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**BOARD OF WATER SUPPLY
COUNTY OF MAUI**

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June 6, 1997

OFFICE OF ENVIRONMENTAL
QUALITY CONTROL

Mr. Gary Gill, Director
Office of Environmental Quality Control
220 South King Street
Central Pacific Plaza, Suite 400
Honolulu, HI 96813

Re: Final Environmental Assessment for the North Waihee Exploratory Wells Kupaa
Well No. 1 and Kanoa Well No. 1 at Waihee, Maui, Hawaii (TMK 3-2-01:por.3)

Dear Mr. Gill:

The Maui County Department of Water Supply has determined that the North Waihee Exploratory Wells Kupaa Well No. 1 and Kanoa Well No. 1 will not have significant environmental effects and has issued a Finding of No Significant Impact (FONSI). Please publish this notice in the June 23, 1997 Office of Environmental Quality Control Environmental Notice. We received one significant comment letter from OEQC dated May 20, 1997 during the 30-day public comment period which ended on May 23, 1997. The Final EA was amended as appropriate to address the comments. Copies of the comment and response letters are included in the Final EA.

Transmitted herewith are four (4) copies of the Final Environmental Assessment prepared for the North Waihee Exploratory Wells Kupaa Well No.1 and Kanoa Well No.1, and a completed OEQC Environmental Notice Publication form.

We thank you for your assistance in handling this matter. Please contact the project's Engineering Consultant, Mr. Carl Takumi, at 249-0411 if you have any questions.

Yours truly,

David Craddick, Director
County of Maui, Department of Water Supply

encls.

cc: Mr. Herbert Kosaka
Mr. Carl Takumi
Mr. Rory Frampton

"By Water All Things Find Life"

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Wells

FINAL
ENVIRONMENTAL ASSESSMENT

North Waihee Exploratory Wells
Kupaa Well No.1 & Kanoa Well No.1
(Project No. 97-17)

Waihee, Maui, Hawaii
TMK 3-2-01:por.3



Prepared for:

County of Maui
Department of Water Supply
200 South High Street
Wailuku, Maui, Hawaii 96793

Engineering Consultant:

C. Takumi Engineering, Inc.
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Chris Hart and Partners
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JUNE 1997

OFFICE OF ENVIRONMENTAL
QUALITY CONTROL

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FINAL ENVIRONMENTAL ASSESSMENT

North Waihee Exploratory Wells Kupaa Well No.1 & Kanoa Well No.1 (Project No. 97-17)

Waihee, Maui, Hawaii
TMK 3-2-01:por.3



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JUNE 1997

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I. INTRODUCTION

A. IDENTIFICATION OF THE PROPOSING/ACCEPTING AUTHORITY AND CONSULTANTS

Proposing Agency / Accepting Authority:

County of Maui
Department of Water Supply
200 South High Street
Wailuku, Maui, Hawaii 96793

Engineering Consultant:

C. Takumi Engineering, Inc.
18 Central Avenue
Wailuku, Hawaii 96793

Planning Consultant:

Chris Hart & Partners
Landscape Architecture and Planning
1955 Main Street, Suite 200
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B. OVERVIEW OF THE REQUEST

The County of Maui Department of Water Supply (DWS) is proposing the drilling of two exploratory wells in Waihee, Maui, Hawaii (TMK 3-2-01: por. 03). SEE FIGURE 1. The project will involve the drilling and testing of Kupaa Well No. 1 and Kanoa Well No. 1 (previously known as Waihee Well Nos. 3 and 4, respectively).

DWS prepared and processed a Final Environmental Assessment (EA) for the Waihee Wells and Transmission line in March 1994 (Michael T. Munekiyo Consulting, 1994). The 1994 Final EA document examined the activation of Waihee Well Nos. 1 and 2, installation of a new 500,000 gallon water tank, construction of approximately 4.26 miles of underground transmission line, and the drilling of Kupaa Well No. 1 and Kanoa Well No. 1. (This project is now collectively referred to as the North Waihee Water Source Project.) The particular focus of the 1994 Final EA document was the activation of Well Sites 1 and 2 and the construction of the 4.26 miles of transmission line, including the Waihee Stream crossing. Development of Kupaa Well No. 1 and Kanoa Well No. 1 were discussed, however, at the time the actual sites had not been chosen and thus the specific impacts could not be assessed. The purpose of this Draft EA is to assess the potential impacts associated with the exploratory drilling of Kupaa Well No. 1 and Kanoa Well No. 1.

C. BACKGROUND INFORMATION

The Central Maui Water System receives its water from the Iao Aquifer System, which has an assigned sustainable yield of 20 mgd. However, the demand from Central Maui has already reached this sustainable yield and threatens to exceed it in the next few years. As such, the DWS has initiated the North Waihee Water Source Project as a means to relieve stress on the Iao Aquifer System by providing additional source and transmission systems. Preliminary testing and monitoring has indicated that the North Waihee Aquifer can adequately supplement the Iao System. It has been estimated that the North Waihee Water Aquifer could supply the Central Maui Water System with an additional average annual yield of 4 mgd (Mink and Yuen Inc., 1997).

The North Waihee Water Source Project involves the activation of the existing North Waihee Wells Nos. 1 and 2, and the construction of transmission lines to the Central Maui Water System as well as the drilling and construction of two new wells (Kupaa Well No. 1 and Kanoa Well No. 1). DWS has received all governmental approvals for the activation of Well Nos. 1 and 2 and is currently constructing the transmission lines to connect Well Nos. 1 and 2 to the Central Maui Water System. If subsequent well tests and geologic data are favorable, then DWS will apply for a pump installation permit from the Commission on Water Resource Management for Kupaa Well No. 1 and Kanoa Well No. 1 at which time the proposed long term pumping from the aquifer will be assessed along with the proposed transmission line routing and construction impacts.

D. DESCRIPTION OF PROPOSED ACTION

The DWS is proposing the exploratory drilling of Kupaa Well No. 1 and Kanoa Well No. 1. The proposed exploratory well sites are located to the north of the existing North Waihee Well Nos. 1 and 2. SEE FIGURE 1. Kupaa Well No. 1 is located approximately 650 feet mauka (west) of Kahekili Highway at approximate elevation of 600 feet above sea level. Kanoa Well No. 1 is located mauka (west) of Kahekili Highway, approximately 100 feet inland from the existing Kanoa monitoring well and at approximate elevation of 300 feet above sea level. The proposed action will include the drilling of two exploratory wells and the temporary installation of diesel powered test pumps and appurtenant facilities.

The project will comply with the Hawaii Well Construction & Pump Installation Standards prepared by the Department of Land and Natural Resources Commission on Water Resource Management. The following general specifications and drilling protocol will be used:

- 1) Drilling of pilot hole to depth of 50 feet BSL.
- 2) Conducting a preliminary pump test in open hole; the duration will be two hours or less.

- 3) Option to deepen drilling in 25 feet increments if the preliminary tests fail to show sufficient production capability.
- 4) At selected depth, ream boring so it can hold 16 inch diameter casing while allowing for a three inch annular space for grouting.
- 5) Conduct another preliminary test of a few hours duration.
- 6) Select length of blank casing on basis of preliminary tests.
- 7) Screen is optional; at most, 10 to 20 feet of screen, the remainder of boring open hole.
- 8) Grout to water table, which is expected to lie about 10 feet above sea level.

It is proposed that the excess crushed material from the drilling will be spread out evenly around the site. Anticipated drilling time for the project is three (3) to four (4) months (approximately 10 feet per day for drilling).

The proposed project will also include well pump testing. Two types of pump tests will be carried out: 1) Step-Drawdown Test and 2) Constant-Rate Test. The Step-Drawdown Test will run for 8 hours while the Constant-Rate Test will run for 96 hours (4 days). In addition, water quality testing will be conducted to determine if the water quality conforms to the State Department of Health's Drinking Water Standards. The discharge water from the well tests will be transported and discharged into nearby drainage gulches. After completion of the well testing, the pumps and other appurtenant facilities will be removed. The wells will then be capped until the well pump data and water quality can be carefully reviewed. If data shows that allowable withdrawals can be successfully accomplished, DWS will then proceed with the development of the wells by installing a pump and necessary appurtenances and then connecting them to the Central Maui Water System.

Access to Kupaa Well No. 1 will be via an existing dirt road which traverses undeveloped pasture land owned by Wailuku Agribusiness Co. Kupaa Well No. 1 is easily accessible from the dirt road and therefore will not require any roadway improvements or grading.

Access to Kanoa Well No. 1 will be via an existing unimproved access easement which also traverses undeveloped pasture land owned by Wailuku Agribusiness Co. The access easement is on slightly sloping lands which are relatively easy to access and, therefore, will not require any roadway improvements or grading.

II. EXISTING ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION MEASURES

A. PHYSICAL ENVIRONMENT

1. Existing Land Uses for the Subject Property

Kupaa Well No. 1 is located within pasture land and is presently covered with various grass, weeds, shrubs, and some scattered trees. The subject property has been used in recent times for agricultural pursuits, principally the grazing of cattle and horses.

Kanoa Well No. 1 is also located within pasture land and is presently covered with various grass, weeds, and shrubs. An existing monitoring well, Kanoa, is located approximately 100 feet east (makai) of the proposed well site. The subject property has been used in recent times for agricultural pursuits, principally the grazing of cattle and horses.

During the well drilling and testing period, each well site will involve the utilization of approximately 400 square feet of land. After completion of the well testing, the drilling equipment, pumps and other appurtenant facilities will be removed. The wells will then be capped until the well pump data and water quality can be carefully reviewed. If data shows that allowable withdrawals can be successfully accomplished, DWS will then proceed with the development of the wells by installing a pump and necessary appurtenances and then connecting them to the Central Maui Water System. The short term activities associated with drilling and testing as well as the presence of capped wells are not anticipated to have a significant impact upon existing land uses at the sites.

2. Surrounding Land Uses

The well sites, which are located approximately five (5) miles north of the urbanized region of Wailuku Town, is surrounded by an area that is characterized by a open pastoral setting, comprised of various agricultural settlements interspersed with residential areas.

Specific uses surrounding the property include the following:

Kupaa Well No. 1

- North: Vacant undeveloped lands in pastoral use. Further north are the Kahakuloa Homesteads.
- South: Vacant undeveloped lands in pastoral use. Further south is the town of Waihee.
- East (Makai): Across Kahekili Highway, additional lands in pastoral use and further east is the rugged shoreline.

- West (Mauka): Vacant undeveloped lands in pastoral use. Further west is the West Maui Forest Reserve.

Kanoa Well No. 1

- North: Vacant undeveloped lands in pastoral use. Further north are the Kahakuloa Homesteads.
- South: Vacant undeveloped lands in pastoral use. Further south is the town of Waihee.
- East (Makai): Across Kahekili Highway, additional lands in pastoral use and further east is the rugged shoreline.
- West (Mauka): Vacant undeveloped lands in pastoral use. Further west is the West Maui Forest Reserve.

As noted above, after well construction is completed, the drilling equipment, pumps and other appurtenant facilities will be removed. The wells will then be capped until the allowable withdrawals from the wells have been determined and the permits for the installation of the permanent pumps have been issued. The short term activities associated with drilling and testing as well as the presence of capped wells are not anticipated to have a significant impact upon surrounding land uses.

3. Climate

Located on the coastal uplands of the West Maui Mountain's, Waihee's climatic pattern is heavily influenced by the northeasterly tradewinds as is typical of windward areas in the Hawaiian Islands. In the absence of the tradewinds, diurnal heating and cooling of the Island produces onshore sea breezes during the day and offshore land breezes at night. The average annual rainfall at the well sites is approximately 30 to 40 inches, with showers usually more frequent during the night and early morning. Average temperatures range from lows in the mid 60's to highs in the mid 80's.

The proposed exploratory wells will have no effect upon existing climatic conditions.

4. Topography

The topography of the surrounding area is characterized as having slopes cut by numerous erosional gullies and established drainage patterns. The elevation at Kupaa Well No. 1 is approximately 600 feet above sea level while the elevation at Kanoa Well No. 1 is approximately 300 feet above sea level. The slope at the well sites are slightly sloping with the slopes ranging from 10 % to 20%. There does not appear to be any significant topographical constraints within the areas proposed for the exploratory wells.

The proposed project will involve the drilling of exploratory wells measuring 16 inches in diameter. The crushed material from the drilling will be evenly spread out over the well sites. Steps will be taken to prevent the crushed material from forming any topographical constraints or features around the well sites. The project will not involve any grading or grubbing activities. As such, once completed, the proposed project is not anticipated to have a significant impact upon topographical features of the surrounding area.

5. Soils

The soil type specific to Kupaa Well No. 1 is Naiwa silty clay loam (NAC) while the soil type specific to Kanoa Well No. 1 is Rough Broken land (rRR). NAC soils consists of well-drained soils on uplands that have developed in volcanic ash and material weathered from basic igneous rock. Permeability is moderately rapid, runoff is medium and the erosion hazard is moderate to severe. rRR soils consist of very steep land broken by numerous intermittent drainage channels. Runoff is rapid and geologic erosion is active.

The proposed exploratory wells will not have a significant effect upon existing soils at the site or those which surround the site.

6. Flood and Tsunami Hazard

Kupaa Well No. 1 and Kanoa Well No. 1 lie in areas of minimal flood and tsunami hazard as determined by the Flood Insurance Rate Map for this region. Kupaa gulch and the unnamed gulch adjacent to the Kanoa well are not designated as flood prone areas.

The proposed project will have no effect upon the existing flood or tsunami areas.

7. Groundwater

Sustainable Yield: The North Waihee Aquifer System is defined as the region extending northward from Waihee Valley to Kahakuloa Valley. See Figures 1 and 2. However, the basal aquifer may be disrupted near Makamakaole Valley by massive Honolua dikes. The sustainable yield for the entire North Waihee Aquifer is estimated at 8 mgd and the estimated sustainable yield for the area between Waihee and Makamakaole will be less. The proposed exploratory wells will aid in determining the aquifer conditions for the North Waihee Aquifer.

Current water use totals: Current water use totals in the North Waihee Aquifer is limited and consists of the Mendes Well (State Well No. 5731-01), a small residential well; the Wailena well (State Well No. 5832-03), a residential subdivision well at Wailena; and, the Marino Well (State Well No. 5631-04), a small residential subdivision well. The lack of development in the area has kept pumpage of these wells to a minimum. The Commission on Water Resource Management has no record of the current water use totals.

Current and pending installed capacity: There are three existing sets of wells in the North Waihee Aquifer. The two existing North Waihee Wells have not been pumped on a permanent basis and two 1050 gpm permanent pumps are currently being installed. The Mendes well is too small for either the quality or quantity of its pumpage to be affected. The well at Wailena was drilled and successfully tested at 200 gpm. Pumping at Kupaa and Kanoa should not affect the Wailena Well because of its distance from the proposed wells. The Marino Well has a 100 gpm pump.

Authorized water use by the Commission on Water Resource Management: The North Waihee Aquifer has not been designated as a water management area by the Commission on Water Resource Management; therefore, no authorized water use controls have been implemented by the Commission.

Record of contamination problems. There is no known record of contamination or sites of potential contamination in the aquifer; however, water quality samples will be taken during well pumping testing and compared with State Department of Health safe drinking water standards. Should contaminants be detected, the Department of Water Supply will consider the feasibility of taking mitigative measures and proceeding with the well development phase of the Project.

8. Surface Waters

Streams: There are no perennial streams in close proximity to the well sites. The nearest perennial streams are Waihee and Makamakaole. These streams are shown on Figure 1.

Makamakaole stream flows on the Honolua formation and nowhere does it intersect the Wailuku formation, which is the aquifer proposed for development. Pumping in the Wailuku formation will have no effect on the Makamakaole stream flow. The stream is located approximately 3,500 feet away from the proposed wells.

Except for the mouth of Waihee Stream, the water table in the aquifer lies below the invert of the Waihee stream channel. Any effect on stream flow will be very small and not likely to be measurable. The stream is about 4,000 feet distant from the proposed wells.

Wetlands: A large wetland occurs in the headwater region of Makamakaole Stream, and a smaller wetland occurs at the mouth of Waihee Stream.

The Makamakaole wetlands extend irregularly over a distance of about 2.5 miles from Eke crater toward the sea and range in elevation from 4,500 feet above

MSL to 2,800 feet above MSL. They lie on the Honolua formation and are sustained by perched water in the formation. There is no hydraulic continuity between these wetlands and the Wailuku formation. They will not be affected by pumping in the Wailuku aquifer. The lowest reach of the wetlands is two miles from the proposed wells.

The wetlands at the mouth of Waihee Stream are a mile away from the proposed wells. A reduction in head in the Wailuku aquifer may diminish seepage into the wetlands but probably not enough to be detectable. The wetlands are in valley fill alluvium and are sustained mostly by seepage from Waihee Stream.

The discharge water from the well tests will be transported and discharged into nearby drainage gulches and will avoid any perennial streams. Inasmuch as there are no surface streams that traverse or border the well sites, the proposed exploratory wells will not be anticipated to have any effects upon the region's surface waters.

9. Flora and Fauna

The exploratory well sites are situated within the pastoral setting of Waihee. Natural environment features, such as plant and animal life, therefore, are reflective of this pastoral setting. Existing vegetation within the well sites include various weeds, grasses, and shrubs. There are no rare, endangered or threatened species of plants at the well sites.

Animal life in the vicinity similarly reflects the pastoral setting of the region. Avifauna typically found within Waihee's pastoral area include the common myna, several species of dove, cardinal, house finch, and house sparrow. Mammals common to this area include cats, dogs, rodents, mongoose.

There are no known significant habitats of rare, endangered or threatened species of flora and fauna located at the exploratory well sites. Therefore, the exploratory wells will not have an adverse impact upon the flora or fauna found within the well sites.

10. Air Quality

Waihee's constant exposure to tradewinds creates a clean air environment. There are no point sources of airborne emissions in the immediate vicinity of the exploratory well sites, and the air quality at the sites is considered good.

Air quality impacts attributed to the exploratory wells could include dust generated by short-term, drilling-related activities. Mitigation measures for dust control, such as regular watering and sprinkling, will be implemented as needed to minimize wind-blown emissions. Also, the pumps utilized during the drilling and pumping periods will be diesel driven and may produce diesel fumes which could be a short-term impact to the local air conditions. However, the DWS will adhere to the State Department of Health's rules and requirements

for air emission controls regarding this issue. As such, in the long-term, the capped wells are not anticipated to be detrimental to local air quality.

11. Noise Characteristics

Background noise at the well sites are natural, except for intermittent noise generated by vehicles on Kahekili Highway.

In the short-term, ambient noise conditions could be impacted by drilling related activities. In order to minimize drilling related impacts to surrounding property owners, the applicant proposes to limit drilling activities to normal daylight working hours and adhere to the State Department of Health's noise regulations for drilling equipment.

Once completed, it is anticipated that the capped wells will not have an adverse impact upon existing noise characteristics.

12. Visual Resources

The well sites are located on the mauka side of Kahekili Highway, and are not visible from the highway. Scenic resources within proximity to the well sites include views of the nearby shoreline, the open space natural drainage ways (gulch areas), and views of Haleakala's northshore.

Once completed, the capped wells will be at or near grade and therefore will not be visible from the highway. As such, the proposed project is not anticipated to have an adverse affect upon scenic resources.

13. Archaeological/Historical Resources

An Archaeological Reconnaissance Surface Survey was conducted for Kupaa Well No. 1 and Kanoa Well No. 1 on March 27, 1997. SEE APPENDIX A - ARCHAEOLOGICAL RECONNAISSANCE SURFACE SURVEY. No significant remains were located in the areas proposed for exploratory well drilling. However, there were some potential features noted within proximity of the proposed well sites. At Kupaa Well No. 1 two potential rock features were noted. The first potential feature, consisting of roughly stacked basalt cobbles and small boulders, is located approximately 300 feet north of the proposed well site while the second potential feature, consisting of roughly stacked rocks, is located approximately 500 feet east (makai) of the proposed well site.

At Kanoa Well No. 1 a rock feature was noted within 300 feet of the existing monitoring well.

The Reconnaissance Surface Survey recommends the following:

Kupaa Well No. 1

- 1) The area identified as "Area A" in the survey is the recommended location for the exploratory well. This portion of the pasture appears to have been bulldozed in the past and has a low probability of containing

subsurface cultural materials. The area identified as "Area B" in the survey may contain a site remnant.

- 2) Work at the inventory level is recommended for "Area B" if it is chosen for the exploratory well.

Kanoa Well No. 1

- 1) Limited subsurface testing at the inventory level should be undertaken if the permanent well will be placed beyond the area previously cleared for the existing Kanoa monitoring well.
- 2) Monitoring of the initial placement of the permanent well should be undertaken. Care must be utilized in order to avoid the adjacent areas covered with trees. The possibility exists that 1 or more indigenous sites are contained in the densely wooded areas.

Kupaa Well No. 1 will be located in proximity of "Area A" and will not be placed in the vicinity of the potential rock features. Kanoa Well No. 1 will not be located beyond the area previously cleared for the existing Kanoa monitoring well. The adjacent areas which are covered with trees will not be affected or altered. Agricultural activities continuing since the late historic period have extensively affected the areas proposed for both of the wells. As such, the proposed project is not anticipated to have an impact upon archaeological or historical features.

B. SOCIO-ECONOMIC ENVIRONMENT

1. Population and Economy

The population of the County of Maui has exhibited relatively strong growth over the past decade with the 1996 population estimated to be 117,013, a 16.6% increase over the 1990 population of 100,374. Growth in the County is expected to continue, with resident population to the year 2000 and 2010, estimated to be 124,561 and 138,378, respectively.

The Wailuku-Kahului region is the island's center of commerce, including a wide range of commercial, service, professional, and governmental activities. The large agricultural tracts of lands which encompass the region, mainly owned by Hawaiian Commercial & Sugar and Wailuku Agribusiness Company, are also a vital part of the region's economy.

Both the residential and commercial areas of Central Maui, including Paia and South Maui, which are expected to continue to grow, are serviced by the Central Maui Water System. The growth rate of these regions continue to place additional stress on the Iao Aquifer System, which is currently at or near its sustainable yield. The North Waihee Water Source Project is intended to relieve stress on the Iao Aquifer System by providing additional source and transmission systems. The development of Kupaa Well No. 1 and Kanoa Well No. 1 would provide additional information as to the feasibility of providing

additional water sources to the Central Maui Water Source. Ultimately, the exploratory wells could provide additional alternatives to service the regions' population and economic centers.

C. PUBLIC SERVICES

1. Recreational Facilities

The well sites are in close proximity to numerous recreational opportunities, including Maui War Memorial Complex, Maui Zoological and Botanical Gardens, Waihee Beach Park, and Waiehu Golf Course. In addition, there are numerous ocean related activities near by.

The exploratory wells will not impact existing recreational facilities.

2. Police and Fire Protection

Police protection for the region is provided by the County Police Department headquartered at the Wailuku station approximately six (6) miles away. The Central Maui Patrol includes approximately 100 full time personnel.

Fire prevention, suppression and protection services are provided by the County Department of Fire Control's Wailuku Station and Kahului Station.

The proposed project is not anticipated to affect police or fire protection.

3. Solid Waste

Solid waste collection service is provided by the County of Maui on a weekly basis for residential properties fronting a public roadway. Drilling will produce residential crushed rock and soil materials. These materials will be spread out evenly at the drilling sites. After completion of the exploratory wells, there will be no long-term generation of solid waste products. Therefore, the project will have no impact upon solid waste services.

4. Health Care

Medical facilities are located approximately six (6) miles from the well sites at Maui Memorial Hospital and at various private practices and clinics in Kahului and Wailuku.

The exploratory wells are not anticipated to have an impact upon medical services in terms of service area.

5. Schools

Public schools which would serve residents in the Waihee area are Waihee Elementary School, Grades K-5; Maui Waena Intermediate, Grades 6-8; and Maui High School, Grades 10-12.

The exploratory wells are not anticipated to have an impact upon the region's public school system.

D. INFRASTRUCTURE

1. Roadways

Access to the well sites are off of Kahekili Highway, a two-lane State highway which provides access from Central Maui to Kahakuloa and further on to Kapalua.

No roadway improvements are proposed as part of the project. In the short-term, during the construction phase, the project may involve minimal increases in traffic levels for the region. However, once completed, the capped wells will have no impact upon local traffic conditions.

2. Wastewater

Wastewater disposal in the Waihee community is accommodated via cesspools or individual wastewater treatment systems such as septic tanks. There are no existing County or private wastewater collection and treatment facilities in this area.

The exploratory wells will not have any impact upon the County's wastewater system.

3. Water

As noted in the background section, the Central Maui Water System receives its water from the Iao Aquifer System, which has an assigned sustainable yield of 20 mgd. However, the demand from Central Maui has already reached this sustainable yield and threatens to exceed it in the next few years (Mink and Yuen Inc., 1997). As such, the DWS has initiated the North Waihee Water Source Project as a means to relieve stress on the Iao Aquifer System by providing additional source and transmission systems. Preliminary testing and monitoring of the North Waihee Aquifer has indicated that it can adequately supplement the Iao System. It has been estimated that the North Waihee Aquifer project could supply the Central Maui Water System with an additional annual average of 4 mgd.

DWS is currently constructing the transmission lines to connect Well Nos. 1 and 2 to the Central Maui Water System. If subsequent well tests and geologic data are favorable, then DWS will apply for a pump installation permit from the Commission on Water Resource Management for Kupaa Well No. 1 and Kanoa Well No. 1, at which time the proposed long term pumping from the aquifer will be assessed along with the proposed transmission line routing and construction impacts.

The proposed exploratory Kupaa Well No. 1 and Kanoa Well No. 1 will provide valuable data regarding the North Waiahee Aquifer and could potentially have a beneficial impact upon the County's water system.

4. Drainage

Stormwater runoff generated at the well sites currently either percolates into the ground or sheet flows across the sites from the high points to the low points and eventually into adjacent gulches.

The proposed action involves minimal land alteration activities and will not alter drainage patterns in the area.

Normal erosion control measures during construction should be adequate to control soil loss from the well sites. These measures include the following:

- Leave natural vegetation undisturbed in areas not needed for immediate construction;
- Use sprinklers to control dust; and
- Water down any disturbed areas after drilling activity has ceased for the day and during weekends and holidays;

As such, the exploratory wells are not anticipated to have an adverse affect upon the existing hydrologic conditions, adjoining or downstream properties, or coastal waters.

III. RELATIONSHIP TO GOVERNMENTAL PLANS, POLICIES, AND CONTROLS

A. STATE LAND USE DISTRICT

Chapter 205, Hawaii Revised Statutes, relating to the Land Use Commission, establishes the four major land use districts in which all lands in the State are placed. These districts are designated "Urban", "Rural", "Agricultural" and "Conservation". The subject parcel is within the "Agricultural" District. The proposed project is permitted within the "Agricultural" District.

B. MAUI COUNTY GENERAL PLAN

The Maui County General Plan (1990 Update) sets forth broad objectives and policies to help guide the long-range development of the County. As stated in the Maui County Charter, "The purpose of the General Plan is to recognize and state the major problems and opportunities concerning the needs and the development of the County and the social, economic and environmental effects of such development and set forth the desired sequence, patterns and characteristics of future development."

CORRECTION

THE PRECEDING DOCUMENT(S) HAS
BEEN REPHOTOGRAPHED TO ASSURE
LEGIBILITY
SEE FRAME(S)
IMMEDIATELY FOLLOWING

The proposed exploratory Kupaa Well No. 1 and Kanoa Well No. 1 will provide valuable data regarding the North Waihee Aquifer and could potentially have a beneficial impact upon the County's water system.

4. Drainage

Stormwater runoff generated at the well sites currently either percolates into the ground or sheet flows across the sites from the high points to the low points and eventually into adjacent gulches.

The proposed action involves minimal land alteration activities and will not alter drainage patterns in the area.

Normal erosion control measures during construction should be adequate to control soil loss from the well sites. These measures include the following:

- Leave natural vegetation undisturbed in areas not needed for immediate construction;
- Use sprinklers to control dust; and
- Water down any disturbed areas after drilling activity has ceased for the day and during weekends and holidays;

As such, the exploratory wells are not anticipated to have an adverse affect upon the existing hydrologic conditions, adjoining or downstream properties, or coastal waters.

III. RELATIONSHIP TO GOVERNMENTAL PLANS, POLICIES, AND CONTROLS

A. STATE LAND USE DISTRICT

Chapter 205, Hawaii Revised Statutes, relating to the Land Use Commission, establishes the four major land use districts in which all lands in the State are placed. These districts are designated "Urban", "Rural", "Agricultural" and "Conservation". The subject parcel is within the "Agricultural" District. The proposed project is permitted within the "Agricultural" District.

B. MAUI COUNTY GENERAL PLAN

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The proposed action is in keeping with the following General Plan Objective and Policies:

Objective:

To supply an adequate supply of potable and irrigation water to meet the needs of Maui County's Residents.

Policy:

Support the improvement of water transmission systems to those areas which historically experience critical water supply problems provided the improvements are consistent with the water priorities and the County's Water Use Development Plan provisions for the applicable community plan area.

Policy:

Seek new sources of water by exploration in conjunction with other government agencies.

C. WAILUKU-KAHULUI COMMUNITY PLAN

The well sites are located in the Wailuku-Kahului Community Plan region which is one of nine Community Plan regions established in the County of Maui. Planning for each region is guided by the respective Community Plans, which are designed to implement the Maui County General Plan. Each Community Plan contains recommendations and standards which guide the sequencing, patterns and characteristics of future development in the region.

The well sites are designated "Agriculture" by the Wailuku-Kahului Community Plan Land Use Map. The proposed project is consistent with the "Agriculture" designation.

Approval of the proposed request would be consistent with the Wailuku-Kahului Community Plan by addressing the following objectives:

- Coordinate water system improvement plans with growth rates to ensure adequate supply and a program to replace deteriorating portions of the distribution system. Future growth should be phased to be in concert with the service capacity of the water system.

IV. LIST OF ALTERNATIVES

The Department of Water Supply (Department) has studied alternative means of water supply i.e. surface water treatment and desalinization. With new surface water treatment rules promulgated by the Safe Drinking Water Act and surface water treatment costs experienced by their several surface water treatment plants, groundwater development remains as the most viable alternative for potable water.

Water conservation, wastewater reuse, and non potable water use have also been promoted.

Wastewater Reuse: The County of Maui has long initiated waste water reuse measures in the Central Maui Water Service Area. Presently, waste water reuse is used for irrigation at The Silversword Golf Course, Kalama Park, Kihei Fire Station and Kihei Library. The upgrading of the Kihei Wastewater Treatment Facility to produce R-1 waste water for reuse will allow the County to further pursue wastewater reuse. A pilot test using reclaimed water for pasture irrigation on a 25 acre plot is presently under way.

Catchment: Rainfall catchment is not a viable alternative in the dry central Maui area where long dry periods occur during the summer.

Conservation: The Department of Water Supply and the County of Maui has already initiated programs to promote conservation measures. The use of low flow fixtures is already required by County ordinance for all new construction and renovations. In addition, the Department of Water Supply is already engaged in promoting xeriscape program, leak detection and repair program, and a low flow fixture retrofit program.

Non-potable Sources: Many central Maui parks and golf courses have their own irrigation wells using mostly non potable (brackish) water. Sugar growing, the primary agricultural crop in Central Maui, is supported by long developed surface water and non potable water sources.

Despite the active pursuit of the alternatives listed above, the Department needs to initiate additional source development in order to relieve the stress on the Iao Aquifer.

V. OTHER REQUIRED PERMITS AND APPROVALS

In order to proceed with the proposed action, DWS will need approval of a Well Construction Permit from the Commission on Water Resource Management

VI. FINDINGS AND CONCLUSIONS

The North Waihee Water Source Project is intended to relieve stress on the Iao Aquifer System by providing additional source and transmission systems. The development of Kupaa Well No. 1 and Kanoa Well No. 1 would provide additional information as to the feasibility of providing additional water sources to the Central Maui Water Source. Ultimately, the exploratory wells could provide additional alternatives to service the regions' population and economic centers.

The proposed project involves the exploratory drilling and pump testing of Kupaa Well No. 1 and Kanoa Well No. 1. After completion of the well testing, the drilling equipment, pumps and other appurtenant facilities will be removed. The wells will then be capped until the well pump data and water quality can be carefully reviewed.

If data shows that allowable withdrawals can be successfully accomplished, DWS will then proceed with the development of the wells by installing a pump and necessary appurtenances and then connecting them to the Central Maui Water System. The short term activities associated with drilling and testing as well as the presence of capped wells are not anticipated to have a significant impact upon existing land uses at the sites nor the surrounding land uses.

The project is not anticipated to have any adverse impacts upon any existing environmental features such as flora and fauna, topography, soils, or air quality. The project is not anticipated to have an impact upon archaeological or historical features.

The proposed project will not have an adverse impact upon existing socio-economic conditions nor will it have an adverse effect upon existing public services or infrastructure.

Therefore, as a result of the findings of this report, the proposed project is not anticipated to have any significant environmental impacts and a "Finding of No Significant Impact" (FONSI) has been made by DWS.

VII. AGENCIES CONTACTED DURING THE PREPARATION OF THE FINAL ENVIRONMENTAL ASSESSMENT

State of Hawaii

- Department of Land and Natural Resources, Historic Preservation Division

County of Maui

- Department of Water Supply

Private/Public Individual

- Wailuku Agribusiness Co., Inc.

REFERENCES

- Community Resources, Inc., Maui County Community Plan Update Program Socio-Economic Forecast Report, March 1992.
- County of Maui, Maui Planning Department. Community Plan: Wailuku-Kahului Community Plan.
- County of Maui, Maui Planning Department. The General Plan of the County of Maui. 1990 Update.
- Michael T. Munekiyo Consulting, Inc., Waihee Wells and Transmission System Final Environmental Assessment, March 1994.
- State of Hawaii, Department of Business and Economic Development, Data Book, 1990.
- Wilson, Okamoto and Associates, Maui Community Plan Update, Land Use Technical Study, June 1992.
- U.S. Department of Agriculture, Soil Conservation Service in cooperation with the University of Hawaii Agricultural Experiment Station. Soil Survey of Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii. 1972.
- University of Hawaii, Land Study Bureau, Detailed Land Classification - Island of Maui, L.S.B. Bulletin No.7, May 1967.
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FIGURES

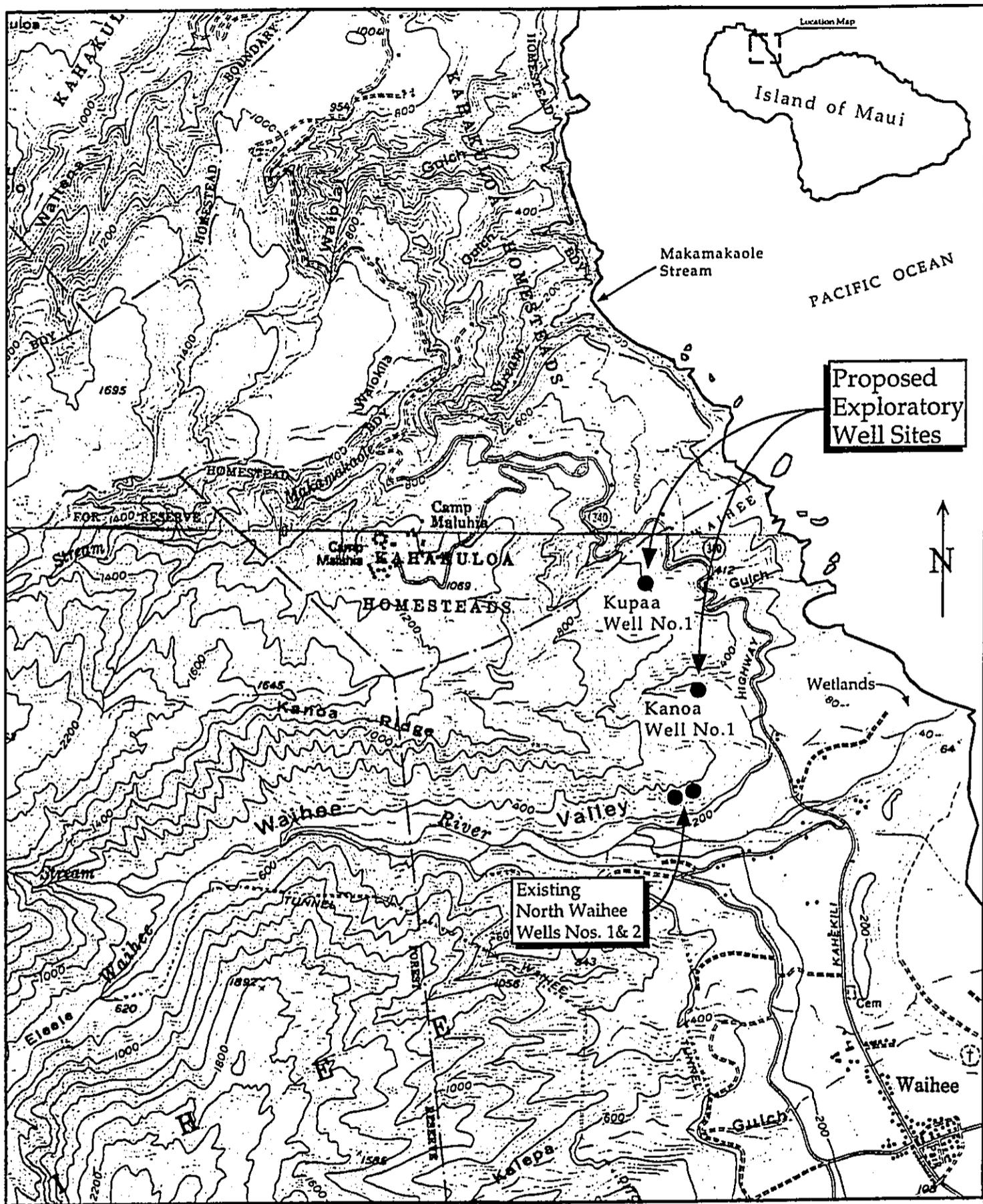


Figure 1 - Vicinity Map
Proposed Exploratory Well Sites
 Kupaa Well NO.1 & Kanoa Well No.2
 Waihee, Maui, Hawaii

Scale: 1" = 2000'
 Source: U.S.G.S. Map Waiuku and Kahakuloa Quadrangles

APPENDIX-A
**Archaeological
Reconnaissance
Surface Survey**

**XAMANEK RESEARCHES
P.O. BOX 131
PUKALANI, MAUI, HI 96788
Phone/FAX: 572-8900**

**C. Takumi Engineering, Inc.
18 Central Avenue
Wailuku, HI 96793-1724
FAX: 249-0311**

Attn: Carl Takumi

31 March 1997

SUBJECT: Letter report on a reconnaissance surface survey for a proposed exploratory well (Kupa'a Well No. 1) and an existing monitoring well (Kanoa Well No. 1) site in the North Waihe'e Water Source Development, Phases 6 & 7, Waihe'e, Island of Maui. (TMK: 03-02-01: 03) [Note: Proposed water transmission line easement not finalized.]

An archaeological reconnaissance surface survey was conducted for C. Takumi Engineering, Inc. by Xamanek Researches on 27 March 1997. An earlier field visit was made on 25 March 1997 with Mr. Wade Shimabukuro of C. Takumi Engineering, Inc. to view the study area. The survey was undertaken in order to assess the presence of cultural resources at 2 proposed wells (Kanoa Well No. 1 and Kupa'a Well No. 1) that will eventually feed into the North Waihe'e Water Transmission system.

The first proposed well project (Kanoa Well No. 1) will be located c. 30 to 50 m. from an existing monitoring well. The present monitoring well rests at c. 300 ft. AMSL and the proposed well will likely be situated at a higher elevation. Vegetation in the general vicinity consists of pasture grasses and annual weeds in the low lying areas with moderately dense tree growth covering the surrounding slopes. At least two native plant species observed growing on the slopes include *kukui* (*Aleurites moluccana*) and '*ulei* (*Osteomeles anthyllidifolia*). Kanoa Well No. 1 will not be placed on the slopes where a probable rock feature was noted within c. 100 m. of the existing monitoring well.

The second proposed well project (Kupa'a Well No. 1) will be located in a pasture likely between 630 to 640 ft. AMSL. Two possible areas were inspected (A and B) in this pasture. At location A (c. 635 ft. AMSL), the surface was vegetated with pasture grasses and alien weed species. There was no surface evidence of significant material culture remains in the immediate vicinity. However, a likely site remnant was observed c. 100 m. to the north. It consisted of stacked basalt cobbles and small boulders. A portion of it appears to have been bulldozed in the past. At location B (c. 550 ft. AMSL) the surface was also vegetated with pasture grasses and alien weed species. This second possible location (less favored than A) is near the north boundary of the parcel. A possible site remnant lies at this location. It was covered with lantana and consists of

roughly stacked rocks. Portions of this feature may have been pushed by a bulldozer. No other surface evidence of material culture remains was observed in area B.

Both of the proposed well sites are in relatively open locations. The Kanoa Well No. 1 site will be located in pasture land within 30 to 50 m. of the present monitoring well and away from thick vegetation and the 1 probable rock feature in the vicinity of the existing monitoring well. The exploratory Kupa'a Well No. 1 will likely be drilled at area A in open pasture land. Location B is less favorable and may contain a site remnant. Both Kanoa Well No. 1 and Kupa'a Well No. 1 will eventually feed into the North Waihe'e Water Transmission Line project. Kupa'a Well No. 1 will need to be tested before water transmission line design can be finalized. The following recommendations are based on the results of the reconnaissance surface survey.

Kanoa Well No. 1

1. Limited subsurface testing at the inventory level should be undertaken if the permanent well will be placed beyond the area previously cleared for the existing monitoring well.
2. Monitoring of the initial placement of the permanent Kanoa Well No. 1 should be undertaken. Care must be utilized in order to avoid the adjacent areas covered with trees. The possibility exists that 1 or more indigenous sites are contained in the densely wooded areas.

Kupa'a Well No. 1

1. Area A is the recommended location for this exploratory well. This portion of the pasture appears to have been bulldozed in the past and has a low probability of containing subsurface cultural materials. Area B may contain a site remnant.
2. Work at the inventory level is recommended for Area B if it is chosen for the exploratory well.

Future pipeline trench pathways

1. An archaeological inventory survey is recommended for future transmission lines associated with both Kanoa Well No. 1 and Kupa'a Well No. 1.

Please contact us if you have any questions about this letter report.

Sincerely,



Erik Fredericksen

c. Sara Collins, SHPD

APPENDIX - B
DRAFT ENVIRONMENTAL ASSESSMENT
COMMENT LETTERS AND RESPONSES

BENJAMIN J. CAYETANO
GOVERNOR



GARY GILL
DIRECTOR

STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL

235 SOUTH BERETANIA STREET
SUITE 702
HONOLULU, HAWAII 96813
TELEPHONE (808) 586-4185
FACSIMILE (808) 586-4186

May 20, 1997

Mr. David Craddick, Director
Department of Water Supply
County of Maui
200 South High Street
Wailuku, Hawaii 96793

MAY 23 1997

Dear Mr. Craddick:

Subject: Draft Environmental Assessment for the North Waihee
Exploratory Wells, Waihee, Maui

Thank you for the opportunity to review the subject document. We
have the following comments.

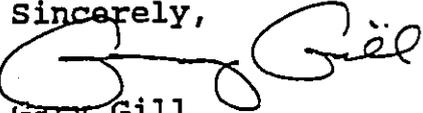
1. Please illustrate on a map relevant aquifer boundaries, nearby streams and wetlands, prevailing groundwater flow paths and any points or regions of known contamination.
2. Please include a description of the aquifer's status including the following i) sustainable yield, ii) current water use totals, iii) current installed capacity, iv) pending installed capacity, and v) authorized water use by the Commission on Water Resource Management.
3. Please provide a record of contamination problems in the aquifer due to saltwater intrusion, heavy metals, volatile and non-volatile organic compounds, biological agents, and radioactivity. Water quality data from nearby wells should be presented as well as any anticipated need for treatment or filtering systems.
4. Please provide a discussion of the potential effects the well development may have on affiliated groundwater and surface water (eg. streams and wetlands). The EA should include pump test data on water level, extraction rates, and water quality parameters. Similar data from nearby wells should also be included. The precise criteria used to determine if the well should be converted to production should be described.

Mr. Craddick
May 20, 1997
Page 2

5. Please provide 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 wastewater reuse, rainfall catchment, conservation, and existing potable and nonpotable water supplies.

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

Sincerely,



Gary Gill
Director

c: C. Takumi Engineering
Chris Hart and Partners



**BOARD OF WATER SUPPLY
COUNTY OF MAUI**

P.O. BOX 1109
WAILUKU, MAUI, HAWAII 96793-7109
Telephone (808) 243-7816 • Fax (808) 243-7833

June 5, 1997

Mr. Gary Gill, Director
Office of Environmental Quality Control
235 South Beretania Street, Suite 702
Honolulu, Hawaii 96813

Dear Mr. Gill:

Subject: Environmental Assessment for the North Waihee Exploratory Wells,
Waihee, Maui

We are responding to your comments, dated May 20, 1997, to the Draft Environmental Assessment for the North Waihee Exploratory Wells, Waihee, Maui as follows:

1. Map showing relevant aquifer boundaries: We have added a Hydrologic Map of Maui showing the Wailuku (Waihee Subsector) Aquifer.
 - a. Boundaries of the North Waihee Aquifer System: The system lies between Waihee Valley and Kahakuloa Valley.
 - b. Groundwater flow direction: The general direction is seaward. There is not enough data to plot the exact direction.
2. Description of Aquifer Status:
 - a. Sustainable Yield: The North Waihee Aquifer System is defined as the region extending northward from Waihee Valley to Kahakuloa Valley. However, the basal aquifer may be disrupted near Makamakaole Valley by massive Honolua dikes. The sustainable yield for the entire North Waihee Aquifer is estimated at 8 mgd and the estimated sustainable yield for the area between Waihee and Makamakaole will be less. The proposed exploratory wells will aid in determining the aquifer conditions for the North Waihee Aquifer.

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- b. Current water use totals: Current water use totals in the North Waihee Aquifer has been limited and consists of the Mendes Well (State Well No. 5731-01), a small residential well, the Wailena well (State Well No. 5832-03) at Wailena, and the Marino Well (State Well No. 5631-04), a small residential subdivision well. The lack of development in the area has kept pumpage of these wells to a minimum. The Commission on Water Resource Management has no record of the current water use totals.
 - c. Current and pending installed capacity: There are three existing sets of wells in the North Waihee Aquifer. The two existing North Waihee Wells have not been pumped on a permanent basis and two 1050 gpm permanent pumps are currently being installed. The Mendes well is too small for either the quality or quantity of its pumpage to be affected. The well at Wailena was drilled and successfully tested at 200 gpm. Pumping at Kupaa and Kanoa should not affect the Wailena Well because of its distance from the proposed wells. The Marino Well has a 100 gpm pump.
 - d. Authorized water use by the Commission on Water Resource Management: The North Waihee Aquifer has not been designated as a water management area by the Commission on Water Resource Management; therefore, no authorized water use controls have been implemented the by Commission.
3. Record of contamination problems. There is no known record of contamination or sites of potential contamination in the aquifer; however, water quality samples will be taken during well pump testing and compared with State Department of Health safe drinking water standards. Should contaminants be detected, the Department of Water Supply will consider the feasibility of taking mitigative measures and proceeding with the well development phase of the Project.
4. Potential effects the well development may have on affiliated groundwater and surface water (e.g. streams and wetlands). The nearest perennial streams are Waihee and Makamakaole.
 - a. Streams:

Makamakaole Stream: The stream flows on the Honolua formation and nowhere intersects the Wailuku formation, which is the aquifer proposed for development. Pumping in the Wailuku formation will have no effect on the Makamakaole stream flow. The stream is located approximately 3,500 feet away from the proposed wells.

Waihee Stream: Except for the mouth of Waihee Stream, the water table in the aquifer lies below the invert of the stream channel. Any effect on stream flow will be very small and not likely to be measurable. The stream is about 4,000 feet distant from the proposed wells.

b. Wetlands:

A large wetland occurs in the headwater region of Makamakaole Stream, and a smaller wetland occurs at the mouth of Waihee Stream.

Makamakaole: These wetlands extend irregularly over a distance of about 2.5 miles from Eke toward the sea. They lie on the Honolua formation at an elevation ranging from 2,200 feet to 4,500 feet and are sustained by perched water in the formation. There is no hydraulic continuity between these wetlands and the Wailuku formation. They will not be affected by pumping in the Wailuku aquifer. The lowest reach of the wetlands is two miles from the proposed wells.

Waihee: The wetlands at the mouth of Waihee Stream are a mile away from the proposed wells. A reduction in head in the North Waihee Aquifer may diminish seepage into the wetlands but probably not enough to be detectable. The wetlands are in valley fill alluvium and are sustained mostly by the Waihee Stream.

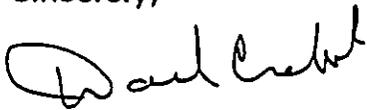
5. List of Alternatives:

- a. The Department of Water Supply (Department) has studied alternative means of water supply i.e. surface water treatment and desalinization. With new surface water treatment rules promulgated by the Safe Drinking Water Act and surface water treatment costs experienced by their several surface water treatment plants, groundwater development remains as the most viable alternative for potable water. Water conservation, wastewater reuse, and nonpotable water use have also been promoted.
- b. Waste water reuse: The County of Maui has long initiated waste water reuse measures in the Central Maui Water Service Area. Presently, waste water reuse is used for irrigation at The Silversword Golf Course, Kalama Park, Kihei Fire Station and Kihei Library. The upgrading of the Kihei Wastewater Treatment Facility to produce R-1 waste water for reuse will allow the County to further pursue wastewater reuse. A pilot test using reclaimed water for pasture irrigation on a 25 acre plot is presently under way.

- c. Rainfall catchment is not a viable alternative in the dry central Maui area where long dry periods occur during the summer.
- d. The Department of Water Supply and the County of Maui have already initiated programs to promote conservation measures. The use of low flow fixtures is already required by County ordinance for all new construction and renovations. In addition, the Department of Water Supply is already engaged in promoting xeriscape program, leak detection and repair program, and a low flow fixture retrofit program.
- e. Many central Maui parks and golf courses have their own irrigation wells using mostly non potable (brackish) water. Sugar growing, the primary agricultural crop in Central Maui, is supported by long developed surface water and non potable water sources.

Thank you for your comments and cooperation.

Sincerely,



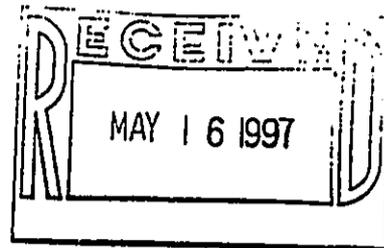
David Craddick, Director

PHONE (808) 594-1888



FAX (808) 594-1865

STATE OF HAWAII
OFFICE OF HAWAIIAN AFFAIRS
711 KAPI'OLANI BOULEVARD, SUITE 500
HONOLULU, HAWAII 96813



May 05, 1997

Mr. Carl K. Takumi
Carl Takumi Engineering, Inc.
18 Central Avenue
Wailuku, HI 96793-1724

Subject: Draft Environmental Assessment (DEA) for North
Waihee Exploratory Wells (Kupaa No. 1 and Kanoa
No. 1), Waihee, Island of Maui.

Dear Mr. Takumi:

Thank you for the opportunity to review the Draft Environmental Assessment (DEA) for North Waihee Exploratory Wells (Kupaa No. 1 and Kanoa No. 1), Waihee, Island of Maui. The County of Maui is proposing to drill, encase, and test Kupaa Well 1 and Kanoa Well 2. These wells are part of the County's North Waihee Water Source Project.

The Office of Hawaiian Affairs (OHA) has no objections at this time to the proposed wells as they apparently bear no adverse impacts on adjacent lands nor upon existing flora or fauna and no known archaeological remains exist in the area. Furthermore, the exploratory nature of the wells will not significantly impact the sustainable yield of the North Waihee aquifer.

Please contact Lynn Lee, Acting Officer of the Land and Natural Resources Division, or Luis A. Manrique, should you have any questions on this matter.

Sincerely yours,

A handwritten signature in cursive script that reads "Martha Ross".

Martha Ross
Deputy Administrator, Programs

LM:lm
cc Trustee Hee
Trustee Machado



**BOARD OF WATER SUPPLY
COUNTY OF MAUI**

P.O. BOX 1109
WAILUKU, MAUI, HAWAII 96793-7109
Telephone (808) 243-7816 • Fax (808) 243-7833

June 6, 1997

Martha Ross, Deputy Administrator (Programs)
State of Hawaii
Office of Hawaiian Affairs
711 Kapiolani Boulevard, Suite 500
Honolulu, Hawaii 96813

RE: Draft Environmental Assessment for the North Waihee Exploratory Wells
Kupaa Well No.1 and Kanoa Well No.1 at Waihee, Maui, Hawaii (TMK 3-
2-01:por.3)

Ms. Ross,

Thank you for your comment letter (May 5, 1997) regarding the above referenced project. The Maui County Department of Water Supply has determined that the proposed project will not have significant environmental effects and has issued a Finding of No Significant Impact (FONSI) to be published in the June 23, 1997 Office of Environmental Quality Control Environmental Notice. We received one significant comment letter from OEQC dated May 20, 1997 during the 30-day public comment period which ended on May 23, 1997. The Final EA was amended as appropriate to address the comments. Copies of the comment and response letters are included in the Final EA.

Please contact the project's Engineering Consultant, Mr. Carl Takumi, at 249-0411 if you have any questions.

Yours truly,

David Craddick, Director
County of Maui, Department of Water Supply

encls.

cc: Mr. Herbert Kosaka
Mr. Carl Takumi
Mr. Rory Frampton

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