Fig. 1  MOKULEIA LAND COMPANY WELLS
Mokuleia, Oahu
Prepared for Mokuleia Land Company

- Wells in use by Mokuleia Land Co.
- Wells drilled, not in use yet - casings have caps
- Well not used due to poor quality water.

SCALE IN FEET
Our registration file indicates this was a 10-horse pump, at "Alika's House", salty and smelly, used for irrigation but not in use since the early 80s. Going to a 50 gpm pump from this one means no need a permit. Just file a WCR2, with water levels & chlorides.

"Tracie Sober" <tracie@vwdhi.com>

The original pump was an old Wilton turbine pump. It must have been able to crank out a lot of water.

From: Charley.F.Ice@hawaii.gov [mailto:Charley.F.Ice@hawaii.gov]
Sent: Tuesday, February 23, 2010 2:44 PM
To: Tracie Sober
Subject: Re: 3410-10

Tracie, what was the original pump size? This well was drilled in 1946...

"Tracie Sober" <vwdhi@lava.net>

Charley,
I wanted to find out the status of the pump replacement permit.
Thanks,
Tracie[attachment "Mokuleia 3410-10.pdf" deleted by Charley F.Ice/DLNR/StateHiUS] [attachment "GRAY PUMP.JPG" deleted by Charley F.Ice/DLNR/StateHiUS] [attachment "GRAY PUMP 2.JPG" deleted by Charley F.Ice/DLNR/StateHiUS] [attachment "GRAY PUMP3.JPG" deleted by Charley F.Ice/DLNR/StateHiUS]
Much smaller. It is a little Grundfos 3' 1/2 HP max gpm 15. Can this be considered a pump replacement without having to go through all the reviews?
Thanks,
Tracie

From: Charley.F.ICE@hawaii.gov [mailto:Charley.F.ICE@hawaii.gov]
Sent: Tuesday, February 23, 2010 6:06 PM
To: tracie@vwdhli.com
Subject: RE: 3410-10

I'm thinking this new proposed pump is smaller?

The original pump was an old Wilton turbine pump. It must have been able to crank out a lot of water.

From: Charley.F.ICE@hawaii.gov [mailto:Charley.F.ICE@hawaii.gov]
Sent: Tuesday, February 23, 2010 2:44 PM
To: Tracie Sober
Subject: Re: 3410-10

Tracie, what was the original pump size? This well was drilled in 1946...
FROM: RYAN
TO: CHING, F., FUJII, N., GOODING, K., HARDY, R., HIGA, D., ICE, C., IMATA, R., KAWAHARA, K.

COMMISSION ON WATER RESOURCE MANAGEMENT
ROUTE SLIP FOR NEW APPLICATIONS

FROM: RYAN
TO: CHING, F., FUJII, N., GOODING, K., HARDY, R., HIGA, D., ICE, C., IMATA, R., KAWAHARA, K.

DATE: 6-Nov-09
SUSPENSE DATE: 13-Nov-09

TO: CHING, F.
INIT: KUNIMURA, I.
TO: NAKAMA, L.
INIT: OHYE, M.
TO: SAKODA, E.
INIT: SWANSON, S.
TO: UYENO, D.
INIT: YODA, K.
TO: YOSHINAGA, M.

PLEASE:
1. Review & Comment
2. Take Action
3. Type Draft acknowledgment letter
4. Type Final, label file folder, update People.db
5. File
6. Xerox copies

WELL NUMBER 3410-10
WELL NAME Mokuleia Gray
WUP Number na (individual domestic)

ATTACHMENTS FOR APPLICATION PROCESSING - Both applicant & staff generated
1. TRANS. LETTER
2. PERMIT PROCESS TABLE
3. CWRM MAP
4. APPL. FORM (11 COPIES)
5. USGS MAPS (11 COPIES)
6. TAX MAPS (11 COPIES)
7. PARCEL OWNER VERIF.
8. MLS PRINTOUT
9. CONTRACTOR VERIF.
10. DCCA LICENSE SCREEN PRINTOUT
11. ALL INFO FILLED IN
12. BACKGROUND CHECK

FOLDER:
- MADE NEW FILE FOLDER, ATTACHED
- FILE FOLDER ALREADY MADE, IN FILE CABINET

INCOMPLETE ACTION DATES:

DATE ACTION
24-Feb-10 10 hp pump to be replaced by 3½ hp pump (see attachment)
Please cancel application: contractor notified that WCR 
WL & CL are sufficient

Do we need to update TMK? (well index)

2 wells owned by M. Ranch are: 5-8-003:005 (w 3410-01)
6-8-003:005 (w 3410-02)
6-8-003:020 (w 3410-03)

Also:
3410-01, 02, 03 are listed in DB as on 6-8-005:020, when it's parcel 040
according to maps done for S. Swanson's field verification
<table>
<thead>
<tr>
<th>F YR</th>
<th>APP D</th>
<th>OBJ</th>
<th>CTR</th>
<th>PROJECT</th>
<th>PH ACT</th>
<th>AMOUNT</th>
<th>NAME/DESCRIPTION (WANG INPUT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>10</td>
<td>326</td>
<td>C</td>
<td>1026</td>
<td>0752</td>
<td>(1) $25.00</td>
<td>Ralph S. Gray</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(2)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(3)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(4)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(5)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(6)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(7)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(8)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(9)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(10)</td>
<td></td>
</tr>
</tbody>
</table>

**TOTAL**: $ 25.00

**REMARKS**: LINE (1) Mokuleia Well

LINE (2)
LINE (3)
LINE (4)
LINE (5)
LINE (6)
LINE (7)
LINE (8)
LINE (9)
LINE (10)
## STATE OF HAWAII
### DEPARTMENT OF LAND AND NATURAL RESOURCES
#### COMMISSION ON WATER RESOURCE MANAGEMENT
##### APPLICATION FOR A WELL CONSTRUCTION / PUMP INSTALLATION PERMIT

Instructions: Please print in ink or type and send completed application with attachments to the Commission on Water Resource Management, P.O. Box 621, Honolulu, Hawaii 96809. Application must be accompanied by 10 copies and a non-refundable filing fee of $25.00 payable to the Dept. of Land and Natural Resources. The Commission may not accept incomplete applications. For assistance, call the Regulation Branch at 587-2325. For further information and updates to this application form, visit http://www.hawaii.gov/dlnr/cwrm.

### WELL LOCATION INFORMATION

<table>
<thead>
<tr>
<th>1. STATE WELL NO. (if already assigned)</th>
<th>2. WELL NAME</th>
<th>3. ISLAND</th>
<th>4. TINR</th>
</tr>
</thead>
<tbody>
<tr>
<td>34104-10</td>
<td>Mokuakai</td>
<td>Oahu</td>
<td>003</td>
</tr>
</tbody>
</table>

The following must be attached before this application is accepted as complete:
- Portion of 7.5-Minute Series USGS topographic map (scale 1:24,000) with well location labeled and include the name of the quad map
- Property tax map, showing well location referenced to established property boundaries
- Photograph of the proposed well site
- A schematic diagram showing the site, access road and proposed well infrastructure
- As far as possible, attach a prining plan with cross section profiles showing existing and finish grades.

### WELL OPERATOR'S NAME/COMPANY

| Operator's Mailing Address
|--------------------------------|
| Same as Applicant

### LANDOWNER'S NAME/COMPANY

<table>
<thead>
<tr>
<th>Landowner's Contact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ralph Epiry</td>
</tr>
</tbody>
</table>

### PROPOSED WELL CONSTRUCTION

<table>
<thead>
<tr>
<th>Proposed Work</th>
<th>Construction Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>X Construct New Well</td>
<td></td>
</tr>
<tr>
<td>X Modify Existing Well</td>
<td></td>
</tr>
<tr>
<td>X Abandon/Seal Well</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Construction Type</th>
<th>Number of wells</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dog</td>
<td></td>
</tr>
<tr>
<td>Shaft</td>
<td></td>
</tr>
<tr>
<td>Tunnel</td>
<td></td>
</tr>
</tbody>
</table>

### PROPOSED PUMP INSTALLATION

<table>
<thead>
<tr>
<th>Proposed Work</th>
<th>Proposed Pumps</th>
</tr>
</thead>
<tbody>
<tr>
<td>X Install New Pump</td>
<td></td>
</tr>
<tr>
<td>X Replace Pump</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Proposed Pumps</th>
<th>Number of Pumps</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flowmeter</td>
<td></td>
</tr>
</tbody>
</table>

### PROPOSED USE

- [ ] Municipal (water systems serving greater than 25 individuals or 15 service connections)
- [ ] Domestic
- [ ] Irrigation (describe crop and no. of acres)
- [ ] Military (describe)
- [ ] Other (describe)

### OTHER LEGAL REQUIREMENTS

If required, items 21. and 22. must be obtained before the Commission can legally issue a permit:

21. Conservation District Use Permit (CDUP)
   - [ ] Required, CDUP #
   - [ ] Not Required (attach documentation from OCCI)

22. Special Management Area Permit (SMAP)
   - [ ] Required, SMAP #
   - [ ] Not Required (attach documentation from applicable County agency)

23. Historic Preservation Permit (HPP)
   - [ ] I have consulted with the HPD regarding potential impacts of well construction activities on historic sites. I have attached applicable documentation from the HPD.

24. Water Use Permit No. (if applicable)

### Additional remarks, explanations, etc. (attach additional sheet if more space is needed)

Note: Signing below indicates that the signatories understand and swear that the information provided is accurate and true to the best of their knowledge. Further, the signatories understand that upon permit approval: 1) the proposed work is to be completed within two (2) years of the approval date; 2) the contractor shall submit to the Commission a well completion/abandonment report within 60 days after the completion date of the permitted work; 3) in the event that the application is not completed correctly, any permit may be suspended until the item is brought in to compliance, and any work done while the permit is in suspension may result in fines of up to $15,000/day.

### WELL DRILLER

<table>
<thead>
<tr>
<th>Licensee business name</th>
<th>C-57 License No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valley Well Drilling LLC</td>
<td>24947</td>
</tr>
</tbody>
</table>

### PUMP INSTALLER

<table>
<thead>
<tr>
<th>Licensee business name</th>
<th>C-57/C-57a License No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Island Pumping</td>
<td>C-57/C-57a</td>
</tr>
</tbody>
</table>

Signature: [Signature]
Print: [Print]
Date: [Date]
PROPOSED WELL SECTION

(Please attach schematic if different from diagram provided below)

Hole Diameter: __ in.

Elevation at top of casing __ ft., msl

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

Ground Elevation: __ ft., msl

Grouting method:

- Positive displacement
- Other

Cement Grout: __ ft.

(min. 70% of distance from ground elevation to top of water surface or 50 ft., whichever is less.)

Annular space between hole and casing (1.5" for positive displacement, 3" for other methods): __ in.

Rock or Gravel Packing:

- Material:
  - Crushed Basalt
  - Rounded Gravel

Estimated Water Level Elevation: __ ft., msl

Solid Casing: (__ 90% x (Ground Elev.-Water Level Elev))

Total Length: __ ft.

Nominal Diameter: __

Wall Thickness: __ in.

Bottom Elevation: __ ft., msl

Open Casing:

- Perforated
- Screen

Total Length: __ ft.

Nominal Diameter: __

Wall Thickness: __ in.

Bottom Elevation: __ ft., msl

Open Hole:

Length: __ ft.

Diameter: __ in.

Bottom Elevation: __ ft., msl

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

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

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

Example: Estimated + 2 ft. Water Level Elev. = Bottom Elevation of Well Limit = (2 - 0.25 x 8) = -18.5 ft.

Solid Casing Material:

Carbon Steel: compliant with (check one or more):
- ANSI/AWWA C200
- API Spec. 5L
- ASTM A53
- ASTM A139

And compliant with (check one or more):
- ASTM A242 (or A606)
- Type E
- Type S
- Grade B
- Other

Stainless Steel: (check one):
- ASTM A409 (production wells)
- ASTM A312 (monitor wells)

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

PVC Plastic conforming to ASTM F480 and (ASTM D1785 or ASTM D2241): (check one):
- Schedule 40
- Schedule 80
- Schedule 120

Thermoset Plastic: (check one):
- Filament Wound Resin Pipe conforming to ASTM D2996
- Centrifugally Cast Resin Pipe conforming to ASTM D2997
- Reinforced Plastic Mortar Pressure Pipe conforming to ASTM D3517
- Glass Fiber Reinforced Resin Pressure Pipe conforming to AWWA C950
- PTFE Fluorocarbon Tubing conforming to ASTM D3296
- FEP Fluorocarbon Tubing conforming to ASTM D3296

Open Casing Material:

Carbon Steel: compliant with (check one or more):
- ANSI/AWWA C200
- API Spec. 5L
- ASTM A53
- ASTM A139

And compliant with (check one or more):
- ASTM A242 (or A606)
- Type E
- Type S
- Grade B
- Other

Stainless Steel: (check one):
- ASTM A409 (production wells)
- ASTM A312 (monitor wells)

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

PVC Plastic conforming to ASTM F480 and (ASTM D1785 or ASTM D2241): (check one):
- Schedule 40
- Schedule 80
- Schedule 120

Thermoset Plastic: (check one):
- Filament Wound Resin Pipe conforming to ASTM D2996
- Centrifugally Cast Resin Pipe conforming to ASTM D2997
- Reinforced Plastic Mortar Pressure Pipe conforming to ASTM D3517
- Glass Fiber Reinforced Resin Pressure Pipe conforming to AWWA C950
- PTFE Fluorocarbon Tubing conforming to ASTM D3296
- FEP Fluorocarbon Tubing conforming to ASTM D3296

WCPI Application Form 05/20/2009