DAILY DRILLING REPORTS ARCHIVED MARCH '96

See Eric Hirano, DWRM
CONTOUR INTERVAL 40 FEET
DATUM IS MEAN SEA LEVEL
SHORELINE SHOWN REPRESENTS THE APPROXIMATE LINE OF MEAN HIGH WATER
THE MEAN RANGE OF TIDE IS APPROXIMATELY 2 FEET

FOR SALE BY U.S. GEOLOGICAL SURVEY, DENVER 2, COLORADO OR WASHINGTON 25, D.C.
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST
April 24, 1998

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

SUBJECT: Final E/A Keanae Well No. 2 (well No. 5108-01) Refer No.CWS-9702

Ms. Loui:

On behalf of the Maui County Department of Water Supply, we are enclosing a copy of the Final Environmental Assessment for the Keanae Well No. 2. The Department of Water Supply has concluded a Finding of No Significant Environmental Impact (FONSI).

Thank you for your cooperation. If you have any questions, please do not hesitate to call us at 249-0411.

Very truly yours,

C. Takumi Engineering, Inc.

Carl K. Takumi, P.E.

Encl.

cc: Herb Kogasaka, DWS
REGISTRATION OF WELL AND DECLARATION OF WATER USE

INSTRUCTIONS: Please type or print. If information is not available or not applicable, indicate as N/A. Fill out as completely as possible, sign, and file form with the Division of Water Resource Management, P.O. Box 373, Honolulu, Hawaii 96808. Phone 548-3648 or 548-7543 for assistance.

BATTERY OF WELLS: For a battery of wells, on the surface, in a tunnel, or in a shaft, submit a registration form for each well together with a single map or plot plan showing layout of wells.

STATE WELL NO.: 5108-01 Keanae Well

WELL NAME OR DESIGNATION: Keanae Well

ISLAND: Maui

SOURCE OR STATION NAME (For a battery of wells):

A. WELL OPERATOR

Firm name: Dept. of Water Supply

Contact person: ________

Address: P. O. Box 1109

Wailuku, Maui, Hawaii

Zip: 96793 Phone: 243-7730

B. OWNER OF WELL SITE

Firm name: County of Maui

Contact person: ________

Address: 200 S. High Street

Wailuku, Maui, Hawaii

Zip: 96793 Phone: ________

C. WELL LOCATION

Tax Map Key: 1-1-04:43 Town, Place, District: Keanae

Attach USGS "Quad" map (scale 1:24,000), tax map, or other map showing the well location.

D. WELL DATA

For Drilled Wells, submit "as-built" drawing, driller's log, and pump test results, and complete items below.

For Tunnels and Shafts, submit construction drawings, plot plan, or sketch map.

Ground elevation (mean sea level): 214 ft.

Reference point (Used to measure depth to water):

Elevation: 214 ft.

Description: Ground Surface

Depth to water (Below reference point): 208 ft.

Maximum recorded chloride: 50 ppm

Minimum recorded chloride: 13 ppm

Maximum chloride in 1987: 50 ppm

Year drilled or constructed: 1984

Well contractor: Roscoe Moss

Casing diameter: 8 in.

Solid casing depth (Below ground): 221 ft.

Perforated casing depth (Below ground): 281 ft.

Total depth of well: 330 ft.

Minimum chloride in 1987: 13 ppm

E. INSTALLED PUMP DATA

Pump type: Vertical shaft

Submersible

Centrifugal

Other (specify):

Power: Diesel, ______ HP

Gas, ______ HP

Electric, ______ HP

Other (specify): ______

Pump capacity: 100 gallons per minute

Pump installation contractor: Png Construction Company

... (continued over)

For Official Use Only:

Date received: 3-20-89 Date accepted: ________

Field checked by: ________ Date: ________

Latitude: 20° 51' 04" Hydrologic Unit:

Longitude: 156° 08' 07"

State Well No.: 5108-01

References: Hawaii Revised Statutes, Chapter 174C.

Hawaii Administrative Rules, Chapters 13-167 to 13-171.
**F. DECLARATION OF WATER USE**

NOTE: The purpose of the Declaration of Water Use is to obtain information necessary for the management of the State's water resources. The Declaration does not confer a legal right to water or its use.

Water use data are recorded:  
- Daily  
- Weekly  
- Monthly  
- Other (describe):

Method of measurement:  
- Flow Meter  
- Orifice  
- Other (describe):

Quantity of Use (Report metered or estimated monthly water use from the well described on the reverse side of this form, for the calendar years 1983 through 1987. For a battery of wells which are not individually metered, but which are connected to a single meter or other measuring device, report total use from the battery):  

<table>
<thead>
<tr>
<th>WATER USE, IN GALLONS x 1000</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>Pump</td>
</tr>
<tr>
<td>February</td>
</tr>
<tr>
<td>Under</td>
</tr>
<tr>
<td>March</td>
</tr>
<tr>
<td>Construction</td>
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<tr>
<td>April</td>
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<td>May</td>
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<td>June</td>
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<td>August</td>
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<td>September</td>
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<tr>
<td>October</td>
</tr>
<tr>
<td>November</td>
</tr>
<tr>
<td>December</td>
</tr>
<tr>
<td>ANNUAL</td>
</tr>
</tbody>
</table>

Minimum day's use: ___________ gallons  
Maximum day's use: ___________ gallons

Typical times of usage: __________________________

Type of Use (Check all category boxes that apply and provide additional information as indicated):

<table>
<thead>
<tr>
<th>Category</th>
<th>Additional Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ Municipal (including resorts, hotels, businesses)</td>
<td></td>
</tr>
<tr>
<td>☐ Domestic (systems serving 25 people or less)</td>
<td></td>
</tr>
<tr>
<td>☐ Irrigation</td>
<td></td>
</tr>
<tr>
<td>☐ Industrial</td>
<td></td>
</tr>
<tr>
<td>☐ Military</td>
<td></td>
</tr>
<tr>
<td>☐ Other</td>
<td></td>
</tr>
</tbody>
</table>

Acres Irrigated: ____________  
Crop(s):  
- ☐ Sugar  
- ☐ Pineapple  
- ☐ Other (specify):  
Non-Crop:  
- ☐ Landscape  
- ☐ Golf Course  
- ☐ Other (specify):  
Method:  
- ☐ Drip  
- ☐ Furrow  
- ☐ Sprinkler  
- ☐ Cooling  
- ☐ Manufacturing  
- ☐ Mill  
- ☐ Other (specify):  

Specify (livestock, aquaculture, etc.): ____________

I declare that the contents of the above Declaration of Water Use are, to the best of my knowledge and belief, true, correct, and complete.

Water User’s Signature:  
Printed Name:  
Firm or Title (Well Operator, etc.):  
Date:  
County of Maui
March 18, 1985

Mr. Les Matsubara, Director
Department of Health
State of Hawaii
P. O. Box 3378
Honolulu, Hawaii 96801

Attn: Mr. Thomas Arizumi

Dear Mr. Matsubara:

Subject: Keanae Water System

In response to your September 25, 1984 letter relative to the subject project, transmitted herewith for your review and information is a copy of Mr. Sam Hirota's March 12, 1985 letter pertaining to the relocation of the Underground Injection Control (UIC) Boundary in Keanae, Maui. I hope that the information provided by Mr. Hirota's office will assist in facilitating the aforementioned project.

Should you require additional information, please feel free to call me at 244-7816.

Once again, thank you for your support and continued assistance.

Sincerely,

Vince G. Bagoyo, Jr.
Director
VGB/ao

Enc.

cc: Howard Nakamura, Managing Director
    Susumu Ono, Chairman, Board of Land & Natural Resources
    Gordon Okazaki, DWS Deputy Director

"By Water All Things Find Life"
Mr. Vincent Bagoyo, Jr., Director  
Department of Water Supply  
County of Maui  
200 High Street  
Wailuku, Maui, HI 96793

Dear Mr. Bagoyo:

Subject: Keanae Water System  
Keanae, Maui, Hawaii

In reference to the State Department of Health's letter dated September 25, 1984 pertaining to your portion of Relocation of the Underground Injection Control (UIC) Boundary in Keanae, Maui, we have the following comments to offer on the Department's request for Sam O. Hirota's input:

1. Underground injection wells: To our knowledge, we do not know of any underground injection wells within a quarter mile radius of the well site 5108-01. Our site field visits to the Keanae area for this project did not reveal any injection wells.

2. Contamination potential of cemeteries situated near the well: Based on the geologic log during the drilling of well 5108-01, the concrete encasement of the well casing and the locations of the cemeteries in relation to the well site, we feel that the two cemeteries will not be a source of contamination for the well as explained below:

The Department of Land and Natural Resources report entitled "Groundwater Exploration At Keanae Well 5108-01, Maui, Circular C95" dated May 1984, indicated that "The deeply weathered lavas from the ground surface to a depth of 285 feet (about 70 feet below sea level) have very low permeability and yield little or no water." The 8-inch well casing was concrete grounded from ground level to a depth of 120 feet.
Mr. Vincent Bagoyo, Director  
Department of Water Supply  
March 12, 1985  
Page 2

The county cemetery is located across the Wailua Access Road from the well site and both sites are at elevation 200 feet. However, the topography of the cemetery slopes away from the road and well site so that surface runoff from the cemetery will flow away from the well site.

The Roman Catholic Church cemetery is located approximately at elevation 160 feet and about 400 feet from the limits of the protested area. Again, the topography of this cemetery slopes away from the well site.

If you have any questions, please call me.

Very truly yours,

SAM O. HIROTA, INC.

Douglas S. Kamiya, P.E.  
Civil Engineer

cc: Mr. Gordon Okazaki, Deputy Director  
Department of Water Supply
October 15, 1984

Mr. Howard Endo
M&E Pacific
1001 Bishop St., Suite 500
Honolulu, Hawaii 96813

Dear Mr. Endo:

As requested, we are pleased to enclose a Summary Report of the Drilling Logs and Pumping Test for the Keanae Well 5108-01, Keanae, Maui, Hawaii.

A similar report will be prepared for the Mililani wells upon completion of the project.

If you have any questions, please call Manabu Tagomori at 548-7643.

Very truly yours,

ROBERT T. CHUCK
Manager-Chief Engineer

MO:ko
Enc.
August 22, 1984

Mr. William S. Haines, Director
Department of Water Supply
County of Maui
P.O. Box 1109
Wailuku, Maui, Hawaii 96793

Dear Mr. Haines:

SUBJECT: KEANAЕ WELL NO. 5108-01

The Department of Health is reviewing the preliminary engineering report on Keanae Well No. 5108-01 prepared by Sam O. Hirota in support of your request to use the subject well to serve a public water system.

A very serious concern over the location of the well has been brought to our attention. Based on the location description stated in the report, the well is situated in an exempted aquifer as defined by Chapter 23, Title 11, Administrative Rules, "Underground Injection Control". This rule states that an exempted aquifer is "an aquifer or a portion thereof that is exempted from being used as an underground source of drinking water by the director". The approval of the Keanae Well to serve a public water system would be in conflict with the rule. Furthermore, an exempted aquifer would not be subject to the stringent controls of an aquifer protected by Chapter 23. Therefore, our evaluation pursuant to Section 29, Chapter 20, Title 11 of the Administrative Rules, finds that the source well would be prone to contamination from future activities not regulated by Chapter 23 or 20. The Department of Health therefore is unable to act on your request until the conflict with Chapter 23 has been resolved. The Department of Health suggests that the well be relocated or the location of the Underground Injection Control boundary be relocated, if permissible.

The feasibility of relocating the well may be examined by contacting the Department of Land and Natural Resources. The re-establishing of the Underground Injection Control line may be pursued by contacting the Environmental Permits Branch of the Department of Health.
Enclosed is a copy of the Chapter 23, Title 11, Administrative Rules, "Underground Injection Control" for your files and information.

Sincerely,

[Signature]

CHARLES G. CLARK
Director of Health

Enclosure

cc:  Chief Sanitarian, DHO Maui
     Chief, Environmental Permits Branch
     Carolee Aoki, Attorney General Office
     Howard Nakamura, County of Maui
     Susumo Ono, Department of Land and Natural Resources
Rules adopting Chapter 23 of Title 11, Administrative Rules.

SUMMARY

A new Chapter 23 of Title 11, Administrative Rules, "Underground Injection Control", is adopted.
§11-23-01 Purpose. The purpose of this chapter is to establish a state underground injection control (UIC) Program in order to protect the quality of the state's underground sources of drinking water (USDW) from pollution by subsurface disposal of fluids. Toward this end, conditions are specified to govern the location, construction and operation of injection wells so that injected fluids do not migrate and pollute USDW. This chapter establishes minimum standards and counties are not precluded from establishing more stringent standards. [Eff. JUL 6, 1984] (Auth: HRS §340E-2) (Imp: HRS §340E-2, 40 CFR §144.1)

§11-23-02 Scope. This chapter covers any injection well as herein defined in this chapter. Excluded from this chapter are:

(1) Individual wastewater systems (IWS) serving single family residential households which generate a volume of domestic sewage less than that cited in chapter 11-57, entitled "Private Wastewater Treatment Works and Individual Wastewater Systems", e.g., eight hundred gallons per day (gpd); and

(2) Non-residential waste disposal systems which receive solely sanitary wastes where the facility generates less than one thousand gpd. [Eff. JUL 6, 1984] (Auth: HRS §340E-2) (Imp: HRS §340E-2, 40 CFR §§144.1(e), 146.1 and 146.5)

§11-23-03 Definitions. As used in this chapter:

"Abandon" means to permanently discontinue usage; temporary or intermittent cessation of operation does not constitute abandonment. An abandoned well need not necessarily be a sealed well.

"Artesian" means a hydrologic condition whereby groundwater is confined, under pressure greater than atmospheric, by overlying, relatively impermeable strata. Because of hydrostatic pressure, the piezometric surface of an artesian aquifer rises above the bottom of the (upper) confining bed.

"Aquifer" means a geological formation, group of formations, or part of a formation that is capable of yielding a significant amount of water to a well, tunnel or spring.

"Caprock" means a geological formation or formations composed of terrigenous or marine sediments.
TITLE 11
DEPARTMENT OF HEALTH
CHAPTER 23
UNDERGROUND INJECTION CONTROL

§11-23-01 Purpose
§11-23-02 Scope
§11-23-03 Definitions
§11-23-04 Classification of exempted aquifers and underground sources of drinking water
§11-23-05 Identification of exempted aquifers and USDW
§11-23-06 Classification of injection wells
§11-23-07 Prohibition
§11-23-08 Construction conditions
§11-23-09 Siting and pre-construction requirements
§11-23-10 Provision for artesian aquifer protection
§11-23-11 Operating conditions
§11-23-12 Application procedures for UIC permit
§11-23-13 Submission of data
§11-23-14 Public notice of proposed wells injecting into USDW
§11-23-15 Public hearings
§11-23-16 Permit issuance
§11-23-17 Existing injection well registration
§11-23-18 Monitoring and reporting requirements
§11-23-19 Plugging and abandonment requirements
§11-23-20 Revocation, suspension or revision of UIC permits
§11-23-21 Penalties
§11-23-22 Severability
deposited over a formation or formations of volcanic origin. Caprock is substantially less permeable than volcanic formations, and is considered a "confining material".

"Confining materials or zone" means a geological formation or part of a formation capable of preventing or severely retarding fluid movement between different geological formations.

"Contaminant" means any substance or matter which causes, directly or indirectly, a detrimental physical, chemical, biological or radiological change in the existing water quality; used interchangeably with "pollutant".

"Department" means the department of health, state of Hawaii.

"Director" means the director of health or a duly authorized representative.

"Disposal well" means a well used for the disposal or emplacement of fluid or fluids, either by gravity flow or under pressure, into subsurface strata; often used interchangeably with "injection well".

"Exempted aquifer" means an aquifer or a portion thereof that is exempted from being used as an USDW by the director.

"Existing well" means a well which is in operation or has received official sanction from all of the necessary agencies, before the effective date of this chapter.

"Fluid" means any material or substance which flows or moves, whether a semisolid, liquid or gas.

"Formation" means a body of rock characterized by a degree of lithologic homogeneity or similarity which is prevailingly, but not necessarily, tabular and is mappable on the earth's surface or traceable in the subsurface.

"Geologist" means a person with a bachelors or higher degree in geologic sciences from an accredited college or university and a minimum of one year experience in well logging and testing.

"Ground water" means water below the land surface in a zone of saturation.

"Grouting" means the operation whereby a cement slurry is forced behind the casing for such purposes as: sealing the casing to the walls of the hole, preventing undesirable leakage of fluids out of the hole, and preventing migration of liquids or gases into the hole; or is pumped into a drill hole or well for plugging and abandonment.

"Hazardous waste" means a hazardous waste as defined extensively in Code of Federal Regulations
(CFR), Title 40—Protection of Environment, section 261.3 dated July 1, 1981. A hazardous waste may be categorized as such on the basis of its chemical content, toxicity, or whether it is corrosive, ignitable or reactive. The following is a partial list of some wastes which are excluded from the "hazardous waste" classification:

1. Household waste, from single and multiple residences or lodgings;
2. Solid wastes generated by any of the following and which are returned to the soils as fertilizers: the growing and harvesting of agricultural crops, the raising of animals, including manures;
3. Drilling fluids, produced waters, and other wastes associated with the exploration, development, or production of geothermal energy.

"HRS" means Hawaii Revised Statutes.
"Individual Wastewater System (IWS)" means the facility which disposes of treated or untreated domestic wastewater generated from a room or group of rooms forming a single habitable unit, including, but not limited to, cesspools, septic tanks and household aerobic units.
"Industrial" means associated with a productive enterprise using machinery and mechanical power or human power or both, including such enterprises as power generation and crop production.
"Inject" means to dispose or emplace fluids, either under pressure or by gravity flow, into a subsurface formation or formations.
"Injection well" means a well into which subsurface disposal of fluid or fluids occurs or is intended to occur by means of injection.
"Makai" means toward the sea or the area outside the UIC Line encircling the protected aquifer.
"Mauka" means toward the mountains or the encircled protected aquifer.
"Modify" means to make a minor or a basic change in the physical characteristics or the operational status of a well.
"Person" means any individual, partnership, firm, association, public or private corporation, trust estate, the federal, state or county governments or any of their agencies, or any other legal entity.
"Pollute" means:
(A) To alter the physical, chemical, biological or radiological properties of any state waters, such that the temperature, taste,
(B) To discharge any liquid, gaseous, solid, radioactive, or other substances, into any state waters as will or is likely to create a nuisance or render such waters unreasonably harmful, detrimental or injurious to public health, safety or welfare, including harm, detriment, or injury to public or private drinking water supplies.

"Sewage" means waste from all plumbing fixtures in residences, institutions, public and private buildings, and other places of human habitation, employment or recreation, whether treated or not by public or private sewage treatment plants.

"State" means state of Hawaii.

"UIC" means the underground injection control program under Part C of the Safe Drinking Water Act (P.L. 93-523) and chapter 340, HRS.

"UIC Line" or "the Line" means the line on the department of health UIC maps which separates, in plan view, exempted aquifers and USDW.

"Underground source of drinking water (USDW)" means an aquifer or its portion:

1. Which supplies any public or private drinking water system; or contains a sufficient quantity of ground water to supply a public water system; and
   A) Currently supplies drinking water for human consumption; or
   B) Contains fewer than ten thousand milligrams per liter (mg/L) total dissolved solids (TDS); and

2. Which is not an exempted aquifer.

"Volcanic" means material originating from a volcano; often, basaltic lava.

"Waste" means any solid, liquid or gaseous matter, whether treated or not, which, when injected, may pollute or tend to pollute the lands or waters, including, but not limited to, sewage; effluent; offal; garbage; refuse; and industrial, agricultural or radioactive fluids.

"Waste disposal system" means an excavation in the ground receiving wastes which functions by allowing fluids to seep through its bottom, sides or both, including cesspools, septic tanks, and seepage pits.

"Well" means a bored, drilled or driven shaft, or a dug hole, whose depth is greater than its widest surface dimension.
§11-23-03

The publications referred to or incorporated by reference in this chapter are available from the offices of the department of health.


§11-23-04 Classification of exempted aquifers and underground sources of drinking water. (a) Upon request, and with concurrence of the director, the department shall review the aquifer designations. The aquifer designations shall be reviewed at least every three years. In its review, the department may amend the status of an aquifer in accordance with chapter 91, HRS. The criteria for exempting aquifers from underground source of drinking water (USDW) status is as follows:

1. The aquifer does not currently serve as a source of drinking water; and
2. The aquifer cannot now and will not in the future serve as a source of drinking water because of any of the following criteria:
   A. It is situated at a depth or location which currently makes recovery of water for drinking water purposes economically or technologically impractical; or
   B. It is so contaminated that it would be economically or technologically impractical to render that water fit for human consumption; or
   C. The total dissolved solids (TDS) concentration of the ground water is more than five thousand mg/L, and it is not reasonably expected to supply a public or private drinking water system.

(b) The UIC maps shall indicate exempted aquifers and USDW, in plan view, by use of a UIC Line, and such maps are an integral part of this chapter. The department's UIC maps shall be the final authority for the identification of the aquifer boundaries on the land surface. Copies of the maps and this chapter are available for examination at an office of the department's environmental protection and health services division, the district health offices and other department offices on each island.

(c) Unless expressly exempted, all aquifers are considered to be USDW.
§11-23-06  

(2) Class II. Wells which inject fluids:
   (A) Which are brought to the surface in connection with conventional oil or natural gas production and may be com-
       mingled with waste waters from gas plants which are an integral part of production operations, unless those waters are classified as a hazardous waste at the time of injection;
   (B) For enhanced recovery of oil or natural gas; and
   (C) For storage of hydrocarbons which are liquid at standard temperature and pressure.

(3) Class III. Wells which inject for extraction of minerals including:
   (A) Mining of sulfur by the Frasch process;
   (B) In-situ production of uranium or other metals, using unconventional techniques to mine ore bodies; and
   (C) Solution mining of salts or potash.

(4) Class IV. Wells used by generators of hazardous waste or of radioactive waste, by owners or operators of hazardous waste management facilities, or by owners or operators of radioactive waste disposal sites to dispose of hazardous waste or radioactive waste into any geohydrologic formation, even if exempted.

(b) Without exception, only class V wells shall be permissible and are defined as follows:

   (1) Subclass A. Injection wells which inject fluids into an underground source of drinking water. Subclass A wells include:
       (A) Sewage injection wells; and
       (B) Industrial disposal wells other than those classified under subclasses AB or B.

   (2) Subclass AB. Injection wells which inject only into exempted aquifers. Subclass AB wells include:
       (A) Sewage injection wells; and
       (B) Industrial disposal wells, other than those classified under subclass B, such as brine disposal wells used in a desalinization process.

   (3) Subclass B. Injection wells which inject non-polluting fluids into any geohydrologic
§11-23-05 Identification of exempted aquifers and USDW. (a) The department has designated the following formations as exempted portions of aquifers: in the horizontal dimension, lands which are maika'i of the UIC Line; and in the vertical dimension:

(1) Where the volcanic formation is a non-artesian aquifer, the entire geologic column; or

(2) Where the volcanic formation is an artesian aquifer, from the subaerial ground surface down to fifty feet above the contact between the artesian volcanic aquifer and the overlying confining materials.

(b) Unless an aquifer is expressly exempted, as described above or depicted on the department-issued UIC maps, it is an underground source of drinking water.

(c) In areas where the UIC Line is defined by a roadway, a setback of one lot or one hundred fifty feet, whichever is less, from the mauka property line of that roadway may be considered to be within the exempted area. If the roadway is within a property, the setback shall extend to the mauka property line or to one hundred fifty feet from the mauka edge of said roadway, whichever is less. This interpretation of the UIC line shall be subject to all other conditions of this chapter. The applicant, on the permit application, shall request this interpretation, approval of which shall be based on the proximity and sensitivity of drinking water sources. [Eff. JUL 6, 1984 ]

(Auth: HRS §340E-2) (Imp: HRS §340E-2, 40 CFR §§144.7 and 146.4)

§11-23-06 Classification of injection wells.

(a) The department shall classify existing and proposed injection wells in accordance with the five classes of wells described in this section. Wells in classes I through IV are prohibited and are defined as follows:

(1) Class I. Wells which inject fluids beneath the lowermost formation containing, within one quarter mile of the well bore, an underground source of drinking water and which are used by:

(A) Generators of hazardous waste or owners or operators of hazardous waste management facilities; and

(B) Disposers of industrial and municipal waste fluids.
§11-23-08 Construction conditions. (a) No injection well shall be constructed unless, prior to the start of any construction:

1. Application is made for a UIC permit and all application procedures set forth in sections 11-23-12 through 11-23-15 are completed;

2. It is shown that the proposed injection well will comply with this chapter; and

3. The department, upon satisfaction of the requirements set forth in (a)(1) and (a)(2) of this section, approves the start of construction.

(b) Approval of the start of the construction of any injection well shall not be construed as approval for the operation of that injection well. Further, the approval of the start of construction does not guarantee the approval to operate upon completion of the injection well. Permits shall be issued only in accordance with this chapter and it is the duty of the applicant to insure compliance with the law and this chapter. [Eff. JUL 6, 1984 ] (Auth: HRS §340E-2) (Imp: HRS §340E-2)

§11-23-09 Siting and pre-construction requirements. (a) Any new injection well shall be sited beyond an area which extends at least one-quarter mile from any part of a drinking water source. This includes not only the surface expression of the water supply well, tunnel or spring, but also all portions of the subsurface collection system which may extend laterally, either at right or inclined angles to the ground surface. The area of protection shall be delineated by a reasonably smooth curve drawn to connect the points extending one-quarter mile beyond the most extensive portions of the drinking water source and its collection system.

(b) Where the surface expression of an existing drinking water source drawing from an artesian aquifer is located in an exempted caprock aquifer, a new injection well shall be located, in addition to subsection (a), outside an area measuring one-half mile wide, which is bisected by a line running hydrologically upgradient from the surface expression of the drinking water source to the UIC boundary line. This condition also applies to any future drinking water source which may be sited in an exempted aquifer.

(c) For a proposed subclass B injection well which is sited mauka of the UIC boundary line, in addition to meeting the minimum distance requirement of
formation, including non-exempted aquifers (USDW). Subclass B wells include:
(A) Air conditioning return flow wells used to return the water used for heating or cooling in a heat pump;
(B) Cooling water return flow wells used to inject water previously used for cooling;
(C) Drainage wells used to inject (often by gravity flow) surface fluids, primarily storm runoff;
(D) Recharge wells used to replenish, augment, or store water in an aquifer;
(E) Salt water intrusion barrier wells, used to prevent the intrusion of salt water into fresh water, if they inject water of equal or lesser chloride concentration as that portion of the aquifer into which injected;
(F) Wells used in aquaculture, if the water in the receiving formation has, either:
   (i) An equal or greater chloride concentration as that of the injected fluid; or
   (ii) A total dissolved solids concentration in excess of five thousand mg/L.
(G) Injection wells used in an experimental technology, which is one that has not been proven feasible under the conditions in which it is being tested; and
(H) All wells not included in subclasses A or AB of class V or in classes I through IV. [Eff. JUL 6, 1984 ]
(Auth: HRS §340E-2) (Imp: HRS §340E-2, 40 CFR §§144.6 and 146.5)

§11-23-07 Prohibition. (a) Without exception, any injection wells not defined by class V in section 11-23-06 shall not be permitted to be constructed, operated or to exist in the state. Class V injection wells shall be permitted to be constructed, modified and operated to the extent provided by, and subject to, the requirements of this chapter.
(b) No new subclass A or AB well shall be constructed or operated in a non-exempted aquifer after the effective date of this chapter.
[Eff. JUL 6, 1984 ] (Auth: HRS §340E-2) (Imp: HRS §340E-2, 40 CFR §§144.11, 144.12, 144.24 and 146.52)
departmental staff may observe the remedial operations. The final responsibility for remedial design, implementation and performance shall rest with the consulting engineer.

(g) Departmental staff shall have the right to enter property during normal working hours, without advance notification, for the purpose of observing injection well construction methods and progress.


§11-23-10 Provision for artesian aquifer protection. (a) Where an injection well is located in a caprock formation which overlies volcanic USDW under artesian pressure, the following conditions shall be applied:

(1) A buffer zone of at least fifty feet of the confining materials (caprock) or other impermeable substance, shall remain between the bottom of the injection well and the top of the volcanic aquifer, and

(2) Injection pressure, as measured at the feed elevation or well head, shall remain below the hydrostatic pressure of the volcanic aquifer (the artesian head) or two p.s.i., whichever is greater.

(b) The locations of artesian aquifer areas are described generally. The major areas, which have an extensive caprock formation, include:

(1) The southern coastal plains of Oahu, from Kahe Pt. (West Beach) to Wailea Pt. (Lanikai);

(2) The windward (eastern) coastal plains of Oahu, from Makalii Pt. (Punaluu) to Waialee;

(3) The northern coastal plains of Oahu, from Haleiwa to Mokuleia; and

(4) The Mana Plain on western Kauai, from Polihale to Kekaha.

Other artesian aquifer areas are found in valleys, where alluvium or other sedimentary material has been deposited to significant depths.

(c) If the ratio of the depth of the proposed injection well, to the estimated depth of caprock less fifty feet, is 1:2 or less, the applicant need not extend the depth of the injection well or wells in order to verify caprock thickness, prior to completion at the shallower proposed depth. The department shall estimate the depth of caprock by comparing lithology
subsection (a), the department of health shall require the applicant to submit water quality data representative of local conditions as part of the application. Where water quality data is lacking or insufficient to determine the areal water quality, the department may require the applicant to collect representative water samples from the injection well during construction. The samples shall be collected and analyzed, in accordance with standards and methods established in chapter 11-20, entitled "Potable Water Systems". The parameters for which values shall be identified are, at least, the following:

1. Chloride concentration,
2. Total dissolved solids (TDS), and
3. Coliform - Total; if found, then fecal and streptococcus determinations.

(d) The variety of injection wells and their uses dictate a variety of construction designs consistent with those uses, and precludes specific construction standards for each type of injection well outlined in this chapter. However, an injection well shall be designed for its intended use, in accordance with good engineering practices as recommended by the Honolulu Board of Water Supply's "Water System Standards", dated March, 1977.

(e) Vertical migration resulting in undesirable mixing of fluids from aquifers of substantially different water quality (due to improper well construction or use of an injection well) shall be prevented by preserving the integrity of the confining zone or zones by grouting or some other method acceptable to the department.

(f) If a large void, such as a lava tube or solution cavity, is encountered during drilling, where the drill rod drops more than three feet, measures shall be taken to prevent unacceptable migration of the injected fluids. The owner shall either verify that the void does not slope inland or construct the well in such a manner that wastes are not injected directly into the void. For the first option, a test boring which verifies the void's inclination inland of the wellsight shall be drilled. For the second option, the section of the well casing which passes through the void shall be without openings. Either the perforated casing shall be replaced with solid casing, or the holes in the casing shall be sealed by grouting or in some other manner approved by the department. The owner shall notify the department to arrange discussion and approval of any corrective actions. Scheduling of the procedures shall be arranged so that the
cause a violation of any primary drinking water rule or may otherwise adversely affect the health of one or more persons.

(c) All injection wells shall be operated in such a manner that they do not violate any of the department's administrative rules under title 11, Administrative Rules, regulating various aspects of water quality and pollution, and chapter 342, HRS. The rules include:

(1) Chapter 11-20, "Potable Water Systems";
(2) Chapter 11-57, "Private Wastewater Treatment Works and Individual Wastewater Systems"; and
(3) Chapter 11-55, "Water Pollution Control".

(d) If at any time the department learns that an injection well may cause a violation of primary drinking water rules, the department shall order the injector to take such actions as may be necessary to prevent the violation, including, where required, cessation of operation of the injection well.

(e) Notwithstanding any other provision of this section, the department shall issue a cease and desist order, effective immediately, upon receipt of information that a contaminant which is present in, or likely to enter, a system supplying water for human consumption, poses an imminent and substantial danger to the health of a person or persons. [Eff. JUL 6, 1984 ]

§11-23-12 Application procedures for UIC permit.

(a) No person shall operate, modify or abandon an injection well or wells without first obtaining a UIC permit from the department. Further, no person shall start construction of an injection well without first applying for a permit and obtaining the department's approval for the start of construction.

(b) All permit applications shall be made by the injection well owner on authorized departmental forms which shall be available at department offices. In the case of leasehold land, the applicant shall submit written proof of the consent of the land owner. In the case of a modification, the legal operator, with the written consent of the owner, may submit the application.

(c) An applicant may apply for a system permit rather than apply for each individual injection well if the wells meet all of the following conditions:

(1) Are owned by the same person;
from logs of borings in the vicinity. If, however, artesian aquifer conditions are encountered, the applicant shall have the options as set forth in subsection (f). The following is a table showing the depths needed to achieve the 1:2 ratio:

<table>
<thead>
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<th>Proposed depth of injection well:</th>
<th>10</th>
<th>15</th>
<th>20</th>
<th>25</th>
<th>30</th>
<th>40</th>
<th>50</th>
<th>60</th>
<th>70</th>
<th>80</th>
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<td>150</td>
<td>170</td>
<td>190</td>
<td>210</td>
<td>230</td>
<td>250</td>
</tr>
</tbody>
</table>

(d) If the ratio of the depth of the proposed injection well, to the estimated depth of caprock less fifty feet, is greater than 1:2, the applicant shall have the depth of the injection well temporarily extended by fifty feet to verify that artesian aquifer conditions are not encountered within that range. The fifty feet of extended hole shall be properly sealed by the tremie method, with a cement slurry that contains no more than five gallons of water per ninety-four pound sack of cement.

(e) Where a test well is planned for either a single injection well or a multiple well field, the depth of the test well shall be extended fifty feet into confining materials beyond the proposed depth of the deepest well. If the test well is intended to be operational, the lower fifty feet shall be properly sealed as detailed in subsection (d).

(f) Where artesian aquifer conditions are unexpectedly encountered, the applicant may choose to:

(1) Abandon and properly seal the injection well with neat cement and request approval for a new location; or

(2) Modify the depth of the injection well or wells so that it conforms with subsection (a)(1). [Eff. JUL 6, 1984 ]

(Auth: HRS §340E-2) (Imp: HRS §340E-2, 40 CFR §§144.11 and 144.12)

§11-23-11 Operating conditions. (a) No injection well shall be operated, modified or otherwise utilized without a UIC permit issued by the department.

(b) No person shall construct, operate, maintain, convert, plug, abandon or conduct any other injection activity in a manner which allows the movement of fluid containing a contaminant into underground sources of drinking water, if the presence of that contaminant may
(9) Nature and source of injected fluid;
(10) Proposed design capacity and operating volume of injected fluid;
(11) Number and type of injection wells, including construction materials and procedures;
(12) Elevation section for proposed well or wells, as found on the application form;
(13) Description of injection system, including emergency standby or monitoring wells, if any, and system blueprints;
(14) Details of proposed injection testing, the duration of which shall be for not less than twelve hours, and preferably for twenty-four hours; and
(15) For injection wells sited mauka of the UIC Line, water quality data, including, at a minimum, values for chloride, total dissolved solids, and coliform, from several of the nearest water supply wells.
(16) Number of each type of injection well actually constructed, including emergency standby and monitoring wells, if any;
(17) Well log maintained by a geologist, including:
   (A) Lithology of injection interval or intervals and confining formation or formations;
   (B) Physical and structural characteristics of the formations encountered;
   (C) Initial water level, and subsequent water levels as fluctuations occur, especially for artesian conditions; and
   (D) Tidal fluctuations and efficiency.
(18) Elevation section, as found on the application form, showing exact final dimensions for each of the injection wells and materials used in construction;
(19) Complete results of injection testing, including maximum capacity;
(20) Water quality data, if required;
(21) Nature and source of formation water;
(22) Description of operating plans, including identification of legal operator, maximum and average volumes of injected fluids, number of hours per day of use, and degree and type of treatment, if any.

(b) When the application is for a proposed injection well, the applicant shall submit the information required under section 11-23-13(a)(16) to (22) upon completion of the injection well. No
(2) Are operated by the same person;
(3) Are similarly designed;
(4) Serve the same purpose; and
(5) Inject into the same aquifer or injection zone at the same property.

(d) All applications shall be submitted with a filing fee of $100 for each application. Any government agency shall be exempt from paying this filing fee. Additionally, when public notice is required, as provided in section 11-23-14, the applicant shall pay all fees assessed for publishing legal notice or notices for each application requiring public notice. If a public hearing is required, as provided in section 11-23-15, the applicant shall pay all fees assessed for publishing legal notice or notices for each application requiring such notice.

(e) The department shall not consider any incomplete application. An application is deemed complete when:

(1) All requested information has been submitted, including the application form, plans, maps and other exhibits;
(2) All fees have been paid; and
(3) All public notice and hearing requirements under sections 11-23-14 and 11-23-15 have been satisfied. [Eff. JUL 6, 1984 ]

§11-23-13 Submission of data. (a) Each applicant shall provide the following:

(1) Facility name;
(2) Facility location, including street address and zipcode;
(3) Tax map key (TMK) number and map at the most detailed scale available, showing proposed injection well or wells location on the property, the correct scale and north arrow;
(4) USGS topographic quadrangle map or good copy (scale 1:24,000) indicating the location of the proposed injection well or wells, and all other injection and withdrawal wells within one-quarter mile of the facility boundary;
(5) Ownership of facility;
(6) Name and address of lessor, if applicant is a lessee, and written consent of the property owner;
(7) Name and address of legal contact;
(8) Name of proposed operator;
authorization to operate shall be issued until the information is provided. [Eff. JUL 6, 1984]  
(Auth: HRS §340E-2) (Imp: HRS §§340E-2 and 340E-9, 40 CFR §§144.25, 144.26 and 144.33)

§11-23-14 Public notice of proposed wells injecting into USDW. (a) The director shall notify the public of every application for a well proposing to inject into an underground source of drinking water in a manner designed to inform interested and potentially interested persons. Public notice procedures shall include at least the following:

(1) Notice shall be circulated within the geographical area in which the proposed injection is located. The circulation shall, at the discretion of the director, include either or both of the following:
(A) Posting in the post office and public places of the municipality nearest the premises of the applicant in which the injection well facility is located; and
(B) Publishing in local newspapers and periodicals or in a daily newspaper of general circulation.

(2) Notice shall be mailed to any person or group upon request; and

(3) The director shall add to a mailing list the name of any person or group who requests copies of notices for all UIC applications which propose the use of a USDW for injection purposes within the State or a certain geographical area.

(b) The director shall provide a period of not less than thirty days following the date of the public notice, during which time interested persons may submit their written views with respect to the UIC application. All written comments submitted during the thirty-day comment period shall be retained by the director and considered in the formulation of the final determination with respect to the UIC application. The period for comment may be extended at the discretion of the director.

(c) The public notice shall include at least the following:
(1) Name, address and phone number of the agency issuing the public notice;
(2) Name and address of each applicant;
(3) Brief description of each applicant's activities or operations which intend to
§11-23-14

utilize the injection wells described in the UIC application;

(4) A brief description of the procedures for the formulation of final determinations, including the thirty-day comment period required by subsection (b) and any other means by which interested persons may influence or comment upon those determinations; and

(5) Address and phone number of the state agency premises at which interested persons may obtain further information; and may inspect and copy UIC forms and related documents.


§11-23-15 Public hearings. (a) An applicant or any interested person or group of persons may request or petition the department for a public hearing with respect to UIC applications which have been publicly noticed pursuant to section 11-23-14. Within thirty days of the publication date of the public notice in the major daily newspapers, an applicant or any interested person or persons may request or petition for a public hearing, and shall indicate the interest of the party filing the request and their reason or reasons why a hearing is warranted.

(b) A hearing may be held if the director determines that there is significant public interest. Any hearing brought pursuant to this section shall be held in the geographical area of the proposed injection or other appropriate area, at the discretion of the director, and may, as appropriate with respect to geographic area, consider more than one UIC permit application.

(c) The public shall be given public notice of any hearing held pursuant to this section. The notice for the hearing shall include at least the following:

(1) Notice shall be published at least once in a newspaper of general circulation within the geographical area of the injection site;

(2) Notice shall be sent to all persons who received a copy of the notice for the UIC permit application;

(3) Notice shall be mailed to any person or group upon request; and

(4) Notice shall be issued at least thirty days in advance of the hearing.
(d) The public notice of any hearing held pursuant to this section shall include at least the following information:

1. Name, address and phone number of agency holding the public hearing;
2. Name and address of each UIC applicant whose application will be considered at the hearing;
3. Name of USDW area where injection is proposed and a short description of the underground source of drinking water aquifer;
4. A brief reference to the public notice issued for each UIC application being considered, including identification number and date of issuance;
5. Information regarding the time and location of the hearing;
6. The purpose of the hearing;
7. A concise statement of the issues raised by the persons requesting the hearing;
8. Address and phone number of the state agency premises at which interested persons may obtain further information, and inspect and copy UIC forms and related documents; and

§11-23-16 Permit issuance. (a) The director shall issue a UIC permit for wells which propose to inject into exempted aquifers on the following basis:

1. Existing or new injection wells do not or will not endanger the quality of underground sources of drinking water.
2. Existing or new injection wells are designed and are or will be constructed or modified to operate without causing a violation of these rules or other applicable laws.
3. Proposed injection wells are designed and built in compliance with the standards and limitations stated in sections 11-23-07 to 11-23-10.

(b) The issuance of a UIC permit for wells which propose to inject into USDW shall be based, in addition to subsection (a)(1) to (3), upon the evaluation of the contamination potential of the local water quality by the injection fluids and the water development
§11-23-16

potential for public or private consumption. The public shall have an opportunity to present information about these aspects of the proposed project.

(c) The director may issue a UIC permit for any period of time, not to exceed five years.

(d) The UIC permit shall not be transferable from the injection well owner to any other person.


§11-23-17 Existing injection well registration.

(a) The application procedures for a UIC permit, as stated in §11-23-12, shall apply to owners of existing injection well facilities.

(b) Within one month of the effective date of this chapter, the owner of any existing injection well or wells shall notify the department of the existence of the well, whether or not in use, and shall provide the department with the information required by section 11-23-13(a)(1) through (7).

(c) The owner or operator of any existing injection well or wells shall further, within six months of the effective date of this chapter, submit to the department information concerning the construction and operating characteristics of such existing wells as required by section 11-23-13(a)(16) through (22).

(d) No existing injection well, including those sited in exempted aquifers, shall be permitted to operate without a UIC permit from the department. The owner of an existing injection well shall obtain a UIC permit within one year of the effective date of this chapter. The permit shall be issued upon demonstration by the injection well owner that the well's operation does not violate the conditions stated in sections 11-23-10(a), 11-23-11(b) and 11-23-16(a)(1).

(e) Within three years from the effective date of this chapter, the state shall assess all existing injection wells to determine their impact on underground sources of drinking water. Subclass A wells shall be issued a permit until such time that a sewage collection system serves the area if they meet the following provisions:

(1) The application is properly completed;

(2) The injected fluids remain non-polluting to drinking water sources; and

(3) The existing treatment facility design capacity is not exceeded.
(f) Existing wells of any subclass, which are determined to be polluting underground sources of drinking water shall have one year from the time of determination to effect corrective actions. If the pollution is not abated, the permit shall not be renewed or shall be suspended or revoked.

(Imp: HRS §340E-2, 40 CFR §§144.15, 144.26, 144.31, 144.33 and 146.52)

§11-23-18 Monitoring and reporting requirements.
(a) The operator of any injection well or wells shall keep detailed records of the operation of the well or wells, including, but not limited to, the type and quantity of injected fluids, and the method and rate of injection for each well.

(b) If the operation of the injection well or wells is additionally regulated by other pollution control programs, e.g., National Pollution Discharge Elimination System (NPDES), the adherence to their monitoring and reporting requirements shall be considered a requirement of this chapter.

(c) The owner of any injection well or wells shall within one month report any change in ownership to the director in writing. Until such time as the notice of change in ownership is submitted, the registered owner shall be responsible for the operation of the well or wells and for damages resulting from improper operation of the well or wells.

(Imp: HRS §340E-2, 40 CFR §§144.51 and 144.54)

§11-23-19 Plugging and abandonment requirements.
(a) Any owner who wishes to abandon an injection well shall submit an application, in accordance with section 11-23-12, containing the details of the proposed abandonment. The department may require an abandoned well to be plugged in a manner which will not allow detrimental movement of fluids between formations. If required, plugging shall be completed by grouting with the tremie method in accordance with the Honolulu Board of Water Supply's "Water System Standards", dated March, 1977; or by some other method found appropriate and acceptable to the department.

(b) The department may order an injection well to be plugged and abandoned when it no longer performs its intended purpose, or when it is determined to be a threat to the ground water resource. The owner shall
schedule the plugging so that departmental staff may be present to monitor the abandonment operation.

(Imp: HRS §340E-2, 40 CFR §§144.40 and 144.52(a))

§11-23-20 Revocation, suspension or revision of UIC permits. (a) Each UIC permit shall be subject to revocation, suspension or revision by the director if, after notice and opportunity for a contested hearing, it is determined that:

(1) There is a violation of any term or condition of the UIC permit; or
(2) The UIC permit was obtained by misrepresentation, or failure to fully disclose all relevant facts; or
(3) The UIC permit was willfully defaced, altered, forged or falsified; or
(4) There is a change in any condition that requires either a temporary or permanent reduction or elimination of the permitted injection; or
(5) There is a failure to comply with these rules or any other applicable rules or laws.

(b) In taking any action the director may consider operating records, compliance investigations, or other information regarding the injection well facility or impact on the USDW aquifer.

(Imp: HRS 340E-2, 40CFR §145.31)

§11-23-21 Penalties. It shall be a violation of this chapter for any owner or operator of an injection well to construct, operate, maintain or close that well unless authorized by this chapter or by a permit or order to do so. It shall also be a violation of this chapter for any owner or operator to fail to comply with all of the applicable terms of the authorization, including those relating to inspection, monitoring, record keeping, and reporting. Compliance with a corrective order shall not excuse the basic violation. Any person who violates any provision of this chapter shall be subject to the penalties provided in section 340E-8, HRS. Civil penalties shall be recoverable for any program violation in, at least, the amount of $2,500 per day, not to exceed $5,000 per day. Criminal fines shall be recoverable in, at least, the amount of $5,000 per day against any person who willfully violates any program requirements.
§11-23-22 Severability. If any provision of this chapter or its application to any person or circumstances is held invalid, the application of such provision to other persons or circumstances, and the remainder of this chapter, shall not be affected thereby. [Eff. JUL 6, 1984 ] (Auth: HRS §340E-9) (Imp: HRS §340E-9)

Chapter 23 of Title 11, Administrative Rules shall take effect ten days after filing with the Office of the Lieutenant Governor.

Charles G. Clark
DIRECTOR
DEPARTMENT OF HEALTH

George Ariyoshi
GOVERNOR
STATE OF HAWAII
Date: 6-25-84

APPROVED AS TO FORM:

Deputy Attorney General

Filed: 6-25-84
Effective Date: JUL 6 1984

Governor's Office
May 24, 1984

Mr. Robert T. Chuck, Manager-Chief Engineer
State of Hawaii, Department of Land &
Natural Resources
Division of Water and Land Development
P. O. Box 373
Honolulu, Hi 96809

Dear Bob:

Subject: Keanae Water Project

I really appreciate your making Dan Lum available on May 22, 1984, to testify on our behalf at the contested case hearing regarding the Shoreline Management Area Permit for the Keanae Well. His excellent presentation was very effective in convincing both the contesting parties and the Planning Commission that the pumping of water from the basal lens will have no effect on the Waiakamilo Stream flow. As a result, the SMA Permit was approved.

Thank you very much for your kokua on this project.

Sincerely,

William S. Haines, Director

WSH/ao

"By Water All Things Find Life"
Condemnation plan causes stir in Keanae

MAUI NEWS
MAY 1, 1984

Condemnation plan causes stir in Keanae

MIKI DeLEON
Staff Writer

WAILUKU — A classic environmental predicament has the residents of Keanae up in arms and the county facing the loss of nice piece of state money.

The issue appeared in the County

...
May 17, 1984

Mr. William Haines
Director
Department of Water Supply
County of Maui
P. O. Box 1109
Wailuku, Hawaii 96793-0343

Dear Bill:

Keanae Well 5108-01

I am pleased to transmit herewith five copies of Circular C95, "Groundwater Exploration at Keanae Well 5108-01, Maui", which reports on the results of the drilling and testing of the Keanae exploratory well. Also, it is confirmed that our geologist, Dan Lum, will be arriving on Maui Tuesday, May 22nd, 8:30 a.m. via Aloha Airlines. He will have his own transportation and will meet you in your office first thing.

Very truly, yours,

ROBERT T. CHUCK
Manager-Chief Engineer

DL:dh
Enc.
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**Water Quality Data, Water Year October 1963 to September 1964**
MEMORANDUM

TO Mr. Robert T. Chuck, DOWALD
FROM James J. Detor
SUBJECT Keanae Exploratory Well, Wailua Homesteads, Koolau, Maui, TMK 1-1-04:43

Reference is made to your April 5, 1984 memo concerning the set aside of the subject exploratory well site to the County of Maui.

We are pleased to inform you that at its April 27, 1984 meeting, Item F-9 (copy enclosed), the Board approved of and voted to recommend to the Governor, issuance of an executive order cancelling Governor's Executive Order No. 235 covering land set aside to the County of Maui for Laborers' Camp and Stables purposes. The Board also approved of and voted to recommend to the Governor, issuance of an executive order setting aside parcel TMK 1-1-04:43 to the County of Maui for well site purposes.

We will be transmitting the foregoing cancellation and set aside documents to the Governor for his execution as soon as the documents and the maps and descriptions are prepared.

Please call Mr. Sojin Serikaku at Ext. 6460 if there are any questions.

JAMES J. DETOR

Att.

cc Mr. Thomas Yagi
    Mr. Eddie Ansai
    COM w/copy of Item F-9
Board of Land and Natural Resources  
State of Hawaii  
Honolulu, HI

Gentlemen:

Subject: Request to 1) Cancel Governor's Executive Order No. 235 - Land Set Aside to County of Maui for Laborers' Camp and Stables and 2) Reset Aside Portions to County of Maui for Well Site Purposes, Wailua Homesteads, Koolau, Maui, TMK 1-1-04:32 and 43

Governor's Executive Order No. 235 dated May 22, 1926, originally set aside a total of 4.67 acres of land at Wailua Homesteads, Koolau, Hana, Maui to the County of Maui for use as a site for Laborers' Camp and Stables. Portions of this land was subsequently withdrawn for public cemetery use and Governor's Executive Order No. 235 now covers only 2.90 acres. This acreage consists of two (2) parcels identified as Tax Map Key 1-1-04:32 and 43 and is shown outlined in red on map labeled Land Board Exhibit "A" appended to the basic file.

The use of these parcels for Laborers' Camp and Stables was discontinued many years ago and the County of Maui has now asked that Governor's Executive Order No. 235 be cancelled. At the same time, the County asks that a new executive order be issued resetting aside parcel TMK 1-1-04:43 for well site purposes.

This request to utilize this parcel for well site purposes is as a result of the drilling and testing done on this site by our Division of Water and Land Development (DOWALD).

The Board may recall that at its July 22, 1983 meeting, Item F-8, DOWALD was authorized a right of entry to this parcel for exploratory well drilling purposes.

DOWALD has advised that the exploratory drilling has proved successful and that the pump tests indicates that the well is capable of producing fresh potable ground water for the Keanae and Wailua communities.

RECOMMENDATION:

That the Board:

A. Approve of and recommend to the Governor issuance of and Executive Order cancelling Governor's Executive Order No. 235 subject to the disapproval by the Legislature in any regular or special session next following the date of the executive order.
B. Approve of and recommend to the Governor issuance of an Executive Order resetting aside parcel Tax Map Key 1-1-04:43 to the County of Maui for well site purposes subject to the disapproval by the Legislature in any regular or special session next following the date of the executive order.

Respectfully submitted,

JAMES J. DETOR
Land Management Administrator

APPROVED FOR SUBMITTAL:

SUGUMU ONO, Chairperson
April 3, 1984

Mr. William Haines
Director
Dept. of Water Supply
County of Maui
Wailuku, Maui 96793

Dear Bill:

Keanae Well 5108-01, Maui

I am pleased to inform you that our Keanae exploratory well drilling project has been completed and the well successfully pump tested as a new potable ground water source. The well is capable of producing as much as a half-million gallons per day of fresh water with a chloride content of 12 parts per million.

As shown on the enclosed as-built section, the well's description is as follows:

- Ground elevation: 214 ft., mean sea level
- Top of casing elev.: 214.62 ft., msl
- Casing size: 8" I.D. x .25" wall
- Depth of solid casing: 0-220 ft.
- Depth of shutter screen casing: 220-280 ft.
- Depth of open hole: 280-330 ft. (total depth)
- Depth to static water level: 208.50 ft. (from top of casing)
- Static water level: 6.1 ft., msl, on Feb. 21, 1984

The well was pump tested for three days at a continuous rate of 350 gallons per minute during which time the drawdown and chloride content of the well held steady at 2.3 ft. and 12 ppm, respectively (see enclosed graph).

A complete report on Keanae Well 5108-01 is being prepared as one of DOWALD's Circular series. However, if you have any questions or need information in addition to the enclosed as-built section of the well and pumping test graph, please let me know.

Very truly yours,

ROBERT T. CHUCK
Manager-Chief Engineer

DL:dh
Enc.
KEANA E WELL 5103-01 (MAUI)

AS BUILT SECTION

DRILLED: FEB. 1984
DRILLER: ROSCOE MOSS CO.

- 214.56 FT MSL - TOP OF CASING
  SURVEYED 3-27-84 (MAUI OWS)
- 214.56 FT MSL - GROUND

- 50 FT TO GROUND - CEMENT + GRAVEL
- 100 FT TO 50 FT - CEMENT + GRAVEL
- 120 FT TO 100 FT - CEMENT + GRAVEL
- 280 FT TO 120 FT - GRAVEL PACK
- 6.1 FT ABOVE MSL - STATIC WATER LEVEL

116 FT MSL
TOP OF WELL
JOB NO. 60-01-01
KEANAE WELL 5108-01

K-1 (RAILROAD SPIKE) ELV = 211.2 FT. MSL

211.2 (K-1)
+ 4.8 (LEVEL RDG)
216.0 (HEIGHT OF LEVEL)
- 1.3 (TOP OF 8" CASING)
214.70 (ELV. TOP OF 8" CASING)

230 (FT. OF AIRLINE)
- 21.55 (FT. OF AIRLINE SUBMERGED)
208.45 (DEPTH TO WATER)

214.70 (ELV. TOP OF 8" CASING)
- 208.45 (DTW)
6.25 FT. SWL, MSL

[Signature]
AS BUILT SECTION
Keanae Well 5105-01

DRILLED: FEB. 1984
DRILLER: ROSCOE MOSS CO.

214.5 FT., MSL - GROUND

219.62 FT., MSL - TOP OF CASING
SURVEYED 3-27-84 (MAUI DEPT.)

221 FT.
120 FT.

6.1 FT. ABOVE MSL
STATIC WATER LEVEL
(MEAS'D. ON FEB. 21, 1984)

270 FT.
281 FT.

-116 FT., MSL
BOTTOM OF WELL

Figure 4
AS BUILT SECTION
Keanal Well 5108-01
DRILLED: FEB. 1984
DRILLER: ROSCOE MOSS CO.

214.62 FT, MSL - TOP OF CASING
SURVEYED 3-27-84 (MAULOW)

214.5 FT, MSL - GROUND

6.1 FT. ABOVE MSL
STATIC WATER LEVEL
(MEAS'D. ON FEB. 21, 1984)

12" DRILLED HOLE

8" SOLID CASING
0.25 IN. WALL
221 FT.

281 FT.

270 FT.

220 FT.

120 FT.

8" OPEN HOLE 8" SCREEN CASING
0.25 IN. WALL
20 FT.

10 FT.

40 FT.

530 FT.

-116 FT., MSL
BOTTOM OF WELL

Figure 4

AS-BUILT SECTION OF WELL
**PUMPING TEST RECORD**

for

**KEANA**

Well 5108-01

(Name)  

(Maui) Island 35-MW-37 Project or Job No. FEB 13 1984

Description of Well--

1. Elevation: ground surface _____ ft., top of casing _____ ft., rotary table _____ ft., referenced to ____ benchmark.
2. Total depth of well 330 ft.; or ____ ft. elevation, msl
3. 6 in. solid casing to 220 ft. depth, perforated to 240 ft. depth
4. Static water level on 2-13-94: 6.1 ft. below ground surface, top of casing; or ____ ft. elevation msl measured ______ method

Description of Pump and Pump Setting--

5. 4 in type pump with ____ stage bowl assembly
6. Gasoline (diesel) electric, power with ____ horsepower
7. Shaft speed: _____ rpm at _____ gpm flow
8. Depth of pump intake: 245 ft. below TOC; or ____ ft. elev. msl
9. Depth of airline bottom: 230 ft. below TOC; or ____ ft. elev. msl
10. Center of gage: ____ ft. elev., msl. Flow measured with ______________
11. Test conducted by ________

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<th>Date &amp; Time</th>
<th>Sample No.</th>
<th>Pumping rate (gpm)</th>
<th>Airline (feet)</th>
<th>Drawdown (feet)</th>
<th>Chlorides (ppm)</th>
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Sheet No. 5 of 5 Sheets
### CHLORIDE TITRATION RECORD

**for**

Keanae Well 5108-01

**Mali Island** 35-MN-37  Project or Job No. 19

Titrations conducted by M. O'NE

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**CHLORIDE TITRATION RECORD**

for

KEANAE Well 5108-01

(No.)

MAUI Island 35-MW-37 Project or Job No. 19

Titrations conducted by M. OHYE

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February 9, 1984

MEMO FOR THE RECORDS

FROM: Mitchell Ohye

SUBJECT: Keanae Well 5108-01 (Maui)
(Step Drawdown Test)

On Feb. 8, 1984 I visited the Keanae Well 5108-01 to check status of Well and to perform a step drawdown test. While gathering preliminary data I discovered that the airline was submerged in about 3 feet of water, well beyond the range of the manometer. I had to use a 60 psi pressure gauge for testing. Pumping rates ranged from 100-400 gpm and drawdown from .7 ft.-3.0 ft. chlorides held at 12 ppm. throughout the test. (See attached test record). Also performed some pump surging to further develop the well.

The Contractor will remove 10 ft. of pump column and airline so that manometer can be used for the 72 hr. continuous pumping test set for Feb. 13-17, 1984.
PUMPING TEST RECORD

for

KEANA E

Well SID 8-01

(Maui Island 35-MW-37 Project or Job No. FEB 8 1984)

Description of Well--
1. Elevation: ground surface _______ ft., top of casing _______ ft., rotary table _______ ft., referenced to _______ benchmark.
2. Total depth of well _______ ft.; or _______ ft. elevation, msl
3. _____ in. solid casing to _______ ft. depth, perforated to _______ ft. depth
4. Static water level on _______ ft. below ground surface, top of casing; or _______ ft. elevation msl measured _______ method

Description of Pump and Pump Setting--
5. _____ type pump with _______ stage bowl assembly
6. Gasoline diesel, electric, power with _______ horsepower
7. Shaft speed: _______ rpm at _______ gpm flow
8. Depth of pump intake: _______ ft. below Top; or _______ ft. elev. msl
9. Depth of airline bottom: _______ ft. below Top; or _______ ft. elev. msl
10. Center of gage: _______ ft. elev., msl. Flow measured with _______
11. Test conducted by _______.

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<th>Sample No.</th>
<th>Pumping rate (gpm)</th>
<th>Airline pressure (PSI)</th>
<th>Drawdown (PSI/ft.)</th>
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<td>240</td>
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</table>
KERR NELT 5106-01
STEP-DRAWDOWN
FEB. 6, 1984
Q: 100-400 GPM
CHLORIDES = 12 PPM

PUMPING RATE
(GALLONS PER MINUTE X 100)
Keanae Well 5108-01 (Maui)

Job No. 35-MW-37

Contractor: Rossle Moses Co.
12-30-65

13 in. I

Ground

14 in. Conductor Pipe

Water level from top of conductor pipe - 130 ft

12 in. Hole

Smaller bit

Fill

12 in. Star bit (Lodge at 155 ft.)

155 ft. Bot. of hole
November 3, 1983

Mr. William Haines, Director
Department of Water Supply
County of Maui
P.O. Box 1109
Wailuku, Maui, HI 96793

Dear Mr. Haines:

Keanae Well 5108-01
Job No. 35-MW-37

As follow-up to Dan Lum's field trip on October 31st to pinpoint the Keanae Well with the contractor, Roscoe Moss Co., and his subsequent visit with you, we wish to confirm the revised location of the well within TMK parcel 1-1-04:43 which has already been set aside for the Keanae Well site. As shown on the attached map, the revised well location lies approximately 120 feet northwesterly of the original well location shown on a location map prepared by Sam Hirota, Inc.

The original location of the well was found to be muddy, swamp-like under a few inches of flowing water, and adjacent to a swale. The revised location is on higher ground and closer to basaltic rock outcropping.

As indicated to you, the contractor plans to proceed at his own risk to mobilize onto the site immediately, prior to receiving written notice to proceed from us.

If you have any questions, please let me know.

Very truly yours,

[Signature]

ROBERT T. CHUCK
Manager-Chief Engineer

DL:ko
Encl.
cc: Roscoe Moss w/encl.
November 2, 1983

Keanae Community Association
c/o Ms. Awapuhi Carmichael
P.O. Box 81
Haiku, Maui 96708

Gentlemen:

Keanae Exploratory Well, Hana, Maui

The Department of Land and Natural Resources will commence drilling the Keanae Exploratory Well in November 1983. Preparation of the site will begin soon and the actual drilling of the well will follow shortly.

If you have any questions, or should any problems arise, please contact the contractor, Roscoe Moss Company, at the well site or the Division of Water and Land Development in Honolulu at 548-7539.

Very truly yours,

SUSUMU ONO
Chairperson of the Board

cc: Mr. William Haines,
Maui DWS
State of Hawaii
DEPARTMENT OF LAND AND NATURAL RESOURCES
Division of Water and Land Development
Honolulu, Hawaii

October 21, 1983

Chairperson and Members
Board of Land and Natural Resources
State of Hawaii
Honolulu, Hawaii

Gentlemen:

Approval for Award of Contract - Job No. 35-MW-37,
Drilling Keanae Well (5108-01), Keanae, Maui, Hawaii

Bids for the subject project were received and opened on October 6, 1983
and the results are as follows:

<table>
<thead>
<tr>
<th>Bidder</th>
<th>Total Sum Bid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roscoe Moss Company</td>
<td>$146,470.00</td>
</tr>
<tr>
<td>Water Resources Int'l, Inc.</td>
<td>161,400.00</td>
</tr>
<tr>
<td>State Estimate</td>
<td>166,000.00</td>
</tr>
</tbody>
</table>

This project consists of drilling, casing and testing of an 8-inch well
approximately 330 feet deep, exploring for groundwater source to replace the
existing surface water source. The existing source of water for Keanae is
Wailuanui Stream which requires the construction of an expensive water
treatment plant to process the water to meet the State's Safe Drinking Water
Standards.

Funds for this project are available from Act 1, First Special Session of

RECOMMENDATION

That the members of the Board award the contract for the subject project
to Roscoe Moss Company for their low bid of $146,470.00 subject to receiving
approval from the Governor.

Respectfully submitted,

ROBERT T. CROCKET
Manager-Chief Engineer

APPROVED FOR SUBMITTAL:

SUSUMU ONO, Chairperson
Chairperson and Members  
Board of Land and Natural Resources  
State of Hawaii  
Honolulu, Hawaii

Gentlemen:

Approval for Award of Contract - Job No. 35-MW-37,  
Drilling Keanae Well (5108-01), Keanae, Maui, Hawaii

Bids for the subject project were received and opened on October 6, 1983 and the results are as follows:

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This project consists of drilling, casing and testing of an 8-inch well approximately 330 feet deep, exploring for groundwater source to replace the existing surface water source. The existing source of water for Keanae is Wailuanui Stream which requires the construction of an expensive water treatment plant to process the water to meet the State's Safe Drinking Water Standards.

Funds for this project are available from Act 1, First Special Session of 1981, Item A-11, Water Sources Investigation and Development, Maui.

**RECOMMENDATION**

That the members of the Board award the contract for the subject project to Roscoe Moss Company for their low bid of $146,470.00 subject to receiving approval from the Governor.

Respectfully submitted,

ROBERT T. CHILICK  
Manager-Chief Engineer

**APPROVED FOR SUBMITTAL:**

SUSUMU ONO, Chairperson

Approved by the Board of  
Land & Natural Resources  
at the meeting held on  
10/21/83  
ITEM D-2
October 12, 1983

MEMORANDUM

TO: Honorable George R. Ariyoshi, Governor

THROUGH: Honorable Kent Keith, Director
Department of Planning & Economic Development

FROM: Susumu Ono

SUBJECT: Request for Construction Funds for Drilling Keanae Well
(5108-01), Job No. 35-MW-37, Keanae, Maui, Hawaii,
Act 1, 1st Special Session of 1981, Item A-11 (B-81-418-C,
B-81-419-C, B-81-420-C & B-81-421-C)

Bids for the subject project were publicly opened on October 6, 1983 and the results were as follows:

<table>
<thead>
<tr>
<th>Bidder</th>
<th>Bid Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roscoe Moss Company</td>
<td>$146,470.00</td>
</tr>
<tr>
<td>Water Resources Int'l., Inc.</td>
<td>161,400.00</td>
</tr>
</tbody>
</table>

The project calls for drilling and testing an 8-inch well approximately 330 feet deep to explore for a ground water source to serve the communities of Keanae and Wailua which presently depend on the Wailua Stream for their domestic water. During low rainfall, they are plagued with inadequate supply and poor quality water.

The construction pre-bid estimate for the project was $166,000 and we were authorized to advertise for bids on August 9, 1983.

The proposed budget for the project is as follows:

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contract Amount</td>
<td>$146,470</td>
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<tr>
<td>Contingencies</td>
<td>15,530</td>
</tr>
<tr>
<td>Construction Inspection &amp; Admin. Costs</td>
<td>15,000</td>
</tr>
<tr>
<td></td>
<td>$177,000</td>
</tr>
</tbody>
</table>
Memorandum to
Hon. George R. Ariyoshi

October 12, 1983

We plan to use funds from Act 1, First Special Session 1981, Item A-11, Water Sources Investigation and Development, Maui, to finance the project. We respectfully request the allotment of $177,000 from the above mentioned appropriation to drill the Keanae well.

Your favorable consideration of our request will be greatly appreciated.

SUSUMU ONO
Chairperson of the Board

RTC:HS:jes
Attach.
cc: Department of Budget and Finance
bcc: Fiscal Office, DLNR
    Planning Office, DLNR
    D&C Branch, DOWALD
    Water Resources & Flood Control Branch, DOWALD
    Land Management Division
CAPITAL PROJECT INFORMATION & JUSTIFICATION SHEET

Expending Agency: Dept. of Land and Natural Resources
User Agency: Board of Water Supply
Dept. of Land and Natural Resources

Program ID: LNR 141
Capital Project No: 646
Priority No: 12
Location (Island): Maui

Project Scope: New [X]; Renovation [ ]; Addition [ ]; Replacement [ ]; Other [ ] (Specify)

1. Project Title: Water Sources Investigation and Development, Maui

2. Project Description: Drilling Keanae Exploratory Well

3. Total Estimated Project Cost (In thousands of dollars):

<table>
<thead>
<tr>
<th></th>
<th>TOTAL PROJECT COST</th>
<th>PRIOR APPROPRIATIONS</th>
<th>FUTURE APPR</th>
<th>MOF</th>
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</thead>
<tbody>
<tr>
<td></td>
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<td>ACT/ YR (ITEM) A-11</td>
<td>ACT/ YR (ITEM)</td>
<td>ACT/ YR (ITEM)</td>
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<tr>
<td>Land</td>
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<tr>
<td>Design</td>
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<tr>
<td>Construction</td>
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<tr>
<td>Equipment</td>
<td></td>
<td></td>
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<tr>
<td>TOTAL</td>
<td>192</td>
<td>192</td>
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<td>C</td>
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</tbody>
</table>

4. Project Information:

a. Provide specific information describing in detail the type, size, and purpose of the improvements (do not generalize, e.g., 1st increment) that are to be constructed under this request.

Drilling and testing an 8-inch diameter exploratory well approximately 330 feet deep to locate a new groundwater source.

b. Discuss the benefits that are to be derived and/or the deficiencies the project intends to correct.

The proposed well will provide a dependable groundwater source in lieu of a surface source that is unreliable during low rainfall and which sometimes is of poor quality.

c. Discuss the significance of the C.I.P. project (from community's and special clients group's standpoint).

The communities of Keanae and Wailua will be supplied with water meeting the Safe Drinking Water Standards.

d. Identify individuals or organizations who would be interested in project -- for or against. (P.T.A., community association, service organizations, etc.)

Keanae and Wailua residents, Keanae Community Association, Board of Water Supply, East Maui Irrigation Co.
## C.I.P. Project Summary of Proposed Expenditures

**Project Name:** Water Sources Investigation and Development, Maui  
**Departmental Priority No.:** 12  
**Description:** Drilling Keanae Exploratory Well  
**Project No.:** G46

### Project Status:

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<th>Activity</th>
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<td>Plan Review</td>
<td>7/28/83</td>
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### Source of Funds (Act/Item, Federal, County, Private)

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<td>B. Consultant Services</td>
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<td>C. Staff Services</td>
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<td><strong>2. Plan</strong></td>
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<td><strong>3. Design</strong></td>
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<td><strong>4. Construction</strong></td>
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<td>A. Project</td>
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<td>(2) Alternate</td>
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<td>(3) Contingency</td>
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<tr>
<td>(4) Other</td>
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<tr>
<td>B. Consultant Services</td>
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<td>C. Staff Services</td>
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<td><strong>5. Equipment</strong></td>
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<td>B. Staff Services</td>
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<td><strong>6. Total Project Cost</strong></td>
<td>192,000</td>
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**Comments:**
DPED WORK-SHEET REPORT
EXPENDITURE PLANS FOR CIP PROJECTS
DEPARTMENT: CE DEPT. OF LAND AND NATURAL RESOURCES
As of 08/25/83

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<th>Senate Dist.: 035</th>
<th>Rep. Dist.: 055</th>
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Project Title: WATER SOURCES INVESTIGATION & DEVELOPMENT - MAUI - G46

State Plan: Implementing Action:

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<th>State Plan:</th>
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Program Dags

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<th>I.D.</th>
<th>ACCT #</th>
<th>PHASE</th>
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<td>LNR141</td>
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</tbody>
</table>

TOTALS: 400

PROPOSED EXPENDITURES
WELL DRILLING PERMIT
for
State Well No. 5108-01
Keanae, Maui, Hawaii

TO: Division of Water and Land Development
P.O. Box 373
Honolulu, Hawaii 96809

In accordance with Chapter 166 of Title 13, "Rules for the Control of Ground Water Use in the State of Hawaii", your application to drill Keanae Well, State Well No. 5108-01, is approved subject to compliance with all applicable rules, ordinances, and laws.

SUSUMU ONO, Chairman of the Board

9/8/83
Date of Issuance

bcc: USGS
Dept. of Health
Maui County DWS
Application for (check one)

- [ ] Well Drilling Permit
- [ ] Well Modification Permit

Instructions: Send completed application and attachments to Department of Land and Natural Resources, P.O. Box 373, Honolulu, Hawaii 96809.

Reference: Regulation 9, Dept. of Land & Natural Resources.

Is the well located in a Designated Ground Water Control Area?  [ ] No  [ ] Yes

If "yes", application must be accompanied by a Water Use and/or Water Supply Permit and a non-refundable filing fee of $100 payable to the Department of Land & Natural Resources. However, if application is for minor modification of well, filing fee may be waived. If "no", no filing fee is required. Filing fee is waived for federal, state, and county government agencies.

1. WELL LOCATION: Island: Maui  Tax Map Key: 1-1-04-43  Attach a plot plan showing well location referenced to established property boundaries.

2. WATER USER: County of Maui - Dept. of Water Supply  Telephone: [ ]

   Address: P.O. Box 1109, Wailuku, Maui, Hawaii 96793  Zip Code: 96793

3. PROPOSED DRILLING COMPANY:

4. PROPOSED WORK:

   - [ ] Drill new well
   - [ ] Deepen
   - [ ] Redrill
   - [ ] Abandon
   - [ ] Install new pump
   - [ ] Replace pump
   - [ ] Modify pump

   Fill in the diagram and briefly describe the proposed work (use back of form if necessary):

   Drill, case and pump test a deep well at Keanae, Maui

PROPOSED SECTION OF WELL

- Elevation at top of casing: 220 ft. msl.
- Ground Elev, 219 ft. msl

- Cement Grout: 14 ft.
- Hole Dia.: 14 in.
- Total Depth: 327 ft.
- Rock Packing: 50 ft.

Solid casing:
- Material: [ ]
- Length: 220 ft.
- Diameter: B
- Wall thickness: 5/16

Casing: [ ] Perforated  [ ] Screed
- Material: [ ]
- Length: 20 ft.
- Diameter: B
- Wall thickness: 1/2
- Openings: sq. in./ft.

Open Hole: Length: 50 ft.
- Diameter: 7

5. PROPOSED USE:

   - [ ] Municipal
   - [ ] Military
   - [ ] Agriculture
   - [ ] Industrial
   - [ ] Domestic
   - [ ] Disposal
   - [ ] Other (specify)

6. PROPOSED AMOUNT OF WITHDRAWAL: Check most appropriate box and fill in amount.

   - [ ] Daily: [ ] gallons
   - [ ] Monthly: [ ] gallons
   - [ ] Yearly: [ ] gallon

7. PROPOSED PUMP OR FLOW CAPACITY: [ ]

Signature: Water User

Date: [ ]

Signature: Landowner of Well Site

Date: [ ]

For Official Use:

State Well No. 9108 - 01
DLNR Permit No. [ ]
DLNR Application No. [ ]
WELL DRILLING PERMIT

for

State Well No. 5108-01
Keanae, Maui, Hawaii

TO: Division of Water and Land Development
P.O. Box 373
Honolulu, Hawaii 96809

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SUSUMU ONO, Chairman of the Board

9/8/88
Date of Issuance

bcc: USGS
Dept. of Health
Maui County DWS
APPLICATION FOR (check one)

☐ WELL DRILLING PERMIT  ☐ WELL MODIFICATION PERMIT

Instructions: Send completed application and attachments to Department of Land and Natural Resources, P.O. Box 373, Honolulu, Hawaii 96809.

Reference: Regulation 9, Dept. of Land & Natural Resources.

Is the well located in a Designated Ground Water Control Area?  ☐ Yes  ☒ No

If "yes", application must be accompanied by a Water Use and/or Water Supply Permit and a non-refundable filing fee of $100 payable to the Department of Land & Natural Resources. However, if application is for minor modification of well, filing fee may be waived. If "no", no filing fee is required. Filing fee is waived for federal, state, and county government agencies.

1. WELL LOCATION: Island Maui Tax Map Key 1-108-06. Attach a plot plan showing well location referenced to established property boundaries.

2. WATER USER County of Maui Dept. of Water Supply Telephone

Address P.O. Box 1109 Wailuku, Maui, Hawaii 96793 Zip Code 96793

3. PROPOSED DRILLING COMPANY:

4. PROPOSED WORK: ☒ Drill new well ☐ Deepen ☐ Redrill ☐ Alter ☐ Seal

☐ Abandon ☐ Install new pump ☐ Replace pump ☐ Modify pump

Fill in the diagram and briefly describe the proposed work (use back of form if necessary):

Drill, case and pump test a deep well at Keawe, Maui

PROPOSED SECTION OF WELL

Elevation at top of casing 220 ft. msl.

Ground Elev. 219 ft. msl*

Cement Grout 191 ft.

Solid casing:

Material Length 220 ft.

Wall thickness 3/16 in.

Hole Dia. 14 in.

Total Depth 329 ft.

Rock Packing 80 ft.

*Approximate elev. at filing. Final elev. (msl) by a surveyor licensed by the State must be submitted at start of construction.

Casing: ☐ Perforated ☒ Screed

Material Length 60 ft.

Wall thickness sq.in./ft

Diameter B

Openings

Open Hole: Length 50 ft.

Diameter 7 in.

5. PROPOSED USE: ☒ Municipal ☐ Military ☐ Agriculture ☐ Industrial

☐ Domestic ☐ Disposal ☐ Other (specify)

6. PROPOSED AMOUNT OF WITHDRAWAL: Check most appropriate box and fill in amount.

☐ Daily gallons ☐ Monthly gallons ☐ Yearly gallons

7. PROPOSED PUMP OR FLOW CAPACITY: gallons per min

Signature: ____________________________ Date: ____________

Water User

Signature: ____________________________ Date: ____________

Landowner of Well Site

For Official Use:

State Well No. 5108-01

DLNR Permit No. ____________________

DLNR Application No. ____________________
MEMORANDUM

Mr. Bob Chuck, Manager-Chief Engineer
Water and Land Development Division

TO

James J. Detor, Administrator
Land Management Division

FROM

SUBJECT Proposed Keanae Exploratory Well Site
Tax Map Key: 1-1-04:43

This is to inform you that at its July 22, 1983 meeting, the Board of Land and Natural Resources approved your request for a right-of-entry to portions of the land set aside by Governor's Executive Order No. 235 to County of Maui for Laborers' Camp and Stable use.

The approval was granted subject to the terms and conditions listed on the enclosed Land Board submittal, Agenda Item F-8.

The concurrence of the Governor is now being sought and you will be notified as soon as it is received.

Please call Sho Serikaku at extension 6460 if there are any questions.

Enclosure
July 22, 1983

Gentlemen:

Subject: Request of DOWALD for Right-of-Entry to Drill Exploratory Well, Land Set Aside to County of Maui by Executive Order No. 235 for Laborers' Camp and Stables

The Division of Water and Land Development (DOWALD) is looking into the possibility of increasing the water sources now available in the Koolau, Hana, Maui area.

As part of its preliminary investigative work, DOWALD proposes to drill an exploratory well on a 1.01-acre portion of land that is presently set aside to the County of Maui by Governor's Executive Order No. 235 for Laborers' Camp and Stable purposes.

The area in question is shown outlined in red on map labeled Land Board Exhibit "A" appended to the basic file.

This site is no longer being used and the County of Maui has indicated no objections to this exploratory work. The County also adds that they wish to have this site set aside for well site purposes should the exploratory drilling proves successful.

DOWALD has asked that a right-of-entry be granted to this site for the duration of the exploratory drilling work which is expected to be completed in approximately one (1) year.

RECOMMENDATION:

That the Board approve DOWALD's request for a right-of-entry to the subject area for exploratory well drilling purposes subject to the following terms and conditions:

1. Concurrence of the Governor relative to the lands set aside by Governor's Executive Order No. 235.
2. Notification of the Maui District Land Office upon initiation and also upon completion of the drilling work.

3. Restoration and cleanup of the area upon completion of the project.

4. Other terms and conditions as may be prescribed by the Chairman.

Respectfully submitted,

JAMES J. DETOR
Land Management Administrator

APPROVED FOR SUBMITTAL:

SUSUMU ONO, Chairman
AS BUILT SECTION
Keanoe Well 5105-01

DRILLED: FEB. 1984
DRILLER: ROSCOE MOSS CO.

214.68 FT., MSL = TOP OF CASING
SURVEYED 3-27-84 (MAUI DWS)

214.68 FT., MSL = GROUND

6.1 FT. ABOVE MSL
STATIC WATER LEVEL
(MEAS'D. ON. FEB. 21, 1984)

-116 FT., MSL
BOTTOM OF WELL

Figure 4

AS-BUILT SECTION OF WELL
June 21, 1963

Mr. Susumu Omo, Chairman
Board of Land & Natural Resources
State of Hawaii
P. O. Box 621
Honolulu, Hi 96809

Dear Mr. Omo:

SUBJECT: KEANAE EXPLORATORY WELL – MAUI

I understand that the site selected for the subject exploratory well drilling is TMK: 1-1-04:43 which is State Land which was set aside to the County of Maui by Executive Order No. 235 (in 1926) for "Laborers' Camp and Stables". The purpose of this letter is to inform you that this site is not now in use and that the County has no objection to the DLNR Division of Water and Land Development’s using it for the Keanae exploratory well.

If and when the exploratory testing proves successful, we will appreciate your assistance in having the purpose of Executive Order No. 235 revised to include usage as a production well site.

Sincerely,

Hannibal Tavares
Mayor

cc: Robert Chuck, Manager-Chief Engineer, DOWALD
Henry T. S. Lau, Director Finance, County of Maui
Gordon Okazaki
Raymond Chun
William S. Haines, Director of Water Supply
DIVISION OF WATER & LAND DEVELOPMENT

Initial: Robert T. Chuck

Takeo Fujii
James Yoshimoto
Manabu Tagomori
George Morimoto
Herbert Morimatsu
George Miyashiro

Harold Sakai
Leslie Asari

Albert Ching
George Matsumoto
Daniel Lum
Paul Matsuo
Noboru Kaneshiro
Edwin Sakoda

See Me

Take action by
Route to your branch
Review & comment
Draft reply by
For Information
Xerox distributed
Acknowledge receipt
File

Jane Sakai
Doris Hamada
Lorraine Nanbu
Jean Starot
Elsie Yonamine
Kay Oshiro

FILE
NEAL -- shall be well fed for well fed, will be

Example is still not labeled
the future.

Inside 1 -- Well is good to
we proceed to do.

to stay

Inside 2 -- Well is no go,
for problem.
we must proceed
July 1, 1983

MEMORANDUM

TO: Mr. James Detor
FROM: Robert T. Chuck
SUBJECT: Proposed Keanae Exploratory Well Site (TMK: 1-1-04:43)

This is to inform you that we are planning to drill an exploratory well in Keanae, Maui, within parcel 43 of TMK: 1-1-04 which was set aside to the County of Maui for Laborers' Camp and Stables by Executive Order No. 235. Attached is a letter dated June 21, 1983 from Mayor Hannibal Tavares informing us that the County of Maui has no objection to our using parcel 43 of TMK: 1-1-04.

At a later date, if the well is successful, we will appreciate your assistance in amending Executive Order No. 235, as requested by the County, to permit a production well within the parcel.

Thank you for your cooperation.

ROBERT T. CHUCK

HIS: jes
Attach.
June 21, 1983

Mr. Susumu Ono, Chairman
Board of Land & Natural Resources
State of Hawaii
P. O. Box 621
Honolulu, Hi 96809

Dear Mr. Ono:

SUBJECT: KEANA EXPLORATORY WELL - MAUI

I understand that the site selected for the subject exploratory well drilling is TMK: 1-1-04:43 which is State Land which was set aside to the County of Maui by Executive Order No. 235 (in 1926) for "Laborers' Camp and Stables". The purpose of this letter is to inform you that this site is not now in use and that the County has no objection to the DLNR Division of Water and Land Development's using it for the Keanae exploratory well.

If and when the exploratory testing proves successful, we will appreciate your assistance in having the purpose of Executive Order No. 235 revised to include usage as a production well site.

Sincerely,

Hannibal Tavares
Mayor

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