PEAHI-WANNER WELL
(5515-03)

PROJECT AREA

EXHIBIT 1
9. PROPOSED WELL SECTION

Elevation at top of casing
362 ft., mal.

Cement Grout: 150 ft.

Rock Packing: 0 ft.

Hole Diameter: 10 in. to 150 ft.
6 in. 150 to 400 ft.

Total Depth 400 ft.

Ground Elevation: 360 ft., mal

Solid Casing:
Material: P.V.C. Schedule 40
Length: 6 in. to 150 ft. Sleaved with 4 in. to 330 ft.
Diameter: 6 in. to 150 ft. Sleaved with 4 in. to 330 ft.
Wall thickness: .25 in.

Casing: X Perforated Screen
Material: P.V.C. Schedule 40
Length: 20 ft.
Diameter: 4 in.
Wall thickness: .25 in.
Openings: 2 sq. in./l.f.

Open Hole:
Length: 0 ft.
Diameter: N.A. in.
Mr. David Wanner

October 1, 2002

Dear Mr. Wanner:

Well Completion Report for Well No. 5515-03

We received your wellhead survey for the Peahi-Wanner Well (Well No. 5515-03) on September 12, 2002 and acknowledge that Well Completion Report Part II is now complete. This completes the permitting process for this well.

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

Sincerely,

LINNEL T. NISHIOKA
Deputy Director

Cl:ss

c: Wailani Drilling, Inc.
Mike,

Thanks for locating the wells — I need to see that line drawn across the middle on the overlay!

To Charlie

---

Correct location

Corrected lines

Old well

Plat 07

Trier

Wanner

Wilson

Haunia Rd.

Brock 04

Phillips 02

Wilson "02 (575) 05"

Lat. 20 56.01

Long. 156 15.48

Adjusted map & interpretation

9-28-00

---
Mr. Mike Robertson  
Wailani Drilling Company  
655 Kulike Road  
Haiku, HI 96708

Dear Mr. Robertson:

Thank you for several Well Completion Reports (WCR) received on August 22, 2000:

Well No. 5615-04 (Bock)
Well No. 3806-03 (Mokulau)
Well No. 5414-02 (Ulin)
Well No. 5616-04 (Honig)
Well No. 5424-09 (Gerlach)
Well No. 5841-03 (Shoemaker)
Well No. 5515-04 (Johnson)

The Bock, Mokulau, and Ulin reports are in order. It is understood that surveys for several wells will be forthcoming, and our acknowledgement letters to permittees will remind them that it must be done. There are some unfinished matters for the others:

Well No. 5616-04 (Honig)
1. Fred Honig needs to sign the WCR.
2. Please identify the pumpage rate used in the constant rate pump test— that column is blank.

Well No. 5424-09 (Gerlach)
The initial water level for the Gerlach Well on the Completion Report is different from the one on the as-built drawing.

Well No. 5841-03 (Shoemaker)
The permanent pump is installed, although no provision was made for that despite the option available. We need to consider Commission action on that violation.
Well No. 5515-04 (Johnson)
In the course of entering this well information into the database, we realized that the location of this and neighbor wells may not be properly numbered. Please help us locate these wells more accurately.

Enclosed is a small TMK base map with a USGS quad acetate overlay, to approximately the same scale. The stream on both is colored for easier viewing. Please mark each well in the correct spot of its parcel with a circled colored "X" on the TMK base.

In the future, using the standard 7.5-minute quads will work better than the 15-minute quads. Also, the regular TMK maps seem to work better than the individual subdivision maps. I've identified the parcels owned by the permittees (2-8-4:_):

Bock: 72  Robertson: 73  Phillips: 74  
Trier: 79  Wanner: 80  Johnson: 86

At this point, it appears that our numbers for the Trier Well and the Johnson Well are erroneous (note the USGS grid lines on the overlay, separating Well No. 5515 from 5615).

If you have any questions, please call Charley Ice at 587-0251.

Sincerely,

LINNEL T. NISHIOKA
Deputy Director

Cl:ss
Enclosure
ELEVATION CERTIFICATE

April 11, 2002

WAILANI DRILLING COMPANY
655 Kulike Road
Haiku, Maui, Hawaii 96708

Attn: Mike Robertson

For: Peahi-Wanner Well
Well No. 5515-03

On April 9, 2002, the well located on Parcel 80 of Tax Map
Key:(2) 2-8-004 was surveyed by surveyors under my instructions
and the elevation at the top of the well casing was determined
to be 377.84 Feet above Mean Sea Level. This elevation was
referenced to an established benchmark provided for our use in
performing this work.

NEWCOMER-LEE
LAND SURVEYORS, INC.
a Hawaii corporation

BRUCE R. LEE
Licensed Professional Land
Surveyor Certificate No. 5983-LS

5485PL80.wps
January 24, 2002

Mr. David Wanner

Dear Mr. Wanner:

Wellhead Survey
Peahi-Wanner Well (Well No. 5515-03)

The single remaining unfinished business on your well permit is the survey of the wellhead elevation by a licensed surveyor (part of the Well Completion Report, Part 1). Your driller is coordinating the service of a licensed surveyor in your neighborhood, and will be contacting you to schedule surveying of your wellhead.

Completing the required survey will complete your permitting requirements and prevent a violation of your permit, for which violators are subject to fines of up to $1000 per day. We know that arranging for surveys in your area has been difficult, and appreciate your drillers' efforts to coordinate this service. We encourage you to complete this important part of your permitting requirements, to protect our aquifers and for you to avoid possible fines.

If you have any questions, please contact Charley Ice of the Water Commission staff at 587-0251 or toll-free at 984-4644, extension 70251.

Sincerely,

LINNEL T. NISHIOKA
Deputy Director

CI: ss

c: Wailani Drilling Company
Mr. David Wanner
State of Hawaii Department of Land and Natural Resources
Commission on Water Resource Management

Mr. David Wanner

Dear Mr. Wanner:

Well Construction/Pump Installation Permits
Peahi-Wanner Well (Well No. 5515-03)

We received a copy of the Pump Installation Permit, signed by you and by the driller, on May 26, 2000. This completes the permitting process.

We are re-transmitting an original of the Water Use Report form for your use under permit condition #3.

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

Sincerely,

LINNEL T. NISHIOKA
Deputy Director

Cl: ss
Attachment

c: Wailani Drilling Company
ANNUAL GROUND WATER USE REPORT FOR

David Wanner
400 Kulike Road
Ha'iku, Hawaii 96708

Report Submitted for the Year 19

<table>
<thead>
<tr>
<th>State Well No.</th>
<th>Well Name</th>
<th>Measurement End Date (mm/dd/yy)</th>
<th>Quantity Pumped (gallons)</th>
<th>Method of Measurement*</th>
<th>Chloride (mg/l)**</th>
<th>Temp. (°F)</th>
<th>Lowest Non-pumping Water Level (ft. above msl)</th>
<th>Highest Non-pumping Water Level (ft. above msl)</th>
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</table>

* flow meter, electrical consumption, weir or flume, not metered (estimated)
** indicate how long pump was on or off when chloride sample taken
*** minimum time between pump/well turned off and water level measurement must be at least 24 hours; if pumping schedule did not allow for at least 24 hour rest during the month please indicate amount of hours pump was off before this measurement

Other comments or additional information (e.g. - date and method of chloride measurement; how pumpage amounts are estimated; etc...):

Submitted by (print) _____________________________  Title _____________________________
Signature _____________________________  Date _____________________________
To: Charlie Ice
For: Water Resource Commission

Dear Charlie:

Enclosed is: Peahi Wanner signed pump permit. WCR form part 2 was not received by us.

Mc Donald pump permit signed and WCR part 2 with as built.

Maui Central Park pump permit signed. You should already have a copy. I had one in my files.

Huelo Hipp WCR part 2 signed with as built.

Napili Park pump test data.

Thank You for your cooperation

Sincerely,

Mike Robertson

Certified By The National Groundwater Association
PUMP INSTALLATION PERMIT

Peahi-Wanner Well, Well No. 5515-03

In accordance with Department of Land and Natural Resources, Commission on Water Resource Management's Administrative Rules, Section 13-168, entitled "Water Use, Wells, and Stream Diversion Works", this document permits the pump installation for Peahi-Wanner Well (Well No. 5515-03) at Peahi, Maui, TMK 2-8-4-80, subject to the Hawaii Well Construction & Pump Installation Standards (1/23/97) which include but are not limited to the following conditions:

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

2. The pump installation permit shall be for installation of a 20 gpm capacity, or less, pump in the well.

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

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

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

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

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

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

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

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

Date of Approval: February 25, 1997
Expiration Date: February 25, 1999
Management

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

Permittee's Signature: [Signature]
Printed Name: [Name]
Firm or Title: [Owner]

Installer's Signature: [Signature]
Printed Name: [Name]
License #: [License]
Date: [Date]
Firm or Title: [Widener Plumbing Inc.]

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

Attachments:

USGS
Department of Health/ Safe Drinking Water & Wastewater Branches
To: Charlie Ice
For: Water Resource Commission

Dear Charlie:

Enclosed are signed well construction permits for Wanner, Edington, Hagar, Nicole, Shoemaker and Hipp.

Wanner, Edington and Hagar were all previously sent, and as far as I knew so was Nicole. The Hipp and Shoemaker well construction permits were in my files which was my oversight.

Enclosed also are signed well completion reports for Clark and Naditch. I have in my file for Hagar an approved pump permit. How did we get the pump permit if the pump installation permit application was not signed by the owner? They told me, it was signed and sent in. If it isn't in your files anywhere please send another copy to us and I will see that it is taken care of.

Enclosed also is the step draw down test info for Hale Kamaole. Phillips, Wilson, Wanner, Gould and Rubin were all exempted from surveyed elevations and given amnesty from this requirement by the Commission, and are at least five years old.

Edington's survey signature was sent in. If this is still required for him I will have to have the surveyor sign another copy.

Lowen's well construction permit was sent to him to sign, and I was told that he sent it to you. Let me know if you need me to follow up on this if you didn't receive it, and I'll ask them to send it again.

Peter Martin is very diligent about paper work. According to my files, his signed well construction permit was sent in. At the time I was not retaining copies, so I don't have another copy of it. Also his step draw-down test should be N/A because it's less than 70 gpm.

The following owners have chosen not to drill at this time: Harold; Boerner, Fisher, and L. Robertson.

The following wells are on hold until the owners get their funds together: Englehart and Douglas.

The Wark well #5424-08 was not my application. Other well completion reports will be forthcoming as soon as the surveyor completes and signs the reports.

Hale Kamaole Step Draw Down somehow didn't get put in the envelope to you. It is included now.

Thorsen well # 5522-02 Construction Permit was signed by me and he says he sent it to you. I did not retain a copy so if you can't find it please send another copy and let us try again.

Hope this helps clear things up. I would like to start the new year on an even keel.

Mahalo for your cooperation.

Sincerely,

Mike Robertson

Certified By The National Groundwater Association
Mr. David Wanner

Dear Mr. Wanner:

Well Construction/Pump Installation Permits
Peahi-Wanner Well (Well No. 5515-03)

In reviewing our records, we find that, while other matters for your permit are in order, we do not have validated signed copies of these permits, as required in our transmittal letter dated October 12, 1998. Please transmit signed copies of your permits at your earliest convenience.

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

Sincerely,

LINNEL T. NISHIOKA
Deputy Director

Cl:ss

c: Mike Robertson, Wailani Drilling Company
Mr. David Wanner

Dear Mr. Wanner:

Pump Installation Permit
Peahi-Wanner Well (Well No. 5515-03)

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

Special Conditions

1. None

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

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

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

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

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

Aloha,

[Signature]

MICHAEL D. WILSON
Chairperson

Enclosures
PUMP INSTALLATION PERMIT

Peahi-Wanner Well, Well No. 5515-03

In accordance with Department of Land and Natural Resources, Commission on Water Resource Management's Administrative Rules, Section 13-168, entitled "Water Use, Wells, and Stream Diversion Works", this document permits the pump installation for Peahi-Wanner Well (Well No. 5515-03) at Peahi, Maui, TMK 2-8-4:80, subject to the Hawaii Well Construction & Pump Installation Standards (1/23/97) which include but are not limited to the following conditions:

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

2. The pump installation permit shall be for installation of a 20 gpm capacity, or less, pump in the well.

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

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

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

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

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

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

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

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

Date of Approval: February 25, 1997
Expiration Date: February 25, 1999

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

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

Installer's Signature: ___________________________ License #: __________ Date: __________
Printed Name: ___________________________ Firm or Title: ___________________________

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

Attachments

USGS
Department of Health/ Safe Drinking Water & Wastewater Branches
Maul Department of Water Supply
<table>
<thead>
<tr>
<th>Sample No.</th>
<th>Date Taken</th>
<th>Sample (ml)</th>
<th>Burette Rdg Before</th>
<th>AgNO₃ (ml)</th>
<th>AgNO₃ + .2 ml</th>
<th>Multi. Factor</th>
<th>Chlorides (ppm)</th>
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- STRINGS -
WELL COMPLETION REPORT

State Well No.: ~ 5515-03 Name: ~ Peahi Wanner Well Island: ~ Maui
Location/Address: 400 Kullike rd. tax Map Key: 2-8-04-80

3. Drilling Company: Wailani Drilling Company
4. Name of driller who performed work: Mike Robertson
5. Type of rig/construction: Air Rotary Drill Rig
6. Date(s) Well Construction and pump tests (if any) completed: _10/4/96___
7. GROUND ELEVATION (referred to mean sea level, msl): _380___ ft.
8. DRILLER'S LOG: Please attach geologic log (if available or if required by permit)
   Depths (ft.) Rock Description, Water Level, Dates, etc. Depths (ft.) Rock Description, Water Level, Dates, etc.
   0_to 120 ___ red clay 140_to 180 ___ bluerock
   120_to _140 ___ weathered bluerock 180_to _190 ___ weathered bluerock
   (If more space is needed, continue on back.)
9. Total depth of well below ground: _416___ ft.
10. Hole size: 10 inch dia. from 0 ft. to __176___ ft. below ground
    6 inch dia. from __176___ ft. to __416___ ft. below ground
11. Casing installed: _6_ in. I.D. x _25_ in. wall solid section to __176___ ft. below ground
    _4_ in. I.D. x _25_ in. wall solid section to __400___ ft. below ground
    _4_ in. I.D. x _25_ in wall perforated section to __415___ ft. below ground
    Casing Material/Slot Size: _____________________________ 10”
12. Annulus: Grouted from __0___ ft. below ground to __176___ ft. below ground
    Gravel packed from n.a. ft. below ground to n.a. ft. below ground
13. Initial water level: _370___ ft. below ground. Date and time of measurement: _10-20-96 ___ 1:00pm
14. Initial chloride: _247___ ppm Date and time of sampling: __same___
15. Initial temperature: _64___ °F Date and time of measurement: __same___
16. PUMPING TESTS: Reference Point (R.P.) used: _wellhead___ which elevation is _380___ ft.
   (1) Step-Drawdown Test Date ____________ (2) Long-term Aquifer Test Date _11/14/96___
   Start water level ____________ ft. below R.P. 
   End water level ____________ ft. below R.P.
   Start water level __370.0___ ft. below R.P. 
   End water level __370.041___ ft. below R.P.
17. Aquifer Pump Test Procedures data & graphs (1/8/96 LAT Form) attached? X_ Yes _ No
18. As-built drawings attached? X_ Yes _ No
19. Other remarks/comments: (On back of this form)

Well Drilling Contractor (print) _Mike Robertson_ C-57 Lic. No._C-20115
Signature ___________________________ Date __2/10/97________
Surveyor (print) ___________________________ Lic. No. 
Signature ___________________________ Date __________________
Applicant (print) _Peahi Wanner_ 
Signature ___________________________ Date __9.12.97___

21. Name of person performing work: Mike Robertson

22. Date Pump Installation Completed: 10/4/96

23. PUMP INSTALLATION:
   - Pump Type, Make, Serial No.: Grundfos sub. 2J9519-2240  Capacity: 20 gpm
   - Motor Type, H.P., Voltage, rpm: 2hp 220v 3450rpm
   - Depth of Pump Intake Setting: 385 ft. below well head, which elevation is 380 ft.
   - Depth to bottom of airline: 385 ft. below wellhead, which elevation is 380 ft.
   - Pumping Head: 368 ft. Type of flow meter: none which measures in

24. As-built drawings attached? Yes

25. Other remarks/comments: (See below)

Pump Installation Contractor (print) Mike Robertson

Signature ________________________________ Date 2/10/97

Applicant (print) ________________________________

Signature ________________________________ Date ________________________________

B.(cont'd) DRILLER'S LOG (cont'd):

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<th>Water Level Dates (ft.)</th>
<th>Depth (ft.)</th>
<th>Rock Description, Remarks,</th>
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<td>soft tan rock</td>
<td></td>
</tr>
<tr>
<td>200 to 220</td>
<td>bluerock</td>
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<tr>
<td>220 to 230</td>
<td>soft tan rock</td>
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<tr>
<td>230 to 255</td>
<td>bluerock</td>
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</tr>
<tr>
<td>255 to 310</td>
<td>soft tan rock</td>
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<tr>
<td>310 to 320</td>
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</tr>
<tr>
<td>320 to 330</td>
<td>soft tan rock</td>
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<tr>
<td>330 to 365</td>
<td>AA</td>
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</table>

<table>
<thead>
<tr>
<th>Water Level Dates (ft.)</th>
<th>Depth (ft.)</th>
<th>Rock Description, Remarks,</th>
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<tbody>
<tr>
<td>365 to 380</td>
<td>bluerock</td>
<td></td>
</tr>
<tr>
<td>380 to 390</td>
<td>soft tan rock</td>
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<tr>
<td>390 to 400</td>
<td>bluerock</td>
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</tr>
<tr>
<td>400 to 416</td>
<td>Pahoehoe (hit water at 400')</td>
<td></td>
</tr>
</tbody>
</table>


__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________
**DRINKING WATER ANALYSIS RESULTS**

**NOTE:**

- "**" The MCL (Maximum Contaminant Level) or an established guideline has been exceeded for this contaminant.
- "**" Bacteria results may be invalid due to lack of collection information or because the sample has exceeded the 30-hour holding time.
- "ND" This contaminant was not detected at or above our stated detection level.
- "NBS" No bacteria submitted.
- "p" = PRESENCE
- "EP" = E. COLI PRESENCE
- "A" = ABSENCE
- "EA" = E. COLI ABSENCE

<table>
<thead>
<tr>
<th>Analysis Performed</th>
<th>MCL</th>
<th>Det.</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(mg/l)</td>
<td>Level</td>
<td>Detected</td>
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</tbody>
</table>

**Total coliform**

- **M**
- **P**
- **P EA**

**Inorganic chemicals - metals:**

<table>
<thead>
<tr>
<th>Compounds</th>
<th>M</th>
<th>P</th>
<th>EA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum</td>
<td>0.2</td>
<td>0.1</td>
<td>ND</td>
</tr>
<tr>
<td>Arsenic</td>
<td>0.05</td>
<td>0.010</td>
<td>ND</td>
</tr>
<tr>
<td>Barium</td>
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<td>0.50</td>
<td>ND</td>
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<tr>
<td>Cadmium</td>
<td>0.005</td>
<td>0.002</td>
<td>ND</td>
</tr>
<tr>
<td>Chromium</td>
<td>0.1</td>
<td>0.004</td>
<td>ND</td>
</tr>
<tr>
<td>Copper</td>
<td>1.3</td>
<td>0.020</td>
<td>ND</td>
</tr>
<tr>
<td>Iron</td>
<td>0.015</td>
<td>0.002</td>
<td>ND</td>
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<tr>
<td>Lead</td>
<td>0.05</td>
<td>0.004</td>
<td>ND</td>
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<tr>
<td>Manganese</td>
<td>0.002</td>
<td>0.001</td>
<td>ND</td>
</tr>
<tr>
<td>Mercury</td>
<td>0.1</td>
<td>0.02</td>
<td>ND</td>
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<tr>
<td>Nickel</td>
<td>0.05</td>
<td>0.002</td>
<td>ND</td>
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<tr>
<td>Selenium</td>
<td>0.1</td>
<td>0.002</td>
<td>ND</td>
</tr>
<tr>
<td>Silver</td>
<td>---</td>
<td>0.0</td>
<td>ND</td>
</tr>
<tr>
<td>Sodium</td>
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<td>0.004</td>
<td>0.056</td>
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<tr>
<td>Zinc</td>
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**Inorganic chemicals - other, and physical factors:**

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<th>EA</th>
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</thead>
<tbody>
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<td>Alkalinity (Total as CaCO3)</td>
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<td>10.0</td>
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<td>Chloride</td>
<td>250</td>
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<td>Fluoride</td>
<td>4</td>
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<tr>
<td>Nitrate as N</td>
<td>10</td>
<td>0.5</td>
<td>ND</td>
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<tr>
<td>Nitrite as N</td>
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<td>0.5</td>
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<tr>
<td>Sulfate</td>
<td>500</td>
<td>5.0</td>
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<tr>
<td>Hardness (suggested limit = 100)</td>
<td>10.0</td>
<td>115*</td>
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<tr>
<td>pH (Standard Units)</td>
<td>6.5-8.5</td>
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<td>7.6</td>
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<tr>
<td>Total Dissolved Solids</td>
<td>500</td>
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<td>450</td>
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<tr>
<td>Turbidity (Turbidity Units)</td>
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<td>0.1</td>
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**Organic chemicals - trihalomethanes:**

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<th>EA</th>
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</thead>
<tbody>
<tr>
<td>Bromoform</td>
<td>0.1</td>
<td>0.004</td>
<td>ND</td>
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<tr>
<td>Bromochloromethane</td>
<td>0.1</td>
<td>0.002</td>
<td>ND</td>
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<tr>
<td>Chloroform</td>
<td>0.1</td>
<td>0.002</td>
<td>ND</td>
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<tr>
<td>Dibromochloromethane</td>
<td>0.1</td>
<td>0.004</td>
<td>ND</td>
</tr>
<tr>
<td>Total THMs (sum of four above)</td>
<td>0.1</td>
<td>0.002</td>
<td>ND</td>
</tr>
</tbody>
</table>

---

**CUSTOMER ADDRESS**

DAVE WANNER
KULIKE RD.

**DEALER ADDRESS**

WAILANT DRILLING CO.
MIKE ROBERTSON
655 KULIKE
HA'I EU. HI 96708
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<th>Analysis performed</th>
<th>incl.</th>
<th>Detection Level</th>
<th>Level Detected</th>
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<tbody>
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<td>Benzene</td>
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<td>0.001</td>
<td>ND</td>
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<td>Vinyl Chloride</td>
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<td>Carbon Tetrachloride</td>
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<td>0.001</td>
<td>ND</td>
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<tr>
<td>1,2-Dichloroethane</td>
<td>0.005</td>
<td>0.001</td>
<td>ND</td>
</tr>
<tr>
<td>Trichloroethene</td>
<td>0.075</td>
<td>0.001</td>
<td>ND</td>
</tr>
<tr>
<td>1,1-Dichloroethene</td>
<td>0.007</td>
<td>0.001</td>
<td>ND</td>
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<tr>
<td>1,1,1-Trichloroethane</td>
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<td>0.001</td>
<td>ND</td>
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<td>Bromobenzene</td>
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<td>ND</td>
</tr>
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<td>0.002</td>
<td>ND</td>
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<tr>
<td>Chlorobenzene</td>
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<td>0.001</td>
<td>ND</td>
</tr>
<tr>
<td>Chloroethane</td>
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<td>0.002</td>
<td>ND</td>
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<tr>
<td>Chloromethane</td>
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<td>0.002</td>
<td>ND</td>
</tr>
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<td>2-Chlorotoluene</td>
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<td>4-Chlorotoluene</td>
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<td>Dibromochloropropane (DBCP)</td>
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<td>1,3-Dichlorobenzene</td>
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<td>Dichlorodifluoromethane</td>
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<td>1,1-Dichloroethane</td>
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<td>0.002</td>
<td>ND</td>
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<tr>
<td>Trans-1,2-Dichloroethene</td>
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<td>0.002</td>
<td>ND</td>
</tr>
<tr>
<td>cis-1,2-Dichloroethene</td>
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<td>0.002</td>
<td>ND</td>
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<tr>
<td>Dichloromethane</td>
<td>0.005</td>
<td>0.002</td>
<td>ND</td>
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<tr>
<td>trans-1,3-Dichloropropene</td>
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<td>0.002</td>
<td>ND</td>
</tr>
<tr>
<td>1,3-Dichloropropene</td>
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<td>0.002</td>
<td>ND</td>
</tr>
<tr>
<td>1,2-Dichloropropene</td>
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<td>0.002</td>
<td>ND</td>
</tr>
<tr>
<td>1,1-Dichloropropene</td>
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<td>0.002</td>
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<tr>
<td>1,3-Dichloropropene</td>
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<tr>
<td>Ethylbenzene</td>
<td>0.7</td>
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<td>Ethylenedibromide (EDB)</td>
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<tr>
<td>Styrene</td>
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<td>1,1,1,2-Tetrachloroethane</td>
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<tr>
<td>Tetrachloroethene (PCE)</td>
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<td>1,2,4-Trichlorobenzene</td>
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<tr>
<td>1,2,3-Trichlorobenzene</td>
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<td>1,1,2-Trichloroethane</td>
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<td>0.002</td>
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<td>Trichlorofluoromethane</td>
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<td>1,2,3-Trichloropropene</td>
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<td>ND</td>
</tr>
<tr>
<td>Toluene</td>
<td>1</td>
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<tr>
<td>Xylene</td>
<td>10</td>
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</table>

**Organic chemicals - pesticides, herbicides and PCBs**

<table>
<thead>
<tr>
<th>Analysis performed</th>
<th>incl.</th>
<th>Detection Level</th>
<th>Level Detected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alachlor</td>
<td>0.002</td>
<td>0.001</td>
<td>ND</td>
</tr>
<tr>
<td>Atrazine</td>
<td>0.003</td>
<td>0.002</td>
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</tr>
<tr>
<td>Chlordane</td>
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<td>0.001</td>
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</tr>
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<td>Aldrin</td>
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<td>ND</td>
</tr>
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<td>Dichloran</td>
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</tr>
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<td>Dieldrin</td>
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<tr>
<td>Endrin</td>
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<td>Heptachlor</td>
<td>0.0004</td>
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<td>Heptachlor Epoxide</td>
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<td>Hexachlorobenzene</td>
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<td>Hexachlorocyclopentadiene</td>
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<td>Lindane</td>
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<td>Methoxychloride</td>
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<td>PCBs</td>
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<td>2,4-D</td>
<td>0.07</td>
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</tr>
</tbody>
</table>

I certify that the analyses performed for this report are accurate, and that the laboratory tests were conducted by methods approved by the U.S. Environmental Protection Agency or variations of these EPA methods. These test results are intended to be used for informational purposes only and may not be used for regulatory compliance.

[Signature]

**Alan A. Leff**

VICE PRESIDENT, OPERATIONS, NATIONAL TESTING LABORATORIES, LTD.
LONG-TERM AQUIFER TEST DATA

Pumped Well No. 5515-03
Pumped Well Name Peabody-Werny
Target Q 20 gpm
Distance between Obs. & Pumped Well ______ ft.
Reference pt. for depth to water 320 ft. msl
Static Water Level @ start of test 320 ft. msl

Water level measurements by: ✔ steel tape □ pressure transducer □ airline

START TEST Date: 11/4/96 Hour of day: 8:30 AM

Flow Meter Reading Start: ___ gals

<table>
<thead>
<tr>
<th>Suggested elapsed time (min)</th>
<th>Actual elapsed time (min)</th>
<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 (µS/cm)</th>
<th>Cl (mg/l)</th>
<th>Temp. (°F or °C)</th>
<th>Data in this table is for:</th>
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<tbody>
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<td>370.00</td>
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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: 7680 gals
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<th>Recovery (unadjusted to nearest 0.01 ft)</th>
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END TEST Date: 11/4/96 Hour of day: 4:35 PM

ADDITIONAL REMARKS:

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

Signature: Mike Robertson

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

CWRM LTAT Form 1/9/96
Pealii Warner Well 5515-03
Mike Robertson 655 Kulike Road Haiku, Maui, Hawaii 96708
Ph. 808-572-2673 Fax 572-0925 Cellular 283-8481
10/20/96

Wailani Drilling Company

8:45 AM

Mike Robertson 655 Kulike Road Haiku, Maui, Hawaii 96708
Ph. 808-572-2673 Fax 572-0925 Cellular 283-8481
10/20/96

Peach Wanner Well State Well #5515-03 Elevation 300 ft., m.s.l. Elevation 371.84 m

**Note: not drawn to scale**

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- **6 in. well seal on 6 in. Tee**
- **4' x 3' x 4' concrete slab**
- **6 in. well seal on 6 in. Tee**
- **1/2 in. sounding tube sched 40 pvc to 325 ft**
- **Transition soft to hard basalt**
- **Hard basalt**
- **Hard basalt**
- **Transition hard to soft basalt**
- **Soft tan rock**
- **Hard basalt**
- **Soft tan rock**
- **Hard basalt**
- **Soft tan rock**
- **Hard basalt**
- **AA Formation**
- **Static Water Level = 370 ft.**
- **2 h.p. Grundfos 18 gpm**
- **Submersible pump set at:**
- **335 ft. (Intake)**
- **4' sced 40 pvc slotted casing 400 to 415 ft**
- **Total Well Depth = 416 ft.**

**2 h.p. control box in garage**

**1-1/4" flex conduit junction box**

**6 in. borehole to 416 ft.**

**Bronze check valve**

**20' of 316-1/4" Stainless column pipe at waterline**

**2 h.p. Grundfos 18 gpm**

**Submersible pump set at: 335 ft. (Intake)**

**4' sced 40 pvc slotted casing 400 to 415 ft**

**Total Well Depth = 416 ft.**

*Note: not drawn to scale*
Mr. David Wanner

Dear Mr. Wanner:

Well Construction Permit
Peahi-Wanner Well (Well No. 5515-03)

Enclosed are two (2) copies 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. 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 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.

Please sign the permit copies and return one for our files. A copy of the aquifer pump test procedure and a copy of the well completion report are also included for your use.

The Commission has authorized the Chairperson to approve and issue a pump installation permit for a pump capacity supported by accepted aquifer pump test results required in Condition 6e of your well construction permit.

If you have any questions, please call Rae M. Loui, Deputy Director, at 587-0214 or toll-free at 984-2400, extension 70214.

Aloha,

[Signature]

MICHAEL D. WILSON
Chairperson

Enclosures
WELL CONSTRUCTION PERMIT

Peahl-Wanner Well, Well No. 5515-03

In accordance with Department of Land and Natural Resources, Commission on Water Resource Management’s Administrative Rules, Section 13-168, entitled “Water Use, Wells, and Stream Diversion Works”, this document permits the construction and testing of Peahl-Wanner Well (Well No. 5515-03) at Peahl, Makawao, Maui, TMK 2-8-04:80, 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:
   - Elevation (referenced to mean sea level, msl) survey by a Hawaii-licensed surveyor.
   - As-built sectional drawing of the well.
   - Plot plan and map showing the exact location of the well.
   - 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 July 17, 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: July 17, 1996
Expiration Date: July 17, 1998
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.

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
Maul Department of Water Supply

MICHAEL D. WILSON, Chairperson
Commission on Water Resource Management
Peahi-Wanner Well, Well No. 5515-03

In accordance with Department of Land and Natural Resources, Commission on Water Resource Management’s Administrative Rules, Section 13-168, entitled “Water Use, Wells, and Stream Diversion Works”, this document permits the construction and testing of Peahi-Wanner Well (Well No. 5515-03) at Peahi, Makawao, Maui, TMK 2-8-04, 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 July 17, 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: July 17, 1996
Expiration Date: July 17, 1998
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.

Applicant’s Signature: [Signature] Date: 10/20/96
Printed Name: David Wanner Firm or Title: Owner

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
Maui Department of Water Supply
WELL CONSTRUCTION PERMIT

Peahi-Wanner Well, Well No. 5515-03

Date of Approval: July 17, 1996
Expiration Date: July 17, 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: Mike Roberts
Firm or Title: Waterline Drilling, 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
Maul Department of Water Supply
DAVID WANNER, APPLICATION FOR WELL PERMIT, PEAHI-WANNER WELL (WELL NO. 5515-03), WELL CONSTRUCTION: 10-INCH DIAMETER, 400-FOOT DEEP PUMP INSTALLATION: 25-GPM PUMP FOR DOMESTIC AND IRRIGATION USE, TMK 2-8-4:80 PEAHI, MAKAWAO, MAUI

PRESENTATION OF SUBMITTAL: Mr. Charley Ice

STAFF RECOMMENDATION:

A. That the Commission approve the issuance of a well construction permit for Peahi-Wanner 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 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.

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 Condition 6e, subject to the standard permit conditions in Exhibit 4.

MOTION: (NOBRIGA/GIRALD)

To approve staff's recommendation.

UNANIMOUSLY APPROVED.
6. The applicant shall utilize appropriate erosion control measures during construction, and shall perform construction activities only during periods of low stream flow. The applicant shall prevent debris and construction materials, including cement, petroleum products, and other pollutants, from entering the stream. Wash and dust control water shall be properly disposed.

7. In the event that subsurface cultural remains such as artifacts, burials or deposits of shells or charcoal are encountered during excavation work, the applicant shall stop work in the area of the find and contact the Department's Historic Preservation Division (587-0045) immediately.

That the Commission defer action on and continue the process for this application to the next regularly scheduled meeting on Moloka'i.

TESTIMONY BY APPLICANT:

Ms. Kapu Smith, of Kamehameha Schools/Bishop Estate, testified against staff's recommendation to defer and was concerned about the delay.

MOTION: (NOBRIGA/RICHARDS)

To approve staff's recommendation to defer.

UNANIMOUSLY APPROVED TO DEFER.
### Part I. Well Construction Report

#### 3. Drilling Company:

#### 4. Name of driller who performed work:

#### 5. Type of rig/construction:

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

#### 7. GROUND ELEVATION (referenced to mean sea level, msl):

- Well Bench Mark (description/location):
- Elevation (msl):

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

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<th>Depth (ft.)</th>
<th>Rock Description, Water Level, Dates, etc.</th>
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#### 9. Total depth of well below ground: ___________ ft.

#### 10. Hole size:

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<th>Inch dia. from</th>
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<th>ft. below ground</th>
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#### 11. Casing installed:

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<th>In. I.D. x In. wall solid section to</th>
<th>ft. below ground</th>
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<th>In. I.D. x In. wall perforated section to</th>
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| Casing Material/Slot Size: | |

#### 12. Annulus:

- Grouted from ___________ ft. below ground to ___________ ft. below ground
- Gravel packed from ___________ ft. below ground to ___________ ft. below ground

#### 13. Initial water level: ___________ ft. below ground.

| Date and time of measurement: | |

#### 14. Initial chloride: ___________ ppm

| Date and time of sampling: | |

#### 15. Initial temperature: ___________ °F

| Date and time of measurement: | |

#### 16. PUMPING TESTS: Reference Point (R.P.) used:

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<tr>
<th>Step-Drawdown Test Date</th>
<th>R.P. elevation is ___________ ft.</th>
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<tr>
<th>Long-term Aquifer Test Date</th>
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<td>Start water level ___________ ft. below R.P.</td>
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#### 17. Aquifer Pump Test Procedures data & graphs (1/9/86 LTAT Form) attached? _ Yes _ No

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

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

---

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

**Signature:** ___________

**Date:** ___________

---

**Surveyor (print):** ___________

**License No.:** ___________

**Signature:** ___________

**Date:** ___________

---

**Applicant (print):** ___________

**Signature:** ___________

**Date:** ___________
PART II. *(PERMANENT) PUMP INSTALLATION REPORT*

20. Pump Installation Company: ____________________________

21. Name of person performing work: ____________________________

22. Date Pump Installation Completed: ____________________________

23. PUMP INSTALLATION:

   - Pump Type, Make, Serial No.: ____________________________
   - Motor type, H.P., Voltage, rpm: ____________________________
   - Capacity: __________ gpm
   - Depth of Pump Intake Setting __________ ft. below __________ which elevation is __________ ft.
   - Depth to bottom of airline __________ ft. below __________ which elevation is __________ ft.
   - Pumping Head __________ ft. Type of flow meter: __________ which measures in __________

24. As-built drawings attached? Yes No

25. Other remarks/comments: (See below)

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<tr>
<th>Pump Installation Contractor (print)</th>
<th>C-57 Lic. No.</th>
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<th>Rock Description, Remarks,</th>
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19. & 25. Remarks:

____________________________________________________________________________________

____________________________________________________________________________________

____________________________________________________________________________________
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.
AQUIFER (PUMP) TEST PROCEDURES

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 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 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.
LONG-TERM AQUIFER TEST DATA

Pumped Well No. ___________ Observation well no. ___________
Pumped Well Name ___________ Distance between Obs. & Pumped Well ________ ft.
Target Q ___________ gpm Reference pt. for depth to water ________ ft. msl

Static Water Level @ start of test ________ ft. msl

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</th>
<th>Actual elapsed time</th>
<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>
<th>CF (mg/l)</th>
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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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Use same ending drawdown figure as start for recovery

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Begin recovery data next page Flow meter reading at end of pumped period:

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End of pumped period:

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Begin recovery data next page Flow meter reading at end of pumped period:

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End of pumped period:

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Begin recovery data next page Flow meter reading at end of pumped period:

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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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End of pumped period:

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Begin recovery data next page Flow meter reading at end of pumped period:

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End of pumped period:

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Begin recovery data next page Flow meter reading at end of pumped period:

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End of pumped period:

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Begin recovery data next page Flow meter reading at end of pumped period:

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End of pumped period:

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Begin recovery data next page Flow meter reading at end of pumped period:

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End of pumped period:

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Begin recovery data next page Flow meter reading at end of pumped period:

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End of pumped period:
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<th>Actual elapsed time (min)</th>
<th>Depth to water (nearest 0.01 ft)</th>
<th>Recovery (unadjusted to nearest 0.01 ft)</th>
<th>Pumping rate Q (gpm)</th>
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END TEST 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.

CWRM LTAT Form 1/9/96
STANDARD WELL CONSTRUCTION PERMIT CONDITIONS

1. The Commission on Water Resource Management, P.O. Box 621, Honolulu, HI 96809, shall be notified, in writing, 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 (Exhibit 6). 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:
   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.
   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 July 17, 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 work.

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

EXHIBIT 3
STANDARD PUMP INSTALLATION PERMIT CONDITIONS

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.

The pump installation permit shall be for installation of a 25 gpm capacity, or less, pump in the well.

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

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.

The permittee shall complete and submit as-built drawings and Part II (Permanent) Pump Installation Report of the Well Completion Report (attached) to the Commission within thirty (30) days after completion of work.

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

The permit application and staff submittal approved by the Commission at its July 17, 1996 meeting are incorporated into the permit by reference.

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.

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.

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

If the test is NOT conducted earlier (13-168-12 d), application will not be accepted at until pumping tests are completed, submitted, and accepted.

EXHIBIT 4
Staff Submittal

July 17, 1996

Staff review: The proposed well would tap fresh basal ground water. Proposed use is approximately 2000 gallons per day. There are five (5) other small domestic wells on this ridge, the nearest about 700 feet away. No adverse impacts are expected.

RECOMMENDATION:

A. That the Commission approve the issuance of a well construction permit for Peahi-Wanner 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 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.

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 Condition 6e, subject to the standard permit conditions in Exhibit 4.

Respectfully submitted,

RAE M. LOUI
Deputy Director

Exhibits: 1 (Location Map) 2 (Well Cross-section) 3 (Standard Well Construction Conditions) 4 (Standard Pump Installation Conditions) 5 (Well Completion Report Form) 6 (Pump Test Procedures)

APPROVED FOR SUBMITTAL:

MICHAEL D. WILSON, Chairperson
STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT
P. O. BOX 621
HONOLULU, HAWAI, 96809

STAFF SUBMITTAL

for the meeting of the
COMMISSION ON WATER RESOURCE MANAGEMENT

July 17, 1996
Honolulu, Oahu

David Wanner
APPLICATION FOR WELL PERMIT
Peahi-Wanner Well (Well No. 5515-03)
Well Construction: 10-inch diameter, 400-foot deep Pump Installation: 25-gpm Pump for domestic and irrigation use,
TMK 2-8-4:80 Peahi, Makawao, Maui

APPLICANT:

David Wanner

LANDOWNER:

Same

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

WATER AVAILABILITY:

Ha'iiku Aquifer System of Ko'olau Sector. Estimated Sustainable Yield: 31 mgd.

BACKGROUND:

The application for this well was accepted as complete on April 19, 1996.

ISSUES/ANALYSIS:

Agency Review: The application was published in the Commission's Water Resource Bulletin in May 1996; review letters were sent to the Department of Health's Safe Drinking Water and Wastewater Branches. The Wastewater Branch notes that an individual wastewater system (cesspool or septic tank) is also present on this property. The Safe Drinking Water Branch recommends that potable water wells such as this one not requiring Department of Health approval be tested for bacteriological and chemical presence and be routinely monitored thereafter. In similar situations, that Branch has also specified that potable and irrigation applications using the same source be equipped to prevent backflow from non-potable to potable systems, and labelled to prevent inadvertent consumption of non-potable water.
PEAHI-WANNER WELL
(5515-03)

3.12.97

5515-03 WANNER

1. INSTALLED PUMP w/o PERMIT

2. ELEV. BY U.S. SURV.

Pump OK
To: Charley Ice, Staff  
Commission on Water Resources Management

From: Dennis Tulang, Chief  
Wastewater Branch

Subject: Well Construction Permit Application for  
Peahi-Wanner Well (Well No. 5515-03)  
TMK: (2) 2-8-04: 80 File 1731

We have reviewed the well construction permit application for  
Well No. 5515-03 submitted by your office. Our records show an  
treatment individual wastewater system (IWS) - septic tank in the  
vicinity. Please find attached our "IWS Data Profile - County of  
Maui" database work sheet stating the existence of an IWS on the  
property.

For details, please call Mr. Roland Tejano, Maui District Health  
Office - Wastewater Branch staff engineer on Maui at telephone  
984-8232. Please refer to IWS File # 1731.

LK:bhm

Attachment: "IWS Data Profile - County of Maui"
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/Pump Installation Permit Application for
Peahi-Wanner Well (Well No. 5515-03)

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

We would appreciate your comments on the captioned application for any conflicts
or inconsistencies with the programs, plans, and objectives specific to your department.
Please respond by returning this cover memo form by May 17, 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 Charley Ice of the Commission staff at 587-0251.

RESPONSE: ☑ Comments attached

Contact Person: Lori N. Kajiwara Phone: 5864294

Signed: Lori N. Kajiwara Date: 5/13/96
IWS DATA PROFILE --- COUNTY OF MAUI

TMK #: 2-08-004:080  FILE #: 1731-
OWNER: WANNE R DAVE
LOT LOCATION: HAUMANA RD PEAHI
REMARK:

************ DATES ************
SUBMIT DATE: 05/22/92  PLAN APPROVAL DATE: 06/09/92
REVIEWED BY: TK  INSPECTION DATE: / /
SYSTEM APP'D DATE: / /

***** TECHNICAL DATA *****
TREATMENT TYPE: SEPTIC TANK  DISPOSAL Via: TRENCH
USE FOR: RESIDENTIAL  DESIGNED BY: STADDEN\DEAD FILE 6-7-95
PERCOLATION: 8 min/in  CAPACITY: 1000 gal.

PRESS ANY KEY TO CONTINUE.
TO: Honorable Lawrence Miike, Director  
Department of Health  
Attention: Dennis Tulang, Wastewater Branch  
William Wong, Safe Drinking Water Branch

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

SUBJECT: Well Construction/Pump Installation Permit Application for Peahi-Wanner Well (Well No. 5515-03)

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

We would appreciate your comments on the captioned application for any conflicts or inconsistencies with the programs, plans, and objectives specific to your department. Please respond by returning this cover memo form by May 17, 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 Charley Ice of the Commission staff at 587-0251.

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

Contact Person: Bill Wong  
Phone:

Signed: Bill Wong  
Date: 5/20/96
Mr. David Wanner
P.O. Box 912
Paia, Hawai‘i 96779

Dear Mr. Wanner:

Well Construction/Pump Installation Permit Application for
Peahi-Wanner Well (Well No. 5515-03)

We accepted your application for the captioned well on April 18, 1996, and hereby acknowledge that it is complete. You can expect your application to be processed for action within ninety (90) days from that acceptance date.

If you have any questions about your application, please contact Charley Ice of the Commission staff at 587-0251.

Sincerely,

[Signature]

RAE M. LOUI
Deputy Director

Cl: ss
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 MAY 17, 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 Charley Ice of the Commission staff at 587-0251.

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

Contact Person: ____________________________ Phone: ____________________________

Signed: ____________________________ Date: ____________________________
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<td>David M. or Diane Wanner</td>
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</table>

**Remarks:**
- LINE (1): Well No. 5515-03
- LINE (2): 
- LINE (3): 
- LINE (4): 

**Total:** $25.00

**Check Details:**
- Pay to the order of **Dept Land Nat Res.**
- First Hawaiian Bank
  - 20 West Kaahumanu Avenue
  - Kahului, Hawaii 96732
- Amount: $25.00
- 3 20 96
- David M. or Diane Wanner
ATTN: CHARLIE ICE
WATER RESOURCE MANAGEMENT
P.O. Box 621
HONOLULU, HI 96809

THIS IS THE TMLK MAP FOR

THE WELL THAT MIKE ROBERTSON
IS DOING FOR DAVID WANNER

(CIRCLE OUR PARCEL)

TMLK (2) 2-8-04-80
APPLICATION FOR PERMIT

X Well Construction and X Pump Installation

Date: MAR 27

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 nonrefundable filing fee. All applications are subject to the Hawaii State Land and Natural Resources Code. The Commission may not accept incomplete applications. For assistance, call the Regulation Branch at 808-586-0225.

1. APPLICANT: (circle primary contact a, b, or c) Primary Fax: 808 572-0825
   (a) WELL OWNER  David Wanner
       Firm/Name: N.A.  
       Contact Person: Mike Robertson  Ph: 572-2873
       Address: Box 912 Pala, HI 96708
   (b) LANDOWNER  David Wanner
       Firm/Name: N.A.  
       Contact Person: Ph:  
       Address:  
   (c) CONTRACTOR  Wainani Drilling Company  Ph: 572-2873
       Contractor's C-57 License No.: C-20115
       Contact Person: Mike Robertson
       Address: 655 Kulike Rd, Hauku, Maui, Hawaii, 96708

2. WELL LOCATION/NAMESPACE: KuliK- Wanner Well
   Island: Maui
   Address: 400 KuliK Road, Hauku, HI, 96708
   Tax Map Key: 2 8 04 80
   (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  
   X Install New Pump
   Modify Existing Well
   Red lul
   Modify Pump
   Abandon/Seal * 
   Replace Pump
   * Be sure to complete and submit well abandonment report upon completion of work.
   (b) WELL TYPE:  
   X Dug
   Bored
   Driven
   X Drilled
   Red lul
   Is this well a part of a battery of wells?  Yes
   X No
   (Briefly describe and fill in the diagram on the back of this form.)

4. PROPOSED PUMP INFORMATION: Rated Pump Capacity: 25 gallons per minute
   Pump Type:  
   Motor:  
   Deep Well Turbine
   Rotary
   Propeller
   Diesel
   X Submersible
   Rotary-Displacement
   Reciprocating
   Gas
   Centrifugal
   Rotary-Gear
   Impulse
   X Electric, rated horsepower: 3
   If Pump Replacement, Existing Pump Capacity:  N.A. gallons per minute

5. PROPOSED USE:  
   X Municipal (including hotels, stores, etc.)
   X Domestic (individual, noncommercial water sys.)
   X Irrigation (crop) Fruit Trees
   X Other (explain)
   X Commercial

6. (a) PROPOSED AMOUNT OF WITHDRAWAL: 2000 gallons per day
   (b) METHOD OF FLOW MEASUREMENT:  
       X Flow-meter
       Open-pipe
       Orifice Plate
       Weir

7. PENDING ACTIONS: CDUA  SMA  EIS  EA  X NONE  Other (explain)
   Completion Date: N.A.
   REMARKS, EXPLANATIONS:

   (If more space is needed, continue on back)

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

David Wanner  Well Owner  Signature  Date

David Wanner  Landowner  Signature  Date

Mike Robertson  Contractor  Signature  Date

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

Longitude
Latitude

Aquifer System Name: Haiku - Kauia
State Well No: 5675 - 02

11-06-05 WCR Form
8. Remarks, Explanations (cont'd):

9. PROPOSED WELL SECTION

Elevation at top of casing
362 ft., msl.

Cement Grout: 150 ft.

Rock Packing 0 ft.

Hole Diameter: 10 in. to 160 ft.
   8 in. 160 to 400 ft.

Total Depth 400 ft.

Ground Elevation: 360 ft., msl*

Solid Casing:
   Material: P.V.C. Schedule 40
   Length: 6 in. to 150 ft. sleeved with 4 in. to 360 ft.
   Diameter: 8 in. to 160 ft. sleeved with 6 in. to 360 ft.
   Wall thickness .25 in.

Casing: X Perforated Screen
   Material: P.V.C. Schedule 40
   Length: 20 ft.
   Diameter: 4 in.
   Wall thickness .25 in.
   Openings: 2 sq. in./L.F.

Open Hole:
   Length: 0 ft.
   Diameter: N.A. in.

*Approximate elevation at time of filing application. Ground elevation above mean sea level (msl) by a surveyor licensed by the State must be submitted at start of construction. Final elevations of well components shall be submitted in the well completion/well abandonment reports.
APPLICATION FOR PERMIT
X Well Construction and X Pump Installation

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

APPLICANT: (circle primary contact a, b, or g)
(a) WELL OWNER
(b) LANDOWNER

1. WELL LOCATION/NAME: Kulike-Well Weller
   Address: 400 Kulike Road, Haiku, HI 96708
   Island Maui
   Tax Map Key 2 8 04 80
   (Attach a USGS map, scale 1"=2000', and a property tax map showing well location referenced to established property boundaries.)

2. PROPOSED WORK
   X Drill New Well
   Deepen
   X Install New Pump
   Modify Existing Well
   Redrill
   Modify Pump
   Abandon/Seal
   Replace Pump
   X Yes
   X No
   Is this well a part of a battery of wells?
   * Be sure to complete and submit well abandonment report upon completion of work.

3. WELL TYPE:
   Dug
   Bored
   X Drilled
   X Radial
   X Other
   (Briefly describe and fill in the diagram on the back of this form.)

4. PROPOSED PUMP INFORMATION:
   Rated Pump Capacity: 25 gallons per minute
   Pump Type:
   Deep Well Turbine
   X Submersible
   Centrifugal
   Motor:
   X Electric, rated horsepower: 3
   X Diesel
   X Gas
   X Other (explain)
   X Centrifugal
   Propeller
   Impulse
   Orifice Plate
   Weir
   X Flow-meter
   X Open-pipe
   X Plate
   X NONE
   Other (explain)

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

6. PROPOSED AMOUNT OF WITHDRAWAL: 2000 gallons per day
   METHOD OF FLOW MEASUREMENT:
   X Flow-meter
   Open-pipe
   Orifice Plate
   Weir
   X NONE
   Other (explain)

7. PENDING ACTIONS: CDUA SMA EIS EA X NONE
   Completion Date N.A.
   Remarks, Explanations:
   (If more space is needed, continue on back)

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

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

David Warner
Well Owner

Landowner
David Warner

Mike Robertson
Contractor

Signature
Date

Signature
Date

3/19/96
Signature
Date

11/09/90 WCR Form
9. PROPOSED WELL SECTION

- Elevation at top of casing: 362 ft., msl.
- Ground Elevation: 360 ft., msl*
- Cement Grout: 150 ft.
- Rock Packing: 0 ft.
- Solid Casing:
  - Material: P.V.C. Schedule 40
  - Length: 6 in. to 150 ft. Slaved with 4 in. to 380 ft.
  - Diameter: 6 in. to 150 ft. Slaved with 4 in. to 380 ft.
  - Wall thickness: .25 in.
- Hole Diameter:
  - 10 in. to 150 ft.
  - 8 in. 150 to 400 ft.
- Total Depth: 400 ft.
- Casing: X Perforated Screen
  - Material: P.V.C. Schedule 40
  - Length: 20 ft.
  - Diameter: 4 in.
  - Wall thickness: .25 in.
  - Openings: 2 sq. in./L.F.
- Open Hole:
  - Length: 0 ft.
  - Diameter: N.A. 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.