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<th>Property Address</th>
<th>Owner/Lessee</th>
<th>Beds</th>
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<td>Kamaole Heights</td>
<td>F</td>
<td>KANAKANUI RD</td>
<td>KAK II LLC</td>
<td></td>
<td></td>
<td>28.57 ac</td>
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This information has been supplied by third parties and has not been independently verified by Hawaii Information Service and is, therefore, not guaranteed.
Michael Robertson  
Wailani Drilling, Inc.  
1885 Main Street, Suite 408  
Wailuku HI 96793

Dear Mr. Robertson:

Extension of Well Construction Permit  
Ke Alii Wells 1&2 (Well Nos. 4326-11 & 12)

Thank you for confirming our November 30, 2006 inquiry about extending the captioned permit. By this letter, we approve an extension of six months. The new expiration date for the wells is June 5, 2006. If the work cannot be done within that period, you may reapply at any time with no penalty or prejudice.

All other conditions for this permit remain the same. Please keep a copy of this letter filed with the original permit.

If you have any questions, please call Charley Ice of the Commission staff at 587-0251 or toll-free at 984-2400 extension 70251.

Sincerely,

DEAN A. NAKANO  
Acting Deputy Director
State of Hawaii
COMMISSION ON WATER RESOURCE MANAGEMENT
Department of Land and Natural Resources

FAX: Transmitting 1 pages, including this one; call 587-0251 with any reception problems.

TO: Mike Robertson
FROM: Cheryl Lee

Date: 20 Nov 06

Several well construction permits are expiring soon.
Please provide updated on status:

- 02 Dec 06
  Na Koa RS (5417-04 * 5416-01) N. Sand Sunny

- 03 Dec
  Buziemi (5524-12) do

- 12 Dec
  Ka`ali (2324-16-14) do — Need survey
  St. Theresa (4527-16), Not dilled —
  Keolu`koa-Winn (5519-05) do

- 18 Dec
  Borkovich (3824-01) do

- 20 Dec
  Ka`akoulu (4524-01) do

- 24 Dec
  Kilau-Jones (5519-04) — Not dilled —

Please extend all for 6 more months.
Aloha Charley: Thank you for helping me tie up these loose ends.

Enclosed is: WCR1 for Kiholea Weans, Owner decided to go with a 5 HP 50 gpm pump and three surveys. Please issue a PIP and I'll complete WCR1.

WCR1 for JNRS well #1. They won't need well 2.

WCR1 for Opuna P+ Holt wells 1 and 2.

Please excuse the delay in reporting. It was mostly due to the problems they had with contamination as they kept testing over and over. They still aren't far but my point is:

Will have info on Kahoma tomorrow and KeAhii. KeAhii never got surveys either but wells are capped.

Aloha for now, Michael
Mr. Michael Robertson  
Wailani Drilling, Inc.  
1885 Main Street 408  
Wailuku, HI  96793

Dear Mr. Robertson:

Extension of Well Construction Permit  
Ke Alii Wells 1&2 (Well Nos. 4326-11 & 12)

Thank you for confirming our April 6, 2006 inquiry about extending the captioned permit. By this letter, we approve an extension to the end of this year. The new expiration date for the wells is December 12, 2006. If the work cannot be done within that period, you may reapply at any time with no penalty or prejudice.

All other conditions for this permit remain the same. Please keep a copy of this letter filed with the original permit.

If you have any questions, please call Charley Ice of the Commission staff at 587-0251 or toll-free at 984-2400 extension 70251.

Sincerely,

DEAN A. NAKANO  
Acting Deputy Director

CI:ss
FROM: ROY  
DATE: OCT 13 2004  
SUSPENSE DATE:  

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<thead>
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<tr>
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<td>FUJII, N.</td>
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<tr>
<td>KUNIMURA, I.</td>
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<td>YOSHINAGA, M.</td>
</tr>
</tbody>
</table>

FOR: Approval, Signature, Information

PLEASE: See Me, Review & Comment, Take Action, Type Draft, Type Final, File, Xerox ___ copies
To: Charley Ice  
For: Water Resource Commission  
Re: Start Work Notice

Dear Charley:
Enclosed are the signed wcp's for Ke Alii Villas

This is to provide written notice for starting work on the following wells:

Ke Alii Villas Well #.1  4326-11  
Ke Alii Villas Well #.2  4326-12

Please fax receipt form to me to confirm ✓

Hard copies are being sent to you by mail.

Thank You,

Michael Robertson

Certified By The National Groundwater Association
WELL CONSTRUCTION PERMIT

Ke Alii Well #2 (Ke Alii Kal II), Well No. 4326-12

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

In accordance with Department of Land and Natural Resources, Commission on Water Resource Management's Administrative Rules, Section 13-168, entitled "Water Use, Wells, and Stream Diversion Works", this document permits the construction and testing of Ke Alii Well #2 (Ke Alii Kal II) (Well No. 4326-12) at TMK 3-9-19, Maui, subject to the Hawaii Well Construction & Pump Installation Standards (February 2004) which include but are not limited to the following conditions:

1. The Chairperson of the Commission on Water Resource Management (Commission), P.O. Box 621, Honolulu, HI 96809, shall be notified, in writing, at least two (2) weeks before any work authorized by this permit commences 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 1½-inch diameter monitor tube shall be permanently installed, in a manner acceptable to the Chairperson, to accurately record water levels. The permittee, well operator, and/or well owner shall coordinate with the Chairperson and conduct a pumping test in accordance with the Standards (a pumping testing worksheet is attached). The permittee, well operator, and/or well owner shall submit to the Chairperson the test results as a basis for supporting an application to install a permanent pump and withdraw water for use. No permanent pump may be installed until a pump installation permit is approved and issued by the Chairperson.

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

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

5. In the event that subsurface cultural remains such as artifacts, burials or concentrations of shells or charcoal are encountered during construction, the permittee, well operator, and/or well owner shall stop work and contact the Department's Historic Preservation immediately.

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

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

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

9. The well construction permit application is incorporated into this permit by reference and is subject to the Hawaii Well Construction & Pump Installation Standards (February 2004; HWCPIS). If the HWCPIS are not followed and as a consequence water is wasted or contaminated, a lien on the property may result.

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

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

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

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

Date of Approval: May 5, 2004
Expiration Date: May 5, 2006

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

Permittee's Signature: 
Printed Name: Takeshi Morikawa Firm or Title: KACLLES, Inc Date: 9/28/04
Driller's Signature: Michael Padowski C-67 License #: 2015 Date: 10/4/04
Printed Name: Michael Padowski Firm or Title: Western Drilling Inc

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

Attachment:
C: USGS
Department of Health's Safe Drinking Water, Wastewater, and Clean Water Branches
Maui Department of Water Supply
Waller Drilling, Inc.
TO: Cathleen Dogher
FROM: Charley Ice

Date: 02 June 04

Transmitting four maps for KeAlii Wells 1 & 2 (4326-11 & 12)

- both project sites on aerial photo, showing proposed well sites
- 2 TMK maps showing respective sites
  
  Note that 3-9-20 has two parcels, 20 & 27, for the project
  but the well is on -20
- KeAlii Villas project map covering both parcels (20 & 27)
  and "percolation well".
May 12, 2004

Ref: 4326-11&12.wcp

Mr. Takeshi Matsutaka
Ke Alii Villas, LLC
220 South King Street, #1270
Honolulu, HI 96813

Dear Mr. Matsutaka:

Well Construction Permit
Ke Alii Wells 1 & 2 (Villas, Ke Alii Kai II) (Well No. 4326-11&12)

Enclosed are two (2) copies of your approved Well Construction Permit for the captioned well(s) that authorize well construction activities but excludes installation work for your permanent pump. As part of the Chairperson's approval, the following special conditions were added and are part of your permit under Permit Condition 13:

**Special Conditions**

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

2. The well casing shall meet the minimum thickness required in the Hawaii Well Construction and Pump Installation Standards (HWCPIS, February 2004).

This permit **does not** authorize work for your permanent pump installation. Approval and issuance of your pump installation permit is contingent upon completed application and information provided to and accepted by Commission staff as required in the Well Construction & Pump Installation Standards (February 2004) and any special conditions performed under this permit. However, a permanent pump may be installed prior to the permanent pump installation permit issuance in accordance with the Commission's April 15, 1998 Declaratory Ruling No. DEC-ADM98-G5, which states that:

"Permanent pump installation for capacities between 0-70 gpm and where the proposed use is for private individual needs in non-ground-water management areas may be allowed prior to the final pump installation permit issuance. When required as a condition of the well construction permit, subsequent pumping tests shall validate the acceptability of the permanent pump. The permanent pump installed prior to final pump installation permit issuance is subject to removal if the testing shows that a smaller pump is required to reduce the potential of affecting neighboring wells and localized upconing at the applicant's well."

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

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

IMPORTANT - Drilling work shall not commence until a fully signed permit is returned to the Commission. Please provide all the information in this packet to your well drilling contractor. The permittee, well operator, and/or well owner are responsible for all conditions of the permit. This includes ensuring that the well construction contractor, or other party who constructs the well(s), submits a completed Part I of the Well Completion Report form (enclosed) within sixty (60) days after the well construction work is completed. Be advised that you may be subject to fines of up to $1000 per day for any violations of your permit conditions starting from the permit approval date.

If you have any questions, please call Charley Ice of the Commission staff at 587-0251 or toll-free at 984-2400 extension 70251.

Sincerely,

[Signature]

Peter T. Young
Chairperson

Enclosures

c: Wailani Drilling, Inc.
WELL CONSTRUCTION PERMIT
Ke Alii Well 1 (Villas), Well No. 4326-11

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

In accordance with Department of Land and Natural Resources, Commission on Water Resource Management's Administrative Rules, Section 13-168, entitled "Water Use, Wells, and Stream Diversion Works," this document permits the construction and testing of Ke Alii Well #1 (Villas), Well No. 4326-11 at TMK 3-9-20:20, Maui, subject to the Hawaii Well Construction & Pump Installation Standards (February 2004) which include but are not limited to the following conditions:

1. The Chairperson of the Commission on Water Resource Management (Commission), P.O. Box 621, Honolulu, HI 96809, shall be notified, in writing, at least two (2) weeks before any work authorized by this permit commences 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 1 1/4-inch diameter monitor tube shall be permanently installed, in a manner acceptable to the Chairperson, to accurately record water levels. The permittee, well operator, and/or well owner shall coordinate with the Chairperson and conduct a pumping test in accordance with the Standards (a pump testing worksheet is attached). The permittee, well operator, and/or well owner shall submit to the Chairperson the test results as a basis for supporting an application to install a permanent pump and withdraw water for use. No permanent pump may be installed until a pump installation permit is approved and issued by the Chairperson.

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

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

5. In the event that subsurface cultural remains such as artifacts, burials or concentrations of shells or charcoal are encountered during construction, the permittee, well operator, and/or well owner shall stop work and contact the Department's Historic Preservation immediately.

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

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

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

9. The well construction permit application is incorporated into this permit by reference and is subject to the Hawaii Well Construction & Pump Installation Standards (February 2004; HWCPIS). If the HWCPIS are not followed and as a consequence water is wasted or contaminated, a lien on the property may result.

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

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

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

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

Date of Approval: May 5, 2004
Expiration Date: May 5, 2006

PETER T. YOUNG, Chairperson
Commission on Water Resource Management

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

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

Driller's Signature: ___________________________ C-57 License #: ______________ Date: ______________
Printed Name: ___________________________ Firm or Title: ___________________________

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

Attachment
C: USGS
Department of Healthy Safe Drinking Water, Wastewater, and Clean Water Branches
Maui Department of Water Supply
Wailani Drilling, Inc.
## Mission on Water Resource Management

### Route Slip for Permit Issuance

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<th>From: CHARLEY</th>
<th>Date: 11 May 04</th>
<th>Suspense Date:</th>
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### TO | INIT. | TO | INIT. | FOR | PLEASE |
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<td>YODA, K.</td>
<td>2</td>
<td>Xerox</td>
<td>5</td>
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### WELL NUMBER | 4326-11&12 | WELL NAME | Ke Alii Wells 1&2 |

### WELL CONSTRUCTION

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

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

### FOR OFFICE USE ONLY
- **11 WELL CHECK PRINTOUT**
- **11 GLENN'S WORKSHEET**
- **11 WELL INSTALLATION**

### COMMENTS:
- TO BE SENT TO APPLICANT
- FOR OFFICE USE ONLY
### Data Input

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<td>Ke Alii #1 (Villas)</td>
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<td>Well Casing: Minimum Wall Thickness</td>
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<td>Material</td>
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<td>Casing Material</td>
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<td>(for pvc only - check for 200' limit):</td>
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April 20, 2004

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

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

SUBJECT: Well Construction/Pump Installation Permit Application
Ke Alii #1 & 2 (Well Nos. 4326-17 & 12)

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

We would appreciate your comments on the captioned application for any conflicts or inconsistencies with the programs, plans, and objectives specific to your department. Please respond by returning this cover memo form by May 10, 2004. If we do not receive comments or a request for additional review time by this date, we will assume that you have no comments.

Please find the attached maps to locate the proposed well. If you have any questions about this permit application, request additional information, or request additional review time, please contact Charley Ice of the Commission staff at 587-0251.

Cl: ss
Attachment(s)

RESPONSE:

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

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

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

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

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

[ ] An NPDES permit is required.

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

No comments/objections: No records

Contact Person: Lori N. Fujimura
Phone: 506-4294

Signed: Lori N. Fujimura
Date: 5-4-2004
April 20, 2004

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

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

SUBJECT: Well Construction/Pump Installation Permit Application
Ke Alii 1 & 2 (Well Nos. 4326-11 & 12)

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

We would appreciate your comments on the captioned application for any conflicts or inconsistencies with the programs, plans, and objectives specific to your department. Please respond by returning this cover memo form by May 10, 2004. If we do not receive comments or a request for additional review time by this date, we will assume that you have no comments.

Please find the attached maps to locate the proposed well. If you have any questions about this permit application, request additional information, or request additional review time, please contact Charley Ise of the Commission staff at 587-0251.

Cl:s: Attachment(s)

RESPONSE:

1) This well qualifies as a source which will serve as a source of potable water to a public water system (defined as serving 25 or more people at least 60 days per year or has 15 or more service connections) and must receive Director of Health approval prior to its use to comply with Hawaii Administrative Rules (HAR), Title 11, Chapter 20, Rules Relating to Potable Water Systems, §11-20-26.

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

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

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

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

6) An NPDES permit is required.

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

8) No comments/objections.

Contact Person: William Wong
Phone: 586-4258
Date: MAY 4 2004

Signed: William Wong
April 20, 2004

TO: Dede Mamiya, Administrator
   Land Division

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

SUBJECT: Well Construction/Pump Installation Permit Application
         Ke Alii 1 & 2 (Well Nos. 4326-11 & 12)

Transmitted for your review and comment is a copy of the captioned Well Construction/Pump installation permit application.

We would appreciate your comments on the captioned application with regard to the programs, plans, and objectives specific to your division. Please respond by returning this cover memo form by May 10, 2004. If we do not receive comments or a request for additional review time by this date, we will assume you have no comments.

Please find the attached maps to locate the proposed well. If you have any questions about this permit application, request additional information, or request additional review time, please contact Charley Ice of the Commission staff at 587-0251.

RESPONSE:

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

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

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

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

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

[ ] No objections

[ ] Other comments: Original source of private title is Grant No. 1015 issued prior to Statehood in 1959

Contact Person: Gary Martin
Phone: 587-0421

Signed: Gary Martin
Date: APR 27 2004
TO:                  Honorable Chiyome L. Fukino, M.D., Director
                   Department of Health
                   Attention:       Harold Yee, Wastewater Branch
                                           William Wong, Safe Drinking Water Branch
                                           Dr. Keith Kawakoa, Hazardous Evaluation and Emergency Response
                                           Alec Wong, Clean Water Branch

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

SUBJECT:             Well Construction/Pump Installation Permit Application
                       Ke Alii 1 & 2 (Well Nos. 4326-11 & 12)

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

We would appreciate your comments on the captioned application for any conflicts or inconsistencies with the programs, plans, and objectives specific to your department. Please respond by returning this cover memo form by May 10, 2004. If we do not receive comments or a request for additional review time by this date, we will assume that you have no comments.

Please find the attached maps to locate the proposed well. If you have any questions about this permit application, request additional information, or request additional review time, please contact Chartey Ike of the Commission staff at 587-0251.

Cl: ss
Attachment(s)

RESPONSE:
[1] This well qualifies as a source which will serve as a source of potable water to a public water system (defined as serving 25 or more people at least 60 days per year or more service connections) and must receive Director of Health approval prior to its use to comply with Hawaii Administrative Rules (HAR), Title 11, Chapter 20, Rules Relating to Potable Water Systems, §11-25-28.

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

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

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

[1] For the applicant's information, a source of possible wastewater contamination (i.e. [1] is not located near the proposed well site (information attached).

[1] An NPDES permit is required.

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

[1] No comments/objections

Contact Person:  Alec Wong                                      Phone:  586-4309
Signed:            Alec Wong                                    Date:  4/23/04
The Department of Health, Clean Water Branch has the following comments:

1. For Well-Drilling Activities

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

2. For Well Pump Testing

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

JS/cr
April 20, 2004

Mr. Takeshi Matsutaka
Ke Alii Villas, LLC
220 S. King Street, Suite 1270
Honolulu, HI 96813

Dear Mr. Matsutaka:

Well Construction/Pump Installation Permit Application for Well Nos. 4326-11 & 12

We acknowledge receipt, on April 19, 2004, of your completed Well Construction/Pump Installation permit application and filing fee for the Ke Alii 1 & 2 (Well Nos. 4326-11 & 12). You can expect your application to be processed within ninety (90) days from this date.

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

If you have any questions about your permit application, please contact Charley Ice of the Commission staff at 587-0251 or toll-free at 984-2400, extension 70251.

Sincerely,

W. Y. Lau
Deputy Director

ERNEST Y.W. LAU
Deputy Director

Cl:ss

c: Wailani Drilling, Inc.
April 20, 2004

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

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

SUBJECT: Well Construction/Pump Installation Permit Application
Ke Alii 1 & 2 (Well Nos. 4326-11 & 12)

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

We would appreciate your comments on the captioned application for any conflicts or inconsistencies with the programs, plans, and objectives specific to your department. Please respond by returning this cover memo form by May 10, 2004. If we do not receive comments or a request for additional review time by this date, we will assume that you have no comments.

Please find the attached maps to locate the proposed well. If you have any questions about this permit application, request additional information, or request additional review time, please contact Charley Ice of the Commission staff at 587-0251.

Cl:ss
Attachment(s)

RESPONSE:

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

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

[ ] An NPDES permit is required.

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

[ ] No comments/objections

Contact Person: ___________________________ Phone: ___________________________
Signed: ___________________________ Date: ___________________________
April 20, 2004

TO: Dede Mamiya, Administrator
Land Division

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

SUBJECT: Well Construction/Pump Installation Permit Application
Ke Alii 1 & 2 (Well Nos. 4326-11 & 12)

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

We would appreciate your comments on the captioned application with regard to the programs, plans, and objectives specific to your division. Please respond by returning this cover memo form by May 10, 2004. If we do not receive comments or a request for additional review time by this date, we will assume you have no comments.

Please find the attached maps to locate the proposed well. If you have any questions about this permit application, request additional information, or request additional review time, please contact Charley Ice of the Commission staff at 587-0251.

RESPONSE:

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

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

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

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

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

[ ] No objections

[ ] Other comments:

Contact Person: ____________________________ Phone: ____________

Signed: ____________________________ Date: ____________
April 20, 2004

TO: Holly McEldowney, Acting Administrator
    Historic Preservation

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

SUBJECT: Well Construction/Pump Installation Permit Application
         Ke Alii 1 & 2 (Well Nos. 4326-11 & 12)

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We would appreciate your comments on the captioned application with regard to the
programs, plans, and objectives specific to your division. Please respond by returning this
cover memo form by May 10, 2004. If we do not receive comments or a request for additional
review time by this date, we will assume you have no comments.

Please find the attached maps to locate the proposed well. If you have any questions
about this permit application, request additional information, or request additional review time,
please contact Charley Ice of the Commission staff at 587-0251.

RESPONSE:

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

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

[ ] No objections

[ ] Other comments:

Contact Person: ___________________________ Phone: _____________

Signed: ___________________________ Date: _____________
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**TOTAL** $75.00

REMARKS:

LINE (1) Ke Alii Well #1, tmk: 3-9-19:47

LINE (2) Ke Alii Well #2, tmk: 3-9-20:27

LINE (3) Waiohuli Church Well, tmk: 3-9-09:28

LINE (4)

LINE (5)

LINE (6)

LINE (7)

LINE (8)

LINE (9)

LINE (10)
APPLICATION INFORMATION: (Fill out all three, if applicable, and place a check next to the primary contact)

1. (a) WELL OWNER:  
   Mailing Address: 2200 S King St, Suite 1570, Honolulu HI 96814  
   Fax:  
   Contact Person: Takeshi Matsuzone  
   E-mail:  

1. (b) LAND OWNER:  
   Mailing Address:  
   Fax:  
   Contact Person:  
   Phone:  

1. (c) CONTRACTOR:  
   Mailing Address:  
   Fax:  
   Contact Person: Michael Roberts  
   Phone: 5722673  

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

2. WELL NAME: Ke Ali'i WELL X 2'  
   Island:   
   Address:  
   Tax Map Key:   
   Zone:   
   Sec:   
   Plat:   
   Parcel:   
   Island:   
   Well Name: Ke Ali'i Kai II  
   Latitude:   
   Longitude:   
   State:   
   WEI No.:   
   (If unknown, please call Commission at 587-0225) 
   Attach: (a) portion of a 7.5-Minute Series USGS topographic map (scale 1:24,000) with well location labeled and include the name of the quad map (b) a property tax map, showing well location referenced to established property boundaries.

3. PROPOSED WORK:  
   (check all that apply)  
   (a) Construct New Well  
   (b) Modify Existing Well  
   (c) Install New Pump  
   (d) Modify Pump*  
   (e) Abandon/Seal*  

4. CONSTRUCTION:  
   (check all that apply)  
   (a) Drilled  
   (b) Dug  
   (c) Shaft  
   (d) Tunnel  

5. PROPOSED PUMPING RATE:  
   - 350 gallons per minute  
   Yes  
   No  
   (Please describe) 2 Irrigation Wells  
   Other (explain):  
   (Number of wells)  
   (Type of well)  
   (Number of acreage)  

6. PROPOSED USE:  
   (check all that apply)  
   (a) Domestic (individual, noncommercial water system)  
   (b) Municipal (including hotels, stores, etc.)  
   (c) Industrial  
   (d) Military  
   (e) Legal (e.g., irrigation, landscaping)  
   (f) Other (explain):  
   (Number of acreage)  

7. (a) PROPOSED AMOUNT OF WITHDRAWAL:  
   - 200 000 gallons per day  
   (b) METHOD OF FLOW MEASUREMENT:  
   (Number of wells)  
   (Type of well)  
   (Number of acreage)  
   (Location)  
   (Location)  
   (Location)  
   (Location)  
   (Location)  
   (Location)  

OTHER IMPORTANT INFORMATION:

8. LEGAL REQUIREMENTS:  
   If required, these permits must be obtained before the Commission can legally issue a permit.
   Conservation District Use Permit (CDUP) To find out if a CDUP is necessary, call DLNR Land Division at 808-587-0414  
   If Required, if required, date approved:  
   Environmental Impact Statement (EIS) or Environmental Assessment (EA) To determine if an EIS or EA is necessary, call OEQC at 808-4185  
   If Required, if required, date published in OEQC bulletin:  
   Special Management Area Permit (SMAP) To determine if an SMAP is necessary: on Oahu, call 808-537-2373; on Hawaii, call 808-581-8238; for Maui, call 808-879-1190; for Kalapana, call 808-772-2326; on Kauai, call 808-241-9277.  
   If Required, if required, date approved: 2/5/03/04  

9. REMARKS, EXPLANATIONS:  
   (If more space is needed, please attach additional sheet)

NOTE: Signing below indicates the signatures understand and swear that the information provided on this application is accurate and true to the best of their knowledge. Further, the signatures understand that approval of this application attaches the following standard conditions: 1) the proposed work is to be completed within 60 days of the approval date; 2) the contractor shall submit to the Commission a well completion/abandonment report within 60 days after the completion date of the permitted work; 3) monthly water use data shall be submitted to the Commission; 4) each approval shall not constitute a determination of cumulative water rights and shall not guarantee the pump capacity or future use of the permitted pump capacity; 5) in the event that the application is not completed correctly, any permit may be suspended until the item is brought to compliance, and any work done while the permit to pump remains in effect may result in fines of up to $10,000 per day.

For official use only

Lat.:   
Long.:   
Latitude:   
Longitude:   
State Well No.:   
Type:   
Dated:   
\( WCPA Form 92101 \)
11. PROPOSED WELL SECTION

Elevation at top of casing 81 ft. mfl
(Survey to nearest 0.01 ft.)

Hole Diameter: 12.5 in.

Minimum of 2 Radius 4.4 Thick Concrete Pad

Ground Elevation: 90 ft. mfl

Minimum annular space between hole and casing ≥ 3

Cement Grout: 7.0 ft. (min. 70% of distance from ground elevation to top of water surface or 500 ft., whichever is less.)

Total Depth: 180 ft.

Minimum annular space between hole and casing ≥ 3

Rock or Gravel Padding: Material: Crushed Basalt

Water Level Elevation: 2.5 ft. mfl

Solid Casing: (≥ 90% (Ground Elevation - Water Level Elevation)

Material Standard: Schedule 40

Length: 20 ft.

Diameter: 4.4 in.

Wall Thickness: 0.260 in.

Top Elevation: 55 ft. mfl

Open Casing: Perforated Screen

Material Standard: Schedule 40

Length: 20 ft.

Diameter: 4.4 in.

Wall Thickness: 0.260 in.

Top Elevation: 55 ft. mfl

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

Bottom Elevation of Well Limit = (Water Level - 0.25 x Aquifer Thickness) / 4

Example: Ballasted + 2 ft. Water Level Elev. — θ Bottom Elevation of Well Limit = (2 - 0.25 x 4) = -18.5 ft.

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

Solid Casing Material:

Steel: compliant with (check one or more):

- ANSI/AWWA C200
- API Spec. 5L
- ASTM A92
- ASTM A139

Stainless Steel: compliant with (check one or more):

- ASTM A312

ABS Plastic: compliant with (check one or more):

- Schedule 40
- Schedule 80

ASTM D1576 or ASTM D1575: compliant with (check one or more):

PVC Plastic: compliant with (check one or more):

- Schedule 40
- Schedule 80

Thermoset Plastic: compliant with (check one or more):

- Filament Wound Resin Pipe conforming to ASTM D2076
- Centrifugally Cast Resin Pipe conforming to ASTM D2077
- Reinforced Plastic Mortar Pressure Pipe conforming to ASTM D3517
- Glass Fiber Reinforced Resin Pressure Pipe conforming to AWWA C200
- PTFE Fluorocarbon Tubing conforming to ASTM D2068
- FEP Fluorocarbon Tubing conforming to ASTM D2066

Open Casing Material:

Steel: compliant with (check one or more):

- ANSI/AWWA C200
- API Spec. 5L
- ASTM A92
- ASTM A139

Stainless Steel: compliant with (check one or more):

- ASTM A312

ABS Plastic: compliant with (check one or more):

- Schedule 40
- Schedule 80

PVC Plastic: compliant with (check one or more):

- Schedule 40
- Schedule 80

Thermoset Plastic: compliant with (check one or more):

- Filament Wound Resin Pipe conforming to ASTM D2076
- Centrifugally Cast Resin Pipe conforming to ASTM D2077
- Reinforced Plastic Mortar Pressure Pipe conforming to ASTM D3517
- Glass Fiber Reinforced Resin Pressure Pipe conforming to AWWA C200
- PTFE Fluorocarbon Tubing conforming to ASTM D2068
- FEP Fluorocarbon Tubing conforming to ASTM D2066

Please refer to the HAWAII WELL CONSTRUCTION AND PUMP INSTALLATION STANDARDS to assure that your construction plans are in compliance with all existing regulations.
January 13, 2010

Mr. Takeshi Matsukata  
Ke Alii Kai II, LLC  
220 South King Street, Suite 1270  
Honolulu, HI 96813

Dear Mr. Matsukata:

Correct Well Identification and Water Use Reporting  
(Well Nos. 4326-11 & 12)

We have learned that in the final step of completing the wells for the Ke Alii project’s two wells (Ocean Villas and Moana Estates), the well numbers were incorrectly stenciled in reverse. We are notifying the water use reporter for Ocean Villas (originally Ke Alii Villas Well #1) of this error and requesting correction of the stenciling to correctly read “Well No. 4326-11”. We need to have this error corrected for the Moana Estates Well (Well No. 4326-12), in addition. Please follow up on this well.

We have also failed to receive any water use reporting for Well No. 4326-12. Well owners are obligated to do so under Hawaii Administrative Rules Sec. 13-168-7, under potential penalty of fines up to $5,000 per day.

If the well ownership has changed, our practice is to transmit to new owners a certificate of completion, which outlines their responsibilities as owners, including the water use reporting requirements. Please respond to this letter, identifying who should bear these responsibilities, and forward a copy of this letter to the current owners of Well Nos. 4326-11 & 12, serving Ke Alii Villas (TMK: (2) 3-9-019:004) and Moana Estates (TMK: (2) 3-9-020:020 & 027), as we understand it.

If you have any questions, please contact Charley Ice of our staff at (808) 587-0218, or toll free from Maui at 984-2400, extension 70218.

Sincerely,

KEN C. KAWAHARA, P.E.  
Deputy Director

Cl:ss
August 27, 2008

Mr. Takeshi Matsukata
Ke Alii Villas, LLC
220 South King Street, #1270
Honolulu, HI 96813

Dear Mr. Matsukata:

Certificate of Pump Installation Completion for Ke Alii Villas Well 1
Well No. 4326-11 (TMK 3-9-020:020)

We are pleased to inform you that the Pump Installation work permitted for the Ke Alii Villas Well 1 (Well No. 4326-11) is complete and acceptable and welcome you as a new member to the community of well owners and groundwater users in Hawaii. This certificate of pump installation completion allows you to commence pumping your well for reasonable & beneficial water use.

To protect Hawaii’s natural ground water resources for the benefit of all, the following requirements apply to the use of your well:

1. If the well is not in use it must be properly capped.

2. If the well is to be abandoned then the landowner must cause a licensed contractor to apply for a well abandonment permit in accordance with §13-168-12(f) prior to any well sealing or plugging work.

3. In the event that the well operator and/or landowner changes, the Commission shall be notified prior to the change.

4. In the event the benchmark in the concrete base of the well is altered in any way, an updated version of the Well Elevation page of the Well Completion Report Part I shall be submitted to the Commission. If a licensed surveyor had estimated the original benchmark elevation then a licensed surveyor must establish the new benchmark elevation. The Well Elevation portion of the Well Completion Report Part I can be obtained by contacting Commission staff or at www.hawaii.gov/dlnr/cwrm/forms.htm.
5. Your approved pump has a capacity of **150** gpm at a head of **249** ft. In the future, pump replacements of equal or lesser capacity will not require an additional permit from the Commission, but will require the submission of a Well Completion Report Part II by the licensed pump installer. If the pump replacement is greater than the existing pump, you will need to apply for a new pump installation permit.

6. The landowner shall cause the well operator to maintain the installed meter or other appropriate means for measuring and reporting withdrawals and water levels, and appropriate devices or means for measuring chlorides and temperature. These data shall be measured monthly and reported to the Commission on a monthly basis, on forms provided by the Chairperson (attached), in accordance with §13-168-7, HAR. Blank water use report forms are also available at www.hawaii.gov/dlnr/cwrm/resources_permits.htm

7. 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. The authorization to drill a well and/or install a pump shall not constitute a determination of correlative water rights. The landowner and well operator are notified that the quantity of water taken from the well and/or the pump capacity could be reduced by the Commission in the future.

Because groundwater in Hawaii is a public trust, and adverse effects at one well may affect other water resources, any violation of the above conditions, or any other provision of the Hawaii Administrative Rules, may be subject to fines of up to $5,000/day. The Commission needs your help and asks that you do your part in utilizing this shared resource. We prefer to work with you in meeting the goal of protecting our ground water resources together.

If you have any questions, please contact Charley Ice of the Commission staff at 587-0218 or toll-free 984-2400 (Maui), extension 70218.

Sincerely,

KEN C. KAWAHARA, P.E.
Deputy Director

CI:ss
Encl: Water Use Report Forms

c: Maui Department of Water Supply
Wailani Drilling, Inc.
August 27, 2008

Mr. Michael Robertson
Wailani Drilling, Inc.
P.O. Box 523
Puunene, HI 96784

Dear Mr. Robertson:

Well Completion Report Part II for Well No. 4326-11 & 12

We received the last requirement for your Well Completion Report Part II for the Ke Alii Wells 1 & 2 (Well Nos. 4326-11 & 12) on June 20, 2008 and acknowledge that it is complete.

This completes your obligations under the pump installation permit. A certificate of pump installation completion will be issued to the well operator/landowner and you will receive a copy. The certificate transfers responsibility of all aspects of well usage and maintenance from you to the well operator/landowner.

If you have any questions, please contact Charley Ice of the Commission staff at 587-0218 or toll-free at 984-2400 (Maui), extension 70218.

Sincerely,

KEN C. KAWAHARA, P.E.
Deputy Director

Cc: Ke Alii Villas, LLC
    Ke Alii Kai II, LLC
MEMO and ROUTE SLIP (ver. 04/03/2008) 05/28/08

WCR 2 Check for Well No. 4326-11 (survey to regulation memo)

1. **Pump Tests Check** (special condition of PIP? Yes/No)
   - Yes No
   - D. England
   - If no, describe deficiency
   - Step-Drawdown Test:
     - followed WCPI Stds
     - analysis attached
     - < 70 gpm no test required
   - Aquifer Pump Test:
     - followed WCPI Stds
     - T & S analysis attached
     - < 50 gpm no test required
   - Potential Well Interference:
   - Potential Stream Impacts:
   - stream names:
   - Additional Testing or Data Required:
   - Pump Test Comments Attached:
   - Proposed Pump Capacity is OK:

2. **Pump Installation Check** Mitch Ohye (initial) R. Torres (initial)
   - data complete
   - followed Special Cond & Elev.
   - well database updated
   - Yes No If no, describe deficiency

3. Charley Ryan (initial) take action based on above analysis
   - ATTACHMENTS FOR ACCEPTANCE:
     - 1WCR2 ACCEPTANCE LETTER
     - 2PUMP INST. COMPLETION CERTIFICATE
     - 3METER INSTALL. REPORT (IF NECESSARY)
     - 4WUR FORM (if necessary)
   - To be sent to driller
   - To be sent to landowner/operator
   - Yikes! How did we miss this?
   - Staff internal checks

4. Roy (initial) check(Entered WCR 2/PICC accept date into database)

5. Susan Hoagbin (initial) finalize

6. Ken (initial) signature

7. Faith Ching (initial) enter into WUR database

8. Charley Ryan File
State of Hawaii
COMMISSION ON WATER RESOURCE MANAGEMENT
Department of Land and Natural Resources

WELL COMPLETION REPORT - PART II
Pump Installation

Instructions: Please print in ink or type and send completed report (with attachments, if applicable) to the Commission on Water Resource Management, P.O. Box 821, Honolulu, Hawaii 96809. The Commission may not accept incomplete reports. This form shall be submitted within 60 days of the completion of work. For assistance, please consult the Hawaii Well Construction and Pump Installation Standards or call the Regulation Branch at 887-6228. For updates to this form or additional information, please visit our website at http://www.hawaii.gov/dlnr/owrm/

1. State Well No.: 4320-11  
Well Name: KeAlii #1 (Villas)  
Island: Maui

2. Address:  
S. Kinei Rd  
Kinei HI  
Tax Map Key: 8-9 20:20


4. Date Pump Installed: 12-20-04

5. PERMANENT PUMP INFORMATION

Pump Type, Make, Serial No.: 150S150-L, Grundfos, P10114 V920  
Rated Capacity: 150 gpm at head of: 249 ft.
Motor Type, H.P., Voltage, rpm: Submersible, 15 H.P, 460 V, 3450 rpm
Pump type (check one):  
- Deep Well Turbine  
- Submersible  
- Propeller
- Rotary-Discplacement
- Reciprocating
- Centrifugal
- Impulse

6. Method of flow measurement:  
- Flowmeter w/ totalizer  
Manufacturer: Badger  
Model no.: BA-3  
Size: 3"  
- Other, explain and attach schematic

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

8. Attach the rating curve for the installed pump.

9. Attach photograph of well clearly showing the benchmark on the concrete pad, the well head, and the method of flow measurement.

10. Well Owner  
Company: KeAlii Villas LLC  
Contact: Takeshi Matsuoka  
Address: 220 S. King St. Suite 1270  
Honolulu HI 910813  
Phone  
Fax

11. Land Owner  
Company: Same  
Contact:  
Address  
Phone  
Fax

12. Remarks

Pump Installation Contractor (print): Michael  
Signature:  
Date: 1-14-05

For Official Use Only:

WCR2 Form 02/26/07 Page 1 of 2

Received via email 23-May-08, 5:06 am
7. AS-BUILT PUMP SECTION

- Bench mark elevation surveyed to nearest 0.01 ft. = 42.32 ft. mean sea level
- Elevation of top of chase tube = 50.24 ft. mean sea level
- Pump intake depth = 66 ft. (referenced to bench mark)
- Chase tube depth = 67 ft. (referenced to bench mark)
- If airline installed, bottom of airline elevation = 61.6 ft. mean sea level
Performance Curves 150 GPM

Model 15

FLOW RANGE: 30 - 220 GPM
OUTLET SIZE: 3" NPT

Ke Alii #1 (Villas) Well # 4320-11

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.
4" MOTOR STANDARD, 5-10 HP/3450 RPM
6" MOTOR STANDARD, 7.5-60 HP/3450 RPM.
8" MOTOR STANDARD, 75 HP/3450 RPM.
* Alternate motor sizes available.

Don't know how they managed!
Fixed?!

Performance conforms to ISO 9306 A.
© 5 ft. min. submergence.
FLOW RANGE: 60-410 GPM
OUTLET SIZE: 3" & 4" NPT*
NOMINAL DIA. 6"

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.
4" MOTOR STANDARD, 7.5 HP/3450 RPM.
6" MOTOR STANDARD, 15-60 HP/3450 RPM.
8" MOTOR STANDARD, 75 HP/3525 RPM.
* 3" NPT 2-6 STAGES, 4" NPT 7-18 STAGES.

Performance conforms to ISO 9906 Annex A
© 8 ft. min. submergence.
Here's the PIP  PIP.pdf
In accordance with Department of Land and Natural Resources, Commission on Water Resource Management's Administrative Rules, Section 13-168, entitled "Water Use, Wells, and Stream Diversion Works", this document permits the pump installation for Ke Alii Villas Well 1 (Well No. 4326-11) at TMK 3-9-020:020 & 027, Kihei, Maui, subject to the Hawaii Well Construction & Pump Installation Standards (HWCPIS - February 2004) which include but are not limited to the following conditions:

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

2. No withdrawal of water shall be made other than for testing until a Certificate of Pump Installation Completion has been issued by the Commission.

3. This permit shall be prominently displayed, or made available, at the site of construction work until work is completed.

4. The pump installation permit shall be for installation of a 150 gpm rated capacity, or less, pump in the well. This permanent capacity may be reduced in the event that the pump test data does not support the capacity.

5. A water-level measurement access shall be permanently installed, in a manner acceptable to the Chairperson, to accurately record water levels.

6. The permittee shall install an approved meter or other appropriate means for measuring and reporting withdrawals and appropriate devices or means for measuring chlorides and temperature at the well head.

7. Well Completion Report Part II shall be submitted to the Chairperson within 60 days after completion of work. This form can be obtained by contacting staff or on the internet at www.hawaii.gov/dlnr/cwrm.

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

9. The pump installation permit application and any related staff submittal approved by the Commission are incorporated into this permit by reference. This permit is also subject to the HWCPIS. If the HWCPIS are not followed and as a consequence water is wasted or contaminated, a lien on the property may result. Any variances from the HWCPIS shall be approved by the Chairperson prior to invoking the variance.

10. The work proposed in the pump installation permit application shall be completed within two (2) years from the date of permit approval, unless otherwise specified. The permit may be extended by the Chairperson upon a showing of good cause and good-faith performance. A request to extend the permit shall be submitted to the Chairperson no later than the date the permit expires.

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

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

Date of Approval: May 27, 2008
Expiration Date: November 27, 2008

LAURA H. THIELEN, Chairperson
Commission on Water Resource Management

I have read the conditions and terms of this permit and understand them. I accept and agree to meet these conditions as a prerequisite and underlying condition of my ability to proceed and understand that I shall not commence work until I and the pump installer have signed, dated, and returned the permit to the Commission. I understand that this permit is not to be transferred to any other entity. I also understand that non-compliance with any permit condition may be grounds for revocation and fines of up to $5,000 per day starting from the permit date of approval.

Installer’s Signature: Michael Robertson  C-57, C-57a, or A License #: C-20115  Date: 01-20-08

Printed Name: Michael Robertson
Firm or Title: Wailani Drilling, Inc.

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

Attachments
Ke Alii #1 Vittas Well #4326-11

GPS N 20° 43.095' / 
W 156° 26.500'

(supposed to be 4°26'12")
Well Elevation

0-4-326-11 KE MILL WILLS #1

Benchmark Elevation 79.77

I certify that the elevation shown above:

1) Was done in accordance with acceptable surveying practices
2) Is accurate to the nearest 0.01 ft.
3) Is referenced to mean sea level

[Signature]

Surveyor

[License No.]

March 20, 2008

Date
Benchmark Elevation 79.77

Attach photos of completed well and concrete pad showing benchmark location.

I certify that the elevation shown above:

1) Was done in accordance with acceptable surveying practices
2) Is accurate to the nearest 0.01 ft.
3) Is referenced to mean sea level

Surveyor: [Signature]
License No.: 6597
Date: March 20, 2008

WCR1 Form 6/12/07 Page 5 of 5

read via email 13 May 08, 11:09 am
June 13, 2008

Mr. Takeshi Matsukata
Ke Alii Villas, LLC
220 South King Street, #1270
Honolulu, HI 96813

Dear Mr. Matsukata:

Certificate of Well Construction Completion for Well No. 4326-11 (TMK 3-9-020: 020 & 027)

We are pleased to inform you that the Well Construction work permitted for the Ke Alii Villas Well 1 (Well No. 4326-11) is complete and acceptable and welcome you as a new member to the community of well owners and groundwater users in Hawaii.

To protect Hawaii’s natural ground water resources for the benefit of all, the following requirements apply to the use of your well:

1. Before this well can be pumped on a regular basis, a certificate of pump installation completion must be obtained.
2. If the well is not in use it must be properly capped.
3. If the well is to be abandoned then the landowner must cause a licensed contractor to apply for a well abandonment permit in accordance with §13-168-12(f) prior to any well sealing or plugging work.
4. In the event that the well operator and/or landowner changes, the Commission shall be notified of the change prior to the change, and all forms shall be transferred to the new owner.
5. In the event the benchmark in the concrete base of the well is altered in any way, an updated elevation survey (page 5 of the Well Completion Report Part I) shall be submitted to the Commission. The Well Completion Report Part I can be obtained by contacting staff or at www.hawaii.gov/dlnr/cwrmlforms.htm.

Because groundwater in Hawaii is a public trust, and adverse effects at one well may affect other water resources, any violation of the above conditions, or any other provision of the Hawaii Administrative Rules, may be subject to fines of up to $5,000/day. The Commission needs your help and asks that you to do your part in utilizing this shared resource. We prefer to work with you in meeting the goal of protecting our ground water resources together.

If you have any questions, please contact Charley Ice of the Commission staff at 587-0251 or toll-free at 984-2400 (Maui), extension 70251.

Sincerely,

KEN C. KAWAHARA, P.E.
Deputy Director

Cl:ss

c: Maui Department of Water Supply
Wailani Drilling, Inc.
Dear Mr. Robertson:

Pump Installation Permit
Ke Alii Villas Well 1 (Well No. 4326-11)

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

Special Conditions

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

The permittee is responsible for all conditions of the permit. This includes ensuring the submission of a completed Well Completion Report Part II form within sixty (60) days after the pump installation work is completed. Be advised that you may be subject to fines of up to $5,000 per day for any violations of your permit conditions starting from the permit approval date.

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

IMPORTANT - Pump installation shall not commence until a fully signed permit is returned to the Commission.

Finally, this letter is notice that we have accepted your Well Completion Report - Part I as complete as of May 27, 2008.

If you have any questions, please call Charley Ice of the Commission staff at 587-0251.

Sincerely,

W. Roy Fukuda

LAURA H. THIELEN
Chairperson

Enclosure

c: Ke Alii Villas, LLC
USGS
Maui DWS
In accordance with Department of Land and Natural Resources, Commission on Water Resource Management's Administrative Rules, Section 13-168, entitled "Water Use, Wells, and Stream Diversion Works", this document permits the pump installation for Ke Ali'i Villas Well 1 (Well No. 4326-11) at TMK 3-9-020:020 & 027, Kihei, Maui, subject to the Hawaii Well Construction & Pump Installation Standards (HWCPIS - February 2004) which include but are not limited to the following conditions:

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

2. No withdrawal of water shall be made other than for testing until a Certificate of Pump Installation Completion has been issued by the Commission.

3. This permit shall be prominently displayed, or made available, at the site of construction work until work is completed.

4. The pump installation permit shall be for installation of a 150 gpm rated capacity, or less, pump in the well. This permanent capacity may be reduced in the event that the pump test data does not support the capacity.

5. A water-level measurement access shall be permanently installed, in a manner acceptable to the Chairperson, to accurately record water levels.

6. The permittee shall install an approved meter or other appropriate means for measuring and reporting withdrawals and appropriate devices or means for measuring chlorides and temperature at the well head.

7. Well Completion Report Part II shall be submitted to the Chairperson within 60 days after completion of work. This form can be obtained by contacting staff or on the internet at www.hawaii.gov/dlnr/cwrm.

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

9. The pump installation permit application and any related staff submittal approved by the Commission are incorporated into this permit by reference. This permit is also subject to the HWCPIS. If the HWCPIS are not followed and as a consequence water is wasted or contaminated, a lien on the property may result. Any variances from the HWCPIS shall be approved by the Chairperson prior to invoking the variance.

10. The work proposed in the pump installation permit application shall be completed within two (2) years from the date of permit approval, unless otherwise specified. The permit may be extended by the Chairperson upon a showing of good cause and good-faith performance. A request to extend the permit shall be submitted to the Chairperson no later than the date the permit expires.

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

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

Date of Approval: May 27, 2008
Expiration Date: November 27, 2008

LAURA H. THIELEN, Chairperson
Commission on Water Resource Management

I have read the conditions and terms of this permit and understand them. I accept and agree to meet these conditions as a prerequisite and underlying condition of my ability to proceed and understand that I shall not commence work until I and the pump installer have signed, dated, and returned the permit to the Commission. I understand that this permit is not to be transferred to any other entity. I also understand that non-compliance with any permit condition may be grounds for revocation and fines of up to $5,000 per day starting from the permit date of approval.

Installer's Signature: C-57, C-57a, or A License #: 20115

Printed Name: Michael Robertson
Firm or Title: Wailani Drilling, Inc.

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

Attachments
1. **Pump Tests Check** Diane England (initial)

<table>
<thead>
<tr>
<th>Step-Drawdown Test: followed WCPI Stds analysis attached</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>○</td>
<td>□</td>
</tr>
<tr>
<td>Constant Rate Test: followed WCPI Stds analysis attached</td>
<td>○</td>
<td>□</td>
</tr>
</tbody>
</table>

Potential Well Interference: □

Potential Stream Impacts: □

Additional Testing or Data Required: □

Pump Test Comments Attached: □

Proposed Pump Capacity is OK.: □

2. **Well Log Check** Geology Code for Well Index: JK Fm Name: Kula Volc. England (initial)

3. **Construction Check** Mitch Ohye (initial) R. Torres (initial)

Data complete followed Special Cond & elevations well database updated

\[
\begin{array}{ccc}
\text{Latitude} & \text{Longitude} \\
\text{NAD27} & 20 43 14 & 156 26 42 \\
\text{NAD83} & 20 43 02 & 156 26 32 \\
\end{array}
\]

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

ATTACHMENTS FOR PUMP INSTALLATION PERMIT (2):

1. COVER LETTER
2. COUNTY COMMENTS (DWS/ SMA)
3. DOH COMMENTS
4. DLNR COMMENTS (LD/OCCU/DHP)
5. WCR 1 Accept
6. WELL CONST. COMPLETION CERTIFICATE

not necessary – only WCP or BOTH.

To be sent to driller/pump installer

To Landowner

Staff internal checks

5. Roy (initial) check (Entered WCR 1/WCCC accept date into database)
6. Susan Hoagbin (initial) finalize
7. Ken (initial) signature
8. Mitch (initial) signature (Entered PIP issue date if attached/required)
9. Charley/Ryan File

**KeAli'i Villas**
Pump Test Analysis – Comments

Well ID: 4326-11
Analysis Date: 4/29/08  Test Date: 11/29/04
Geologist: Diane England

Step Drawdown Test

Deviations From Pump Test Requirements
1. Chloride sample only collected at end of first step.

Constant Rate Pumping Test

Deviations From Pump Test Requirements
1. No Deviations from WCPI Standards

Drawdown Curve Comments
2. Near immediate water level recovery following cessation of pumping. Chloride concentrations remained constant throughout test.
3. K&T too high to estimate using curve-matching software.

Well Interference & Stream Impacts

1. Based on preliminary analysis, no adverse stream or well impacts are expected.

Other Comments

1. None.

Proposed Pump Capacity OK? : YES
WELL ID: 4326-11

Island: Maui
Test Date: 11/29/2004
Analysis Date: 4/29/2008

INPUT

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<thead>
<tr>
<th>Construction:</th>
<th></th>
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<tbody>
<tr>
<td>Casing dia. ((d_c))</td>
<td>6 Inch</td>
</tr>
<tr>
<td>Annulus dia. ((d_a))</td>
<td>9 Inch</td>
</tr>
<tr>
<td>Screen Length ((L))</td>
<td>20 Feet</td>
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</table>

<table>
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<th>Depths to:</th>
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<tr>
<td>water level ((DTW))</td>
<td>78.9 Feet</td>
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<tr>
<td>Top of Aquifer</td>
<td>78.9 Feet</td>
</tr>
<tr>
<td>Base of Aquifer</td>
<td>98.9 Feet</td>
</tr>
</tbody>
</table>

Annular Fill:
- across screen - Open Hole
- above screen - Cement
- Aquifer Material - Permeable Basalt

FLOW RATE: 150 GPM

Aquifer thickness = 20 Feet
Slope = 0.0012438 Feet/log10

COMPUTED

K = 210000 is greater than extreme maximum of 6000 for Permeability
K = Error Feet/Day
T = Error Feet²/Day

K = 210000 is greater than likely maximum of 100 for Permeable Basalt

REMARKS:
Cooper-Jacob analysis of single-well aquifer test

Analysis Program: USGS Aquifer Test Analysis Spreadsheets v.1.2, Open File Report 02-197
<table>
<thead>
<tr>
<th>Entry</th>
<th>Date Hr:Min:Sec</th>
<th>Water Level (Feet)</th>
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</thead>
<tbody>
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</tr>
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</table>
Constant Rate Pump Test
Well 4326-11 (11-29-04)

Pumping Rate
Well 4326-11 (11-29-04)
## Constant Rate Test (4326-11)

<table>
<thead>
<tr>
<th>Elapsed Time (min)</th>
<th>Depth to Water (ft)</th>
<th>Drawdown (ft)</th>
<th>Pump Rates (gpm)</th>
</tr>
</thead>
<tbody>
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<td>0</td>
<td>78.9</td>
<td>0</td>
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<tr>
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<td>81</td>
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</table>

Average: 150.00
### Step-Drawdown Test (4326-11)

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<th>Depth to Water (ft)</th>
<th>Drawdown (ft)</th>
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<tr>
<td>90</td>
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</table>

### Pumping Rate (4326-11)

<table>
<thead>
<tr>
<th>Time (min)</th>
<th>Discharge (gpm)</th>
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<tbody>
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<td>75</td>
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<tr>
<td>30</td>
<td>75</td>
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<td>31</td>
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<tr>
<td>61</td>
<td>150</td>
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<tr>
<td>90</td>
<td>150</td>
</tr>
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</table>

Step Change
State of Hawaii
COMMISSION ON WATER RESOURCE MANAGEMENT
Department of Land and Natural Resources
WELL COMPLETION REPORT - PART I

Instructions: Please print in ink or type and send completed report (with attachments, if applicable) to the Commission on Water Resource Management, P.O. Box 621, Honolulu, Hawaii 96803. The Commission may not accept incomplete reports. This form shall be submitted within 60 days of the completion of work. For assistance, please contact the Hawaii Well Construction and Pump Installation Standards or call the Regulation Branch at 808-586-2226. For updates to this form or additional information, please visit our website at http://www.state.hi.us/dlnr/cwrmm/

1. State Well No.: H320-11
   Well Name: Kealii Well #1 (Villas)
   Island: Maui

2. Address: S. Kihei Rd. Kihei HI
   Tax Map Key: 3-9-26-20


4. Drilling method used during construction: 
   - Rotary
   - Percussion
   - Other (describe)

5. Date Well Construction (drilled, cased, grouted) completed: 11/23/04
   Attach Completed Driller's Log

6. Was the subject well cored? 
   - Yes
   - No

7. Step-Drawdown Test completed? 
   - Yes
   - No
   Attach Step-Drawdown Test form (12/17/07 SDPTD Form)

8. Constant Rate Aquifer Test completed? 
   - Yes
   - No
   Attach Constant Rate Aquifer Test form (12/17/07 CRPTD Form)

<table>
<thead>
<tr>
<th>Water Level Data</th>
<th>Reference point elevation</th>
<th>Depth to water (ft)</th>
<th>Water Level ft. above mean sea level (see note below)</th>
<th>Date/time of measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>9. Initial encountered during drilling (this should also be filed in on the driller's log)</td>
<td>Ground = 94.77 ft. msl</td>
<td>37.85</td>
<td>1.92</td>
<td>11/23/04</td>
</tr>
<tr>
<td>10. Just prior to casing installation</td>
<td>Ground = 94.77 ft. msl</td>
<td>37.85</td>
<td>1.92</td>
<td>11/23/04</td>
</tr>
<tr>
<td>11. After casing installation (this information should be before any pump tests are performed with casing installed)</td>
<td>If this reference point is not the benchmark, the difference between the benchmark and this point is 0</td>
<td>37.85</td>
<td>1.92</td>
<td>11/25/04</td>
</tr>
</tbody>
</table>

Chloride: 680 ppm, Temperature: 72 °F

note: For all elevations referenced to mean sea level, take the ground elevation (surveyed or estimated if survey not required at this time) and subtract the depth to the water level.

12. As-built section filled in completely

13. Photograph of well and concrete pad showing benchmark on concrete pad attached

14. GPS coordinates provided in degrees, minutes, seconds

15. If a pump is not planned to be installed, please describe (below in the remarks section) how well is secured to prevent unauthorized access (example: lockable cover, threaded coupling, etc.)

16. Remarks:

Licensed Driller (print) Michael Robertson
Signature

C-57 Lic. No. 20115
Date 11/23/04

WCRI Form 8/12/07 Page 1 of 5

Well # corresponds to
MOWA Estimate of length and photo

data corresponds to
Ocean Villas elev. depth, TMTK
12. AS-BUILT WELL SECTION (Please attach as-built if different from diagram provided below)

Elevation at top of casing: 80.75 ft., mas (to nearest 0.01 ft.)
Minimum of 2 Radius & 4” Thick Concrete Pad

Solid Casing: (≥ 80% x (Ground Elev.-Water Level Elev))

- Length: 75 ft.
- Nominal Diameter: 6 in.
- Wall Thickness: 0.250 in.
- Bottom Elevation: 4.12 ft., mas

Open Casing: X Perforated □ Screen

- Length: 20 ft.
- Nominal Diameter: 6 in.
- Wall Thickness: 0.250 in.
- Bottom Elevation: -15.23 ft., mas

Open Hole: Length: n/2 Diameter: n/2 Bottom Elevation: n/2 ft., mas

Solid Casing Material:
- Carbon Steel: compliant with (check one or more): □ ANSI/AWWA C200 □ API Spec. 5L □ ASTM A53 □ ASTM A139
- Stainless Steel: (check one): □ ASTM A242 or A606 □ Type E □ Type S □ Grade B □ Other
- ABS Plastic conforming to ASTM F490 and ASTM D1527: (check one) □ Schedule 40 □ Schedule 80
- PVC Plastic conforming to ASTM F490 and ASTM D1785 or ASTM D2241: (check one): □ Schedule 40 □ Schedule 80 □ Schedule 120
- Thermoset Plastic: (check one)
  □ Filament Wound Resin Pipe conforming to ASTM D2996
  □ Centrifugally Cast Resin Pipe conforming to ASTM D2997
  □ Reinforced Plastic Mortar Pressure Pipe conforming to ASTM D3517
  □ Glass Fiber-Reinforced Resin Pressure Pipe conforming to AWWA C950
  □ PTFE Fluorocarbon Tubing conforming to ASTM D3296
  □ FEP Fluorocarbon Tubing conforming to ASTM D3296

Open Casing Material: L A776-II KE KI

- Carbon Steel: compliant with (check one or more): □ ANSI/AWWA C200 □ API Spec. 5L □ ASTM A53 □ ASTM A139
- Stainless Steel: (check one): □ ASTM A242 or A606 □ Type E □ Type S □ Grade B □ Other
- ABS Plastic conforming to ASTM F490 and ASTM D1527: (check one) □ Schedule 40 □ Schedule 80
- PVC Plastic conforming to ASTM F490 and ASTM D1785 or ASTM D2241: (check one): □ Schedule 40 □ Schedule 80 □ Schedule 120
- Thermoset Plastic: (check one)
  □ Filament Wound Resin Pipe conforming to ASTM D2996
  □ Centrifugally Cast Resin Pipe conforming to ASTM D2997
  □ Reinforced Plastic Mortar Pressure Pipe conforming to ASTM D3517
  □ Glass Fiber-Reinforced Resin Pressure Pipe conforming to AWWA C950
  □ PTFE Fluorocarbon Tubing conforming to ASTM D3296
  □ FEP Fluorocarbon Tubing conforming to ASTM D3296
## DRILLER'S LOG

**WELL NUMBER:** 4326-11  
*In addition to the driller’s log, if a geologic log was prepared, please submit with this form*

<table>
<thead>
<tr>
<th>Depths (ft)</th>
<th>Rock Description</th>
<th>Water Level</th>
<th>Cl.</th>
<th>Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 25</td>
<td>Vein boulders</td>
<td></td>
<td></td>
<td>11/18</td>
</tr>
<tr>
<td>25 to 38</td>
<td>Hard tan rock</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>38 to 45</td>
<td>Cinders</td>
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<td></td>
</tr>
<tr>
<td>45 to 52</td>
<td>Blue rock</td>
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<td></td>
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<tr>
<td>52 to 100</td>
<td>Cinders</td>
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<tr>
<td>100 to 105</td>
<td>Boulders</td>
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<td>11/19</td>
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<td>105 to 115</td>
<td>Blue rock (Ht)</td>
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<td>85 to 95</td>
<td>Cinders</td>
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**Remarks:**  
Hit water @ 79 ft!
### STEP-DRAWDOWN PUMP TEST DATA

(not required for wells producing < 100,000 gpd or 70 gpm)

<table>
<thead>
<tr>
<th>Pumped Well No.</th>
<th>432U-11</th>
<th>Observation Well No.</th>
<th>n/a</th>
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</thead>
<tbody>
<tr>
<td>Pumped Well Name</td>
<td>KEP Hi. Well #1</td>
<td>Distance between Obs. &amp; Pumped Well</td>
<td>n/a ft.</td>
</tr>
<tr>
<td>Target Q</td>
<td>150 gpm</td>
<td>Reference pt. for depth to water</td>
<td>70.85 ft. msl</td>
</tr>
<tr>
<td>Water level measurements by:</td>
<td>Electrical sounder</td>
<td>Static Water Level @ start of test</td>
<td>1.92 ft. msl</td>
</tr>
</tbody>
</table>

**START TEST**
- Date: 11-24-04
- Time of day: 0900

Flow Meter Reading Start: 11 gallons

<table>
<thead>
<tr>
<th>Suggested Elapsed Time (min)</th>
<th>Actual Elapsed Time (min)</th>
<th>Depth to water (nearest 0.1 ft)</th>
<th>Drawdown S (unadjusted to nearest 0.1 ft)</th>
<th>Pumping Rate Q (at least 3 steps) (gpm)</th>
<th>EC (mS/cm)</th>
<th>CF</th>
<th>Temp. °F</th>
<th>Data in this table is for:</th>
<th>Remarks</th>
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<tbody>
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- Pumped Well
- Observation Well

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1 starting pumping rate Q
2 minimum length of step period of constant pumping rate
3 minimum mandatory Chloride (Cl') measurement/sampling at end of every step
4 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: 10541 gals
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END TEST Date: 11/20/04 Time of day: 10:15 am

ADDITIONAL REMARKS:

Person in charge of pump test (pmt): Michael Robertson

Signature: ____________________________

The signature above indicates that the data reported on this form is accurate and true to the best of the person's knowledge who operated this pump test.
## CONSTANT-RATE PUMP TEST DATA

(not required for wells producing < 50 gpm)

- **Pumped Well No.** 143-2-11
- **Pumped Well Name** Kernwell #1
- **Target Q** 150 gpm
- **Distance between Obs. & Pumped Well** 78.5 ft
- **Reference pt. for depth to water** 142 ft msl
- **Static Water Level @ start of test** 1 ft msl
- **Water level measurements by:** electrical sounder
- **Flow Meter Reading Start:** 10541 gallons

### Flow Meter Reading

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<th>EC (joules)</th>
<th>Cl (mg/l)</th>
<th>Remarks</th>
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</table>

Max possible duration, water level or quality did not stabilize for any 24 hour period.

Begin recovery data next page.

Flow meter reading at end of pumped period: 226,791 gal.

1 Chloride sampling required
2 Use same ending drawdown figure as start for recovery.
Suggested elapsed time | Actual elapsed time | Depth to water (nearest 0.1 ft) | Recovery Drawdown S (unadjusted to nearest 0.1 ft) | Pumping rate Q (gpm) | EC (µhos) | Cl⁻ (mg/l) | Temp. Y°F or °C | Data in this table is for: | Remarks
---|---|---|---|---|---|---|---|---|---
0 | 0 | 81.0 | 2.1 | 0 | | | | | Start recovery
1 | 0.5 | 80.4 | 1.5 | 0 | | | | | 
1.5 | 0.5 | 80.2 | 1.3 | 0 | | | | | 
2 | 0.5 | 79.5 | 1.0 | 0 | | | | | 
2.5 | 0.5 | 79.1 | 0.2 | 0 | | | | | 
3 | 0.5 | 78.9 | 0 | 0 | | | | | 
4 | | | | | | | | | 
5 | | | | | | | | | 
6 | | | | | | | | | 
7 | | | | | | | | | 
8 | | | | | | | | | 
10 | 0 | | | | | | | | 
15 | 0 | | | | | | | | 
20 | | | | | | | | | 
25 | | | | | | | | | 
30 | | | | | | | | | 
40 | | | | | | | | | 
50 | | | | | | | | | 
60 | | 78.9 | 0 | | | | | | 
70 | | | | | | | | | 
80 | | | | | | | | | 
90 | | | | | | | | | 
100 | | | | | | | | | 
150 | | | | | | | | | 
200 | | | | | | | | | 
250 | | | | | | | | | 

END TEST Date: 11-30-04 Time of day: 1000 AM

ADDITIONAL REMARKS:

Person in charge of pump test (print): Michael Robertson

Signature: [Signature]

The signature above indicates that the data reported on this form is accurate and true to the best of the person's knowledge who operated this pump test.
DATE: April 8, 2008

ATTN: Charley Ice

FROM: Leah

PAGES: 11
(including cover)

SUBJECT: Ke Alii 1 (Villas) Well #4326-11

MESSAGE: Attached is WCR1, step draw down test, and constant rate test. Please let me know by fax or email that this was received.
proposed well →