Waikoloa DW-6 Well (Well No. 5545-01)
1. **Pump Tests Check**

   Glenn Bauer (initial)

   **Yes** | **No** | **If no, describe deficiency**
   --- | --- | ---
   Step-Drawdown Test:
   - Complies w/HWCPI Stds
   - analysis attached
   - proposed pump cap o.k.
   - [ ]
   - [ ]

   Aquifer Pump Test:
   - Complies w/HWCPI Stds
   - [ ]
   - T & S analysis attached
   - [ ]

   Well Interference:
   - Steady-State drawdown at 1-mile radius is 44 ft.
   - analysis attached
   - [ ]

   Stream Surface Water Impacted:
   - [ ]
   - [ ]
   - If yes, identify most probable stream

   Geology Code for Well Index: [ ]

2. **Construction Check**

   Mitch Ohye (initial)

   **Yes** | **No** | **If no, describe deficiency**
   --- | --- | ---
   Elevations checked
   - [ ]
   - [ ]

   Well database updated
   - [ ]
   - [ ]

   GPS Location
   - NAD27
   - Latitude: 15° 35' 18.0"
   - Longitude: 155° 45' 55.8"
   - [ ]
   - NAD83
   - Latitude: 1° 58' 07"
   - Longitude: 155° 45' 45.1"
   - [ ]

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

   **Yes** | **No** | **If no, describe deficiency**
   --- | --- | ---
   WCR1 fully complete (latest form)
   - [ ]
   - [ ]

   WCR Special Cond. followed
   - [ ]
   - [ ]

**ATTACHMENTS FOR PUMP INSTALLATION PERMIT:**

1. COVER LETTER
2. PIP PERMIT (2x)
3. DOH COMMENTS
4. LAND DIV. COMMENTS
5. DHP COMMENTS
6. WCR2 FORM
7. WUR FORM

---

not necessary – only WCP.

To be sent to applicant

4. Roy (initial) check
5. Subia (initial) finalize w/electronic signature
6. Charley/Lenore/Ryan File
January 19, 2005

Ref: 5545-01.pip

Mr. Robert Spetich
West Hawaii Water Company
P.O. Box 384809
Waikoloa, HI  96738

Dear Mr. Spetich:

Pump Installation Permit
Waikoloa DW-6 Well (Well No. 5545-01)

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

**Special Conditions**

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

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 $5000 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 January 13, 2005.

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.

Sincerely,

[Signature]

Peter T. Young
Chairperson

Enclosure

c: Wai'eli Drilling Company
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 Waikoloa DW-6 Well (Well No. 5545-01) at 150 Waikoloa Beach Drive, Hawaii, TMK 6-8-002: 017, subject to the Hawaii Well Construction & Pump Installation Standards (February 2004) which include but are not limited to the following conditions:

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

2. The pump installation permit shall be for installation of a 1000 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 (February 18, 2004). 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.

PETER T. YOUNG, Chairperson
Commission on Water Resource Management

Date of Approval: January 13, 2005
Expiration Date: January 13, 2007

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 $5000 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
     Wailei Drilling Company
# Well Check Program

4/1/04 - Revised for update to Well Standards (February 2004)

## Data Input

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<tr>
<th>Parameter</th>
<th>Value</th>
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<tbody>
<tr>
<td>Well Number</td>
<td>5545-01</td>
</tr>
<tr>
<td>Well Name</td>
<td>Waikoloa DW6</td>
</tr>
<tr>
<td>Ground Elevation</td>
<td>1319.3</td>
</tr>
<tr>
<td>Cement Grout</td>
<td>575</td>
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<tr>
<td>Grouting Method</td>
<td>other</td>
</tr>
<tr>
<td>Hole Diameter</td>
<td>23</td>
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<tr>
<td>Total Depth</td>
<td>1390</td>
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<tr>
<td>Estimated Head</td>
<td>6.8</td>
</tr>
<tr>
<td>Public Water Supply Well?</td>
<td>no</td>
</tr>
<tr>
<td>Solid Casing Material</td>
<td>steel</td>
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<td>Solid Casing Specification</td>
<td>ASTM A139</td>
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<td>Solid Casing Length</td>
<td>1309.3</td>
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<td>Solid Casing Diameter</td>
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<tr>
<td>Solid Casing Wall Thickness</td>
<td>0.375</td>
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<td>Open Casing Length</td>
<td>60.7</td>
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## Results

### Well Depth

<table>
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<tr>
<th>Parameter</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Theoretical Thickness of Aquifer</td>
<td>278.8</td>
</tr>
<tr>
<td>1/4 Aquifer Thickness</td>
<td>68.7</td>
</tr>
<tr>
<td>Depth of Well below Sea Level</td>
<td>-70.7 too deep</td>
</tr>
</tbody>
</table>

### Well Casing

- Minimum Wall Thickness
  - Material: steel
  - Minimum Thickness per standards: 0.375
  - Wall Thickness Provided: 0.375 okay
  - Minimum Length of Solid Casing: 1181.25
  - 90% of ground to top of aquifer: 1309.3 okay

### Annular Space

- Calculated Depth of Grouting: 500
- Depth of Grouting provided: 575 okay
- Minimum Annular Space required: 2
- Thickness of Annular Space: 3.5 okay

*Note: The length of the well is marked as too deep.*
Alternative way for determining T from step-drawdown data (Mink, per. comm)

\[ Q = \frac{t^3}{d} \]

\[ Q_1 \text{ (gpm)} = 1185 = 228113 \text{ ft}^3/d \]

\[ s = \text{ft} \]

\[ Q_2 \text{ (gpm)} = 550 = 105875 \text{ ft}^3/d \]

Set up two equations:

\[ s_1 = jQ_1 + nQ_1^2 \]

\[ s_2 = jQ_2 + nQ_2^2 \]

\[ Q_2 = 105875 \quad s_2 = 3.46 \]

\[ Q_1 = 228113 \quad s_1 = 9.31 \]

Well Depth below sea level = 70

Radius of well (ft) = 0.67 = r

\[ n = s_1 - \frac{(Q_1/Q_2)s_2/Q_1(Q_1-Q_2)}{j} = 6.65E-11 \]

\[ j = \frac{s}{Q} - nQ = 2.56E-05 \]

Laminar flow equation:

\[ s = jQ = 5.847798 \]

62.81% Head loss due to laminar flow

Thiem Eq.

\[ T = \frac{1}{2\pi j} \ln\left(\frac{r_e}{r}\right) \]

\[ r_e = \text{Well Depth BSL } \times 1.6 = 112 \]

Therefore:

\[ T = \frac{1}{2\pi j} \ln\left(\frac{r_e}{r}\right) = 31780 \text{ ft}^2/d \]
THEIS DRAWDOWN CALCULATION
by Glenn Bauer & Roy Hardy with numerical approximations by Huntoon (1980)

FILE NAME = Waikoloa DW-6 (5545-01)
TEST NAME = Data from Step-Drawdown Test
DATE = Oct-04

INPUT PARAMETERS

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
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<tbody>
<tr>
<td>Transmissivity T</td>
<td>31,780 ft²/day</td>
</tr>
<tr>
<td>Storage Coeff. S</td>
<td>0.200 dimensionless</td>
</tr>
<tr>
<td>Time t</td>
<td>200,000 days</td>
</tr>
<tr>
<td>Pumping Rate Q</td>
<td>192,513.4 ft³/day</td>
</tr>
<tr>
<td>Radial distance, r (ft.)</td>
<td></td>
</tr>
</tbody>
</table>

Drawdown s vs. r @ time t

Aquifer thickness b = 119 ft
Hydraulic Conductivity K = 267.06 ft/day
Pumping rate Q = 1440 mgd

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

T = 31,780 ft²/d
Sp. yield = 0.2

Radial distance r from pumping well 5280 ft

OBSERVATION WELL

Time t (days) Drawdown s (ft)

0.1 0.00 438.62 7.38E-194 0
1 0.00 43.86 1.993E-21 0
2 0.01 21.93 1.306E-11 0
3 0.01 14.62 2.8727E-08 0
4 0.01 10.97 1.4539E-06 0
5 0.01 8.77 1.6E-05 0
6 0.02 7.31 8.1443E-05 0
7 0.02 6.27 0.0002656 0
8 0.02 5.48 0.00065392 0
10 0.03 4.39 0.00237497 0
30 0.10 1.22 0.15387272 0
200 0.55 0.22 1.14791017 1
500 1.37 0.09 1.94219033 1
1000 2.74 0.04 2.59288661 1
2000 5.48 0.02 3.26445974 2
5000 13.70 0.01 4.16769254 2
10000 27.40 0.00 4.85646799 2
20000 54.79 0.00 5.54742571 3
50000 136.99 0.00 6.46240162 3
100000 273.97 0.00 7.15511033 3

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

T = 31,780 ft²/d
Sp. yield = 0.2
t = 365 days
s = 0.744 ft.
Ms. Yvonne Izu  
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. Izu:

Well Completion Report - Part I for the Waikoloa DW-6 Well,  
State No. 3306-02, in Waikoloa, South Kohala, Hawaii

Attached is the Well Completion Report - Part I for the Waikoloa DW-6 well. It was successfully completed and pump tested at 1000 GPM. It will be outfitted with a 1000 GPM permanent pump as the sixth potable well of the West Hawaii Utility Company.

Sincerely,

[Signature]

Tom Nance

cc: Bruce Moore  
Bob Spetich

Attachment
1. State Well No.: 3306-02  
Well Name: Waikoloa D.W.6  
Island: Hawaii

2. Address:  
West Hawaii Utility Co.,  
150 Waikoloa Beach Drive, Waikoloa, HI 96738

3. Drilling Company:  
Wai'elli Drilling and Development

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

5. Date Well Construction (drilled, cased, grouted) completed: 10/27/04  
Fill out attached Driller's Log

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 1313 ft. below ground  
Date and time of measurement: 6/9/04

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

9. Constant Rate Aquifer Test completed?  ☐ No  ☒ Yes  
Attach Constant Rate Aquifer Test form (12/17/97 CRPTD Form)  
(Tom Nance)

Parameters prior to pump test:

10. Water-level: +6.80 ft. above msl  
Date and time of measurement: 6/9/04

11. Chloride: 85 ppm  
Date and time of measurement: 6/9/04

12. Temperature: 82°F  
Date and time of measurement: 6/9/04

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

14. Fill in attached surveyor's report.

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. The proposed manufacturer's rated pump capacity is 1000 gpm at a head of 1350 ft.

17. Remarks:

---

Licensed Driller (print)  
Wei Eeli Demme & Des  
C-57 Lic. No. C-16543

Signature  
Thos Rohr  
Date November 9th, 2004
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 NUMBER

D-99AG-01 HAIKOLOA DW-6

**DRILLER'S LOG (1/26/39 DL Form)**

<table>
<thead>
<tr>
<th>Depths (ft)</th>
<th>Rock Description, Water Level etc.</th>
<th>Dates</th>
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</thead>
<tbody>
<tr>
<td>0 to 14</td>
<td>Conductor</td>
<td></td>
</tr>
<tr>
<td>14 to 47</td>
<td>Mostly Firm</td>
<td>5-3-39</td>
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<tr>
<td>47 to 104</td>
<td>Soft + Ratty</td>
<td>5-4-49</td>
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<tr>
<td>104 to 121</td>
<td>Firm Rock</td>
<td></td>
</tr>
<tr>
<td>121 to 152</td>
<td>Soft w/ Firm stringers</td>
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<tr>
<td>152 to 174</td>
<td>Hard Rock</td>
<td>5-5-49</td>
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<tr>
<td>174 to</td>
<td>Really Mixed</td>
<td></td>
</tr>
<tr>
<td>256 to 261</td>
<td>Hard + Soft</td>
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<tr>
<td>261 to 307</td>
<td>Hard</td>
<td>5-6-49</td>
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<tr>
<td>307 to</td>
<td>Mixed, Soft w/ Hard Stringers</td>
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<td>590 to</td>
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</tr>
<tr>
<td>826 to</td>
<td>Hard Stringers</td>
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</tr>
</tbody>
</table>

**Remarks:**

Water at 1313'
Well Location
Well Name: Waikoloa DW #6
at Kaupulehu, North Kona, Hawaii, Hawaii
Tax Map Key: 6-8-2: 17 (3rd Div.)

Well Elevation
Top of Pipe Elevation = 1321.81 feet
"O" Cut on Top of Conc.
Elevation = 1320.04 feet

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

This map was prepared by me
or under my direct supervision

R.M. TOWILL CORPORATION
SINCE 1958

73-5574 Malal Street, Suite 11B
Kailua-Kona, Hawaii 96740
January 8, 2005
### STEP-DRAWDOWN PUMP TEST DATA

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

Pumped Well No. **5545-01**  
Observation Well No.  

Pumped Well Name **Nikola TN-G**  
Target Q **1,000** gpm  

Distance between Obs. & Pumped Well ft.  
Reference pt. for depth to water (Aisline) ft. msl  
Static Water Level @ start of test ft. msl  

Water level measurements by:  
- [ ] electrical sounder  
- [ ] pressure transducer  
- [ ] airline  

START TEST Date: **10-22-2004**  
Time of day: **0910**  

Flow Meter Reading Start: **21,588.10** gallons

<table>
<thead>
<tr>
<th>Suggested Elapsed Time</th>
<th>Actual Elapsed Time</th>
<th>Airline (psi)</th>
<th>Drawdown Step (adjusted nearest 0.1 ft)</th>
<th>Pumping Rate Q (at least 3 steps) (gpm)</th>
<th>EC (microh)</th>
<th>Cl (mg/l)</th>
<th>Temp. °C</th>
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END TEST Date: 10-22-2004 Time of day: 11:15
ADDITIONAL REMARKS: Back spin & live shaft pump influence recovery data

Person in charge of pump test (print): TOM NANCE
Signature: ____________________________________________

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

Pumped Well No. 5545-01  
Pumped Well Name Weikola SW-6  
Target Q 1000 gpm  
Well No.  
Distance between Obs. & Pumped Well ft.  
Reference pt. for depth to water ft. msl  
Static Water Level @ start of test ft. msl  
Water level measurements by:  
☐ electrical sounder  ☑ pressure transducer  ☑ airline

START TEST Date: 10-22-2004  
Time of day: 1200  
Flow Meter Reading Start: 21,656, 600 gallons  
Line Shaft Turbine Pump

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Begin recovery data next page
Flow meter reading at end of pumped period:
19,635,207 gals

1 Chloride sampling required
2 Use same ending drawdown figure as start for recovery
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END TEST  Date: 10-27-2004  Time of day: 23:30

ADDITIONAL REMARKS: Test was terminated prematurely due to engine failure; limited recovery data

Person in charge of pump test (print): TOM NOE

Signature: 

The signature above indicates that the data reported on this form is accurate and true to the best of the person's knowledge who operated this pump test.
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**COMMISSION ON WATER RESOURCE MANAGEMENT**

FROM: ERNIE
DATE: APR 30 2004
SUSPENSE DATE: _______________________
Note: This permit shall be prominently displayed at the site until the work is completed

In accordance with Department of Land and Natural Resources, Commission on Water Resource Management’s Administrative Rules, Section 13-168, entitled “Water Use, Wells, and Stream Diversion Works”, this document permits the construction and testing of Waikoloa DW-6 Well (Well No. 5545-01) at Waikoloa Road, Hawaii, TMK 6-8-002: 017, subject to the Hawaii Well Construction & Pump Installation Standards (February 2004) but are not limited to the following conditions:

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

2. The well construction permit shall be for construction and testing of the well only. A minimum 1 1/4-inch diameter monitor tube shall be permanently installed, in a manner acceptable to the Chairperson, to accurately record water levels. The permittee, well operator, and/or well owner shall coordinate with the Chairperson and conduct a pumping test in accordance with the Standards (a pump testing worksheet is attached). The permittee, well operator, and/or well owner shall submit to the Chairperson the test results as a basis for supporting an application to install a permanent pump and withdraw water for use. No permanent pump may be installed until a pump installation permit is approved and issued by the Chairperson.

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

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

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

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

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

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

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

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

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

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

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

Date of Approval: April 21, 2004
Expiration Date: April 21, 2006

PETER T. YOUNG, Chairperson
Commission on Water Resource Management

I have read the conditions and terms of this permit and understand them. I accept and agree to meet these conditions as a prerequisite and underlying condition of my ability to proceed and understand that I shall not commence work until I and the driller have signed, dated, and returned the permit to the Commission. I also understand that non-compliance with any permit condition may be grounds for revocation and fines of up to $1,000 per day starting from the permit date of approval.

Permittee's Signature: [Signature]
Printed Name: [Name]
Driller's Signature: [Signature]
C-57 License # C16543
Printed Name: [Name]
Firm or Title: [Firm or Title]

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

Attachment:

C:\Users\[User]\Desktop\[File Name]

USGS Department of Health Safe Drinking Water, Wastewater, and Clean Water Branches
Hawaii Department of Water Supply
Tom Nance Water Resource Engineering

W. Roy Henry, [Signature]
To: Chairperson of the Commission on Water Resource Management  
P.O. Box 621  
Honolulu, HI 96809

WE ARE SENDING:  
☐ Shop Drawings  
☐ Copy of letter  
☐ Attached  
☐ Under separate cover via 1st Class Mail the following items:  
☐ Prints  
☐ Plans  
☐ Change Order  
☐ Samples  
☐ Specifications  
☐ Other: See below

THESE ARE TRANSMITTED AS CHECKED BELOW:  
☐ For approval  
☐ For your use  
☐ As requested  
☐ For review and comment  
☐ With submittal review action noted

<table>
<thead>
<tr>
<th>Copies</th>
<th>Date</th>
<th>No.</th>
<th>Description</th>
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<tr>
<td>1</td>
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<td>executed &quot;WELL CONSTRUCTION PERMIT Waikoloa DW-6 Well, Well No. 5545-01&quot;</td>
</tr>
</tbody>
</table>

REMARKS:  
Sent per instructions in the permit.

cc: Stephen Green, WHWC  
    Bruce Moore, WLC  
    Tom Nance, TNWRE

Robert Spetich, P.E., Utilities General Manager

If enclosures are not as noted, kindly notify us at once
<table>
<thead>
<tr>
<th>TO:</th>
<th>Ryan Iwata</th>
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<tr>
<td>FROM:</td>
<td>Tiffany</td>
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<tr>
<td>COMPANY:</td>
<td>C.W.R.M.</td>
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<tr>
<td>DATE:</td>
<td>4/20/04</td>
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<td>FAX NUMBER:</td>
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RE: Well construction permit

NOTES, COMMENTS:

Ryan,  went something  
Addeo signed  
4/20/04
FACSIMILE TRANSMITTAL SHEET

TO:    Ryan Remeta
FROM:  Tiffany
COMPANY: C.W.R.M.
DATE:  4/28/04
FAX NUMBER: 587-1219
TOTAL NO. OF PAGES INCLUDING COVER: 2
PHONE NUMBER:
SENDER'S REFERENCE NUMBER:
RE:    Well Construction Permit

URGENT   FOR REVIEW   PLEASE RETURN   PLEASE REPLY   PLEASE...

NOTES, COMMENTS:

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

Waiakoal-DW-4 Well, Well No. 5548-01

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 13-195 entitled “Water Use, Wells, and Stream Protection Works,” this document permits the construction and testing of Waiakoal-DW-4 Well (Well No. 5548-01) at Waiakoal Road, Hawaii, TMA: 5-8-002-07, subject to the Waiakoal Well Construction & Pump Installation Standards (February 2004) which include but are not limited to the following conditions:

1. The Championer of the Construction on Water Resource Management (Contractor), P.O. Box 671, Honolulu, HI 96826, shall be notified, at least two (2) weeks before any work, authorized by this permit commences and shall be allowed to inspect installation activities in accordance with HI-5-5-01, Hawaii Administrative Rules.

2. The well construction crew shall be for construction and testing at the well only. A minimum of two (2) observers shall be present at all times, including the Championer and a contractor or a member of a team that is experienced and trained in the construction of water wells. The Championer, well operator, and well owner shall inspect the work in progress with the contractor (at least two (2) times per week) to ensure that the contract agreement is being followed. The Championer, well operator, and well owner shall inform the Contractor the well permits as a means of ensuring the contractor to be aware of the permitted activities to be performed and to be aware of the permit holder.

3. In areas where underground water, the depth of the well may not exceed one-fourth (1/4) of the theoretical head of the bored ground water unless otherwise authorized by the Championer.

4. The Championer, well operator, and/or well owner shall incorporate mitigation measures to prevent contamination during construction from entering the aquatic environment, to minimize the effects of permit limitations, and to prevent any discharge from entering the environment.

5. In the event that water temperature exceeds more than 40°F, the discharge of contaminated cold water shall be resumed and monitored during construction, the Championer, well operator, and/or well owner shall notify the Department of Health—Water Preservation immediately.

6. The proposed well construction shall not adversely affect existing or future uses of water in the area, including any surface water or watersheds in the area.

7. The following shall be submitted to the Contractor within ten (10) days after completion of work:
   a. Final completion report, completed in Part II, Final Completion Report,
   b. Completed additional drawings of the well, including survey by a Hawaii-licensed surveyor.
   c. Final well sample report clearly stating the sample location of the well.
   d. Complete pumping test report, including time, pumping rate, drawdown, entrance conditions, and other details.

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

9. The well construction permit is issued in substitution for the permit to drill for permits issued. If the well permit is not completed within one (1) year after the date of approval, it shall expire automatically.

10. The permit may be renewed by the Contractor if work is not started within one (1) year after the date of approval or if it is suspended or abandoned.

11. The Contractor shall be responsible for the proper drainage of the work area for any well testing or cleaning work.

12. The Department shall, upon written request, provide the Championer with a copy of the permit and any related documents.

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

Date of Approval: April 21, 2004
Expiration Date: April 21, 2004

PETE YOUNG, Chairman
Commission on Water Resource Management

I certify that the conditions and terms of this permit were met and understood. I accept and agree to meet these conditions as a consent order and understand that I shall cease construction work until I have been served with a cease and desist order, and returned the permit to the Commission. I also understand that non-compliance with any permit conditions may be grounds for revocation and fines up to $500 per day starting from the date of issuance of this permit.

Permittee’s Signature: [Signature]
Printed Name: [Printed Name]

Date: 4/28/04

Conformity: [Conformity]
Printed Name: [Printed Name]

Date: 4/28/04

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

[Signature]
[Printed Name]

[License Number]
[Printed Name]
COMMISSION ON WATER RESOURCE MANAGEMENT
ROUTE SLIP FOR PERMIT ISSUANCE

FROM: RYAN DATE: 1/22/04 SUSPENSE DATE: __________

TO: ANAKALEA, P. INIT: __________ TO: LAU, E. INIT: __________ FOR: Approval
BAUER, G. __________ MATHIAS, T. __________ 3
CHING, F. __________ NAKAMA, L. __________ 3
DANBARA, S. __________ NAKANO, D. __________ 4
FUJII, N. __________ OHYE, M. __________
GOODING, K. __________ SAKODA, E. __________
1 HARDY, R. __________ SUBIA, S. __________
HIGA, D. __________ SWANSON, S. __________
ICE, C. __________ UYENO, D. __________
IMATA, R. __________ YODA, K. __________
KUNIMURA, I. __________ YOSHINAGA, M. __________

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

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

WELL NUMBER: 5545-01 WELL NAME: Waikoloa DW-6_e Well

PLEASE: See Me
1 Review & Comment
2 Take Action
3 Type Draft
5 Type Final
6 File
9 Xerox ______ copies

LET EVERYONE KNOW ABOUT
WELL CHECK FOR A GIRL DEPHT WHEN PAW.

They.
April 22, 2004

Ref: 5545-01.wcp

Mr. Robert Spetich
West Hawaii Water Company
P.O. Box 384809
Waikoloa, HI 96738

Dear Mr. Spetich:

Well Construction Permit
Waikoloa DW-6 Well (Well No. 5545-01)

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 (February 2004) and any special conditions performed under this permit. However, a permanent pump may be installed prior to the permanent pump installation permit issuance in accordance with the Commission's April 15, 1998 Declaratory Ruling No. DEC-ADM98-G5, which states that:

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

If you qualify and wish to take advantage of this ruling, please include a written request to install the permanent pump prior to final pump installation permit issuance when you return to us your signed well construction permit.
Please sign and have the contractor sign both permit originals and return one for our files. Also, copies of the aquifer pump test worksheet and the well completion report form are enclosed for your use.

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

If you have any questions, please call 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,

[Signature]

Peter T. Young
Chairperson

Enclosures

Enclosures

c: Tom Nance Water Resource Engineering
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 Waikoloa DW-6 Well (Well No. 5545-01) at Waikoloa Road, Hawaii, TMK 6-8-002: 017, subject to the Hawaii Well Construction & Pump Installation Standards (February 2004) which include but are not limited to the following conditions:

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

2. The well construction permit shall be for construction and testing of the well only. A minimum 1½-inch diameter monitor tube shall be permanently installed, in a manner acceptable to the Chairperson, to accurately record water levels. The permittee, well operator, and/or well owner shall coordinate with the Chairperson and conduct a pumping test in accordance with the Standards (a pump testing worksheet is attached). The permittee, well operator, and/or well owner shall submit to the Chairperson the test results as a basis for supporting an application to install a permanent pump and withdraw water for use. No permanent pump may be installed until a pump installation permit is approved and issued by the Chairperson.

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

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

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

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

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

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

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

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

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

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

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

W. Roy Hany

Date of Approval: April 21, 2004
Expiration Date: April 21, 2006

PETER T. YOUNG, Chairperson
Commission on Water Resource Management

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

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

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

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

Attachment
C: USGS
Department of Health Safe Drinking Water, Wastewater, and Clean Water Branches
Hawaii Department of Water Supply
Tom Nance Water Resource Engineering
April 16, 2004

TO: Honorable Chiyome L. Fukino, M.D., Director Department of Health
Attention: Harold Yee, Wastewater Branch

William Wong, Safe Drinking Water Branch
Dr. Keith Kawakoe, Hazardous Evaluation and Emergency Response
Alec Wong, Clean Water Branch

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

SUBJECT: Well Construction/Pump Installation Permit Application Waikoloa DW-6 Well (Well No. 5545-01)

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

We would appreciate your comments on the captioned application for any conflicts or inconsistencies with the programs, plans, and objectives specific to your department. Please respond by returning this cover memo form by May 14, 2004. If we do not receive comments or a request for additional review time by this date, we will assume that you have no comments.

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

Rlss Attachment(s)

RESPONSE:

[Redacted]

This well qualifies as a source which will serve as a source of public water to a public water system (defined as serving 25 or more people at least 60 days per year or 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 22, Rules Relating to Public Water Systems, §11-30-29.

This well does not qualify as a source serving a public water system served 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 using the water and routinely notify the water quality foreman. However, if it were 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 public and non-potable purposes in a single system, the user should eliminate cross-connections and backflow connections by physically separating public and non-potable systems by an air gap or an approved backflow preventer, and by clearly labeling at non-potable outlets 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).

An HDOES permit is required.

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

No comments/objections

Contact Person: Bill Wong Phone: 586-4258
Signed: Bill Wong Date: APR 20 2004
TO: Dede Mamiya, Administrator
Land Division

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

SUBJECT: Well Construction/Pump Installation Permit Application
Waikoloa DW-6 Well (Well No. 5545-01)

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

We would appreciate your comments on the captioned application with regard to the programs, plans, and objectives specific to your division. **Please respond by returning this cover memo form by MAY 14, 2004.** If we do not receive comments or a request for additional review time by this date, we will assume you have no comments.

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

RESPONSE:

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

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

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

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

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

[ ] No objections

[ ] Other comments: **Original source of private title is Land Commission Award 8521-B:1 issued between 1845 and 1855.**

Contact Person: Gary Martin
Phone: 587-0421

Signed: Gary Martin
Date: APR 16, 2004
April 16, 2004

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

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

SUBJECT: Well Construction/Pump Installation Permit Application
         Waikoloa DW-6 Well (Well No. 5545-01)

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

We would appreciate your comments on the captioned application for any conflicts or inconsistencies with the programs, plans, and objectives specific to your department. Please respond by returning this cover memo form by May 14, 2004. If we do not receive comments or a request for additional review time by this date, we will assume that you have no comments.

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

RI:ss
Attachment(s)

RESPONSE:

1. This well qualifies as a source which will serve as a source of potable water to a public water system (defined as serving 26 or more people at least 60 days per year or 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, §11-20-28.

2. This well does not qualify as a source serving a public water system (serves less than 26 people or more people at least 60 days per year or 15 service connections) and if the well water is intended 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 this source increases to meet the public water system definition then Director of Health approval is required prior to implementation.

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

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

5. For the applicant's information, a source of possible wastewater contamination [15a] is not located near the proposed well site (information attached).

6. An NPDES permit is required.

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

8. No comments/objections

Contact Person: Alec Wong
Phone: 586-4309
Date: 4/23/2004

Signed: Alec Wong

DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT
P.O. BOX 821
HONOLULU, HAWAII 96809

PETER T. YOUNG
Chairperson

MEEREDITH J. CHING
CLAYTON W. DELA CRUZ
JAMES A. FRASER
CHIYOME L. FUKINO, M.D.
STPHANE A. WHEELLEN

APR 23 A9:10
The Department of Health, Clean Water Branch has the following comments:

1. For Well-Drilling Activities

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

2. For Well Pump Testing

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

JS/cr
STATE MESSENGER DELIVERY

Date:  
April 19, 2004

To:  Commission on Water Resource Management
Department of Land & Natural Resources
State of Hawaii

From:  Department of Health, Wastewater Branch, Planning & Design Section

Attn:  Ryan T. Imata

Subject:  Well No. 5545-01 Waikoloa DW-6 Well

Well No. __________________________

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

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

SUBJECT: Well Construction/Pump Installation Permit Application
Walkoala DW-6 Well (Well No. 5545-01)

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

We would appreciate your comments on the captioned application for any conflicts or inconsistencies with the programs, plans, and objectives specific to your department. Please respond by returning this cover memo form by MAY 14, 2004. If we do not receive comments or a request for additional review time by this date, we will assume that you have no comments.

Please find the attached maps to locate the proposed well. If you have any questions about this permit application, request additional information, or request additional review time, please contact 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 judge to its use to comply with Hawaii Administrative Rules (HAR), Title 11, Chapter 26, Rules Relating to Potable Water Systems, §11-26-00.

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 supplies with warning signs to prevent inadvertent consumption.

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 located near the proposed well site (information attached).

An NPDES permit is required.

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

No comments/objections.

Contact Person: Len N. Kajiwara
Phone: 586-0420
Signed: Len N. Kajiwara
Date: 4-19-2004
April 20, 2004

Mr. Robert Spetich
West Hawaii Water Company
P.O. Box 384809
Waikoloa, HI 96738

Dear Mr. Spetich:

Well Construction/Pump Installation Permit Application for Well No. 5545-01

We acknowledge receipt, on December 9, 2003, of your completed Well Construction/Pump Installation permit application and filing fee for the Waikoloa DW-6 Well (Well No. 5545-01). We apologize for this delay. Tom Nance stated that you have already selected a contractor. We will expedite your review.

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,

ERNEST Y.W. LAU
Deputy Director

RI:ss
Fax: Lori Kajiwara
Company: DOH
Fax Number: 688-4300
Phone Number:

Notes/Comments:

Lori –
Here's the well permit application I'd like to get the quick review for. Thanks a ton!!
Ryan

Hi Ryan – hope this helps. No records. I'll send original (copy) and here's the fax.

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

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

SUBJECT:  
Well Construction/Pump Installation Permit Application
Waikoloa DW-2 Well (Well No. 5945-01)

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

We would appreciate your comments on the captioned application for any conflicts or inconsistencies with the programs, plans, and objectives specific to your department. Please respond by returning this cover memo form by May 14, 2004. If we do not receive comments or a request for additional review time by this date, we will assume that you have no comments.

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

R inappropriate

Attachment(s)

RESPONSE:

This well qualifies as a source which will serve as a source of possible water to a public water system (defined as serving 25 or more people at least 60 days per year or 15 service connections) and must receive Department of Health approval prior to its use to comply with Hawaii Administrative Rules (HAR), Title 11, Chapter 20, Rules Relating to Public Water Systems, §11-30-38.

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 if the well water is used for drinking, the private owner should test for bacteriological and chemical presence before using such water and could not meet the public water system definition then a separate permit for a water quality testing. However, if future planned use is water quality testing as this source increases to meet the public water system definition then the Director of Health approval is required for implementation.

Even 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 preventers by physically separating potable and non-potable systems by an air gap or an approved backflow preventer, and by clearly tagging all non-potable systems with warning signs to prevent inadvertent contamination 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 [SI-1] is not located near the proposed well site (information attached).

An NPDES permit is required.

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

No comments/objections NO RECORDS

Contact Person:  
Lori N. Kajiwara  
Phone: 580-4244

Signed:  
Lori N. Kajiwara  
Date: 4-19-2004
The Department of Health, Clean Water Branch has the following comments:

1. For Well-Drilling Activities

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

2. For Well Pump Testing

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

JS/kr
April 16, 2004

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

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

SUBJECT: Well Construction/Pump Installation Permit Application
         Waikoloa DW-6 Well (Well No. 5545-01)

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

We would appreciate your comments on the captioned application for any conflicts or inconsistencies with the programs, plans, and objectives specific to your department. Please respond by returning this cover memo form by May 14, 2004. If we do not receive comments or a request for additional review time by this date, we will assume that you have no comments.

Please find the attached maps to locate the proposed well. If you have any questions about this permit application, request additional information, or request additional review time, please contact 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 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 of 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).

[ ] An NPDES permit is required.

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

[ ] No comments/objections

Contact Person: ___________________________ Phone: ___________________________
Signed: ___________________________ Date: ___________________________
TO:        Dede Mamiya, Administrator  
           Land Division  

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

SUBJECT:   Well Construction/Pump Installation Permit Application  
           Waikoloa DW-6 Well (Well No. 5545-01)  

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

We would appreciate your comments on the captioned application with regard to the  
programs, plans, and objectives specific to your division. Please respond by returning this  
cover memo form by May 14, 2004. If we do not receive comments or a request for additional  
review time by this date, we will assume you have no comments.  

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

RESPONSE:

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

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

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

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

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

[ ] No objections

[ ] Other comments:

Contact Person: _________________________ Phone: __________

Signed: __________________________________ Date: __________
April 16, 2004

TO: Holly McEldowney, Acting Administrator
Historic Preservation

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

SUBJECT: Well Construction/Pump Installation Permit Application
Waikoloa DW-6 Well (Well No. 5545-01)

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

We would appreciate your comments on the captioned application with regard to the programs, plans, and objectives specific to your division. Please respond by returning this cover memo form by May 14, 2004. If we do not receive comments or a request for additional review time by this date, we will assume you have no comments.

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

RESPONSE:

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

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

[ ] No objections

[ ] Other comments:

Contact Person: ____________________________  Phone: __________

Signed: ____________________________  Date: __________
LINDA LINGLE
GOVERNOR OF HAWAII

STATE OF HAWAI'I
DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT
P.O. BOX 621
HONOLULU, HAWAI'I 96809

FACSIMILE TRANSMITTAL

To: Lori Kajiwara
Company: DOH
Fax Number: 586-4300
Phone Number:

From: Ryan Imata
Date: April 16, 2004
Pages Including Header: 7
Subject: Waikoloa DW-6 Well

Notes/Comments:

Lori –

Here's the well permit application I'd like to get the quick review for. Thanks a ton!!

Ryan
To: Jeannie Knapp
Company: Historic Preservation
Fax Number: 327-3693
Phone Number:

From: Ryan Imata
Date: April 16, 2004
Pages Including Header: 7
Subject: Waikoloa DW-6 Well

Notes/Comments:

Jeannie –

Here's the well permit application I'd like to get the quick review for. Thanks a ton!!

Ryan
To: Sharon Nekoba
Company: DOH
Fax Number: 586-4370
Phone Number: 

From: Ryan Imata
Date: April 16, 2004
Pages Including Header: 7
Subject: Waikoloa DW-6 Well

Notes/Comments:
Sharon –

I hate to ask this, but I have an emergency situation and I need a quick review for this application. Can you review it and send it back to me as soon as possible?

Thanks,
Ryan
### Well Check Program
4/1/04 - Revised for update to Well Standards (February 2004)

#### Data Input

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<td><strong>Well Number</strong></td>
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<tr>
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<td><strong>Grouting Method</strong></td>
<td>other</td>
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<td><strong>Estimated Head</strong></td>
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<td><strong>Public Water Supply Well?</strong></td>
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<td><strong>Solid Casing Material</strong></td>
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<td><strong>Solid Casing Specification</strong></td>
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<td><strong>Solid Casing Length</strong></td>
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#### Results

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<td>Theoretical Thickness of Aquifer</td>
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<tr>
<td>1/4 Aquifer Thickness</td>
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<td><strong>Depth of Well below Sea Level</strong></td>
<td>-90 okay</td>
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<table>
<thead>
<tr>
<th><strong>Well Casing</strong></th>
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<tr>
<td>Minimum Wall Thickness Material</td>
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</tr>
<tr>
<td>Minimum Thickness per standards</td>
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<tr>
<td><strong>Wall Thickness Provided</strong></td>
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<tr>
<td>Minimum Length of Solid Casing 90% of ground to top of aquifer</td>
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<tr>
<td><strong>Length of solid casing Provided</strong></td>
<td>1310 okay</td>
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<tr>
<td><strong>Casing Material</strong></td>
<td>ASTM A53 In compliance</td>
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<tr>
<td>(for pvc only - check for 200' limit)</td>
<td>okay</td>
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<table>
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<tr>
<th><strong>Annular Space</strong></th>
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<td><strong>Depth of Grouting</strong></td>
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<td><strong>Calculated Depth of Grouting</strong></td>
<td>500 not enough</td>
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<tr>
<td><strong>Minimum Annular Space required</strong></td>
<td>3</td>
</tr>
<tr>
<td><strong>Thickness of Annular Space</strong></td>
<td>3.5 okay</td>
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I need to fix it. o.k.
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<tr>
<th>Taxkey</th>
<th>Subdiv/Condo</th>
<th>Tnr Address</th>
<th>Property</th>
<th>Owner/Lessee</th>
<th>Beds/Baths</th>
<th>Land area</th>
<th>Living area</th>
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<td>WAIKOLOA LAND &amp; CATTLE</td>
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<td></td>
<td></td>
<td></td>
<td>CO/ETAL</td>
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</table>

This information has been supplied by third parties and has not been independently verified by Hawaii Information Service and is, therefore, not guaranteed.
**COMMISSION ON WATER RESOURCE MANAGEMENT**

**ROUTE SLIP FOR NEW APPLICATIONS**

**FROM:** RYAN BAUER, G. CHING, F. FUJII, N. COXSON ON WATER RESOURCE MANAGEMENT

**DATE:** 16-Dec-03 **SUSPENSE DATE:** 23-Dec-03


**PLEASE:** See Me Review & Comment Take Action Type Draft acknow letter Type Final, label new file folder File Xerox copies

**WELL NUMBER** 5545-01 **WELL NAME** Waikoloa DW-6

**ATTACHMENTS FOR APPLICATION PROCESSING** - Both applicant & staff generated

1. TRANS. LETTER [✓]
2. CWRM MAP [✓]
3. APPL. FORM (5 COPIES) [✓]
4. USGS MAPS (5 COPIES) [✓]
5. TAX MAPS (6 COPIES) [✓]
6. PARCEL OWNER VERIF. (MLS PRINTOUT) [✓]
7. CONTRACTOR VERIF. (DCCA LICENSE SCREEN PRINTOUT) [✓]
8. ALL INFO FILLED IN [✓]
9. BACKGROUND CHECK [✓]
10. $25 FEE DEPOSIT SLIP [✓]

**FOLDER:** MADE NEW FILE FOLDER, ATTACHED

**INCOMPLETE ACTION DATES:**

<table>
<thead>
<tr>
<th>DATE</th>
<th>ACTION</th>
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<tbody>
<tr>
<td>4/16/04</td>
<td>application states this would be 6th well for applicant if successful. Index and application database only shows 3, and the status of the first two is still unknown. Need to rectify before accepting. Some cancellation letters in order?</td>
</tr>
</tbody>
</table>

__Susan__ - I actually fax routed these for comments already. So talk to me before sending out. __Ryan__

__Tom__ says Parker 1 & 11a wells are not West Hawaii Water Co. I'm working on those anyway. The other wells are not owned by West Hawaii water co. in terms of labelling in database. I'll accept based on time since I don't know when it'll be out & also Parker 1 & 11 are? - __Steve__ showed us - this application is Tim Nave & they have a tight deadline. My fault for not resolving sooner. __Ryan__

*See edit on clock/letter/occurs.*
### 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>Waikoloa DW-6</td>
<td></td>
<td>West Hawaii Water Co.</td>
<td></td>
<td>BOTH</td>
<td>Issued Signed WCR1</td>
<td>2/4/2003</td>
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<tr>
<td>5548-02</td>
<td>Parker 1A</td>
<td>West Hawaii Water Co.</td>
<td>C-16543</td>
<td>BOTH</td>
<td>Accept 8/13/2001</td>
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<td>7/18/2001</td>
<td>5548-01</td>
<td>Parker 1 West Hawaii Water Co.</td>
<td>C-16543</td>
<td>BOTH</td>
<td>8/19/2002</td>
<td>Other wells? 0</td>
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</tbody>
</table>
Filing Fee

DATE: December 8, 2003

* * Twenty-five and 00/100 * *

DOLLARS $ *25.00*
Mr. Ernest Y.W. Lau  
Deputy Director  
Commission on Water Resource Management  
Department of Land and Natural Resources  
State of Hawaii  
P. O. Box 621  
Honolulu, Hawaii 96809

Dear Mr. Lau:

Well Construction and Pump Installation Permit Application for  
Waikoloa DW-6 on TMK 6-8-002:017 - South Kohala, Hawaii

On behalf of the West Hawaii Water Company, I am pleased to provide this permit application and $25 filing fee for Waikoloa DW-6 on TMK 6-8-002:017 in Waikoloa. If successful, the well would become a drinking water well for the West Hawaii Water Company's private water system. If you have any questions or require additional information, please feel free to call me or Bob Spetich at 808-883-9355. Thank you for your consideration.

Sincerely,

Tom Nance

cc: Bob Spetich

Attachments
State of Hawaii
COMMISSION ON WATER RESOURCE MANAGEMENT
Department of Land and Natural Resources
APPLICATION FOR PERMIT

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

1. (a) **Well Owner:** West Hawaii Water Company
   - Contact Person: Robert Spetch
   - Mailing Address: P.O. Box 384809 Waikoloa, Hawaii 96738
   - Fax: 808-883-9768
   - E-mail: 

2. **Well Name:** Waikoloa DW-6
   - Address: Off Waikoloa Road - South Kohala, Hawaii
   - Island: Hawaii
   - Tax Map Key: 6 8 002 017
   - Attach: (a) portion of a 7.5-Mile Series USGS Topographic Map (scale 1:24,000) with well location labeled and include the name of the quadr map
   - (b) a property tax map, showing well location referenced to established property boundaries

3. Proposed Work:
   - (check all that apply)
     - **Construct New Well**
     - **Modify Existing Well**
     - **Abandon/Revert**
     - *State Well No.: [If unknown, please call Commission at 587-0225]*

4. Construction:
   - (check all that apply)
     - **Drilled**
     - **Dug**
     - **Shaft**
     - **Tunnel**
   - Is this well part of a battery of wells? **Yes** **No**
   - (Please describe)

5. Proposed Pumping Rate:
   - 1,000 gallons per minute

6. Proposed Use:
   - (check all that apply)
     - **Municipal (including hotels, stores, etc.)**
     - **Domestic (individual, noncommercial water system)**
     - **Industrial**
     - **Irrigation (crop)**
     - **Military**
     - **Other (explain):**
   - No. of Acres:
     - [ ]

7. (a) Proposed Amount of Withdrawal:
   - 1,200,000 gallons per day
   - (b) Method of Flow Measurement:
     - **Flowmeter** **Open-pipe** **Weir** **Orifice** **Other (explain):**

Other Information:

8. Legal Requirements:
   - If required, these permits must be obtained before the Commission can legally issue a permit.
   - Conservation District Use Permit (CDUP): To find out if a CDUP is necessary, call DLNR Land Division at 587-0414
   - Environmental Impact Statement (EIS) or Environmental Assessment (EA): To determine if an EIS or EA is necessary, call OECG at 586-4185
   - Special Management Area Permit (SMAP): To determine if an SMAP is necessary, call 527-5374; on Hawaii, call 961-8288; for Maui county, call 270-7235; on Kauai, call 241-6677.

9. Archeological Requirements:
   - To find out if an archeological work is required, call Elaine Jourdane at 692-8027; on Hawaii, call MaryAnn Maigret at 327-3690; for Maui county, call Cathy Lueck at 961-8288; for Kauai, call Nancy McNamara at 742-7023.

10. Remarks, Explanations:
    - If successful, the well will become the 6th drinking water well for the West Hawaii Water Company's private water system.

NOTE: Signing below indicates the signatories understand and swear that the information provided on this application is accurate and true to the best of their knowledge. Further, the signatories understand that approval of this application attaches the following standard conditions:

<table>
<thead>
<tr>
<th>Well Owner</th>
<th>West Hawaii Water Company</th>
<th>Landowner</th>
<th>Waikoloa Land &amp; Cattle Co.</th>
<th>Contractor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signature</td>
<td>__________________________</td>
<td>Signature</td>
<td>_________________________</td>
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<tr>
<td>Date</td>
<td>11/13/03</td>
<td>Date</td>
<td>12/4/03</td>
<td></td>
</tr>
</tbody>
</table>

For official use only
- Aquifer System No.
- State Well No.

WCP/PA Form 7/17/03
10. PROPOSED WELL SECTION (Please attach schematic if different from diagram provided below)

Elevation at top of casing: 1322 ft., msl*

Hole Diameter: 23 in.

Minimum of 2 Radius & 4" Thick Concrete Pad (to contain benchmark surveyed to nearest 0.01 ft.)

Ground Elevation: 1320 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

Material:
- Crushed Basalt
- Rounded Gravel

Total Depth: 1410 ft.

Solid Casing: (≥ 90% x (Ground Elev.-Water Level Elev.)
Total Length: 1310 ft.
Nominal Diameter: 16 in.
Wall Thickness: 0.378 in.
Bottom Elevation: 10 ft., msf

Open Casing:
- Perforated
- Screen
Total Length: 80 ft.
Nominal Diameter: 16 in.
Wall Thickness: 0.3125 in.
Bottom Elevation: -70 ft., msf

Open Hole Length: 20 Optional ft.
Diameter: 15 in.
Bottom Elevation: -90 ft., msf

Solid Casing Material:
- Carbon Steel: compliant (check one or more):
  - ANSI/AWWA C200
  - API Spec. 5L
  - ASTM A63
  - ASTM A139
  - Type E
  - Other

- Stainless Steel: (check one):
  - ASTM A449 (production wells)
  - ASTM A312 (monitor wells)

- PVC Plastic conforming to ASTM F480 and ASTM D1527: (check one)
  - Schedule 40
  - Schedule 80

- Thermoset Plastic: (check one)
  - Filament Wound Resin Pipe conforming to ASTM D3296
  - 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 D3206
  - FEP Fluorocarbon Tubing conforming to ASTM D3296

Open Casing Material:
- Carbon Steel: compliant (check one or more):
  - ANSI/AWWA C200
  - API Spec. 5L
  - ASTM A63
  - ASTM A139
  - Type E
  - Other

- Stainless Steel: (check one):
  - ASTM A449 (production wells)
  - ASTM A312 (monitor wells)

- PVC Plastic conforming to ASTM F480 and ASTM D1527: (check one)
  - Schedule 40
  - Schedule 80

- Thermoset Plastic: (check one)
  - Filament Wound Resin Pipe conforming to ASTM D3296
  - 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 D3206
  - FEP Fluorocarbon Tubing conforming to ASTM D3296

* 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 shall not be deeper than 1/4 of aquifer thickness or, Bottom Elevation of Well Limit = (Water Elevation - \( \frac{1}{4} \times \text{Aquifer Thickness} \))

Example: Estimated + 2 ft. Water Level Elev. = Bottom Elevation of Well Limit = (Elevation - \( 1320 - \frac{1}{4} \times 70 \)) = 1311.5 ft.