map Key: __________________________

OWNER/OPERATOR:
Firm Name: ___________________________ Firm Name: ___________________________
Contact Person: ______________________ Contact Person: _______________________
Address: _____________________________ _____________________________
Phone: ______________________________ Phone: ______________________________

Date application received: ................. 4-14-92

Date acknowledged receipt/request more info: .....................................................

Date application accepted: .................................................................

Suspense date (90 days): ............................................................

Date filing fee deposited: ..........................................................................

Application sent to following:
Dept. of Hawn Home Lands
Dept. of Health
Office of Hawn. Affairs
State Hist Pres Div
Dept/Bd of Water Supply
Sierra Club L. D. F.
Koolauloa MD #28 (Oahu)
Dept/Pub. Wrks (Hawaii)
Additional List (Molekai)
Eric H. ........................................ 4-21-92

Comments received: .................................................................

Aaron Frandsen

808 885-7821

808 639-9583

Date agenda due: ..........................................................

Date submittal due: ..........................................................

Date submittal sent to applicant: ..................................................

Date application approved or disapproved: ...................................................

Date applicant notified of decision: ......................................................

REMARKS:

Original sent to owner for signatures on 7-17-97 then to be forwarded to you.

Aaron Frandsen
January 23, 1996

The Honorable Michael D. Wilson  
Chairman of the Board  
Attn: Rae Loui  
Department of Land and Natural Resources  
1151 Punchbowl Street  
Honolulu, HI 96813

Dear Mr. Wilson:

SUBJECT: PROPOSED SOURCE OF POTABLE WATER

Enclosed for your review and comments is a copy of the engineering report for the following source:

Haiku Mauka Well No. 1  
State Well No. 2-5825-01  
Puhi, Kauai  
TMK: (4)3-4-05: POR. 3

This report has been prepared pursuant to Hawaii Administrative Rules, Title 11, Chapter 20, Rules Relating to Potable Water Systems, section 11-20-29.

The Department of Health will use your comments in determining the potential impacts which may result by the proposed project.

Please submit your comments to the Safe Drinking Water Branch within 30 days from the date of this letter. You may also return the engineering report to this office if you do not need it for future reference.

If you should have any questions, please call the Safe Drinking Water Branch, Engineering Section, at 586-4258.

Sincerely,

THOMAS E. ARIZUMI, P.E., Chief  
Environmental Management Division

Enclosure
Mr. Allan A. Smith  
Grove Farm Properties, Inc.  
P.O. Box 2069  
Lihue, Hawaii 96766  

Dear Mr. Smith:

We have received your Well Completion Report – Part I for the Haiku Mauka 1 Well (Well No. 5825-01) and acknowledge that it is complete. We sincerely appreciate your attention to this matter.

Should you decide to install a pump in this well in the future, please check out our website (www.hawaii.gov/dlnr/dwrm/dwrm.html) for the most updated pump installation permit application forms.

Sincerely,

[Signature]

LINNEL T. NISHIOKA  
Deputy Director

LN:ss  
c: Mike Furukawa, Grove Farm Properties, Inc.
Date: November 24, 1999

To: Lenore Nakama
Commission on Water Resource Management

From: Mike Furukawa

# Pages: 2

Original to be Mailed Yes X No

Subject: Well Completion Report for Haiku Mauka Well No. 1

Message: Attached is completed subject report. Original is being mailed. Please feel free to contact me at (808) 245-3678 if there are questions.
**WELL COMPLETION REPORT**

1. State Well No.: **5825-01**  
   Well Name: **Haiku Mauka #1**  
   Island: **Kauai**

### PART I  
**WELL CONSTRUCTION REPORT**

3. Drilling Company: **Impact Well Drilling**

4. Name of driller who performed work: **Aaron Frandsen**

5. Type of construction: **Permanent**

6. Date(s) Well Construction and pump tests (if any) completed: **July 14, 1997**

7. GROUND ELEVATION (referred to mean sea level, msl): **469.9 ft**
   - Well Bench Mark (description/location): **Tap of 17° cast**  
   
8. DRILLER'S LOG: Please attach geologic log (if available or if required by permit)

| Depths (ft) | 600 to 612 Red Clay w/ 134° 2-4-97 | 777 to 1000 Dense basalt with  
|-------------|-------------------------------------|-------------------------------|
|             | Red Clay | Weathered rock, clay, diorite, basalt | Lovers of reddish rock, clay  
|             | 2-3-97    | (if more space is needed, continue on back) | Weathered diorite, gravel, and gravelstone: All weathered  

9. Total depth of well below ground: **1000 ft**

10. Hole size:  
    - 1 3/4" inch dia. from 600 ft. to 625 ft. below ground
    - 9 3/4" inch dia. from 625 ft. to 1000 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

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: **134 ft.** Date and time of measurement: **7-14-97 3:00 PM**

14. Initial pressure:  
    - 7 psi

15. Initial temperature: **72° F** Date and time of testing: **7-14-97 4:10 AM**

16. PUMPING TESTS: Reference Point (R.P.) used: **Top of casing which elevation is 466.18 ft.**  
    - (1) Step-Down Test Date: 6-12-87
    - (2) Long-Term Aquifer Test Date: 7-3-97

<table>
<thead>
<tr>
<th>Start water level</th>
<th>134 ft. below R.P.</th>
<th>Start water level</th>
<th>134 ft. below R.P.</th>
</tr>
</thead>
<tbody>
<tr>
<td>End water level</td>
<td>947 ft. below R.P.</td>
<td>End water level</td>
<td>947 ft. below R.P.</td>
</tr>
</tbody>
</table>

17. Aquifer Pump Test Procedures data & graphs (1996 LTAT Form) attached? **Yes**  
18. As-built drawings attached attached? **Yes**  
19. Other remarks/comments: (On back of this form)

---

Well Drilling Contractor (print)  
**Impact Well Drilling**

Signature  
**DENNIS M. FRANSEN**  
Date  
**7-16-97**

Surveyor (print)  
**ESAKI SURVEYING & MAPPING**

Signature  
**MICHAEL H. FUKUOKA**  
Date  
**11-2-99**

Applicant (print)  
**Mimi I. Suhaimi**

Signature  
**Mimi I. Suhaimi**  
Date  
**12-23-99**

---

TOTAL: **P. 02**
November 23, 1999

Commission on Water Resource Management
Department of Land and Natural Resources
State of Hawaii
P.O. Box 621
Honolulu, Hawaii 96809

Attention: Lenore Nakama

Project: Puukukui Wells 1 & 2 (Well Nos. 5626-02 & 5726-01) and Haiku Mauka Well (Well No. 5825-01)

Subject: Well Construction Permit (5826-02 & 01) and Well Completion Report (5825-01)

Reference: CWRM letter dated Sep. 24, 1999

In response to the reference, your assumption for Wells Nos. 5626-02 & 01 is correct. No work was done under the well construction permit.

In regards to Well No. 5825-01, a permanent pump was not installed. The elevation survey will be submitted by Grove Farm Properties under separate cover. The well completion report is signed and returned for your files. A copy of “Haiku Mauka Well #1 AS BUILT REPORT” which contains the well section, pumping test results and water quality data is attached to supply the information requested by the reference.

Point of contact is Henry Morita at 536-7721.

Very truly yours,

Henry S. Morita
Executive Vice President

DLNR001L.doc
**WELL COMPLETION REPORT**

**State of Hawaii**
**Commission on Water Resource Management**
**Department of Land and Natural Resources**

**RECEIVED**

**FILE No. 859 11/22 '99 16:25**
**ID: Grove Farm Company**

**PART I WELL CONSTRUCTION REPORT**

<table>
<thead>
<tr>
<th>Drilling Company:</th>
<th>Impact Well Drilling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name of driller who performed work:</td>
<td>Aaron Hansen</td>
</tr>
<tr>
<td>Type of rig:</td>
<td>Cable Tool</td>
</tr>
<tr>
<td>Date(s) Well Construction and pump tests (if any) completed:</td>
<td>July 14, 1997</td>
</tr>
<tr>
<td>Ground Elevation (referred to mean sea level, msl):</td>
<td>149.19 ft.</td>
</tr>
<tr>
<td>Well Bench Mark (description/location):</td>
<td>Top of 12&quot; casing Elevation (msl): 461.7 ft.</td>
</tr>
<tr>
<td>DRILLER'S LOG: Please attach geologic log (if available or if required by permit)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Depths (ft)</th>
<th>Rock Description, Water Level, Dates, etc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>600 to 622</td>
<td>Red Clay with 13% sand, 7% silt, 100% dense, very hard with</td>
</tr>
<tr>
<td>622 to 717</td>
<td>Weathered rock, clay, above, 100% dense, very hard with</td>
</tr>
<tr>
<td>717 to 1000</td>
<td>Layers at bottom, clay, and gravel/an weathered</td>
</tr>
</tbody>
</table>

| Total depth of well below ground: | 1000 ft. |
| Hole size: | 11.36 inch dia. from 600 ft. to 625 ft. below ground |
| 9.59 inch dia. from 625 ft. to 1000 ft. below ground |

<table>
<thead>
<tr>
<th>Casing installed:</th>
<th>In. I.D. x in. well solid section to:</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.59 inch dia.</td>
<td>In. well perforated section to:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Annulus:</th>
<th>Grouted from:</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.59 inch dia.</td>
<td>r. below ground to:</td>
</tr>
<tr>
<td>9.59 inch dia.</td>
<td>r. below ground</td>
</tr>
</tbody>
</table>

| Initial water level: | 139 ft. below ground. |
| Initial chloride: | 7 ppm |
| Initial temperature: | 72 °F |

<table>
<thead>
<tr>
<th>Pumping Tests:</th>
<th>REFERENCE POINT (R.P.):</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Step-Drawdown Test Date 6/12/67</td>
<td></td>
</tr>
<tr>
<td>Start water level:</td>
<td>139 ft. below R.P.</td>
</tr>
<tr>
<td>End water level:</td>
<td>137 ft. below R.P.</td>
</tr>
<tr>
<td>2) Long-term Aquifer Test Date 2/3/97</td>
<td></td>
</tr>
<tr>
<td>Start water level:</td>
<td>139 ft. below R.P.</td>
</tr>
<tr>
<td>End water level:</td>
<td>137 ft. below R.P.</td>
</tr>
</tbody>
</table>

| Aquifer Pump Test Procedure data & Graphs (1/24/99 LTAT Form) attached? | Yes |

**Surveyor (print):**

<table>
<thead>
<tr>
<th>Applicant (print):</th>
<th>GROVE FARM PROPERTIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signature:</td>
<td>Anson L. Hansen</td>
</tr>
<tr>
<td>Date:</td>
<td>7/16/97</td>
</tr>
<tr>
<td>Lic. No.:</td>
<td>6-16556</td>
</tr>
<tr>
<td>Signature:</td>
<td>N. J. Johnson</td>
</tr>
<tr>
<td>Date:</td>
<td>11/23/99</td>
</tr>
</tbody>
</table>

**TOTAL P.62**
# WELL COMPLETION REPORT

**FILE No. 862 11/24 '99 09:06**  
**ID: Grove Farm Company**

**STATE OF HAWAII**  
COMMISSION ON WATER RESOURCE MANAGEMENT  
Department of Land and Natural Resources

**RECEIVED**

**WELL COMPLETION REPORT**  
87 AUG 8 NO: 44

(Check Appropriate Box)  
☐ 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, R.O. Box 321, Honolulu, Hawaii 96810. An e扩建 drawing of the well and chemical analysis table must be attached. For assistance call the Commission Regulation Branch at 567-0226, or 1-800-444-2622 (Extension number 300).  
**RECEIVED**

1. **State Well No.:** 5825 01  
2. **Well Name:** Haiku Mauka  
3. **Island:** Kauai

## PART I. WELL CONSTRUCTION REPORT

3. **Drilling Company:** Impact Well Drilling  
4. **Name of driller who performed work:** Aaron Frandsen  
5. **Type of rig/construction:** Cable Tool  
6. **Date(s) Well Construction and pump tests (if any) completed:** July 19, 1997  
7. **GROUND ELEVATION** (referenced to mean sea level, msl): 459.19 ft.  
   - **Well Bench Mark (description/location):** Top of 12" casing  
   - **Elevation (msl):** 461.4 ft.

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

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Rock Description, Water Level, Dates, etc.</th>
<th>Depth (ft)</th>
<th>Rock Description, Water Level, Dates, etc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>600 to 612</td>
<td>Red Clay, WL 13' 7/28/97 7/28/00</td>
<td>600 to 612</td>
<td>Red Clay, WL 13' 7/28/97 7/28/00</td>
</tr>
<tr>
<td>622 to 677</td>
<td>Weathered rock, older, WL</td>
<td>622 to 677</td>
<td>Weathered rock, older, WL</td>
</tr>
<tr>
<td>677 to 727</td>
<td>Layers of fossil rock, clay</td>
<td>677 to 727</td>
<td>Layers of fossil rock, clay</td>
</tr>
<tr>
<td>727 to 767</td>
<td>(If more space is needed, continue on back)</td>
<td>727 to 767</td>
<td>(If more space is needed, continue on back)</td>
</tr>
<tr>
<td>767 to 1000</td>
<td>All weathered rock</td>
<td>767 to 1000</td>
<td>All weathered rock</td>
</tr>
</tbody>
</table>

9. **Total depth of well below ground:** 1000 ft.

10. **Hole size:**
   - 11 3/4" inch dia. from 600 ft. to 625 ft. below ground  
   - 9 3/4" inch dia. from 625 ft. to 1000 ft. below ground

11. **Casing installed:**
   - In, I.D. x ____ ft. below ground  
   - In, I.D. x ____ ft. below ground

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:** 134 ft. below ground.

14. **Initial drawdown:** 7 ft.  
15. **Initial temperature:** 22° F

16. **PUMPING TESTS:** Reference Point (R.P.) used: Top of casing  
   - **Step-Drawdown Test Date:** 6/18/97  
   - **Long-term Aquifer Test Date:** 2/1/92

<table>
<thead>
<tr>
<th>Test water level</th>
<th>Start water level</th>
<th>End water level</th>
</tr>
</thead>
<tbody>
<tr>
<td>134 ft. below R.P.</td>
<td>134 ft. below R.P.</td>
<td>134 ft. below R.P.</td>
</tr>
</tbody>
</table>

17. **Aquifer Pump Test Procedures data & graphs (1996 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):** Impact Well Drilling  
**License No.:** 16900  
**Signature:** 

**Surveyor (print):** ESAKI SURVEYING & MAPPING  
**Number:** 100  
**Signature:** 

**Applicant (print):** Grove Farm Properties Inc.  
**Signature:**

**Date:**

TOTAL P.02
1/24/99
Mike Furukawa said they haven't installed pump (low yield), but may in the future.

Lance
GROVE FARM PROPERTIES, INC.
PO BOX 862068
LIHUE, HI 96766-7068

FAX TRANSMITTAL

Date: November 24, 1999

To: Lenore Nakama
Fax: 587-0219
Commission on Water Resource Management

From: Mike Furukawa

# Pages: 2

Original to be Mailed Yes X No

Subject: Well Completion Report for Haiku Mauka Well No. 1

Message: Attached is completed subject report. Original is being mailed. Please feel free to contact me at (808) 245-3678 if there are questions.
Mr. Allan A. Smith
Grove Farm Properties, Inc.
P.O. Box 2069
Puhi, HI 96766

Dear Mr. Smith:

Notice of Expiration of Well Construction Permit
Puakukui Wells 1 & 2 (Well Nos. 5626-02 & 5726-01)

Well Completion Report
Haiku Mauka Well (Well No. 5825-01)

Our records show that a well construction permit was approved for the Well Nos. 5626-02 & 5726-01 on December 14, 1995 (attached). Since we did not receive any notice of the start of work (Standard Condition 1) for these wells, we assume that no work was done under this permit, which has expired. Be advised that a new application for a well construction permit must be made and approved by the Commission on Water Resource Management prior to any future well construction work. (Check out our website at www.hawaii.gov/dlnr/dwr/dwr.html to download our most updated application forms.)

In the event that the well(s) were constructed under the permit, please submit the following items that are required under Standard Condition 6:

a. Well Completion Report.
b. Elevation (referenced to mean sea level, msl) survey by a Hawaii-licensed surveyor.
c. As-built sectional drawing of the well(s).
d. Plot plan and map showing the exact location of the well(s).
e. Complete pumping test records, including time, pumping rate, drawdown, chloride content, and other water quality data.

We have also received your Well Completion Report Part I for Well No. 5825-01. However, matters which must be addressed before we accept your report as complete are as follows:
1. Please submit the elevation (referenced to mean sea level, msl) survey by a Hawaii-licensed surveyor, as-built sectional drawing of the well(s), and complete pumping test records, including time, pumping rate, drawdown, chloride content, and other water quality data.

2. Please sign the Well Completion Report Part I (copy attached).

3. Please confirm the status of the permanent pump installation. If a pump has been installed, please submit a Well Completion Report Part II. If not, please apply for a pump installation permit prior to any pump installation work. (The most updated application form can be downloaded from our website.)

Please respond to the above item(s) within sixty (60) days of this letter's date. Failure to do so may result in fines of up to $1000 per day.

If you have any questions, please contact Lenore Nakama of the Commission staff at 587-0218 or toll-free at 274-3141, extension 70218.

Sincerely,

LINNEL T. NISHIOKA
Deputy Director

LN:ss
Attachments
FAXSIMILE MEMO

TO: Commission on Water Resource Mgmt
ATTENTION: Mr. Edwib T. Sakoda
DATE/TIME: 1/13/97
FAX NO: 587-0219

TOTAL PAGES (INCLUDING THIS COVER PAGE): 1

PROJECT: Haiku Mauka Well, Well No. 5825-01

MEMO:

Reference: Well Construction Permit approved 12/18/96

The reference requires notification prior to commencement of work. Please accept this notice that work will commence on 1/27/97.

Point of contact is Henry Morita @ 536-7721.

By: Henry Morita

cc. Job File
Allan Smith, GFC
Steve Bowles, WWS
Mr. Michael D. Wilson, Chairperson  
State of Hawaii  
Department of Land and Natural Resources  
Commission on Water Resource Management  
P. O. Box 621  
Honolulu, HI 96809  

Dear Mike:  

Re: Well Construction Permit  
Haiku Mauka Well (Well No. 5825-01)  

As requested in your letter of December 27, 1996, enclosed is the executed Well Construction Permit for your files.  

Sincerely,  

GROVE FARM PROPERTIES, INC.  

Allan A. Smith, Vice President  
and Chief Operating Officer  

AAS/rc  
Enclosure  

A subsidiary of  

Grove Farm Company  
incorporated  

P.O. Box 2069  
Puhi Rural Branch  
Lihue, Hawaii 96766-7069  
Phone (808) 245-3678  
FAX (808) 246-9470
WELL CONSTRUCTION PERMIT

Haiku Mauka Well, Well No. 5825-01

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 Haiku Mauka Well (Well No. 5825-01) at Puhi, Kauai, TMK 3-4-05:3, subject to the following conditions:

STANDARD PERMIT CONDITIONS

1. 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 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 Commission, to accurately record water levels. The permittee shall coordinate with the Commission and conduct a pumping test in accordance with the attached Aquifer Pump Testing Procedure (attached). The permittee shall submit to the Commission 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 Commission.

3. 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.

4. 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.

5. 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.

6. The following shall be submitted to the Commission within thirty (30) 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 water quality data.

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

8. The well construction permit application and staff submittal approved by the Commission at its December 18, 1996 meeting are incorporated into the permit by reference.

9. 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 Commission upon a showing of good cause and good-faith performance. A request to extend the permit shall be submitted to the Commission no later than three (3) months prior to the date the permit expires. If the commencement or completion 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.

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

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

Date of Approval: December 18, 1996
Expiration Date: December 18, 1998

I have read the conditions and terms of this permit and understand them. I accept and agree to meet these conditions as a prerequisite and underlying condition of my ability to proceed.

Applicant's Signature: [Signature] Date: 1/6/97
Printed Name: Allan A. Smith Firm or Title: Grove Farm Properties, Inc.

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

Attachment:

C:
USGS
Department of Health/ Safe Drinking Water & Wastewater Branches
Kauai Department of Water Supply
Mr. Allan A. Smith  
Grove Farm Properties, Inc.  
P.O. Box 2069  
Puhi, Hawaii 96766

Dear Mr. Smith:

Well Construction Permit  
Haiku Mauka Well (Well No. 5825-01)

Enclosed are two (2) originals of your approved Well Construction Permit for the captioned well(s). As part of the Commission’s approval, the following special conditions were added and are part of your permit under Standard Permit Condition 11:

**Special Conditions**

1. The well should not be used for drinking water unless it is properly tested and treated.
2. Unless the applicant can specify two alternative observation wells, the applicant shall use Well Nos. 5825-01M & 5825-02 as observation wells during the pump test for Well No. 5825-01.

Additionally, the Commission authorized the Chairperson to approve and issue a pump installation permit supported by information provided from aquifer pumping test results, required in Well Construction Standard Condition 6e, subject to the Standard Pump Installation Conditions which will be issued to you when we receive your aquifer pump test results and completed Well Construction Report (Part 1).

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, submits a completed Part I of the Well Completion Report form (enclosed) and all required testing data within thirty (30) days after the well construction and pump test 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.

Please sign both enclosed permit originals and return one for our files.

Also, copies of the aquifer pump test procedure and the well completion report form are enclosed for your use. Please provide copies of all the information in this packet to your well drilling contractor.

If you have any questions, please call Rae M. Loui, Deputy Director, at 587-0214 or toll-free at 974-400 (Hawaii), 274-3141 (Kauai), 984-2400 (Maui), or 1-800-468-4644 (Lanai & Molokai) extension, 70214.

Aloha,

Michael D. Wilson  
Chairperson

Enclosures
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 HAIKU MAUKA WELL (WELL NO. 5825-01) AT PUHI, KAUA'I, TMK 3-4-05:3, SUBJECT TO THE FOLLOWING CONDITIONS:

STANDARD PERMIT CONDITIONS

1. 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 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 Commission, to accurately record water levels. The permittee shall coordinate with the Commission and conduct a pumping test in accordance with the attached Aquifer Pump Testing Procedure (attached). The permittee shall submit to the Commission 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 Commission.

3. 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.

4. 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.

5. 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.

6. The following shall be submitted to the Commission within thirty (30) 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 water quality data.

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

8. The well construction permit application and staff submittal approved by the Commission at its December 18, 1996 meeting are incorporated into the permit by reference.

9. 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 Commission upon a showing of good cause and good-faith performance. A request to extend the permit shall be submitted to the Commission no later than three (3) months prior to the date the permit expires. If the commencement or completion 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.

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

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

Date of Approval: December 18, 1996
Expiration Date: December 18, 1998

I have read the conditions and terms of this permit and understand them. I accept and agree to meet these conditions as a prerequisite and underlying condition of my ability to proceed.

Applicant's Signature: _______________________________ Date: ______________

Printed Name: _______________________________ Firm or Title: _______________________________

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

Attachment

C: USGS
Department of Health/ Safe Drinking Water & Wastewater Branches
Kauai Department of Water Supply

Michael D. Wilson, Chairperson
Commission on Water Resource Management
5. Rozett's Nursery, APPLICATION FOR WELL PERMITS, Rozett Well (Well No. 3489-01), Well Construction: 6-inch Casing Diameter, 300-foot deep Well, Pump Installation: 60 GPM for Nursery Irrigation Use, TMK 1-5-035:081, Puna, Hawaii

STAFF PRESENTATION: Mr. Roy Hardy

STAFF RECOMMENDATION:

The staff recommendation was amended as follows:

A. That the Commission approve the issuance of a well construction permit for Rozett's Well (Well No. 3489-01), subject to the standard conditions in Exhibit 3, and the following special conditions:

1. No permanent monitor tube is required.
2. The long-term continuous test shall be at least 72 hours long.
3. No step-drawdown test is required.
4. The well should not be used for drinking water unless it is properly tested and treated.
5. If potable water is used to supply both domestic and irrigation purposes in a single system, the permittee 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.
6. The cement grout shall be at least 70% the distance between the ground surface and the top of the aquifer.

B. That the Commission authorize the Chairperson to approve and issue a pump installation permit supported by information provided from aquifer pumping test results, required in Well Construction Standard Condition 6e (Exhibit 3), subject to the Standard Pump Installation Conditions in Exhibit 4.

MOTION: (MIIKE/RICHARDS)
To approve staff's recommendation as amended.
UNANIMOUSLY APPROVED AS AMENDED.

NOTE: Chairperson Wilson was excused from this item.

The following item was moved up.

12. Grove Farm Properties, Inc., APPLICATION FOR WELL PERMIT, Haiku Mauka Well #1 (Well No. 5825-01), Well Construction: Deepen Existing 12-inch Casing Diameter, 600-foot deep Well, TMK 3-4-05:3, Pupu, Kauai

STAFF PRESENTATION: Ms. Lenore Nakama

STAFF RECOMMENDATION:

A. That the Commission approve the issuance of a well construction permit for Haiku Mauka Well #1 (Well No. 5825-01), subject to the standard conditions in Exhibit 3, and the following special conditions:
1. The well should not be used for drinking water unless it is properly tested and treated.
2. Unless the applicant can specify two alternative observation wells, the applicant shall use Well Nos. 5825-01M & 5825-02 as observation wells during the pump test for Well No. 5825-01.

MOTION: (GIRALD/RICHARDS)
To approve staff's recommendation.
UNANIMOUSLY APPROVED.

6. Attraction Hawaii dba Waimea Falls Park, APPLICATION FOR WELL PERMITS, Waimea Wells 1 & 2 (Well Nos. 3803-01 & 03), Pump Installation: 200 GPM (in each well), for Irrigation Use, TMK 6-1-02:02, Haleiwa, Oahu

STAFF PRESENTATION: Ms. Lenore Nakama

STAFF RECOMMENDATION:

A. That the Commission require a new pump test in accordance with the attached Aquifer (Pump) Test Procedure (Exhibit 5).
B. That the Commission authorize the Chairperson to approve and issue a pump installation permit supported by information provided from aquifer pumping test results, subject to the Standard Pump Installation Conditions in Exhibit 4.

MOTION: (COX/MIIKE)
To approve staff's recommendation.
UNANIMOUSLY APPROVED.


STAFF PRESENTATION: Mr. Charley Ice

STAFF RECOMMENDATION:

The staff recommendation was amended as follows:

A. That the Commission approve the issuance of a well construction permit for the Huelo-Baker Well, subject to the standard permit conditions in Exhibit 3 and the following special conditions:

1. No permanent monitor tube is required.
2. The long-term continuous test shall be at least 8 hours.
3. No step-drawdown test is required.
4. The well should not be used for drinking water unless it is properly tested and treated.
5. If potable water is used to supply both domestic and irrigation purposes in a single system, the permittee shall eliminate cross-connections and
STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT
P.O. BOX 621
HONOLULU, HAWAII 96809

STAFF SUBMITTAL

for the meeting of the
COMMISSION ON WATER RESOURCE MANAGEMENT

December 18, 1996
Honolulu, Oahu

Grove Farm Properties, Inc.
APPLICATION FOR WELL PERMIT
Haiku Mauka Well #1 (Well No. 5825-01)
Well Construction: Deepen Existing 12-inch Casing Diameter, 600-foot Deep Well
TMK 3-4-05:3, Puhi, Kauai

APPLICANT:
Grove Farm Properties, Inc.
P.O. Box 2069
Puhi, Kauai, HI 96766

LANDOWNER:
Same

DESCRIPTION:
Location: (See Exhibit 1)
Dimensions: (See Exhibit 2)

BACKGROUND:
A completed well construction permit application was received on August 15, 1996.

WATER AVAILABILITY:
Hanamaulu Aquifer System of the Lihue Sector
Estimated Sustainable Yield: 40 mgd
Current Aquifer System Pumpage (12-MAV as of 1991): 3.28 mgd
Proposed Use: 500,000 mgd, municipal use

ISSUES/ANALYSIS:
Agency Review: Copies of the application were sent to the Department of Health's Safe Drinking Water and Wastewater Branches with a request for review comments by December 16, 1996. As of the date the submittal was finalized, no comments have been received. The staff will update the Commission at the meeting if any concerns or comments from DOH are received. Additionally, notice of the application was published in the November-December, 1996 bulletin.

AGENDA 1
Item 12
Staff Review: The well was drilled in 1993. The proposed work includes deepening the existing well by drilling an additional 400 ft of open hole. A pumping test and TV log will also be performed. If the well is successful, the applicant will apply for a permit to install a 350 gpm pump in the well. The well is intended to provide additional source capacity for the Grove Farm Properties on Kauai in support of the County of Kauai Department of Water Haiku/Puhi Water System and will be integrated into the master planned water system.

There are twelve (12) other wells within a mile of the proposed well. Seven (7) of the wells are unused or observation wells, one well has not yet been drilled, and three (3) of the wells are being pumped.

The applicant should use at least two (2) of the unused wells as observation wells during the pump test for Well No. 5825-01. The closest unused wells are Well Nos. 5825-01M & 5825-02.

No adverse impacts to water resources are anticipated from the drilling activity. Results of the standard pump test should provide information to assess pumpage impacts to other pumping wells.

RECOMMENDATION:

A. That the Commission approve the issuance of a well construction permit for Haiku Mauka Well #1 (Well No. 5825-01), subject to the standard conditions in Exhibit 3, and the following special conditions:

1. The well should not be used for drinking water unless it is properly tested and treated.
2. Unless the applicant can specify two alternative observation wells, the applicant shall use Well Nos. 5825-01M & 5825-02 as observation wells during the pump test for Well No. 5825-01.

Respectfully submitted,

RAE M. LOUI
Deputy Director

Exhibit(s):

1. (Location Map)
2. (Proposed Well Section)
3. (Standard Well Construction Permit Conditions)
4. (Well Completion Report Form)
5. (Pump Test Procedures)
WELL CROSS SECTION
HAIKU MAUKA WELL #1

 Depths

Ground elevation - 459.18'

Casing - Solid
12" ID, 5/16" thick

Grout - annulus
2' concrete mix

Seal - 4' neat cement
3' sand
3' #10 fine ag.

Water level - 323.68'

Casing, Louvered Screen
12" ID, 5/16" thick

Gravel Pack - annulus
No. 3 course basalt gravel

Bottom of casing (-40.82')

Open Hole

Bottom of Hole (-140.82')

EXHIBIT 2
STANDARD WELL CONSTRUCTION PERMIT CONDITIONS

1. 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 by this permit commences and staff shall be allowed to inspect installation activities in accordance with §13-168-15, Hawaii Administrative Rules.

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 Commission, to accurately record water levels. The permittee shall coordinate with the Commission and conduct a pumping test in accordance with the attached Aquifer Pump Testing Procedure (attached). The permittee shall submit to the Commission 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 Commission.

3. 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.

4. 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.

5. 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.

6. The following shall be submitted to the Commission within thirty (30) 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 water quality data.

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

8. The well construction permit application and staff submittal approved by the Commission at its December 18, 1996 meeting are incorporated into the permit by reference.

9. 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 Commission upon a showing of good cause and good-faith performance. A request to extend the permit shall be submitted to the Commission no later than three (3) months prior to the date the permit expires. If the commencement or completion 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.

10. If the well is not to be used it must be properly capped. If the well is to be abandoned then the applicant must apply for a well abandonment permit in accordance with §13-168-12(f) prior to any well sealing or plugging work.
### State of Hawaii
COMMISSION ON WATER RESOURCE MANAGEMENT
Department of Land and Natural Resources

**WELL COMPLETION REPORT**

3/20/96 WCR Form

(Check Appropriate Box)  
☐ 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.:**
   **Well Name:**
   **Island:**

2. **Location/Address:**
   **Tax Map Key:**

### 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:**
   - **GROUND ELEVATION** (referenced to mean sea level, msl):
     - Well Bench Mark (description/location):
     - **Elevation(msl):**
   - **DRILLER'S LOG:**
     - Please attach geologic log (if available or if required by permit)

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<th>Depths (ft.)</th>
<th>Rock Description, Water Level, Dates, etc.</th>
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<th>Rock Description, Water Level, Dates, etc.</th>
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7. **Total depth of well below ground:**
8. **Annulus:**
   - Grouted from __________ ft. below ground to __________ ft. below ground
   - Gravel packed from __________ ft. below ground to __________ ft. below ground

9. **Initial water level:**
   - Date and time of measurement:
10. **Initial chloride:**
    - ppm
    - Date and time of sampling:
11. **Initial temperature:**
    - °F
    - Date and time of measurement:
12. **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.
13. **Aquifer Pump Test Procedures data & graphs (1/9/96 LTAT Form) attached?**
    - Yes  
    - No
14. **As-built drawings attached?**
    - Yes  
    - No
15. **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

EXHIBIT 4
### 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 _______ ft.
     which elevation is _______ ft.
   - Depth to bottom of airline _______ ft. below _______ ft.
     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)

**Pump Installation Contractor (print)**

Signature ____________________________ Date ____________

**Applicant (print)**

Signature ____________________________ Date ____________

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

<table>
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<tr>
<th>Water Level Dates</th>
<th>Depth (ft.)</th>
<th>Rock Description, Remarks, Water Level Dates</th>
<th>Depth (ft.)</th>
<th>Rock Description, Remarks,</th>
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19 & 25. Remarks:

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**EXHIBIT 4**
AQUIFER (PUMP) TEST PROCEDURES

The pump test procedure for new wells shall consist of a step-drawdown test followed by a long-term continuous aquifer test. Testing the well and aquifer in the prescribed manner should result in the hydrologic information needed to determine: 1) the well's performance with regard to yield and water quality (chloride concentration), and 2) the nearby hydraulic properties of the aquifer.

General Recording Requirements

The records required for analysis and the tolerance in measurement acceptable for the step-drawdown and long-term continuous aquifer test are as follows:

1. Discharge from the well shall not fluctuate beyond ± 10 percent.
2. Depth to water measurements in the pumped well shall be accurate to 0.01 feet.
3. Time shall be accurate within ± 1 percent.
4. Water discharged from the well during the step-drawdown and long-term test shall be carried away from the well to a distance sufficient to preclude circulation of the discharge water downward to the ground-water table.
5. Recording of data should be on a form similar to Table 1. All information shown in Table 1 shall be provided. In addition, data shall be plotted on Graph 1 and provided.

Step-Drawdown Test

The purpose of the step-drawdown test is to establish the efficiency of the well and to provide preliminary information on the yield of the well, both from a quantity and quality standpoint.

1. Measurement of water level in the pumped well shall be made every 12 hours for a period of no less than two days prior to the initiation of the step-drawdown test in order to obtain the pretest trend in water levels.
2. The step-drawdown test will consist of continuously pumping the well for four hours at four different rates.
   a. The change from one pumping rate to the next must be sufficient to induce an observable change in water level in the well from the previous pumpage rate.
   b. If desired, the four different rates should represent the full range of pump capacity (if the yield can sustain this), but this is not necessary.
3. Each pumping rate should be continued for one hour, after which the new rate should be instituted as rapidly as possible.

4. Pumping should begin at the lowest rate and conclude with the highest rate.

5. Pumping should be continuous through the entire step-drawdown test.

6. Measurement of chloride concentration and temperature of the discharge water shall be measured at least five times:
   a. at the end of each pumping rate during the step-drawdown test, and
   b. at the very beginning of the test.

7. A sufficient number of water level measurements shall be made in the pumped well following the termination of the step-drawdown test to establish that the water level fully recovers from each test to pretest levels.

**Long-Term Continuous Test**

The purpose of the long-term continuous test is to determine the hydraulic properties of the aquifer to explore for and identify nearby aquifer boundaries such as streams or dikes, and to observe the trend in chloride concentration of the discharge water.

1. The long-term test should not commence until the water level in the pumped well has fully recovered from the step-drawdown test. Generally, the time required for this recovery will be slightly greater than four hours. The water level in the pumped well should be measured immediately before initiation of the long-term test.

2. The pump rate for the long-term test should be sufficient to create an observable drawdown.

3. The test should be run 24 hours per day for at least seven days. If during the test, the water level remains the same for a period of 24 hours, the test can be terminated.

4. Measurement of chloride concentration and temperature of the discharge water during the long-term test shall be made at the beginning of the test and every six hours thereafter.

5. Depth to water in all wells shall be measured with sufficient frequency that each logarithmic cycle in time on the data plots (Graph 1) contains at least 10 data points spread through the cycle. Thus, depth to water should be made at \( t=0 \) (immediately prior to start of the test), and as close as possible at \( t=1, 1.5, 2, 2.5, 3, 4, 5, 6, 7, \) and 8 minutes for the first ten minutes and at all succeeding decimal multiples of these numbers to the end of the test \( (t=10, 15, 20, 25, 30, 40, 50, 60, 70, \) and 80 minutes for the log cycle 10 to 100 minutes, etc.)

6. A sufficient number of water level measurements shall be made in the pumped well following termination of the long-term continuous test to establish that the water level fully recovers from each test to pretest levels.

Exhibit 5
### Table 1

**LONG-TERM AQUIFER TEST DATA**

<table>
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<tr>
<th>Pumped Well No.</th>
<th>Observation well no.</th>
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<td>Pumped Well Name</td>
<td>Distance between Obs. &amp; Pumped Well ft.</td>
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<td>Target Q gpm</td>
<td>Reference pt. for depth to water ft. msl</td>
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<td>Static Water Level @ start of test ft. msl</td>
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Water level measurements by:
- □ steel tape
- □ pressure transducer
- □ airline

**START TEST**

Date: ___________ Hour of day: ___________

Flow Meter Reading Start: ___________ gals

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<th>Suggested elapsed time (min)</th>
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<th>Depth to water (nearest 0.01 ft)</th>
<th>Drawdown (unadjusted to nearest 0.01 ft)</th>
<th>Pumping rate Q (gpm)</th>
<th>EC (µmhos)</th>
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**Remarks**

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Use same ending drawdown figure as start for recovery

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:

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EXHIBIT 5
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- Start recovery

Date: ___________ Hour of day: ___________

ADDITIONAL REMARKS:

Person in charge of pump test (print): ________________________________

Signature: ________________________________

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

EXHIBIT 5
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 Resources Management

SUBJECT: Well Construction Permit Application
Haiku Mauka (Well No. 5825-01)

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 16, 1996.

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: (X) We have no comments
( ) Comments attached

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

Signed: Lori N. Kajiwara
Date: 12-16-96
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 Resources Management

SUBJECT: Well Construction Permit Application
Haiku Mauka (Well No. 5825-01)

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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: ( ) We have no comments
( ) Comments attached

Contact Person: Bill Wong
Phone: 586-4250
Signed: Bill Wong
Date: 12/10/96
Mr. Allan Smith  
Grove Farm Properties, Inc.  
P.O. Box 2069  
Puhi, HI 96766-7069  

Dear Mr. Smith:  

Well Construction Permit Application for Well No. 5825-01  

We acknowledge receipt, on October 11, 1996, of additional information to complete your well construction permit application for the Haiku Mauka Well (Well No. 5825-01). 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,  

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  
Haiku Mauka (Well No. 5825-01)

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 16, 1996.

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: ( ) We have no comments  
( ) Comments attached

Contact Person: ___________________________ Phone: ____________

Signed: ___________________________ Date: ____________
Ms. Rae Loui, Deputy Director  
Commission on Water Resource Management  
Department of Land and Natural Resources  
State of Hawaii  
P. O. Box 621  
Honolulu, HI 96809

Dear Ms. Loui:

Subject: Application to Deepen Haiku Mauka Well No. 1 (5825-01) - Delay Resulting from Apparent Lack of Drillers Report on File for State Well (5824-07)

Grove Farm Properties, Inc. is facing a significant delay in its water development program as the result of the staff decision to hold back our filing to deepen our well (5825-01). The requested Well Completion Report is for a 2" Observation Well No. 5824-07. We are forced to question this procedure as we feel that the filing of the Well Completion Report is the responsibility of the Drilling Contractor as described in HRS Chapter 174 C (Subchapter 3 entitled, Well Completion Report) attached. Grove Farm Properties, Inc. is unaware of a public hearing or change to this subchapter.

On August 26, 1996, our consultant Waimea Water Services began a series of fax and verbal communications with CWRM staff and Richard Theis of PR Drilling. To ensure that CWRM had the requested information on file, Waimea Water Services prepared, signed and submitted the Well Completion Report and requested additional data from a filing by PR Drilling in response to a fax request from staff. To the best of our knowledge, Grove Farm Properties, Inc. has made every effort to ensure that CWRM has the required information on file. What is missing is the signed OFFICIAL FORM submitted by PR Drilling. We believe it is the responsibility of the CWRM to obtain that information not Grove Farm Properties, Inc. Regardless, we have requested PR Drilling to submit same as soon as possible.

We look forward to your response on this matter and expect that our Well Construction Permit request to deepen Haiku Mauka Well No. 1 (5825-01) submitted on August 14, 1996, will be approved by the Commission on October 22, 1996 or no later than the CWRM November meeting.

Sincerely,

GROVE FARM PROPERTIES, INC.

Allan A. Smith, Vice President  
and Chief Operating Officer

A subsidiary of  
Enclosure
(g) An amended well construction permit may be issued by the commission if it determines that the proposed new well location will serve the same use as the original well, draw upon the same supply of water, and will not be contrary to any applicable law, rule, order, or regulation; and that the incomplete and abandoned well will be sealed or plugged in an approved manner.

(h) An applicant for a well construction or pump installation permit whose application or amended application is rejected may obtain a hearing before the commission by filing within thirty days of the mailing of the notice of rejection a written petition requesting such a hearing. The hearing shall be conducted pursuant to chapter 13-167.

(i) The commission may modify, suspend, or revoke a permit, after notice and hearing, on any of the following grounds:

(1) Material misstatement or misrepresentation in the application for a permit;
(2) Failure to comply with the provisions set forth in the permit;
(3) Willful disregard or violation of any provision of this part or any rule adopted pursuant thereto; or
(4) Material change of circumstances or conditions existing at the time the permit was issued.

(j) Every well construction and pump installation permit issued or caused to be issued by the commission shall be for a specified period not to exceed two years, unless otherwise specified in the permit and shall contain the commencement and completion dates for the permitted activity. In determining the commencement and completion dates of the activity, the commission shall take into consideration the:

(1) Cost and magnitude of the project;
(2) Engineering and physical features involved;
(3) Existing conditions; and
(4) Public interest affected.

(k) The commission may extend the completion dates of the activity prescribed in any permit upon a showing of good cause and good-faith performance. If the commencement or completion date is not complied with, the commission shall cause the permittee to be notified by certified mail that the permit shall be revoked within sixty days unless the permittee can show good cause that it should not be revoked. [Eff. MAY 27 1986] (Auth: HRS §174C-8) (Imp: HRS §§91-2, 174C-48, 174C-53, 174C-84)

§13-168-13 Well completion report. Within thirty days after the completion of any well, the well driller or pump installation contractor, as the case may be, shall file with the commission on forms provided by the commission a well completion report containing as appropriate:

(1) State well number;
(2) Date of completion;
(3) Tax map key;
§13-168-13 Well head, top of casing, and ground elevations; Method of construction; Depths, diameters, and other dimensions of drilled hole; Depths, diameters, dimensions, and types of casing and grouting; Driller's log of water levels, depths, thickness, and drilling characteristics of sub-surface formations; Pumping test record, including times, rates of pumping, drawdown of the water level, and chloride content of the pumped water; Elevation of static water level or artesian head; Water temperature; Chemical analyses of a water sample drawn from the well; and Other information as may be required by the commission.

§13-168-14 Well construction and pump installation standards. (a) The minimum standards referenced in this section, shall be such as to ensure the safe and sanitary maintenance and operation of wells, the prevention of waste, and the prevention of contamination of ground water aquifers. The standards for well construction specified in Volume I, Part III, section 5, of the publication entitled Water System Standards, State of Hawaii, 1985, adopted by the counties, and as may be amended, are hereby incorporated by reference.

(b) The minimum standards for the installation of pumps and pumping equipment shall also provide for the installation of devices to measure the amount of ground water being withdrawn from the wells. Standards specified in the American Water Works Association Standards (ANSI/AWWA E101-77), and as may be amended, are hereby incorporated by reference.

(c) The well construction and pump installation standards referenced in this section shall serve as minimum guidelines and shall be subject to review and modification by the commission.

(d) If any well construction or pump installation standard is violated and as a consequence ground water is wasted or any well is contaminated, the commission, after giving notice of the defect to the owner of the land on which the well is located, and giving such owner a reasonable time to correct the defect, may itself correct the defect and charge the land owner for the cost of such correction. Such cost constitutes a lien on the land until paid. The lien may be foreclosed in any court of competent jurisdiction, and in such foreclosure suit, the court shall allow the commission reasonable attorney's fees.

Mr. Allan Smith  
Grove Farm Properties, Inc.  
P.O. Box 2069  
Pull, Kauai, HI 96766-7069

Dear Mr. Smith:

Well Construction Permit Application for Well No. 5825-01

We received your well construction permit application and filing fee for the Haiku Mauka Well (Well No. 5825-01) on August 15, 1996. However, your application is incomplete. Matters which must be addressed before we accept your application as complete are as follows:

1. Well Completion Report for Well No. 5824-07 signed by the drilling contractor.

We are unable to accept the well completion report signed by your consultant for Well No. 5824-07 (copy attached). We have forwarded the original well completion report to PR Drilling for their review and signature of the licensed driller that performed the work.

Upon receipt of the properly signed well completion report, we will accept your application for Well No. 5825-01 as complete and you can then expect your application to be processed within ninety (90) days.

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  
Attachment
August 14, 1996

Mr. Michael D. Wilson, Chairman
Commission on Water Resource Management
Department of Land & Natural Resources
State of Hawaii
P.O. Box 621
Honolulu, Hawaii 96809

ATTENTION: Ms. Rae M. Loui
Deputy Director

SUBJECT: APPLICATION FOR WELL CONSTRUCTION PERMIT
HAIKU MAUKA WELL NO. 1 (STATE WELL NO. 5825-01)
PUHI, KAUAI, HAWAII
TMK: 4TH DIVISION, 3-4-05:3

Dear Mr. Wilson:

We herewith submit the original and two copies of the above subject permit application, for your review and approval.

A check for $25.00 is attached for the required filing fee.

The application was prepared for Grove Farm Properties, Inc.

Point of contact is Benjamin Ganal or the undersigned at 536-7721.

Very truly yours,

[Signature]

Henry S. Morita
Executive Vice President

[c.c. Mr. Allan Smith, GFP w/attach.
BMG/HSM:cyk
DLNR032L.WPF]
State of Hawaii
COMMISSION ON WATER RESOURCE MANAGEMENT
Department of Land and Natural Resources

APPLICATION FOR PERMIT
XX 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 Regulations Branch at 587-0228.

1. APPLICANT: (circle primary contact a, b, or c)
   (a) WELL OWNER
      Firm/Name: Grove Farm Properties, Inc.
      Contact Person: Allan Smith
      Address: P.O. Box 2069
      City, State, Zip: PuhI, Kauai, Hawaii 96766-7069
   (b) LANDOWNER
      Firm/Name: Grove Farm Company, Incorporated
      Contact Person: Guido Giacometti
      Address: P.O. Box 2069
      City, State, Zip: PuhI, Kauai, Hawaii 96766-7069
   (c) CONTRACTOR
      Firm/Name: To Be Selected
      Contact Person:
      Address:
      City, State, Zip:

2. WELL LOCATION/NAME: Haiku Mauka Well #1, State Well #5825-01 Island Kauai
   Address: PuhI, Kauai, Hawaii
   Tax Map Key 3rd Div.
   (Attach a USGS map, scale 1"=2000', and a property tax map showing well location referenced to established property boundaries.)

3. (a) PROPOSED WORK:
   X□ Drill New Well
   X□ 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
      □ 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: 350 gallons per minute
   Pump Type:
   □ Deep Well Turbine
   □ Submersible
   □ □ Rotary
   □ □ Reciprocating
   □ □ Centrifugal
   □ □ Rotary-Gear
   □ □ Impulse
   If Pump Replacement, Existing Pump Capacity: _______ gallons per minute

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

6. (a) PROPOSED AMOUNT OF WITHDRAWAL: 500,000 gallons per day
   (b) METHOD OF FLOW MEASUREMENT:
      □ Flow-meter
      □ Open-pipe
      □ Orifice Plate
      □ Weir

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

8. REMARKS, EXPLANATIONS:
   The work to be performed under this permit will consist of deepening the existing well by drilling an additional 400' of open hole. A pumping test and TV log will also be performed.

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 of future use up to the permitted pump capacity.

Well Owner: Allan A. Smith
Landowner: Guido Giacometti
Contractor: Grove Farm Company, Incorporated

Signature: __________________________
Date: 02/14/94

Signature: __________________________
Date: 02/14/94

Signature: __________________________
Date: 02/14/94

For Official Use Only:
Date Received: __________________________
Field Checked By: __________________________
Date: __________________________
Longitude: __________________________
Latitude: __________________________
Aquifer System Name: KANAHAU
State Well No.: 5825-01

11/20/96 WCP Form
8. Remarks, Explanations (cont'd): This permit is intended to provide additional source capacity for the Grove Farm Properties on Kauai in support of the County of Kauai Dept. of Water Haiku/Puhi water system. The H M #1 well will be integrated into the master planned water system.

9. PROPOSED WELL SECTION
SEE ATTACHED FIGURE A

Elevation at top of casing
_____ ft., msl.

Ground Elevation: _____ ft., msl*

Cement Grout: _____ ft.

Cement Grout: _____ ft.

Rock Packing: _____ ft.

Solid Casing:
Material
Length ________ ft.
Diameter ________ in.
Wall thickness ________ in.

Hole Diameter: ________ in.

Casing: □ Perforated □ Screen
Material
Length ________ ft.
Diameter ________ in.
Wall thickness ________ in.
Openings ________ sq. in./ft.

Total Depth ________ ft.

Open Hole:
Length ________ ft.
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.
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ARKS: LINE (1) Well No 5825-01 (WCA)
LINE (2)
LINE (3)
LINE (4)
TRANSIMMITAL

To: Mr. Keith W. Ahue, Chairperson
Commission on Water Resource Management
State of Hawaii
Department of Land and Natural Resources
P. O. Box 621
Honolulu, HI 96809

Subject: Pump Installation Permit for Grove Farm Haiku Mauka Well #1
Well No. 5825-01, Puhi, Kauai, Hawaii

Message: Enclosed is an executed original Pump Installation Permit for the above-mentioned subject.

cc: Mr. Robert Akinaka, Akinaka & Associates, Ltd.

FROM: Greg Kamm
Vice President
PUMP INSTALLATION PERMIT

for

Grove Farm Haiku Mauka Well #1
Well No. 5825-01
Puhí, Kauai

TO: Grove Farm Properties, Inc.
P.O. Box 2069, Puhí Rural Branch
Lihue, HI 96766-7069

In accordance with the Department of Land and Natural Resources Administrative Rules, Section 13-168, entitled "Water Use, Wells, and Stream Diversion Works", your application to install a pump in Grove Farm Haiku Mauka Well #1 (Well No. 5825-01), is approved subject to the following conditions:

STANDARD PUMP INSTALLATION PERMIT CONDITIONS

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

2. The pump installation permit shall be for installation of a 150 gpm capacity, or less, pump in the well. A means to accurately measure water levels, acceptable to the Commission, shall be provided.

3. 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.

4. The applicant shall comply with all applicable laws, rules, and ordinances.
5. An approved flowmeter(s) must be installed to measure withdrawals and a monthly record of withdrawals, water-levels, salinity, and temperature must be kept and reported to the Commission on a monthly basis in accordance with the Commission's September 16, 1992 action on reporting requirements.

6. The pump installation permit may be revoked if work is not started within six (6) months of the date of issuance or if work is suspended or abandoned for six months. The work proposed in the pump installation permit application shall be completed within two years from the date of permit approval.

7. An as-built sectional drawing of the pump installation shall be submitted to the Commission within thirty (30) days after completion of work.

8. The pump installation permit application and staff submittal approved by the Commission at its September 28, 1994 meeting are incorporated into the permit by reference.

I have read the conditions and terms of this permit and understand them. I accept and agree to meet these conditions as a prerequisite and underlying condition of my ability to proceed.

Applicant's Signature: ______________________ Date: October 31, 1994

Printed Name: Greg Kamm, Vice President

Firm or Title: Grove Farm Properties, Inc.

Please sign and return one copy of this permit to the Commission and retain a copy for your record.

cc: USGS
Department of Health
Safe Drinking Water Branch
Wastewater Branch
Ground Water Protection Program
Kauai Department of Water
Mr. Mike Wilson, Chairman  
Commission on Water Resource Management  
State of Hawaii Dept. of Land & Natural Resources  
PO Box 621  
Honolulu, HI 96809  

Attention: Ms. Rae Loui, Deputy Director

RE: Notification of Pump Installation Commencement  
Grove Farm's Haiku Mauka Well #1  
State Well #5825-01

Dear Ms. Loui:

Pursuant to condition #1 of the Pump Installation Permit issued by the Water Commission, this letter is notification that work on the subject pump installation will begin no later than 10/5/95. R Electric will be doing the work for us under the direction of Mr. Bob Akinaka of Akinaka & Associates.

If you have questions, please call me at 1-808-245-3678 or Mr. Bob Akinaka at 536-7721.

Sincerely,

Greg Kamm  
Vice President

cc: Murl Nielsen  
Steve Bowles  
Bob Akinaka
Mr. Greg Kamm  
Grove Farm Properties, Inc.  
P.O. Box 2069  
Puhi Rural Branch  
Lihu’e, Hawaii 96766-7069

Dear Mr. Kamm:

Haiku Mauka Well #1  
(Well No. 5825-01)

We have received your request for a six-month extension of the start date for construction of this well, permitted on October 5, 1994.

By this letter, the start date is extended to October 5, 1995. Completion of construction under this permit is required by October 5, 1996.

Sincerely,

[Signature]

for: RAE M. LOUI  
Deputy Director

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PLEASE:
- See Me
- Review & Comment
- Take Action
- Type Draft
- Type Final
- File
- Xerox ____ copies

02/95
March 9, 1995

Mr. Mike Wilson, Chairman
Ms. Rae Loui, Deputy Director
Commission on Water Resource Management
State of Hawaii Dept. of Land & Natural Resources
PO Box 621
Honolulu, HI 96809

RE: Request for Extension of Pump Installation Permit
Grove Farm's Haiku Mauka Well #1
State Well #5825-01

Dear Mr. Wilson & Ms. Loui:

This letter is our request for an extension of time of 6 months until 10/5/95 for the above-referenced pump installation permit, issued 10/5/94.

We have completed construction plans of the pump and controls, which have been submitted to the Kauai County Department of Water for review and approval. It is unlikely, however, that we will receive approval, be able to locate a contractor, negotiate and get into construction by 4/5/95. Accordingly, we are seeking a 6 month extension.

If you have questions, please call me at 245-3678 or Mr. Bob Akinaka at 536-7721. Thank you for your consideration.

Sincerely,

Greg Kamm
Vice President

cc: Murl T. Nielsen (KDOM)
Bob Akinaka
March 9, 1995

Mr. Mike Wilson, Chairman
✓ Ms. Rae Loui, Deputy Director
Commission on Water Resource Management
State of Hawaii Dept. of Land & Natural Resources
PO Box 621
Honolulu, HI 96809

RE: Request for Extension of Pump Installation Permit
Grove Farm’s Haiku Mauka Well #1
State Well #5825-01

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This letter is our request for an extension of time of 6 months until 10/5/95 for the above-referenced pump installation permit, issued 10/5/94.

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If you have questions, please call me at 245-3678 or Mr. Bob Akinaka at 536-7721. Thank you for your consideration.

Sincerely,

Greg Kamm
Vice President

cc: Murl T. Nielsen (KDO)  
Bob Akinaka
TO: Greg Kamm
FROM: John M. Stubbart
DATE: August 18, 1994
SUBJ: SUPPLEMENT TO HA IKU MAUKA WELL #1 REPORT

Greg,

Enclosed please find three copies of the Observations of Hoinakaunalehua Stream Flow for your file and distribution.

A copy of this report is being forwarded to Ed Sakoda and Bob Akinaka. Should you have any questions, please feel free to call me. Thank you.

/skim

Enclosures

cc: Mr. Robert Akinaka w/encl.
8 Aug 94

Mr. Keith W. Ahue, Chairperson
Commission on Water Resource Management
Dept. of Land and Natural Resources
Division of Water Resources Management
State of Hawaii
P.O.B. 621
Honolulu, Hawaii 96809

ATTENTION: Rae M. Loui
Deputy Director

SUBJECT: As Built Report
HAIKU MAUKA WELL #1
Grove Farm, Kauai, Hawaii
CORRECTION of STATE WELL ID NUMBER

Dear Mr. Ahue,

We submitted an As Built Report for the Haiku Mauka Well #1, State ID No. 5825-01. Our report contained the wrong ID number, 2825-01.

Enclosed are the replacement pages for the report. Please remove the existing pages from the report in your files and replace them with these pages.

If there are any questions, please call the undersigned.

Very truly yours,

John Stubbart
President

Attachments
HAiku Mauka Well #1

State Well No. 5825-01

AS BUILT REPORT

February 1994

Prepared by

Waimea Water Services

and

Island Resources Ltd.
# Haiku Mauka Well #1

State Well No. 5825-01

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Haiku Mauka Well #1

WELL # 1
State Well No. 5825-01

AS BUILT REPORT

DRILLING AND TESTING

The Haiku Mauka Well #1 was intended to supply up to 500,000 gallons per day (gpd) for purposes of potable use. The well was designed and budgeted to be drilled to 134 feet below sea level. Based on the findings of Observation Well #2 testing some 300 feet mauka, it was assumed that the well would enter aquifer "B" with a water level of 333.5 feet above sea level.

The well was funded by Grove Farm Properties Inc. and to be turned over to the Kauai Department of Water. The well permit was applied for on 9 April 92. The permit was approved by the State of Hawaii, Department of Land and Natural Resources; Commission on Water Resource Management on 1 July 92. The State Well Number assigned was 5825-01. Impact Drilling Company, Aaron Frandsen won the bid.

The bid proposals and plans were submitted to the Department of Water, County of Kauai for approval and the County DWS participated in the pre-construction meeting held on 7 July 93.

The Notice to Proceed was given on 7 July 93. After site grading by Grove Farm Co., drilling of the 18 inch hole commenced 10 July 93. The contractor bid for a 18" minimum diameter well hole and the well bit was 19.37". Water was first struck at a depth of about 50 feet (+418' elev.). As the hole was deepened to 166' and bailed and the water level fell to 131' (+337' elev). As the hole was deepened the water level stabilized at 132.5' depth (+333.5' elev.).
The 18 inch hole was video taped on 7 Oct 93 to 500' depth. The well looked good and visual inspection matched the recorded geologic data. An alignment of the un-cased hole was run the same day and it showed the 19.37" hole could receive a 12" casing as the effective diameter of the well is 16.17".

A pumping test of the un-cased hole was run on 22 Oct 93. The well yielded an flow of 160 gpm as opposed to the target of 350 gpm. Based on the evidence provided by the pumping test, rock cuttings, video taping, and water level measurements, a conclusion was reached that the well should be cased and deepened with a 11.75" open hole to determine if more yield could be obtained.

The well was cased by 11 Nov 93 and gravel packing and grouting of the annulus completed by 15 Nov 93.

Drilling of the 11.75" open hole went 100' to (-134' elev). Materials continued to be weathered throughout the drilling and the water level remained constant at elevation 323.68 feet.

The As Built dimensions of the well are shown in Figure 1.

A well Plumbness and Alignment test was conducted on 7 Dec 93 of the cased hole. The results are noted in Figure 2. The dummy passed freely down the 12" casing. The data collected showed the well met the specifications for the plumbness for each 100 feet and that the effective diameter of the well is 9.16" clear for the column pipe.

A pumping test was run on 10 Dec 93. Based on this information a longer term test was run on 13 Dec 93 to 15 Dec 93 for a total of 3060 minutes. The average gpm was 148 gpm. The results of these tests are contained in Figure 3 and 4. It is concluded that the well can readily be pumped at a continuous rate of about 150 gpm for extended periods.

Data was collected from Observation Well #2 mauka of the well. The test information is found in Figure 5. Influence from Haiku Mauka well was seen in Observation Well #2 (located about 300 feet up-gradient) after 500 minutes of pumping. The drawdown was 0.53 feet after 2900 minutes of pumping.
Water quality samples were taken by AECOS Laboratory for analysis during the 48th hour of the pumping test and the results are listed in Figure 6. The items tested are those listed on the current State Dept. of Health listing of Contaminates Regulated by the Safe Drinking Water Branch. The only contaminant found to exceed the MCL was Total Coliform. The laboratory results indicate TNTC (to numerous to count). This was similar to the testing results found at Puhi Well #4. This bacteria could be attributable to soils bacteria found in the natural environment and water treatment will be required; chlorination or ozone. This "background" bacteria may be similar to the bacteria found in the Honolulu BWS well at Kunia where bacteria infiltrates the well after non-use and has taken up to 1 month of pumping and use of chlorox to finally dissipate.

The contracted driller's Well Completion Report is attached as Figure 7. This report was sent to the State as required by the contractor.

A geologic log of the well is contained in Figure 8.

The Hoinakaunalehua Stream flow was monitored before and during the pumping test. Photos are contained in Figure 9. It was noted that the stream flow was the same as other observations and that the water source was the sugar planation ditch leakage (as noted in the photos) above the well and observation area. The pumping of the Haiku Mauka Well #1 did not impact the stream flow.
PUMP INSTALLATION PERMIT

for

Grove Farm Haiku Mauka Well #1
Well No. 5825-01
Puhi, Kauai

TO: Grove Farm Properties, Inc.
P.O. Box 2069, Puhi Rural Branch
Lihue, HI 96766-7069

In accordance with the Department of Land and Natural Resources Administrative Rules, Section 13-168, entitled "Water Use, Wells, and Stream Diversion Works", your application to install a pump in Grove Farm Haiku Mauka Well #1 (Well No. 5825-01), is approved subject to the following conditions:

STANDARD PUMP INSTALLATION PERMIT CONDITIONS

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

2. The pump installation permit shall be for installation of a 150 gpm capacity, or less, pump in the well. A means to accurately measure water levels, acceptable to the Commission, shall be provided.

3. 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.

4. The applicant shall comply with all applicable laws, rules, and ordinances.
5. An approved flowmeter(s) must be installed to measure withdrawals and a monthly record of withdrawals, water-levels, salinity, and temperature must be kept and reported to the Commission on a monthly basis in accordance with the Commission's September 16, 1992 action on reporting requirements.

6. The pump installation permit may be revoked if work is not started within six (6) months of the date of issuance or if work is suspended or abandoned for six months. The work proposed in the pump installation permit application shall be completed within two years from the date of permit approval.

7. An as-built sectional drawing of the pump installation shall be submitted to the Commission within thirty (30) days after completion of work.

8. The pump installation permit application and staff submittal approved by the Commission at its September 28, 1994 meeting are incorporated into the permit by reference.

I have read the conditions and terms of this permit and understand them. I accept and agree to meet these conditions as a prerequisite and underlying condition of my ability to proceed.

Applicant's Signature: ___________________________ Date: ________________

Printed Name: __________________________________________

Firm or Title: __________________________________________

Please sign and return one copy of this permit to the Commission and retain a copy for your record.

cc: USGS
   Department of Health
      Safe Drinking Water Branch
      Wastewater Branch
      Ground Water Protection Program
   Kauai Department of Water
Mr. Greg Kamm, Vice President  
Grove Farm Properties, Inc.  
P.O. Box 2069  
Puhi, Kauai, HI 96766  

Dear Mr. Kamm:  

We have received your application and filing fee for a permit to install a pump in  
Haiku Mauka No. 1 Well (Well No. 5825-01) at Puhi, Kauai (TMK 3-4-5:03). We are  
reviewing the application for completeness.  

Your installation application indicates Hoinakaunalehua Stream flow was monitored  
before and during the pumping test, and that pumping of the well did not impact stream  
flow. Please provide the related information such as method of measurement, location of  
measurement sites, data collected, etc., which led to that conclusion.  

Should you have any questions, please call Commission staff at 587-0225.  

Sincerely,  

ECHM  
RAE M. LOUI  
Deputy Director  

JZ:ko
Grove Farm Properties, Inc.

June 1, 1994

Mr. Keith W. Ahue, Chairperson
Commission on Water Resource Management
Department of Land & Natural Resources
Division of Water Resources Management
State of Hawaii
P. O. Box 621
Honolulu, HI 96809

Attention: Ms. Rae M. Loui, Deputy Director

Dear Mr. Ahue:

Re: Application for Well Pump Installation Permit
Haiku Mauka Well No. 1
State Well No.: 2825-01
Haiku Mauka, Puhi, Kauai, Hawaii
TMK: 4th Division, 3-4-05:3

We herewith submit the original and two copies of the above subject permit application for your review and approval.

A check for $25.00 (ck #11532) is attached for the required filing fee.

If there are any questions, please call the undersigned.

Sincerely,

GROVE FARM PROPERTIES, INC.

Greg Kamm
Vice President

GK:ei
gen210.gfp
Enclosures

cc: Mr. Robert Y. Akinaka
Akinaka & Associates, Ltd.

A subsidiary of

Grove Farm Company
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<th>INVOICE NUMBER</th>
<th>DESCRIPTION</th>
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APPLICATION FOR PERMIT

1. APPLICANT: (may be a, b, or c, but all must be filled in)
   (a) WELL OWNER
   Firm/Name: Grove Farm Properties, Inc.
   Contact Person: Greg Kamm
   Address: P.O. Box 2069
   Puh, Kauai, Hawaii 96766-7069

   (b) LANDOWNER
   Firm/Name: Grove Farm Company, Incorporated
   Contact Person: David Paff
   Address: P.O. Box 2069
   Puh, Kauai, Hawaii 96766-7069

   (c) CONTRACTOR
   Firm/Name: To Be Determined
   Ph: __________________________

2. WELL LOCATION/NAME:
   Haiku Mauka Well #1, State Well #925-01
   Island: Kauai
   Address: Puh, Kauai, Hawaii
   Tax Map Key: 4th Div. 3-4-05:3

3. (a) PROPOSED WORK:
   □ Drill New Well
   □ Modify Existing Well
   □ Redrill
   □ Install New Pump
   □ Replace Pump
   □ Modify 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
   (Briefly describe and fill in the diagram on the back of this form.)

4. PROPOSED PUMP INFORMATION:
   Rated Pump Capacity: _______ gallons per minute
   Pump Type:
   □ Deep Well Turbine
   □ Rotary
   □ Rotary-Displacement
   □ Centrifugal
   □ Reciprocating
   □ Impulse
   Motor:
   □ Diesel
   □ Gas
   □ Electric, rated horsepower of _______

5. PROPOSED USE:
   □ Municipal (including hotels, stores, etc.)
   □ Military
   □ Domestic (individual, noncommercial water sys.)
   □ Industrial
   □ Irrigation (crop)
   □ Other (explain)
   □ State Land Use District:
   □ Urban □ Agricultural □ Rural □ Conservation
   County Zoning (describe) _______
   If more space is needed, continue below under remarks, explanations.

6. (a) PROPOSED AMOUNT OF WITHDRAWAL:
   216,000 gallons per day

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

8. REMARKS, EXPLANATIONS:
   See attached "WELL REPORT AND RECOMMENDATION FOR 150 GPM PUMP."
   This well and pump are planned to be a part of the master planned water system to
   service Puh and Lihue development.

(If more space is needed, continue on back)

NOTE: Signing below indicates that the applicant understands that, if the permit requested is granted by the Commission on Water Resource Management, the proposed work is to be completed within 2 years of the approved date. In addition, the contractor shall submit to the Commission a well completion report, well abandonment report, or both, within 30 days of the completion date of the permitted work. The applicant also understands that monthly water use data shall be submitted to the Commission. The applicant further understands that upon completion of the proposed work shall not constitute a determination of corrective water rights and shall not guarantee the pump capacity or future use up to the permitted pump capacity.

Signatures:
Greg Kamm
Landowner: Allan A. Smith
Contractor: __________________________

Date
6/1/94

For Official Use Only:

Date Received
Date Approved
Field Checked By
Date

Longitude
Latitude

Aquifer System Name: State Well No.

5/24/92 WCP
The well and pump will be turned over to the County of Kauai, Dept. of Water Supply. Final pump specifications will be collaborated with Kauai DOW.

9. PROPOSED WELL SECTION

SEE ATTACHED FIGURE "A"

- Elevation at top of casing: _____ ft., msl.
- Ground Elevation: _____ ft., msl*
- Cement Grout: _____ ft.
- Rock Packing: _____ ft.
- Hole Diameter: _____ in.
- Total Depth: _____ ft.
- Solid Casing:
  - Material:
  - Length: _____ ft.
  - Diameter: _____ in.
  - Wall thickness: _____ in.
- Casing: □ Perforated □ Screen
  - Material:
  - Length: _____ ft.
  - Diameter: _____ in.
  - Wall thickness: _____ in.
  - Openings: _____ sq. ln./f.
- Open Hole:
  - Length: _____ ft.
  - 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.
HAIKU MAUKA WELL #1
State Well No. 2825-01

PUMP PERMIT APPLICATION ATTACHMENT
April 1994

Prepared for
AKINAKA AND ASSOCIATES

Prepared by
WAIMEA WATER SERVICES
and
ISLAND RESOURCES LTD.

The Haiku Mauka Well #1 has been pump tested to supply up to 216,000 gallons per day (gpd) or 150 gpm for purposes of potable use. The well taps perched water (aquifer "B") with a water level of 333.5 feet above sea level.

The well was funded by Grove Farm Properties Inc. to be turned over to the Kauai County Department of Water. The well construction permit was applied for on 9 April 92. The permit was approved by the State of Hawaii, Department of Land and Natural Resources; Commission on Water Resource Management on 1 July 92. The State Well Number assigned was 2825-01. Impact Drilling Company (Aaron Frandsen) constructed the well.

The Notice to Proceed was given on 7 July 93. Drilling of the 18 inch hole commenced 10 July 93. Water was first struck at a depth of about 50 feet (+418' elev.). As the hole was deepened to 166' and bailed and the water level fell to 131' (+337' elev). As the hole was deepened the water level stabilized at 132.5' depth (+333.5' elev.).

A pumping test of the un-cased hole was run on 22 Oct 93. The well yielded a flow of 160 gpm as opposed to the target rate of 350 gpm. Based on the evidence provided by the pumping test, rock cuttings, video taping, and water level measurements, a conclusion was reached that the well should be cased and deepened with a 11.75" open hole to determine if more yield could be obtained.
The well was cased by 11 Nov 93 and gravel packing and grouting of the annulus completed by 15 Nov 93.

Drilling of the 11.75" open hole went 100' to (-134' elev). Materials continued to be weathered throughout the drilling and the water level remained constant at elevation 323.68 feet.

A well Plumbness and Alignment test was conducted on 7 Dec 93 of the cased hole. The dummy passed freely down the 12" casing. The data collected showed the well met the specifications for the plumbness for each 100 feet and that the effective diameter of the well is 9.16" clear for the column pipe.

A pumping test was run on 10 Dec 93. Based on this information a longer term test was run on 13 Dec 93 to 15 Dec 93 for a total of 3060 minutes. The average gpm was 148 gpm. It is concluded that the well can readily be pumped at a continuous rate of about 150 gpm for extended periods.

Data was collected from Observation Well #2 mauka of the well. The test information found influence from Haiku Mauka well in Observation Well #2 (located about 300 feet up-gradient) after 500 minutes of pumping. The drawdown was 0.53 feet after 2900 minutes of pumping.

Water quality samples were taken by AECOS Laboratory for analysis during the 48th hour of the pumping test. The items tested are those listed on the current State Dept. of Health listing of Contaminates Regulated by the Safe Drinking Water Branch. The only contaminate found to exceed the MCL was Total Coliform. The laboratory results indicate TNTC (to numerous to count). This was similar to the testing results found at Puhi Well #4. This bacteria could be attributable to soils bacteria found in the natural environment and water treatment will be required; chlorination or ozone. This "background" bacteria may be similar to the bacteria found in the Honolulu BWS well at Kunia where bacteria infiltrates the well after non-use and has taken up to 1 month of pumping and use of chlorox to finally dissipate.

The contracted driller’s Well Completion Report was sent to the State as required, a copy of which is attached.

The HoinaKaunalehua Stream flow was monitored before and during the pumping test. It was noted that the stream flow was the same as other observations and that the water source was the sugar planation ditch leakage above the well and observation area. The pumping of the Haiku Mauka Well #1 did not impact the stream flow.
WELL CROSS SECTION
HAIKU MAUKA WELL #1

Depths

Ground elevation - 459.18'

Casing - Solid
12'' ID, 5/16'' thick

Grout - annulus
2' concrete mix

Seal - 4' neat cement
3' sand
3' #10 fine ag.

Water level - 323.68'

Casing, Louvered Screen
12'' ID, 5/16'' thick

Gravel Pack - annulus
No. 3 course basalt gravel

Bottom of casing (-40.82')

Open Hole

Bottom of Hole (-140.82')

FIGURE A
WELL COMPLETION REPORT

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 381, Honolulu, Hawaii 96818. An as-built drawing of the well and chemical analyses should also be submitted. For assistance call the Commission Regulation Branch at 587-0040.

1. STATE WELL NO. 5825-01 WELL NAME Haiku Mauka #1 ISLAND: Maui
2. LOCATION: Address Puu Kaiwai Tax Map Key: 3-Y-05 P0R3
3. DRILLING OR PUMP INSTALLATION CONTRACTOR Impact Well Drilling
4. CONTRACTOR'S C-57 LICENSE NUMBER C-12550
5. NAME OF DRILLER WHO PERFORMED WORK Aaron Frandsen
6. TYPE OF RIG/CONSTRUCTION Cable Tool Walker-Neer
7. DATE OF WELL DRILLING COMPLETION: December 31, 1993
8. GROUND ELEVATION (masl) 459.18 ft.
   Top of Drilling Platform (masl) N/A ft.
   Height of Drilling Platform above Ground surface N/A ft.
   Bench Mark and Method Used to Determine Ground Elevation 459 Survey ft.
9. DRILLER'S LOG

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<th>Rock Description, Remarks, Dates</th>
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<td>130 to 140</td>
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(If more space is needed, continue on back.)

10. TOTAL DEPTH OF WELL BELOW GROUND 600 ft.
11. HOLE SIZE: 18 inch dia. from 0 ft. to 500 ft. below ground
    11.25 inch dia. from 500 ft. to 600 ft. below ground
    11 in. dia. from 600 ft. to 500 ft. below ground
12. CASING INSTALLED: 12 in. I.D. x 5/8 in. wall solid section to 120 ft. below ground
    12 in. I.D. x 5/8 in. wall perforated section to 500 ft. below ground
    Type of Perforation Louvered Screen pipe
13. ANNULUS: Grouted from 0 ft. below ground to 112 ft. below ground
    Gravel packed from 112 ft. below ground to 500 ft. below ground
14. INITIAL WATER LEVEL 132.5 ft. below ground. Date and time of measurement 12-9-93 2:00 PM
15. INITIAL CHLORIDE 30 ppm Date and time of sampling 12-9-93 2:00 PM
16. INITIAL TEMPERATURE 72 °F Date and time of sampling 12-9-93 2:00 PM
17. DATE OF PUMP INSTALLATION N/A
18. PUMP INSTALLATION: Test Pump Information only - removed after Test Pumping Pump Type, Make, Serial No. Grundfos 600S Capacity 800 gpm Motor type, H.P., Voltage, rpm 75 HP Hitachi Depth of Pump Intake Setting 429.75 ft. below Top of Casing, which elevation is 480.88 ft.
19. DEPTH OF BOTTOM OF AIRLINE 478 ft. below Top of Casing, which elevation is 479.88 ft.
   Pumping Head is 135.6 ft.

19. PUMPING TESTS:

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<th>Drawdown Test</th>
<th>Discharge Rate (gpm)</th>
<th>Drawdown (ft.)</th>
<th>Chi (ppm)</th>
<th>Temp. °F</th>
<th>Elapsed Time (Hours)</th>
<th>Discharge Rate (gpm)</th>
<th>Drawdown (ft.)</th>
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<th>Temp. °F</th>
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Remarks:

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

Contractor (print) Impact Well Drilling Title Owner
Signature Aaron Frandsen Date 1/19/94

For Driller's Use: Job Name Haiku Mauka #1 Job No.

For Official Use: Longitude 159 25 08 Latitude 21 58 26
### 9 (cont'd) DRILLER'S LOG (cont'd):

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<th>Depth (ft.)</th>
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Remarks (cont'd):

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Depths

- 132.5'
- 120'
- 112'

Ground elevation - 459.18'

- Casing - Solid
  12" ID, 5/16" thick

- Grout - annulus
  2' concrete mix

- Seal - 4' neat cement
  3' sand
  3' #10 fine agg.

- Water level - 323.68'

- Casing, Louvered Screen
  12" ID, 5/16" thick

- Gravel Pack - annulus
  No. 3 course basalt gravel

Bottom of casing (-40.82')

Open Hole

Bottom of Hole (-140.82')
Haiku Mauka Well #1  Pumping Test  P.1  13-Dec-93
5825-01

WELL GRAPHS

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Haiku Mauka Well #1 5825-01
Pump Test #2 - 13 DEC 93

Water Level above MSL - in FEET

Time in Minutes

Water Level - Recovery

Total Time Pumped = 3060 min.  Total Time Recovery = 2000 min.  Total Volume Pumped = 453,600 gallons
Haiku Mauka Well #1 5825-01
Pump Test #2 - 13 DEC 93

Water Level above MSL - in FEET

Time in Minutes

Water Level

Total Time Pumped = 3060 minutes  Total Time Recovery = 1500 min.  Total Volume Pumped = 453,600 gal.
To: Greg Kamm

Fr: John Stubbart

Re: Haiku Mauka Well #1 Status

Date: 19 Nov 93

The plumbness and alignment tests in the cased hole were completed yesterday afternoon, after the morning attempt failed to provide accurate readings due to wind. The dummy passed down the hole freely. The initial readings from the cage indicate a good cased hole. A full report will follow.

The pump testing is still scheduled for Friday, 10 Dec 93, 10:00 pm.

cc: Robert Akinaka, A&A
     Ron Yama, A&A
     Mal Matsumura, DOW Kauai
     Bruce Inouye, DOW Kauai
     Aaron Frandsen, Impact Drilling
     DC-WWS
     Glenn Bauer, CWRD
DATE: 12/9/93

TO: SEE LISTING

FAX #: 

FROM: JOHN SUBBAG

FAX #: 808-885-7851

TOTAL PAGES INCL. COVER PAGE: 9

CALL 885-5941 SHOULD YOU HAVE PROBLEMS WITH THIS TRANSMISSION. MAHALO.

H. M. & I

ALIGNMENT TEST
To: Robert Akinaka
   Ron Yama

Fr: John Stubbart

Re: Haiku Mauka Well #1
   Plumbness and Alignment Test #2

Date: 9 Dec 93

A plumbness and alignment test was run on 7 Dec 93 at the Haiku Mauka Well #1, cased well, to 500 feet depth. An alignment test was run with a cage measuring 11.5 inches in diameter at 10 am. Due to gusty winds and a bad shackle attachment. These readings were rejected. Another test was run at noon from the bottom of the hole to the top. The readings were more reliable and are used in this analysis. The wind was still gusting, but the wire line could be steadied for each reading.

A dummy plug 40' long with five rings of 11.5 inches in diameter and 12 inches wide each was run down the hole. This dummy passed freely, with no hang ups.

The data shows that the well meets the specifications for plumbness for each 100' (Figure 4) and the total allowed drift for the well. The well also meets the alignment for the placement of a pump with a column pipe of 9.16" diameter or less as the effective diameter of the well is 9.16" clear from top to bottom, meaning that the column pipe will not bend but hang straight (Figure 6).

The attached data and graphs are as listed below:

1. Original Data from field.

2. Tabulated data of Drift and Pump Center Line and the deflection in inches. This data is used for plumbness and alignment graphs/charts.

3. Graphic representation of data showing well alignment and most effective pump center line.
4. Plumbness Chart showing the drift per 100' and accumulated drift. This well meets the specifications of having less than 6" drift per 100 feet.

5. Alignment Presentation of data showing the maximum misalignments from the pump center line. This shows a 1.42" radius, or 2.84" diameter, loss in the hole diameter due to misalignment.

6. Misalignment Diameter chart shows the 2.84" misalignment loss in relation to the cased well of 12". The effective diameter is 9.16" for a column pipe to be installed from the top to the bottom of the well with out bending.

cc: Greg Kamm
    Aaron Frandsen
    DOW-Kauai
    DC
    Glenn Bauer

(by fax 9 Dec 93)
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12 NOON TEST
PULL W 28.5 FT
BASKET 11 1/2 INCHES ON 1/4 CABLE
7 DEC 93
### WELL ALIGNMENT DATA

**DATE:** 12/10/93

**CASING:** 12" ID

**PLUMBING OD:** 11 1/8" OD

**CASING TO FULLY:** 38.5

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**HAUKU MAUKA #1**

Figure 2
HAIKU MAUKA #1 WELL OPEN HOLE
Alignment Survey 7 OCT 93

Accumulative Drift in Inches

Depth of Well in Feet

Accumulative Drift in Inches

Depth of Well in Feet

NORTH/SOUTH DRIFT → Pump Line

WEST/EAST DRIFT → Pump Line

HAIKU MAUKA #1

Figure 3
# PLUMBNESS

7 DEC 93

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For 12" ID Open Hole: 1/2 of 12" each 100' = 6" allowed.
This well meets the specification for plumbness.

![Diagram showing plumbness tolerances for different depths](http://example.com/diagram.png)
HAiku MAUKA WELL #1
ALIGNMENT PRESENTATION
7 DEC 93

Figure 5
HAIKU MAUKA #1
MISALIGNMENT DIAMETER
7 DEC 93

Well Casing ID = 12"

Effective Diameter = 9.16"
for Column pipe.

Misalignment Diameter = 2.84"

Represents loss in effective diameter of well due to misalignment.

Represents largest column pipe that can be set in this well without bending from top to bottom of well.

HAIKU MAUKA #1
Figure 6

TOTAL P.09
State of Hawaii
COMMISSION ON WATER RESOURCE MANAGEMENT
Department of Land and Natural Resources

APPLICATION FOR PERMIT
[Signature]

[Date]

[1. APPLICANT: (may be a, b, or c, but all must be filled in)]
(a) WELL OWNER

firm/Name: GROVE FARM PROPERTIES, INC.
Phone: 808-245-3678
Address: 2-1850 KAUMALI HAY, STE 3001
PUU, KAUAI, HAWAII

(b) LANDOWNER

firm/Name: GROVE FARM PROPERTIES, INC.
Phone: 808-245-3678
Address: 2-1850 KAUMALI HAY, STE 3001
PUU, KAUAI, HAWAII

(c) CONTRACTOR

firm/Name: PR DRILLING CO. INC.
Phone: Contractor's C-57 License No. C-9627
Address: 235 KELLOG STREET, WAILUA, HAWAII 96786

[2. WELL LOCATION/NAME: HAIKU MAUKA WELL #1-OBSERVATION WELL 5 Island: KAUAI]
Address: PUII, KAUAI
Tax Map Key: 3-4-05:3

[3. (a) PROPOSED WORK:]
- Drill New Well
- Modify Existing Well
- Redrill
- Install New Pump
- Replace Pump
- Deepen
- Abandon/Seal
- 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
(Briefly describe and fill in the diagram on the back of this form.)

[4. PROPOSED PUMP INFORMATION:]

Rated Pump Capacity: N/A gallons per minute

Pump Type:
- Deep Well Turbine
- Submersible
- Centrifugal
- Rotary
- Rotary-Displacement
- Rotary-Gear

Motor:
- Diesel
- Gas
- Electric, rated horsepower of

[5. PROPOSED USE:]
- Municipal (including hotels, stores, etc.)
- Domestic (individual, noncommercial water use)
- Irrigation (crop)
- Agriculture
- Rural
- Conservation
- Other (explain)

State Land Use District:
- Urban
- Agriculture
- Rural
- Conservation

County Zoning (describe):

AGRICULTURE

[6. (a) PROPOSED AMOUNT OF WITHDRAWAL:]
N/A 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:]

This well is intended to determine water levels and geological information in support of GROVE FARM PROPERTIES, INC. HAIKU MAUKA WELL NO. 1 (STATE WELL NO. 5625-01)

NOTE: Signing below indicates that the applicant understands that, if the permit request is granted by the Commission on Water Resource Management, the proposed work is to be completed within two (2) years of the approval date. In addition, the contractor shall submit to the Commission a well completion report, well abandonment report, or both, within 30 days of completion date of the permitted work. The applicant further understands that monthly water use data shall be submitted to the Commission. The applicant further understands that the proposed permit 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: GREG KROHM
Landowner: GREG KROHM
Contractor: GREG KROHM

Signature: ____________________________
Date: ____________________________

(c) Attachments:

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

Aquifer System Name: ____________________________
State Well No: ____________________________

GROVE FARM INC. 5 5/24/92
9. PROPOSED WELL SECTION
SEE ATTACHED EXHIBIT "A"

Elevation at top of casing: _____ ft., mal.

Ground Elevation: ______ ft., mal*

Cement Grout: _____ ft.

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

Rock Packing: _____ ft.

Hole Diameter: _____ in.

Total Depth: _____ ft.

Casing: ☐ Perforated ☐ Screen
- Material
- Length: _____ ft.
- Diameter: _____ in.
- Wall thickness: _____ in.
- Openings: _____ sq. in./L.F.

Open Hole:
- Length: _____ ft.
- Diameter: _____ in.

*Approximate elevation at time of filing application. Ground elevation above mean sea level (mal) 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.
Mr. Keith Ahue, Chairman  
Commission on Water Resource Management  
State of Hawaii Dept. of Land & Natural Resources  
PO Box 621  
Honolulu, HI  96809  

Attention: Ms. Rae Loui, Deputy Director  

RE: Notification of Well Construction Commencement  
Grove Farm’s Haiku Mauka Well #1  
State Well #5825-01  

Dear Ms. Loui:  

Pursuant to condition #1 of the Well Construction Permit issued by the Water Commission, this letter is notification that work on the subject well will begin no later than 7/1/93. Impact Drilling will be doing the work for us under the direction of Mr. Steve Bowles of Waimea Water Services, Inc. and Mr. Bob Akinaka of Akinaka & Associates.  

If you have questions, please call me at 1-245-3678 or Mr. Bob Akinaka at 536-7721.  

Sincerely,  

Greg Kamm  
Vice President  

cc: Ray Sato  
    Steve Bowles  
    Bob Akinaka  
    David Pratt
FAX TRANSMITTAL

To: Mr. Keith Ahue & Ms. Rae Loui
Commission on Water Resource Management
Mr. Bob Akinaka
Akinaka & Associates, Ltd.

Subject: Notification of Well Construction Commencement
Grove Farm's Haiku Mauka Well #1 State Well #5825-01

Message: Enclosed, for your information, is my letter of today regarding the above-mentioned subject.

Hard copy to follow.

FROM

Greg Kamm
Vice President
GROVE FARM PROPERTIES, Inc.  
PO BOX 2069  PUHI RURAL BRANCH  
LIHUE, KAUAI, HI  96766-7069  

June 29, 1993

Mr. Keith Ahue, Chairman  
Commission on Water Resource Management  
State of Hawaii Dept. of Land & Natural Resources  
PO Box 621  
Honolulu, HI  96809  

Attention: Ms. Rae Loui, Deputy Director  

RE: Notification of Well Construction Commencement  
Grove Farm's Haiku Mauka Well #1  
State Well #5825-01  

Dear Ms. Loui:  

Pursuant to condition #1 of the Well Construction Permit issued by the Water Commission, this letter is notification that work on the subject well will begin no later than 7/1/93. Impact Drilling will be doing the work for us under the direction of Mr. Steve Bowles of Waimea Water Services, Inc. and Mr. Bob Akinaka of Akinaka & Associates.  

If you have questions, please call me at 1-245-3678 or Mr. Bob Akinaka at 536-7721.  

Sincerely,  

Greg Kamm  
Vice President  

cc: Ray Sato  
    Steve Bowles  
    Bob Akinaka  
    David Pratt
June 23, 1993

Mr. Keith W. Ahue, Chairman  
Commission on Water Resource Management  
Dept. of Land & Natural Resources  
State of Hawaii  
PO Box 373  
Honolulu, HI  96809

Attention: Ms. Rae Loui, Deputy Director

RE: Application For Well Construction Permit  
Observation Well #5 for Grove Farm’s Haiku Mauka Well #1  
(aka State Well #5825-01)  
Haiku Mauka, Puhi, Kauai, Hawaii  
TMK: (4) 3-4-5:3 (por.)

Dear Ms. Loui:

We enclose for your review and approval the original and 2 copies of the above-referenced permit application, as well as our check #9760 for $25.00 filing fee.

If you have questions, please call me at 1-245-3678 or Mr. Robert Y. Akinaka at 536-7721. Thank you for your consideration.

Sincerely,

Greg Kamm  
Vice President

cc: Robert Y. Akinaka (Akinaka & Associates, Ltd.)
Mr. Greg Kamm, Vice President
Grove Farm Properties, Inc.
P.O. Box 2069 Puhi Rural Branch
Lihue, HI 96766-7069

Dear Mr. Kamm:

Request for Extension of Start Date
for Grove Farm Haiku Mauka Well (Well No. 5825-01)

We acknowledge receipt of your letter requesting an extension of the start date for drilling Grove Farm Haiku Mauka Well. Work on the well was supposed to begin within six months of the date of issuance of the permit, or by January 10, 1993. By this letter we are extending your start date an additional six months to July 10, 1993. Please note that the well should be completed within two years of the date of issuance, or by July 10, 1994.

Please notify the Commission on Water Resource Management in writing before any work covered by the permit begins, or if work cannot begin by July 10, 1993.

Sincerely,

RAE M. LOUI
Deputy Director

ES:ko
c: Akinaka and Associates
Mr. William Paty, Chairman  
Commission on Water Resource Management  
Dept. of Land & Natural Resources  
State of Hawaii  
PO Box 373  
Honolulu, HI  96809  

Attention: Ms. Rae Loui, Deputy Director  

RE: Request for Extension of Well Construction Permit  
Grove Farm's Haiku Mauka Well  
Well #5825-01

Dear Ms. Loui:  

This letter is our request for an extension of time of 6 months until 7/10/93 for the above-referenced well permit, issued 7/10/92.  

Hurricane Iniki has required Grove Farm Properties, Inc. to focus on hurricane-related repairs and we have inadvertently allowed the permit to lapse. The hurricane also damaged the drill rig at the County's Puhi Well #4 (Well # 5824-06) which caused a delay in obtaining test data needed for the design of the subject well.  

If you have questions, please call me at 245-3678 or Mr. Bob Akinaka at 536-7721. Thank you for your consideration.  

Sincerely,  

Greg Kamm  
Vice President  

cc: Ray Sato  
    Steve Bowles  
    Bob Akinaka  
    David Pratt
To: Mr. William W. Paty, Chairperson
Commission on Water Resource Management
State of Hawaii
Department of Land and Natural Resources
P. O. Box 621
Honolulu, HI 96809

message

We are returning the original executed copy of the above subject for your files. We have our file copy.

FROM

Greg Kamm
Vice President

cc: Mr. Bob Akinaka
Mr. Greg Kamm
WELL CONSTRUCTION PERMIT

for

Grove Farm Haiku Mauka Well
Well No. 5825-01
Puhi, Kauai

TO: Grove Farm Properties, Inc.
P.O. Box 2069, Puhi Rural Branch
Lihue, HI 96766-7069

In accordance with the Department of Land and Natural Resources Administrative Rules, Section 13-168, entitled "Water Use, Wells, and Stream Diversion Works", your application to construct and test Grove Farm Haiku Mauka Well (Well No. 5825-01), for municipal use, is approved subject to the following conditions:

1. The Commission on Water Resource Management staff (Commission staff), P.O. Box 621, Honolulu, HI 96809, shall be notified, in writing, before any work covered by this permit commences.

2. The permit shall be for construction and testing only. No permanent pump may be installed and no water used from the well without the necessary pump installation permit from the Commission.

3. The proposed well construction shall not adversely affect existing or future legal uses of water in the area, including any surface water or established instream flow standards. This permit or the authorization to construct a well shall not constitute a determination of correlative water rights.

4. The applicant shall provide and maintain an approved meter or other appropriate device or means for measuring and reporting total water usage. Water usage shall be measured on a monthly basis and reported to the Commission.
5. The following shall be submitted to the Commission staff within 30 days after completion of the work:

   a. Well Completion Report.
   b. Elevation (referenced to mean sea level) 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 record, including time, pumping rate, drawdown, chloride content, and water quality data.

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

7. This permit may be revoked if work is not started within six months of the date of issuance or if work is suspended or abandoned for six months. The work proposed in the permit application shall be completed within two years after the date of permit issuance.

8. Hoinakaunalehua Stream flow shall be monitored before, during, and after test pumping of the well. Before test pumping, the applicant shall survey the stream above and below the well site to determine all sources and losses of flow that may affect flow measurements. For example, if a ditch were now leaking into the stream and were later repaired, a reduction in streamflow may occur. The reduction could mistakenly be attributed to pumping the well instead of the ditch repair. Instream uses could also be affected. Test pumping shall, whenever possible, be done during the dry summer months when the effect on streamflow will be most evident.

   Should a reduction in streamflow be evident at the time of test pumping, future use of the well may occur only after an amendment of the interim instream flow standard for Hoinakaunalehua Stream has been approved by the Commission in accordance with the State Water Code and Chapter 169, Hawaii Administrative Rules.
Should test pumping take place during a "wet" period and no effect be evident during the test pumping, the applicant will be required to perform limited streamflow monitoring during a dry period after the installation of a permanent pump. This would include measuring flow during normal pumping, stopping the pump and observing any changes in streamflow. If streamflow increases, it will be evident that the well does affect flow and a petition to amend the interim standard will be required.

I have read the conditions and terms of this permit and understand them. I accept and agree to meet these conditions as a prerequisite and underlying condition of my ability to proceed.

Applicant's Signature: [Signature] Date: 7/10/92

Printed Name: Greg Kamm, V.P

Firm or Title: Grove Farm Properties, Inc.

Please sign and return one copy of this permit to the Commission and retain a copy for your record.

Enc. (Well Completion Report form)
c: USGS
Department of Health
Safe Drinking Water Branch
Ground Water Protection Program
Kauai Department of Water
WELL CONSTRUCTION PERMIT

for

Grove Farm Haiku Mauka Well
Well No. 5825-01
Puhi, Kauai

TO: Grove Farm Properties, Inc.
P.O. Box 2069, Puhi Rural Branch
Lihue, HI 96766-7069

In accordance with the Department of Land and Natural Resources Administrative Rules, Section 13-168, entitled "Water Use, Wells, and Stream Diversion Works", your application to construct and test Grove Farm Haiku Mauka Well (Well No. 5825-01), for municipal use, is approved subject to the following conditions:

1. The Commission on Water Resource Management staff (Commission staff), P.O. Box 621, Honolulu, HI 96809, shall be notified, in writing, before any work covered by this permit commences.

2. The permit shall be for construction and testing only. No permanent pump may be installed and no water used from the well without the necessary pump installation permit from the Commission.

3. The proposed well construction shall not adversely affect existing or future legal uses of water in the area, including any surface water or established instream flow standards. This permit or the authorization to construct a well shall not constitute a determination of correlative water rights.

4. The applicant shall provide and maintain an approved meter or other appropriate device or means for measuring and reporting total water usage. Water usage shall be measured on a monthly basis and reported to the Commission.
5. The following shall be submitted to the Commission staff within 30 days after completion of the work:
   a. Well Completion Report.
   b. Elevation (referenced to mean sea level) 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 record, including time, pumping rate, drawdown, chloride content, and water quality data.

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

7. This permit may be revoked if work is not started within six months of the date of issuance or if work is suspended or abandoned for six months. The work proposed in the permit application shall be completed within two years after the date of permit issuance.

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WILLIAM W. PATY, Chairperson
Commission on Water Resource Management

Date of Issuance

I have read the conditions and terms of this permit and understand them. I accept and agree to meet these conditions as a prerequisite and underlying condition of my ability to proceed.

Applicant's Signature: ____________________________ Date: __________________

Printed Name: ________________________________

Firm or Title: _________________________________

Please sign and return one copy of this permit to the Commission and retain a copy for your record.

Enc. (Well Completion Report form)
c: USGS
   Department of Health
   Safe Drinking Water Branch
   Ground Water Protection Program
   Kauai Department of Water
June 3, 1992

The Honorable William W. Paty, Chairperson
Commission on Water Resource Management
Department of Land and Natural Resources
P. O. Box 621
Honolulu, Hawaii 96809

Dear Mr. Paty:

Well Construction and Pump Installation Permits
Stream Alteration Permits

Thank you for the opportunity to comment on the following applications:

Makaha-Cayer Well (2813-03)
Grove Farm-Haiku Mauka 1 (5825-01)
Hokukano Well (3153-01)
Hawi Well 2 (7349-01)

Maintenance Ramps, various Oahu streams
Individual lot access ford (Waimanalo)
16-inch water main stream crossings (Windward Oahu)

These projects are not expected to affect Hawaiian home lands; we have no comment at this time.

Warmest aloha,

Hoaliku L. Drake, Chairman
Hawaiian Homes Commission
May 19, 1992

Ms. Rae M. Loui, Deputy Director
Comm. on Water Resources Management
Dept. of Land and Natural Resources
P. O. Box 621
Honolulu, HI 96809

Re: Well Construction and Pump Installation Permit Application, Puhi-Grove Farm Haiku Mauka 1, Well No. 5825-01, Puhi, Kauai, Hawaii, TMK; 3-4-5:3

We have no objections to the proposed private well.

Raymond H. Sato
Manager and Chief Engineer

ED: rm
May 13, 1992

Ms. Rae Loui, Deputy Director
Commission on Water Resource Management
Department of Land and Natural Resources
State of Hawaii
P.O. Box 621
Honolulu, Hawaii 96809

Dear Ms. Loui:

SUBJECT: WELL CONSTRUCTION PERMIT APPLICATION
GROVE FARM HAiku MAUKA WELL NO. 1
STATE WELL NO. 5825-01
PUHI, KAUAI

Thank you for the opportunity to review and comment on the subject document. We have examined the application and have the following comments to offer:

1. The application indicates that the subject well will be for municipal use. If the well is to serve 25 or more individuals at least 60 days per year or will have a minimum of 15 service connections, the applicant will be required to comply with Hawaii Administrative Rules, Title 11, Chapter 20, Potable Water Systems.

2. Section 11-20-29 of Chapter 20 requires that a new source of potable water serving a public water system be approved by the Director of Health prior to its use. Such an approval is based primarily upon the submission of a satisfactory engineering report which addresses the requirements set in Section 11-20-29.

3. The proposed well is situated above the Underground Injection Control (UIC) line. Land areas above the UIC line are considered to contain underground sources of drinking water. Thus, it is essential that the well be designed and constructed to prevent the possibility of groundwater contamination. For example, the well should have a concrete well pad and full grouting to prevent seepage or floodwaters from migrating down the well shaft.
4. The operation of the well should not be allowed to adversely affect the water quality of nearby water wells. The map accompanying the application indicates that the proposed well will be located within 1,500 feet of state well no. 5824-06.

If you should have any questions, please contact Stuart Yamada of the Safe Drinking Water Branch at 586-4258.

Sincerely,

THOMAS E. ARIZUMI, P.E., Chief
Environmental Management Division

SY:chl

c: Mr. Greg Kamm
Grove Farm Properties, Inc.
3-1850 Kaumualii Highway, Suite 3001
Puhimau, Kauai, HI 96766
MEMORANDUM

TO: Rae M. Loui, Deputy Director
Commission on Water Resource Management

FROM: Don Hibbard, Administrator
State Historic Preservation Division

SUBJECT: Historic Preservation Review -- Grove Farm Haiku Mauka
1 Well No. 5825-01 -- Well Construction
Haiku, Lihue, Kauai

HISTORIC PRESERVATION PROGRAM CONCERNS:

Our staff archaeologist for the County of Kauai, Ms. Nancy McMahon inspected the project area with Mr. Greg Kamm, of Grove Farm Co. The project area is surrounded by sugar cane; the surface of the project area has been grubbed.

No surface features with historic significance are present on the project area. Due to the extent of prior subsurface disturbance and by cultivation, it does not appear likely that intact cultural deposits would be present.

We therefore believe that the well construction will have "no effect" on significant historic sites.

Sincerely,

DON HIBBARD, Administrator
State Historic Preservation Division

cc: Peter Nakamura, County of Kauai, Planning Department
Greg Kamm, Grove Farm Co.
Mr. Greg Kamm, Vice President
Grove Farm Properties, Inc.
P.O. Box 2069
Puhi Rural Branch
Lihue, Hawaii 96766

Dear Mr. Kamm:

We have received your application and filing fee for a permit to construct a well (Well No. 5825-01) at Haiku-Mauka, Kauai, (TMK 3-4-05:03). We are reviewing the application for completeness.

Should you have questions, please call the Commission on Water Resource Management staff at 587-0225.

Sincerely,

RAE M. LOUI
Deputy Director

NF:ky
Mr. Raymond Sato  
Manager and Chief Engineer  
Department of Water  
County of Kauai  
P.O. Box 1706  
Lihue, Kauai 96766

Dear Mr. Sato:

Well Construction and Pump Installation Permit Application(s)

Transmitted for your review and comment is a copy of the following permit application(s):

<table>
<thead>
<tr>
<th>Island</th>
<th>Well Name</th>
<th>Well No.</th>
<th>Application Type</th>
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</thead>
<tbody>
<tr>
<td>Kauai</td>
<td>Grove Farm Haiku</td>
<td>5825-01</td>
<td>Well Construction</td>
</tr>
<tr>
<td></td>
<td>Mauka 1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Please review the application(s) pursuant to your area of concern and submit your comments to us, orally or in writing, ten (10) working days from date of this letter.

Should you have any questions, please contact the Commission on Water Resource Management staff at 587-0225.

Sincerely,

RAE M. LOUI  
Deputy Director

NF:ky  
Enc.
MEMORANDUM

TO: Don Hibbard, Director
    Historic Preservation Program

FROM: Rae M. Loui, Deputy Director

SUBJECT: Well Construction and Pump Installation Permit Application(s)

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Please review the application(s) pursuant to your area of concern and submit your comments to us, orally or in writing, ten (10) working days from date of this memo.

Should you have any questions, please contact the Commission on Water Resource Management staff at 587-0225.

Enc.
Ms. Marjorie Ziegler  
Sierra Club Legal Defense Fund, Inc.  
212 Merchant Street, Room 202  
Honolulu, Hawaii 96813

Dear Ms. Ziegler:

Well Construction and Pump Installation Permit Application(s)

Transmitted for your information are copies of recent well permit application(s):

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<td></td>
<td></td>
</tr>
</tbody>
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Should you have questions, please contact the Commission on Water Resource Management staff at 587-0225.

Sincerely,

RAE M. LOUI  
Deputy Director

NF:ky  
Enc.
Honorable Hoaliku L. Drake  
Director  
Department of Hawaiian Home Lands  
State of Hawaii  
P.O. Box 1879  
Honolulu, Hawaii 96805

Dear Mrs. Drake:

Well Construction and Pump Installation Permit Application(s)

Transmitted for your review and comment is a copy of the following permit application(s):

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Please review the application(s) pursuant to your area of concern and submit your comments to us, orally or in writing, ten (10) working days from date of this letter.

Should you have any questions, please contact Rae M. Loui, Deputy Director at 587-0214.

Very truly yours,

WILLIAM W. PATY

Enc.
MAY 5 1992

Mr. Thomas Arizumi, Chief
Environmental Management Division
State Department of Health
Five Waterfront Plaza
500 Ala Moana Blvd., Suite 250
Honolulu, Hawaii 96813

Attn: Mr. William Wong

Dear Mr. Arizumi:

Well Construction and Pump Installation Permit Application

Transmitted for your review and comment is a copy of the following permit application(s):

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Should you have any questions, please contact the Commission on Water Resource Management staff at 587-0225.

Sincerely,

RAE M. LOUI
Deputy Director

NF:ky
Enc.
Mr. Clayton H. W. Hee  
Chairman & Trustee At Large  
Office of Hawaiian Affairs  
711 Kapiolani Blvd., Suite 500  
Honolulu, Hawaii 96813-5249

Attn: Ms. Linda Delaney, Land & Natural Resources Division

Dear Mr. Hee:

Well Construction and Pump Installation Permit Application(s)

Transmitted for your review and comment is a copy of the following permit application(s):

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</tr>
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<td>Hawi Well 2</td>
<td>7349-01</td>
<td>Well Construction</td>
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<td>Kauai</td>
<td>Grove Farm Haiku</td>
<td>5825-01</td>
<td>Well Construction</td>
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<td></td>
<td>Mauka 1</td>
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Please review the application(s) pursuant to your area of concern and submit your comments to us, orally or in writing, ten (10) working days from date of this letter.

Should you have any questions, please contact Rae M. Loui, Deputy Director at 587-0214.

Very truly yours,

[Signature]

WILLIAM W. PATY

Enc.
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<tr>
<th>TO</th>
<th>INIT</th>
<th>PLEASE</th>
<th>REMARKS</th>
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<tr>
<td>G. Matsumoto</td>
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</tr>
<tr>
<td>E. Sakoda</td>
<td></td>
<td>Call</td>
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<tr>
<td>Y. Shiroma</td>
<td></td>
<td>Review &amp; Comment</td>
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<tr>
<td>E. Hirano</td>
<td></td>
<td>Take Action</td>
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<tr>
<td>S. Samuels</td>
<td></td>
<td>Investigate &amp; Report</td>
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<td>G. Bauer</td>
<td></td>
<td>Draft Reply</td>
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<tr>
<td>R. Rozeboom</td>
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<td>Acknowledge Receipt</td>
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FOR YOUR:

- M. TAGOMORI                   Approval
- L. Nanbu                      Signature
-                           Information
Mr. William Paty, Chairman  
Commission on Water Resource Management  
Department of Land & Natural Resources  
Division of Water Resources Management  
State of Hawaii  
P. O. Box 373  
Honolulu, HI 96809  

Attention: Ms. Rae M. Loui  
Deputy Director  

Dear Mr. Paty:  

Re: Application for Well Construction/  
Pump Installation Permit  
Grove Farm Haiku Mauka Well No. 1  
Haiku-Mauka, Puhi, Kauai, Hawaii  
TMK: 4th Division, 3-4-05: Por. 3  

We herewith submit the original and two copies of the above subject permit application for your review and approval.  

A check for $25.00 is attached for the required filing fee.  

If there are any questions, please call the undersigned or Mr. Robert Y. Akinaka.  

Sincerely,  

GROVE FARM PROPERTIES, INC.  
Greg Kamm  
Vice President  

GK/ei  

Enclosures  

cc: Mr. Robert Y. Akinaka,  
Akinaka & Associates, Ltd.
<table>
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<th>INVOICE NUMBER</th>
<th>DESCRIPTION</th>
<th>AMOUNT</th>
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<tr>
<td>4/10/92</td>
<td>Fee</td>
<td>Haiku Mauka #1 Well Permit</td>
<td>$ 25.00</td>
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(2-5825-81 well cost Rmt. app.)
APPLICATION FOR

[**WELL CONSTRUCTION PERMIT**]

[**PUMP INSTALLATION PERMIT**]

**INSTRUCTIONS:** Please print or type in ink. Complete Application and submit with application fee to the Department of Land and Natural Resources. (Application fee is non-refundable.)

1. **WELL LOCATION**
   - **GROVE HAIKU MAUKA WELL NO. 1**
   - **Island:** KAUAI
   - **Tax Map Key:** DIV. 4: 3-4-05:3
   - **Address:** HAIKU MAUKA, PUHI, KAUAI

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

2. **WELL OWNER**
   - **Firm Name:** TO BE DETERMINED
   - **Contact Person:** GREG KAMM
   - **Address:** 3-1850 KAUMUALII HIGHWAY, STE 3001
     PUHI, KAUAI, HAWAII 96766
   - **Phone:** 245-3678

3. **PROPOSED CONTRACTOR FOR:**
   - [ ] Well Drilling
   - [ ] Pump Installation

   - **Name:** TO BE DETERMINED
   - **Address:**
   - **Contact Person:**
   - **Contractor's License No.:**
   - **Phone:**

4. **PROPOSED WORK**
   - [ ] Drill New Well
   - [ ] Alter
   - [ ] Install New Pump
   - [ ] Deepen
   - [ ] Seal
   - [ ] Replace Pump
   - [ ] Modify Pump
   - [ ] Redrill
   - [ ] Abandon

   (Briefly describe the proposed work and fill in the diagram on the back of this form.)

5. **PROPOSED USE**
   - [ ] Municipal (including hotels, stores, etc.)
   - [ ] Military
   - [ ] Domestic (individual, noncommercial water systems)
   - [ ] Industrial
   - [ ] Irrigation (specify)
   - [ ] Other (specify)

6. **PROPOSED AMOUNT OF WITHDRAWAL**
   - 500,000 gallons per day

7. **PROPOSED PUMP INFORMATION**
   - **Pump Type:** [ ] Vertical Turbine
     [ ] Submersible
     [ ] Centrifugal
     [ ] Other (specify)
   - **Motor:** [ ] Diesel
     [ ] Gas
     [ ] Electric:
     [ ] Rated Horsepower
   - **Rated Pump Capacity**

   (Specify) gallons per minute (gpm)

**Well Owner (print):** TO BE DETERMINED

**Signature:**

**Date:**

**Landowner (print):** GROVE FARM PROPERTIES, INC

**Signature:**

**Date:** APRIL 9, 1992

---

**For Official Use Only:**

**Field Checked By:**

**Latitude:**

**Hydrologic Unit:** 5825-01

**Longitude:**

**State Well No.:** 5825-01

---

E, G. & K. II
Briefly describe the proposed work:

THIS WELL WILL BE USED AS A WATER SOURCE FOR POTABLE WATER SUPPLY

---

**PROPOSED SECTION OF WELL**

Elevation at top of casing: 482 ft., msl.

**Cement Grout** 100 ft.

**Hole** Dia. 18 in.

**Total** 300 ft.
**Depth** 500 ft.

**Rock Packing** **ft.**
**** BOTTOM OF CASING TO BOTTOM OF HOLE

**Solid Casing:**
- **Material**: STEEL
- **Length**: 100 ft.
- **Diameter**: 12 in.
- **Wall thickness**: 0.365 in.

**Casing**: / /Perforated / /Screen
- **Material**: STEEL
- **Length**: TO BE DETERMINED IN THE FIELD
- **Diameter**: 12 in.
- **Wall thickness**: 0.365 in.
- **Openings**: 80 sq. in./L.F.

**Open Hole**:
- **Length**: TO BE DETERMINED IN THE FIELD
- **Diameter**: THE FIELD

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