Memorandum

June 9, 2000

TO: Mike Nugent
   Land Division

FROM: Glenn R. Bauer
       State Geologist

SUBJECT: Exiting Well No. 4002-01, Panewa, Hawaii

Well No. 4002-01 was originally drilled for Hawaiian Paradise Park in 1972. The elevation of the top of the casing is 121.22 ft., msl. The static water level measured in 1972 was 9.7± ft., msl. A chloride sample collected during the aquifer test was 15 mg/l, indicating a very fresh source. The drawdown of the water level during this test averaged 0.53 ft at a pumping rate of 385 gallons per minute (gpm) or 0.55 million gallons per day (mgd) indicating an extremely good source of supply.

The physical data for this well is as follows:

<table>
<thead>
<tr>
<th>Top of Cas. Elev.</th>
<th>121.22 ft., msl</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dia. of Cas.</td>
<td>12 in. ID</td>
</tr>
<tr>
<td>Length of Solid Cas.</td>
<td>107 ft.</td>
</tr>
<tr>
<td>Bot. of Solid Cas. Elev.</td>
<td>14± ft., msl</td>
</tr>
<tr>
<td>Length of Perf. Cas.</td>
<td>20 ft.</td>
</tr>
<tr>
<td>Bot. of Perf. Cas. Elev.</td>
<td>-6± ft., msl</td>
</tr>
<tr>
<td>Dia. of Hole</td>
<td>16 in. to 127 ft., 12 in. to 133 ft.</td>
</tr>
<tr>
<td>Gravel pack</td>
<td>From depth 105 ft. to 127 ft.</td>
</tr>
<tr>
<td>Depth of Well</td>
<td>133 ft.</td>
</tr>
<tr>
<td>Bot. of Hole Elev.</td>
<td>-12 ft., msl</td>
</tr>
</tbody>
</table>

Even though the well is almost 30 years old, it should be in reasonable shape. We have no record of it being used. I recommend that this well be video logged to determine the condition of the casing and to insure that the well bore is free and clear from any obstruction. Additionally, the well should be pump tested again for a longer period of time to measure any changes in chloride concentration and to sample for other chemical constituents. The well can probably produce 1 mgd, but further testing can determine the optimum rate.
**DESCRIPTION**

Date of report: 4-4-72
Person filing report: Loran H. Runnels

A. OWNER Hawaiian Paradise Pk NAME Panawa #1

B. GENERAL LOCATION

C. DRILLING COMPANY: Roscoe Moss Co.

D. TYPE OF RIG: Cable Tool

E. ELEVATION, msl: Top of drilling platform: 121.22 ft. Bench mark and method used to determine height of drilling platform above ground surface: ft. elevation:

F. HOLE SIZE: 

- 16" inch dia. to 127... ft. below drilling platform.
- 12" inch dia. to 133... ft. below drilling platform.
- 8" inch dia. to ... ft. below drilling platform.

G. CASING INSTALLED: 

- 12" in. I.D. x 250 ft. wall solid section to 107 ft. below drilling platform.
- 12" in. I.D. x 250 ft. wall perforated section to 127 ft. below drilling platform.

H. ANNULUS: Grouted 0 ft. to 105 ft. below drilling platform.
Gravel packed 105 ft. to 127 ft. below drilling platform.

I. PERMANENT PUMP INSTALLATION:

- Pump type, make, serial no.
- Motor type, H.P., voltage, r.p.m.
- Depth of pump intake setting ft. below which elevation is ft.
- Depth of bottom of airlift ft. below which elevation is ft.

**HYDROLOGY**

J. INITIAL WATER LEVEL 111.52 ft. below drilling platform. Date of measurement: 3/16/72

K. INITIAL CHLORIDE: 18 ppm, total depth of well 133 ft. below drilling platform

L. PUMPING TESTS:

- Start water level 111.52 ft. below R. P.
- End water level 110.94 ft. below R. P.
- Depth of well 133 ft. below R. P.
- Start water level 111.52 ft. below R. P.
- End water level 111.04 ft. below R. P.
- Depth of well 133 ft. below R. P.

<table>
<thead>
<tr>
<th>Date</th>
<th>Start Water Level</th>
<th>End Water Level</th>
<th>Depth of Well</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/31/72</td>
<td>111.52 ft.</td>
<td>110.94 ft.</td>
<td>133 ft.</td>
</tr>
<tr>
<td>3/31/72</td>
<td>111.52 ft.</td>
<td>111.04 ft.</td>
<td>133 ft.</td>
</tr>
</tbody>
</table>

**SUBSURFACE FORMATION**

<table>
<thead>
<tr>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 7</td>
<td>Small loose rock soil</td>
<td>100 to 120</td>
<td>100 to 108</td>
<td>Red Cinders</td>
<td></td>
</tr>
<tr>
<td>7 to 14</td>
<td>Med. hard cracked rock</td>
<td>120 to 124</td>
<td>120 to 124</td>
<td>Med. hard rock</td>
<td></td>
</tr>
<tr>
<td>14 to 25</td>
<td>Med. hard grey rock</td>
<td>124 to 126</td>
<td>124 to 126</td>
<td>Red Cinders</td>
<td></td>
</tr>
<tr>
<td>25 to 32</td>
<td>Hard grey rock</td>
<td>126 to 133</td>
<td>126 to 133</td>
<td>Hard rock cracked</td>
<td></td>
</tr>
<tr>
<td>32 to 40</td>
<td>Cinders</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40 to 51</td>
<td>Med. hard grey rock</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>51 to 81</td>
<td>Hard grey rock</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>81 to 100</td>
<td>Red Cinders</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>100 to 108</td>
<td>Med. hard rock</td>
<td></td>
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</tr>
</tbody>
</table>

**REMARDS:**

FOR OFFICIAL USE

Latitude: 19,40,15
Longitude: 155,02,01

FOR DRILLER'S USE

Job Name: Panawa #1
Job No.: JU 71-11
NOTICE OF INTENT TO DRILL WELL

INSTRUCTIONS: Send two (2) copies to: Manager-Chief Engineer, Division of Water and Land Development, P. O. Box 373, Honolulu, Hawaii 96809. In filling out this form, refer to Chapter 101, entitled “Artesian Wells, Generally,” RLH 1955, 1963 Supplement.

Location of Well: (Describe and attach sketch or map) Hilo, Hawaii

Map attached for approx. location.

Owner of Well: Hawaiian Paradise Park Corp.

Mailing Address: 2207 Kalakaua Avenue, Waikiki, Hawaii 96815

Well Driller: ROSCOE MOSS COMPANY

Mailing Address: 830 Ahua Street, Honolulu, Hawaii 96819

Proposed Use of Well: (a) Domestic X (d) Others (Specify) 
(b) Industrial 
(c) Irrigation 

Remarks: Location of well moved to 119.90' per Telefon 3/9/72 w/ Drv. D

LONG. 155° 02' 01"
LAT 19° 40' 16"
WELL NO. 4002-01
ELEV. 119.90

Submitted by Roscoe Moss Co. 
Loran H. Runnells
For: Hawaiian Paradise Park

Jan. 4, 1972
Date Submitted

Signature of Owner

Title (If applicable)