ISLAND OF HAWAII
TOTAL = 2431 MGD
HYDROLOGIC UNITS
Sustainable Yield / Aquifer Code

WELL LOCATION

Map Projection: Universal Transverse Mercator
## COMMISSION ON WATER RESOURCE MANAGEMENT

**FROM:** LINNEL  
**DATE:** OCT 23 2000  
**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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<tbody>
<tr>
<td>BAUER, G.</td>
<td></td>
<td>LUM, A.</td>
<td></td>
<td>Approval</td>
<td>See Me</td>
</tr>
<tr>
<td>CHING, F.</td>
<td></td>
<td>NAKAMA, L.</td>
<td></td>
<td>Signature</td>
<td>Review &amp; Comment</td>
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<td>DANBARA, S.</td>
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<td>NAKANO, D.</td>
<td></td>
<td>Information</td>
<td>Take Action</td>
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<tr>
<td>FUJII, N.</td>
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<td>NISHIOKA, L.</td>
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<tr>
<td>HARDY, R.</td>
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<td>OHYE, M.</td>
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<td>SAKODA, E.</td>
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<td>SUBIA, S.</td>
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<td>SWANSON, S.</td>
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<td></td>
<td>YODA, K.</td>
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<td>KUNIMURA, I.</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

**Notes:**

Did we even get an answer about the geo... not meeting standards? What? Do the... does...
Mr. Steve Bowles  
Waimea Water Services, Inc.  
67-1161 Mamalahoa Highway, Suite 5  
P.O. Box 326  
Kamuela, HI 96743

Dear Mr. Bowles:

As you requested to Dale Nishimoto in a telephone conversation on October 3, 2000, we are providing U.S. Geological Survey (USGS) water-level data for well 8-6141-01, Waika Tank on the island of Hawaii. All data for this well are provisional and subject to revision until the data are reviewed and approved following standard USGS procedures. Elevations are referenced to mean sea level.

<table>
<thead>
<tr>
<th>Date</th>
<th>Time (24-hour clock)</th>
<th>Water-Level Elevation (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10/28/99</td>
<td>1100</td>
<td>no measurement; obstruction in well</td>
</tr>
<tr>
<td>11/02/99</td>
<td>1100</td>
<td>1245.37</td>
</tr>
<tr>
<td>01/31/00</td>
<td>1000</td>
<td>1244.97</td>
</tr>
<tr>
<td>04/11/00</td>
<td>1040</td>
<td>1244.90</td>
</tr>
<tr>
<td>06/08/00</td>
<td>1425</td>
<td>1244.87</td>
</tr>
<tr>
<td>07/19/00</td>
<td>1230</td>
<td>1244.84</td>
</tr>
</tbody>
</table>

The measuring point for this well is the paint mark at the top of the 4-inch steel casing, and its elevation is 2507.00 feet.

If you have any questions, please contact Jill Torikai at 808-587-2426 or at jtorikai@usgs.gov.

Sincerely,

Gordon W. Tribble  
District Chief

Copy: Ms. Linnel Nishioka, DLNR, Commission on Water Resource Management  
Mr. Milton Pavao, Hawaii County, Dept. of Water Supply
Mr. Gordon Tribble, District Chief  
U.S. Geological Survey  
Water Resources Division  
677 Ala Moana Boulevard, Suite 415  
Honolulu, Hawaii 96813  

Dear Mr. Tribble:

Well Completion Report for Well No. 6141-01

We have received your Well Completion Report Part I for the Waiaka Tank Exploratory Well (Well No. 6141-01). However, matters which must be addressed before we accept your report as complete are as follows:

1. Please sign the Well Completion Report at the appropriate signature blocks. We have attached the Report for this purpose.

2. Please explain why the well was only grouted 200'.

Please respond to the above item(s) within sixty (60) days of this letter's date. Failure to do so may result in fines of up to $1000 per day.

If you have any questions, please contact Ryan Imata of the Commission staff at 587-0255.

Sincerely,

LINNEL T. NISHIOKA  
Deputy Director

RI:ss  
Attachment
**COMMISSION ON WATER RESOURCE MANAGEMENT**

**FROM:** LINNEL  
**DATE:** JAN - 7 2000  
**TO:**

<table>
<thead>
<tr>
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Ms. Linnel T. Nishioka  
Deputy Director  
State of Hawaii  
Department of Land and Natural Resources  
Commission on Water Resources Management  
P.O. Box 621  
Honolulu, Hawaii 96809

Dear Ms. Nishioka:

As promised in my letter to you dated December 22, 1999, enclosed please find the final overdue Well Completion Report for the Waiaka Tank Exploratory Well (6141-01), Hawaii.

If you have any questions, please contact me or Todd Presley at 522-8290.

Sincerely,

Gordon W. Tribble  
District Chief

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

Dear Ms. Nishioka:

As discussed in a telephone conversation with Roy Hardy, we are providing copies of the level notes for the following wells drilled by the U.S. Geological Survey on the island of Hawaii:

- 8-3155-01 Kealakekua
- 8-3255-01 Kainaliu
- 8-3957-02 Kailua
- 8-4708-02 Kaieie Mauka
- 8-6141-01 Waiakea Tank
- 8-6240-01 Waimea

If you would like further information or if you have any questions, please contact Jill Torikai at 587-2426.

Sincerely,

Gordon W. Tribble  
District Chief

enclosures
**STREAM**
Well 6-6141-01

**LOCALITY**
Waialua, North, Waimea

**PARTY**
C.J.E., CB *

**DATE**
March 22, 1960

---

<table>
<thead>
<tr>
<th>STATION</th>
<th>B. S.</th>
<th>HT. INST.</th>
<th>F. S.</th>
<th>ELEVATION</th>
<th>REMARKS</th>
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<tbody>
<tr>
<td>BM</td>
<td>3.935</td>
<td>2510.765</td>
<td></td>
<td>2506.33</td>
<td>Tablet on base of tank</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3.889</td>
<td>SE Corner of conc. pad. Paint mark</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2.993</td>
<td>Top of Aluminum base on 12&quot; casing</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3.268</td>
<td>Top of Aluminum base on 4inch steel casing</td>
</tr>
<tr>
<td>BM</td>
<td>3.985</td>
<td>2510.033</td>
<td></td>
<td>2506.33</td>
<td>Tablet on base of tank</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>MP=2507.00</strong></td>
<td>Paintmark top of 4-inch steel casing</td>
</tr>
</tbody>
</table>

**Note:** Elevation of BM established 3-22-1960 by Ronaldo B. Aurelio - Licensed Professional Land Surveyor No. 1549, State of Hawaii, Employed by DwS, Hilo Hawaii

---

**No. 1 of 1 SHEETS**
**COMP. BY CB**
**OK. BY D. Yeates**
WCR 1 Check for Well No. 6141-01 (survey to regulation memo)

1. **Pump Tests Check**
   - Glenn Bauer *(initial)*
   - **Step-Drawdown Test:**
     - acceptable: □ □
     - followed WCPI Stds: □ □
     - analysis attached: □ □
     - proposed pump cap o.k.: □ □
   - **Aquifer Pump Test:**
     - acceptable: □ □
     - followed WCPI Stds: □ □
     - T & S analysis attached: □ □
   - **Well Interference:**
     - estimated Steady-State drawdown at 1-mile radius is _______ ft.
     - analysis attached: □ □
   - **Stream Surface Water Impacted:** □ □
     - If yes, identify most probable stream

   1/19/00
   - No aquifer test performed

2. **Construction Check**
   - Mitch Ohye *(initial)*
   - **data complete:** □ □
   - followed WCPI Stds: □ □
   - wellphys.dbf updated: □ □
   - welaplic.dbf updated: □ □

   1. No signatures
   2. Group only 200

   15 USB's attempt to 10-11-00

   1/21/00
   - pump test not required for exp. well.
# WELL COMPLETION REPORT

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

**Instructions:** Please print or type and submit completed report within 60 days after well completion to the Commission on Water Resource Management, P.O. Box 621, Honolulu, Hawaii 96809. An as-built drawing of the well and chemical analysis should also be submitted. For assistance call the Commission Regulation Branch at 587-0225, or 1-800-468-4644 Extension 70225.

## Part I. WELL CONSTRUCTION REPORT

<table>
<thead>
<tr>
<th>1. State Well No.</th>
<th>2141-01</th>
<th>Well Name:</th>
<th>WAIHEE TANK WELL</th>
<th>Island: HAWAII</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Location/Address:</td>
<td>WAIHEE 79, WAIMAN, HAWAII</td>
<td>Tax Map Key:</td>
<td>6-4-01:70</td>
<td></td>
</tr>
</tbody>
</table>

### 3. Drilling Company:  
U.S. GEOLOGICAL SURVEY

### 4. Name of driller who performed work:  
Eduardo

### 5. Type of rig/construction:  
AIR ROTARY, HAMMER, DRILLING

### 6. Date(s) Well Construction and pump tests (if any) completed:  
8-6-97

### 7. GROUND ELEVATION (referenced to mean sea level, msl):  
2507 ft.

#### Well Bench Mark (description/location):  
Elevation(msl): ft.

### 8. DRILLER'S LOG:  
*Please attach geologic log (if available or if required by permit)*

<table>
<thead>
<tr>
<th>Depths (ft.)</th>
<th>Rock Description, Water Level, Dates, etc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>_____ to _____</td>
<td>_____ to _____</td>
</tr>
</tbody>
</table>

*(If more space is needed, continue on back.)*

### 9. Total depth of well below ground:  
1507 ft.

### 10. Hole size:  
- 17\(\frac{1}{2}\) inch dia. from 0 ft. to 50 ft. below ground
- 10 inch dia. from 50 ft. to 140 ft. below ground
- 8\(\frac{1}{2}\) inch dia. from 140 ft. to 1507 ft. below ground

### 11. Casing installed:  
- 4 in. I.D. x \(\frac{3}{4}\) in. wall solid section to 1260 ft. below ground
- 4 in. I.D. x \(\frac{3}{4}\) in. wall perforated section 1340-1507 ft. below ground

#### Casing Material/Slot Size:  
STEEL, TORCHED SLOTS, \(\frac{3}{4}\) x \(\frac{1}{2}\) in. WOD

### 12. Annulus:  
Grouted from 0 ft. below ground to 200 ft. below ground

### 13. Initial water level:  
124 ft. below ground.  
Date and time of measurement: 8-6-97 6:30 PM

### 14. Initial chloride:  
0 ppm  
Date and time of sampling:

### 15. Initial temperature:  
0 °F  
Date and time of measurement:

### 16. PUMPING TESTS:  
Reference Point (R.P.) used:  
which elevation is ft.

#### (1) Step-Drawdown Test Date  
Start water level ft. below R.P.

#### (2) Long-term Aquifer Test Date  
Start water level ft. below R.P.

### 17. Aquifer Pump Test Procedures data & graphs (1/9/96 LTAT Form) attached?  
Yes [X] No [ ]

### 18. As-built drawings attached?  
[X] Yes [ ] No

### 19. Other remarks/comments:  
*On back of this form*  
SEE ATTACHED

---

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

Surveyor (print)  
License No.  
Date

Applicant (print)  
Signature  
Date
WAIAKA TANK WELL
8-6141-01

HP = TOP OF 4" CASING

REFERENCE MARK

12 1/4" STEEL CASING

GROUT SEAL

CELLMNT PAD

17 1/2" HOLE

— 50′ SURFACE CASING AND SEAL

4" STEEL CASING

10" HOLE

1264′ DEPTH TO WATER

— 1140′

4" SLOTTED STEEL CASING

8 5/8" HOLE

— 1507′ TOTAL DEPTH
Remarks for Waiaka Tank Well, Waimea, Hawaii
State No. 8-6141-01

Drilling for the Waiaka Tank Well was started on April 21, 1998, and drilled to about 1,105 feet by July 2, 1998. Completion of the well was postponed for about a year. Drilling resumed on July 25, 1999, and was completed on August 4, 1999, to a final depth of 1,507 feet.

A depth of water of about 1,264 feet was measured prior to the installation of the casing on August 4, 1999.

The well was cased with 4-inch ID steel casing. Perforations in the casing of about 12 inches long were cut with a torch. The well was completed on August 6, 1999.

A depth of water of 1,261.63 feet from the top of the 4-inch casing was measured on November 2, 1999.
Waiaka Tank Well  State No. 8-6141-01

Drilling began 4-21-1998
used hammer for pilot hole and hole past 200 ft cased hole

0-105  hard
105-120  soft
120-130  hard
130-145  soft
145-190  med hard
190-200  very hard

surface casing set
200-205  very hard  grey
205-207  very hard  grey blue
207-210  med soft  red
210-215  med soft  red brown
215-220  med hard  grey brown
220-225  med hard  blue brown grey
225-230  very hard  blue rock
230-232  very hard  blue brown
232-235  med hard  red brown
235-240  med hard  red cinder
240-245  hard  blue rock
245-250  very hard  blue rock
250-252  broke out of hard stuff, red cinder
252-253  red cinder  med hard
253-255  hard  blue brown
255-258  hard  blue rock
258-260  med hard  red cinder
260-265  med hard  red brown
265-270  med hard  red grey
270-275  med hard  red grey
275-280  med hard  red grey
280-285  med hard  red brown
285-290  hard  blue rock
290-295  hard  blue
295-300  hard  blue red
300-305  hard
305-310  hard, big chunks  red blue
310-315  hard, still the same
315-320  hard, caving
320-325  hard
325-330  med hard
330-335  med hard
335-340  med hard
340-345  hard
345-347  void
347-350  hard
350-355  still hard
355-360  hard
360-365  med hard
365-370  med hard
370-375  med hard
375-380  med hard
380-385  hard  blue rock
385-390  hard  blue rock
390-395  hard  blue rock
395-400  med hard  red brown
400-405  med soft
405-410  med soft  red brown
410-415  med hard  red
415-420  med hard  gray brown
420-425  hard
425-430  med hard  red, blue
430-435  med hard  red grey
435-440  med hard  red
440-445  hard
445-450  hard blue gray
450-455  med hard  red blue
455-460  med hard
460-465  med soft
465-470  med soft
470-473  void
473-475  med hard  red
475-480  med soft
480-485  med hard
485-490  med hard  red brown
490-495  med hard
495-500  med hard  red blue
500-505  med hard  blue
505-510  hard  blue rock
510-515  hard  blue brown
515-520  hard  blue
520-525  hard  big chunks coming out
525-530  med hard  higher torque needed
530-535  med hard
535-540  med soft
540-545  void  lost circ
545-550  med soft  no circ
550-555  med hard
555-560  med hard
560-565  med soft
565-570  hard  no return
570-575  med hard
575-580  med hard
580-585  med soft  still no return
585-590  med soft
590-595  hard
595-600  hard  some voids, bit is binding up
600-605  med hard
605-610  hard
610-615  med hard
615-620  med hard
620-625  med hard
625-630  med hard
630-635 med hard
635-640 med hard
640-645 hard
645-648 hard
650- may have twisted off hammer bit
hammer bit twisted off, fished out successfully,
drilling resumes with 9 7/8 tricone
650-655 hard, got return back
655-660 hard
660-665 med hard
665-670 med hard
670-675 med hard good return
675-680 hard
680-685 hard
685-690 hard blue rock
690-695 hard blue rock
695-700 hard very slow
700-705 med hard blue red
705-710 med hard blue red
710-715 hard blue
715-720 hard blue
720-725 hard blue
725-730 hard blue red
730-735 no record
735-740 hard blue gray
740-745 hard blue rock
745-750 hard blue rock
750-755 hard
755-760 hard, good return
760-765 hard blue gray
765-770 med hard red
770-775 med hard red blue
775-780 med hard red grey
780-785 hard slow drilling
785-790 hard blue rock
790-795 hard
795-800 hard blue rock
800-805 hard blue rock
805-810 lost air, no circulation
810-815 hard
815-820 med hard
820-823 void
823-825 med hard
825-830 hard
830-835 hard
835-840 hard
840-845 hard
845-850 hard
850-855 hard
855-860 hard
860-866 void
866-870 med hard
870-875 med hard
875-878 void
878-880 med hard
880-885 hard
885-890 hard
890-895 hard
895-900 hard
900-905 hard
905-910 hard
910-915 hard
915-920 hard
920-925 hard, very slow
925-930 hard
930-935 hard
935-940 very hard took 5 hours to drill 8 feet
940-945 hard
945-950 still very hard drilling
950-955 hard
955-960 hard
960-965 hard
965-970 hard
970-975 hard
975-980 hard
980-985 hard
985-990 hard
990-995 hard still no return
995-1000 hard
1000-1005 hard
1005-1010 hard
1010-1015 hard
1015-1020 hard
1020-1025 hard
1025-1030 hard
1030-1035 hard
1035-1040 hard
1040-1045 hard
1045-1050 hard
1050-1055 hard
1055-1060 hard
1060-1065 hard
1065-1070 very hard blue rock
1070-1075 hard
1075-1080 hard same blue rock
1080-1085 hard blue rock
1085-1090 hard
1090-1095 hard
1095-1100 hard
1100-1105 hard

Drilling resumed on 7-25-99
no record between 1105 and 1140
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<td>1140-1145</td>
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<td>1155-1157</td>
<td>hard</td>
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<tr>
<td>1157-1160</td>
<td>med hard</td>
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<td>1160-1165</td>
<td>med hard</td>
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<td>1225-1227</td>
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</tbody>
</table>
Ms. Rae M. Loui  
Deputy Director  
State of Hawaii  
Commission on Water Resource Management  
Department of Land and Natural Resources  
P.O. Box 621  
Honolulu, Hawaii 96809

Dear Ms. Loui:

Please find enclosed a signed well construction permit for the Waiaka Tank Exploratory Well (Well No. 6141-01).

Sincerely,

[Signature]

Charles J. Ewart  
Associate District Chief

Enclosure
Waiaka Tank Exploratory Well, Well No. 6141-01

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 Waiaka Tank Exploratory Well (Well No. 6141-01) at Waimea, Hawaii, TMK 6-6-01: 70, subject to the Hawaii Well Construction & Pump Installation Standards (1/23/97) which include but are not limited to the following conditions:

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

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 attached Aquifer Pump Testing Procedure (attached). The permittee shall submit to the Chairperson the test results as a basis for supporting an application to install a permanent pump and withdraw water for use. No permanent pump may be installed until a pump installation permit is approved and issued by the Chairperson.

3. In basalt ground water, the depth of the well may not exceed one-fourth (1/4) of the theoretical thickness (41 times initial head) of the basalt 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 (587-0045) 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(0) 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: May 6, 1997
Expiration Date: May 6, 1999

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: 5/6/97
Printed Name: Charles J. Ewart Firm or Title: US Geological Survey
Driller's Signature: ___________________________ License #: ______ Date: 5/6/97
Printed Name: Charles J. Ewart Firm or Title: US Geological Survey

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

Attachment
c: USGS
Department of Health/ Safe Drinking Water, Wastewater, and Clean Water Branches
Hawaii Department of Water Supply
Mr. Charles Ewart  
U. S. Geological Survey  
677 Ala Moana Boulevard, Suite 415  
Honolulu, Hawaii 96813  

Dear Mr. Ewart:

Well Construction Permit  
Waiaka Tank Exploratory Well (Well No. 6141-01)

Enclosed are two (2) copies of your approved Well Construction Permit for the captioned well(s) which authorizes well construction activities but excludes installation work for your permanent pump. As part of the Chairperson’s approval, the following special conditions were added and are part of your permit under Permit Condition 12:

Special Conditions

1. The steel casing shall be of an ASTM rating in conformance with the Hawaii Well Construction and Pump Installation Standards.

2. The thickness of the walls of the casing shall be in conformance with the Hawaii Well Construction and Pump Installation Standards.

3. The minimum length of solid casing shall be 90% of the distance between the ground and the top of the aquifer.

4. The depth of grouting shall be in conformance with the Hawaii Well Construction and Pump Installation Standards.

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

The well owner is responsible for all conditions of the permit. This includes ensuring that the well construction contractor, or other party who constructs the well(s), submits a completed Part I of the Well Completion Report form (enclosed) within sixty (60) days after the well construction work is completed. Be advised that you may be subject to fines of up to $1000 per day for any violations of your permit conditions.

To validate your permit, please sign and have the contractor sign both permit originals and return one for our files. Also, copies of the aquifer pump test procedure and the well completion report form are enclosed for your use. Please provide all the information in this packet to your well drilling contractor.

Also attached for your information is a copy of the Department of Health’s review comments.

If you have any questions, please call Mr. Ryan Imata of the Commission staff at 587-0255.

Aloha,

Michael D. Wilson  
Chairperson

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 Waïaka Tank Exploratory Well (Well No. 6141-01) at Waimea, Hawaii, TMK 6-6-01: 70, subject to the Hawaii Well Construction & Pump Installation Standards (1/23/97) which include but are not limited to the following conditions:

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

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 attached Aquifer Pump Testing Procedure (attached). The permittee shall submit to the Chairperson the test results as a basis for supporting an application to install a permanent pump and withdraw water for use. No permanent pump may be installed until a pump installation permit is approved and issued by the Chairperson.

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

4. The permittee 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 (587-0045) 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 in-stream 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 Hawai'i-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: May 6, 1997
Expiration Date: May 6, 1999

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
Hawaii Department of Water Supply
Waiaka Tank Exploratory well.

Please attach a well form with info at top filled out. Thanks.

Also note there is a new merge file for this which adds a note about validity of permit (open signature made).
Well No. 6141-01  Date of Review 5/6/97  
Well Name Waiakea Tank Exploratory Well  
Applicant USGS  
Reviewer RRI  

SECTION 1: WELL LOCATION INFORMATION  

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<td>Aquifer Sector</td>
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<table>
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<th>Proposed Use</th>
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<td>System Sustainable Yield</td>
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SECTION 2: WELL SECTION DATA  (enter data in grey cells only)

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<th>Elevation at top of casing</th>
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<td>Ground Elevation</td>
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<td>Rock Packing</td>
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<td>Hole Diameter</td>
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<td>Total Depth</td>
<td>2000 ft.</td>
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| Estimated Head | 4.6 ft., m.s.l. |
| Calculated Aquifer Thickness | 188.6 ft. |
| County Water Supply (Y/N ?) | N |

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<tr>
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<td>Wall Thickness</td>
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SECTION 3: CHECKLIST  (values to check are shaded)

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<td>1/4 Aquifer Thickness</td>
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<td>Depth of Well below Sea Level</td>
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<td>Minimum Wall Thickness</td>
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<td>Material</td>
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<tr>
<td>County or Non-County</td>
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<tr>
<td>Minimum Thickness per standards</td>
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<td>Wall Thickness Provided</td>
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<td>Minimum Length of Solid Casing</td>
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<td>Calculated Depth of Grouting</td>
</tr>
<tr>
<td>Depth of Grouting provided</td>
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<tr>
<td>Thickness of Annular Space</td>
</tr>
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</table>

Note: no wells in vicinity.
TO: Honorable Lawrence Miike, Director  
Department of Health  
Attention: Dennis Tulang, Wastewater Branch  
William Wong, Safe Drinking Water Branch

FROM: Michael D. Wilson, Chairperson  
Commission on Water Resource Management

SUBJECT: Well Construction Permit Application  
Waiakea Tank Exploratory Well (Well No. 6141-01)

Transmitted for your review and comment is a copy of the captioned well application. We would appreciate your comments on the captioned application for any conflicts or inconsistencies with the programs, plans, and objectives specific to your department. Please respond by returning this cover memo form by May 15, 1997.

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

RESPONSE:

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

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

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

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

[ ] For the applicant's information, a source of possible wastewater contamination is located near the proposed well site (information attached).

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

[ ] No comments/objections

Contact Person: Photo: 886-4294
Signed: 4.28.97

Date: 4.28.97
TO: Honorable Lawrence Miike, Director  
Department of Health  
Attention: Dennis Tulang, Wastewater Branch  
William Wong, Safe Drinking Water Branch  

FROM: Michael D. Wilson, Chairperson  
Commission on Water Resource Management  

SUBJECT: Well Construction Permit Application  
Waika Tank Exploratory Well (Well No. 6141-01)  

Transmitted for your review and comment is a copy of the captioned well application. We would appreciate your comments on the captioned application for any conflicts or inconsistencies with the programs, plans, and objectives specific to your department. Please respond by returning this cover memo form by May 15, 1997.

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

Response:

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

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

[ ] No comments/objections

Contact Person: Bill Wong  
Phone: 586-4258

Signed: Bill Wong  
Date: 4/23/97
Mr. Charles Ewart  
U.S. Geological Survey  
677 Ala Moana Boulevard, Suite 415  
Honolulu, Hawaii 96813

Dear Mr. Ewart:

Well Construction Permit Application for Well No. 6141-01

We acknowledge receipt, on April 18, 1997, of your completed well construction / pump installation permit application for the Waiaka Tank Exploratory Well (Well No. 6141-01). You can expect your application to be processed within ninety (90) days from this date.

If you have any questions about your permit application, please contact Mr. Ryan Imata of the Commission staff at 587-0255.

Sincerely,

[Signature]

RAE M. LOUI  
Deputy Director

RI:ss
TO: Honorable Lawrence Miike, Director
Department of Health
Attention: Dennis Tulang, Wastewater Branch
William Wong, Safe Drinking Water Branch

FROM: Michael D. Wilson, Chairperson
Commission on Water Resource Management

SUBJECT: Well Construction Permit Application
Waiaka Tank Exploratory Well (Well No. 6141-01)

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

We would appreciate your comments on the captioned application for any conflicts or inconsistencies with the programs, plans, and objectives specific to your department. **Please respond by returning this cover memo form by May 15, 1997.**

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

RI:ss
Attachment(s)

RESPONSE:

[ ] This well qualifies as a source which will serve as a source of potable water to a public water system (serving 25 or more people at least 60 days per year or has 15 or more service connections) and must receive Director of Health approval prior to its use to comply with Hawaii Administrative Rules (HAR), Title 11, Chapter 20, Rules Relating to Potable Water Systems, §11-9.

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

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

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

[ ] For the applicant's information, a source of possible wastewater contamination is located near the proposed well site (information attached).

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

[ ] No comments/objections

Contact Person: ___________________________ Phone: ___________________________

Signed: ___________________________ Date: ___________________________
United States Department of the Interior

U.S. GEOLOGICAL SURVEY
WATER RESOURCES DIVISION
677 Ala Moana Boulevard, Suite 415
Honolulu, Hawaii 96813

FACSIMILE COVER SHEET

DATE: April 18, 1997
TO: Ryan Imata
COMPANY NAME: Commission on Water Resource Management
FROM: Charlie Ewart
NUMBER OF PAGES INCLUDING COVER SHEET: 3

REMARKS: Ryan - Attached are the key map and location map. Sorry I forgot them in my letter.

Thanks,

Charlie Ewart

OFFICE PHONE NUMBER: (808) 522-8290
FAX PHONE NUMBER: (808) 522-8298
SCALE 1:24 000

CONTOUR INTERVAL 40 FEET
DATUM IS MEAN SEA LEVEL

Kamuela Quadrangle (1982)

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U.S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225, OR RESTON, VIRGINIA 22092
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST
Ms. Rae M. Loui
Deputy Director
Commission on Water Resources Management
P.O. Box 621
Honolulu, Hawaii 96809

Dear Ms. Loui:

Please find enclosed a completed well construction permit application for the Waiaka Tank Exploratory Well. This well is being drilled under the Hawaii Counties/U.S. Geological Survey Exploratory Well Drilling Program.

Sincerely,

[Signature]
Charles J. Ewart
Associate District Chief

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

**APPLICATION FOR PERMIT**  
- ☐ Well Construction  
- ☐ Pump Installation

**Instructions:** Please print in ink or type and send completed application with attachments to the Commission on Water Resource Management, P.O. Box 821, Honolulu, Hawaii 96808. Application must be accompanied by a non-refundable filing fee of $25.00 payable to the Dept. of Land and Natural Resources. The Commission may not accept incomplete applications. For assistance, call the Regulation Branch at 587-0225.

### 1. APPLICANT: (circle primary contact a, b, or c)  
- **Primary Fax:** 522-8298

<table>
<thead>
<tr>
<th>(a) WELL OWNER</th>
<th>(b) LANDOWNER</th>
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</thead>
<tbody>
<tr>
<td>Firm Name: U.S. Geological Survey</td>
<td>Firm Name: Hawaii County Department of Water Supply</td>
</tr>
<tr>
<td>Contact Person: Charles Ewart</td>
<td>Contact Person: Milton Pavao</td>
</tr>
<tr>
<td>Address: 677 Ala Moana Blvd., Ste. 415</td>
<td>Address: 25 Aupuni Street</td>
</tr>
<tr>
<td>Honolulu, Hawaii 96813</td>
<td>Hilo, Hawaii 96720</td>
</tr>
</tbody>
</table>

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<tr>
<th>(c) CONTRACTOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Firm Name: U.S. Geological Survey</td>
</tr>
<tr>
<td>Contact Person: Charles Ewart</td>
</tr>
<tr>
<td>Address: 677 Ala Moana Blvd., Ste. 415; Honolulu 96813</td>
</tr>
</tbody>
</table>

### 2. WELL LOCATION/NAME:  
- Waiakea Tank Well, Waimea Island Hawaii

- Address: Highway 19, Waimea, Hawaii
- Tax Map Key: 6-6-01:70

(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
- Modify Existing Well
- Deepen
- Install New Pump
- Redrill
- Modify Pump
- Abandon/Seal *
- Replace Pump

* Be sure to complete and submit well abandonment report upon completion of work.

<table>
<thead>
<tr>
<th>(b) WELL TYPE:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dug</td>
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<tr>
<td>Bored</td>
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<tr>
<td>Driven</td>
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<tr>
<td>Drilled</td>
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<tr>
<td>Radial</td>
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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: None gallons per minute

| Pump Type: |
| Deep Well Turbine |
| Rotary |
| Propeller |
| Motor: |
| Diesel |
| Gas |
| Reciprocating |
| Impulse |
| Electric, rated horsepower: |
| If Pump Replacement, Existing Pump Capacity: |

| gallons per minute: |
| Military |
| Domestic (individual, noncommercial water systems) |
| Irrigation (crop) |
| Other (explain) |

### 5. PROPOSED USE:  
- Municipal (including hotels, stores, etc.)
- Military
- Other (explain) Exploratory/monitor
- Domestic (individual, noncommercial water systems)
- Industrial
- Irrigation (crop)
- Other (explain)

### 6. (a) PROPOSED AMOUNT OF WITHDRAWAL:  
- None gallons per day

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

### 7. PENDING ACTIONS:  
- CDUA
- SMA
- ES
- EA
- NONE
- Other (explain)

Completion Date:  
- [__ __ __] __ __ __

### 8. REMARKS, EXPLANATIONS:  
- Exploratory well is being drilled as part of the Hawaii Counties - U.S. Geological Survey Exploratory Drilling Program

(I if more space is needed, continue on back)

---

I understand that approval of this application attaches the following standard conditions: 1) the proposed work is to be completed within two (2) years of the approval date; 2) the contractor shall submit to the Commission a well completion/abandonment report within 30 days after the completion date of the permitted work; 3) monthly water use data shall be submitted to the Commission; 4) such approval shall not constitute a determination of correlative water rights and shall not guarantee the pump capacity or future use up to the permitted pump capacity.

**Well Owner:** U.S. Geological Survey  
**Landowner:** Hawaii County Dept. of Water Supply  
**Contractor:** U.S. Geological Survey

<table>
<thead>
<tr>
<th>Signature</th>
<th>Date</th>
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<tbody>
<tr>
<td>[signature]</td>
<td>[______] __ __ __</td>
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</tbody>
</table>

For Official Use Only:  
- Date Received:  
- Date Accepted:  
- Field Checked By:  
- Date:  
- Longitude:  
- Latitude:  
- Aquifer System Name: 80103  
- State Well No.: 0141-01

11/09/95 WCPI Form
9. PROPOSED WELL SECTION

**Elevation at top of casing**
2508 ft., msl.

**Cement Grout**: 200 ft.

**Rock Packing**: 0 ft.

**Hole Diameter**: 17 1/2 in.

**Ground Elevation**: 2507 ft., msl

**Solid Casing**:
- **Material**: steel
- **Length**: 200 ft.
- **Diameter**: 12 in.
- **Wall thickness**: 0.25 in.

**Casing**: 
- **Perforated**
- **Screen**
- **Material**: steel
- **Length**: 2000 ft.
- **Diameter**: 4 in.
- **Wall thickness**: 0.25 in.
- **Openings**: 2.25 sq. in./F.

Perforated length to be determined in field per saturated length, else solid

**Open Hole**:
- **Length**: 1800 ft.
- **Diameter**: 7 7/8 - 9 7/8 ft.

*To be determined in field

*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.