CHECKLIST

✓ Well Construction Permit

✓ Pump Installation Permit

✓ Water Use Permit Required Also

Well No. 5938-04

Well Name & Number: Kapalua Well No. 3
Island: Maui

Applicant: Maui Land & Pineapple Co., Inc. Landowner: Same

Consultant: 

Date application received: 5/31/94

✓ Date acknowledged receipt/request more info: 

✓ Date filing fee deposited: 

✓ Application sent to following:

- Dept. of Health
  - Safe Drinking Water Branch
  - Wastewater Branch
- Office of Hawaiian Affairs
- Dept. of Hawaiian Home Lands
- State Historic Preservation Div.
- Sierra Club Legal Defense Fund
- Honolulu Board of Water Supply
- Maui Dept. of Water Supply
- Kauai Dept. of Water Supply
- Hawaii Dept. of Water Supply
- Hawaii Dept. of Public Works
- Keeaumoku #68 (Oahu)
- Additional List (Molokai)
- Eric Hirano/Lyann Mizuno
  - Div. of Aquatic Res.

Date agenda due: 3 Aug 94

Date submittal due: 3 Aug 94

Date submittal sent to applicant: 

Date application __ approved OR __ disapproved: 17 Aug 94

Date applicant notified of decision: 

Remarks: 

Map, assign well no. (Pencil in INDEX/SUMMARY)

Log in logbook (manual) 

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Pump Test Analysis – Comments

Well ID: 5938-04B
Analysis Date: 1/8/08  Test Date: 7/14/98
Geologist: Diane England

Note: Data analyzed with respect to current CWRM pump test requirements; however test was conducted in 1998.

Step Drawdown Test

Deviations From Guidelines
1. Water level data not collected for 45min prior to start of test.
2. Step test periods were all less than the required 30min, ranging from 13-28min.

Constant Rate Pumping Test

Deviations From Guidelines
1. Pre-test water levels not monitored for 45 minutes prior to start of test.
2. Constant rate test only run for 48.5hr not the required 72hr for an 800gpm pump rate.
3. First 2hr of data collected at 60min, not 10min, intervals.

Drawdown Curve Comments
1. Drawdown remains constant between 1.5ft and 2ft throughout duration of test.
2. Oscillating drawdown data may be indicative of tidal influence in the well.
3. Estimated K=2,100 ft/d. Estimated T = 160,000 ft²/d. These values have an increased margin of error due to (1) lack of sufficient initial time data and (2) failure to conduct the test for the full 72hr.

Well Interference & Stream Impacts

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S = Storage Coefficient.

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

Other Comments

1. Well depth (859ft) exceeds maximum allowable depth of ¼-aquifer thickness (833ft).
2. This evaluation is of historic data for an existing well. If (1) the well currently has no pump installed and the owner wishes to install a pump, (2) if a larger pump is installed, or (3) if an increase in capacity is requested, the constant rate test should be rerun for the appropriate time period and in accordance with all current CWRM guidelines.
### Step-Drawdown Test (5938-04B)

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### Step Change

- Step 1: 24 min, 400s gpm
- Step 2: 14 min, 600s gpm
- Step 3: 28 min, 800s gpm
- Step 4: 13 min, 900s gpm
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The drawdown value recorded on the Aquifer Test Data form is 786.9; however, based on all other measurements recorded during the test, this seems unlikely. I assumed that a zero was left out and changed the value in the table accordingly.
WELL ID: 5938-04B

INPUT

Construction:
- Casing dia. (d_c) 16 Inch
- Annulus dia. (d_w) 16 Inch
- Screen Length (L) 76 Feet

 Depths to:
- Water level (DTW) 784.32 Feet
- Top of Aquifer 784.32 Feet
- Base of Aquifer 861 Feet

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

FLOW RATE: 800 GPM

COMPUTED

Aquifer thickness = 77 Feet
Slope = 0.173988 Feet/log10

Input is consistent.

K = 2100 Feet/Day
T = 160000 Feet²/Day

K = 2100 is greater than likely maximum of 100 for Permeable Basalt

REM ba J:
Cooper-Jacob analysis of single-well aquifer test

Analysis Program: USGS Aquifer Test Analysis Spreadsheets v.1.2, Open File Report 02-197
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Data Retrieval

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Jul 15 1998
End Date:  
Jul 16 1998
Interval:  
Hourly WL
Datum:  
MSL

Data Units:  
+ Feet
- Meters

Time Zone:  
Local (LST/LDT)
GMT
LST

View Plot  View Data  Reset

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Page 1 of 1

 NOAA/NOS/CO-OPS
Verified Water Level vs. Predicted Plot
1615680 Kahului, HI
from 1998/07/15 - 1998/07/16

Date/Time (GMT)

07/15 00:00 07/15 08:00 07/15 16:00 07/16 00:00 07/16 08:00 07/16 16:00 07/17 00:00

Predicted WL — (Obs-Pred) X Observed WL +

### Commission on Water Resource Management

**FROM:** Charley

**DATE:** 19Jul00

**TO:**
- BAUER, G.
- FUJII, N.
- HARDY, R.
- HIGA, D.
- HIRANO, E.
- IMATA, R.
- JINNAI, R.

**INIT.:**
-
- D.
- N.
- L.
- L.
- R.
- R.

**TO:**
- NAKAMA, L.
- NAKANO, D.
- NISHIOKA, L.
- OHYE, M.
- SAKADA, E.
- SUBIA, S.
- YODA, K.

**INIT.:**
- L.
- L.
- L.
- L.
- L.
- L.

**FOR:**
- Approval
- Signature
- Information

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

---

*Right you are, Roy!*

---

"5938-04 ack"

---

*I need to see file - something still exists because database says it accepted already on 5/23/00."
Mr. Robert P. Derks
Maui Land & Pineapple Company, Inc.
1000 Kapalua Drive
Lahaina, Hawaii 96761

Dear Mr. Derks:

Well Abandonment Report, Kapalua Well #3A
Well Completion Report Part 1, Kapalua Well #3B (Well No. 5938-04)

We have completed our review of the captioned well completion report, with the assistance of additional information from Tom Nance. We accept it as complete as of July 11, 2000, in support of an 800 gpm pump.

To date, we have not received an application for pump installation, which we will process promptly as soon as you are ready.

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

Sincerely,

LINNEL T. NISHIOKA
Deputy Director

Cl:ss

c: Mel's Water Works Hawaii, Inc.
STEP-DRAWDOWN ANALYSIS

NAME OF WELL: Kapalua Well 3B Well No. 5938-04
DATE OF TEST: July 10, 1998
DATE OF ANALYSIS: 30-May-00

<table>
<thead>
<tr>
<th>s(ft)</th>
<th>ds (ft)</th>
<th>GPM</th>
<th>s/Q</th>
<th>Regression Output:</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.56</td>
<td>0.56</td>
<td>415</td>
<td>0.0013</td>
<td>Constant = 0.00085</td>
</tr>
<tr>
<td>1.11</td>
<td>0.55</td>
<td>600</td>
<td>0.0019</td>
<td>Std Err of Y Est = 0.000126</td>
</tr>
<tr>
<td>1.61</td>
<td>1.06</td>
<td>815</td>
<td>0.0020</td>
<td>R Squared = 0.909437</td>
</tr>
<tr>
<td>2.01</td>
<td>0.95</td>
<td>936</td>
<td>0.0021</td>
<td>No. of Observations = 4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Degrees of Freedom = 2</td>
</tr>
</tbody>
</table>

Regression Output:

\[ s = b_0 + c Q^2 \]

Regression Line:

\[ s = 0.796 + 1.242 Q^2 \]

Calc. Drawdown = 2.038 ft.

\( b_0 = c Q^2 = 42.84 \) PERCENT OF HEAD LOSS = LAMINAR FLOW

Adjusted drawdown using \( L @ 936 \) gpm

\( s = 0.86 \) ft.

Polubarinova-Kochina Eq.

Adjusted "s" using constant "b"

\[ s = \frac{Q}{K} \frac{1}{2} \frac{L}{r} \frac{1}{2} \pi L s = \]

\( Q = 800 \) gpm

\( Q/s = 842 \) GAL/FT OF DD

Notes: Thickness of aquifer is assumed to be: 205 ft.
COMMISSION ON WATER RESOURCE MANAGEMENT

FROM: LINNE
DATE: MAY 25 2000
SUSPENSE DATE

TO: BAUER, G.
INIT. 
TO: LUM, A.
INIT. 
FOR: Approval
PLEASE: See Me

TO: CHING, F.
INIT. 
TO: NAKAMA, L.
INIT. 
FOR: Signature
PLEASE: Review & Comment

TO: DANBARA, S.
INIT. 
TO: NAKANO, D.
INIT. 
FOR: Information
PLEASE: Take Action

TO: Fujii, N.
INIT. 
TO: NISHIOKA, L.
INIT. 
FOR: Type Draft
PLEASE: Type Final

TO: HARDY, R. 
INIT. 
TO: OHYE, M.
INIT. 
FOR: File
PLEASE: Xerox copies

TO: HIGA, D.
INIT. 
TO: SAKODA, E.
INIT. 
FOR: 
PLEASE: 

TO: HIRANO, E.
INIT. 
TO: SUBIA, S.
INIT. 
FOR: 
PLEASE: 

TO: ICE, C.
INIT. 
TO: SWANSON, S.
INIT. 
FOR: 
PLEASE: 

TO: IMATA, R.
INIT. 
TO: UYENO, D.
INIT. 
FOR: 
PLEASE: 

TO: JINNAI, R.
INIT. 
TO: YODA, K.
INIT. 
FOR: 
PLEASE: 

- If we're o.k., then accept date should be May 25, 2000
- Driller license changed? Formerly 1625A?
<table>
<thead>
<tr>
<th>FROM: LINNEL</th>
<th>DATE: MAY 23 2000</th>
<th>SUSPENSE DATE:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>TO: BAUER, G.</th>
<th>INIT.</th>
<th>TO: LUM, A.</th>
<th>INIT.</th>
<th>FOR: Approval</th>
<th>PLEASE: See Me</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHING, F.</td>
<td></td>
<td>NAKAMA, L.</td>
<td></td>
<td>Signature</td>
<td>Review &amp; Comment</td>
</tr>
<tr>
<td>DANBARA, S.</td>
<td></td>
<td>NAKANO, D.</td>
<td></td>
<td>Information</td>
<td>Take Action</td>
</tr>
<tr>
<td>FUJII, N.</td>
<td></td>
<td>NISHIOKA, L.</td>
<td></td>
<td></td>
<td>Type Draft</td>
</tr>
<tr>
<td>HARDY, R.</td>
<td></td>
<td>OHYE, M.</td>
<td></td>
<td></td>
<td>Type Final</td>
</tr>
<tr>
<td>HIGA, D.</td>
<td></td>
<td>SAKODA, E.</td>
<td></td>
<td></td>
<td>File</td>
</tr>
<tr>
<td>HIRANO, E.</td>
<td></td>
<td>SUBIA, S.</td>
<td></td>
<td></td>
<td>Xerox ___ copies</td>
</tr>
<tr>
<td>ICE, C.</td>
<td></td>
<td>SWANSON, S.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IMATA, R.</td>
<td></td>
<td>UYENO, D.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>JINNAI, R.</td>
<td></td>
<td>YODA, K.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KUNIMURA, I.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Applicant signatures? (Kapalua Land Co.)
* Sealing permit signatures arrived separately Dec. 3, 97
Commission on Water Resource Management
P.O. Box 621
Honolulu, Hawaii 96809
c/o Charlie Ice

Dear Charlie,

Well Completion Report and Abandonment Report
for Kapalua Wells #3A & 3B (State No. 5938-04)

Please find the enclosed reports for the above subject wells with our apologies for their long delay. Please feel free to call me or Tom Nance Water Resource Engineering should you have questions or need further information regarding the construction of these wells.

Aloha,

Tracy Runnells for Mels Water Works

cc: Kapalua Land Company
    Tom Nance
State of Hawaii
COMMISSION ON WATER RESOURCE MANAGEMENT
Department of Land and Natural Resources

WELL COMPLETION REPORT

(Check Appropriate Box)  ☑ Well Construction  ☐ (Permanent) Pump Installation

Instructions: Please print or type and submit completed report within 30 days after well completion to the Commission on Water Resource Management, P.O. Box 621, Honolulu, Hawaii 96829. An as-built drawing of the well and chemical analysis should also be submitted. For assistance call the Commission Regulation Branch at 587-0229, or 1-800-488-4844 Extension 70228.

1. State Well No.: 5938-04  B Well Name: Kapalua Well No.3B  Island: Maui
2. Location/Address: Above Pineapple fields at Kapalua  Tax Map Key: 4-2-01:1

PART I.

WELL CONSTRUCTION REPORT

4. Name of driller who performed work: Dave McAllister, Hal Fenton
5. Type of rig/construction: 36L BUCYRUS ERIE Cable Tool Rig
6. Date(s) Well Construction and pump tests (if any) completed: 7/16/98 Pump Tested
7. GROUND ELEVATION (referenced to mean sea level, msl): +787.5 ft.
   Well Bench Mark (description/location): Top of 16" casing  Elevation(msl): +789.08
8. DRILLER'S LOG: Please attach geologic log (If available or if required by permit)

Depth (ft.)  Rock Description, Water Level, Dates, etc.  Depth (ft.)  Rock Description, Water Level, Dates, etc.

9. Total depth of well below ground: _______ ft.
10. Hole size: 24" inch dia. from 0' to 859' ft. below ground.
    R.P.

11. Casing installed: 15.25 in. I.D. x 375 in. well solid section to 782.3 ft. below ground
    16 in. I.D. x 312 in. wall perforated section to 833.9 ft. below ground
    Casing Material/Slot Size: Steel 1/4 in. fullo louver

12. Annulus:
    Grouted from 0 ft. below ground to 780 ft. below ground
    Gravel packed from NA ft. below ground to NA ft. below ground

13. Initial water level: 784.32 ft. below ground.
14. Initial chloride: 81 ppm
15. Initial temperature: 66.8°F
16. PUMPING TESTS: Reference Point (R.P.) used: Top sound tube, which elevation is 788.5 ft.
   (1) Step-Drawdown Test Date 7/10/98:  Start water level 784.32 ft. below R.P.
   End water level 784.45 ft. below R.P.
   (2) Long-term Aquifer Test Date 7/14/98 1330hrs.
   Start water level 784.32 ft. below R.P.
   End water level 784.35 ft. below R.P.
17. Aquifer Pump Test Procedures data & graphs (1998 LTAF Form) attached? XXYes  No
18. As-built drawings attached? XXYes  No
19. Other remarks/comments: (On back of this form)

Well Drilling Contractor (print) Mels Water Works  C-57 Lic. No. C-17980
Signature  [Signature]
Date  5-20-2000

Surveyor (print) Ken T. Nomura  Lic. No. LS-7633
Signature  [Signature]
Date  Oct. 21, 1998

Applicant (print) Kapalua Land Company  [Signature]
Date  May 25, 2000
WELL COMPLETION REPORT

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

WELL COMPLETION REPORT

1. State Well No.: 5938-04  P  Well Name: Kapalua Well No.3B  Island: Maui
2. Location/Address: Above Pineapple fields at Kapalua. Tax Map Key: 4-2-01:1

PART I.

WELL CONSTRUCTION REPORT

4. Name of driller who performed work: Dave McAllister, Hal Fenton
5. Type of rig/construction: 36L BUCYRUS ERIE Cable Tool Rig
6. Date(s) Well Construction and pump tests (if any) completed: 7/16/98  Pump Tested
7. GROUND ELEVATION (referenced to mean sea level, msl): +787.5 ft.
   Well Bench Mark (description/location): Top of 16" casing Elevation(msl): +789.08
8. DRILLER’S LOG: Please attach geologic log (If available or if required by permit)

   Depth (ft.)  Rock Description, Water Level, Dates, etc.  Depth (ft.)  Rock Description, Water Level, Dates, etc.

9. Total depth of well below ground: 859 ft.
10. Hole size: 24" inch dia. from 0' to 859' ft. below ground

11. Casing installed: 15.25 in. I.D. x .375 in. wall solid section to 783.3 ft. below ground
    16 in. I.D. x .312 in. wall perforated section to 833.9 ft. below ground
    Casing Material/Slot Size: Steel 1/4 in. fulflo louver

12. Annulus:
    Grouted from 0 ft. below ground to 780 ft. below ground
    Gravel packed from NA ft. below ground to NA ft. below ground

13. Initial water level: 784.32 ft. below ground.  Date and time of measurement: 7/14/98 1330hrs.
15. Initial temperature: 66.8 °F  Date and time of measurement: 7/14/98 1330hrs.
16. PUMPING TESTS: Reference Point (R.P.) used: Top sound tube, which elevation is 788.5 ft.
    (1) Step-Drawdown Test Date 7/10/98
    Start water level 784.32 ft. below R.P.
    End water level 784.45 ft. below R.P.
    (2) Long-term Aquifer Test Date 7/14/16 1998
    Start water level 784.32 ft. below R.P.
    End water level 784.35 ft. below R.P.

17. Aquifer Pump Test Procedures data & graphs (1/99 LTAT Form) attached? X Yes  No
18. As-built drawings attached? X Yes  No
19. Other remarks/comments: (On back of this form)

Well Drilling Contractor (print) Mels Water Works  C-57 Lic. No. C-17980
Signature  Date  
Surveyor (print) Ken T. Nomura  Lic. No. LS-7633
Signature  Date
Applicant (print) Kapalua Land Company
Signature
### Driller's Logs, Kapalua Well 3B

**Driller, David L. McAllister**

<table>
<thead>
<tr>
<th>Date</th>
<th>Feet</th>
<th>Rock Description &amp; Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>08/16/97</td>
<td>0 to 9</td>
<td>top soil, mixed gray</td>
</tr>
<tr>
<td>08/23/97</td>
<td>9 to 36</td>
<td>mixed formation</td>
</tr>
<tr>
<td>08/26/97</td>
<td>36 to 37</td>
<td>mixed formation</td>
</tr>
<tr>
<td>08/26/97</td>
<td>37 to 42</td>
<td>hard formation, blue to gray</td>
</tr>
<tr>
<td>08/26/97</td>
<td>42 to 49</td>
<td>mix materials</td>
</tr>
<tr>
<td>08/26/97</td>
<td>49 to 70</td>
<td>firm formation, red in color</td>
</tr>
<tr>
<td>08/27/97</td>
<td>70 to 85</td>
<td>firm formation</td>
</tr>
<tr>
<td>08/27/97</td>
<td>85 to 89</td>
<td>blue rock</td>
</tr>
<tr>
<td>08/27/97</td>
<td>89 to 100</td>
<td>firm formation</td>
</tr>
<tr>
<td>08/27/97</td>
<td>100 to 114</td>
<td>mixed gray</td>
</tr>
<tr>
<td>08/28/97</td>
<td>114 to 133</td>
<td>soft mixed materials</td>
</tr>
<tr>
<td>08/28/97</td>
<td>133 to 137</td>
<td>blue rock</td>
</tr>
<tr>
<td>08/28/97</td>
<td>137 to 150</td>
<td>hard to firm with soft streaks</td>
</tr>
<tr>
<td>09/02/97</td>
<td>150 to 155</td>
<td>mixed blue &amp; gray</td>
</tr>
<tr>
<td>09/02/97</td>
<td>155 to 160</td>
<td>hard to firm, mixed formation</td>
</tr>
<tr>
<td>09/02/97</td>
<td>160 to 162</td>
<td>hard blue rock</td>
</tr>
<tr>
<td>09/03/97</td>
<td>162 to 175</td>
<td>hard blue rock with black mix in</td>
</tr>
<tr>
<td>09/04/97</td>
<td>175 to 178</td>
<td>hard blue rock, trying to drift</td>
</tr>
<tr>
<td>09/05/97</td>
<td>178 to 182</td>
<td>hard blue rock</td>
</tr>
<tr>
<td>09/05/97</td>
<td>182 to 187</td>
<td>cender caving</td>
</tr>
<tr>
<td>09/05/97</td>
<td>187 to 192</td>
<td>broken lava &amp; blue rock</td>
</tr>
<tr>
<td>09/05/97</td>
<td>192 to 200</td>
<td>broken lava &amp; cender</td>
</tr>
<tr>
<td>09/05/97</td>
<td>200 to 204</td>
<td>hard blue rock</td>
</tr>
<tr>
<td>09/05/97</td>
<td>204 to 215</td>
<td>broken lava black with red</td>
</tr>
<tr>
<td>09/05/97</td>
<td>215 to 218</td>
<td>firm blue rocks, gray &amp; black</td>
</tr>
<tr>
<td>09/08/97</td>
<td>218 to 220</td>
<td>hard blue rock</td>
</tr>
<tr>
<td>09/08/97</td>
<td>220 to 225</td>
<td>lost cuttings, hole trying to cave, boulders</td>
</tr>
<tr>
<td>09/09/97</td>
<td>225 to 228</td>
<td>hard drilling</td>
</tr>
<tr>
<td>09/12/97</td>
<td>228 to 235</td>
<td>hard blue rock</td>
</tr>
<tr>
<td>09/13/97</td>
<td>235 to 238</td>
<td>broken lava</td>
</tr>
<tr>
<td>09/13/97</td>
<td>238 to 242</td>
<td>hard blue rock</td>
</tr>
<tr>
<td>09/15/97</td>
<td>242 to 245</td>
<td>hard blue rock</td>
</tr>
<tr>
<td>09/15/97</td>
<td>145 to 251</td>
<td>broken lava &amp; cender</td>
</tr>
<tr>
<td>09/16/97</td>
<td>251 to 255</td>
<td>hard blue rock</td>
</tr>
<tr>
<td>09/16/97</td>
<td>255 to 272</td>
<td>broken lava</td>
</tr>
<tr>
<td>09/19/97</td>
<td>272 to 278</td>
<td>hard blue rock with gray</td>
</tr>
<tr>
<td>09/22/97</td>
<td>278 to 282</td>
<td>hard blue rock</td>
</tr>
<tr>
<td>09/22/97</td>
<td>282 to 289</td>
<td>broken lava tring to cave</td>
</tr>
<tr>
<td>09/22/97</td>
<td>289 to 295</td>
<td>black lava, firm pahoehoe</td>
</tr>
<tr>
<td>09/23/97</td>
<td>295 to 296</td>
<td>black lava firm</td>
</tr>
<tr>
<td>09/23/97</td>
<td>296 to 305</td>
<td>lost cutting</td>
</tr>
<tr>
<td>09/24/97</td>
<td>305 to 312</td>
<td>broken lava with hard streaks</td>
</tr>
<tr>
<td>09/24/97</td>
<td>312 to 315</td>
<td>hard blue rock with basalt</td>
</tr>
<tr>
<td>09/24/97</td>
<td>315 to 320</td>
<td>hard blue rock, basalt</td>
</tr>
</tbody>
</table>
Drillers Logs, Kapalua Well 3B

Driller, Thomas James

<table>
<thead>
<tr>
<th>Date</th>
<th>Feet</th>
<th>Rock Description &amp; Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>10/22-97</td>
<td>320 to 324</td>
<td>drilling on steel</td>
</tr>
<tr>
<td>10/29/97</td>
<td>324 to 330</td>
<td>basalt, broken black lava</td>
</tr>
<tr>
<td>10/31-97</td>
<td>330 to 335</td>
<td>basalt black</td>
</tr>
<tr>
<td>11/02/97</td>
<td>335 to 339</td>
<td>hard black basalt</td>
</tr>
<tr>
<td>11/03/97</td>
<td>339 to 347</td>
<td>hard black basalt</td>
</tr>
<tr>
<td>11/04/97</td>
<td>347 to 360</td>
<td>broken basalt, lose formation</td>
</tr>
<tr>
<td>11/05/97</td>
<td>360 to 371</td>
<td>broken basalt</td>
</tr>
<tr>
<td>11/06/97</td>
<td>371 to 382</td>
<td>black broken basalt</td>
</tr>
<tr>
<td>11/07/97</td>
<td>382 to 389</td>
<td>black &amp; red basalt, firm</td>
</tr>
<tr>
<td>11/08/97</td>
<td>389 to 400</td>
<td>black &amp; red basalt</td>
</tr>
<tr>
<td>11/09/97</td>
<td>400 to 409</td>
<td>black &amp; red basalt</td>
</tr>
<tr>
<td>11/10/97</td>
<td>409 to 420</td>
<td>black &amp; red basalt</td>
</tr>
<tr>
<td>11/14/97</td>
<td>420 to 422</td>
<td>basalt</td>
</tr>
<tr>
<td>11/15/97</td>
<td>422 to 428</td>
<td>hard blue rock</td>
</tr>
<tr>
<td>11/22/97</td>
<td>428 to 432</td>
<td>hard blue rock</td>
</tr>
<tr>
<td>11/18/97</td>
<td>432 to 445</td>
<td>hard blue rock</td>
</tr>
<tr>
<td>11/20/97</td>
<td>445 to 458</td>
<td>red &amp; black basalt</td>
</tr>
<tr>
<td>11/21/97</td>
<td>458 to 467</td>
<td>black basalt &amp; blue rock</td>
</tr>
<tr>
<td>11/22/97</td>
<td>467 to 476</td>
<td>blue rock &amp; black basalt</td>
</tr>
<tr>
<td>11/23/97</td>
<td>476 to 486</td>
<td>red &amp; black basalt</td>
</tr>
<tr>
<td>11/24/97</td>
<td>486 to 494</td>
<td>black &amp; re basalt, sand &amp; broken basalt</td>
</tr>
<tr>
<td>11/25/97</td>
<td>494 to 498</td>
<td>hole caving, lose formation</td>
</tr>
<tr>
<td>11/26/97</td>
<td>498 to 505</td>
<td>sand &amp; black basalt</td>
</tr>
<tr>
<td>11/29/97</td>
<td>505 to 512</td>
<td>rubble zone</td>
</tr>
<tr>
<td>12/03/97</td>
<td>512 to 525</td>
<td>broken basalt</td>
</tr>
<tr>
<td>12/02/97</td>
<td>525 to 537</td>
<td>broken basalt &amp; sand</td>
</tr>
<tr>
<td>12/03/97</td>
<td>537 to 542</td>
<td>broken basalt</td>
</tr>
<tr>
<td>12/04/97</td>
<td>542 to 547</td>
<td>basalt</td>
</tr>
<tr>
<td>12/05/97</td>
<td>547 to 557</td>
<td>sand &amp; basalt</td>
</tr>
<tr>
<td>12/06/97</td>
<td>557 to 561</td>
<td>basalt</td>
</tr>
<tr>
<td>12/07/97</td>
<td>561 to 566</td>
<td>broken basalt</td>
</tr>
<tr>
<td>12/08/97</td>
<td>566 to 574</td>
<td>broken basalt</td>
</tr>
<tr>
<td>12/12/97</td>
<td>574 to 585</td>
<td>broken basalt, black</td>
</tr>
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<td>12/13/97</td>
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Driller's logs, Kapalua Well 3B

Driller, Harold Fenton

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Kapalua Well No. 3-B (State No. 5928-04) Maui
As Built

Elev.+789.08 feet MSL

Existing Gnd.

Cement Grouted Annulus 780 ft.

15.25 in. I.D. .375 in. wall
steel blank casing 783 ft.

859'
Total Depth

Metal Petal Cement Baskets (2)

Water Level 783' below gnd.
approx.+5' msl

16" I.D. .312 in. wall
steel louvered casing
1/4" slots ful-flo® 50 ft

16" X 12" X 1" steel drive shoe

Open Annulus

Total Casing 833
SURVEYOR'S CERTIFICATION

I hereby certify, to the best of my knowledge and ability, based on a field bench level survey, that the top of well casing for the new well (KAPALUA 3-B) located on Parcel 1 of Tax Map Key: (2)4-2-01 is 789.08 feet Mean Sea Level.

A&B PROPERTIES, INC.
33 Lono Avenue, Suite 400
Kahului, Maui, Hawaii 96732

Ken T. Nomura
Licensed Professional Land Surveyor
Certificate No. LS-7633
Table 1
Water Quality Results During Pump Testing of Kapalua Well No. 3

Step-Drawdown Test Samples

<table>
<thead>
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<th>Date</th>
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<th>Conductivity (μmhos)</th>
<th>Chlorides (MG/L)</th>
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Constant Rate Test Samples

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FIGURE 1
KAPALUA WELL NO. 3
STEP TEST OF JULY 10, 1998

WATER LEVEL (ASSUMED FEET MSL)

START-UP

STATIC

415 GPM

600 GPM

815 GPM

920-925 GPM

RECOVERY

HOUR OF THE DAY
FIGURE 2
KAPALUA WELL NO. 3
STEP TEST OF JULY 10, 1998

FLOW RATE (GPM)

DRAWDOWN (FEET)

DATA POINTS — FITTED CURVE
FIGURE 4
KAPALUA WELL 3 CONSTANT RATE PUMP TEST
JULY 15 TO 16, 1998

DRAWDOWN (FEET)

MINUTES

DRAWDOWN  RECOVERY
## Table 1

### AQUIFER TEST DATA

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**Pumped well no.:** 3B Static 784.32

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**Average Q:** __________ gpm  
**Distance between Observation & Pumped Well:** __________ ft.
### AQUIFER TEST DATA

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<td></td>
</tr>
</tbody>
</table>

**County:** MAUI  
**Location:** KA'ALA'UA  
**Observation well no.:**  
**Pumped well no.:** 3B  
**Average Q:** gpm  
**Distance between Observation & Pumped Well:** ft.
### AQUIFER TEST DATA

<table>
<thead>
<tr>
<th>Date</th>
<th>Hour</th>
<th>t (min)</th>
<th>Depth to water (ft)</th>
<th>s (unadjusted) (ft)</th>
<th>Adjustment (ft)</th>
<th>Q (gpm)</th>
<th>Cl</th>
<th>Temp. °F or °C</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:10</td>
<td>1:40</td>
<td>784.45</td>
<td></td>
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<td>1:45</td>
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<td></td>
<td></td>
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<tr>
<td>11:50</td>
<td>784.20</td>
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<tr>
<td>1:55</td>
<td>784.20</td>
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<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2:00</td>
<td>784.35</td>
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</tbody>
</table>
### Table 1 (SDPTD Form 12/7/97)

**Step-Drawdown Pump Test Data**

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

<table>
<thead>
<tr>
<th>Pumped Well No.</th>
<th>5938-04</th>
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</thead>
<tbody>
<tr>
<td>Pumped Well Name</td>
<td>Kapaleo No. 38</td>
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<tr>
<td>Target Q</td>
<td>750 gpm</td>
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</tbody>
</table>

**Observation well no.**

| Distance between Obs. & Pumped Well ft. |

| Reference pt. for depth to water ft. msl |

| Static Water Level at start of test ft. msl |

**Water level measurements by:**

- [x] steel tape
- [x] pressure transducer
- [ ] airline

**START TEST Date:** 7/10/98  
**Time of day:** 1330h  
**Flow Meter Reading Start:** ? gals

<table>
<thead>
<tr>
<th>Time (h)</th>
<th>Level (ft. msl)</th>
<th>Pressure (psi)</th>
<th>Flow (gpm)</th>
<th>Recovery (gpm)</th>
<th>Comments</th>
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<td>45</td>
<td></td>
<td></td>
<td>0</td>
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<tr>
<td>30</td>
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<td>-15</td>
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<tr>
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<td>Chloride sample taken</td>
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<td>20</td>
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<td></td>
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<td>Step 2 begin?</td>
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</table>

**Recovery:**

- 83% 784.48
- 93% 784.45
State of Hawaii
COMMISSION ON WATER RESOURCE MANAGEMENT
Department of Land and Natural Resources

WELL ABANDONMENT REPORT

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 921, Honolulu, Hawaii 96820. The Commission may not accept incomplete reports. This form shall be submitted within 90 days of the completion of work. For assistance, please contact the Hawaii Well Construction and Pump Installation Standards or call the Regulatory Branch at 808-586-0226. For further information and updates to this application form, visit http://www.state.hi.us/dlnr/water.

1. State Well No. 5938-04A  
   Well Name: Kapalua No. 3A

2. Location / Address: Kapalua Mauka Lahaina Island Maui  
   TMK 4-2-01:1

3. Contractor: Mels Water Works HI Inc.  
   Name of driller who performed work: Hal Fenton

4. Type of Rig / Construction: Air Rotary  
   Date of well sealing completion: 6/15/98

Finished Grade Elevation: 786 ft.

Casing Diameter: 24" in.

Removed

Check Material Used

Grout Seal:  
- [ ] Cement
- [x] Sand/Cement Ratio 1/1

Total Measured Depth: 314 ft.

Measured Depth of Blank Casing: NA ft.

Measured Depth of Perforated Casing: NA ft.

Measured Depth of Open Hole: NA ft.

Remarks: Pilot Bore was drilled 12" to 860', then reamed to 314' 24" dia.

Reaming filled hole to 314' and the loss of tools unretrievable after 30 days fishing and more steel lost in the attempt. The well was cement grouted 1:1 ratio from 314' to ground surface.

Well Abandonment

Contractor (print): Mels Water Works Hawaii Inc.  
C-67 Lic. No.: C-17980

Signature: [Signature]
Date: 5-20-2000

Applicant (print): Kapalua Land Company

Signature: [Signature]
Date: [Date]

WAR Form 12/99
Pilot Bore was drilled 12" to 860', then reamed to 314' 24" dia. Reaming filled hole to 314' and the loss of tools unretrievable after 30 days fishing and more steel lost in the attempt. The well was cement grouted 1:1 ratio from 314' to ground surface.
FAX: Transmitting 14 pages, including this one; call 587-0251 with any reception problems.

TO: Tracy Runnels

FROM: Charlie Ice

DATE: 08 May 00

FYI - the last communication was from Dec 97 concerning extension of their permit. Nothing since to record any results of drilling, sealing, etc. They are in violation of the Water Code. We've toned up our process a lot since then, and would be happy to get the information without issuing fines, but you can let them know the vultures are circling.

Enclosed are the 2 Pump Test Report forms & the Well Completion Report form. We also need as-built drawings, surveyed elevations and plot plan, as in Permit.
**COMMISSION ON WATER RESOURCE MANAGEMENT**

**FROM:** Charley

**DATE:**

**SUSPENSE DATE:**

<table>
<thead>
<tr>
<th>TO</th>
<th>INIT.</th>
<th>TO</th>
<th>INIT.</th>
<th>FOR</th>
<th>PLEASE</th>
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<td>BAUER, G.</td>
<td></td>
<td>NAKAMA, L.</td>
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<td>Approval</td>
<td>See Me</td>
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<tr>
<td>FUJII, N.</td>
<td></td>
<td>NAKANO, D.</td>
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<td>Signature</td>
<td>Review &amp; Comment</td>
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<td>HARDY, R.</td>
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<td>NISHIOKA, L</td>
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<td>Information</td>
<td>Take Action</td>
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<td>HIGA, D.</td>
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<td>OHYE, M.</td>
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<td></td>
<td>YODA, K.</td>
<td></td>
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</tr>
</tbody>
</table>

**WAS THIS A "Both" application? Database says only well.**

**Surface water impacted? Need to answer.**
Dear Mr. Derks:

Pump Installation Permit
Kapalua Well #3B (Well No. 5938-04)

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

**Special Conditions**

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

The permittee, 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.

If you have any questions, please call the Commission staff at 587-0274 or toll-free at 984-2400 (or 1-800-468-4644) extension 70214.

Aloha,

TIMOTHY E. JOHNS
Chairperson

Cl:ss
Enclosures
c: Mel's Water Works Hawaii, Inc.

Mel's Water Works
637 Kaina Way
Kailua 96734
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 Kapalua Well #3 (Well No. 5938-04) at Kapalua, Lahaina, Maui, TMK 4-2-1:1, 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, and 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 800 gpm 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 is notified and by this provision understands that the quantity of water taken from the well could be reduced by the Commission in the future. This permit is not a commitment that the pump capacity permitted here or even some lesser amount is guaranteed in the future.
5. The permittee, 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; non-compliance may be grounds for revocation of this permit.
7. The pump installation permit application is incorporated into this permit by reference and is subject to the Hawaii Well Construction & Pump Installation Standards (1/23/97). 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 notice of the proposed action and an opportunity to be heard.
9. If the well is not to be used it must be properly capped. If the well is to be abandoned then the permittee must apply for a well abandonment permit in accordance with §13-168-12(f) prior to any well sealing or plugging work.
10. The permittee, its successors, and assigns shall indemnify, defend, and hold the State of Hawaii harmless from and against any loss, 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: July 11, 2000
Expiration Date: July 11, 2002

TIMOTHY E. JOHNS, 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 with the permit date of approval.

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

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

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

Attachments
C: USGS
Department of Health/ Safe Drinking Water & Wastewater Branches
Maui Department of Water Supply
1. State Well No.: 5938-04 Well Name: Kapalua Well #3B Island: Maui
2. Address: Kapalua, Lahaina
   Tax Map Key: 4-2-1:1
3. Drilling Company: ________________________________
4. If drilled, type of Rig:  □ Rotary  □ Percussion
5. Date Well Construction (drilled, cased, grouted) completed: ____________ month/day/year
   Attach Driller's Log (7/26/99 DL Form)
   In addition to the driller's log, if a geologic log was prepared, please submit with this form.
6. Initial water-level encountered ______ ft. below ground Date and time of measurement: ____________ month/day/year time
7. Step-Drawdown Test completed?  □ No  □ Yes Attach Step-Drawdown Test form (12/17/97 SDPTD Form)
8. Constant Rate Aquifer Test completed?  □ No  □ Yes Attach Constant Rate Aquifer Test form (12/17/97 CRPTD Form)
   Parameters prior to pump test:
9. Water-level: ______________ ft. above msl Date and time of measurement: ____________ month/day/year time
10. Chloride: __________ ppm Date and time of sampling: ____________ month/day/year time
11. Temperature: __________ °F Date and time of measurement: ____________ month/day/year time
12. Fill in the as-built section on the other side of this sheet.
13. Attach plot plan and surveyor's stamped elevation report.
14. 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.)
15. Remarks:
   ________________________________________________________________
   ________________________________________________________________
   ________________________________________________________________

Licensed Driller (print) __________________________ C-57 Lic. No. __________
Signature __________________________ Date __________

Surveyor (print) __________________________ L.P.L.S. Lic. No. __________
   please attach stamped report
Signature __________________________ Date __________

Permittee (print) __________________________
Signature __________________________ Date __________
Dear Mr. Derks:

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

**Special Conditions**

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

The permittee, 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.

If you have any questions, please call the Commission staff at 587-0274 or toll-free at 984-2400 (or 1-800-468-4644) extension 70214.

Aloha,

TIMOTHY E. JOHNS
Chairperson

Cl: ss
Enclosures
C: Mel's Water Works Hawaii, Inc.
PUMP INSTALLATION PERMIT
Kapalua Well #7, Well No. 5938-04

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 Kapalua Well #3 (Well No. 5938-04) at Kapalua, Lahaina, Maui, TMK 4-2-1:1, 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, 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 800 gpm 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 in stream flow standards. This permit or the authorization to pump water from a well shall not constitute a determination of correlative water rights. The permittee is notified and by this provision understands that the quantity of water taken from the well could be reduced by the Commission in the future. This permit is not a commitment that the pump capacity permitted here or even some lesser amount is guaranteed in the future.

5. The permittee, 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; non-compliance may be grounds for revocation of this permit.

7. The pump installation permit application is incorporated into this permit by reference and is subject to the Hawaii Well Construction & Pump Installation Standards (1/23/97). 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 notice of the proposed action and an opportunity to be heard.

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

10. 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: July 11, 2000
Expiration Date: July 11, 2002

TIMOTHY E. JOHNS, 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 with the permit date of approval.

Permittee's Signature: ____________________________ Date: ____________________________

Printed Name: ____________________________ Firm or Title: ____________________________

Installer's Signature: ____________________________ License #: __________ Date: __________

Printed Name: ____________________________ Firm or Title: ____________________________

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

Attachments

1. USGS
Department of Health/ Safe Drinking Water & Wastewater Branches
Maui Department of Water Supply
1. State Well No.: 5938-04  
   Well Name: Kapalua Well #30  
   Island: Maui

2. Address: Kapalua, Lahaina  
   Tax Map Key: 4-2-1:1

3. Pump Installation Company: ______________

4. Date Pump Installed: ______________
   month/day/year

5. PERMANENT PUMP INFORMATION
   Pump Type, Make, Serial No.: ___________________________  Rated Capacity: _______ gpm
   Motor Type, H.P., Voltage, rpm: ___________________________
   Type of flow meter: ___________________________ which measures in ___________________________

6. Method of flow measurement:
   - Flowmeter  
     Manufacturer _________ Make _____________ 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. Other remarks/comments:
   ______________________________________________________
   ______________________________________________________
   ______________________________________________________
   ______________________________________________________
   ______________________________________________________
   ______________________________________________________
   ______________________________________________________

Pump Installation Contractor (print) ________________  
   C-57/C-57a/A Lic. No. ________________
   Signature ________________________________  
   Date ________________________________

Permittee (print) ________________
   Signature ________________________________  
   Date ________________________________

WCR2 Form 5/2/00
Bench mark
elevation surveyed
to nearest 0.01 ft. =
______ ft. mean
sea level

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

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

if airline installed, bottom of airline
elevation =
______ ft. mean sea level
Alternative way for determining T from step-drawdown data (Mink, per. comm)

\[ Q = \text{ft}^3/\text{d} \]

\[ Q_1 (\text{gpm}) = 936 = 180180 \text{ ft}^3/\text{d} \]

\[ s = \text{ft} \]

\[ Q_2 (\text{gpm}) = 600 = 115500 \text{ ft}^3/\text{d} \]

Set up two equations:

\[ s_1 = jQ_1 + nQ_1^2 \]

\[ s_2 = jQ_2 + nQ_2^2 \]

\[ Q_2 = 115500 \quad s_2 = 1.11 \]

\[ Q_1 = 180180 \quad s_1 = 2.01 \]

Well Depth below sea level = 76 ft

Radius of well (ft) = \( 1 = r \)

\[ n = s_1 - (Q_1/Q_2)s_2/Q_1(Q_1-Q_2) = 2.4E-11 \]

\[ j = s/Q - nQ = 6.9E-06 \]

Laminar flow equation:

\[ s = jQ = 1.234457 \quad 61.42\% \text{ Head loss due to laminar flow} \]

Thiem Eq.

\[ T = 1/2pj(ln(re/r)) \]

\[ re = \text{Well Depth BSL} \times 1.6 = 121.6 \]

Therefore:

\[ T = 1/2pj(ln(re/r)) = 111522 \text{ ft}^2/\text{d} \]
### WCR 1 Check for Well No. 5938-04

#### 1. Pump Tests Check

<table>
<thead>
<tr>
<th>Step-Drawdown Test:</th>
<th>Yes</th>
<th>No</th>
<th>If no, describe deficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>acceptable</td>
<td>☑</td>
<td>☐</td>
<td></td>
</tr>
<tr>
<td>followed WCPI Stds</td>
<td>☐</td>
<td>☑</td>
<td></td>
</tr>
<tr>
<td>analysis attached</td>
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<tr>
<td>proposed pump cap o.k.</td>
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<tr>
<td>T &amp; S analysis attached</td>
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<td>estimated Steady-State</td>
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<td></td>
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<tr>
<td>drawdown at 1-mile radius is</td>
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#### 2. Construction Check

<table>
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---

*Note: The document contains handwritten notes and abbreviations.*
THEIS DRAWDOWN CALCULATION

by Glenn Bauer & Roy Hardy with numerical approximations by Huntoon (1980)

FILE NAME = Kapalua Well 3B Well No. 5938-04
TEST NAME = Long-Term Test (T calculated from step-drawdown test)
DATE = July 14-16, 1998

INPUT PARAMETERS

GREEN VALUES

Transmissivity  
Storage Coeff.  
Time  
Pumping Rate

Aquifer thickness  
Hydraulic Conductivity  
Pumping rate

Radial distance
from well r ft.

Drawdown s
W(u) ft.

<table>
<thead>
<tr>
<th>Radial distance from well r ft.</th>
<th>Drawdown s W(u) ft.</th>
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</thead>
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<tr>
<td>1</td>
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OBSERVATION WELL

Radial distance r from pumping well 5280 ft.

Time, t (days, years)  
Drawdown s W(u) ft.

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<td>100,000</td>
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Theoretical drawdown a mile (5,280 ft) from the pumping well when u<= 0.01

\[
T = 398855 \text{ ft}^2/\text{d} \\
\text{Sp. yield} = 0.2 \\
t = 365 \text{ days} \\
s = 0.125 \text{ ft.}
\]
Mr. Michael D. Wilson - Chairperson  
Commission on Water Resource Management  
Department of Land and Natural Resources  
State of Hawaii  
P. O. Box 621  
Honolulu, Hawaii 96809

Dear Mr. Wilson:

Well Construction Permits:  
Extension of Construction Permit and Permit to Abandon/Seal,  
Kapalua Wells 3A and 3B (Well No. 5938-04)

Enclosed are executed copies of the above-referenced well construction permits. Drilling of the new well (Well 3B) has progressed to a depth of approximately 500 feet. As soon as the original borehole is sealed (Well 3A), the drilling contractor will file a Well Abandonment Report.

Sincerely,

Tom Nance

cc: Bob Derks - Kapalua Land Company  
Mel Lima - Mel's Water Works

Enclosures
In accordance with Department of Land and Natural Resources, Commission on Water Resource Management's Administrative Rules, Section 13-168, entitled "Water Use, Wells, and Stream Diversion Works", this document permits the construction and testing of Kapalua Well 3B (Well No. 5938-04) at Kapalua Uka, Maui, TMK 4-2-1:1, 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) at 850 Pauahi St, Honolulu, HI 96819, shall be notified in writing before any work authorized by this permit commences.

2. The well construction permit shall be for construction and testing of the well only. A minimum one-inch diameter monitor tube shall be permanently installed, in a manner acceptable to the Chairperson, to accurately record water levels. The permittee shall coordinate with the Chairperson and conduct a pumping test in accordance with the Standards. A request to extend the permit shall be submitted 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 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 shall stop work and contact the Department's Historic Preservation Division 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 shall comply with all applicable laws, rules, and ordinances, and 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 (1/23/97).

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

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

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

Date of Approval: August 22, 1997
Expiration Date: February 14, 1998

I have read the conditions and terms of this permit and understand them. I accept and agree to meet these conditions as a prerequisite and underlying condition of my ability to proceed. I also understand that non-compliance with any permit condition may be grounds for revocation and fines of up to $1000 per day.

Permittee's Signature: [Signature]
Date: 9-11-97

Printed Name: Robert P. Derks
Firm or Title: Vice President

Driller's Signature: [Signature]
License #: C-8254
Date: 11-28-97

Printed Name: Melvin E. Lima
Firm or Title: House Water Works

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
Maui Department of Water Supply
Tom Nance Water Resource Engineering
WELL CONSTRUCTION PERMIT
(To Abandon/Seal)
Kapalua Well 3A, Well No. 5938-04

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 abandonment/sealing of Kapalua Well 3A (Well No. 5938-04) at Kapalua Uka, Maui, TMK 4-2-1, 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 921, Honolulu, HI 96803, shall be notified in writing before any work authorized by this permit commences.

2. The Well Abandonment Report form (attached) shall be submitted to the Commission on Water Resource Management within thirty (30) days after completion of the work.

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

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

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

Date of Approval: August 22, 1997
Expiration Date: February 14, 1998

I have read the conditions and terms of this permit and understand them. I accept and agree to meet these conditions as a prerequisite and underlying condition of my ability to proceed. I also understand that non-compliance with any permit condition may be grounds for revocation and fines of up to $1000 per day.

Permittee’s Signature: ___________________________ Date: __________
Printed Name: Robert P. Derks Firm or Title: Vice President

Driller’s Signature: ___________________________ License #: 18254 Date: 11-28-97
Printed Name: Melvin E. Lima Firm or Title: President

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
Maui Department of Water Supply
Tom Nance Water Resource Engineering
Well Construction Permits:
Extension of Construction Permit and Permit to Abandon/Seal
Kapalua Well 3A & 3B (Well No. 5938-04)

Enclosed are two (2) copies each of your approved Well Construction Permits for the
captioned wells, one a six-months extension of the period for well construction activities for Well 3B
but excluding installation work for your permanent pump, and the other authorizing sealing and
abandoning Well 3A. As part of the Chairperson’s approval, the following special conditions were
added and are part of both permits under Permit Condition 12 of the extended Well Construction
Permit and Condition 5 of the Well Abandonment/Sealing Permit:

Special Conditions

1. The existing Well 3A borehole shall be sealed and a well abandonment report shall be filed in
compliance with the Standards, Sections 3.1 to 3.9 (attached).

2. The permit may be revoked in six (6) months if work is not completed. 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.

The well owner is responsible for all conditions of the permit. This includes ensuring
that the contractor who seals the well submits a completed Well Abandonment Report form
(enclosed) within sixty (60) days after the well sealing work is completed and submits a
completed Part I of the Well Completion Report form (also 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.

To validate your permits, please sign and have the contractor sign both permit originals for
each permit and return one of each for our files. Please provide all the information in this packet
to your well drilling contractor.

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

Aloha,

[Signature]

MICHAEL D. WILSON
Chairperson

Enclosures
WELL CONSTRUCTION PERMIT
(Extension)
Kapalua Well 3B, Well No. 5938-04

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 Kapalua Well 3B (Well No. 5938-04) at Kapalua Uka, Maui, TMK 4-2-1:1, 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 before any work authorized by this permit commences.

2. The well construction permit shall be for construction and testing of the well only. A minimum one-inch diameter monitor tube shall be permanently installed, in a manner acceptable to the Chairperson, to accurately record water levels. The permittee shall coordinate with the Chairperson and conduct a pumping test in accordance with the Standards (a pump testing worksheet is attached). The permittee shall submit to the Chairperson the 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 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 shall stop work and contact the Department’s Historic Preservation Division (987-0045) 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 shall comply with all applicable laws, rules, and ordinances, and 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 (1/23/97).

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

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

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

Date of Approval: August 22, 1997
Expiration Date: February 14, 1998

I have read the conditions and terms of this permit and understand them. I accept and agree to meet these conditions as a prerequisite and underlying condition of my ability to proceed. I also understand that non-compliance with any permit condition may be grounds for revocation and fines of up to $1000 per day.

Permittee’s Signature: ____________________________ Date: ________________

Printed Name: ____________________________ Firm or Title: ____________________________

Driller’s Signature: ____________________________ License #: __________ Date: ________________

Printed Name: ____________________________ Firm or Title: ____________________________

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

Attachment
C: USGS
Department of Health/ Safe Drinking Water, Wastewater, and Clean Water Branches
Maui Department of Water Supply
Tom Nance Water Resource Engineering
WELL CONSTRUCTION PERMIT
(To Abandon/Seal)
Kapalua Well 3A, Well No. 5938-04

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 abandonment/sealing of Kapalua Well 3A (Well No. 5938-04) at Kapalua Uka, Maui, TMK 4-2-1:1, 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 before any work authorized by this permit commences.

2. The Well Abandonment Report form (attached) shall be submitted to the Commission on Water Resource Management within thirty (30) days after completion of the work.

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

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

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

Date of Approval: August 22, 1997
Expiration Date: February 14, 1998

Michael D. Wilson, 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. I also understand that non-compliance with any permit condition may be grounds for revocation and fines of up to $1000 per day.

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

Driller’s Signature: ___________________________ License #: __________ Date: __________
Printed Name: ___________________________ Firm or Title: ___________________________

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

Attachment
C: USGS
Department of Health, Safe Drinking Water, Wastewater, and Clean Water Branches
Mau Department of Water Supply
Tom Nance Water Resource Engineering
Mr. Tom Nance  
Water Resource Engineering  
680 Ala Moana Boulevard, Suite 406  
Honolulu, HI 96813-5411  

Dear Mr. Nance:  

Seal Borehole & Relocate Well  
Kapalua 3 (Well No. 5938-04)  

Thank you for your application to seal the existing borehole and relocate the well 15-20 feet away. Under our rules, these issues can normally be handled by letter and by filing a completed Well Abandonment Report form. However, the permit expired August 14, 1997; condition #10 of the permit indicates that an extension should be requested three months prior to expiration. As these are being requested simultaneously with expiration of the permit, a new application for 3B would normally be required in addition to the application to abandon/seal. In this case, we are proceeding to approve an amended permit (six-month extension), with a warning that normal procedure will be observed in the future.  

Copies of permits to abandon/seal Well 3A and to construct Well 3B, a well abandonment report for 3A, and a well completion report for 3B are enclosed with a copy of the transmittal letter to the permittee, Maui Land and Pineapple. The same well number remains assigned, although we will refer to the completed well as "3B".  

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

Sincerely,

[Signature]

RAE M. LOUI  
Deputy Director  

C:  Bob Derks, Maui Land and Pineapple
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<th>PROJECT PH ACT</th>
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REMARKS:
LINE (1) Well No. 5938-04 (Well Abandonment & Seal)
LINE (2)
LINE (3)
LINE (4)

Pay to the
Order of DEPARTMENT OF LAND AND NATURAL RESOURCES

TENNEY FIVE AND 0/100 DOLLARS

Bank of America
KAHALA BRANCH 5938
4218, Wahake Ave
Bank of America
For STATE NO. 5938-04

JULY 31, 1997
**APPLICATION FOR PERMIT**

**Well Owner Com**

1. **APPLICANT:** (circle primary contact [a, b, or c])
   - **Primary Fax:** 808-669-4013
   - **WELL OWNER:** Maui Land & Pineapple Company, Inc.
     - **Name:** Bob Derks
     - **Contact Person:** Bob Derks
     - **Address:** 1000 Kapalua Drive, Lahaina, Maui, Hawaii 96761
   - **LANDOWNER:** Maui Land & Pineapple Company, Inc.
     - **Name:** Bob Derks
     - **Contact Person:** Bob Derks
     - **Address:** 1000 Kapalua Drive, Lahaina, Maui, Hawaii 96761
   - **CONTRACTOR:** Mel's Water Works Hawaii, Inc.
     - **Name:** Melvin Lima
     - **Contact Person:** Bob Derks
     - **Address:** 637 Kuaaina Way Kailua, Oahu, Hawaii 96734

2. **WELL LOCATION/NAME:** Kapalua Well No. 3 (State No. 5938-04) Island Maui
   - **Address:** Above the pineapple fields at Kapalua
   - **Tax Map Key:** 4-2-011
   - **Attach the relevant portion of (a) a 7.5-Minute Series USGS topographic map (scale 1"=24,000"), and (b) a property tax map, showing well location related to established property boundaries.**

3. **(a) PROPOSED WORK:**
   - **Drill New Well**
   - **Deepen**
   - **Modify Existing Well**
   - **Redrill**
   - **Abandon Seal**
   - **Install New Pump**
   - **Modify Pump**
   - **Replace Pump**
   - **Be sure to complete and submit well abandonment report upon completion of work.**

4. **(b) WELL TYPE:**
   - **Dug**
   - **Bored**
   - **Driven**
   - **Radial**
   - **Is this well a part of a battery of wells?**
     - **Yes**
     - **No**
   - **(Briefly describe and fill in the diagram on the back of this form.)**

5. **PROPOSED PUMP INFORMATION:**
   - **Rated Pump Capacity:** 800 gallons per minute
   - **Pump Type:**
     - **Deep Well Turbine**
     - **Rotary**
     - **Submersible**
     - **Rotary-Displacement**
     - **Reciprocating**
     - **Centrifugal**
     - **Rotary-Gear**
     - **Impulse**
   - **Motor:**
     - **Electric, rated horsepower:** 200

6. **PROPOSED USE:**
   - **Municipal (including hotels, stores, etc.)**
   - **Domestic (individual, noncommercial water sys.)**
   - **Irrigation (crop)**
   - **Military**
   - **Industrial**
   - **# Dwelling Units**
   - **# Acres**
   - **Other:**

7. **PROPOSED AMOUNT OF WITHDRAWAL:**
   - **Source of Supply:**
     - **Back-Up**
   - **Gallons per day**

8. **METHOD OF FLOW MEASUREMENT:**
   - **Flow-meter**
   - **Open-pipe**
   - **Orifice Plate**
   - **Weir**

9. **REMARKS, EXPLANATIONS:**
   - **(On Back)**

---

**For Official Use Only:**

- **Date Received**
- **Date Accepted**
- **Field Checked By**
- **Date**
- **Longitude**
- **Latitude**
- **Aquifer System Name**
- **State Well No.**

3 Jan 97 WCPIA Form
8. Remarks, Explanations (cont'd): The 12-inch pilot hole was completed to a depth of 860 feet. In the process of reaming the hole to 23-inch diameter, the hole opener came apart leaving irretrievable steel in the hole. It was then determined that the borehole did not meet plumbness and alignment requirements. The borehole will be abandoned and a new well drilled 15 to 20 feet away from this hole. Backfilling of the well will be done in accordance with Part 3, WELL ABANDONMENT/SEALING of the Hawaii Well Construction and Pump Installation Standards.

9. PROPOSED WELL SECTION

Elevation at top of casing: 793 ft., msl.

Cement Grout: 770 ft.

Rock Packing: None

Hole Diameter: 23 in.

Total Depth: 860 ft.

Ground Elevation: 790 ft., msl.

Solids Casing:

Material: Steel
Length: 780 ft.
Diameter: 16 (OD) in.
Wall thickness: 0.375 in.

Casing: Perforated Screen

Material: Steel
Length: 50 ft.
Diameter: 16 (OD) in.
Wall thickness: 0.3125 in.
Openings: 80 sq. in./L.F.

Open Hole:
Length: 30 ft.
Diameter: 12 in.

*Approximate elevation at time of filing application. Ground elevation above mean sea level (msl) by a surveyor licensed by the State must be submitted at start of construction. Final elevations of well components shall be submitted in the well completion/well abandonment reports.
Mr. Michael D. Wilson - Chairperson  
Commission on Water Resource Management  
Department of Land and Natural Resources  
State of Hawaii  
P. O. Box 621  
Honolulu, Hawaii  96809

Dear Mr Wilson:

Permit Application to Abandon the Pilot Borehole  
for Kapalua Well No. 3 (State No. 5938-04)

Enclosed please find one original, two copies, and the $25.00 filing fee to abandon and seal the pilot borehole for Kapalua Well No. 3. The borehole does not meet plumbness and alignment specifications, so the drilling contractor will move his rig forward about 15 feet and drill a new borehole. Backfilling and sealing of the original boring will be done in compliance with the Commission's "Hawaii Well Construction and Pump Installation Standards", Part 3. Well Abandonment/Sealing.

If you have any questions or need additional information, please give me a call.

Sincerely,

Tom Nance

Enclosures

cc: Bob Derks, Kapalua Land Company  
    Mel Lima, Mel's Water Works
Mr. Tom Nance  
Tom Nance Water Resource Engineering  
680 Ala Moana Boulevard, Suite 406  
Honolulu, Hawaii 96813  

Dear Mr. Nance:  

Request for Larger Casing  
Kapalua Well 3 (Well No. 5938-04)  

Thank you for your letter of March 17, 1997, requesting a casing size for the captioned well larger than the size permitted. We understand that this will not change the intended pump capacity nor the quantity to be used from the well.  

By this letter, we approve the use of a 16-inch (OD) casing. We draw your attention to the requirements for the well size. The well construction standards approved January 23, 1997 state:  

"The annular space of wells to be grouted must be a minimum of three inches all around the casing to permit effective placement of grout with a tremie pipe having a minimum diameter of 1.25 inches. Should casing with collars be used, the drilled hole shall be increased to provide a minimum three-inch annular space at the collars." (HWCPIS 2.6(d), p.2-13)  

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

Sincerely,  

RAE M. LOUI  
Deputy Director
COMMISSION ON WATER RESOURCE MANAGEMENT

FROM: ___________ DATE: 3/20 ___________ SUSPENSE DATE ___________

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For Kapalua, Hr

Check to ensure all x's align for spacing between casing and hole exists. Need to highlight standard section on this.
Ms. Rae M. Loui - Deputy Director
Commission on Water Resource Management
Department of Land and Natural Resources
State of Hawaii
P. O. Box 621
Honolulu, Hawaii 96809

Dear Ms. Loui:

Kapalua Well No. 3 (State No. 5938-04)

Bidding for the well's construction and pump testing has recently been completed and Mel's Water Works Hawaii, Inc. has been selected to do the work. A Notice to Proceed will be issued in early April and actual field work will commence soon after that.

The well construction permit was issued for 14-inch inside diameter (ID) well casing. Mel's Water Works' bid is based on using 16-inch diameter outside diameter (OD), 15-1/4-inch ID casing which apparently can be obtained at a more favorable price. By this letter, we are asking for your approval of the 16-inch (OD) casing. There will be no change in the intended pump capacity or in the quantity of water that would be drawn from the well. If you have any questions, feel free to give me a call.

Sincerely,

Tom Nance

cc: Bob Derks - Kapalua Land Co. [Fax only]
August 26, 1996

Mr. Michael D. Wilson
Chairperson
Commission On Water Resource Management
Department Of Land And Natural Resources
State of Hawaii
P. O. Box 621
Honolulu, Hawaii 96809

Dear Mr. Wilson:

Subject: Approval of Well Construction Permit Extension
Kapalua Well 3 (Well No. 5938-04)
Kapalua, Maui, Hawaii

Pursuant to your letter of August 21, 1996, enclosed is one (1) signed copy of the subject well construction permit.

Please do not hesitate to contact me if you have any questions or wish to discuss the matter.

Mahalo,

[Signature]

Warren A. Suzuki
Vice President/Land Management

cc: Bob Derks w/ encls.
Denis Toshikiyo w/ encls.
Tom Nance w/ encls.
WELL CONSTRUCTION PERMIT
for
Kapalua Well No. 3
Well No. 5938-04
Kapalua, Maui

TO: Maui Land & Pineapple Company, Inc.
P.O. Box 187
Kahului, HI 96732-0187

In accordance with the Department of Land and Natural Resources Administrative Rules, Section 13-168, entitled "Water Use, Wells, and Stream Diversion Works", your application to construct and test Kapalua Well No. 3 (Well No. 5938-04), is approved subject to the following conditions:

STANDARD WELL CONSTRUCTION PERMIT CONDITIONS

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

2. The well construction permit shall be for construction and testing of the well only. The applicant shall coordinate with the Commission and conduct a pumping test in accordance with the attached aquifer pump test procedures. A one-inch diameter (minimum) pipe shall be permanently installed, in a manner acceptable to the Commission, to accurately record water levels. No permanent pump may be installed and no water used from the well without first obtaining a pump installation permit from the Commission.

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

4. The following shall be submitted to the Commission within thirty (30) days after completion of work:
   a. Well completion report.
   b. Elevation (referenced to mean sea level, msl) survey by a Hawaii-licensed surveyor.
   c. As-built sectional drawing of the well.
   d. Plot plan and map showing the exact location of the well.
   e. Complete pumping test records, including time, pumping rate, drawdown, chloride content, and other water quality data.

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

6. The well construction permit application and staff submittal approved by the Commission at its August 17, 1994 and August 14, 1996 meetings are incorporated into the permit by reference.

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

Approval Date: August 14, 1996
Expiration Date: August 14, 1997

MICHAEL D. WILSON, 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.

Applicant's Signature: ___________________________ Date: __________

Printed Name: Warren A. Suzuki

Firm or Title: Maui Land & Pineapple Company, Inc.

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

cc: USGS
Department of Health
Safe Drinking Water Branch
Wastewater Branch
Maui Department of Water Supply
Mr. Warren A. Suzuki  
Maui Land and Pineapple Company  
P.O. Box 187  
Kahului, Hawaii 96732-0187

Dear Mr. Suzuki:

Approval of Well Construction Permit Extension  
Kapalua Well 3 (Well No. 5938-04)

At its August 14, 1996 regular meeting, the Commission approved your request for a one-year extension of the captioned well construction permit.

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

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

Aloha,

MICHAEL D. WILSON  
Chairperson

Enclosures
WELL CONSTRUCTION PERMIT
for
Kapalua Well No. 3
Well No. 5938-04
Kapalua, Maui

TO: Maui Land & Pineapple Company, Inc.
P.O. Box 187
Kahului, HI 96732-0187

In accordance with the Department of Land and Natural Resources Administrative Rules, Section 13-168, entitled "Water Use, Wells, and Stream Diversion Works", your application to construct and test Kapalua Well No. 3 (Well No. 5938-04), is approved subject to the following conditions:

STANDARD WELL CONSTRUCTION PERMIT CONDITIONS

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

2. The well construction permit shall be for construction and testing of the well only. The applicant shall coordinate with the Commission and conduct a pumping test in accordance with the attached aquifer pump test procedures. A one-inch diameter (minimum) pipe shall be permanently installed, in a manner acceptable to the Commission, to accurately record water levels. No permanent pump may be installed and no water used from the well without first obtaining a pump installation permit from the Commission.

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

4. The following shall be submitted to the Commission within thirty (30) days after completion of work:
   a. Well completion report.
   b. Elevation (referenced to mean sea level, masl) survey by a Hawaii-licensed surveyor.
   c. As-built sectional drawing of the well.
   d. Plot plan and map showing the exact location of the well.
   e. Complete pumping test records, including time, pumping rate, drawdown, chloride content, and other water quality data.

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

6. The well construction permit application and staff submittal approved by the Commission at its August 17, 1994 and August 14, 1996 meetings are incorporated into the permit by reference.

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

Approval Date: August 14, 1996
Expiration Date: August 14, 1997

Michael D. Wilson, 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.

Applicant's Signature: ___________________________ Date: __________________

Printed Name: ___________________________ Firm or Title: ___________________________

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

cc: USGS
    Department of Health
    Safe Drinking Water Branch
    Wastewater Branch
    Maui Department of Water Supply
approval, unless otherwise specified. The permit may be extended by the Commission upon showing of good cause and good-faith performance. A request to extend the permit shall be submitted to the Commission no later than three (3) months prior to the date the permit expires. If the commencement or completion date is not met, the Commission may revoke the permit after giving the permittee notice of the proposed action and an opportunity to be heard.

5. Before proceeding with any work authorized by the Commission, the applicant shall submit one set of construction plans and specifications to determine consistency with the conditions of the permit and the declarations set forth in the permit application.

6. The applicant shall utilize appropriate erosion control measures during construction, and shall perform construction activities only during periods of low stream flow. The applicant shall prevent debris and construction materials, including cement, petroleum products, and other pollutants, from entering the stream. Wash and dust control water shall be properly disposed.
6. MAUI LAND AND PINEAPPLE COMPANY, REQUEST FOR EXTENSION OF WELL PERMIT, KAPALUA WELL 3 (WELL NO. 5938-04); WELL CONSTRUCTION: 14-INCH DIAMETER, 830-FOOT DEEP FOR MUNICIPAL AND AGRICULTURAL USE, HONOKAHUA, LAHAINA, MAUI (TMK 4-2-1:1)

PRESENTATION OF SUBMITTAL: Mr. Charley Ice

STAFF RECOMMENDATION:

That the Commission approve a one-year extension of the well construction permit for Kapalua Well 3, subject to the standard permit conditions in Exhibit 3.

MOTION: (NOBRIGA/GIRALD)

To approve staff's recommendation.

UNANIMOUSLY APPROVED.
Maui Land and Pineapple Company
REQUEST FOR EXTENSION OF WELL PERMIT
Kapalua Well 3 (Well No. 5938-04)
Well Construction: 14-inch diameter, 830-foot deep
for municipal and agricultural use,
TMK 4-2-1:1 Honokahua, Lahaina, Maui

APPLICANT: Maui Land and Pineapple Company
P.O. Box 187
Kahului, Hawaii 96732

LANDOWNER: Same

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

WATER AVAILABILITY:
Honolua Aquifer System of Lahaina Sector. Estimated Sustainable Yield: 8 mgd.
Proposed Use: Standby capacity for future needs. Existing Use: 2.5 mgd.
Anticipated pump capacity: 800 gpm.

BACKGROUND:
August 17, 1994 Commission approved a Well Construction Permit, subject to the standard conditions.

April 18, 1996 Permittee requested an extension of the permit, citing economic conditions that delayed the development schedule, and anticipating construction in 1997.

July 12, 1996 Staff requested additional evidence of efforts to proceed, following guidelines from CWRM action on a permit extension request on August 17, 1994. Such evidence would be the initiation of construction, equipment purchase, site preparation, plan preparation, or rezoning processing.
July 24, 1996  Applicant submitted detailed contract documents prepared in the month following permit approval, which were said to support request for bids from two specified contractors. The applicant indicates that the resort's development schedule and budgetary constraints became relevant at this point.

ISSUES/ANALYSIS:

Agency Review: For the initial review, letters were sent to several government agencies; replies returned no objections.

Staff review: The proposed well would tap fresh basal ground water. Proposed amounts of use are not specified, although most recent reported use is about 1.0 million gpd; proposed use of the well is to provide standby capacity for future needs. There are two other Kapalua Wells and five DWS wells (two Honokahua Wells and three Napili Wells) spaced evenly along this approximately 800 foot contour within one mile. Only three are in production. No adverse impacts are expected.

RECOMMENDATION:

That the Commission approve a one-year extension of the well construction permit for Kapalua Well 3, subject to the standard permit conditions in Exhibit 3.

Respectfully submitted,

RAE M. LOUI
Deputy Director

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

APPROVED FOR SUBMITTAL:

MICHAEL D. WILSON, Chairperson
9. PROPOSED WELL SECTION

Ground Elevation: 790 ft., msl.

Elevation at top of casing
792 ft., msl.

Cement Grout: 770 ft.

Rock Packing: 60 ft.

Hole Diameter: 21 in.

Total Depth: 830 ft.

Solid Casing:
- Material: Steel
- Length: 780 ft.
- Diameter: 14 in.
- Wall thickness: 0.375 in.

Openings: 80 sq. in./LF.

Casing: Perforated Screen
- Material: Steel
- Length: 50 ft.
- Diameter: 14 in.
- Wall thickness: 0.3125 in.
- Openings: 80 sq. in./LF.

Open Hole:
- Length: None
- Diameter: None

EXHIBIT 2
STANDARD WELL CONSTRUCTION PERMIT CONDITIONS

1. The Commission on Water Resource Management (Commission), P.O. Box 621, Honolulu, HI 96809, shall be notified, in writing, at least two (2) weeks before any work by this permit commences.

2. The well construction permit shall be for construction and testing of the well only. A minimum one-inch diameter monitor tube shall be permanently installed, in a manner acceptable to the Commission, to accurately record water levels. The permittee shall coordinate with the Commission and conduct a pumping test in accordance with the attached Aquifer Pump Testing Procedure (Exhibit 5). The permittee shall submit to the Commission the test results as a basis for supporting an application to install a permanent pump and withdraw water for use. No permanent pump may be installed until a pump installation permit is approved and issued by the Commission.

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

4. In the event that subsurface cultural remains such as artifacts, burials or concentrations of shells or charcoal are encountered during construction, the permittee shall stop work and contact the Department's Historic Preservation Division (587-0045) immediately.

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

6. The following shall be submitted to the Commission within thirty (30) days after completion of work:
   a. Well completion report.
   b. Elevation (referenced to mean sea level, msl) survey by a Hawaii-licensed surveyor.
   c. As-built sectional drawing of the well.
   d. Plot plan and map showing the exact location of the well.
   e. Complete pumping test records, including time, pumping rate, drawdown, chloride content, and other water quality data.

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

8. The well construction application and staff submittal approved by the Commission at its August 14, 1996 meeting are incorporated into the permit by reference.

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

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

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

General Recording Requirements

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

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

Step-Drawdown Test

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

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

3. Each pumping rate should be continued for one hour, after which the new rate should be instituted as rapidly as possible.

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

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

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

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

**Long-Term Continuous Test**

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

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

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

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

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

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

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

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

Static Water Level @ start of test ____________ ft. msl

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

START TEST  Date: ____________ Hour of day: ____________

Flow Meter Reading Start: _______ gals

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<th>Actual elapsed time</th>
<th>Depth to water (nearest 0.01 ft)</th>
<th>Drawdown (unadjusted to nearest 0.01 ft)</th>
<th>Pumping rate Q (gpm)</th>
<th>EC (umhos)</th>
<th>CF (mg/l)</th>
<th>Temp. °F or °C</th>
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<td>Flow meter reading at end of pumped period: _______ gals</td>
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Begin recovery data next page.
Flow meter reading at end of pumped period:

_______ gals
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END TEST  Date: ___________  Hour of day: ___________

ADDITIONAL REMARKS:

Person in charge of pump test (print): ____________________________________________

Signature: __________________________

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

3/20/96 WCR Form

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<td>Location/Address</td>
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### PART I. WELL CONSTRUCTION REPORT

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<td>Drilling Company</td>
<td>__________________________</td>
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<tr>
<td>Name of driller who performed work</td>
<td>__________________________</td>
</tr>
<tr>
<td>Type of rig/construction</td>
<td>__________________________</td>
</tr>
<tr>
<td>Date(s) Well Construction and pump tests (if any) completed</td>
<td>__________________________</td>
</tr>
<tr>
<td>GROUND ELEVATION (referenced to mean sea level, msl)</td>
<td>__________________________ ft.</td>
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<tr>
<td>Well Bench Mark (description/location)</td>
<td>__________________________</td>
</tr>
<tr>
<td>Elevation(msl)</td>
<td>__________________________ ft.</td>
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<tr>
<td>DRILLER’S LOG: Please attach geologic log (if available or if required by permit)</td>
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<tr>
<td>Depths (ft.)</td>
<td>Rock Description, Water Level, Dates, etc.</td>
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<td>(If more space is needed, continue on back.)</td>
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<tr>
<td>Total depth of well below ground</td>
<td>__________ ft.</td>
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<td>Hole size: inch dia. from _______ ft. to _______ ft. below ground</td>
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<td>_______ inch dia. from _______ ft. to _______ ft. below ground</td>
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<tr>
<td>Casing installed: in. I.D. x in. wall solid section to _______ ft. below ground</td>
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<tr>
<td>in. I.D. x in. wall perforated section to _______ ft. below ground</td>
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<tr>
<td>Casing Material/Slot Size:</td>
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<td>Annulus:</td>
<td>Grouted from _______ ft. below ground to _______ ft. below ground</td>
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<td>Gravel packed from _______ ft. below ground to _______ ft. below ground</td>
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<tr>
<td>Initial water level: _______ ft. below ground. Date and time of measurement:</td>
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<tr>
<td>Initial chloride: _______ ppm Date and time of sampling:</td>
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<tr>
<td>Initial temperature: _______ °F Date and time of measurement:</td>
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<td>PUMPING TESTS: Reference Point (R.P.) used:</td>
<td>which elevation is _______ ft.</td>
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<td>(2) Long-term Aquifer Test Date</td>
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<td>Start water level _______ ft. below R.P.</td>
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<td>End water level _______ ft. below R.P.</td>
<td>End water level _______ ft. below R.P.</td>
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<td>Other remarks/comments: (On back of this form)</td>
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</tbody>
</table>

Well Drilling Contractor (print) C-57 Lic. No. | Signature Date |
Surveyor (print) | Lic. No. |
Applicant (print) | Signature Date |

EXHIBIT 5
## PART II. (PERMANENT) PUMP INSTALLATION REPORT

20. Pump Installation Company: ________________________________

21. Name of person performing work: ____________________________

22. Date Pump Installation Completed: __________________________

23. PUMP INSTALLATION:
   - Pump Type, Make, Serial No.: ________________________________ Capacity: ______ gpm
   - Motor type, H.P., Voltage, rpm: ______________________________
   - Depth of Pump Intake Setting _______ ft. below ____________, which elevation is _______ ft.
   - Depth to bottom of airline _______ ft. below ____________, which elevation is _______ ft.
   - Pumping Head is _______ ft. Type of flow meter: ____________ which measures in _______

24. As-built drawings attached?  _ Yes  _ No

25. Other remarks/comments: (See below)

<table>
<thead>
<tr>
<th>Pump Installation Contractor (print)</th>
<th>C-57 Lic. No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signature</td>
<td>Date</td>
</tr>
</tbody>
</table>

| Applicant (print)                   | Signature    | Date       |
|-------------------------------------|--------------|

8. (cont’d) DRILLER'S LOG (cont’d):

<table>
<thead>
<tr>
<th>Water Level Dates (ft.)</th>
<th>Depth (ft.)</th>
<th>Rock Description, Remarks,</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Water Level Dates (ft.)</th>
<th>Depth (ft.)</th>
<th>Rock Description, Remarks,</th>
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<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

19. & 25. Remarks:

__________________________________________
Date: 7/26

FROM: [Name]

TO: BAKER, G.
    CHING, F.
    FUJI, N.
    HARDY, R. [X]
    HIGA, D.
    HIRANO, E.
    ICE, C.
    JINNAI, R.
    KUNIMURA, I.

INIT. LOUI, R.
NAMAKA, L.
NANANO, D.
OHEE, M.
SAKODA, E.
SUBIA, S.
SWANSON, S.
YODA, K.

FOR: Approval
Signature
Information

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

Note: Add to agenda? Can we get this on the agenda?

For your file - submitted next to [Name].
July 24, 1996

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

Dear Ms. Loui:

Subject: Request For Well Construction Permit Extension
Kapalua Well 3 (State No. 5938-04)
Kapalua, Maui, Hawaii

This letter responds to your request of July 12, 1996, to show evidence of our efforts to proceed on the approved permit. The permit was approved at the Commission's August 17, 1994, meeting and the issued permit is dated August 31, 1994. Following this, we had contract documents for the drilling, casing and pump testing prepared by Tom Nance Water Resource Engineering. A copy of this document, dated September 1994, is enclosed.

Prices for the well's construction and testing were solicited from Richardson Drilling and Roscoe Moss Hawaii shortly after the contract documents were completed. At that point, delays in Kapalua Resort's development schedule and budgetary constraints caused us to delay actual construction of the well.

It is our understanding that the activities we have undertaken to date have, in the past, been taken by the Commission as evidence of requisite effort to proceed on the permit. On this basis, we respectfully ask that our request for an extension be granted. Thank you for your consideration.

Please feel free to contact me if you have any questions or wish to discuss the matter.

Mahalo,

Warren A. Suzuki
Vice President/Land Management

enclosure
Mr. Warren A. Suzuki  
Maui Land and Pineapple Company  
P.O. Box 187  
Kahului, Hawaii 96732-0187

Dear Mr. Suzuki:

Request for Well Construction Permit Extension  
Kapalua Well 3 (Well No. 5938-04)

The Commission has a policy on permit extensions that applicants show evidence of efforts to proceed on the approved permit, through equipment purchase, site preparation, plan preparation, or rezoning processing. If no activity can be shown, the permit may be allowed to expire with no prejudice against any new application once the applicant is ready to proceed.

Please forward any documentation concerning activities that have been undertaken upon the approved permit. We now anticipate taking up your application at the Commission's August 14, 1996 meeting in Honolulu. Therefore, please respond by July 31, 1996.

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

Sincerely,

[Signature]

RAE M. LOUI  
Deputy Director
Mr. Warren A. Suzuki  
Maui Land and Pineapple Company  
P.O. Box 187  
Kahului, Hawaii 96732-0187  

Dear Mr. Suzuki:  

Request for Well Construction Permit Extension  
Kapalua Well 3 (Well No. 5938-04)  

We received your letter of April 18, 1996 requesting an extension of the captioned permit. We understand that economic conditions have delayed the development schedule such that construction on this well is now anticipated for some time in 1997.  

We appreciate your timely request, as the permit will expire August 17, 1996. We expect to take your request to the Commission at its July 10, 1996 meeting in Honoka’a.  

In the original submittal, staff noted "a concern over rising chlorides in the area". You may wish to be prepared to discuss this matter with the Commission.  

If you have any questions, please call Charley Ice at 587-0251 or toll free at 1-800-468-4644, extension 70251.  

Sincerely,  

RAE M. LOUI  
Deputy Director  

Cl:ss
April 16, 1996

Mr. Michael Wilson  
Commission On Water Resource Management  
Department of Land and Natural Resources  
State of Hawaii  
Honolulu, Oahu, Hawaii  96809

Dear Mr. Wilson:

Subject: Request for Well Construction Permit Extension For  
Kapalua Well No. 3, State No. 5938-04  
Kapalua, Maui, Hawaii

At its August 17, 1994 meeting, the Commission on Water Resource Management (CWRM) approved a Well Construction Permit for Kapalua Well No. 3, State No. 5938-04. Date of issuance of the permit was August 31, 1994. Immediately following this, Maui Land & Pineapple Company, Inc. (ML&P) authorized Tom Nance Water Resource Engineering to prepare contract documents for the well's construction and pump testing. These documents were then used to informally solicit bids from several perspective well drilling contractors, one of whom is no longer in the well drilling business.

The application for the well construction permit was prepared and submitted pursuant to the proposed development schedule for Kapalua Resort and the projected water demand at that time. The recent economic conditions have caused a revision to the development schedule for Kapalua Resort. Due to the delay in the development schedule for Kapalua Resort and budgetary constraints, the formal hiring of a well drilling contractor and commencement of the well drilling work has not yet taken place. For this reason, we will not be able to complete the construction and pump testing for the well by August 17, 1996, two (2) years from the date of the permit's approval. Our current plan is to commence with work sometime in 1997. Therefore, by this letter, ML&P respectfully requests for an extension of the permit for two (2) years, during which time we expect to complete all of the work and testing for the well. We look forward to a favorable response to our request for an extension.
If you have any questions or require any additional information, please do not hesitate to call me at (808) 877-3882. Thank you for your attention on this matter.

Mahalo,

Warren A. Suzuki
Vice President/Land Management

cc: Bob Derks
     Russ Johnson
     Tom Nance/Tom Nance Water Resource Engineering
Contract Documents for
Drilling, Development, and Pump Testing of
Kapalua Well No. 3
Kapalua, Maui, Hawaii

Prepared for
Maui Land & Pineapple Company, Inc.
P. O. Box 187
Kahului, Maui, Hawaii 96732

Prepared by
Tom Nance Water Resource Engineering
680 Ala Moana Boulevard - Suite 406
Honolulu, Hawaii 96813

September 1994
Drilling, Development, and Pump Testing of Kapalua Well No. 3
Kapalua, Maui, Hawaii

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• Proposal

• Contract

• Specifications (With Separate Table of Contents)

• Special Provisions (With Separate Table of Contents)

• Construction Plan
Instructions to the Bidder
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</table>
Instructions to the Bidder

1. **Description of Work.** The Owner intends to augment the sources of supply for his private water system. The work under this contract consists of drilling, casing, developing, and pump testing the well.

2. **Construction Access.** There is vehicular access to the well drilling site. The Owner will clear and grade the construction site to provide adequate space for the Contractor's equipment and storage of construction materials.

3. **Qualification of the Contractor.** The Contractor must have the required Contractor's license in accordance with Chapter 444, Hawaii Revised Statutes.

4. **Owner's Rights With Respect to Bids Received.** The Owner reserves the right to reject any or all bids received and to select any bid that he deems to be in his best interest.

5. **Contract Documents - Components.** The contract documents that describe and govern the execution of the work consist of the Instructions to the Bidder, Proposal, Contract, General Conditions of the Contract for Construction, Performance Bond and Labor and Material Payment Bond, Special Provisions, Specifications, Construction Plan, and all Addenda issued prior to the execution of the Contract.

6. **Required Insurance.** The Contractor shall obtain the following insurance, which shall be maintained at all times during the term of this Agreement and for a reasonable time thereafter, except as more specifically provided hereinafter:

   - **Workmen's Compensation and Employer's Liability Insurance**
   - **Comprehensive General Liability Insurance**

The Contractor shall furnish the Owner with certificates of such insurance before commencement of work, and at the time of a loss, the Contractor shall provide the Owner with a written report of the loss. Each insurance policy shall be in a form satisfactory to the Owner and each such policy and certificate of insurance shall be endorsed as follows:

- **(i)** $1,000,000 bodily or personal injury per occurrence; and
- **(ii)** $250,000 property damage per occurrence

The insurer will furnish the Owner's designated representative thirty (30) days written notice in advance of the effective date of cancellation, nonrenewal or material change.
b. The Owner shall be included by specific endorsement as additional named insured and, in the event of claims being made by one insured for which another insured is or may be liable, the policies shall cover such insured against whom a claim is made or may be made in the manner as if separate policies had been issued to each hereunder, provided, however, that it is understood the insurer's limit of liability shall in no way be increased as a result of the issuance of this endorsement.

c. With respect to any loss, caused or occasioned by the operations of the insured hereunder, the insured's policy shall be primary and any insurance carried by the Owner shall be in excess. Any other insurance which the Owner may have to insure loss shall not contribute to a loss caused or occasioned solely by the operations of the insured herein.

The Contractor's obligation to carry insurance as herein provided shall not limit or modify in any way any other obligations assumed by the Contractor under this Agreement. If the Contractor fails to secure and/or pay the premiums for any of the policies of insurance as required herein, the Owner may, in addition to any other action it may have at law or equity, procure such policy or policies of insurance and charge the Contractor for the premiums paid therefor, or withhold the amount thereof from sums otherwise due from the Owner to the Contractor. Neither the Owner's right to secure such policy or policies nor the securing thereof by the Owner, shall constitute an undertaking by the Owner on behalf of, or for the benefit of, the Contractor or others to determine or warrant that such policies are in effect.

7. Preparation of Proposal. The Contractor shall consider the cost of all work and material and allow for such cost under whatever items he considers appropriate. It is the intention of the Owner to secure a complete and proper performance of contract and the Contractor must make his proposal with the understanding that the total cost of the completed project, with all incidental or implied work, materials, or other items of cost, is included in the Proposal.

8. Signature Marking. The Proposal must be signed in the name of the Contractor and must bear the signature in long hand, in ink, of a person or persons duly authorized to sign the Proposal.

9. Erasures. The Proposal submitted must not contain any erasures, interlineations, or other corrections unless each such correction is suitably authenticated by affixing in the margin immediately opposite the correction the initials of the person or persons signing the Proposal.

10. Examination of the Site, Drawings, etc. The Contractor shall inspect the site and fully acquaint himself with the conditions relating to construction and labor so that he may fully understand the facilities, difficulties, and restrictions attending the execution of the work under the Contract. The Contractor shall thoroughly examine and be familiar with the Construction Plan and Specifications. The failure or omission of the Contractor to examine any form, instrument, addendum, or other document or to visit the site and acquaint himself with conditions there existing shall in no way relieve the Contractor from obligations with respect to his Proposal or to the Contract. The submission of a Proposal shall be taken as prima facie evidence of compliance with this section.

11. Contract. The form of Contract which the Contractor will be required to execute is included in the Contract Documents and will be executed in three original counterparts.

12. Interpretations of Plans and Documents. If the Contractor is in doubt as to the true meaning of any part of the Plan, Specifications, or other Contract Documents or finds discrepancies in or omissions from the Plans and Specifications, he shall, prior to submitting a bid, may submit to the Owner a written request for an interpretation or correction thereof. Any interpretation or correction of the Contract Documents will be made only by Addendum duly issued. Failure to
submit a written request for interpretation or correction shall be deemed a waiver by the Bidder or Contractor of any claim that the Specifications, Construction Plan, or any other Contract documents are vague, ambiguous, or in conflict.

13. **Addendums.** Any addendum shall be covered in the Proposal and shall be made a part of the Contract.

14. **Permits and Fees.** The Owner has obtained a drilling permit from the State Water Commission. The Contractor shall obtain all other necessary permits for prosecution of the work under this Contract and shall pay for all charges in connection with such permits.

15. **Taxes.** The Proposal prices shall include all taxes imposed by law, except taxes and assessments on the real property comprising the site of the work.

16. **Time of Completion.** Time will be of the essence for the completion of the Contract and the Contractor shall agree to complete the work within the consecutive days specified in the Proposal after the effective date of the Notice to Proceed.

17. **Performance Bond and Labor and Material Bond.** At his own expense, the Contractor shall, at the time the Contract is executed, deliver to the Owner as a guarantee of his full and faithful performance of the Contract, a performance bond and labor and material bond in the form and with a surety satisfactory to Owner in an amount not less than 100% of the contract price to guarantee faithful performance of the Contract. The bonds shall be in favor of the Owner and any other parties designated by the Owner.

18. **Payment for Delivered Material.** Payments for material delivered to the site to be incorporated into the work under the Contract will be paid for in monthly progress payments as material on hand at its invoice value less retention.

19. **Quantities.** Estimated quantities shown on items for which a unit price is given in the Proposal are approximate only and will be used as a basis to compare bids. These quantities are subject to increase or decrease depending on conditions encountered during the work.

20. **Omission in Contract.** All items covered in the Contract documents for which there is no special item in the Proposal shall be considered incidental to and included in the Contractor's proposal.

21. **Applicable Laws and Governmental Standards.** All construction shall be in accordance with applicable laws, codes, ordinances, and any other applicable governmental rules and regulations.

22. **Progress Payments.** Progress payments will be made upon receipt and approval by the Owner of invoices submitted by the Contractor. Payment shall be ninety percent (90%) of the Contract Sum properly measured by proposal unit and lump sum prices less the sum of previous payments made by the Owner. Applications for progress payments may be submitted at monthly, or longer, intervals.

23. **Final Inspection - Final Payment.** The entire project will be constructed according to the Construction Plan, Specifications, and other Contract documents. Final payment will be made only with the approval of the Owner, the written consent of the surety or sureties on the Contractor's bond, and receipt of a certificate from the Director of Taxation of the State of Hawaii to the effect that all taxes levied or accrued against the Contractor with respect to this contract have been paid.
24. **Inspection.** The Owner and/or any public agency which may by law or otherwise be required to accept the work hereunder shall have the right to inspect all equipment, materials, and work and to reject any not in accordance with the Contract documents.

25. **Indemnification.** The Contractor shall indemnify Maui Land & Pineapple Company, Inc., Kapalua Water Company, Tom Nance Water Resource Engineering, and their representatives from all suits, actions, or claims brought on account of any injuries or damage sustained by any person or property in consequence of any neglect in safeguarding the work or through the use of unacceptable materials in the construction of the work or on account of any act or omission by the Contractor or on account of any claims or amounts recovered for any infringement of patent, trademark, or copyright, or from any claims or amounts arising from failure to comply with the requirements for insurance and protection against claims, or from any claim by the Contractor's employee, subcontractor, or material supplier.

26. **Water, Electric, and Other Utilities.** The Owner shall make water available to the Contractor at the site of the nearby head tank. Water pressure at this location is limited by the depth of water in the tank. The Contractor shall make his own arrangements for all other utilities required on the project including metering devices, incoming service lines, and appurtenances and shall pay for all such charges.
Proposal

For Drilling, Development, and Pump Testing of
Kapalua Well No. 3
Kapalua, Maui, Hawaii

___________________, 1994

Maui Land & Pineapple Company, Inc.
P. O. Box 187
Kahului, Maui, Hawaii 96732

Attention: Bill Wilmore

Gentlemen:

The undersigned, having carefully examined the local conditions and all available records and information covering conditions which may affect the cost of the work to be performed, and having carefully examined the Construction Plan, Specifications and other Contract documents, hereby proposes to furnish and pay for all materials, tools, equipment, labor, and other incidentals necessary to construct and install in place, complete, and according to the true intent and meaning of these documents and any and all addenda for Kapalua Well No. 3 for the sum of ______________________
_____________________________ ($___________), said total sum being itemized on the Schedule of Prices following.
**Schedule of Prices**

**Kapalua Well No. 3**

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Description</th>
<th>No. of Units</th>
<th>Unit</th>
<th>Unit Price</th>
<th>Amount</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>Mobilization</td>
<td>L.S.</td>
<td></td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Drilling the 21-inch (minimum) diameter borehole from the ground surface to the bottom of the cased well</td>
<td>830</td>
<td>L.F.</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Drilling the 12-inch diameter open hole below the bottom of the cased well, if required</td>
<td>20</td>
<td>L.F.</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Furnishing and installing 14-inch ID, 0.375-inch thick solid well casing</td>
<td>780</td>
<td>L.F.</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Furnishing and installing 14-inch ID, 0.3125-inch thick perforated well casing</td>
<td>50</td>
<td>L.F.</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Furnishing and installing the gravel pack in the annulus outside the well screen</td>
<td>60</td>
<td>L.F.</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Filling the annular space with cement grout</td>
<td>770</td>
<td>L.F.</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Furnishing, installing, and subsequently removing the pump test equipment capable of continuously delivering up to 1000 GPM to the ground surface for the initial pump test</td>
<td>L.S.</td>
<td></td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Subsequent pump test equipment installation and removals, if required</td>
<td>1</td>
<td>Ea.</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Development and test pumping</td>
<td>120</td>
<td>Hr.</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Plumbness and alignment test</td>
<td>L.S.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Video log the entire length of the borehole</td>
<td>L.S.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Demobilization</td>
<td>L.S.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Total Sum** $
It is understood that the quantities given in the Schedule of Prices are approximate and are given as a basis to compare bids and determine payments. It is further understood that the Owner does not, expressly or by implication, agree that the actual amount of work will correspond therewith, but reserves the right to increase or decrease the amount of any class or portion of the work, or to omit portions of the work, as may be deemed necessary or advisable by the Owner and that all increased or decreased quantities of work shall be performed at the unit prices set forth in the Proposal.

It is also understood and agreed that the amount in the proposal on items of work for which a LUMP SUM price is asked includes all materials, equipment, labor and all other incidental work required for the complete construction and installation of the work as called for in the plan and specifications; and that work required but not specifically itemized in the Schedule of Prices shall be considered incidental to the listed items.

It is further understood and agreed that time is of the essence in completion of the project. After written Notice to Proceed has been given to commence work, the time of completion for the work shall be 240 consecutive calendar days. If the Contractor is willing to undertake the work in a shorter period, or if he requires a longer period of time, he should state this in the appropriate space provided below.

Owner's Specified Time of Completion (Calendar Days)

240

It is also understood and agreed that liquidated damages in the amount of Two Hundred Fifty Dollars ($250.00) for each and every calendar day in excess thereof prior to completion of the Contract shall be withheld from payments due to the Contractor.

It is also understood and agreed that if this Proposal is accepted, the Contractor shall execute a Contract with the Owner and shall furnish the required bonds at the time of the execution of the Contract or within 30 days of execution, but in any event prior to the start of work.

It is further understood and agreed that the Contractor will provide all necessary labor, material, tools, equipment, and other incidentals necessary to do all the work and furnish all the materials specified in the contract documents in the manner and time herein prescribed.
The Contractor shall acknowledge receipt of any addendum issued by Tom Nance Water Resource Engineering by signing the applicable number.

Addendum No. 1 ___________________________  Addendum No. 3 ___________________________
Addendum No. 2 ___________________________  Addendum No. 4 ___________________________

Respectfully submitted,

______________________________
Contractor

______________________________
Telephone No.

______________________________
Address

______________________________
Contractor's License No.
This agreement, made and executed this ______ day of ______________________, 1992, by and between Kapalua Water Company, hereinafter referred to as the "Owner," and __________________________, hereinafter referred to as the "Contractor."

WITNESSETH

That for and in consideration of the payments hereinafter mentioned, the Contractor hereby covenants and agrees with the Owner to furnish and pay for all materials, tools, equipment and labor necessary to install free and clear of liens in the most substantial and workmanlike manner, in place, complete, the drilling, casing, development, and pump testing of the:

Kapalua Well No. 3
Kapalua, Maui, Hawaii

all in accordance with the Construction Plan, Specifications, and all other contract documents on file with the office of Tom Nance Water Resource Engineering, Honolulu, Hawaii.

For and in consideration of the covenants, undertakings, and agreements of the Contract herein set forth, and upon the full, faithful performance thereof by the Contractor, the Owner hereby agrees to pay Contractor the sum of ______________________ ($_______), in payments to be made in the manner set forth in the contract documents, subject to such additions thereto or deductions therefrom as may be mutually agreed upon during the progress of the work.

The Instructions to the Bidder, Proposal, Specifications, Construction Plan, and Special Provisions together with this agreement, form the Contract and are as fully a part of the Contract as if attached hereto.
In witness whereof, the parties hereto have executed this Contract the day and year first above written.

Maui Land & Pineapple Company, Inc.

By ________________________________
Its

__________________________
(Contractor)

By ________________________________
Its

STATE OF HAWAII     )
      ) SS
__________________________

On this ___ day of ________________, 19___, before me personally appeared ________________________________ and to me known to be the person(s) described in and who executed the foregoing instrument and acknowledged that ________________ executed the same as ________________________________ free act and deed.

__________________________
Notary Public, ________________

Judicial Circuit, State of Hawaii

My Commission Expires ________________
# SPECIFICATIONS

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SPECIFICATIONS

1.0 SCOPE OF WORK

1.01 Scope of Work:

The work described in these Specifications consists of the drilling, casing, and pump testing a new drinking water well at Kapalua, Maui.

2.0 MOBILIZATION AND DEMOBILIZATION

2.01 Description:

Mobilization shall consist of the transporting, assembling, constructing, installing and making ready for use at the well site all equipment, machinery, structures, utilities and incidentals necessary to do the work covered by this contract. Demobilization shall consist of the dismantling and removal from the project site all of the above-mentioned equipment, machinery, structures, utilities and incidentals not incorporated in or a necessary part for the completed well.

The Owner will provide access to the construction site sufficient for the Contractor's mobilization requirements. The Owner will clear and grade the construction site itself prior to the Contractor moving in and setting up his drilling equipment.

When the project is completed, the Contractor shall clean up the well site and shall be responsible for all grading work required to leave the site in a neat and orderly condition to the satisfaction of the Owner.

2.02 Measurement and Payment:

Measurement for payment of the work under this section of the Specifications will be made as follows:

A. The contract lump sum price for Mobilization will be paid when 50 feet of the pilot borehole has been acceptably drilled and, in the opinion of the Owner, the Contractor has fully mobilized.

B. The contract lump sum price for Demobilization will be paid after all work has been completed, the project site cleaned, and the project has been accepted by the Owner.

Should the Owner terminate the Contract before 50 feet of the borehole has been acceptably drilled and in the opinion of the Owner the Contractor has fully mobilized at the well site, the full amount of the Contract price for Mobilization shall become due and payable subject, however, to all the provisions specified hereinabove. The full amount of the Contract price for Demobilization shall also become due and payable after the above mentioned termination of the Contract, subject, however, to all the provisions specified hereinabove.
3.0 WELL DRILLING

3.01 General:

The exact location of the borehole will be designated by the Owner. The borehole shall be drilled plumb and straight as specified elsewhere herein. The diameter of the borehole for the well shall provide a minimum of 3 inches all around the outside diameter of the casing to be installed. No deviation from this size requirement will be made.

The exact depth of the borehole will depend on the nature of the material penetrated by drilling and on hydrologic conditions encountered and shall be determined by the Owner during the course of the drilling. To determine the exact depth and dimensions of the well upon completion of drilling, the Contractor shall, in the presence of the Owner, take careful measurement to determine the depth of the hole.

3.02 Driller's Logs:

It is desirable to gather as much geologic and hydrologic data as possible and every opportunity shall be accorded the Owner to obtain additional samples, make observations, and to study the apparent conditions.

The Contractor shall keep a continuous log of the well, recording the general character, thickness, type and drilling characteristic of materials encountered including the depth and drilling time, the color and hardness of the formations, and all other data which may be helpful in the interpretation of the geology, hydrology, and drilling conditions in the area. The log shall indicate the depths where water is encountered and pertinent facts connected with its occurrence. Once the water is encountered in the hole, the Contractor will be required to measure and record the depth to water at the start of each shift of drilling. All other information such as the location of lava tubes and cave-ins shall also be noted in the log. All work done shall be accurately recorded. An accurate and carefully recorded log shall be kept current and available at the well site for inspection by the Owner at any time during the work.

The Contractor shall assist the Owner in determining the elevation of the water level in the drilled hole with reference to the datum which will be established by the Owner at the well site. Water level measurements shall be taken immediately when water is encountered in the well during the drilling work and after the casing has been installed and the well bailed clean. The water level data shall include the date and time at which the measurements are taken and the depth of the well at the time of measurement. The Owner shall be entitled to make additional water level measurements with his own equipment.

3.03 Drilling Method and Circulating Medium:

If a rotary drilling method is used, a mixture of air and foam is to be used. Bentonite or other, similar material shall only be used when absolutely necessary for the progress of work and only with prior approval of the Owner. Use of bentonite or similar material shall not be allowed from 25 feet above mean sea level to the bottom of the well. Water or a mixture of air and foam shall be the only acceptable circulating fluid used below elevation 50 feet (msl).

3.04 Protection of the Work:

During the progress of the work, the Contractor shall provide an adequate cover over the top of the hole to prevent debris or other objects from entering the well when the crew is not at the well site. The Contractor shall preserve the well in good condition until the Owner's final acceptance of the work.
3.05 Abandoned Well:

A well shall be considered abandoned if the Contractor does not complete the well to the depth ordered by the Owner, if the Contractor should abandon the well due to loss of tools or other cause, or if the Owner does not accept the well due to faulty plumbness and alignment. Such an abandoned well shall be sealed by the Contractor, at no cost to the Owner, by filling the hole with material approved by the Owner and in compliance with applicable State laws and regulations. If casing has been installed, the Contractor, at his own expense, may remove the casing prior to backfilling the abandoned well.

No payment will be made for any work done on an abandoned well. All partial payments received by the Contractor for work done on the well that has been abandoned shall be refunded to the Owner and the Contractor shall drill another well as directed by the Owner. The cost of moving from the location of the abandoned well to the new site shall be at the Contractor's expense and shall not be paid for by the Owner.

Upon completion of the work, the Contractor shall leave the site of the abandoned well in a neat and presentable condition free of all debris and in a state comparable to its original condition.

3.06 Measurement and Payment:

The depth of drilling the borehole to be paid for shall be the actual depth in lineal feet measured vertically from the surface of the prepared ground to the bottom of the borehole.

4.0 FURNISHING AND INSTALLING THE WELL CASING

4.01 General:

Both the solid and perforated casing to be installed in the production wells under this contract will be furnished at the well site by the Contractor. The casing shall be installed only when ordered by the Owner and as specified herein. The Owner will specify the total length of perforated and solid casing to be installed. Installation shall be made only during normal daylight working hours.

4.02 Casing:

The permanent solid and perforated casing shall be new steel pipe conforming to AWWA publication C-200, "Steel Water Pipe 6-Inches and Larger". The physical properties of the steel used in the fusion welded pipe shall conform to and be manufactured to meet requirements of ASTM A-53, Type E or S, Grade B. Casing diameter shall be as specified in the Schedule of Prices of the Proposal. The solid casing shall have a minimum wall thickness of 3/8 inch and shall be clean, straight and free from kinks. The individual lengths of solid casing shall be provided with beveled ends suitable for butt welding.

Perforated casing to be furnished and installed in the well shall be of the same material as specified for solid casing. The inside casing diameter shall be identical to that of the solid casing and shall have a minimum wall thickness of 5/16 inch. The openings in the casing shall be machine made, perpendicular to the axis of the casing, and of a louver form with the aperture facing downward. The openings shall be 1/4 inch. The perforated casing shall provide not less than 85 square inches of intake area per lineal foot.
4.03 *Casing Markers:* 
Each length of solid and perforated casing shall be marked by the casing manufacturer with the following information:

A. Manufacturer's identification
B. Nominal thickness of casing wall
C. ASTM designation and trade name of the steel used for the manufacture of the casing.

All markings shall be clear and legible and shall be within three (3) feet from one end of each casing.

4.04 *Casing Certification:* 
Prior to the delivery of any casing to the project site, the Contractor shall submit for approval the casing manufacturer's certification to the Owner. The certificate shall clearly indicate the total footage and number of casing shipped; the name of the customer; and the physical and chemical properties of the casing material. ASTM designation and trade name of steel may be used to designate the physical and chemical properties, respectively.

4.05 *Casing Installation:* 
The casing shall be installed in the presence of and to the lengths directed by the Owner. The casing shall be properly aligned and welded by qualified welders and shall also be continuous for its entire length. Every precaution shall be taken to prevent the casing from dropping into the hole. Driving of the casing in any manner will not be permitted.

The Contractor shall carefully lower the casing until the bottom of the casing is approximately three (3) feet from the bottom of the drilled hole. (At no time during the installation of the casing shall the total weight of the casing rest on the bottom of the drilled hole.) The casing shall then be temporarily secured and the well initially developed and cleaned by bailing. When the well has been cleaned of drilling muds, drill cuttings, cave-in materials, etc., to the satisfaction of the Owner, the casing shall then be lowered to its final position with only partial weight of the casing bearing on the bottom of the borehole so that the casing will not be damaged, distorted or misaligned. The casing shall be held in this position until installation of the gravel pack and grout has been completed.

4.06 *Installation of Casing Guides:* 
During the installation of the well casing, the Contractor shall furnish and install casing guides at 40' o.c. The casing guides may be commercially made or fabricated as shown on the Construction Plan.

4.07 *Measurement and Payment:* 
The length of casing to be paid for shall be the number of lineal feet of casing measured to the nearest foot acceptably installed in the well.
5.0 FILLING THE ANNULAR SPACE

5.01 Description:

This section covers the installation of the cement grout plug, gravel pack, and cement grout in sequence from the bottom of the cased well upwards in the annular space between the wall of the drilled hole and the casing. All work required in this section shall be done during normal daylight working hours. The Contractor shall notify the Owner not less than 48 hours prior to performing any work under this section.

5.02 Installation of the Gravel Pack:

Installation of the gravel pack shall begin after the grout plug has been installed and allowed time to set. The gravel used shall be clean, rounded, hard, abrasion resistant particles from 3/8-inch to 7/16-inch in size. It shall be placed in the annular space using a tremie pipe so that no cavities exist between the wall of the hole and the casing. The gravel pack will extend from the grout plug at the casing shoe upward to a point ten (10) feet above the top of the perforated casing. The Contractor shall keep a log of the quantities of gravel used and the progress of filling the annulus. Upon completion of the gravel pack installation, the log of this work shall be delivered to the Owner.

5.03 Cement-Grouting the Annular Space:

Cement grout shall consist of a mixture of one part Portland cement and not more than six (6) gallons of water per sack of cement to form a consistency such that the grout may be placed. Grout shall be placed in two locations, at the plug around the casing shoe and in the annulus from the top of the gravel pack to the ground surface.

Placement of cement grout for the plug at the bottom of the cased well can be done with a bailer or with a tremie pipe at the Contractor's option. Grout placed in the annulus above the gravel pack shall be placed by tremie pipe in one continuous operation starting from the bottom of the space to the grouted and proceeding upward in such a manner that the hydrostatic pressure of the grout will not distort or collapse the casing.

It is essential that the entire annular space around the grouted section of the casing be completely filled with grout. Grout shall be placed in a manner that will avoid segregation of materials, inclusion of foreign material, and bridging of grout materials. No drilling operation or other work in the well shall be permitted within 72 hours of grouting the annular space.

5.04 Measurement and Payment:

Acceptable filling of the annular space with gravel pack, and cement grout shall be measured and paid for at the contract unit price per lineal foot or lump sum amount, as the case may be. These prices shall include full compensation for furnishing all labor, materials, tools, equipment, and incidental costs necessary to complete the work as specified herein.

6.0 PUMP TESTING

6.01 Description:

Pump testing of the well shall consist of development and test pumping to determine yield, drawdown, recovery, and quality of water at various rates of pumping. The sections following describe the required equipment and methods of this testing.
6.02 Pump Test Equipment:

The Contractor shall also furnish and install all necessary equipment and supply the power required to perform the pump test as directed by the Owner. All Contractor-furnished equipment and appurtenances shall be in good operating condition. The pump bowl and airline will be set to the depth directed by the Owner. The pump shall be capable of delivering 1000 GPM to the ground surface for up to 120 continuous hours.

The rate of discharge from the well shall be controlled by an appropriate valve or engine drive speed and shall be measured with an appropriate water meter to be furnished by the Contractor. The Contractor shall furnish any and all other equipment and materials that may be required to measure the rate of discharge and it shall be the Contractor’s responsibility to determine and provide the necessary and proper fittings to connect the water meter. The Contractor shall also provide the necessary facilities and make arrangements for the proper disposal of the pumped water as directed by the Owner. The Contractor shall provide adequate lighting for safe night operation of all the test equipment in the working area.

The airline for the test well shall be securely fastened to the discharge column of the test pump furnished by the Contractor. The airline assembly shall be complete with a needle type control valve and all fittings and appurtenances necessary to connect the pressure gage or manometer furnished by the Contractor, including air tanks and pressure regulators, to measure water levels in a manner acceptable to the Owner. The airline assembly shall be tested for leakage in the presence of the Owner by subjecting it to a pressure equal to the submergence of the airline below static water level. At the required test pressure, the airline pressure shall not drop more than 0.1 foot of water during a period of five minutes.

6.03 Installation of the Test Pump:

When a pumping test is ordered by the Owner, the Contractor shall clean the well by bailing and swabbing to the satisfaction of the Owner prior to the installation of the test pump. The Contractor shall satisfy himself that the well is adequately prepared for the proper installation and operation of the test pump assembly.

6.04 Development and Test Pumping:

The complete pump test equipment shall be acceptably installed and tested for proper operation in the presence of the Owner. Development and test pumping shall be scheduled to begin only during daylight hours. The Contractor shall notify the Owner of his readiness to begin at least three days prior to the scheduled pumping.

Initially, development pumping shall be conducted by starting and stopping the pump intermittently. This development by surging shall be directed by the Owner. The Contractor shall keep a log of the development pumping. Development pumping will be continued until, in the judgement of the Owner, water pumped from the well is substantially free from sand, stone, drill cuttings, and foreign material and development is complete and satisfactory.

Conduct of the pump test shall be prescribed by the Owner during the course of the testing. The pumping shall be started, regulated and stopped as directed by the Owner. The testing shall include measuring the rate of discharge and drawdown at the various pumping rates, the rate of recovery at the end of pumping, and chloride content of the water pumped. Testing will be conducted during the night, and possibly on Saturdays, Sundays, and National and State holidays. Records will be kept throughout all tests showing the pumping rates, corresponding water levels in the well, and the chloride content of water being discharged.
During the entire testing period, the Contractor shall have at least one man available at the well site to operate and maintain the test pump and appurtenant equipment, to collect data, and to perform other incidental work required for the pump test. The Contractor shall be responsible for efficient sustained operation of the pumping unit and appurtenances during the tests. The Owner will not pay for any damages to the pumping test equipment for any cause.

6.05 Measurement and Payment:

The installation and removal of pumping test equipment and material to be paid for shall be considered complete when the unit has been satisfactorily tested and accepted by the Owner and when the removal has been completed to the satisfaction of the Owner.

Development and test pumping time to be paid for will be the actual number of hours that the pump is operated under the direction and to the satisfaction of the Owner measured to the nearest hour. The measurement of time will begin after the Owner orders the pumping begun and shall end when the Owner orders the pumping test to be terminated. Time lost due to any failure, inability to meet specification requirements, or inefficient operation of the pumping equipment or measuring devices will not be measured for payment.

7.0 PLUMBNESS AND ALIGNMENT

7.01 Description:

The well shall be drilled circular and plumb and true to line. In compliance with this requirement, the Contractor shall furnish all labor, tools, and equipment necessary and shall conduct the tests described herein to the satisfaction of the Owner. All testing shall be done after the casing and annular materials have been installed, the grout has set, and before final acceptance of the well.

7.02 Requirements for Plumbness and Alignment:

Plumbness and alignment shall, except as hereinafter modified, be in accordance with the requirements of the latest revision of American Water Works Association Specification A100-66 "Standard Specifications for Deep Wells". The maximum deviation from the vertical shall not be more than two-thirds the inside diameter of the casing per any 100 feet of depth. A log of the drift at 20-foot intervals shall be made during the plumbness and alignment test.

The alignment shall be tested by lowering a section of pipe 40 feet long or a dummy of the same length to the bottom of the well. The outer diameter of the plumb shall be equivalent to the inside diameter of the well casing, less 1/2 inch. If a dummy is used, it shall consist of a spindle and not less than three rings. The band width of each ring shall be a minimum of 12 inches. The rings shall be truly cylindrical and shall be spaced one at each end of the spindle and one ring at the center thereof.

Should the section of pipe or dummy used for the test fail to move freely throughout the length of the cased well or should the well vary from the vertical in excess of two-thirds the inside diameter of the casing per any 100 feet of depth, the well shall be deemed to have failed the plumbness and alignment test. In this event, the Owner shall withhold payments otherwise due the Contractor for other items of work until the requirements of plumbness and alignment has been satisfied.

Plumbness and alignment shall be corrected by the Contractor at his own expense. Should he fail to make the necessary corrections, the Owner will not accept the well and the Contractor will be required to drill an acceptable well at his own expense.

Specifications
If a dispute as to the accuracy of the plumbness and alignment test is raised by the Contractor or Owner, the party raising the dispute may resolve it by paying for plumbness and alignment retesting using a gyroscopic-type survey instrument subject to its prior approval by the Owner. Results of such retesting shall be deemed final and conclusive.

7.03 Payment:

The test for plumbness and alignment shall be paid for at the lump sum price in the Proposal. Any retesting shall be paid for by the party requesting the test.

8.0 VIDEO LOGGING

8.01 Description:

Video logging using a color VHS cassette system is to be done in the open hole just prior to installation of the casing. Two copies of the video cassette tape record are to be delivered to the Owner.

8.02 Payment:

Video logging shall be paid for at the lump sum prices in the Schedule of Prices.
Special Provisions
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SPECIAL PROVISIONS

1.01 BLASTING:

When the use of explosives is necessary for the prosecution of the work, the Contractor shall notify the Owner 24 hours in advance and shall use the utmost care not to endanger life or property. The Contractor shall transport explosives to the site of work and store, distribute, and handle same in accordance with the safety provisions of the Manual of Accident Prevention in Construction published by the Associated General Contractors of America. The storage and use of the explosives shall also be in accordance with the provisions of the Hawaii Revised Statutes and these shall rule in the event of conflict with the above provisions.

The Contractor, when blasting, shall use all necessary warning, mats, and other safeguards to properly and adequately protect the public, all workmen on the job, and all property from damage, injury or unnecessary annoyance and/or inconvenience.

The Contractor shall protect, hold harmless, indemnify and defend Maui Land & Pineapple Company, Inc., Tom Nance Water Resource Engineering and their representatives against any liabilities arising directly or indirectly out of the Contractor's use of explosives in prosecuting the work.

1.02 ACCESS BY STATE AND COUNTY GOVERNMENT OFFICIALS:

Authorized representatives of the state and county government shall at all times have access to the work while in preparation or progress, and the Contractor shall provide proper facilities for such access and for inspection.

1.03 CONSTRUCTION YARD:

The Contractor will be allowed to erect and maintain a secured construction yard for storage of material and equipment in an area designated by the Owner for the duration of the project. The Contractor shall restore the site of the construction yard to its original condition at the completion of the Contract.

1.04 TEMPORARY WATER, SANITARY FACILITIES, ELECTRIC SERVICE AND OTHER UTILITIES:

The Owner will make water available at the site of his nearby head tank. Water pressure at this location is limited by the depth of water in the tank. The Contractor shall make his own arrangements for all other utilities required on the project including metering devices, incoming service lines, and appurtenances and shall pay for all such charges.

1.05 DUST:

The Owner shall reserve the right to stop construction whenever dust generation from the Contractor's operation is, in the opinion of the Owner, excessive. The Contractor shall control dust at his own expense and shall insure that his dust control complies with all State and County regulations.
1.06 MAINTENANCE OF SITE:

The Contractor shall maintain the site of the project in an orderly and clean condition and shall, at suitable intervals, remove accumulation of rubbish or refuse materials, surplus concrete, and excavated materials not required or suitable for back fill. The Contractor shall keep the site free of dirt and dust by periodic watering or other approved means.

1.07 CLEAN-UP:

The Contractor will maintain and keep the job site in a clean and orderly manner at all times for the prevention of accidents, injuries, and fire hazard. Upon completion, the Contractor shall remove all rubbish, clear debris from roadways, and remove all crushed rock or other surfacing materials used for temporary access roads and parking areas. In addition, all existing graded areas which have been disturbed during the progress of the work shall be regraded to the pre-existing contours. This final site grading shall be inspected and approved by the Owner prior to granting Final Acceptance.

1.08 ENVIRONMENTAL PROTECTION:

The Contractor shall comply with all applicable federal, state, and local laws, regulations and ordinances and the following requirements for environmental pollution control and abatement in performing all construction activities:

**Rubbish Disposal:** No burning or burying of debris and/or waste materials shall be permitted on the project site. Clean-up shall include the collection of all waste paper and wrapping materials and other objectionable materials, and removal as required and shall coincide with rubbish producing events.

**Dust:** Dust shall be kept within acceptable levels at all times, including non-working hours, weekends and holidays, in conformance with Chapter 31, Air Pollution, of the State Department of Health, Public Health Regulations, latest edition. The Contractor shall water the ground frequently or take other dust control means to minimize dust erosion. The method of dust control and all costs incurred therefor are the responsibility of the Contractor. The Contractor is responsible for all damage claims from its failure to comply with this paragraph.

**Air Pollution:** The Contractor shall not cause air pollution from mist, smoke, vapor, gas, odorous substances, particulate matter, or any combination thereof.

**Noise:** The Contractor shall muffle all internal combustion engine-powered equipment to minimize and properly maintain noise to acceptable levels. Because of the possible noise disturbance, no work after 6:30 PM or before 6:30 AM will be allowed. No blasting and use of explosives will be permitted without a 24-hour notification to the Owner.

**Water Pollution:** The Contractor shall take all necessary precautions to prevent the pollution of water resources from fuels, oils, bitumens, calcium chloride, herbicides, pesticides, chemicals, or other harmful materials.

1.09 EXISTING UTILITIES:

Location of utility lines and appurtenances shown on the plan are from the best information available. The Contractor shall not assume that where no existing utilities or irrigation lines are shown, that none exist. The Contractor shall verify the location and depth of the facilities and exercise proper care in excavating in the area. The Contractor shall be responsible and
shall pay for all damages and for maintenance and protection of existing utilities and structures.

1.10 PERFORMANCE BOND AND LABOR AND MATERIAL BOND:

At the time the Contract is executed, the Contractor shall provide the Owner, as a guaranty of his full and faithful performance of the Contract, a performance bond and a labor and material bond in the form and with a surety satisfactory to the Owner in an amount not less than 100% of the contract price. The bonds shall be in favor of the Owner and any other parties, the Owner designates.

1.11 STORAGE OF MATERIAL:

No excavated materials of construction shall be placed upon private property by the Contractor unless by express permission of the Owner. All damages to any private property by reason of any act of the Contractor shall be remedied by the Contractor at his own cost and expense.

Should storage of excess excavation be allowed on-site, the Contractor shall coordinate with the Owner to insure it is disposed of in a location selected and graded to the Owner's requirements. Should storage of excess excavation not be allowed on-site, the Contractor shall be responsible for disposal off-site.

1.12 FEES:

The prices in the Proposal shall include fees for all necessary permits, licenses, and inspection fees. The fees for inspections to be done by governmental agencies shall be included in this provision.
TO: Maui Land & Pineapple Company, Inc.
P.O. Box 187
Kahului, HI 96732-0187

In accordance with the Department of Land and Natural Resources Administrative Rules, Section 13-168, entitled "Water Use, Wells, and Stream Diversion Works", your application to construct and test Kapalua Well No. 3 (Well No. 5938-04), is approved subject to the following conditions:

STANDARD WELL CONSTRUCTION PERMIT CONDITIONS

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

2. The well construction permit shall be for construction and testing of the well only. The applicant shall coordinate with the Commission and conduct a pumping test in accordance with the attached protocol. A one-inch diameter (minimum) pipe shall be permanently installed, in a manner acceptable to the Commission, to accurately record water levels. No permanent pump may be installed and no water used from the well without first obtaining a pump installation permit from the Commission.

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

4. The following shall be submitted to the Commission within thirty (30) days after completion of work:
   a. Well completion report.
   b. Elevation (referenced to mean sea level, msl) survey by a Hawaii-licensed surveyor.
WELL CONSTRUCTION AND PUMP INSTALLATION PERMIT
Well No. 5938-04

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

6. The well construction permit application and staff submittal approved by the Commission at its August 17, 1994 meeting are incorporated into the permit by reference.

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

KEITH W. AHUE, Chairperson
Commission on Water Resource Management
AUG 31 1994

Date of Issuance

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

Applicant's Signature: [Signature]
Date: 9-13-94

Printed Name: Gary L. Gifford
Firm or Title: Maui Land & Pineapple Company, Inc.
Executive Vice President/Resort

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

cc: USGS
State Historic Preservation Division
Department of Health
Safe Drinking Water Branch
Ground Water Protection Program
Wastewater Branch
Maui Department of Water Supply
WELL CONSTRUCTION PERMIT

for

Kapalua Well No. 3
Well No. 5938-04
Kapalua, Maui

TO: Maui Land & Pineapple Company, Inc.
P.O. Box 187
Kahului, HI 96732-0187

In accordance with the Department of Land and Natural Resources Administrative Rules, Section 13-168, entitled "Water Use, Wells, and Stream Diversion Works", your application to construct and test Kapalua Well No. 3 (Well No. 5938-04), is approved subject to the following conditions:

STANDARD WELL CONSTRUCTION PERMIT CONDITIONS

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

2. The well construction permit shall be for construction and testing of the well only. The applicant shall coordinate with the Commission and conduct a pumping test in accordance with the attached protocol. A one-inch diameter (minimum) pipe shall be permanently installed, in a manner acceptable to the Commission, to accurately record water levels. No permanent pump may be installed and no water used from the well without first obtaining a pump installation permit from the Commission.

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

4. The following shall be submitted to the Commission within thirty (30) days after completion of work:
   a. Well completion report.
   b. Elevation (referenced to mean sea level, msl) survey by a Hawaii-licensed surveyor.
WELL CONSTRUCTION AND PUMP INSTALLATION PERMIT
Well No. 5938-04

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

6. The well construction permit application and staff submittal approved by the Commission at its August 17, 1994 meeting are incorporated into the permit by reference.

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

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

Applicant's Signature: _____________________________ Date: __________

Printed Name: __________________________________________

Firm or Title: __________________________________________

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

cc: USGS
    State Historic Preservation Division
    Department of Health
        Safe Drinking Water Branch
        Ground Water Protection Program
    Wastewater Branch
    Maui Department of Water Supply
WELL CONSTRUCTION/PUMP INSTALLATION PERMIT APPLICATIONS
HAWAII WATER PLAN REVIEW

08/17/94 COMMISSION MEETING

Applicant: Maui Land & Pine
Well Name & No.: Kapalua Well No. 3, (5938-04)
Aquifer Sector: Lahaina = 40 mgd S.Y.
Aquifer System: Honolua = 8 mgd S.Y.
1990 Existing Use (sector) = 15.85 mgd; (system) = 2.78 mgd
2010 Future Need (sector) = 26.16 mgd; (system) = 4.58 mgd
Comments: 1. The WUDP states that:
   a. “The major private systems, Kaanapali and Kapalua, project an increase
      from an estimated 3.8 mgd to 10 mgd for domestic water.”
   b. “Kapalua, Kaanapali, and the HFDC are also proposing to develop new
      groundwater sources to meet their respective needs for the future.”
   c. No specific mention of the well is made.
2. Figures given above are from updated data that has not been incorporated into
   the WUDP.

Applicant: Clair E. Flagg
Well Name & No.: Flagg Well No. 1, (3010-01)
Aquifer Sector: Southeast Mauna Loa = 291 mgd S.Y.
Aquifer System: Olaa = 124 mgd S.Y.
Existing Use (sector) = 8.09 mgd
Future Need (sector) = 10.47 mgd
Comments: 1. Not listed in WUDP (no inventory in this system).
2. Figures given above are from updated data that has not been incorporated into
   the WUDP.
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MEMORANDUM

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

FROM: Don Hibbard, Administrator
Historic Preservation Division

SUBJECT: Historic Preservation Review of a Well Construction Permit for Maui Land and Pineapple Co. (No. 4829-03) 5938-04
Honokahua, Lahaina District, Island of Maui
TMK: 4-2-01: 1

Maui Land and Pineapple Company proposes to drill a new well on an upland ridge adjacent to Honokahua Stream, at approximately 800 feet elevation. The well site is in the vicinity of existing wells and is to be located less than 30 feet off an existing road. The immediate area was cleared for a coffee plantation in the early twentieth century. It has since been used for livestock pasture.

A review of our records indicates that no known historic sites are present in or near the area of the proposed well. Based on this information and information provided by Mr. William Willmar (applicant's representative), we believe that this project will have "no effect" on historic sites.

Please contact Ms. Theresa K. Donham at 243-5169 if you have any questions.

KD: rn
TO: Honorable Hoaliku L. Drake, Director
    Department of Hawaiian Home Lands

FROM: Keith W. Ahue, Chairperson

SUBJECT: Well Construction & Pump Installation Permit Application

Please review the following permit applications pursuant to your area of concern and submit your comments to us by August 3, 1994.

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

JZ:ky
Enc.

Response:
☑ We have no objections
( ) Not subject to our regulatory authority & permit
( ) Comments attached
( ) Additional information requested
( ) Extended review period requested

Contact Person: Luis A. Manrique

Signed: [Signature]

Date: 08/05/94
TO:        Dr. Don Hibbard, Director
          Historic Preservation Program
          Mr. Henry M. Sakuda, Administrator
          Division of Aquatic Resources

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

SUBJECT:  Well Construction & Pump Installation Permit Application

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

JZ:ky
Enc.

Response:
( ) We have no objections
( ) Not subject to our regulatory authority & permit
(x) Comments attached
( ) Additional information requested
( ) Extended review period requested

Contact Person: ___________________________ Phone: ___________________________
Signed: ___________________________ Date: 8/1/94
MEMORANDUM

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

FROM: Henry Sakuda, Administrator
Division of Aquatic Resources

SUBJECT: Comments on Well Construction and Pump Installation Permit Applications for Flagg Well 1, Well No. 3010-01, Hawaii (Well and Pump); Maalaea Power Backup Well, Well No. 4829-03 (Well and Pump); Kapalua Well 3, Well No. 5938-04, Maui (Well Construction)

Flagg Well 1

The application by Clair E. Flagg is to drill a new well and install a pump to deliver approximately 500,000 gallons of water to an existing 822 lot zoned subdivision for domestic usage. The well is located at 2,680 feet elevation in the Kilauea region of the Big Island. The area contains no surface water habitats that are likely to be affected by the well.

Maalaea Power Backup Well

The application by Maui Electric Company is drill a new well and install a pump to deliver approximately 260,000 gallons of water per day in the event of maintenance downtime or breakdown of an existing nearby well. The proposed well is located behind the old Maui airport adjacent to Kealia Pond. We would be concerned about the potential for dewatering of the environmentally valuable Kealia Pond area, but the application suggests there would be no actual increase in the amount of water pumped daily. Therefore, we have no objection to the application.

Kapalua Well 3

The application by Maui Land and Pineapple Company is to drill a new well to serve as standby capacity for future domestic use in the Kapalua Water System, East Maui. The well will be located at 790 feet in elevation adjacent to Honokahna Gulch. We do not believe that the well presents and risk to surface water habitats.
TO: Honorable Hoaliku L. Drake, Director  
Department of Hawaiian Home Lands

   Mr. Clayton H.W. Hee, Chairman & Trustee At Large  
Office of Hawaiian Affairs

FROM: Keith W. Ahue, Chairperson

SUBJECT: Well Construction & Pump Installation Permit Application

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

JZ:ky
Enc.

Response:

( ) We have no objections
( ) Not subject to our regulatory authority & permit
( ) Comments attached
( ) Additional information requested
( ) Extended review period requested

Contact Person: Darrell Yagodich, Administrator  
Planning Office

Signed: Darrell Yagodich  
Date: 7/29/94
Mr. Thomas Arizumi, Chief
Environmental Management Division
State Department of Health
Five Waterfront Plaza
500 Ala Moana Blvd., Suite 250
Honolulu, Hawaii 96813

Attn: Mr. Dennis Tulang

Dear Mr. Arizumi:

Well Construction and Pump Installation Permit Application

Please review the following permit applications pursuant to your area of concern and submit your comments to us by August 3, 1994.

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

Sincerely,

RAE M. LOUI
Deputy Director

Response:
(×) We have no objections
( ) Not subject to our regulatory authority & permit
( ) Comments attached
( ) Additional information requested
( ) Extended review period requested

Contact Person: Lori Kajiwara
Signed: Lori Kajiwara

Phone: 586-4290
Date: 7-25-94
Mr. Thomas Arizumi, Chief  
Environmental Management Division  
State Department of Health  
Five Waterfront Plaza  
500 Ala Moana Blvd., Suite 250  
Honolulu, Hawaii 96813  

Attn: Mr. William Wong  

Dear Mr. Arizumi:  

Well Construction and Pump Installation Permit Application  

Please review the following permit applications pursuant to your area of concern and submit your comments to us by __August 3, 1994__.  

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Sincerely,

[Signature]

RAE M. LOUI  
Deputy Director

JZ:ky  
Enc.

Response:

- ☒ We have no objections
- ( ) Not subject to our regulatory authority & permit
- ( ) Comments attached
- ( ) Additional information requested
- ( ) Extended review period requested

Contact Person: Bill Wong  
Phone: 586-4258  
Date: 7/22/94
Mr. William W. Wilmore  
Maui Land & Pineapple Company, Inc.  
P.O. Box 187  
Kahului, Maui, HI 96732  

Dear Mr. Wilmore:  

We have received your application and filing fee for a permit to construct Kapalua Well #3 (Well No. 5938-04) at Kapalua, Maui, (TMK 4-2-1:01). We are reviewing the application for completeness.  

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

Sincerely,  

[Signature]  

RAE M. LOUI  
Deputy Director  

JZ:ky
JUL 20 1994

TO: Honorable Hoaliku L. Drake, Director
Department of Hawaiian Home Lands

Mr. Clayton H.W. Hee, Chairman & Trustee At Large
Office of Hawaiian Affairs

FROM: Keith W. Ahue, Chairperson

SUBJECT: Well Construction & Pump Installation Permit Application

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JZ:ky
Enc.

Response:
( ) We have no objections
( ) Not subject to our regulatory authority & permit
( ) Comments attached
( ) Additional information requested
( ) Extended review period requested

Contact Person: ____________________________ Phone: __________
Signed: ____________________________ Date: __________
JUL 20 1994

TO: Dr. Don Hibbard, Director
    Historic Preservation Program

    Mr. Henry M. Sakuda, Administrator
    Division of Aquatic Resources

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

SUBJECT: Well Construction & Pump Installation Permit Application

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JZ:ky
Enc.

Response:
( ) We have no objections
( ) Not subject to our regulatory authority & permit
( ) Comments attached
( ) Additional information requested
( ) Extended review period requested

Contact Person: ____________________________ Phone: _________

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

Attn: Mr. William Wong

Dear Mr. Arizumi:

Well Construction and Pump Installation Permit Application

Please review the following permit applications pursuant to your area of concern and submit your comments to us by August 3, 1994.

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Sincerely,

[Signature]

RAE M. LOUI  
Deputy Director

Response:
( ) We have no objections
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State Department of Health
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Sincerely,

RAE M. LOUI
Deputy Director

Response:
( ) We have no objections
( ) Not subject to our regulatory authority & permit
( ) Comments attached
( ) Additional information requested
( ) Extended review period requested

Contact Person: ______________________________________ Phone: ____________

Signed: _____________________________________________ Date: ____________
Ms. Marjorie Ziegler  
Sierra Club Legal Defense Fund, Inc.  
223 South King Street, Suite 400  
Honolulu, Hawaii 96813  

Dear Ms. Ziegler:

Well Construction and Pump Installation Permit Application

Please review the following permit applications pursuant to your area of concern and submit your comments to us by August 3, 1994.

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Sincerely,

[Signature]

RAE M. LOUI  
Deputy Director

Response:  
( ) We have no objections  
( ) Not subject to our regulatory authority & permit  
( ) Comments attached  
( ) Additional information requested  
( ) Extended review period requested

Contact Person: ____________________________  Phone: ____________

Signed: _________________________________  Date: ____________
Mr. David Craddick, Director  
Department of Water Supply  
County of Maui  
200 South High Street  
Wailuku, Hawaii 96793

Dear Mr. Craddick:

Well Construction and Pump Installation Permit Application

Please review the following permit applications pursuant to your area of concern and submit your comments to us by __August 3, 1994__.

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Sincerely,

[Signature]

RAE M. LOUI  
Deputy Director

JZ:ky  
Enc.

Response:
( ) We have no objections  
( ) Not subject to our regulatory authority & permit  
( ) Comments attached  
( ) Additional information requested  
( ) Extended review period requested

Contact Person: ____________________________ Phone: ____________

Signed: ____________________________ Date: ____________
May 26, 1994

State of Hawaii
Commission of Water Resource Management
Department of Land and Natural Resources
Post Office Box 621
Honolulu, Hawaii 96809

Dear Sirs:

Subject: Water Well Construction Permit

Enclosed herein is our Well Permit Application for Kapalua Well No. 3 as described. Also enclosed is our check for $25.00 as a filing fee.

Any questions and correspondence should be directed to me at Post Office Box 187, Kahului, Maui, Hawaii 96732. I can also be reached by telephone at 669-5565 or by fax at 669-6968.

Mahalo,

William W. Jilmore
Manager
WWW/dm

Enclosures

C: Tom Nance/Tom Nance Water Resource Engineering
   (w/copy of application)
APPLICATION FOR PERMIT

1. APPLICANT: (may be a, b, or c, but all must be filled in)
   (a) WELL OWNER: Maui Land & Pineapple Company, Inc.
   Firm/Name _________________________
   Contact Person _____________________
   Address ____________________________
   P.O. Box 187
   Kahului, Maui, Hawaii 96732

   (b) LANDOWNER: Maui Land & Pineapple Company, Inc.
   Firm/Name _________________________
   Contact Person _____________________
   Address ____________________________
   P.O. Box 187
   Kahului, Maui, Hawaii 96732

   (c) CONTRACTOR
   Firm/Name _________________________
   Signature __________________________
   Date ________________________________
   Address ____________________________

2. WELL LOCATION/NAMES: Kapalua Well No. 3
   Island Maui
   Address Above the pineapple fields at Kapalua
   (Attach a USGS map, scale 1"=2000', and a property tax map showing well location referenced to established property boundaries.)

3. (a) PROPOSED WORK:
   • Drill New Well  □ * Alter Location
   □ Modify Existing Well  □ Redrill
   □ Install New Pump  □ Replace Pump
   □ Be sure to complete and submit well abandonment report upon completion of work.

   (b) WELL TYPE:
   □ Dug  □ Bored  □ Driven  □ Drilled  □ Radial
   Is this well a part of a battery of wells? □ Yes □ No
   (Briefly describe and fill in the diagram on the back of this form.)

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

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

6. (a) PROPOSED AMOUNT OF WITHDRAWAL:
   □ Flow-meter  □ Open-pipe  □ Orifice Plate  □ Weir
   remarks below _____________ gallons per day

   (b) METHOD OF FLOW MEASUREMENT:
   □ Flow-meter  □ Open-pipe  □ Orifice Plate  □ Weir

7. PENDING ACTIONS:
   □ CDUA □ SMA □ EIS □ EA □ NONE □ Other (explain)
   To be determined; see ____________________________

8. REMARKS, EXPLANATIONS:
   See Back Side
   ____________________________________________________________
   ____________________________________________________________
   (If more space is needed, continue on back)

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

Well Owner _________________________ Landowner _________________________
Signature __________________________ Signature __________________________
Date 5-17-94 Date 5-17-94

For Official Use Only:
Date Received _______________________
Date Accepted _______________________
Field Checked By ____________________
Date ______________________________
Longitude __________________________
Aquifer System Name __________________
State Well No. ______________________

Date ______________________________

8/24/93
8. REMARKS, EXPLANATIONS: The proposed well would be the third constructed to provide drinking water supply to the service area of the Kapalua Water System. The well would be owned by Maui Land & Pineapple Company. Through a PUC-approved purchase agreement, the well would be operated by the Kapalua Water System as a third source of supply (in addition to Wells 1 and 2, State Nos. 5938-02 and -03). The third well is needed to ensure that the system has adequate source standby capacity to meet projected future water use requirements.

9. PROPOSED WELL SECTION

- Elevation at top of casing: 792 ft., msl.
- Ground Elevation: 790 ft., msl*
- Cement Grout: 770 ft.
- Rock Packing: 60 ft.
- Hole Diameter: 21 in.
- Total Depth: 830 ft.
- Solid Casing: Material: Steel, Length: 780 ft, Diameter: 14 in, Wall thickness: 0.375 in
- Casing: Perforated: None, Screen: None
- Material: Steel, Length: 50 ft, Diameter: 14 in, Wall thickness: 0.3125 in
- Openings: 80 sq. in./L.F.
- Open Hole: Length: None, Diameter: None

*Approximate elevation at time of filing application. Ground elevation above mean sea level (msl) by a surveyor licensed by the State must be submitted at start of construction. Final elevations of well components shall be submitted in the well completion/well abandonment reports.
RE: KAPALUA WELL NO. 3 - FILING FEE

$25.00

KAPALUA LAND COMPANY, LTD.
a subsidiary of Maui Land & Pineapple Company, Inc.