

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII



STATE OF HAWAII RECEIVED
DEPARTMENT OF LAND AND NATURAL RESOURCES

P. O. BOX 821 '98 JUN 17 10:42
HONOLULU, HAWAII 96809

JUN 10 1998
OFFICE OF ENVIRONMENTAL QUALITY CONTROL

Waimea Exploratory
Well

MICHAEL D. WILSON, CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES

DEPUTY
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LAND DIVISION
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TECHNICAL & SUPPORT BRANCH
STATE PARKS
WATER RESOURCE MANAGEMENT

TO: Mr. Gary Gill, Director
Office of Environmental Quality Control
Department of Health

FROM: Michael D. Wilson, Chairperson *Gilbert Coloma-Agaran*

SUBJECT Finding of No Significant Impact (FONSI) for Job No. 43-HW-A,
Waimea Exploratory Well, TMK: 6-5-01:03, Waimea, Hawaii

We have reviewed the comments received during the 30-day public comment period, which began on February 23, 1998, and have determined that this project will not have significant environmental effects. We are, therefore, issuing a FONSI for the subject project. Please publish this notice in the next issue of the OEQC Environmental Notice. ✓

We have enclosed a completed OEQC Publication Form and four copies of the final EA. Please call Mr. Andrew Monden of the Land Division, Engineering Branch, at 587-0230 if you have any questions.

Encl.

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1998-07-08-HI-*FEA*-*Waimea Exploratory*
Well

Chapter 343, Hawaii Revised Statutes (HRS)

JUL 8 1998

FILE COPY

FINAL
ENVIRONMENTAL ASSESSMENT
FOR
JOB NO. 43-HW-A
WAIMEA EXPLORATORY WELL
WAIMEA, HAWAII
TMK: 6-5-01:03

Proposing Agency:

Department of Land and Natural Resources
State of Hawaii

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I. GENERAL INFORMATION

A. PROJECT SUMMARY

Pursuant to Chapter 343, Hawaii Revised Statutes (HRS) for Environmental Assessments:

Proposing Agency: Department of Land and Natural Resources

Accepting Agency: Department of Land and Natural Resources

Project Name: Waimea Exploratory Well

Project Description: Drilling, casing and testing an exploratory well.

Anticipated
Determination: Finding of No Significant Impact (FONSI)

Project Location: Waimea Water Reservation, Waimea, Hawaii.

Tax Map Key: 6-5-01:03

Landowner: County of Hawaii

B. AGENCIES CONSULTED

The following agencies were contacted for pre-assessment consultation during the preparation of the draft Environmental Assessment.

County of Hawaii

Department of Water Supply

State of Hawaii

Department of Land and Natural Resources
Historic Preservation Division
Division of State Parks
Division of Forestry and Wildlife
Division of Aquatic Resources
Division of Conservation and Resource Enforcement

Office of Hawaiian Affairs

Office of Environmental Quality Control

C. PERMITS REQUIRED

Exploratory wells are considered a minor action and are not required to be shown on the Development Plan Public Facilities Map. However, should the well become a production well, the City's Development Plan Facilities Map must be amended and approved by the City Council, an action that will take place during the preparation of a separate EA for the development of the well.

An exploratory well requires a Well Construction Permit from the Commission on Water Resources Management (CWRM). This permit allows the digging, casing and testing of an exploratory well. If the exploratory well proves successful, a permanent Pump Installation Permit and Water Use Permit are required from CWRM.

If water withdrawn from the well is discharged into state waters, a National Pollution Discharge Elimination System (NPDES) permit will be required from the State of Hawaii's Department of Health.

II. PROJECT DESCRIPTION

A. PROJECT NEED

Current water demand in the Waimea area is being met with treated surface water from the Waikoloa and Kohakohau Streams, both of which make up the Waimea-Puukapu-Nienie System. The Waikoloa diversion has been in operation since 1925 and in 1971 Kohakohau was added to the system. The water is filtered and treated by the Department of Water Supply (DWS) at a plant near Puu Kii less than a mile north of Waimea Town.

Stream flow in Waikoloa and Kohakohau fails as a reliable source of water during "dry" weather. Current plant capacity is 4 mgd, but average stream withdrawals are 1.6 to 2 mgd (Megumi Kon Inc., 1992). Average demand on the surface water system is 0.804 mgd, but in the year 2010 the average demand is expected to rise to 4.2 mgd (Megumi Kon, Inc., 1992). Subsequently, additional reliable sources of potable water will have to be developed.

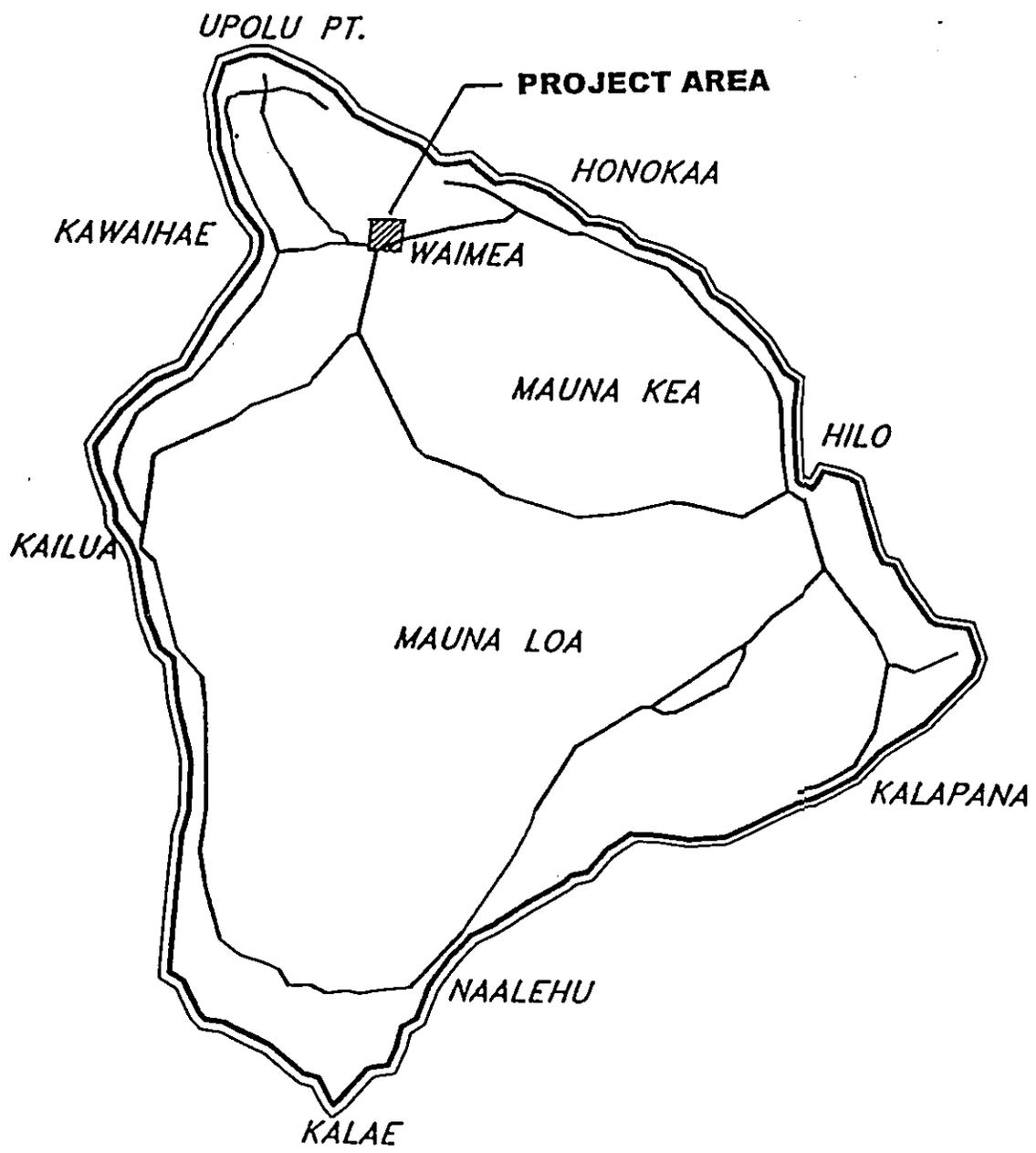
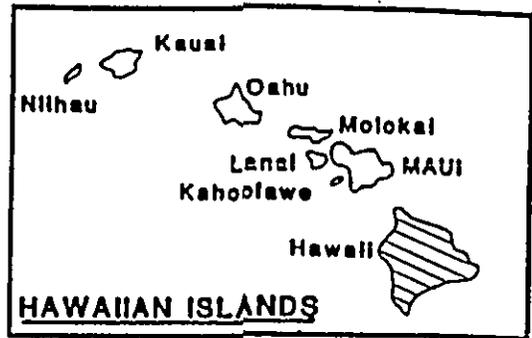
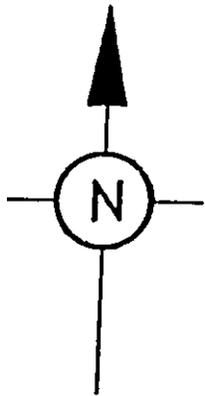
B. PROJECT LOCATION

The proposed well is to be located within the DWS's Waimea Water Reservation, just adjacent to the Waimea Homesteads. The parcel of land is owned by the County of Hawaii and is identified as Tax Map Key (TMK): 6-5-01:03 as shown in Figure 2. The proposed well site is located near the southern end of the Waimea Water Reservation, which contains three reservoirs and a surface water treatment plant. This site is ideal for a production well because once developed, it will require minimal site improvements to incorporate the well into the existing distribution system. Access to the project site is via the Mamalahoa Highway and Kapiolani Road in the Waimea Homesteads. Rural homes adjoin the roads in this area, which is currently classified as low density urban.

C. TECHNICAL CHARACTERISTICS

The technical characteristics of the proposed exploratory well are as follows:

Ground Elevation:	~2900 feet
Casing Diameter:	16 inches
Depth of Solid Casing:	1662 feet
Depth of Full Flo Screen:	120 feet
Depth to Open Hole:	220 feet (as required)
Total Maximum Depth:	2000 feet
Duration of Pump Test:	168 hours
Proposed Pump Test Range:	500-1400 gpm
Length of Project:	270 days
Estimated Construction Cost:	\$1,200,000.00



ISLAND OF HAWAII

FIGURE 1

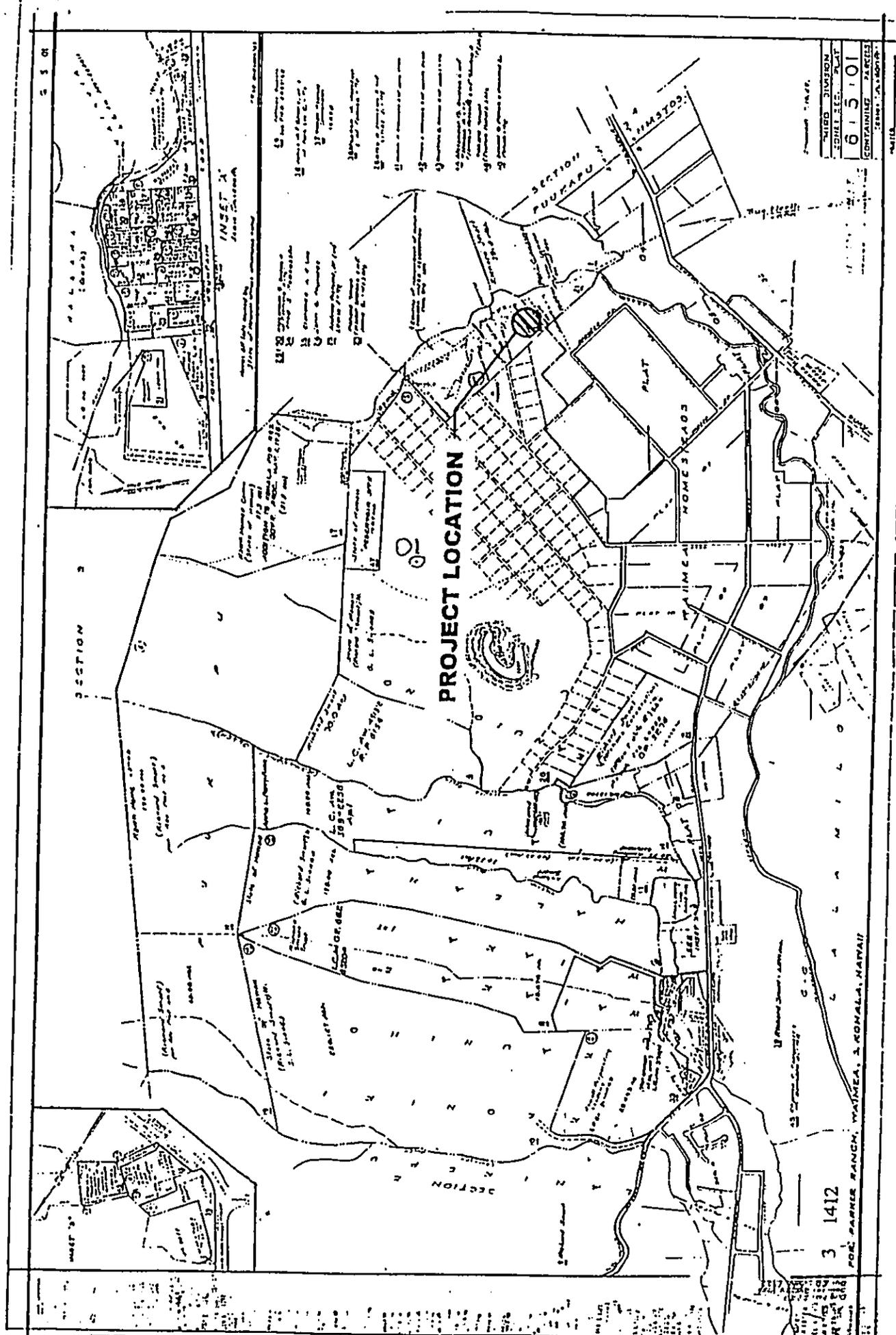


FIGURE 2

III. ENVIRONMENT

A. TOPOGRAPHY AND CLIMATE

The proposed well site is to be located at approximately the 2,900 foot elevation less than a mile above Waimea town. Underlying the ground cover are two rock units, a Pololu basalt base capped by a Hawi volcanic series. The Pololu basalt consists primarily of thin bedded lava flows that erupted during the main shield-building phase. The Hawi volcanics are comprised of alkalic basalts of andestic-trachytic composition. The project site receives an average of 40 inches of rain per year, and experiences an average annual temperature range of 64° to 74° F. Soil on the property is probably a mix of hydrudands in the lower elevations and aquic placudands in the higher elevations. This soil consists of well-drained silt loams which formed in volcanic ash. The subsoil consists of dark yellowish brown and very dark brown silty clay loam. The deeper subsoil then becomes a fine, sand sized aggregate.

B. HYDROLOGY

The geology of the area suggests the presence of both a shallow perched high level aquifer, as well as a dike impounded high level aquifer. Most high level aquifers in Kohala are in the Pololu formation. Extensive aquifers do not occur in the Hawi volcanics because the alkalic rocks hinder the movement of groundwater, and because the section of Hawi volcanics are not thick enough to support an aquifer (Mink & Yuen, 1994). The shallow perched groundwater is actually resting at the bottom portion of the Hawi series, and it is estimated to occur over a minimum area of 8 square miles. The shallow perched aquifer lies at an elevation of 2,400 to 2,800 feet, with a thickness of approximately 150 to 200 feet (Mink & Yuen, 1994). The majority of the groundwater occurs in the Pololu Basalt as high level groundwater or basal groundwater. The high level groundwater is found in dikes and possibly faults. The dike impounded high level aquifer lies at an elevation of 1,250 to 1,750 feet above mean sea level.

The shallow aquifer is much smaller than the deep one and production would be limited to between 50 and 100 gpm per well. On the other hand, a single well in the deep aquifer is capable of yielding 700 to 1400 gpm or 1 to 2 mgd (Mink & Yuen, 1994).

A determination of which aquifer system the proposed deep well will affect cannot be determined based on the map of aquifer sectors and systems in the Water Resources Protection Plan (George A.L. Yuen & Associates, Inc., 1992). The withdrawal of water could affect either the Mahukona or Waimanu aquifer system, both of which are in the Kohala Aquifer Sector, as shown in Figure 3. The estimated sustainable yields of the Mahukona and Waimanu aquifer systems are 17 mgd and 110 mgd, respectively (George A.L. Yuen & Associates, Inc., 1992).

Extensive watershed studies have been conducted in the Waimea-Kohala region. As a result, many exploratory wells have been drilled in the area. There are currently 5 existing wells in the vicinity of the proposed project site. The location of each well is shown on Figure 4, and essential well information for each is illustrated in Table 1.

Table 1: Existing Well Information
(Mink & Yuen, 1994)

Item	6337-01	6235-01	6240-01	6239-01	6337-02
Drill Year	1987-88	1991	1993	1994	1992-93
Owner	State	Waimea CC	DWS	Parker Ranch	State
Well Name	Puukapu (Deep)	Country Club 1	DWS-USGS	Parker Ranch 1	Puukapu (Shallow)
Ground Elev (ft.)	3023.2	2814.1	2970.8	2821.5	3020
Depth (ft.)	1744	1415	2016	1679	353
Depth MSL (ft.)	+1279	+1399	+955	+1143	+2667
Depth Casing (ft.)	1290	1198	1816	1576	
Screen Length (ft.)	454	200	200	103	
Casing Diameter (in.)	16	14	4	14	
Pump Test (gpm)	1400	540		674	50-100
Test Time (hr.)	120	72		74	120
Chloride (mg/l)		8-15			5-10
Static Head (ft.)	1737	1657	1260	1264	2782
Max Drawdown (ft.)	10.6	.7		9.3	26
Pump Installed (gpm)	1000	500	none	300 (temp)	none

C. HYDROLOGIC BUDGET

Fortunately, the Waimea region of the island of Hawaii receives a substantial amount of annual rainfall. The amount of rainfall varies from about 180 inches at the Kohala mountains summit to 40 inches in the lower elevation regions of Waimea. The actual amount of atmospheric water which is involved in the hydrologic cycle is more than just rain gage rainfall; it includes fog drip, which enhances the atmospheric water by a factor of approximately 1.2 (Mink & Yuen, 1994).

Calculation of the hydrologic budget is an exercise in approximate accounting. Not only are the component values assumed due to lack of information, the regional extent to where the budget applies is also unknown. This is especially true where regional data base information is sparse, as in the Waimea region, and hydrogeological boundaries have not been established, also in the case of Waimea.

A reasonable, conservative estimate for the area of the deep high level aquifer in the leeward Kohala mountains for this project is 12 square miles. The weighted average annual rainfall over this region is 125 inches to which 25 inches must be added as fog drip, for a total of 150 inches of atmospheric moisture. The weighted average runoff, including shallow groundwater, is 88 inches (Bowles and Nance). Evapotranspiration accounts for approximately 30 inches leaving a balance of about 32 inches for deep infiltration. Over an area of 12 square miles, the daily infiltration amounts to 18 mgd (Mink & Yuen, 1994). If developed, the proposed well will draw approximately 1 to 2 mgd. Being a conservative estimate, the 18 mgd should be more than adequate to recharge the affected aquifers. Also, being a deep aquifer, it is very unlikely that the development of the proposed well will have any affect on surface waters.

D. FLORA AND FAUNA

Most developed areas in the Waimea region contain a variety of grasses, forbs and sedges. The majority of species present are introduced and exotic. The parcel in question has already faced extensive disruption during the construction of the access road, reservoirs, and water treatment facility. No endangered plant species are expected at the project site.

Drilling the exploratory well is not expected to have an adverse impact on fauna due to the small area of the site and the temporary nature of the work. No endangered or threatened species are known to inhabit the area.

E. NATURAL HAZARDS

Flood:

The Flood Insurance Rate Map indicates that the project site is located within Zone 'X'. Areas within Zone 'X' are determined to be outside the 500-year flood plain. (Source: Flood Insurance Rate Map, 1980). The parcel of land generally slopes in the southerly direction and is not within any drainage course or ravine.

Earthquake:

The island of Hawaii is classified as a Seismic Zone 3 area, as per the Uniform Building Code (1991). Given that the least active zone is Zone 0, and the most active zone is Zone 4, the possibility of an earthquake occurring on the island of Hawaii is quite high. Therefore, all new structures will be designed and constructed to resist stresses produced by lateral forces which apply to the Seismic Zone 3.

F. ARCHAEOLOGY

The proposed well site is located within the DWS Water Treatment Plant Complex above Waimea Town, which has been previously developed and is an unlikely site for archaeological or historical features. According to the State Department of Land and Natural Resources, Historic Preservation Division, there are no known historic sites at the project location. And it is very unlikely that any exists due to the geographic location and elevation (2900 ft.), in addition to the fact that the area has been previously disturbed during the construction of existing facilities.

However, if any unanticipated sites or artifacts are discovered during construction, the work will be halted and the State Historic Preservation Office will be contacted.

G. SOCIO-ECONOMIC ENVIRONMENT

The Waimea area is predominantly a rural farming and ranching community which has been undergoing a period of rapid growth. In the past decade the resident population grew from 1,179 in 1980 to 5,972 in 1990, an increase of over 400%. Current water demands are being met entirely with treated surface water from the Waikoloa and Kohakohau Streams. However, these sources can be extremely unreliable, particularly in dry weather. To keep up with projected future demands it is imperative that new, more reliable water sources are found and implemented. On State-owned and homestead lands, an increasing number of residents would like to place their lands in production. The proposed County re-designation of Waimea Homesteads from Low Density Urban to Intensive Agriculture supports this trend. With the rapid expansion in the resident population and increased interest in agriculture, there is a need for a dependable supply of potable water.

H. PROBABLE IMPACTS AND MITIGATIVE MEASURES

The anticipated impacts of the project will be from the construction work involved in the site preparation, drilling, and pump testing of the exploratory well.

Effluent water resulting from the pump test as well as the drilling operation, may have an adverse impact on the environment. However, the impact will be limited to the immediate surrounding area, and only during actual operation of the pump or drill. Mitigative measures may or may not be necessary.

A working pad, approximately 5,000 square feet in area, will be needed for the drilling equipment and materials storage. Dust, erosion and sediment control provisions will be included in the contract specifications. Drill cuttings and other materials extracted from the drilling of the well will be disposed of in accordance with applicable Federal, State and County requirements.

Drilling equipment to be used include a drilling rig, drilling bits and rods, generators and pipe racks. The contractor is allowed 270 days to complete the work.

Noise generated during the drilling work may at times be in excess of 95 decibels. Therefore, drilling work will be restricted to eight hours during the day and as specified in Chapter 44B, Public Health Regulations. No work will be permitted during weekends and holidays without prior consent of the department.

After the well has been drilled to the specified depth and cased, a temporary pump will be installed in the well to test the groundwater aquifer for yield and water quality. The pump test will be conducted over a continuous 168 hour period. An unabated pump motor can generate a droning sound that may at times be heard during the night. Therefore, the contractor will be required to use mufflers or other sound attenuating devices as needed to meet applicable noise restriction regulations of the Department of Health.

IV. ALTERNATIVES

There are two possible alternatives to the proposed project: taking no action or finding an alternative well site.

A. NO ACTION

The "no action" alternative would preclude the investigation of groundwater sources and the possibility of developing a new water source for the area. The unreliability of the current surface water system, however, makes it imperative that a more stable water source be found to service the Waimea area. Significant increases in demands for potable water are anticipated in the near future as the population continues to grow. Accordingly, taking no action would ultimately have a detrimental effect on the Waimea residents.

B. ALTERNATE SITES

Alternate sites were considered for the proposed well. However, based on the hydrogeologic and topographic conditions, cost, risk and environmental and social impacts considered in the engineering analysis, the selected site was considered to be superior to any other sites. Should the well prove successful and become a production well, its close proximity to the existing water distributions system will minimize improvements to the system and therefore associated costs will be significantly lower.

C. RECOMMENDED ACTION

Among the alternatives considered, the proposed action is by far the best solution to meet the needs of the growing community.

V. DETERMINATION, FINDINGS AND REASONS FOR SUPPORTING DETERMINATION

A. SIGNIFICANT CRITERIA

According to the Department of Health Rules (11-200-12), an applicant or agency must determine whether an action may have a significant impact on the environment, including all phases of the project, its expected consequences both primary and secondary, its cumulative impact with other projects, and its short and long-term effects. In making the determination, the Rules establish "Significant Criteria" to be used as a basis for identifying whether significant environmental impact will occur. According to the Rules, an action shall be determined to have a significant impact on the environment if it meets any one of the following criteria:

- (1) Involves an irrevocable commitment to loss or destruction of any natural or cultural resources;**

The proposed project will not significantly impact the natural or cultural resources in the area. The site is located on a parcel of land that has been previously developed with an existing access road, reservoirs, and a surface water treatment facility. This site is ideal for a production well because if developed, it will require minimal site improvements to be incorporated into the existing distribution system.

As previously noted, no significant archaeological or historical sites are known to exist within the corridor. Should any archaeologically significant artifacts, bones, or other indicators of previous on-site activity be uncovered during the construction phases of development, their treatment will be conducted in strict compliance with the requirements of the Department of Land and Natural Resources.

- (2) Curtails the range of beneficial uses of the environment;**

The proposed site for the exploratory well is in an undeveloped portion of land in the Waimea Water Reservation. The close proximity to the existing water distribution system makes this an ideal site for the proposed project. Should this well site prove to be a successful production well, it will be a great benefit to the community.

- (3) Conflicts with the State's long-term environmental policies or goals and guidelines as expressed in Chapter 344, HRS; and any revisions thereof and amendments thereto, court decisions, or executive orders;**

The proposed development is consistent with the Environmental Policies established in Chapter 344, HRS, and the National Environmental Policy Act. This exploratory work is consistent with the long range plans to meet future water demand for the island.

(4) Substantially affects the economic or social welfare of the community or state;

The proposed project is part of the overall plan for providing an adequate long-term water supply for the community and State. Current water demand for the Waimea area is being met entirely with unreliable surface waters. In order to keep up with the projected future demand, it is imperative that new, more reliable water sources are found and implemented. The proposed project will hopefully provide such a source. It is unlikely that the proposed project will affect the economic or social welfare of the community in either the short-term or the long-term.

(5) Substantially affects public health;

The proposed project will be performed in accordance with all federal, state, and local regulations to ensure the protection of human health and the environment. Impacts to public health may be affected by air, noise, and water quality impacts, however, these will be temporary, insignificant or not detectable, especially when weighed against the positive implications associated with this project.

(6) Involves substantial secondary impacts, such as population changes or effects on public facilities;

The Waimea area is predominantly a rural farming and ranching community which has been undergoing a period of rapid population growth. This will require the expansion of many public and private facilities and services in the area. The proposed project will not in itself generate new population growth, but hopefully provide a much needed reliable source of potable water to meet the needs of this growing community.

(7) Involves a substantial degradation of environmental quality;

The proposed project will utilize a vacant parcel of land. The general vicinity of the proposed project site is relatively developed. Therefore, the construction of the proposed project should not visually impact the environmental quality of the existing conditions.

(8) Is individually limited but cumulatively has considerable effect on the environment, or involves a commitment for larger actions;

Should the exploratory well prove to be successful, future development and additional construction work will be necessary to make it a production well. Impacts to the environment during the development phase of the well are expected to be temporary and insignificant when compared to the socio-economic benefits associated with a production well.

(9) Substantially affects a rare, threatened or endangered species or its habitat;

No endangered or threatened species of plant or animal are known to inhabit the area. The parcel in question has already faced extensive disruption during the construction of existing facilities.

(10) Detrimentially affects air or water quality or ambient noise levels;

Temporary impacts to air, water, and noise levels are expected during construction and pump testing procedures. Dust, erosion, sediment and noise control provisions will be included in the contract specifications.

(11) Affects or is likely to suffer damage by being located in an environmentally sensitive area, such as a flood plain, tsunami zone, beach, erosion-prone area, geologically hazardous land, estuary, freshwater, or coastal waters;

There are no environmentally sensitive areas associated with the proposed project site and the physical character of the area has been previously disturbed by prior development. As such, the property no longer reflects a "natural environment".

(12) Substantially affects scenic vistas and view planes identified in county or state plans or studies;

Once constructed, the exploratory well will not pose a significant threat to existing scenic vistas and view planes.

(13) Requires substantial energy consumption;

Energy in the form of gasoline, diesel fuel and electricity will be consumed during construction and test pumping activities. Construction of the proposed project will not require substantial energy consumption relative to other similar projects.

VI. REFERENCES

County of Hawaii, Hawaii County General Plan: Draft, Hilo, Hawaii, 1989.

Department of Geography, University of Hawaii, Atlas of Hawaii, University of Hawaii Press, Honolulu Hawaii, 1983.

Division of Water and Land Development, Puukapu Deep Well Pump Development, Department of Land and Natural Resources, State of Hawaii, 1992.

Heezen, B. and Tharp, M., Volcanism in Hawaii, U.S. Navy, Office of Naval Research, South Nyack, New York, 1977.

Commission on Water Resource Management, State Water Projects Plan Review Draft, Department of Land and Natural Resources, State of Hawaii, February 1992.

Stearns, H.T. and G.A. MacDonald, Geology and Ground-Water Resources of the Island of Hawaii, Bulletin 9, Hawaii Division of Hydrography, Territory of Hawaii, 1946.

SECTION VII - APPENDIX A
LETTERS OF CORRESPONDENCE

BENJAMIN J. CAYETANO
GOVERNOR

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RECEIVED
MAR 30 12 46 PM '98

GARY GILL
DIRECTOR

STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL

735 SOUTH BENEFAHIA STREET
SUITE 702
HONOLULU, HAWAII 96813
TELEPHONE (808) 698 4188
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March 24, 1998

OFFICE OF ENVIRONMENTAL QUALITY CONTROL
STATE OF HAWAII

MAR 30 12:08 PM '98

Mr. Michael Wilson, Chair
Department of Land and Natural Resources
P.O. Box 621
Honolulu, Hawaii 96809

Dear Mr. Wilson:

Subject: Draft Environmental Assessment for the Waimea Exploratory Well, Hawaii

This is in response to the review of the subject document. We have the following questions and comments.

1. Determination

Please note that the term "negative declaration" has been replaced with "Finding of No Significant Impact (FONSI)." Discuss the findings and reasons for supporting the FONSI determination based on the significant criteria listed in §11-200-12 of the EIS rules. Please see the enclosed example.

2. Orientation Maps

Please include maps with the appropriate scale and coverage (to analyze the aquifer or hydrologic unit) that show the following:

a) General information: location of existing and future wells in the affected aquifer or hydrologic unit.

b) Hydrologic information: aquifer or hydrologic unit boundary, nearby streams and wetlands, known or assumed groundwater flowpaths, and known or assumed water level contours.

c) Contamination information: Points or regions of known contamination, points of potential contamination (landfills, individual wastewater disposal systems, hazardous waste sites,

Mr. Wilson
Page 2

dry wells and injection wells), known or assumed chloride levels at specified depths in relation to nearest or adjacent wells, and the likely wellhead protection area for the proposed well.

3. Aquifer or Hydrologic Unit Status

Please describe the aquifer or hydrologic unit status including the following:

- * Sustainable yields or other measures of water availability
- * Data table presenting the following information as appropriate
 - Current water use totals, including subtotals for individual users
 - Current installed capacity including subtotals for individual wells and/or groups of wells.
 - Pending installed capacity and/or use for the proposed well and subtotals for individual wells and/or groups of wells within the aquifer

4. Contamination Analysis

Please include a record of contamination problems in the aquifer or hydrologic unit including but not limited to saltwater intrusion, turbidity, heavy metals, inorganic and organic chemicals, microbiological agents, water quality parameters (such as pH, alkalinity, calcium, conductivity and temperature), and radioactivity. If contamination exists, the sources and duration of the contamination should be listed. Water quality data from nearby wells should be presented as well as any anticipated need for treatment or filtering systems. Discuss past and existing land uses within the likely wellhead protection area and the potential for future contamination from those uses.

Any hazardous materials used and/or produced during drilling should be described. The method of handling these hazardous materials should also be disclosed.

5. Hydrologic Impact Analysis

Please describe the associated watershed and recharge area and discuss the potential effects the well development may have on affiliated groundwater and surface water (e.g., streams and wetlands). Relevant hydrologic, physical, chemical, and biological data for potentially affected waters should be included. If potential impacts exist, a monitoring program for the surface waters should be included.

Mr. Wilson
Page 3

The EA should include summaries of pump test data on water level, extraction rates, and water quality from nearby wells. The precise criteria used to determine if the well should be converted to production should be described.

6. **Financial and Institutional Arrangements**

In some instances, a well is developed by private financing, the transfer of public lands to government or private developers, or in return for a water allocation credit to supply an urban development. The EA should include a full discussion of any institutional, financial or land use arrangements or commitments related to developing the well and delivering water to end users.

These arrangements may include the formation of public utility companies and subsequent rate-setting, the establishment of county water commitments, the co-funding of state or county water system development, an executive order or other set-aside of state lands, and purchase of land or easements by public entities.

Any or all of these arrangements and all permits or governmental approvals required to fulfill these commitments should be listed.

7. **Watershed and Land Use Analysis**

Please discuss how waters from the well will be used, and an analysis of how the proposed well development may affect land and water uses on the island and in the region. The analysis should include a discussion of the following (published materials may be referenced):

- * Hawaii State Water Plan and its component parts
- * County General, Development, and/or Community Plans
- * Plans for future water development within the aquifer
- * Historical water supply and demand figures for the region
- * Any secondary or cumulative impacts caused by promoting land uses that alter the hydrology of the source and/or end-use area
- * An assessment of the well's impact on the land owners, water users including farmers and kuleana residents in the region and a declaration if ceded lands are involved.

8. **Alternative Analysis**

Please include a list of alternatives to new groundwater development and discussion of their related costs and benefits. The list should include but not be limited to

Mr. Wilson
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wastewater reuse, rainfall catchment, conservation, and existing potable and nonpotable water supplies.

9. Permits

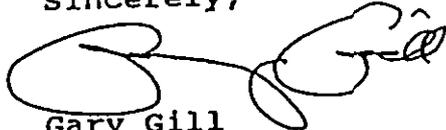
Please list all federal state and county permits that would be required for this project.

10. Consultation

Please consult with the Department of Hawaiian Homelands and any affected community groups in the region regarding this project.

Should you have any questions, please call Jeyan Thirugnanam at 586-4185.

Sincerely,



Gary Gill
Director

Attachment

BENJAMIN J. CAYetano
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION
ENGINEERING BRANCH
P.O. BOX 373
HONOLULU, HAWAII 96809

MICHAEL D. WILSON, CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES

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AGRICULTURE DEVELOPMENT PROGRAM
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LAND DIVISION
ENGINEERING BRANCH
PLANNING BRANCH
TECHNICAL & SUPPORT BRANCH
STATE PARKS
WATER RESOURCE MANAGEMENT

MAY 8 1998

TO: Mr. Gary Gill, Director
Office of Environmental Quality Control

FROM: Andrew M. Monden *Andrew M. Monden*
Chief Engineer

SUBJECT: Draft Environmental Assessment for Job No. 43-IIW-A,
Waimea Exploratory Well, Waimea, Hawaii

Thank you for your letter of March 24, 1998, regarding the draft Environmental Assessment (EA) for the subject project. All of your recommendations are noted and will be taken into consideration in our preparation of the Final EA.

We appreciate the time you spent reviewing the documents.

Should you have any questions, please contact Mr. Hiram Young of the Design Section at 587-0260.

RM:cy

QUAHII J. CAYEIAHO
GOVERNOR OF HAWAII

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DIVISION OF
LAND MANAGEMENT
FEB 18 11 28 AM '98

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38 FEB 18 2:49
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HONOLULU, HAWAII 96809

FEB 4 1998

MICHAEL D. WILSON, CHAIRPERSON
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WATER RESOURCE MANAGEMENT

DIVISION OF AQUATIC RESOURCES	
DIRECTOR	Suspense Date: _____
COM FISHERIES	Draft Review <input type="checkbox"/>
AD RES/ENV	Reply Due <input type="checkbox"/>
AQ RECR'N	Comments <input type="checkbox"/>
STAFF SVCS	Information <input type="checkbox"/>
FISH DEV	Copy Act & File <input type="checkbox"/>
STATISTICS	Retain to: _____
AFRC	Copies to: _____
EDUCATION	Remarks: _____
SECRETARY	
OFFICE SVCS	98-122
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AT

TO: Division of Forestry and Wildlife
Division of Historic Preservation
Division of State Parks
Division of Aquatic Resources ✓
Division of Conservation and Resource Enforcement

FROM: *for* Andrew Monden, Chief Engineer *Huey*

SUBJECT Draft Environmental Assessment, Job No. 43-IIW-A,
Waimoa Exploratory Well, Waimoa, Hawaii

Transmitted for your review and comments is a copy of the Draft Environmental Assessment for the subject exploratory well. May we please have your written comments by February 27, 1998, otherwise, we will assume that you have no comments or objections to this request.

If there are any questions on this matter, please have your staff contact Mr. Hiram Young of the Design Section at Extension 70260.

RM:ey
Enc.

NO COMMENTS/COMMENTS: _____

Date: 2-12-98

RECEIVED
FEB 5 1998
Div. of Aquatic Resources

By: *Arnette Tugener*

DOCUMENT CAPTURED AS RECEIVED

SUSPENSE DATE: 2/13/98

STATE OF HAWAII
Department of Land and Natural Resources
DIVISION OF AQUATIC RESOURCES

MEMORANDUM

TO: William Devick, Acting Administrator *2/13*
FROM: Annette Tagawa, Aquatic Biologist
SUBJECT: Comments on Draft Environmental Assessment, Job No. 43-HW-A
Comments Andrew Monden, Chief Engineer
Requested By Land Division, Engineering Branch
Date of Request 2/4/98 Date Received 2/5/98

Summary of Project

Title: Waimea Exploratory Well (DEA)
Project By: Department of Land and Natural Resources
Land Division, Engineering Branch
Location: Waimea, Hawaii TMK: 6-5-01:03

Brief Description:

The applicant proposes to drill, case, and test an exploratory well. The project site is located on a parcel of land owned by the County of Hawaii, adjacent to the Waimea Homesteads and within the Department of Water Supply's Waimea Water Reservation. It is intended as a full production potable well.

Comments:

The Division has no objections to this request since the proposed project is not expected to have significant adverse impact on aquatic resource values in this area since all drilling and construction activities will occur outside the vicinity of the nearest stream. We suggest mitigative measures should be taken during construction to prevent petroleum products, sediment, and other debris from blowing, leaching, draining, or entering the aquatic environment. We also suggest that site work be scheduled for periods of minimal rainfall and lands denuded of vegetation be replanted or covered as quickly as possible to control erosion.

DOCUMENT CAPTURED AS RECEIVED

State of Hawaii
Department of Land and Natural Resources
LAND DIVISION
Engineering Branch
MAY 7 1998

TO: William Devick, Acting Administrator
Division of Aquatic Resources

FROM: Andrew Monden, Chief Engineer *AM*

SUBJECT: Draft Environmental Assessment for Job No. 43-IIW-A, Waimua
Exploratory Well, Waimua, Hawaii

Thank you for your letter of February 17, 1998, regarding the draft Environmental Assessment for the subject project. All of your recommendations are noted and will be taken into consideration in our preparation of the Final EA.

We appreciate the time you spent reviewing the documents.

Should you have any questions, please contact Mr. Hiram Young of the Design Section at 587-0260.

RM:ssk

BERNARD J. CAVEYANO
Secretary of Hawaii

RECEIVED
13 MAR 20 2:00
OFFICE OF WATER &
LAND USE DEVELOPMENT



STATE OF HAWAII
OFFICE OF HAWAIIAN AFFAIRS
711 KAPOLANI BOULEVARD, SUITE 500
HONOLULU, HAWAII 96813-5249
PHONE (808) 584-1888
FAX (808) 594-1845
March 17, 1998

Mr. Hiram Young, Land Division
Department of Land and Natural Resources
1151 Punchbowl Street, Room 221
Honolulu, HI 96813

Doc. EIS 158

Subject: Draft Environmental Assessment (DEA) and Negative Declaration for Waimea
Exploratory Well, Waimea, Island of Hawaii

Dear Mr. Young:

Thank you for the opportunity to review the Draft Environmental Assessment (DEA) and Negative Declaration for Waimea Exploratory Well, Waimea, Island of Hawaii. DLNR proposes to drill, encase, and test an exploratory well approximately 2,000 feet deep in the Kohala Mountains. The intent is to tap water resources of the Waimea aquifer system. If successful, the well will become a production well.

The Office of Hawaiian Affairs (OHA) has no objections at this time to the proposed drilling operation. Based on information contained in the DEA, the well apparently bears no adverse impacts on adjacent lands nor upon existing flora or fauna and no known archaeological remains exist.

Please contact Colin Kippen (594-1938), Officer of the Land and Natural Resources Division, or Luis A. Manrique (594-1758), should you have any questions on this matter.

Sincerely yours,
Rahedil Ogaia
Rahedil Ogaia
Administrator

Colin Kippen
Colin Kippen
Officer, LNR

cc Board of Trustees
CAC, Island of Hawaii

MICHAEL D. WILSON, CHIEF ENGINEER
State of Hawaii, Department of Land and Natural Resources
CLINT COLEMAN-GUNAM
Assistant Chief Engineer
State of Hawaii, Department of Land and Natural Resources
Engineering Branch
Honolulu, Hawaii 96813-5249
Phone: (808) 584-1888
Fax: (808) 594-1845



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION
ENGINEERING BRANCH
P.O. BOX 373
HONOLULU, HAWAII 96813-0373
MAY 7 1998

Mr. Randall Ogata, Administrator
Office of Hawaiian Affairs
711 Kapiolani Boulevard, Suite 500
Honolulu, Hawaii 96813-5249

Dear Mr. Ogata:

Draft Environmental Assessment for Job No. 43-HW-A,
Waimea Exploratory Well, Waimea, Hawaii

Thank you for your letter of March 17, 1998, regarding the draft Environmental Assessment for the subject project.

We appreciate the time you spent reviewing the documents.

Should you have any questions, please contact Mr. Hiram Young of the Design Section at 587-0760.

Sincerely,

Andrew M. Monden

ANDREW M. MONDEN
Chief Engineer

RM:ssk



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STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND ACQUISITION
STATE HISTORIC PRESERVATION DIVISION
33 SOUTH KING STREET, 5TH FLOOR
HONOLULU, HAWAII 96813

NICHOLE B. WILSON, CHIEF OF DIVISION
DIVISION
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND ACQUISITION PROGRAM
ADULTIC RESOURCES
CONSERVATION AND
RECREATION DIVISION
QUALITY AND VALUE
PLANNING AND DESIGN
DIVISION
LAND DIVISION
STATE PLANNING
DIVISION
NATURAL AND LAND DEVELOPMENT

February 20, 1998

MEMORANDUM

LOG NO: 21054 ✓
DOC NO: 9802PM07

TO: Andrew Monden, Chief Engineer
Land Division

FROM: Don Hibbard, Administrator
State Historic Preservation Division

SUBJECT: Draft Environmental Assessment, Job No. 43-BW-A
Waimea Exploratory Well
Waimea, South Kohala, Hawaii Island
TMK: 6-5-01:03

We have no record of historic sites in the subject parcel. It is unlikely that any exist because of the geographic location and elevation (2900 ft.), in addition to the fact that the area has been previously disturbed during the construction of an access road, reservoirs and water treatment facility. We believe that the proposed exploratory well will have "no effect" on significant historic sites.

PM:amk

State of Hawaii
Department of Land and Natural Resources
LAND DIVISION
Engineering Branch
May 7 1998

TO: Don Hibbard, Administrator
State Historic Preservation Division

FROM: Andrew Monden, Chief Engineer *AM*

SUBJECT: Draft Environmental Assessment for Job No. 43-HW-A, Waimea
Exploratory Well, Waimea, Hawaii

Thank you for your letter of February 20, 1998, regarding the draft Environmental Assessment for the subject project.

We appreciate the time you spent reviewing the documents.

Should you have any questions, please contact Mr. Hiram Young of the Design Section at 587-0260.

RMissk

MEMORANDUM FOR THE DIRECTOR

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STATE PARKS

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STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
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013

MICHAEL D. WILSON, CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
DEPARTMENT OF LAND AND NATURAL RESOURCES
1505 KALANOAUAVANU DRIVE
HONOLULU, HAWAII 96822
TELEPHONE: (808) 586-2500
FACSIMILE: (808) 586-2501
ELECTRONIC MAIL: MWILSON@DLNR.HAWAII.GOV

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DIVISION OF
STATE PARKS

Division of Forestry and Wildlife
Division of Historic Preservation
Division of State Parks
Division of Aquatic Resources
Division of Conservation and Resource Enforcement

TO: _____
FROM: _____
SUBJECT: _____

FEB 4 1998

To: Andrew Monden, Chief Engineer

FROM: Andrew Monden, Chief Engineer

SUBJECT: Draft Environmental Assessment, Job No. 43-BW-A,
Waimea Exploratory Well, Waimea, Hawaii

Transmitted for your review and comments is a copy of the Draft Environmental Assessment for the subject exploratory well. May we please have your written comments by February 27, 1998, otherwise, we will assume that you have no comments or objections to this request.

If there are any questions on this matter, please have your staff contact Mr. Hiram Young of the Design Section at Extension 70260.

RM:ey
Enc.

NO COMMENTS/COMMENTS:

Date: 2/19/98

By: [Signature]

State of Hawaii
Department of Land and Natural Resources
LAND DIVISION
Engineering Branch
MAY 7 1998

TO: Ralston Nagata, Administrator
Division of State Parks

FROM: Andrew Monden, Chief Engineer

SUBJECT: Draft Environmental Assessment for Job No. 43-BW-A, Waimea
Exploratory Well, Waimea, Hawaii

Thank you for your letter of February 19, 1998, regarding the draft Environmental Assessment for the subject project.

We appreciate the time you spent reviewing the documents.

Should you have any questions, please contact Mr. Hiram Young of the Design Section at 587-0260.

RM:ssk

END

CERTIFICATION

I HEREBY CERTIFY THAT THE MICROPHOTOGRAPH APPEARING IN THIS REEL OF
FILM ARE TRUE COPIES OF THE ORIGINAL DOCUMENTS.

2004

DATE

Jelle Kadi

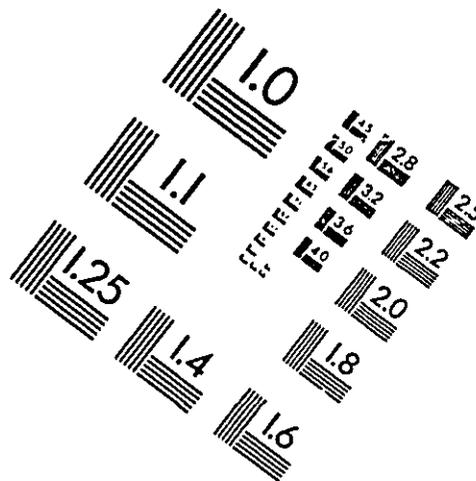
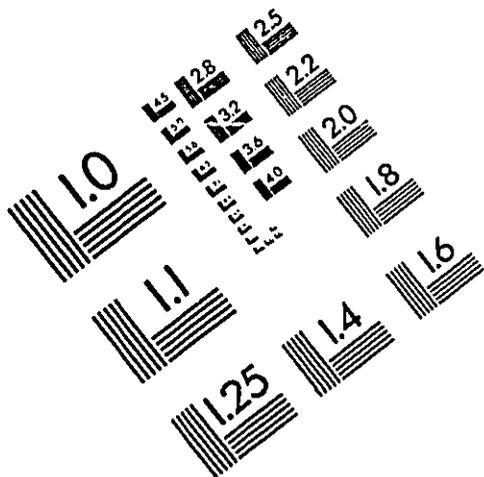
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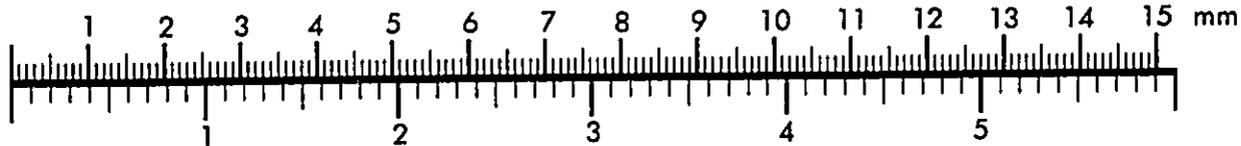
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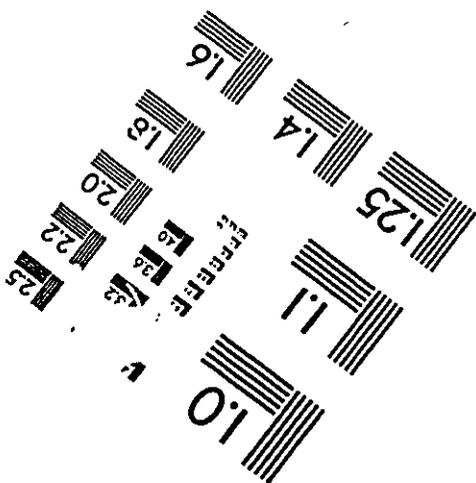
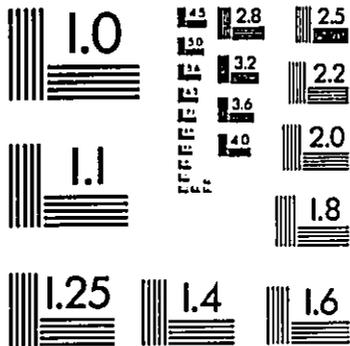
1100 Wayne Avenue, Suite 1100
Silver Spring, Maryland 20910
301/587-8202



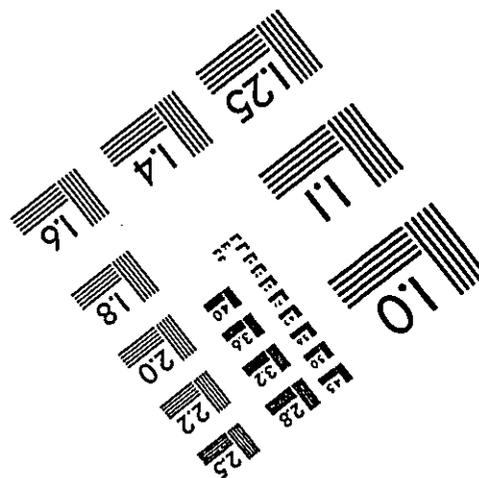
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