Kaupulehu Potable Well 4
Well No. 4657-02

1 MILE RADIUS

Well Location
MEMO and ROUTE SLIP

WCR 2 Check for Well No. 4657-02 (survey to regulation memo)

1. Pump Tests Check (special condition of PIP? Yes/No)
   Glenn Bauer (initial if yes)
   Yes No
   Step-Drawdown Test:
   followed WCPI Stds
   analysis attached
   proposed pump cap o.k.
   Yes No
   Aquifer Pump Test:
   followed WCPI Stds
   T & S analysis attached
   Yes No
   Well Interference:
   estimated Steady-State
   drawdown at 1-mile radius is ____ ft.
   analysis attached
   Yes No
   Stream Surface Water Impacted:
   Yes No

2. Pump Installation Check  Mitch Ohye (initial) 12/11/02
   data complete
   followed WCPI Stds
   well database updated
   Yes No
   Charley/Lenore/Ryan (initial) take action based on above analysis

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

4. Roy (initial) check

5. Suba (initial) finalize

6. Linnel (initial) signature

7. Charley/Lenore/Ryan File
December 23, 2002

Mr. Thad Bond
Kaupulehu Makai Venture
P.O. Box 1119
Kailua-Kona, HI 96745

Dear Mr. Bond:

Well Completion Report for Well No. 4657-02

We received your Well Completion Report Part II for the Kaupulehu Potable 4 Well (Well No. 4657-02) on December 5, 2002 and acknowledge that it is complete.

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

Sincerely,

LINNEL T. NISHIOKA
Deputy Director

RI:ss

c: Tom Nance
Ms. Linnel T. Nishioka - Deputy Director  
Commission on Water Resource Management  
Department of Land and Natural Resources  
State of Hawaii  
P. O. Box 621  
Honolulu, Hawaii 96809

Dear Ms. Nishioka:

Well Completion Report - Part II,  
Pump Installation for Kaupulehu Potable Well No. 4  
(Well No. 4657-02)

In compliance with permit requirements, the Well Completion Report - Part II, Pump Installation for Kaupulehu Potable Well No. 4 (Well No. 4657-02) is hereby submitted. If you have any questions, please feel free to call.

Sincerely,

Greg Fukumitsu

Attachment

cc: Jay Uyeda - HDC  
Glen Davis - Beylik Drilling
1. State Well No.: 4657-02  
Well Name: Kaupulehu Potable 4 Well  
Island: Hawaii

2. Address: Kaupulehu  
Tax Map Key: 7-2-03: 03

3. Pump Installation Company: BEYLIK DRILLING INC.

4. Date Pump Installed: 
   NOVEMBER 27, 2002
   (month/day/year)

5. PERMANENT PUMP INFORMATION (Attach pump specifications and rating curve)
   Pump Type, Make, Serial No.: SUBMERSIBLE/FLOWSERVE/047-81204
   Rated Capacity: 450 gpm at head of: 1405 ft.
   Motor Type, H.P., Voltage, rpm: SUBMERSIBLE/250/2300/1760
   Type of flow meter: Turbine which measures in gallons

   Pump type (check one):
   □ Deep Well Turbine  □ Rotary  □ Propeller
   □ Submersible  □ Rotary-Displacement  □ Reciprocating
   □ Centrifugal  □ Rotary-Gear  □ Impulse
   □ Centrifugal

6. Method of flow measurement:
   □ Flowmeter  Manufacturer: Schlumberger  Make: Neptune HP  Size
   □ Weir  □ Open Pipe  □ Orifice*  □ Other*, explain below

   *attach schematic

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

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

9. Other remarks/comments:

Pump Installation Contractor (print): BEYLIK DRILLING  
C-57/C-57a/A Lic. No. AC 21896
Signature: ____________________________  Date: DECEMBER 2, 2002

Permittee (print): JAY M. UYEDA  
Signature: ____________________________  Date: 11/14/02
Bench mark elevation surveyed to nearest 0.01 ft. = 1345.3 ft. mean sea level

Elevation of top of chase tube = 1346.0 ft. mean sea level

Pump intake depth = -20 ft. (referenced to bench mark)

Chase tube depth = -6 ft. (referenced to bench mark)

If airline installed, bottom of airline elevation = ____ ft. mean sea level
November 15, 2002
02/518 (00-89)

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

Dear Ms. Nishioka:

Pump Installation Permit for
Kaupulehu Potable Well No. 4 (Well No. 4657-02)

On behalf of Hualalai Development Company, we are returning the executed Pump Installation permit for Kaupulehu Potable Well No. 4. If you have any other questions, please feel free to call.

Sincerely,

Tom Nance

Attachment

cc: Jay Uyeda - HDC
PUMP INSTALLATION PERMIT
Kaupulehu Potable 4 Well, Well No. 4657-02

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

In accordance with Department of Land and Natural Resources, Commission on Water Resource Management's Administrative Rules, Section 13-168, entitled "Water Use, Wells, and Stream Diversion Works", this document permits the pump installation for Kaupulehu Potable 4 Well (Well No. 4657-02) at Kaupulehu, Hawaii, TMK 7-2-03: 03, 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 450 gpm rated capacity or less, pump in the well.

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

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

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

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

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

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

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

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

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

Date of Approval: October 3, 2002
Expiration Date: October 3, 2004

GILBERT S. COLOMA-AGARA
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 the pump installer have signed, dated, and returned the permit to the Commission. I also understand that non-compliance with any permit condition may be grounds for revocation and fines of up to $1000 per day starting from the permit date of approval.

Permittee's Signature: Jay M. Uyeda
Printed Name: Jay M. Uyeda
Firm or Title: Project Management

Installer's Signature: Davio Hines
Printed Name: Davio Hines
Firm or Title: Beylik Drilling Inc.

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

RECEIVED
NOV 13 2002
Construction
COMMISSION ON WATER RESOURCE MANAGEMENT
ROUTE SLIP FOR PERMIT ISSUANCE

FROM: RYAN

DATE:__

TO: BAUER, G.

INIT: N.

TO: CHING, F.

INIT: I.

FOR: 3 Approval

PLEAS: See Me

DATE:__

SUSPENSE DATE:__

TO: DANBARA, S.

INIT: L.

TO: FUJII, N.

INIT: T.

FOR: 3 Signature

PLEAS: 1 Review & Comment

TO: GOODING, K.

INIT: D.

TO: HIRANO, E.

INIT: S.

FOR: 4 Information

PLEAS: 1 Take Action

TO: ICE, C.

INIT: E.

TO: IMATA, R.

INIT: H.

FOR: 5 File

PLEAS: 1 Type Draft

TO: JINNAI, R.

INIT: O.

TO: KAMAS, I.

INIT: O.

FOR: ______

PLEAS: ______

WELL NUMBER 1057.02

WELL NAME Kapulau Pk. 9

ATTACHMENTS FOR WELL CONSTRUCTION PERMIT:

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

FOR OFFICE USE ONLY

ATTACHMENTS FOR PUMP INSTALLATION PERMIT:

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

FOR OFFICE USE ONLY

Roy - see attached except from standards, I take this to mean the Chairperson has the authority to allow > ¼ aquifer thickness, so we don't have to take to the Commission. Kind of in keeping w/ Commission's not wanting to see variances because they defer to our exp. If you agree, you can pass on the PIP to Susan to finalize - right? See edits through.

Tom needs to get Chair approval before going > ¼ depth.

We can let slide this time but let him know next time we couldn't go AFAF Fwos.
Mr. Jay Uyeda
Kaupulehu Makai Venture
P.O. Box 1119
Kailua-Kona, HI 96745

November 7, 2002

Dear Mr. Bond:

Pump Installation Permit
Kaupulehu Potable 4 Well (Well No. 4657-02)

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

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

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

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

Please sign and have the contractor sign both permit originals and return one for our files. A copy of the Well Completion Report (Part II) and a copy of your water use report form are enclosed for your use.

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

Finally, this letter is notice that we have accepted your Well Completion Report - Part I as complete as of October 3, 2002. Please note that although the well is <1/2 aquifer thickness and allowable by Chairperson approval, permission is required before going >1/4. This may result in fines should this action be repeated in the future.

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

Aloha,

GILBERT S. COLOMA-AGARAN
Chairperson

Enclosure

c: Tom Nance Water Resource Engineering
PUMP INSTALLATION PERMIT
Kāʻūlehu Potable 4 Well, Well No. 465-4

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

In accordance with Department of Land and Natural Resources, Commission on Water Resource Management's Administrative Rules, Section 13-168, entitled "Water Use, Wells, and Stream Diversion Works", this document permits the pump installation for Kāʻūlehu Potable 4 Well (Well No. 465-4) at Kāʻūlehu, Hawaii, TMK 7-2-03: 03, 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 450 gpm rated capacity or less, pump in the well.

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

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

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

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

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

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

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

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

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

Date of Approval: October 3, 2002 Expiration Date: October 3, 2004

GILBERT S. COLOMA-AGARAN, Chairperson
Commission on Water Resource Management

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

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

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

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

Attachments

c: USGS
Department of Health/ Safe Drinking Water & Wastewater Branch
Hawaii Department of Water Supply
3. Willful disregard or violation of any provision of this part or any rule adopted pursuant thereto.

4. Material change of circumstances or conditions existing at the time the permit was issued.

Every well construction permit issued shall be for a specified period not to exceed two years, unless otherwise specified in the permit and shall contain the commencement and completion dates for the permitted activity. In determining the commencement and completion dates of the activity, the chairperson shall take into consideration the following:

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

The chairperson may extend the completion date of the activity prescribed in the well construction permit upon a showing of good cause and good-faith performance. If the commencement or completion date is not complied with, the permittee shall be notified by certified mail that the permit is to be revoked by the commission within 60 days of the notice, unless the permittee can show good cause that it should not be revoked.

Section 2.2 Well Depth

Except for salt-water wells, any well constructed in basal aquifers for the purpose of nonpotable or potable water withdrawal shall be initially designed and pump tested at a depth below sea level not exceeding one-fourth of the theoretical thickness (41 times the head) of the basal ground-water body. Upon request by the applicant and submission of an analysis of preliminary yield, drawdown, and chloride data prepared by a qualified ground-water geologist, hydrologist, or engineer, the chairperson may allow deepening and subsequent testing of such wells to a depth below sea level not exceeding one-half of
Well Name: Kaupulehu Potable Well #4; 4657-02
Date of Test: 2/25/2002
Date of Analysis: 7-Oct-02

Alternative way for determining T from step-drawdown data (Mink, per. comm)

Q = ft^3/d
s = ft.

Q1 (gpm) = 510 = 98175 ft^3/d
Q2 (gpm) = 700 = 134750 ft^3/d

Set up two equations:

s1 = jQ1 + nQ1^2
s2 = jQ2 + nQ2^2

Q2 = 134750
s2 = 1.9
Q1 = 98175
s1 = 1.18

Well Depth below sea level = 76
Radius of well (ft) = 0.67 = r

n = s1 - (Q1/Q2)s2/Q1(Q1-Q2) = 5.69E-11
j = s/Q - nQ = 6.43E-06

Laminar flow equation:
s = jQ = 0.631654 53.53% Head loss due to laminar flow

Thiem Eq.

T = 1/2pj(ln(re/r))

re = Well Depth BSL * 1.6 = 121.6
Therefore:
T = 1/2pj(ln(re/r)) = 128661 ft^2/d
MEMO and ROUTE SLIP

WCR 1 Check for Well No. 4657-02 (survey to regulation memo) 10/8/02

1. **Pump Tests Check** Glenn Bauer Y (initial)
   - Step-Drawdown Test:
     - followed WCPI Stds Y
     - analysis attached Y
     - proposed pump cap o.k. Y
     - no cap in <\frac{1}{2} or \% or 50% bottom elevation
     - this is \frac{76}{4.41840} = 32.5% of the theoretical thickness of the aquifer.
   - Aquifer Pump Test:
     - followed WCPI Stds Y
     - T & S analysis attached Y
   - Well Interference:
     - estimated Steady-State drawdown at 1-mile radius is ____ ft.
     - analysis attached Y
   - Stream Surface Water Impacted:
     - Y if yes, identify most probable stream

2. **Construction Check** Mitch Ohye Y (initial)
   - data complete Y
   - followed WCPI Stds Y
   - well database updated Y

3. Charley/Lenore/Ryan Y (initial) take action based on above analysis

**ATTACHMENTS FOR PUMP INSTALLATION PERMIT:**
- 1 COVER LETTER
- 2 PERMIT (2x)
- 3 DOH COMMENTS
- 4 LAND DIV. COMMENTS
- 5 WCR 2 FORM
- 6 WUR FORM
- 7 USGS MAP
- 8 PARCEL CHECK
- 9 DATABASE PRINTOUT
- 10 GLENN'S WORKSHEET
- 11 WELL CHECK PRINT

4. Roy _______ (initial) check
5. Subia _______ (initial) finalize
6. Linnel _______ (initial) signature
7. Charley/Lenore/Ryan File

---

WCP 1 Check for Well No. 4657-02 (survey to regulation memo) 10/8/02

1. **Pump Tests Check** Glenn Bauer Y (initial)
   - Step-Drawdown Test:
     - followed WCPI Stds Y
     - analysis attached Y
     - proposed pump cap o.k. Y
     - no cap in <\frac{1}{2} or \% or 50% bottom elevation
     - this is \frac{76}{4.41840} = 32.5% of the theoretical thickness of the aquifer.
   - Aquifer Pump Test:
     - followed WCPI Stds Y
     - T & S analysis attached Y
   - Well Interference:
     - estimated Steady-State drawdown at 1-mile radius is ____ ft.
     - analysis attached Y
   - Stream Surface Water Impacted:
     - Y if yes, identify most probable stream

2. **Construction Check** Mitch Ohye Y (initial)
   - data complete Y
   - followed WCPI Stds Y
   - well database updated Y

3. Charley/Lenore/Ryan Y (initial) take action based on above analysis

**ATTACHMENTS FOR PUMP INSTALLATION PERMIT:**
- 1 COVER LETTER
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- 8 PARCEL CHECK
- 9 DATABASE PRINTOUT
- 10 GLENN'S WORKSHEET
- 11 WELL CHECK PRINT

4. Roy _______ (initial) check
5. Subia _______ (initial) finalize
6. Linnel _______ (initial) signature
7. Charley/Lenore/Ryan File
WELL COMPLETION REPORT - PART I

Well Construction

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 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 587-0225. For updates to this form or additional information, please visit our website at http://www.state.hi.usldlnr/cwrm/

1. State Well No.: 4657-02  
   Well Name: Kaupulehu Potable Well #4  
   Island: Hawaii

2. Address: North Kona  
   Tax Map Key: 7-2-03:3


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

5. Date Well Construction (drilled, cased, grouted) completed: 2/07/02

In addition to the driller's log, if a geologic log was prepared, please submit with this form.

6. Was the subject well cored? ☑ Yes  ☐ No

7. Initial water-level encountered 1347.83 ft. below ground  
   Date and time of measurement: 11/16/01

8. Step-Drawdown Test completed? ☑ Yes  ☐ No  
   Attach Step-Drawdown Test form (12/17/97 DSDPTD Form)

9. Constant Rate Aquifer Test completed? ☑ Yes  ☐ No  
   Attach Constant Rate Aquifer Test form (12/17/97 CRAPTD Form)

Parameters prior to pump test:

10. Water-level: 4.81 ft. above msl  
    Date and time of measurement: 2/25/02 8:00 AM

11. Chloride: 190 ppm  
    Date and time of sampling: 2/25/02 1:30 PM

12. Temperature: 74.3°F  
    Date and time of measurement: 2/25/02 8:00 AM

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


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: Lockable cover

---

Licensed Driller (print) Blaise Clay  
Signature  
C-57 Lic. No. AC 05058  
Date April 12, 2002

Surveyor (print) Ryan M. Suzuki  
Signature  
L.P.L.S. Lic. No. 100591  
Date 8/1/02

Permittee (print) Jay M. Uyeda  
Signature  
Date 9/24/02
Solid Casing Material:
Carbon Steel: compliant with (check one or more): □ ANSI/AWWA C200 □ API Spec. 5L □ ASTM A53 □ ASTM A139
And compliant with (check one or more): □ ASTM A242 □ Type E □ Type S □ Grade B □ Other
Stainless Steel: (check one):
□ ASTM A409 (production wells) □ ASTM A312 (monitor wells)
ABS Plastic conforming to ASTM F480 and ASTM D1527: (check one) □ Schedule 40 □ Schedule 80
PVC Plastic conforming to ASTM F480 and (ASTM D1785 or ASTM D2241): (check one): □ Schedule 40 □ Schedule 80 □ Schedule 120
Thermoset Plastic: (check one)
□ Filament Wound Resin Pipe conforming to ASTM D2996
□ Centrifugally Cast Resin Pipe conforming to ASTM D2997
□ Reinforced Plastic Mortar Pressure Pipe conforming to ASTM D3517
□ Glass Fiber Reinforced Resin Pressure Pipe conforming to AWWA C950
□ PTFE Fluorocarbon Tubing conforming to ASTM D3296
□ FEP Fluorocarbon Tubing conforming to ASTM D3296

Open Casing Material:
Carbon Steel: compliant with (check one or more): □ ANSI/AWWA C200 □ API Spec. 5L □ ASTM A53 □ ASTM A139
And compliant with (check one or more): □ ASTM A242 □ Type E □ Type S □ Grade B □ Other
Stainless Steel: (check one):
□ ASTM A409 (production wells) □ ASTM A312 (monitor wells)
ABS Plastic conforming to ASTM F480 and ASTM D1527: (check one) □ Schedule 40 □ Schedule 80
PVC Plastic conforming to ASTM F480 and (ASTM D1785 or ASTM D2241): (check one): □ Schedule 40 □ Schedule 80 □ Schedule 120
Thermoset Plastic: (check one)
□ Filament Wound Resin Pipe conforming to ASTM D2996
□ Centrifugally Cast Resin Pipe conforming to ASTM D2997
□ Reinforced Plastic Mortar Pressure Pipe conforming to ASTM D3517
□ Glass Fiber Reinforced Resin Pressure Pipe conforming to AWWA C950
□ PTFE Fluorocarbon Tubing conforming to ASTM D3296
□ FEP Fluorocarbon Tubing conforming to ASTM D3296
Well Location
State Well No.: 4651-02
Well Name: Kaupulehu Potable Well #4
at Kaupulehu, North Kona, Hawaii, Hawaii
Tax Map Key: 7-2-3: 3 (3rd Div.)

Well Elevation
"O" Cut on Top of Casing
Elevation = 1354.22 feet

Elev.=1354.62
Steel
Casing

Elev.=1344.67
Steel
Casing

Existing Ground as located on September 25, 2002

Notes:
Elevations are referred to Mean Sea Level (M.S.L.) from previously established benchmarks by the R.M. Towill Corporation.

Ryan M. Suzuki
Licensed Professional Land Surveyor
Certificate Number 10059

This map was prepared by me or under my direct supervision

R.M. Towill Corporation
SINCE 1940

FN: Kaupulehun214.dwg
# CONSTANT-RATE PUMP TEST DATA

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<th>Suggested elapsed time (min)</th>
<th>Actual elapsed time (min)</th>
<th>Depth to water Airline (nearest 0.1 ft)</th>
<th>Drawdowns (unadjusted to nearest 0.1 ft)</th>
<th>Pumping rate Q (gpm)</th>
<th>EC (µhos)</th>
<th>Cl (mg/l)</th>
<th>Temp. °F or °C</th>
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Flow Meter Reading Start: 19,867.500 gals

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Time of day: 13:30

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Static 16.2 A.L. (37.44)
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Table 2 (CRPTD Form 12/17/HT)

Data in this table is for:
- Pumped Well
- Observation Well

Remarks

Remarks
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<tr>
<th>Suggested Elapsed Time</th>
<th>Actual Elapsed Time</th>
<th>Depth to Water (nearest 0.1 ft)</th>
<th>Downflow (unadjusted to nearest 0.1 ft)</th>
<th>Pumping Rate (gpm)</th>
<th>EC (µmhos)</th>
<th>CT (mg/L)</th>
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Data in this table is for:
- Pumped Well
- Observation Well

Remarks:
- Sample

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<th>Cl</th>
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<th>Remarks</th>
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END TEST Date: 3/1/02 Time of day: 1:45 PM 8.4657.02

ADDITIONAL REMARKS:

Person in charge of pump test (print): Tracy Underwood

Signature: Tracy Underwood

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.
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<th>Depths (ft.)</th>
<th>Rock Description, Water Level, etc.</th>
<th>Dates</th>
<th>Depths (ft.)</th>
<th>Rock Description, Water Level, etc.</th>
<th>Dates</th>
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<td>154' to 160'</td>
<td>Soft</td>
<td>9/12/01</td>
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<td>160' to 169'</td>
<td>Hard Rocky</td>
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Remarks:
### Kaupulehu Potable

#### WELL NUMBER:

#### DRILLER'S LOG (7/26/99 DL Form)

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Remarks:
### DRILLER'S LOG (7/26/99 DL Form)

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### DRILLER'S LOG (7/26/99 DL Form)

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Step 2 begin?
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Observation Well

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</table>

**END TEST** Date: 2/25/02  Time of day: 12:30 PM  8.4651.02

**ADDITIONAL REMARKS:**

Person in charge of pump test (print): Tracy Underwood

Signature: Tracy Underwood

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.
TO: Department of Land and Natural Resources
Commission on Water Resource Management
1151 Punchbowl Street - Room 227
Honolulu, Hawaii 96813
Attention: Ryan Imata

FROM: Greg Fukumitsu

SUBJECT: Kaupulehu Potable Well No.4 - Well Completion Report - Part 1, Well Construction

We herewith transmit the following:

1 original Kaupulehu Potable Well No.4 - Well Completion Report - Part 1, Well Construction.

Remarks:

We herewith submit the above completed form for your records. If you have any questions regarding this transmittal feel free to call me.

cc: Jay Uyeda - Hualalai Development Company
LETTER OF TRANSMITTAL

Date: August 30, 2001

TO: Department of Land and Natural Resources
Commission on Water Resource Management
PO Box 621
Honolulu, Hawaii 96809

ATT: Gilbert S. Coloma-Agaran, Chairman

GENTLEMEN:

WE ARE SENDING YOU [Attached] [Under separate cover via __________________] the following items:

- Shop Drawings
- Prints
- Plans
- Samples
- Specifications

COPY TO
Hualalai Development Co.
Tom Nance, TNWE

COPY

REMARKS

If enclosures are not as noted, kindly notify us.
WELL CONSTRUCTION PERMIT

Kaupulehu Potable Well No. 4, Well No. 4657-02

In accordance with Department of Land and Natural Resources, Commission on Water Resource Management’s Administrative Rules, Section 13-168, entitled “Water Use, Wells, and Stream Diversion Works”, this document permits the construction and testing of Kaupulehu Potable Well No. 4 (Well No. 4657-02) at North Kona, Hawaii, TMK 7-2-03; subject to the Hawaii Well Construction & Pump Installation Standards (1/23/97) which include but are not limited to the following conditions:

1. The Chairperson of the Commission on Water Resource Management (Commission), P.O. Box 621, Honolulu, HI 96809, shall be notified, in writing, at least two (2) weeks before any work is 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 1¼-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 into this permit by reference and is subject to the Hawaii Well Construction & Pump Installation Standards (January 23, 1997; HWCPIS). If the HWCPIS are not followed and as a consequence water is wasted or contaminated, a lien on the property may result.

10. The permit may be revoked by the Commission if work is not started within six (6) months after the date of approval or if work is suspended or abandoned for six (6) months, unless otherwise specified. The work proposed in the well construction permit application shall be completed within two (2) years from the date of permit approval, unless otherwise specified. The permit may be extended by the Chairperson upon a showing of good cause and good-faith performance. A request to extend the permit shall be submitted to the Chairperson no later than three (3) months prior to the date the permit expires. If the commencement date is not met, the Commission may revoke the permit after giving the permittee, 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: February 12, 2001
Expiration Date: February 12, 2003

GILBERT S. COLOMA-AGARAN, 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: ___________ Date: ___________
Printed Name: ___________ C-57 License #: ___________ Date: ___________
Firm or Title: ___________

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

Attachment c: USGS
Department of Health's Safe Drinking Water, Wastewater, and Clean Water Branches
Hawaii Department of Water Supply
Rick Robinson, Kamehameha Schools, 587 S. King St., Ste. 200, Honolulu, HI 96813
TO:  Honorable Bruce S. Anderson, Director
     Department of Health
     Attention:  Dennis Tulang, Wastewater Branch
                William Wong, Safe Drinking Water Branch

FROM:  Gilbert S. Coloma-Agaran, Chairperson
        Commission on Water Resource Management

SUBJECT:  Well Construction/Pump Installation Permit Application
          Kaupulehu Potable Well No. 4 (Well No. 4657-02)

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

We would appreciate your comments on the captioned application for any conflicts or
inconsistencies with the programs, plans, and objectives specific to your department. Please
respond by returning this cover memo form by February 9, 2001.

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

RESPONSE:

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

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

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

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

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

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

No comments/objections

Contact Person:  Lori N. Kajiwara  Phone: 606-4294

Signed:  Lori N. Kajiwara  Date: 2-27-2001
REPORT ON INDIVIDUAL WASTE WATER SYSTEM

Property Owner: HELCO
Address: KAUPULEHU

Builder/Contractor: SAS. W. GLOVER

Owner's/Agents Mailing Address: P.O. Box 1027, Hilo, HI Phone: 969-0379

Building Permit No.: 34164

Lot Size: 1 ACRE

Number of Bedrooms: 0

Cesspool Specifications:
- "A" Diameter 8' 0"
- "B" Depth 12' 0"
- "C" Depth, below finished grade to cover: 12' 0"
- "D" Depth to Groundwater: N.A.
- "E" Type Retaining Wall: CONCRETE RING

Cover Specifications
- Thickness: 8"
- Diameter: 3' 0"
- Manhole: 20" x 20"
- Rebars: #5 size 12" O.C.

X-SECTION

Plot Plan

Show: Location of all buildings, utility lines external to the buildings, property lines, and other legal boundaries, individual wastewater system/systems, surface waters, and roadways.

Owner's Certification Statement

I certify that I am the owner, duly authorized agent of the individual wastewater system described on the attached plot plan and drawing(s) and that said individual wastewater system as installed complies with Title 11, Chapter 62, Hawaii Administrative Rules, which I have read and understand.

Accepted By: MURAK 3/13/95

Signature:
Name:
Title:
Date: 3/13/95

NOTARY PUBLIC

Notary Public signature required if persons other than owner signs "Owner's Certification Statement"

Subscribed and sworn before me this 13th day of March 1995

NOTARY PUBLIC
Mr. Thad Bond
Kaupulehu Makai Venture
P.O. Box 1119
Kailua-Kona, HI 96745

Dear Mr. Bond:

Well Construction Permit
Kaupulehu Potable Well No. 4 (Well No. 4657-02)

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.

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

Please 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 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 (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 Ryan Imata of the Commission staff at 808-587-0225 or toll-free at extension 70255.

Aloha,

[Signature]

GILBERT S. COLOMA-AGARAN
Chairperson

Enclosures

C. Rick Robinson, Kamehameha Schools
WELL CONSTRUCTION PERMIT

Kaupulehu Potable Well No. 4, Well No. 4657-02

In accordance with Department of Land and Natural Resources, Commission on Water Resource Management's Administrative Rules, Section 13-168, entitled "Water Use, Wells, and Stream Diversion Works", this document permits the construction and testing of Kaupulehu Potable Well No. 4 (Well No. 4657-02) at North Kona, Hawaii, TMK 7-2-03:3, subject to the Hawaii Well Construction & Pump Installation Standards (1/23/97) which include but are not limited to the following conditions:

1. The Chairperson of the Commission on Water Resource Management (Commission), P.O. Box 621, Honolulu, HI 96809, shall be notified, in writing, at least two (2) weeks before any work authorized by this permit commences 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 1/2-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 (January 23, 1997; HWCPIS). If the HWCPIS are not followed and as a consequence water is wasted or contaminated, a lien on the property may result.

10. The permit may be revoked by the Commission if work is not started within six (6) months after the date of approval or if work is suspended or abandoned for six (6) months, unless otherwise specified. The work proposed in the well construction permit application shall be completed within two (2) years from the date of permit approval, unless otherwise specified. The permit may be extended by the Chairperson upon a showing of good cause and good-faith performance. A request to extend the permit shall be submitted to the Chairperson no later than three (3) months prior to the date the permit expires. If the commencement date is not met, the Commission may revoke the permit prior to the effective date. The chairperson of 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 §13-166-12(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: February 12, 2001
Expiration Date: February 12, 2003

GILBERT S. COLOMA-AGARAN, 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

USGS
Department of Health/Safe Drinking Water, Wastewater, and Clean Water Branches
Hawaii Department of Water Supply
Rick Robinson, Kamehameha Schools, 587 S. King St., Ste. 200, Honolulu, HI 96813
**SECTION 1: WELL LOCATION INFORMATION**

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<thead>
<tr>
<th>Island</th>
<th>Proposed Use</th>
<th>Municipal</th>
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<tr>
<td>HAWAII</td>
<td>Proposed Withdrawal</td>
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<td>HUALALAI</td>
<td>System Sustainable Yield</td>
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**SECTION 2: WELL SECTION DATA** *(enter data in grey cells only)*

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<tr>
<th>Elevation at top of casing</th>
<th>Solid Casing</th>
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<td>Length</td>
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<tr>
<td></td>
<td>Diameter</td>
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<td></td>
<td>Wall Thickness</td>
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<table>
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<th>Cement Grout</th>
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<td>ft.</td>
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<tr>
<td>ft.</td>
<td>Designation</td>
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<td>ft.</td>
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<tr>
<td>in.</td>
<td>Diameter</td>
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<td>in.</td>
<td>Wall Thickness</td>
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<tr>
<td>sq. in./f.f.</td>
<td>Openings</td>
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<td>ft.</td>
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<td></td>
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<td>Length</td>
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<td>ft.</td>
<td>sq. in./f.f.</td>
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<td></td>
<td>Length</td>
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<td>Diameter</td>
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<td>Wall Thickness</td>
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<table>
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<th>Calculated Aquifer Thickness</th>
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<td></td>
<td>Length</td>
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<td>Diameter</td>
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<td>Wall Thickness</td>
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<table>
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<th>County Water Supply (Y/N ?)</th>
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<tr>
<td></td>
<td>Diameter</td>
</tr>
<tr>
<td></td>
<td>Wall Thickness</td>
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</table>

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

**Well Depth**

<table>
<thead>
<tr>
<th>Theoretical Thickness of Aquifer</th>
<th>287 ft.</th>
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</thead>
<tbody>
<tr>
<td>1/4 Aquifer Thickness</td>
<td>71.75 ft.</td>
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**Depth of Well below Sea Level**

| 50 ft. okay | (refer to HWCPI Section 2.2) |

**Well Casing**

<table>
<thead>
<tr>
<th>Minimum Wall Thickness</th>
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<tr>
<td>Material</td>
</tr>
<tr>
<td>County or Non-County</td>
</tr>
<tr>
<td>Steel</td>
</tr>
</tbody>
</table>

| Minimum Thickness per standards | 0.375 in. okay | (refer to HWCPI Section 2.4 c) |

| Minimum Length of Solid Casing | 0.375 in. okay | (refer to HWCPI Section 2.4 c) |

| 90% of ground to top of aquifer | 1209 ft. |

| Length of solid casing Provided | 1340 ft. okay | (refer to HWCPI Section 2.4 d) |

| Casing Material | 1340 ft. okay | (refer to HWCPI Section 2.4 e) |
|-----------------|----------------|
|                 | ASTM A53 okay  |

**Annular Space**

<table>
<thead>
<tr>
<th>Depth of Grouting</th>
<th>If the cell above reads #N/A, reference HWCPIS)</th>
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<tbody>
<tr>
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<td>Calculated Depth of Grouting 500 ft.</td>
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<tr>
<td></td>
<td>Depth of Grouting provided 500 ft. okay</td>
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<tr>
<td></td>
<td>Thickness of Annular Space 3.5 in. okay</td>
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Page 1
### PUBLIC RECORD DATA

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<tr>
<th>Subdiv/Condo-Taxkey Apts</th>
<th>Property TnrAddress</th>
<th>Owner/Lessee</th>
<th>Beds</th>
<th>Baths</th>
<th>Land area</th>
<th>Living area</th>
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<tr>
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<td>B P BISHOP ESTATE TRUSTEES PIA-KONA LTD PARTNERSHIP</td>
<td>0</td>
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<td>7,835.04 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.
## Well Background Check

<table>
<thead>
<tr>
<th>Approved Well No.</th>
<th>Well Name</th>
<th>Applicant</th>
<th>Driller</th>
<th>Type</th>
<th>Well Construction</th>
<th>Pump Installation</th>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Issued</td>
<td>Signed</td>
</tr>
</tbody>
</table>
TO:      Honorable Bruce S. Anderson, Director
         Department of Health
         Attention: Dennis Tukang, Wastewater Branch
         William Wong, Safe Drinking Water Branch

FROM: Gilbert S. Coloma-Agarar, Chairperson
       Commission on Water Resource Management

SUBJECT: Well Construction/Pump Installation Permit Application
         Kaunoluhi Portable Well No. 1 (Well No. 4557-02)

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

We would appreciate your comments on the captioned application for any conflicts or inconsistencies with the programs, plans, and objectives specific to your department. Please respond by returning this cover memo form by February 9, 2001.

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 Ray Kiwita of the Commission staff at 687-0255.

Ricky
Attachment(s)

RESPONSE:

The well qualifies as a source which will serve as a source of portable water to a public water system defined as serving 25 or more people at least 60 days per year. The well meets the water quality standards set by the Hawaii Administrative Rules (HAR). The 51 Hawaii Administrative Rules, Title 12, Chapter 65, Rules Relating to Public Water Supply, §§12-60 through §§12-66.

This well does not qualify as a source which will serve as a source of water for a public water system defined as serving 25 or more people at least 60 days per year. The well may not be used for drinking by humans. The well is subject to all applicable state and federal laws and regulations including such use and should meet the criteria for permit application. Thereafter, the well permit will not be issued to serve the public water system when the criteria of a well permit application is required. A copy of the application is attached.

The well will be used to supply both potable and non-potable purposes. As a single well, the state shall administer access, connections, and backflow prevention requirements by physical separation and non-mixing systems. The well is located within the permitted water supply area as defined in the area of the State of Hawaii Water Supply Act and its regulations.

A copy of the application is attached for your information.

X X

[ ] may be located

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

No comment or objections.

Contact Person: Loni Kajiwara Phone: 586-4294

Signed: Loni N. Kajiwara Date: 2-12-2001

[ ] copyback.

[ ] Copy not required.

[ ] copyback.

[ ] Copy not required.

[ ] copyback.

[ ] Copy not required.
Property Owner: HELCO
Address: KAUPULEHU
Builder/Contractor: SAS. W. Glover

Sanitation Branch
P.O. Box 228
Kailua-Kona, HI 96740
Ph: 322-7011

Building Permit No.: 941644

Number of Bedrooms: 8

Cesspool Specifications:
- A: Diameter 8'6"
- B: Depth 12'
- C: Depth below finished grade to cover: 12'
- D: Depth to groundwater: N.A.
- E: Type Retaining Wall: CONCRETE RING

Cover Specifications:
- Thickness: 8"
- Diameter: 97.6"
- Manhole: 26" X 20""" *
- Rebar: size 1/2 spacing 12" O.C. E.W.

Owner's Certification Statement
I certify that I am the owner, duly authorized agent of the individual wastewater system described on the attached plot plan and drawing(s) and that said individual wastewater system as installed complies with Title 11, Chapter 62, Hawaii Administrative Rules, which I have read and understand.

Signature: 3/13/95
SAS. W. Glover

LTD (contractor)

Notary Public

Notary Public signature required if persons other than owner signs "Owner's Certification Statement"
TO: Honorable Bruce S. Anderson, Director  
Department of Health  
Attention: Dennis Tulang, Wastewater Branch  
William Wong, Safe Drinking Water Branch

FROM: Gilbert S. Coloma-Agaran, Chairperson  
Commission on Water Resource Management

SUBJECT: Well Construction/Pump Installation Permit Application  
Kaupulehu Potable Well No. 4 (Well No. 4657-02)

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

We would appreciate your comments on the captioned application for any conflicts or inconsistencies with the programs, plans, and objectives specific to your department. Please respond by returning this cover memo for February 9, 2001.

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

R:ky
Attachment(s)

RESPONSE:

In

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 connection(s) 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, §11-20-20.

This well does 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 this well water is used for drinking, the private owner should test for bacteriological and chemical presence before initial 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 supplies 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 (i.e., is not located near the proposed well site (information attached).

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

No comments/objections

Contact Person: Melvin Hamano  
Phone: 586-4268

Signed:  
Date: 1/19/01
TO: Dean Y. Uchida, Administrator  
Land Division  
FROM: Linnel T. Nishioka, Deputy Director  
Commission on Water Resource Management  
SUBJECT: Well Construction/Pump Installation Permit Application  
Kaupulehu Potable Well No. 4 (Well No. 4657-02)

Transmitted for your review and comment is a copy of the captioned well application which includes a request for a pump installation permit.

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 February 9, 2001.

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

RI:ky  
Attachment(s)

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. ____________________________.

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

[ ] No objections

[ ] Other comments: Original source of private title is Land Commission Award No. 7715:10 issued between 1845 and 1855.

Contact Person: Gary Martin  
Phone: 587-0421

Signed: Gary Martin  
Date: 1/16/01
Mr. Thad Bond  
Kaupulehu Makai Venture  
P.O. Box 1119  
Kailua-Kona, HI 96745  

Dear Mr. Bond:  

Well Construction/Pump Installation Permit Application for Well No. 4657-02  

We acknowledge receipt, on January 8, 2001, of your completed Well Construction/Pump Installation permit application and filing fee for the Kaupulehu Potable Well No. 4 (Well No. 4657-02). You can expect your application to be processed within ninety (90) days from this date.  

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

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

Sincerely,  

LINNEL T. NISHIOKA  
Deputy Director  

Rl:ky  
c. Tom Nance
TO: Honorable Bruce S. Anderson, Director  
Department of Health  
Attention: Dennis Tulang, Wastewater Branch  
William Wong, Safe Drinking Water Branch

FROM: Gilbert S. Coloma-Agaran, Chairperson

SUBJECT: Well Construction/Pump Installation Permit Application  
Kaupulehu Potable Well No. 4 (Well No. 4657-02)

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

RESPONSE:

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

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

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

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

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

[ ] No comments/objections

Contact Person: ____________________________ Phone: ____________

Signed: ____________________________ Date: ____________
TO: Dean Y. Uchida, Administrator  
Land Division  
FROM: Linnel T. Nishioka, Deputy Director  
Commission on Water Resource Management  
SUBJECT: Well Construction/Pump Installation Permit Application  
Kaupulehu Potable Well No. 4 (Well No. 4657-02)  

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RI:ky  
Attachment(s)  

RESPONSE:

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

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

[ ] No objections

[ ] Other comments:

Contact Person:__________________________ Phone:____________

Signed:__________________________ Date:____________
**Commission on Water Resource Management**

**Route Slip for New Applications**

**From:** Ryan
**Date:** 10-Jan-01
**Suspense Date:**

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**WELL NUMBER** 4657-02  **WELL NAME** Kaupulehu Pot

- [X] WELL CONSTRUCTION
- [ ] PUMP INSTALLATION
- [X] BOTH

**Attachments for Application Processing** - Both applicant & staff generated

1. TRANS. LETTER  
2. CWRM MAP  
3. APPL. FORM (3X)  
4. USGS MAPS (3X)  
5. TAX MAPS (3X)  
6. PARCEL OWNER VERIF.  
7. CONTRACTOR VERIF.  
8. ALL INFO FILLED IN  
9. BACKGROUND CHECK

**Folder:**  
- [X] MADE NEW FILE FOLDER, ATTACHED  
- [ ] FILE FOLDER ALREADY MADE, IN FILE CABINET

**Incomplete Action Dates:**

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

Dear Ms. Nishioka:

Well Construction and Pump Installation Permit  
Application for Kaupulehu Potable Well No. 4  
Kaupulehu, North Kona, Hawaii

Attached are a Well Construction and Pump Installation permit application and $25 filing fee for Kaupulehu Potable Well No. 4 located on TMK 7-2-03:3 in North Kona, Hawaii. The permit application is for the fourth potable well for the Hualalai Resort.

If you have any questions or need additional information, feel free to call me or Thad Bond of the Hualalai Development Company at 808-325-8400. Thank you for your attention to this matter.

Sincerely,

Tom Nance

cc: Thad Bond - HDC

Attachments
State of Hawaii
COMMISSION ON WATER RESOURCE MANAGEMENT
Department of Land and Natural Resources
APPLICATION FOR PERMIT
12-9-00
00-89

Well Construction and/or Pump Installation

Instructions: Please print in ink or type and send completed application with attachments to the Commission on Water Resource Management, P.O. Box 621, Honolulu, Hawaii 96809. Application must be accompanied by 3 copies and a non-refundable filing fee of $25.00 payable to the Dept. of Land and Natural Resources. The Commission may not accept incomplete applications. For assistance, call the Regulation Branch at 587-0225.

For further information and updates to this application form, visit http://www.state.hi.us/dlnr/cwrm.

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

1. (a) WELL OWNER: Kaupulehu Makai Venture
   Mailing Address: P. O. Box 1119
   Contact Person: Thad Bond
   Phone: 808-325-9400
   Fax: 808-255-9401

   (b) LAND OWNER: Kamahameha Schools
   Mailing Address: 587 S. King Street, Suite 200
   Contact Person: Rick Robinson
   Phone: 808-322-5300
   Fax: 

   (c) CONTRACTOR: To Be Competitively Bid
   Mailing Address: 
   Contact Person: 
   Phone: 

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

2. WELL NAME: Kaupulehu Potable Well No. 3
   Island: Hawaii
   Address: 
   Tax Map Key: 7-2-03-3
   Zons Sec Plat Parcel
   Attach the relevant portion of (a) a 7.5-Minute Series USGS topographic map (scale 1:24,000) and include the name of the quad map, and (b) a property tax map, showing well location referenced to established property boundaries.

3. PROPOSED WORK:
   (check all that apply)
   - Construct New Well
   - Install New Pump*
   - Modify Existing Well*
   - Modify Pump*
   - Abandon/Seal*
   *State Well No.: 
   (if unknown, please call Commission at 587-0225)

4. CONSTRUCTION:
   - Drilled
   - Dug
   - Shaft
   - Tunnel
   Is this well part of a battery of wells?
   - Yes
   - No (Please describe)

5. PROPOSED PUMP INFORMATION:
   Rated Pump Capacity: 450 gallons per minute
   Pump Type (check one):
   - Deep Well Turbine
   - Rotary
   - Submersible
   - Propeller
   - Centrifugal
   - Rotary-Displacement
   - Reciprocating
   - Rotary-Gear
   - Impulse

6. PROPOSED USE:
   (check all that apply)
   - Municipal (including hotels, stores, etc.)
   - Industrial
   - Domestic (individual, noncommercial water system)
   - No. of Dwelling Units:
   - Irrigation (crop)
   - No. of Acres:
   - Military
   - Other (explain): 

7. (a) PROPOSED AMOUNT OF WITHDRAWAL:
   500,000 gallons per day
   (b) METHOD OF FLOW MEASUREMENT:

OTHER IMPORTANT INFORMATION:

8. LEGAL REQUIREMENTS:
   - CDUP
   - SMAP
   - EIS
   - EA
   - None
   - Other (explain)

9. REMARKS, EXPLANATIONS:
   This permit application is for the fourth potable well to serve the planned expansion of the Hualalai Resort. One of the four wells will be standby while the other three are in operation.

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 60 days after the completion date of the permitted work; 3) monthly water use data shall be submitted to the Commission; 4) such approval shall not constitute a determination of correlative water rights and shall not guarantee the pump capacity or future use up to the permitted pump capacity.

Well Owner: Kaupulehu Makai Venture
Landowner: Kamahameha Schools
Contractor: 

Signature: 
Date: 

Latitude 
Longitude 

Aquifer System No. 
State Well No. 

For official use only

WCPA FORM 5/2/00
10. PROPOSED WELL SECTION

(Please attach schematic if different from diagram provided below)

Hole Diameter: 23 in.

Elevation at top of casing 1352 ft., msl*

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

Annular space between hole and casing (min.3): 3 in.

Rock or Gravel Packing: None

Total Depth: 1410 ft.

Estimated Water Level Elevation: 7 ft., msl*

Solid Casing: (≥ 90% x (Ground Elev. - Water Level Elev.))
Total Length: 1340 ft.
Nominal Diameter: 16 in.
Wall Thickness: 0.375 in.
Bottom Elevation: +10 ft., msl*

Open Casing:
Total Length: 60 ft.
Nominal Diameter: 16 in.
Wall Thickness: 0.3125 in.
Bottom Elevation: -50 ft., msl*

Note: Neither bentonite nor mud should be used in saturated zone during drilling.

Please refer to the HAWAII WELL CONSTRUCTION AND PUMP INSTALLATION STANDARDS to ensure that your as-built is in compliance with applicable standards.

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

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

Bottom Elevation of Wall Limit = \( \frac{4}{2} \) x (Aquifer Thickness) or Water Level Elev.

Example: Estimated 2 ft. Water Level Elev. = Bottom Elevation of Wall Limit = \( \frac{2}{2} \) x (Aquifer Thickness - 18.5 ft.

Solid Casing Material:
- Carbon Steel: compliant with (check one or more): ANSI/AWWA C200
- API Spec. 5L
- ASTM A53
- ASTM A139
- Other
- Stainless Steel: (check one):
  - ASTM A409 (production wells)
  - ASTM A312 (monitor wells)
- ABS Plastic conforming to ASTM F480 and ASTM D1527: (check one)
  - Schedule 40
  - Schedule 80
- PVC Plastic conforming to ASTM F480 and (ASTM D1785 or ASTM D2241): (check one)
  - Schedule 40
  - Schedule 80
  - Schedule 120
- Thermoset Plastic: (check one)
  - Filament Wound Resin Pipe conforming to ASTM D2996
  - Centrifugally Cast Resin Pipe conforming to ASTM D2997
  - Reinforced Plastic Mortar Pressure Pipe conforming to ASTM D5175
  - Glass Fiber Reinforced Resin Pressure Pipe conforming to AWWA C950
  - PTFE Fluorocarbon Tubing conforming to ASTM D3296
  - PEP Fluorocarbon Tubing conforming to ASTM D3296

Open Casing Material:
- Carbon Steel: compliant with (check one or more): ANSI/AWWA C200
- API Spec. 5L
- ASTM A53
- ASTM A139
- Other
- Stainless Steel: (check one):
  - ASTM A409 (production wells)
  - ASTM A312 (monitor wells)
- ABS Plastic conforming to ASTM F480 and ASTM D1527: (check one)
  - Schedule 40
  - Schedule 80
- PVC Plastic conforming to ASTM F480 and (ASTM D1785 or ASTM D2241): (check one)
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PAY

** Twenty-five and 00/100 **

DOLLARS $*25.00*

TO

THE

ORDER

OF

Department of Land & Natural Resources

TOM NANCE

DATE

January 5, 2001

DEPARTMENT OF LAND AND NATURAL RESOURCES

DATE: JAN 16 2001

DEPARTMENT OF LAND AND NATURAL RESOURCES

NAME/DESCRIPTION (WANG INPUT)

TNWRE INC. DBA TOM NANCE WATER RESOURCE ENGINEERING (CR. #2204)

DEPARTMENT OR ATTACHED WORKSHEET

F YR APP D SRC/ OBJ COST CTR PROJECT PH ACT AMOUNT REMARKS:

S 01 326 C/1026 0752 ---- ----- ---- (1) $25.00 LINE (1) WC/PIP Appl. for Well No. 4657-02

(2) 

(3) 

(4) 

TOTAL $25.00

LINE (2)

LINE (3)

LINE (4)