

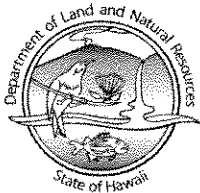
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BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

DAN DAVIDSON
DEPUTY DIRECTOR - LAND

ERNEST Y.W. LAU
DEPUTY DIRECTOR - WATER



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

ENGINEERING DIVISION
POST OFFICE BOX 373
HONOLULU, HAWAII 96809

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

JAN 26 2004

TO: Ms. Genevieve Salmonson, Director
Office of Environmental Quality Control

FROM: Eric T. Hirano, Chief Engineer *Eric T. Hirano*

SUBJECT: **Final Environmental Assessment (FEA), Lihue/Hanamaulu
(Pu'u A'ahoaka) Exploratory Well, TMK: (4) 3-9-02: Portion
of 1, Wailua, Kauai, Hawaii**

The Department of Land and Natural Resources has reviewed the comments received during the 30-day public comment period, which began on October 8, 2003. The agency has determined that this project will not have significant environmental effects and has issued a Finding of No Significant Impact (FONSI). Please publish this notice in the February 8, 2004, OEQC Environmental Notice.

We have enclosed a completed OEQC Publication Form and four (4) copies of the FEA. If you have any questions, please call Andrew Monden at 587-0229.

DI:ek
Enclosure

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QUALITY CONTROL

2004-02-08 FONSI

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LIHUE-HANAMAULU EXPLORATORY WELL FILE COPY

**Final Environmental Assessment and
Finding of No Significant Impact**

**Līhu'e-Hanamā'ulu (Pu'u 'A'ahoaka) Exploratory Well
Wailua, Kaua'i, Hawai'i**



Prepared For

**State of Hawai'i
Department of Land and Natural Resources
Engineering Division**

Prepared By

Wilson Okamoto Corporation
Engineers & Planners
1907 South Beretania Street, Suite 400
Honolulu, Hawai'i 96826

Waimea Water Services, Inc.
67-1161 Mamalahoa Highway, Suite 5
P.O. Box 326
Kamuela, Hawai'i 96743

January 2004

**Final Environmental Assessment
and
Finding of No Significant Impact
Līhu'e-Hanamā'ulu (Pu'u 'A'ahoaka)
Exploratory Well**

Prepared for:

**State of Hawai'i
Department of Land and Natural Resources
Engineering Division**

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1907 South Beretania Street, Suite 400
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**Waimea Water Services, Inc.
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P.O. Box 326
Kamuela, Hawai'i 96743**

December 2003

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- Appendix C Cultural Interviews
- Appendix D Archived Newspaper articles, *He Mo'olelo No 'A'ahoaka* December 30, 1876 to March 3, 1877
- Appendix E Pre-Assessment Consultation Comment and Response Letters
- Appendix F Draft Environmental Assessment Public Review Comment and Response Letters

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Preface

This Final Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) has been prepared pursuant to Chapter 343, Hawai'i Revised Statutes (HRS) and Title 11, Chapter 200, Administrative Rules, Department of Health, State of Hawai'i. Proposed is an agency action involving the use of State of Hawai'i land and funds by the Department of Land and Natural Resources (DLNR). The DLNR proposes to drill, case and test a single exploratory well at a site located above the base of the western slope on Pu'u 'A'ahoaka in the Wailua area of the District of Līhu'e, Kaua'i.

It is anticipated that this EA will be processed as a Finding of No Significant Impact (FONSI) by the DLNR, determining that the impacts of this project will not warrant the preparation of an Environmental Impact Statement (EIS). If, following testing of the exploratory well, the DLNR pursues its development as a production well for conveyance to the County of Kaua'i Department of Water, subsequent compliance of that action pursuant to Chapter 343, HRS will be required.

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Summary

Proposing Agency: State of Hawai'i
Department of Land and Natural Resources
Engineering Division
1151 Punchbowl Street
Kalanimoku Building, Room 221
Honolulu, Hawai'i 96809
Contact: Eric T. Hirano
Chief Engineer
Phone: (808) 587-0230
Fax: (808) 587-0283

EA Preparer: Wilson Okamoto Corporation
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826
Contact: Earl Matsukawa, AICP
Project Manager
Phone: (808) 946-2277
Fax: (808) 946-2253

Approving Agency: State of Hawai'i
Department of Land and Natural Resources
Engineering Division
1151 Punchbowl Street
Kalanimoku Building, Room 221
Honolulu, Hawai'i 96809
Contact: Eric T. Hirano
Chief Engineer
Phone: (808) 587-0230
Fax: (808) 587-0283

Project Location: Pu'u 'A'ahoaka, Wailua, Līhu'e, Kaua'i

Tax Map Key: 3-9-02:01 (por.)

Area: 0.73 acres

Recorded Fee Owner: State of Hawai'i

Existing Land Use: Agriculture

State Land Use Classification: Agricultural District

**General Plan
Land Use Map:** Open

Zoning: Agriculture

Proposed Action: The State of Hawai'i, Department of Land and Natural Resources proposes to drill, case and test a single exploratory well on approximately 0.73 acres of land. The proposed action also includes the construction of a 30-foot wide unpaved access road extending to the site from an existing jeep trail and stabilization work on a portion of the jeep trail.

Impacts: No significant impacts are anticipated from construction or testing at the exploratory well site. Construction activities, including earthwork for site preparation and drilling, are anticipated to have insignificant short-term noise and air quality impacts in the surrounding area, which is comprised of undeveloped land and former sugar cane fields. All applicable government rules and regulations will be complied with during construction to minimize construction-related impacts.

**Parties
Consulted During
Pre-Assessment:**

Federal

U.S. Army Corps of Engineers
U.S. Department of Agriculture
 Natural Resource Conservation Service
U.S. Department of the Interior
 Fish and Wildlife Service
 Geological Survey

State

Department of Agriculture
Department of Health
 Office of Environmental Quality Control
 Environmental Planning Office
Department of Land and Natural Resources
 Commission on Water Resource Management
 Land Division
 Historic Preservation Division
Office of Hawaiian Affairs
Department of Hawaiian Homelands
University of Hawai'i at Mānoa, Environmental Center

County

Department of Water
Fire Department
Kaua'i Civil Defense Agency
Planning Department
Police Department
Public Works Department

Other

Kaua'i Island Utility Cooperative
Kehau Kekua, Cultural Practitioner
Puanani Rogers, Cultural Practitioner

**Parties
Consulted During
Draft EA Review:**

Federal

U.S. Army Corps of Engineers
U.S. Department of Agriculture
 Natural Resource Conservation Service
U.S. Department of the Interior
 Fish and Wildlife Service
 Geological Survey

State

Department of Agriculture
Department of Health
 Office of Environmental Quality Control
 Environmental Planning Office
Department of Land and Natural Resources
 Commission on Water Resource Management
 Land Division
 Historic Preservation Division
Office of Hawaiian Affairs
Department of Hawaiian Homelands
University of Hawai'i at Mānoa, Environmental Center

County

Department of Water
Fire Department
Kaua'i Civil Defense Agency
Planning Department
Police Department
Public Works Department

Other

Kaua'i Island Utility Cooperative
County Council Members
Kehau Kekua, Cultural Practitioner
Puanani Rogers, Cultural Practitioner

SECTION 1

**Introduction and
Project Description**

1 Introduction and Project Description

1.1 Introduction

The State of Hawai'i, Department of Land and Natural Resources (DLNR) is responsible for developing potable water sources to meet water demands for State projects requiring water in the Līhu'e-Hanamā'ulu area. Toward fulfilling this responsibility, the DLNR has selected an exploratory well site based on a hydrogeologic assessment of the area. Presently, the DLNR is proposing to construct the exploratory well and conduct productivity and water quality tests to determine its suitability for development as a production well. If the proposed Pu'u 'A'ahoaka exploratory well is developed as a production well, it will be conveyed to the County of Kaua'i Department of Water (DOW) to serve as a source for its Puhi-Līhu'e-Hanamā'ulu water service system.

1.2 Project Location

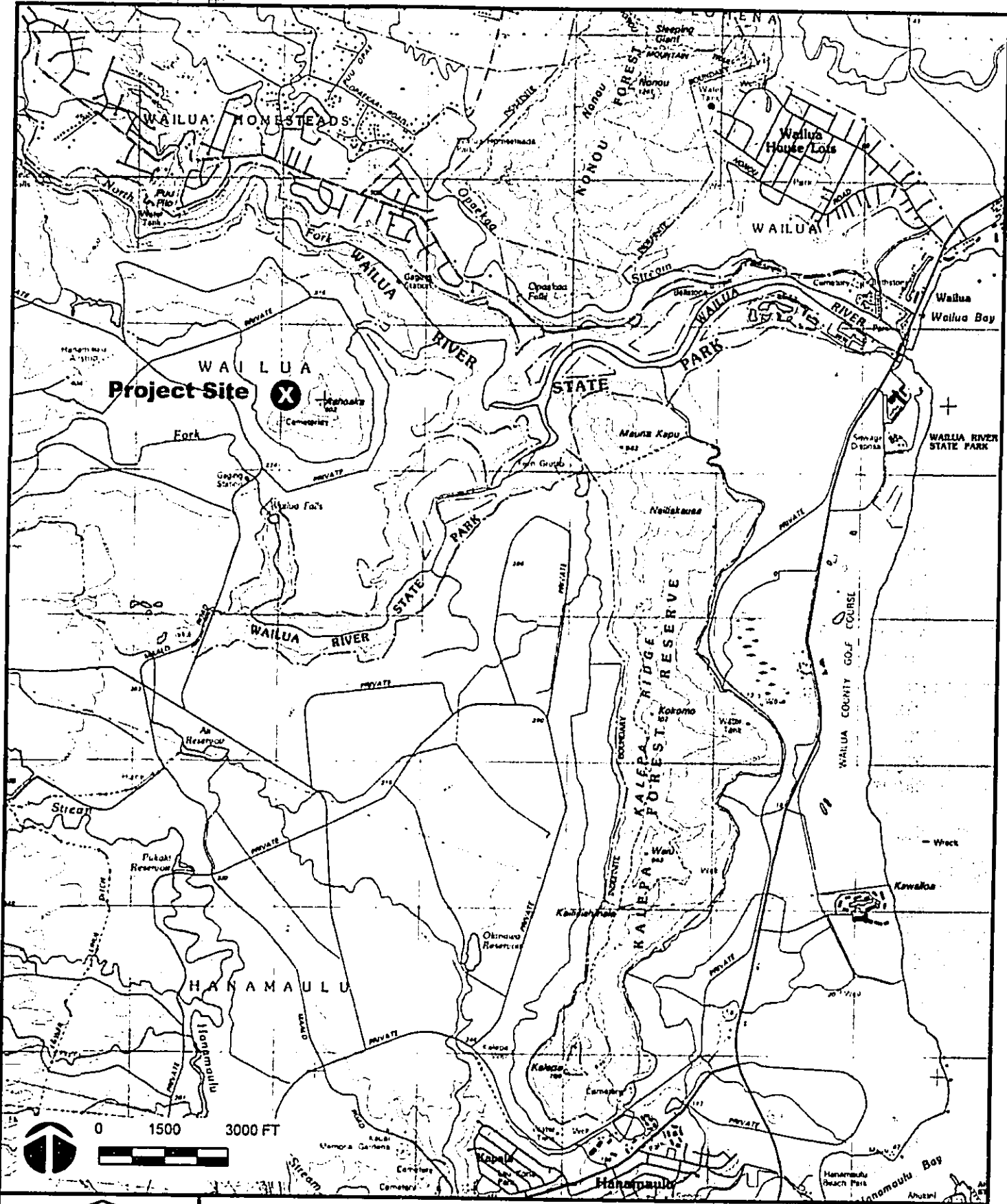
The Pu'u 'A'ahoaka exploratory well site is located in the Wailua area of the Līhu'e Planning District on the east shore of Kaua'i, approximately 0.58 miles north of Mā'alo Road (See Figure 1-1). The project site will occupy approximately 0.73-acres of Tax Map Key (TMK) 3-9-02:01 (See Figure 1-2), owned by the State of Hawai'i and leased to a private individual for agricultural uses on a month-to-month revocable permit. The project site is located at an elevation of about 500-feet above mean sea level (msl), on Pu'u 'A'ahoaka, a hill located between the south and north forks of the Wailua River (See Photograph 1). Vehicular access to the project site is gained via a former sugar cane haul road branching off of Mā'alo Road. The cane haul road connects to a jeep trail that leads to the base of Pu'u 'A'ahoaka. The vehicular access route to the project site is depicted in Figures 1-3 and 1-4.

1.3 Existing and Surrounding Uses

Pu'u 'A'ahoaka is an undeveloped hill surrounded by agricultural land, which was formerly in sugar cane cultivation, and is currently fallow.

1.4 Project Need

The greatest water demand by State facilities on Kaua'i is in the Puhi-Līhu'e-Hanamā'ulu area and, specifically, in Līhu'e. The County of Kaua'i is also seeking water sources to serve this area. According to the Kaua'i General Plan 2000, new growth is to be concentrated in the Puhi-Līhu'e-Hanamā'ulu urban center. Moreover, projected water shortages have been identified in the Līhu'e-Puhi area, where the DOW has invoked a policy limiting the number of residential water meter permits issued for each lot (The Garden Island, 3/25/03).

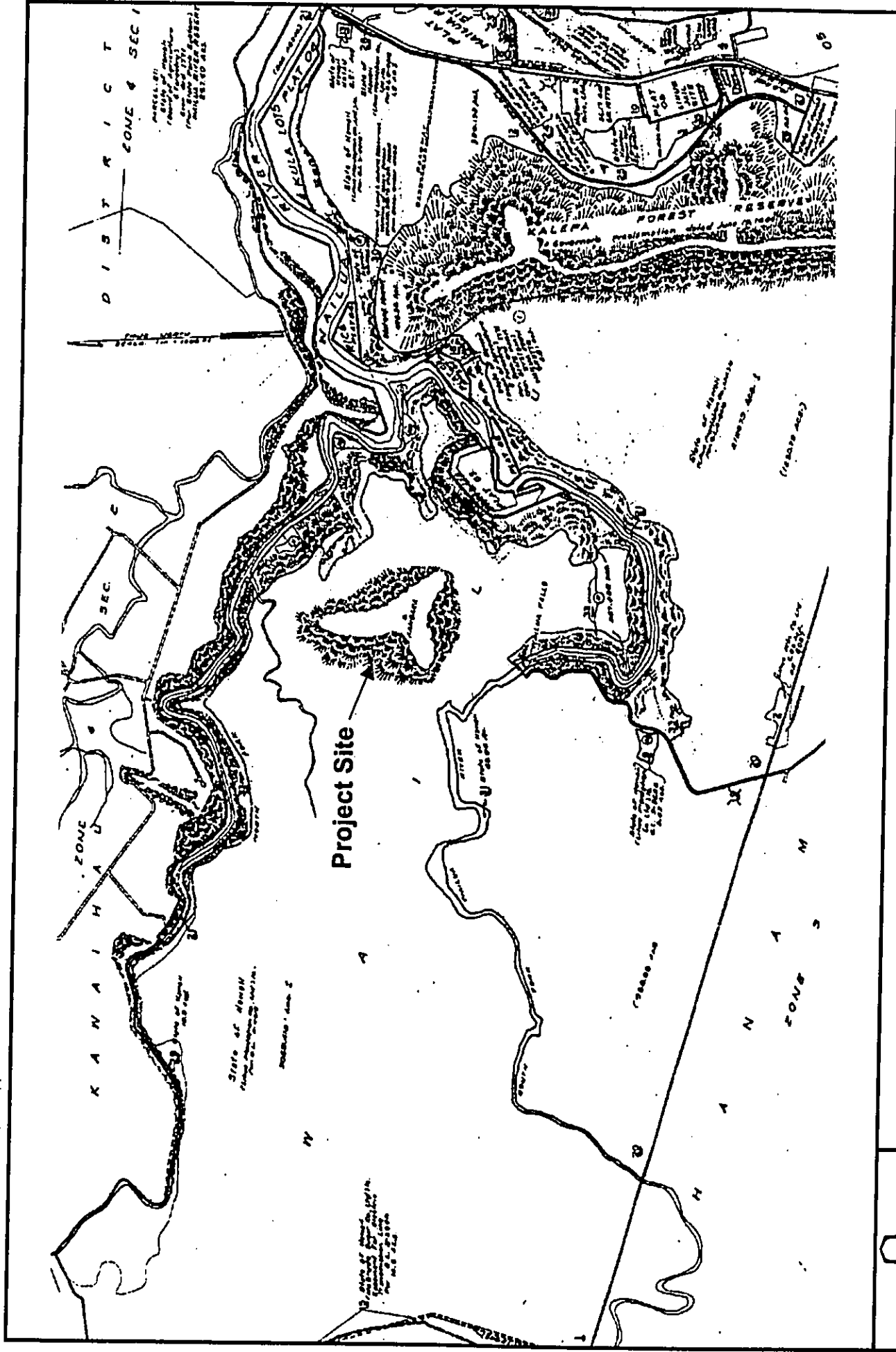



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CORPORATION**
ENGINEERS - PLANNERS

Lihu'e-Hanamā'ulu (Pu'u 'A'ahoaka) Exploratory Well

Location Map

Figure
1-1

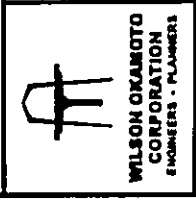
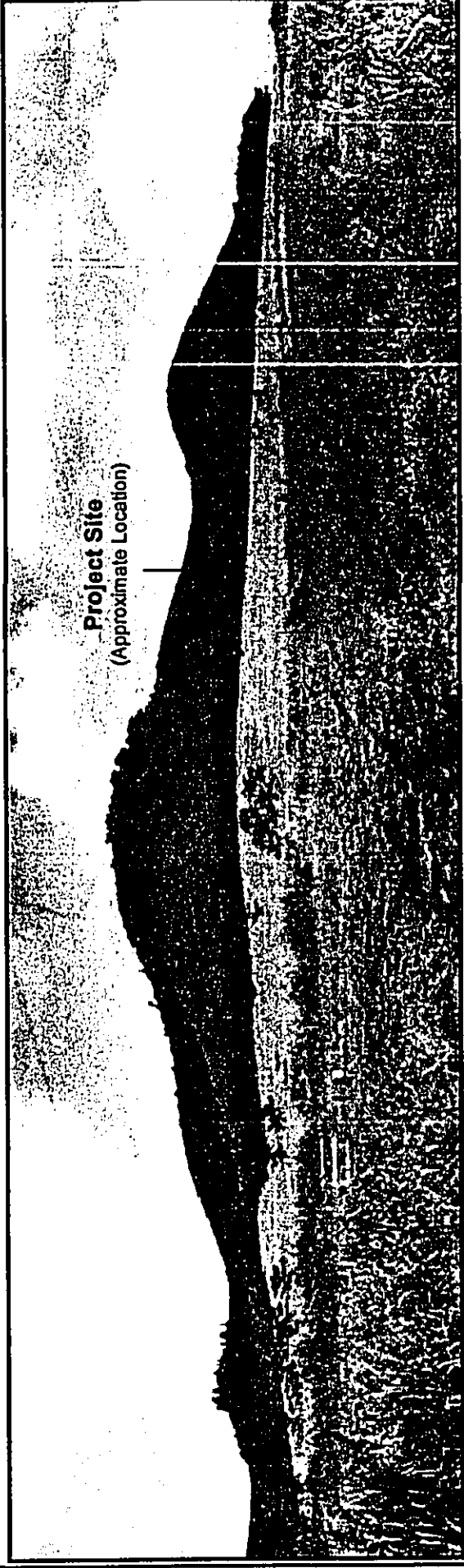


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Līhu'e-Hanamā'ulu (Pu'u 'A'ahoaka) Exploratory Well

TMK 3-9-02:01

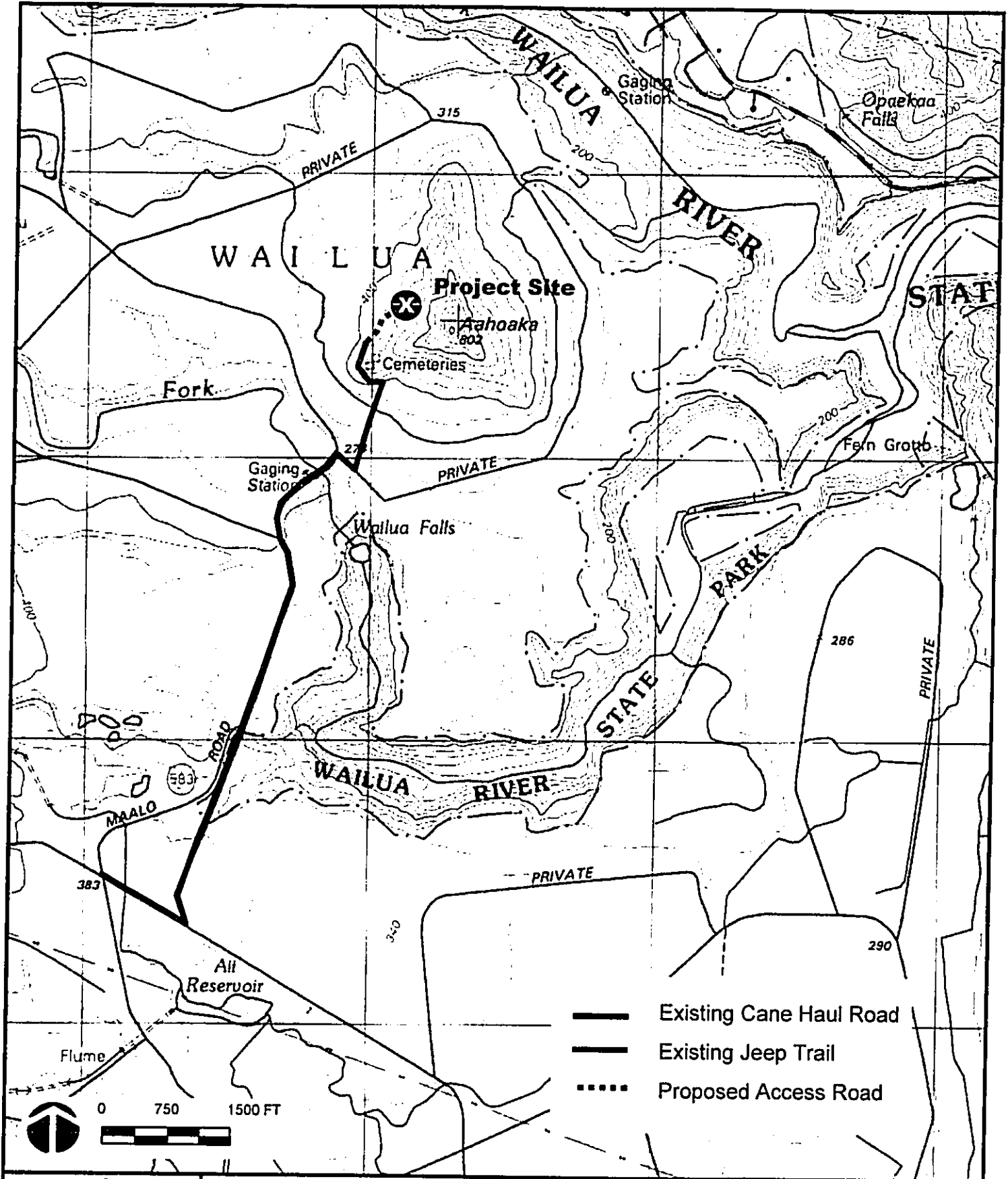
FIGURE
1-2



Lihue-Hanamā'ulu (Pu'u 'A'ahoaka) Exploratory Well

View of Pu'u 'A'ahoaka Facing Makai

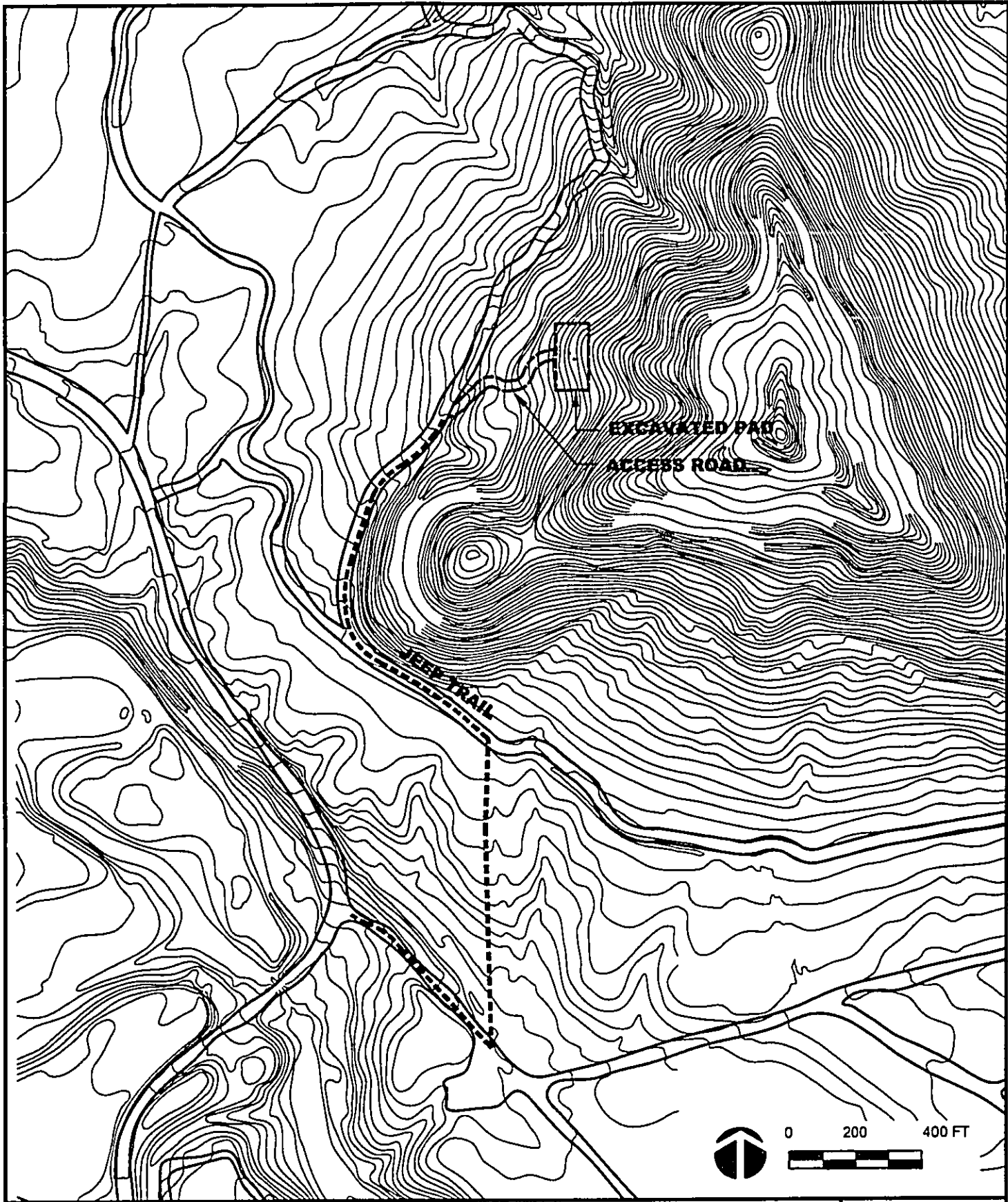
**Photograph
1**





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Lihu'e-Hanamā'ulu (Pu'u 'A'ahoaka) Exploratory Well
Vehicular Access to Project Site

Figure 1-3



 WILSON OKAMOTO CORPORATION ENGINEERS - PLANNERS	Līhu'e-Hanamā'ulu (Pu'u 'A'ahoaka) Exploratory Well	Figure 1-4
	Jeep Trail System	

The DOW Water Plan 2020 includes the following goals:

- Ensuring a reliable future water supply.
- Caring for our deteriorating and aging water systems.

Toward achieving these goals, the DOW has projected long-term water demand estimates and has planned commensurate development of water system facilities. The DOW plans to expend \$11 to \$12 million on new pipelines and water projects in the Līhu'e-Hanamā'ulu area (The Garden Island, 3/29/2003). Should the proposed exploratory well prove feasible for development as a production well, the DLNR will develop and convey the well to the DOW for its use in meeting demands of the Puhi-Līhu'e-Hanamā'ulu area.

1.5 Project Description

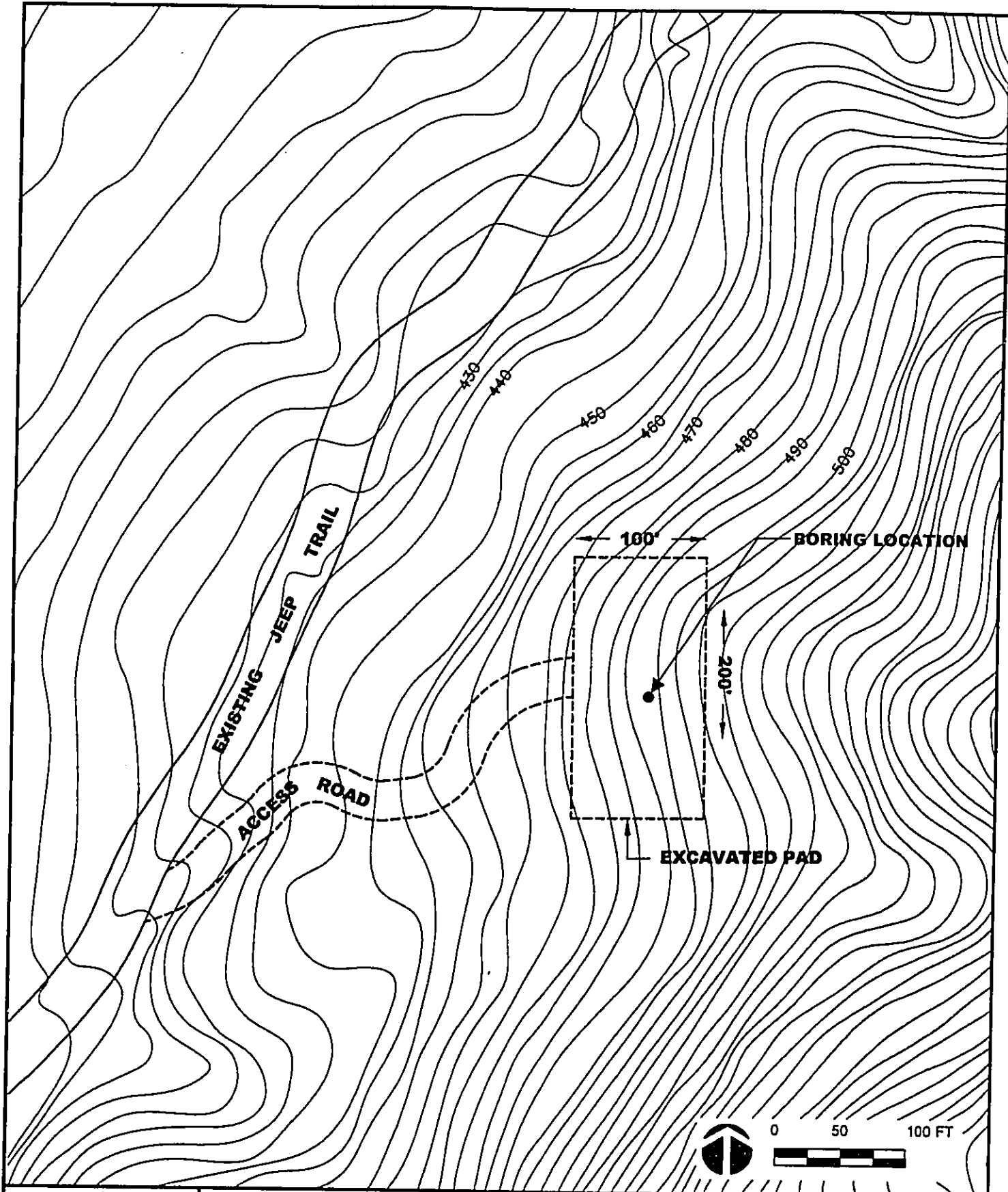
The exploratory well project will include constructing an access road; site preparation; well construction and testing. A conceptual site plan is provided in Figure 1-5 and a typical well section is provided in Figure 1-6.

Access to the project site will include stabilizing portions of the existing jeep trail leading to the project site by placing gravel where needed to support the weight of construction vehicles. From the jeep trail, an unpaved access road will be constructed within a 30-foot wide corridor to the well site. Site preparation of the well site will include clearing and cutting to create a level area measuring approximately 100' by 200' at an elevation of approximately 500-feet above msl. This level area is required to accommodate the drilling rig, supporting equipment and supplies.

Well construction will involve drilling a pilot bore to a depth of approximately 1000' to 1200' below the surface. Preliminary pumping tests will be conducted in the uncased bore. If these tests are favorable, the bore will be reamed to an approximate diameter of 22" for approximately 580 feet (See Figure 1-6), a steel casing inserted and the annular space grouted. After installing the casing, the same bore will be reamed to an approximate diameter of 14" for an additional 400 feet to an elevation of approximately -580 feet.

The method of boring will be determined by the contractor submitting the winning bid, but either a cable tool or rotary drill will likely be used. The amount of time required to achieve the required depth would vary, from approximately six (6) months for the rotary drill and up to 12 months for the cable tool. Spoils from the boring operation will be disposed of on-site.

Following construction of the exploratory well, additional pumping tests will be conducted with a diesel-powered pump to determine the quantity and quality of water that can be produced. Quantity testing will include yield drawdown tests spanning approximately one hour at each rate and a sustained pumping test of up to 170 hours. Water withdrawn from these tests will be discharged into nearby fallow agricultural fields

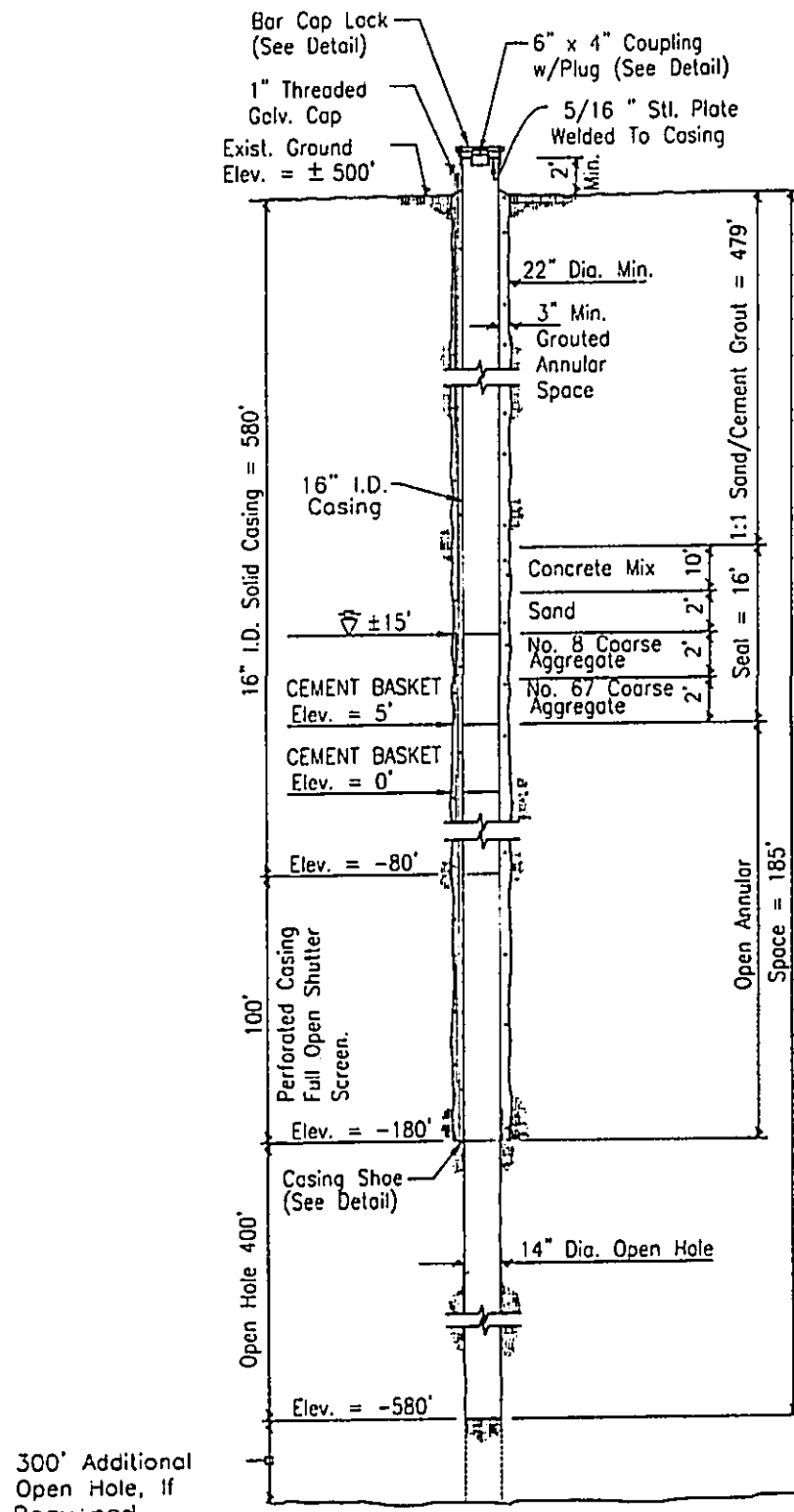



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Līhu'e-Hanamā'ulu (Pu'u 'A'ahoaka) Exploratory Well

Conceptual Site Plan

Figure
1-5



SECTION THRU WELL

NOT TO SCALE



Lihu'e-Hanamā'ulu (Pu'u 'A'ahoaka) Exploratory Well

Typical Well Section

Figure 1-6

and/or existing irrigation ditches; no water will be discharged into natural drainage courses.

Water quality testing will include those for detecting chlorides (salts) as well as pesticides, heavy metals and organics. The tests for contaminants will determine if treatment processes will be required should the well be subsequently put into production. Due to potential contamination associated with past agricultural practices, a Granular Activated Charcoal (GAC) treatment facility may be required if it is developed for production. Following testing, the well will be capped and all equipment removed.

The anticipated yield from a successful exploratory well is estimated to range from 350 to 700 gallons per minute (gpm).

This Environmental Assessment (EA) has been prepared for the exploratory phase of the well project, i.e., the drilling, casing and pump testing operations. If test results are favorable and a decision is made to move forward with the production phase, another EA will be prepared to cover the outfitting, installation of accessory facilities and production operations of the well.

1.6 Project Schedule and Cost

Exploratory well drilling and testing at Pu'u 'A'ahoaka will proceed following approval of required permits. To comply with a budgetary deadline, this project must be bid out for construction by June 2004. As a result, construction of this project is anticipated to begin in September 2004 and is anticipated to be complete approximately 12 months later depending on the method used for well drilling. The capital cost for construction and testing is estimated at \$1.2 million.

SECTION 2

**The Existing Environment,
Impacts and Mitigation Measures**

2 Description of the Existing Environment, Impacts and Mitigation Measures

2.1 Climate

The climate of Kaua'i is characterized as semi-tropical and is influenced by Hawaii's geographic location within the tropics, southwest of the Pacific High or anticyclone. In 2002, the National Oceanic and Atmospheric Association (NOAA) recorded the average annual temperature range at Līhu'e between 90 degrees Fahrenheit during the warmest month and 50 degrees Fahrenheit during the coolest month. Winds at Līhu'e blow at an average speed of 12.5 miles per hour. The average relative humidity recorded at Līhu'e is 78% in the early morning and 67% in the mid-afternoon (NOAA, 2002).

Impacts and Mitigation Measures

The proposed project will not impact the area's general climate.

2.2 Geology and Topography

Kaua'i is the oldest and most northwesterly of the eight main Hawaiian Islands. The island is made up largely of a huge basaltic shield volcano, which has the largest central caldera in the Hawaiian islands. The caldera of the shield volcano is ovoid, approximately 12 miles long northeast-southeast, and 10 miles wide northwest-southwest. The island still has the roughly circular outline of the original circular dome, even though it has been profoundly affected by collapse, faulting, erosion, and later volcanism (George A. L. Yuen & Associates, 1992).


Kaua'i was formed by two major lava flows. The Waimea volcanic series refers to the flows that formed the original volcanic shield and caldera of the island. The Kōloa volcanic series refers to subsequent flows that overlaid much of the Waimea volcanic series formations on the lower slopes of the island. The rocks on Kaua'i are all volcanic, except for minor amounts of sediments derived from volcanic rocks by erosion, and a narrow, discontinuous fringe of calcareous reef and beach deposits. The geology of the Puhi-Līhu'e-Hanamā'ulu area, as depicted in Figure 2-1, shows the Kōloa series, in blue, overlaying the lower elevations of the Waimea series, which is visible as emergent ridges, in green, orange and yellow.

The Waimea series has been categorized as having four (4) different lava formations: Makaweli, Olokele, Hā'upu and Nāpali. The permeability of these lava formations varies greatly. The Nāpali formations, in their original, fresh condition are generally highly permeable, transmitting basal water under much of the island. The Nāpali formation has the most permeable rock on the island due to its dipping layers that are fractured and often separated by highly permeable rubble beds (Mink, 1992). The Makaweli, Olokele, and Hā'upu formations are moderate to poorly permeable and contain fresh or brackish water at sea level. At higher elevations, small bodies of perched water can be found in ash beds within the Olokele formation.

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 ENGINEERS - PLANNERS

Lihue-Hanamā'ulu (Pu'u 'A'ahoaka) Exploratory Well

Geology of the Puhi-Lihue-Hanamā'ulu Area

FIGURE 2-1

The subsequent Kōloa series erupted as a series of minor vents arranged in nearly north to south and northeast to southwest directions across the eastern two-thirds of the island. The renewed volcanism of the Kōloa series filled in the deep valleys and irregular topography of the island. Landforms produced by these later volcanic eruptions dominate the lower slopes in most of the northeastern, eastern, and southeastern parts of Kaua'i. Kōloa series lava formations are moderately to poorly permeable because they were deposited as massive flat-lying layers lacking permeability elements. They carry fresh or brackish water at sea level, but generally yield it slowly to wells.

Well sites with potentially greater productivity are more likely to be found in the older Waimea series formations, which are generally limited to outcrops of ridges protruding through the younger Kōloa series; Pu'u 'A'ahoaka is one of these protrusions.

Impacts and Mitigation Measures

No significant impacts on the geology and topography are anticipated as a result of constructing the proposed project. Construction will involve excavating a 100' by 200' pad cut into the hillside at Pu'u 'A'ahoaka and drilling into the subsurface Waimea-Nāpali rock formation to a depth of 1000' to 1200' below the surface (-500' to -700'msl).

2.3 Soils

Soils at the Pu'u 'A'ahoaka site are classified by the U.S. Department of Agriculture, Natural Resources Conservation Service as Hīhīmanu silty clay loam, 40 to 70 percent slopes (HMMF). These soils are well-drained, found in the uplands of Kaua'i and were developed in material weathered from basic igneous rock and colluvium at the base of slopes. Permeability of the soil is moderately rapid, the runoff is medium and the erosion hazard is moderate. These types of soils are used for water supply, pasture, wildlife habitat, and woodland (See Figure 2-2).

Impacts and Mitigation Measures

No significant impacts on the soils at the project site are anticipated as a result of constructing the proposed project. Construction will involve clearing, grubbing, and excavating an unpaved access road and an approximately 100' by 200' level pad cut into the hillside at the well site. Earthwork will be conducted in accordance with Chapter 22, Article 7, Kaua'i County Code 1987, Relating to Grading, Grubbing and Stockpiling. Appropriate mitigating measures such as planting, swales, drainage ditches, or interceptors will be needed to minimize the potential for soil erosion.

U.S.G.A. 6649-D Final E.A. Figures and Photos pp.



HSD Hanamā'ulu Silty Clay,
15 to 25 percent slopes
Hihimānu silty clay loam,
40 to 70 percent slopes

HMMF

Lihue-Hanamā'ulu (Pu'u 'A'ahoaka) Exploratory Well

Soils Map

Figure 2-2


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 ENGINEERS - PLANNERS

2.4 Hydrology

2.4.1 Surface Water

The project site is located between the south fork of the Wailua River, which is approximately one-third of a mile to the southwest, and the north fork, which is approximately two-thirds of a mile to the northeast. In the vicinity of the project site, an unnamed streambed runs approximately 2,510 feet (0.5 miles) north of the project site. The 1996 USGS map shows another unnamed tributary of the Wailua River running just south of Pu'u 'A'ahoaka. Upon further investigation, it was determined that this tributary was not a stream but the former 'A'ahoaka irrigation ditch, which has since been abandoned and filled.

Impacts and Mitigation Measures

No significant impacts on surface waters are anticipated as a result of constructing the project. To control soil erosion and sedimentation during construction of the access road, earthwork will be conducted in accordance with Chapter 22, Article 7, Kaua'i County Code 1987, Relating to Grading, Grubbing and Stockpiling. Appropriate mitigating measures such as planting, swales, drainage ditches or interceptors will be needed to minimize the potential for soil erosion. Since the area of disturbance, including the 100' by 200' level area at the well site and access road, will be less than one (1) acre, a National Pollutant Discharge Elimination System (NPDES) Notice of Intent (NOI) permit for Construction Stormwater Discharge will not be required.

No significant long-term impacts on surface water quality are anticipated as a result of test pumping. Water generated during test pumping will be discharged onto open fields and irrigation ditches and allowed to percolate. No surface runoff or water discharges into streams will be allowed. The development of the well site and access road will clear and grub approximately 0.73 acres of existing vegetation. These areas will ultimately be re-grassed or re-planted. The development of the well site will not significantly reduce the area of open land available for rainfall infiltration and recharge.

No significant short-term impacts on stream flows are anticipated as a result of well test pumping. Well test pumping will be drawing water at a much lower elevation (below msl) relative to existing streams.

2.4.2 Ground Water

The project site is located within the Wailua Aquifer System (20103), which experiences an annual rainfall of 146 inches and has a total area of 53 square miles. The annual rainfall is a reflection of the extreme rainfall at Mt. Wai'ale'ale, which sustains the Wailua River through voluminous seepage from perched aquifers in the Kōloa series and high

level dike aquifers in the Nāpali formations. The majority of the Aquifer System is covered with the Kōloa series with some outlying Nāpali formations rising above the Kōloa platform; Pu'u 'A'ahoaka is one of those Nāpali formations (Mink and Lau, 1992).

Groundwater found in the Waimea Nāpali formation generally occurs as high-level aquifers where it is contained within compartments formed by volcanic dikes or the highly weathered saprolite and soil face of the original surface (See Figure 2-3). High yielding wells such as those at Nounou Ridge are known to pump below sea level without gaining salinity. The occurrence of basal lens is limited to isolated locations, in association with very localized conditions, such as in the coastal area of the Makaweli formation near Makaweli.

Existing Water Sources

The Puhi-Līhu'e-Hanamā'ulu service area is one of 13 separate water systems operated by the DOW (See Figure 2-4). Water is pumped from 52 underground wells, shafts, and tunnels then stored in 46 tanks for delivery through 400 miles of pipeline to almost 18,000 accounts on the island (County of Kaua'i, 2001).

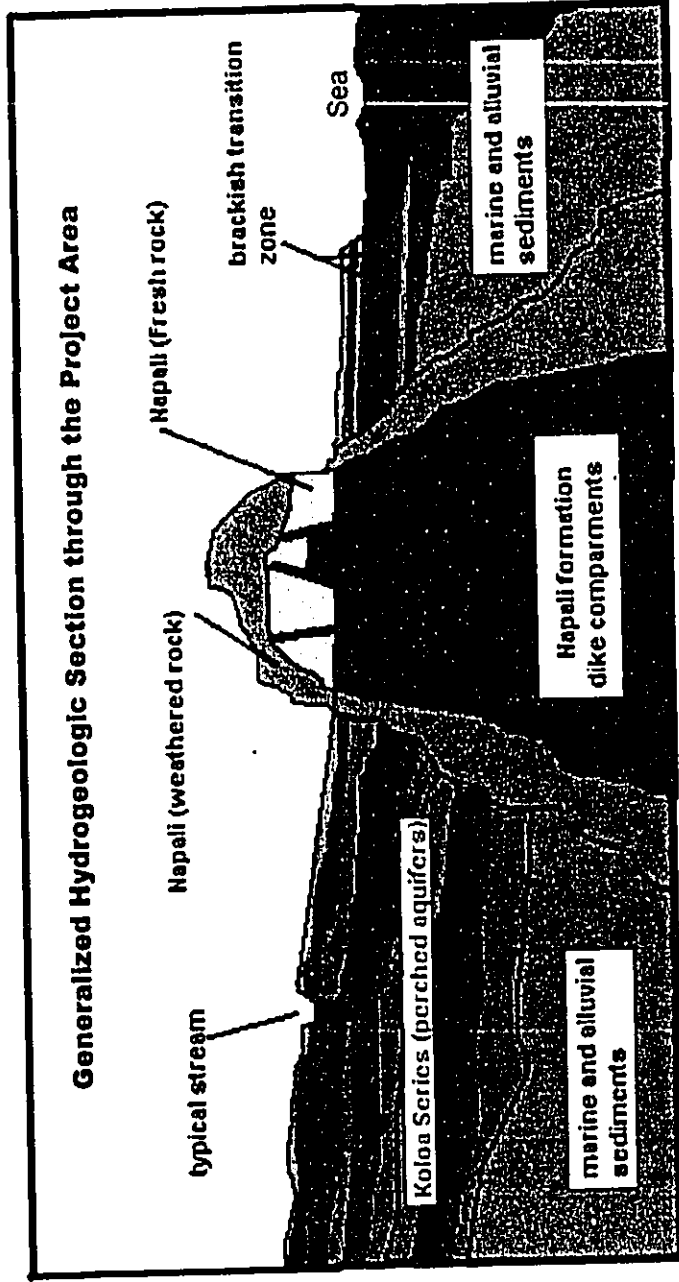
As of 1998, the Puhi-Līhu'e-Hanamā'ulu water system water source availability was at capacity. Therefore, the water system will need to be expanded to accommodate future growth in the area. Existing water sources located in the Puhi-Līhu'e-Hanamā'ulu Service Area include:

- Kālepa Ridge Well
- Kilohana Well A
- Kilohana Well B
- Kilohana Well C
- Kilohana Well F
- Kilohana Well G
- Kilohana Well I
- Līhu'e Grammar School Well
- Kokolau Tunnel
- Garlinghouse Tunnel
- Puhi Wells 1, 2, 3 and 4
- Puhi Wells 5a and 5b

Hanamā'ulu Wells No. 1, 3, and 4 and the Pukaki Well are currently under construction (G. Fujikawa, Kaua'i DOW, oral com., 2003). All four of these wells are located in the Hanamā'ulu Aquifer System. Current pumpage test rates of existing wells within the aquifer sector are not available.

Water Management Areas

Under the State Water Code, Water Management Areas (WMA) may be designated by the Commission on Water Resource Management (CWRM) when it can be reasonably determined that the water resources in an area may be threatened by existing or proposed withdrawals or diversions. Specifically, the designations are based on a determination that an aquifer, or contiguous groups of aquifers, is being exploited to and beyond the limits of sustainable yield. Sustainable yield refers to the maximum rate at



Source: S.P. Bowles, 2003

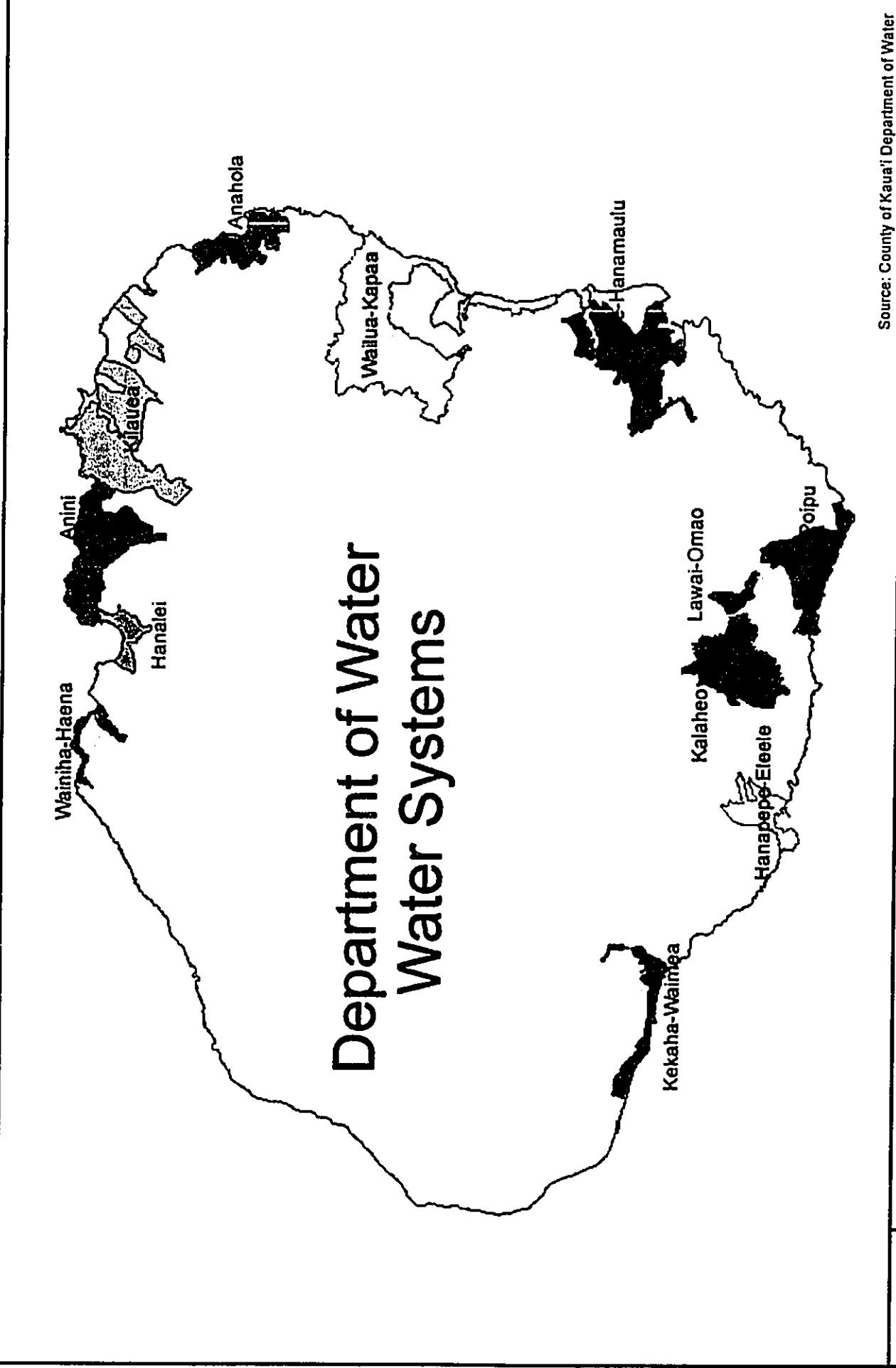
Līhu'e-Hanamā'ulu (Pu'u 'A'ahoaka) Exploratory Well

Figure 2-3

Hydrogeologic Section of the Project Area



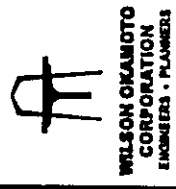
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Lihu'e-Hanamā'ulu (Pu'u 'A'ahoaka) Exploratory Well

**County of Kauai, Department of Water
Water Service Areas**

Figure 2-4



which water may be withdrawn from a water source without impairing the utility or quality of the water source.

The CWRM lists the combined sustainable yield for the area from Puhi to Wailua as 100 mgd as illustrated in Figure 2-5. According to the U.S. Geological Survey, there are water resources available on Kaua'i in the millions of gallons per day. It is estimated that Kaua'i's aquifers are recharged by 652 million gallons of water per day while it only pumps a total of about 46 mgd. Therefore, Kaua'i is not in danger of exceeding its sustainable levels of withdrawal from its aquifers and has no designated Water Management Areas (County of Kaua'i, 2000).

Impacts and Mitigation Measures

No significant impacts on the basal aquifer are anticipated as a result of test pumping or for future development of a production well. The increased yield in the Wailua Aquifer System would be within the DLNR sustainable yield for basal water sources in the aquifer system. No impacts on groundwater recharge are anticipated as a result of constructing the exploratory well. Water withdrawn during test pumping will temporarily increase groundwater recharge in the immediate vicinity when discharged in nearby fallow agricultural fields and/or existing irrigation ditches.

2.5 Flood Hazard

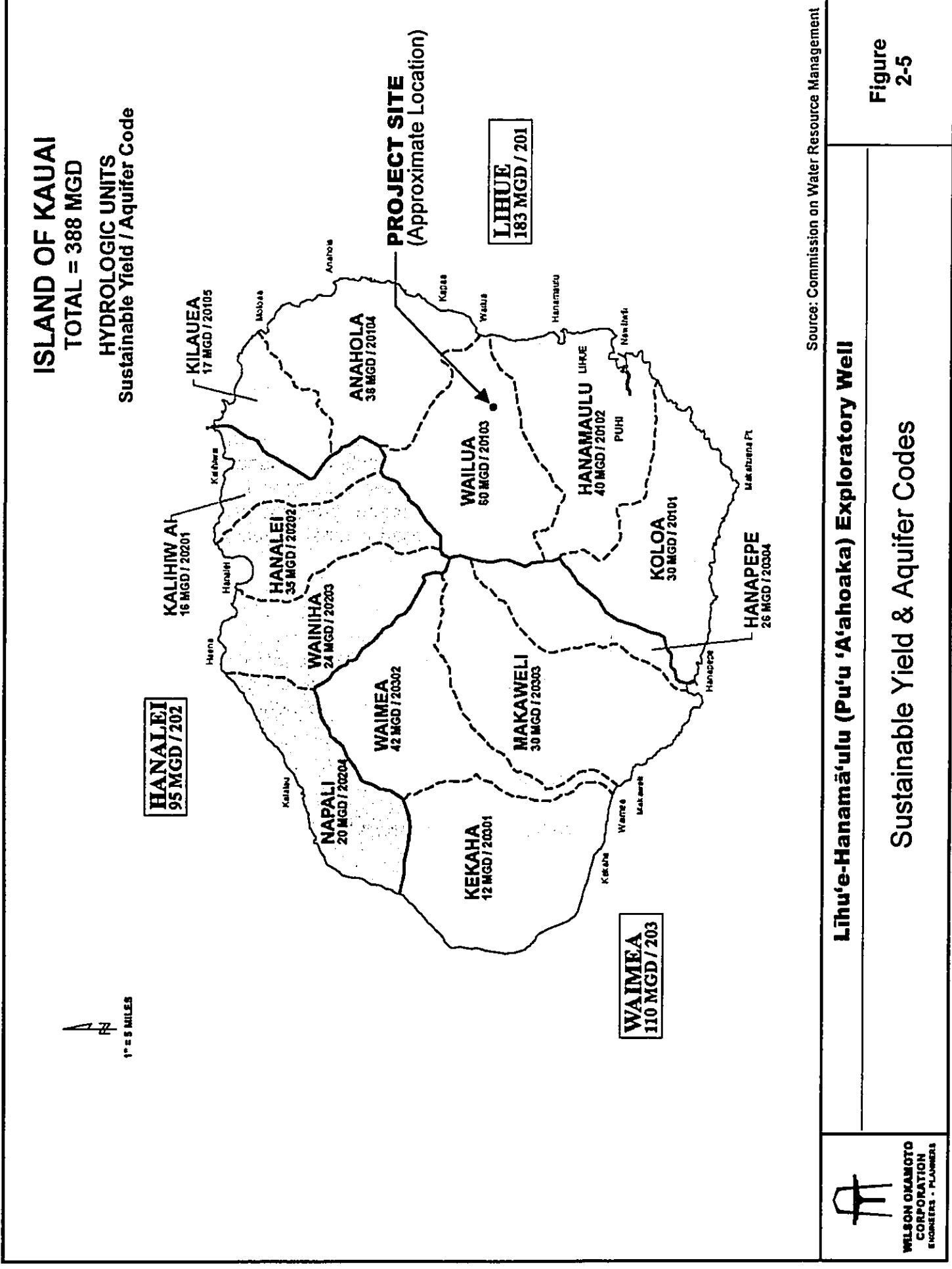
According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Number 150002 0140D (revised September 30, 1995), the project site is designated Zone X, areas determined to be outside the 500-year flood plain (See Figure 2-6)

Impacts and Mitigation Measures

No impacts related to flooding are anticipated since the project site is outside of the 500-year flood plain.

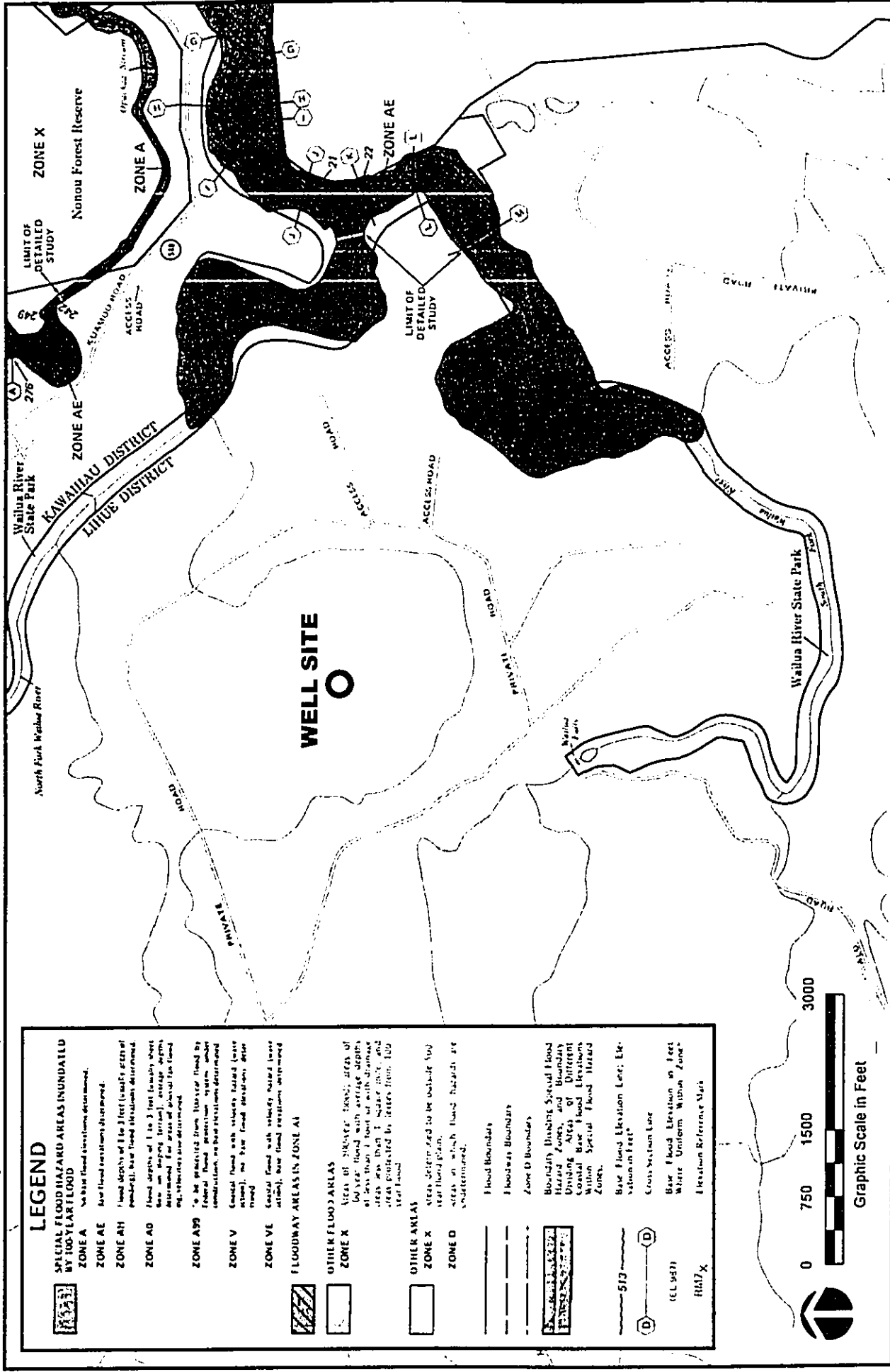
2.6 Flora and Fauna

Agricultural lands that were formerly in sugar cane cultivation surround the project site on Pu'u 'A'ahoaka. The fields have been fallow since 2000, when Līhu'e Plantation closed down its sugar operation. Vegetation on the slope of Pu'u 'A'ahoaka at the proposed well site is dominated by downy rose myrtle (*Rodomyrtus tomentosa*), which forms a dense canopy. Interspersed are some strawberry guava (*waiawī* or *Psidium cattleianum*) and java plum (*Eugenia cuminii*). A few species found in the understory include patches of Laua'e fern (*Phymatosorus scolopendria*), Philippine ground orchid (*Spathoglottis plicata*), juvenile Koa (*Acacia koa*) and Moa (*Psilotum sp.*). Along the proposed access road corridor toward the jeep trail, the dominance of downy rose



Līhu'e-Hanamā'ulu (Pu'u 'A'ahoaka) Exploratory Well
Sustainable Yield & Aquifer Codes

Figure 2-5



Lihue-Hanamā'ulu (Pu'u 'A'ahoaka) Exploratory Well

Flood Zone Map

Figure 2-6

myrtle gives way to more waiawī and dense thickets of Hau (*Hibiscus tiliaceus*). Along the jeep trail, Guniea grass (*Panicum maximum*) and other invasive alien weed species are common.

Wildlife in the vicinity of the project site may include introduced bird species common to lowland areas, as well as mice, rats and feral pigs, although none were observed.

Impacts and Mitigation Measures

No federally protected, threatened or endangered species of plants or animals are known to inhabit the project area, nor has any critical habitat been identified. The exploratory well will not have a significant adverse affect, loss, or destruction to the flora and fauna of this area of Hawai'i.

2.7 Noise

The closest noise source in the vicinity of the project site is vehicular traffic along Mā'alo Road. The project site is located approximately 1.15 miles from the end of Mā'alo Road, where traffic is primarily associated with a scenic lookout for viewing Wailua Falls. Truck traffic associated with agricultural activities may occasionally use Mā'alo Road and the cane haul roads leading to the project site. The nearest residential community is located in Wailua, approximately 0.73 miles north east of the project site.

Impacts and Mitigation Measures

Noise from drilling and construction activities will likely be unavoidable during the entire drilling and construction phase; however, there are no noise sensitive land uses in the vicinity that could be adversely affected. Unavoidable construction noise impacts will be mitigated to some degree by the contractor's compliance with provisions of the State DOH Administrative Rules, Chapter 11-46, "Community Noise Control." These rules require a permit if the noise levels from construction activities are expected to exceed the allowable levels stated in the Chapter 46 rules. Construction equipment and on-site vehicles requiring an exhaust for gas and air must be equipped with mufflers. Also, the guidelines for the hours of heavy equipment operation and noise curfew times as set forth by the DOH noise control regulation must be adhered to.

No significant noise impacts from the test pumping are anticipated. Ambient noise levels in the vicinity of the project site may increase slightly as a result of the pumping and associated increase in vehicular activity. The nearest residential community at Wailua will not be affected due to the distance from the project site.

2.8 Traffic

Vehicular access to the project site is gained from Mā'alo Road via a cane haul road and jeep trail over a distance of approximately 1.15 miles. Due to the absence of any significant traffic generating land uses in the vicinity, traffic along the cane haul road is intermittent.

Impacts and Mitigation Measures

No significant impacts on traffic are anticipated in relation to the proposed project. During the construction and drilling phase, intermittent transiting of construction-related vehicles may be noticeable along Mā'alo Road.

2.9 Air Quality

Within the immediate vicinity, air quality is primarily affected by vehicular-related emissions and dust generated by sparse traffic along the sugar cane haul roads and Mā'alo Road. Due to the low volume of traffic, and the distance of the project site from major roads, vehicular-related emissions and dust do not significantly affect ambient air quality in the area. While the area is currently uncultivated, future agricultural activities such as diversified crop farming could occasionally generate dust within the immediate vicinity of the project site.

Impacts and Mitigation Measures

Potential air quality impacts during the construction and drilling phase of the proposed project will be mitigated by complying with the State of Hawai'i DOH Administrative Rules, Title 11, Chapter 60, Air Pollution Control. During the construction phase, two potential types of air pollution emissions will likely occur: 1) fugitive dust from vehicle movement and soil excavation; and 2) carbon monoxide and nitrogen oxide emissions from on-site construction equipment and from construction workers' vehicles and equipment traveling to and from the project site. Compliance with State regulations will require adequate measures to control fugitive dust by methods such as water spraying and sprinkling of loose or exposed soil and dust-generating equipment during construction. As may be deemed appropriate, paving and/or re-establishment of vegetated areas early in the construction area will also help control dust. Exhaust emissions from construction vehicles are anticipated to have negligible impacts on air quality in the project vicinity, as emissions would be relatively small and readily dissipated.

Once construction is completed, there will be no long-term air quality impacts. The test pumping phase of the proposed project is not anticipated to significantly increase vehicular traffic to the project site and will have no significant impact on air quality in the vicinity.

2.10 Archaeological Resources

Ms. Nancy McMahon, Kaua'i staff archaeologist, conducted a limited site visit to Pu'u 'A'ahoaka in 2001 after the state Board of Land and Natural Resources (BLNR) approved a plan to lease the former Līhu'e Plantation sugarcane land to 13 individuals and families for ranching and farming. During her site visit, Ms. McMahon found some house sites and agricultural terraces. In anticipation of finding additional historic sites, the SHPD recommended that an archaeological inventory survey be conducted prior to construction of the exploratory well.

In July of 2003, an archaeological inventory survey was conducted by Archaeological Consultants of the Pacific, Inc. The archaeological inventory survey report is reproduced in its entirety in Appendix A. The survey found no sites of historic significance within the project site and in the immediate vicinity. The report explains the apparent absence of archaeological remains as follows:

"The positioning of the exploratory well pad on the western slope of Pu'u 'A'ahoaka is in a location less amenable to traditional land uses of habitation and agriculture as compared with the surrounding areas consisting of less steep terrain and closer sources of water, which may explain the absences of archaeological sites in this area" (ACP, 2003).

Impacts and Mitigation Measures

No significant impacts on archaeological resources are anticipated as a result of the proposed project. The archaeological inventory survey report was submitted to the SHPD for review. By letters dated August 19, 2003 and September 16, 2003, the SHPD accepted the archaeological inventory survey, stating that it adequately covered the project area and that no further archaeological work was necessary (Appendix B). Should any archaeological, cultural or historic sites be uncovered during construction or drilling activities, all work in the vicinity will cease and the State of Hawai'i Department of Land and Natural Resources Historic Preservation Officer will be notified immediately.

2.11 Cultural Resources

Historically, the *ali'i* (chiefs) on Kaua'i resided in Wailua during the summer months and in Waimea during the winter months. In addition to the *ali'i*, the *ahupua'a* (division of land) of Wailua was inhabited by *maka'āinana* (commoners) who were the primary cultivators that provided for the ruling chiefdom and *konohiki* (headman of an *ahupua'a* under the chief). Wailua was also the *pu'uhonua* (refuge) for the district; this afforded protection to the chiefly residences by preserving the sanctity and integrity of the area from acts of war (Flores, 1999).

Interviews with cultural practitioners confirm the cultural significance of the Wailua area and of Pu'u 'A'ahoaka. Records of the interviews are included in Appendix C. The

cultural resources, practices and beliefs identified through the interviews are summarized as follows:

- The Wailua area had an important place in Hawaiian society. This is evidenced by the reference to the region and to Pu'u 'A'ahoaka in more than one *oli* (chant). Most notably, the area is referred to in "*Kunihi Ka Mauna*", a chant by Hi'iaka that honors the features of the land. In the chant, Kaipuha'a is mentioned as the poetic reference for the entire basin where Pu'u 'A'ahoaka lies. The basin has been likened to a large *'umeke* (calabash), with the mountains as its walls. Pu'u 'A'ahoaka is mentioned in "*Hikikau'elia Ka Malama*", a prophesizing chant written by Kekūhaupi'o, Kamehameha's warrior, for Kamehameha's victory over the islands of Hawai'i.
- There is a strong possibility that Pu'u 'A'ahoaka was one of three main signal fire sites in the Wailua area that served to guide fisherman safely back into Wailua. The other two signal fires sites were at Kukui Heiau and Hikinaakalā Heiau. Of the three signal fire sites, Pu'u 'A'ahoaka is the most visible throughout the Wailua area. The name 'A'ahoaka can be translated as 'a'ā (to burn, blaze, glow, fire) and hoaka (brightness, shining). This translation supports the idea that the area's main function in ancient times was one that helped fisherman navigate back to Wailua with signal fires. The fact that Hoaka is also a phase of the moon that is favored for night fishing further supports this idea. Additionally, the name 'A'ahoaka could also suggest that certain fires were lit during certain phases of the moon.
- Pu'u 'A'ahoaka is not known to be a place that cultural practitioners frequent to gather plants or other resources.
- "He Mo'olelo No 'A'ahoaka Ke Koa A Me Kona Hānau Kupanaha Ana He Mo'olelo Kahiko No Kaua'i" ("A Story of 'A'ahoaka, A Warrior and His Extraordinary Birth, An Old Story from Kaua'i") is a series of stories that appeared in *Ka Nūpepa Kū'oko'a* (a Hawaiian language newspaper) from December 30, 1876 to March 3, 1877. Although the story appeared over several months, the series was not complete. The series discussed many unusual chiefly births on Kaua'i and, in particular, the birth of Koananai and Kalalea's child. Koananai was a female chief that had an unusually long pregnancy and sought the help of a *kahuna* (priest) by the name of Kanoeoalakai. The kahuna prophesized that the child would not be a true human, but a type of *akua* (god), a warrior and a *kamaeu* (mischievous child) for Kaua'i. Koananai gave birth to a *pu'ukoko* (a premature fetus; a shape which the heroes of some legends are born). The kahuna instructed the ali'i and maka'āinana to care for the pu'ukoko and after a year a child would emerge. The kahuna instructed them to name that child 'A'ahoaka. The story about 'A'ahoaka ends after his birth and the instructions from the kahuna. The story is connected to several places on Kaua'i; some of those places include Wai'ale'ale, Kilohana, Aliomanu, Anahola, Kalihikai and Wainiha. The newspaper series in its entirety is reproduced in Appendix D.

Because the story was not complete, the relevance of the story to Pu'u 'A'ahoaka could not be determined.

Impacts and Mitigation Measures

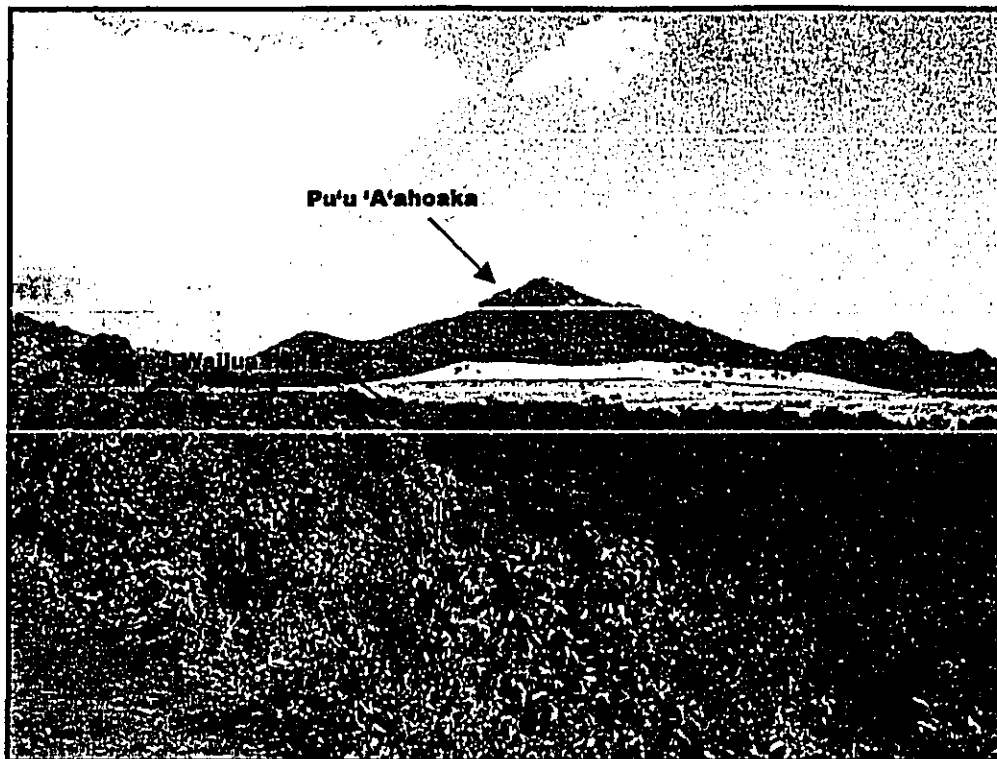
No significant impacts on cultural resources, practices and beliefs are anticipated as a result of the proposed project. No significant cultural resources or on-going cultural practices are associated with the project site. The cultural significance of Pu'u 'A'ahoaka as a potential ancient navigational feature will not be visually affected by the proposed project. The project site is at a low enough elevation and located on the west side of the *pu'u* (hill) so that it does not interfere with the view plane of Pu'u 'A'ahoaka from the ocean.

2.12 Aesthetics

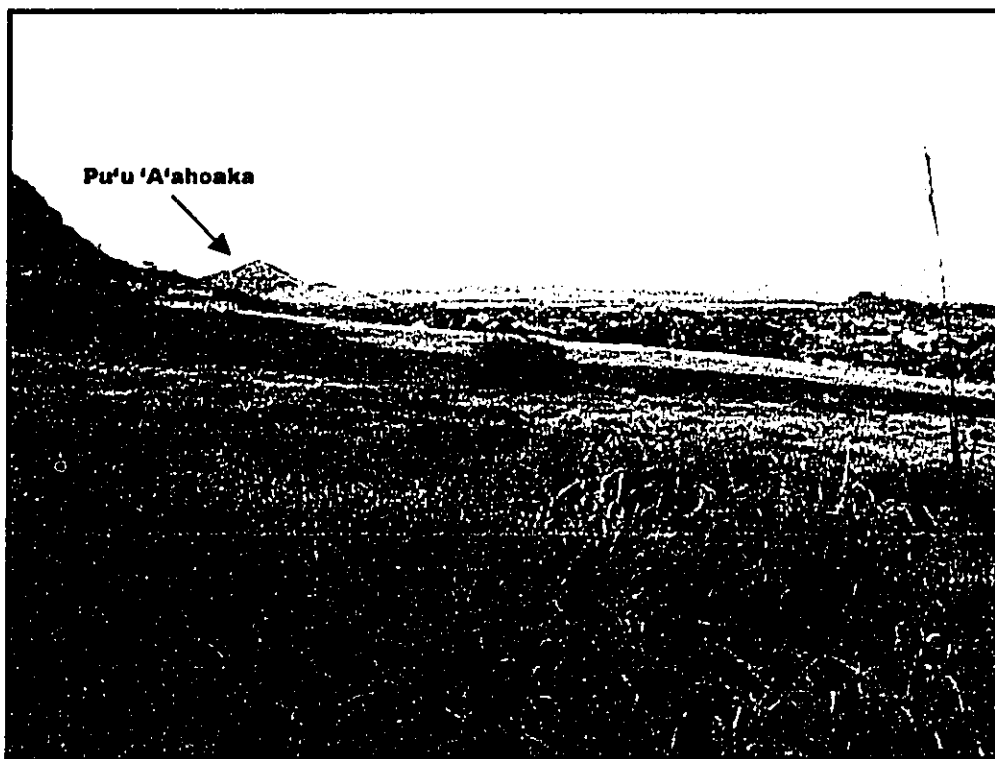
Since there are no areas generally accessible to the public in the vicinity of Pu'u 'A'ahoaka, it is mainly visible in the distance from areas such as the lookout at Wailua Falls and the residential neighborhood of Wailua. The project site is located on the west side of Pu'u 'A'ahoaka so it would not be visible from the lookout to the south and the neighborhood to the north (See Photographs 2 and 3).

Impacts and Mitigation Measures

During construction, the upright well-drilling rig may be visible from Mā'alo Road and the sugar cane haul roads; however, it will not be a permanent structure and will not block any views. The exploratory well will not have a significant vertical profile and will not be visible from the East shore area. An example of a typical capped exploratory well head following construction and testing is shown in Photograph 4.



Photograph 2: East Face of Pu'u 'A'ahoaka from the Wailua Falls Lookout



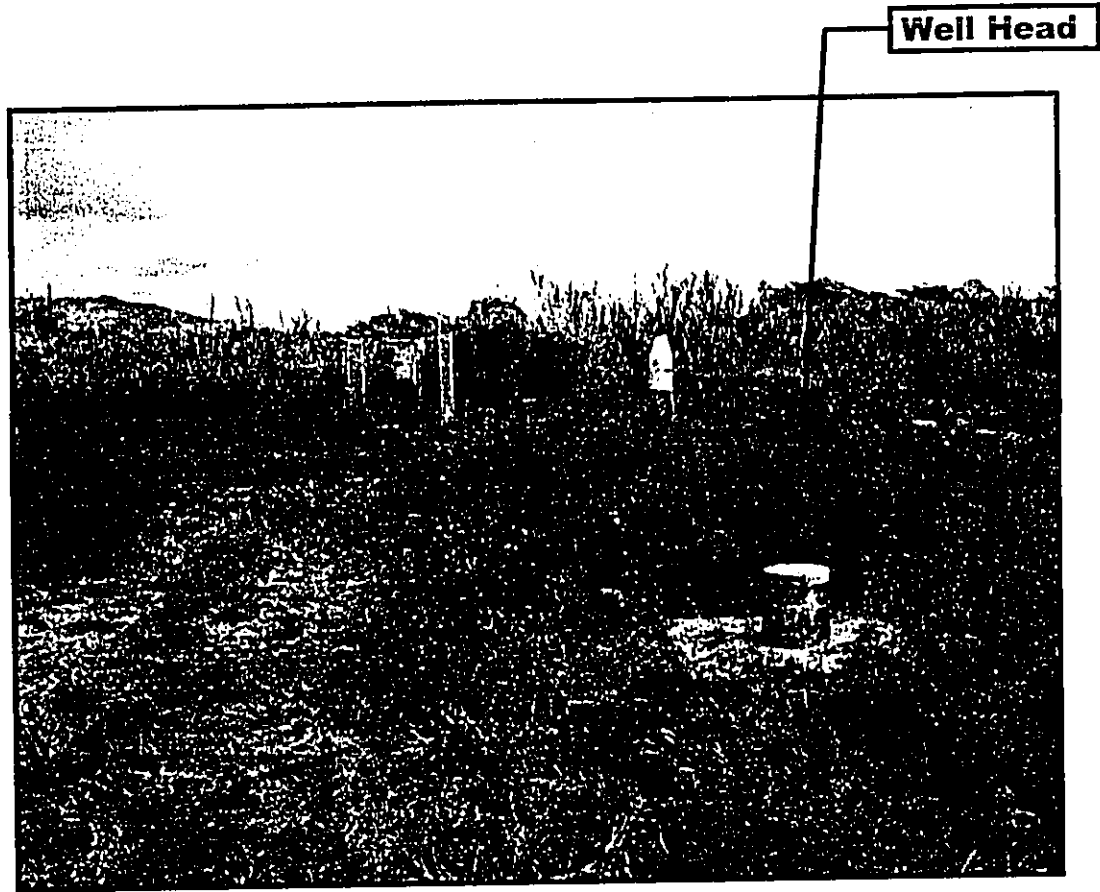
Photograph 3: North East Face of Pu'u 'A'ahoaka from the Wailua Residential Area




Līhu'e-Hanamā'ulu (Pu'u 'A'ahoaka) Exploratory Well

Views of Pu'u A'ahoaka

Photographs
2 and 3



 WILSON OKAMOTO CORPORATION ENGINEERS - PLANNERS	Līhu'e-Hanamā'ulu (Pu'u 'A'ahoaka) Exploratory Well	Photograph 4
	Typical Capped Well Head	

2.13 Socio-Economic

2.13.1 Population

The U.S. Census Bureau, Census 2000 report states that the Puhi-Līhu'e-Hanamā'ulu area had a combined resident population of 10,132 out of an island wide population of 58,463, which is approximately equal to 17 percent of the island's population (U.S. Census Bureau, 2000). Using historical trends and economic development plans from the Kaua'i General Plan 2000, the DOW forecasted the growth and decline of various demographic categories for the island. The DOW used the forecasts in Table 2-1 to develop water demand forecasts for the purposes of long-term planning.

**Table 2-1
2020, 2050 and Build-Out Population Projections**

District/Water System	2020	2050	Build-out Populations
Waimea-Kekaha	5,595	6,858	8,550
Hanapēpē-'Ele'ele	5,678	7,951	9,409
Kalāheo	5,596	6,762	10,790
Lāwa'i-'Ōma'o	3,795	4,672	6,571
Kōloa	3,250	5,825	8,109
Po'ipū	2,092	2,813	10,092
Puhi-Līhu'e-Hanamā'ulu	14,606	19,770	32,372
Wailua-Kapa'a	18,346	22,151	32,200
Anahola	2,812	3,240	3,240
Moloa'a	106	197	197
Kīlauea-Waipake-Kalihiwai	4,541	6,602	6,602
'Anini	211	266	323
Hanalei	1,065	1,283	2,217
Wainiha-Hā'ena	1,187	1,513	2,279
TOTAL	68,880	89,901	132,952

Based on the information in Table 2-1, the population for the Puhi-Līhu'e-Hanamā'ulu area is expected to increase to 14,606 in the year 2020. This is a 30 percent increase in resident population for the area, and an increase from 17 percent to 21 percent of the total island's population (68,880). The Kaua'i General Plan also projected that the island's total population could be as high as 82,800 in the year 2020.

Impacts and Mitigation Measures

The proposed project is intended to determine the potential for developing a water source that may help to address the demands of the fastest growing region of the island. During well construction and testing, associated personnel will commute to the project site, as necessary. Following construction and testing,

no further work at the site will be required until a decision is made to put the well into production.

2.13.2 Public Services

Police Protection: The exploratory well site is within the area served by the Kaua'i Police Department, District 1; Līhu'e Headquarters are located approximately 6.8 miles from the project site at 3990 Ka'ana Street, Suite 200.

Fire Protection: Fire protection service for the project site is provided by the Kaua'i Fire Department, Station 3, Līhu'e; the Līhu'e Station is located approximately 6.2 miles from the project site at 4223 Rice Street.

Health Care Facilities: The health care facility nearest to the project site is the Wilcox Memorial Hospital located at 3420 Kūhiō Highway. Located approximately 4.85 miles away, Wilcox Memorial Hospital is a full service hospital providing emergency care and medivac transport capabilities.

Impacts and Mitigation Measures

No significant impacts on the provision of public services are anticipated during the construction and testing phases of the proposed project.

SECTION 3

**Relationship to Plans,
Policies and Controls**

3 Relationship to Plans, Policies and Controls

3.1 State Land Use District

The Hawai'i Land Use Law of Chapter 205, Hawai'i Revised Statutes (HRS), classifies all lands in the State into four land use districts: Urban, Agricultural, Conservation and Rural. The project site is designated within the Agricultural District. Public infrastructure facilities are generally permitted within the Agricultural District.

3.2 County of Kaua'i General Plan

The County of Kaua'i General Plan (GP) was adopted in November 2000. The plan provides guidance for land use regulations, the location and character of new development and facilities and planning for County and State facilities and services (County of Kaua'i, November 2000). Nine subject areas provide the framework for the County's expression of public policy concerning the needs of the people and functions of the government. These areas include Regional Highways and Roads; Bus Transit; Bikeways; Water Supply; Wastewater Treatment; Drainage and Flood Control; Energy; Solid Waste; and Police and Fire Safety. Relevant policies of the GP to the proposed project include the following:

6.3.4.2 Land Use Map and Policies:

a) Regional growth and Public Facilities

1. *New growth shall be concentrated in the Puhi-Līhu'e-Hanamā'ulu urban center.*
2. *Give high priority to the development of adequate water sources and facilities to support planned development in the Puhi-Līhu'e-Hanamā'ulu urban center.*

The GP listed issues and opportunities for each community. In the Līhu'e community, the following statement was recorded in regards to water supply in the area:

To achieve full development around Līhu'e, additional water supply is needed for businesses and residential neighborhoods. The County Water Department and major landowners need to collaborate on developing new water sources and transmission facilities.

7.4.4 Policy

- a) *Develop a long-range plan to guide expansion, improvement, and rehabilitation of County Water Systems.*

- b) *Coordinate planning of future water system development and rate structures with General Plan policies and guidelines.*
- c) *Support compact development by giving priority to water supply improvements for existing and planned Urban Center, Residential Community, and Resort areas, while also supporting development in already-established Agricultural Communities.*

The Līhu'e Planning District Heritage Resources Map in the GP designates Pu'u 'A'ahoaka as an important landform. Important landforms are based on elevation and other data. Important landforms include mountains, stream valleys and gulches, bluffs and other small coastal features.

3.1.1.1 Policy:

Important landforms shall be designated as "Open" on the GP Land Use Map and shall be zoned accordingly, in order to protect steep slopes and streams from erosion and to protect landforms from development that might affect scenic views.

The Pu'u 'A'ahoaka exploratory well site is consistent with the GP because the project site is relatively isolated and will not be visible from the roadway or the residential subdivisions in Wailua. During construction, the upright well-drilling rig may be visible from Mā'alo Road and the sugar cane haul roads; however, it will not be a permanent structure and will not block any views. The exploratory well will not have a significant vertical profile and will have no significant visual impact to the East shore area. If a permanent production well is developed, visual impacts from the power lines will be mitigated by under grounding the power lines along the jeep trail road leading up to the site. Best Management Practices (BMPs) will be utilized to ensure soil erosion control and prevent sedimentation in nearby waterways.

3.3 County of Kaua'i Comprehensive Zoning Ordinance (CZO)

The parcel that the project site is located on is zoned Agriculture. The purpose of Agriculture zoning is to protect the agriculture potential of lands within the County to ensure a resource base adequate to meet the needs and activities of the present and future. Also, the Agriculture District ensures the availability of agricultural lands for various agricultural uses and the feasibility of those uses. Finally, the Agricultural District limits and controls the dispersal of residential and urban use within agricultural lands (County of Kaua'i, 1987). In the past, the County of Kaua'i has not required a Use Permit for developing exploratory wells (Tsuchiya, 2003).

SECTION 4

**Alternatives to the
Proposed Action**

4 Alternatives to the Proposed Action

4.1 No Action

The proposed project is part of the overall groundwater development program intended to meet water demands for State projects requiring water in the Līhu'e-Hanamā'ulu area. The objective of the exploratory well is to determine the potential of developing a production well to serve as a future source of potable water. Under the no action alternative, the DLNR would be unable to pursue its program responsibility. The no action alternative is not considered a feasible option to the proposed project.

4.2 Delayed Action

To comply with a budgetary deadline, the proposed project must be bid out for construction by June 2004. Delaying the project after the construction contract is awarded could increase the cost when construction ultimately begins. Delaying the project could also exacerbate the critical need to find water sources to meet projected demand before it exceeds available water supplies. Since delaying the project would not rule out its necessity in the near future, the delayed action alternative is not considered a feasible option to the proposed project.

4.3 Alternative Location

A site selection study for the proposed exploratory well was completed in May 2003 to identify and assess potential well sites, considering factors such as subsurface geologic and groundwater characteristics, anticipated depth of drilling, proximity of connection to the water distribution system, site accessibility, surrounding terrain, natural and cultural resources, and environmental impacts. The Pu'u 'A'ahoaka exploratory well site was selected based on the findings of the site selection study and in consultation with the County of Kaua'i Department of Water.

The only other alternative site considered with comparable potential for development is located at Kālepa Ridge. The selection of the Pu'u 'A'ahoaka site over the Kālepa Ridge site was based on criteria for hydrogeology, proximity to a suitable connection into the DOW water transmission system, accessibility and land use designation.

Hydrogeology

Pu'u 'A'ahoaka is located above two main waterfalls, Wailua Falls and 'Ōpaeka'a Falls, which feed into the Wailua River. It is surmised that the falls indicate a higher water table upstream, which would recharge Pu'u 'A'ahoaka. Below the falls, however, the Wailua River acts as the water table draining the surrounding area. This would reduce the amount of recharge available at Kālepa Ridge, which is located at a lower elevation closer to the coast.

Proximity to DOW Connection

Construction of a future line connecting the potential production wells to a DOW water main line is more feasible from the Pu'u 'A'ahoaka site than from the Kālepa Ridge site. The Kālepa Ridge site connection would require a longer run to the Mā'alo Road water main line. Alternatively, a connection for the Kālepa Ridge site could be made to the Kūhiō Highway water main line. This would, however, increase friction in the existing main and decrease the efficiency of flow. Therefore, the connection from the Kālepa Ridge site was deemed less cost effective than from the Pu'u 'A'ahoaka site.

Accessibility

The jeep trails leading to the alternative sites will need to be widened and reinforced to support construction vehicles. The length of the jeep trail to the Pu'u 'A'ahoaka site is approximately half the length of the jeep trail to the Kālepa Ridge site. Thus, the Pu'u 'A'ahoaka site will incur lower access development costs.

Installation of a 3-Phase power line to the exploratory well site will be required for development as a permanent production well. The required length of the power line to the Pu'u 'A'ahoaka site will be 1.15 miles while the length required for the Kālepa Ridge site is 2.51 miles. The close proximity of Pu'u 'A'ahoaka to existing 3-Phase power along Mā'alo Road decreases the future power service line costs for developing a production well at the selected site.

Land Use Designation

The State Land Use Designation for the Pu'u 'A'ahoaka site is Agricultural District, requiring a Special Permit for developing an exploratory well. The Kālepa Ridge site is located in a forest reserve, and the State Land Use Designation is Conservation District. Therefore, a Conservation District Use Permit will be required for developing an exploratory well at this site. Since well development would generally be considered more compatible in an Agricultural District than a Conservation District, the Pu'u 'A'ahoaka site is favorable.

4.4 Alternative Sources

Desalination

The desalination of brackish water and sea water could satisfy a portion of future demand and also provide for the maintenance and recovery of water quality in basal aquifers. Desalination plants could produce a local supply within areas of demand, thereby minimizing the need to transport water over long distances. The main disadvantage is the cost of production, which will increase water rates. Desalination will become increasingly feasible as the capital costs of developing marginal potable ground water sources from remote service areas approach the cost of constructing a

desalination plant. However, the operation and maintenance costs of producing and distributing desalinated water are at least 10 times more than the cost of pumping groundwater. By deferring the desalination alternative, potential new technology could reduce operating and maintenance costs and existing operating costs could rise to be competitive with desalination.

Surface Water

Grove Farm, a private company based in Līhu'e, is currently pursuing the development of a surface water treatment facility mauka of the project site. The plan is to produce three million gallons of drinking water per day from the Kapaia Reservoir. Grove Farm is engaged in negotiations with the DOW to sell the water produced by the surface water treatment facility to the County in exchange for credit towards future development projects (The Garden Island, 03/29/03). While the surface water treatment plant is a viable option, the project is still in the planning stages and it is unsure when construction will commence.

Reclaimed Water Use

Reclaimed water is produced through the treatment of wastewater to achieve a quality suitable for non-potable use such as for irrigation and other non-consumption uses. This would reduce the demand for using potable water sources. Public health concerns and high costs for dual water system infrastructure limit the extent of reuse. Ongoing studies and discussions are required to review the costs, appropriate treatment level, quality of reclaimed water produced, and potential health implications of reclaimed water on various agricultural crops and potable aquifer sources.

Conservation

Water conservation has significant potential to reduce demand and defer the need to develop potable supplies. The DOW has initiated a conservation program that includes public education, the distribution of free low-flow fixtures, leak detection and drought tolerant plants.

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SECTION 5

Permits

5 Permits Required

The following is a list of permits and approvals that may be required prior to construction of the proposed project:

State of Hawai'i

Department of Land and Natural Resources
Commission on Water Resource Management

- Well Construction Permit

County of Kaua'i

Department of Public Works
Design and Permitting Section

- Grubbing, Grading and Stockpiling Permit

According to a letter dated October 20, 2003, the County of Kaua'i Department of Public Works, will not require a grading permit for grading on State lands that are within a self-contained government controlled area (See Appendix F). However, a separate grading permit may be required for the disposal of the excess wasted excavated material from the grading of the well site and access road.

Water withdrawn from these tests will be disposed of on-site in the surrounding agricultural fields and/or irrigation ditches; no water will be disposed of into streams or other natural drainage courses. Since the area of disturbance, including the 100' by 200' level area at the well site and access road, will be less than one (1) acre, a National Pollutant Discharge Elimination System (NPDES) Permit will not be required. According to a letter dated September 24, 2003, the U.S. Army Corps of Engineers, will not require a Department of the Army permit because the proposed activity does not involve the discharge of dredged or fill material into waters of the United States, including adjacent wetlands (See Appendix F).

In the future, should the exploratory well be converted to a production well, a separate environmental assessment will be prepared to address associated facility development. Development of the production well will also require a permanent Pump Installation Permit and Water Use Permit from the State Commission on Water Resource Management.

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Section 6

Determination

6 Determination

In accordance with the provisions of Chapter 343, Hawaii Revised Statutes, and the significance criteria set forth in Section 11-22-12 of Title 11 Chapter 200, this assessment has determined that the project will have no significant impact on the environment, and that an Environmental Impact Statement is not required.

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Section 7

Consultation

7 Consultation

7.1 Parties Consulted During The Pre-Assessment Consultation Period

The following parties were consulted during the pre-assessment phase of the Draft Environmental Assessment. Each agency was sent a copy of a project summary and a request for their written comments on the project. Of the 12 parties that formally replied during the pre-assessment period, some had no comments while others provided substantive comments as indicated by the ✓ and ✓✓, respectively. All written comments and responses are reproduced in Appendix E.

Federal Agencies

- ✓✓ U.S. Army Corps of Engineers
U.S. Department of Agriculture, Natural Resource Conservation Service
U.S. Department of the Interior, Fish and Wildlife Service
- ✓✓ U.S. Department of the Interior, Geological Survey

State Agencies

- Department of Agriculture
- ✓✓ Department of Health, Office of Environmental Quality Control
- ✓✓ Department of Health, Clean Water Branch
- ✓✓ Department of Land and Natural Resources, Commission on Water Resource Management
- ✓ DLNR, Land Division
- ✓ DLNR, Land Division, State Parks
- ✓ DLNR, Land Division, Division of Forestry and Wildlife
- ✓✓ DLNR, Engineering Division
- ✓✓ DLNR, Historic Preservation Division

County Agencies

- ✓ Department of Water
Planning Department
Department of Public Works

Other

- Kaua'i Island Utility Cooperative
Kehau Kekua, Cultural Practitioner
- ✓✓ Puanani Rogers, Cultural Practitioner

7.2 Parties Consulted During The Draft EA Review Period

The following parties were consulted during the public review period of the Draft EA. Of the 11 parties that formally replied during the pre-assessment period, some had no comments while others provided substantive comments as indicated by the ✓ and ✓✓, respectively. All written comments and responses are reproduced in Appendix F.

Federal Agencies

- ✓✓ U.S. Army Corps of Engineers
- U.S. Department of Agriculture, Natural Resource Conservation Service
- U.S. Department of the Interior, Fish and Wildlife Service
- U.S. Department of the Interior, Geological Survey

State Agencies

- Department of Agriculture
- ✓✓ Department of Health (DOH), Office of Environmental Quality Control
- DOH, Environmental Planning Office
- ✓✓ DOH, Clean Water Branch
- ✓✓ DOH, Safe Drinking Water Branch
- ✓ DOH, Noise, Radiation & IAQ Branch
- Department of Land and Natural Resources (DLNR)
- DLNR, Commission on Water Resource Management
- ✓ DLNR, Land Division
- ✓✓ DLNR, Historic Preservation Division
- ✓✓ Office of Hawaiian Affairs
- ✓✓ Department of Hawaiian Home Lands

County Agencies

- ✓ Department of Water
- Planning Department
- ✓✓ Department of Public Works

Other

- Kaua'i Island Utility Cooperative
- County Council Members
- Kehau Kekua, Cultural Practitioner
- Puanani Rogers, Cultural Practitioner

Section 8

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Appendix A

**Archaeological Inventory Survey Report
Archaeological Consultants of the Pacific, Inc.
August 2003**

**AN ARCHAEOLOGICAL INVENTORY SURVEY REPORT FOR
THE PU'U A'HOAKA EXPLORATORY WELL LOCATED IN
WAILUA AHUPUA'A, LIHUE DISTRICT,
ISLAND OF KAUAI**

AUGUST 2003

Prepared for: **Mr. Earl Matrukawa
Wilson Okamoto Corporation
1907 S. Beretania Street, Suite 400
Honolulu, Hawaii 96826-1399**

Prepared by: **Archaeological Consultants of the Pacific, Inc.
Michelle Elmore, B.A.
Joseph Kennedy, M.A.
59-624 Pupukea Road
Haleiwa, Hawaii 96712**



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Abstract

An Archaeological Inventory Survey has been conducted on property located at Pu'u A'hoaka on Kauai in Wailua Ahupua'a, TMK: 3-9-02: 1. The purpose of the investigation was to determine if significant historic properties exist within the project limits and, if present, properly document and evaluate those sites.

Investigations took the form of a surface survey. No sites were identified. Based upon the results of the current investigations, Archaeological Consultants of the Pacific, Inc. recommends that a determination be made that no further archaeological investigations are necessary.

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An Archaeological Inventory Survey Report for the Pu'u A'ahoaka Exploratory Well Located in Wailua Ahupua'a, Lihue District, Island of Kaua'i

Section 1: Introduction

At the request of Earl Maisukawa of Wilson Okamoto and Associates, Archaeological Consultants of the Pacific, Inc. (ACP) has conducted an Inventory Survey for property at Pu'u A'ahoaka in the *ahupua'a* of Wailua, current district of Lihue, Island of Kaua'i, TMK: 3-9-02: 1 (see Figures 1 and 2).

The purpose of these archaeological investigations was to perform the tasks and meet the requirements specified by the Department of Land and Natural Resources, State Historic Preservation Division (DLNR-SHPD). These investigations would allow for the evaluation of the significance of potential historic resources located on the property including their eligibility for inclusion in the National Register of Historic Places. These investigations also allow for the making of recommendations concerning the mitigation of the impact of future construction activities upon potentially significant historic resources.

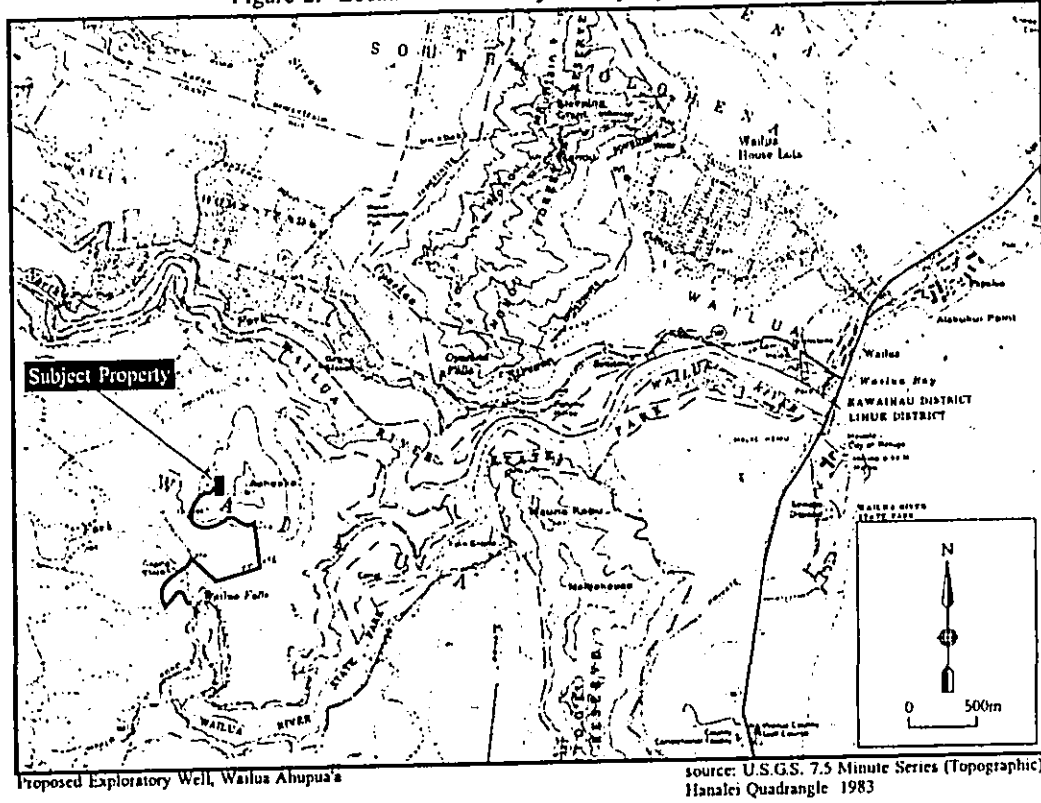
Inventory Survey investigations have determined that no sites of historic significance are located on the subject property.

Section 2: Environmental Setting

The subject property is located in the *ahupua'a* of Wailua, Lihue District, Island of Kaua'i, TMK: 3-9-02: 1. The property consists of a 100 by 200 foot pad on the western slope of Pu'u A'ahoaka as well as a thirty foot wide access corridor along existing roads roughly 2 kilometers (km) in length, roughly 4 kilometers (km) from the coast (see Figures 3 and 4).

The current subject property encompasses an area of approximately 0.46 acres on sloping land at the proposed exploratory well pad. Vegetation on this portion of the property consists of various grasses, trees, weeds, ferns, and vines including downy rose myrtle (*Rhodomyrtus tomentosa*), hau (*Hibiscus tiliaceus*), strawberry guava (*waianai*, or *Psidium cattleianum*), java plum (*Eugenia cumini*), moa (*Psidium* sp.), and Philippine ground orchid (*Spathoglottis plicata*). The portion of the subject property along the access corridor is located in fallow sugarcane fields with vegetation including various grasses, weeds, and vines.

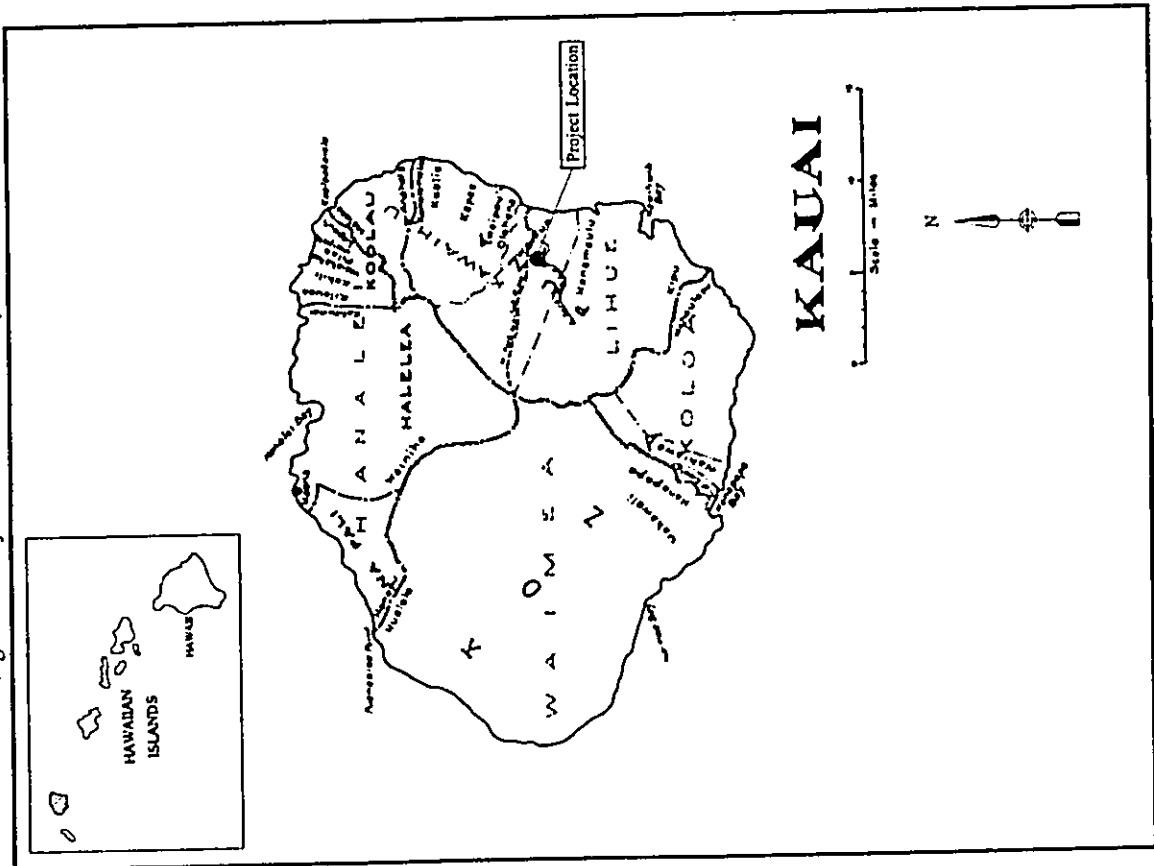
Figure 2: Location of the Subject Property on a USGS Map



Proposed Exploratory Well, Wailua Ahupua'a

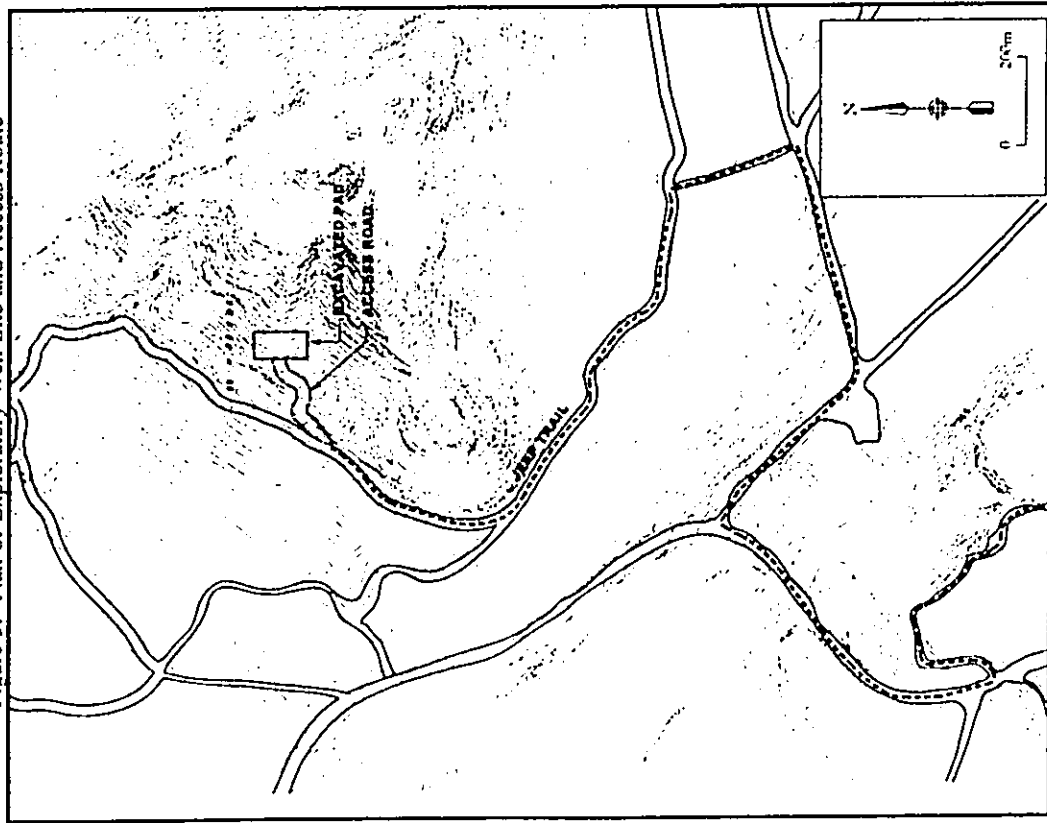
source: U.S.G.S. 7.5 Minute Series (Topographic) Hanalei Quadrangle 1983

Figure 1: Project Location on a Map of Kauai



Proposed Exploratory Well, Wailua Ahupua'a source: Spriggs and Tanaka 1988.xiv

Figure 3: Plan of Exploratory Well Site and Access Route



Proposed Exploratory Well, Wailua Ahupua'a

source: Wilson Okamoto Corporation 2003

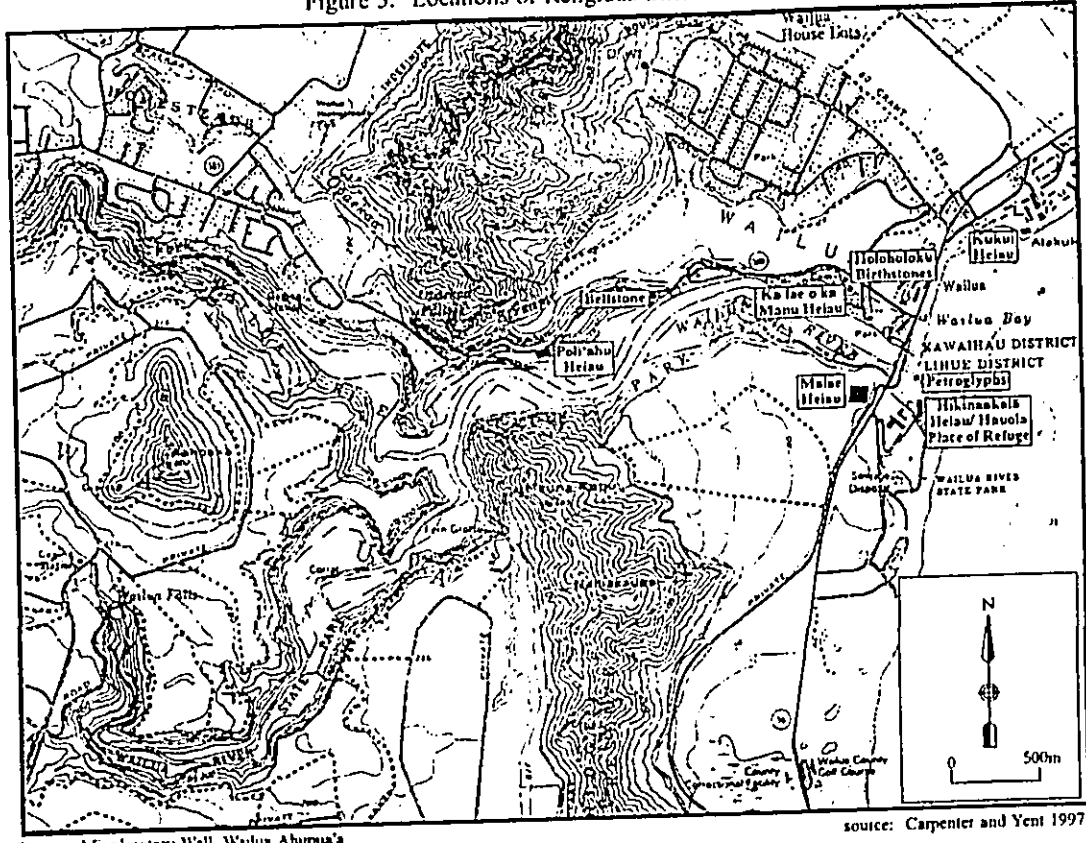
Figure 4: Pu'u A'ahoaka (view facing north)



Proposed Exploratory Well, Wailua Ahupua'a

ACP, Inc., 2003

Figure 5: Locations of Religious Sites in Wailua



source: Carpenter and Yent 1997

Average rainfall is around 50 inches (Armstrong 1973). Foote, Hill, Nakamura and Stephens (1972) describe the soils in the area of the proposed road as Hihimanu silty clay loam, consisting of dark brown silty clay loam underlain by brown, black brown, and reddish brown silty clay and clay along steep upland slopes (Foote, Hill, Nakamura and Stephens 1972). Numerous soil types are present along the access corridor, including Hanamaulu silty clay, Puhii silty clay loam, rough broken land, Kolokolo extremely stony clay loam and rock outcrops (ibid).

Section 3: Historic Background of Wailua Ahupua'a

Wailua Ahupua'a extends from the eastern coast of Kauai to Wai'ale'ale (elevation 5080 feet). It is bounded by South Olohena Ahupua'a to the north, and Hanama'ulu Ahupua'a to the south. Although currently located in the districts of Lihue and Kawaihau, Wailua Ahupua'a was formerly a part of the traditional district of Puna.

Section 3.1: Legends and Traditional Accounts

The origin of the name Wailua has been attributed to the literal translation of "two waters" in association with the two forks forming Wailua River which bisects the *ahupua'a*. Other translations of the name include "water pit" and "ghost or spirit" (Damon 1931 and Kikuchi 1973 in Folk et al. 1994). According to Kamakau (in Folk et al. 1994), the name may also have derived from Chief Wailuanui-a-Ho'ano of O'ahu, whose descendants are said to have given the name Wailua to locations on Kauai and Maui.

Wailua is known to have been a royal and religious center on Kauai during traditional times and subsequently has numerous *heiau* and legendary sites. These sites have been nicely summarized by Carpenter and Yent (1997). Refer to Figures 5 and 6 for locations of these sites. Malae Heiau (Site 104), the largest extant *heiau* on Kauai, is said to have been built by *menchune* and formerly had an atypical form of construction with buttressed corners. Hikinakala Heiau (Site 105) is associated with the Hauola City of Refuge. Kalacokamani Heiau (Site 106) is reported to be the oldest *heiau* on Kauai and the first to be used for human sacrifice. Also built by the *menchune* was Poli'ahu Heiau (Site 107), used by the gods and only the highest ranking *alii*. Two *heiau* have been reported in Wailua Ahupua'a whose locations are unknown, including an unnamed *heiau* (Site 109) on the north bluff above Wailua River and Pohaku'ele'ele Heiau (Site 334) possibly on a promontory between the north fork of Wailua River and Opaeka'a Stream. A possible *heiau* (Site 345) is located at the convergence of the north and south forks of Wailua River.

Three legendary sites associated with *alii* include the Holohele Birstones (Site 106), a bellstone (Site 335) and a cave (Site 330). *Alii* of Kauai would travel to the birstones to give birth, and the bellstone is said to have been struck in announcement of the birth of an *alii* at

Holohele. A cave near the birthstones, Kaluamokila, is reported have been used as a place of refuge for *ali'i*, also the home of a *mo'o* (lizard god).

Other stones with legendary associations include stones buried in sand at the mouth of Wailua River containing petroglyphs, Paemahuwailua (Site 105A); a rock containing a footprint (Malohua); stones where a warrior was tattooed (Kaelialina a ka Mahu); a brother and sister turned to stone (Kamalau and Kulaina, Sites 325 and 326); and a rock said to be the legendary home of Kawelo (Site 328).

Several places in Wailua are associated with the demigod Maui and his mother Hina. These include Malohua, where the first coconut tree came from Hina sticking her canoe in the sand (Site 333); Papa Alae, where Maui discovered the secret of fire (Kaua'i version); Papaniho a Maui, said to be Maui's home; and the cave of Mama'akualono, the home of a woman that Hina tried to kill after refusing to marry Maui.

Wailua is said to be the location not only of the first coconut tree, but also of the first *hau* at Hihikalahau (Site 337) from the transfiguration of a man. Another location having a legendary association with *hau* is Maluaka, an eddy along Wailua River where *hau* blossoms accumulate. The theme of flowers among the waters also tie into a legend at Manamamakaiua, where a flowerless *ohia* tree grows, as its flowers are within the ocean at Kaluawehe (Site 332).

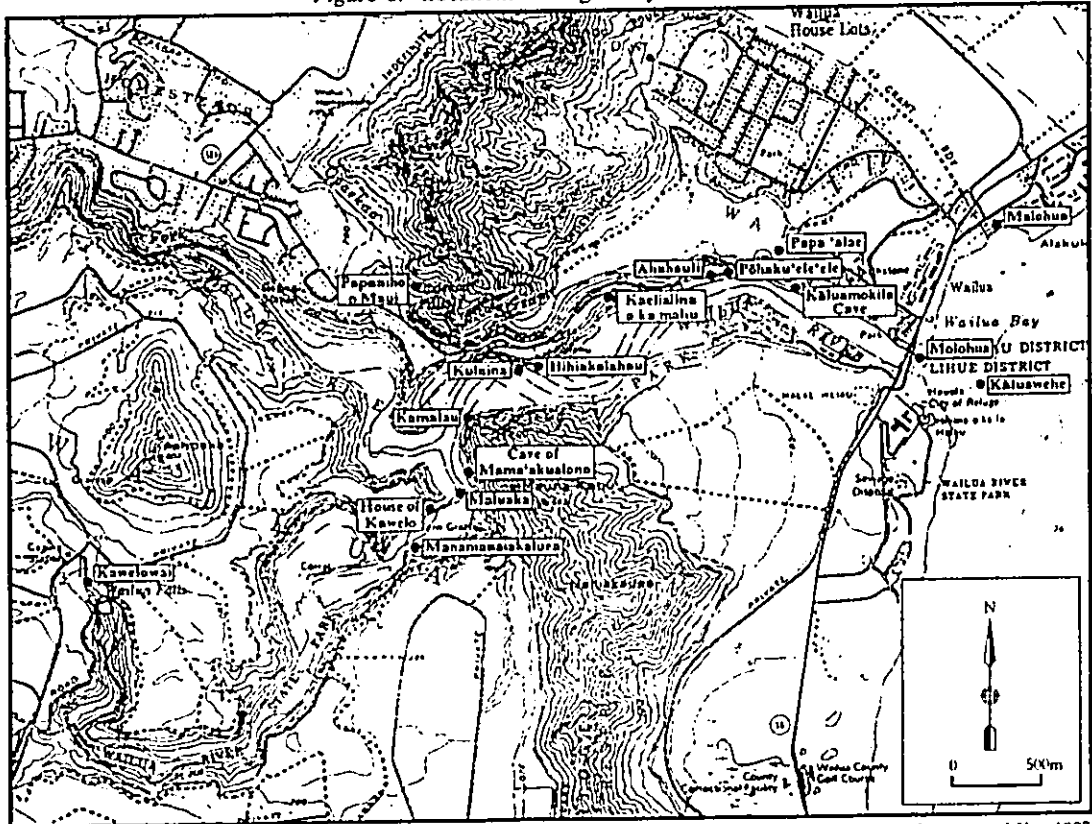
Three legends are associated with Wailua Falls (Waiale o Waichu). The ghost of a woman is said to live in the pool at the base of the falls. It is also said that King Kaumuali'i used to leap the falls. The impact of a spear thrown by Kapunohu created the spray of the falls as well as an underwater cave, Kawelowai, near the falls.

Section 3.2: Land Use

Handy (1940) details the land use of Wailua Ahupua'a from traditional times, noting the production of sugar and rice at the time of his observation:

Along the lower 2 miles of Wailua River, above the sandy coastal plain, are many broad, open, level areas, formerly in terraces, now mostly in sugar. Opaekaa Stream, which flows into tide-water Wailua River, watered many terraces both above and below the falls. The large area of terraces below the falls is now planted mostly in rice, a few of the upper terraces being used for sweet potatoes, while the uppermost are pasture. There are terraces in the canyon of the north fork of the Wailua River; presumably there are terraces also in the flatland along Kawi, Keahua, and Iole Streams, which form the headwaters of this fork of the river. There were sizable terrace areas on both sides of the south fork of the river above the junction with the north fork. Extensive areas of terraces fill the valley immediately above Wailua Falls and along the river for 3 miles above Waikoko, Hihikala, Waiaaka, Waiahi, Kaula, Paikaa, and Haliu Streams, which form the headwaters of the south fork of the Wailua River, undoubtedly all had small terraces along their lower courses. The flatland between the sea and Kalepa Ridge shows no traces of terraces, though it is probable that the swampy areas watered by springs were once used for wet taro.

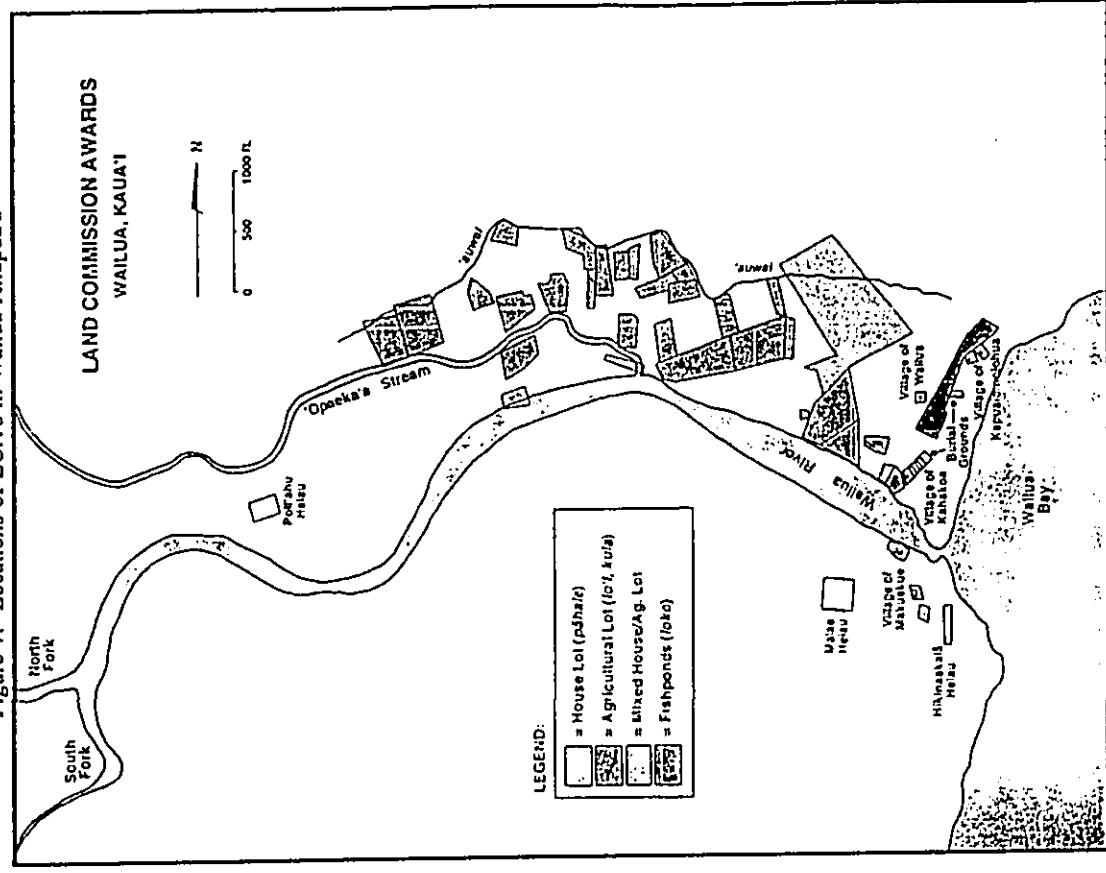
Figure 6: Locations of Legendary Sites in Wailua



Proposed Exploratory Well, Wailua Ahupua'a

source: Carpenter and Yent 1997

Figure 7: Locations of LCA's in Wailua Ahupua'a



Proposed Exploratory Well, Wailua Ahupua'a source: Carpenter and Yent 1997

Handy and Handy (1972) also mention coconut, breadfruit, *wauke*, *ofona*, yams, banana, *pia*, *koa*, sandalwood, *maile* and *mokihana* growing in within the *ahupua'a*.

During the Great Mahele of 1848, numerous land claims were awarded in Wailua including houselots and agricultural lots as well as a few fishponds and a burial ground (refer to Figure 7 and Appendix A). Folk et al. (1994) have examined the Native and Foreign Register and Testimony from the Board of Commissioners to Quiet Land Titles and provide a summary of the Land Commission Awards for Wailua Ahupua'a:

As a result of the great Mahele, forty-eight parcels totaling approximately 75 acres were awarded to twenty-six individual claimants in Wailua.

All of the parcels are within approximately a mile of the shore. All of the parcels on which *kaio* was cultivated on the north side of the Wailua River, most were watered by 'auwai sourced in Opaeke's (or Waihuaike) Stream...

Twenty-one of the total twenty-six claimants were awarded two or more parcels. An examination of these awards show a pattern of a separate houselot near the shore or at least farther inland than their cultivated lot.

Almost all of the awardees originally received their land from Debra Kapule "in the days of Kakaioewa" or "in the days of Kaahumano" indicating a rather short tenancy since around 1825 or later. Apparently when Debra received the Wailua lands from Kaahumano, she served as *konohiki* for the *ahupua'a* or in her own words, the *ka'u'aina* or landlord (N.R. 1848:IX, 55-56). Surprisingly she later relinquished this position to her son Josia Kaumuali'i (F.T.:XIII, 74-75).

No LCA's are located on the current subject property.

The latter half of the nineteenth century saw the gradual shift from the cultivation of *lo'i* to rice, and the introduction of sugarcane and ranching. The current subject property is located within an area formerly cultivated in sugarcane.

Section 3.3: Previous Archaeology

A number of archaeological investigations have been conducted in Wailua Ahupua'a, particularly in association with the numerous *heiau* in the area. The earliest investigations were conducted by Thurum (1907) in his survey of Malae Heiau (Site 104), Hikimakala Heiau (Site 105), Holoholoku Birthstones (Site 106), and Poli'ahu Heiau (Site 107); Bennett (1931) in his survey of dune burials at the Coco Palms property (Site 103), Malae Heiau (Site 104), Hikimakala Heiau/Hauola City of Refuge (Site 105), Kalaokamamu Heiau (Site 106), Poli'ahu Heiau (Site 107), an unnamed heiau (Site 109) and Paemahuowailoua petroglyphs (Site 105A); and Emory (1933) in his excavations at Holoholoku Birthstones (Site 106).

The Wailua River State Park was surveyed by Soehren in 1967 during which 11 sites were recorded and later by Ching 1968 who recorded 58 sites (Carpenter and Yent 1997). An archaeological reconnaissance survey was conducted at Wailua River State Park on the north fork of the Wailua River in association with the Cart Road Trail project (Carpenter and Yent

1997). Fifteen sites previously recorded by Ching (1968) were re-identified including 'airakai, numerous agricultural terraces and associated features, a house site, a mill site, a platform and an enclosure.

The Wailua Golf Course has been subject to several investigations. Cox (1977) recorded 13 burials. Informants reported the presence of burials in the area during an assessment of a proposed fiber optic cable corridor (Folk and Hammatt 1992) though none were found during an inventory survey (Folk et al. 1994). However, subsequent monitoring of the corridor resulted in the identification of one *in situ* burial as well as disturbed remains of seven individuals (Folk and Hammatt 1995). During an irrigation renovation project, 44 burials were recorded along with a subsurface cultural deposit and fire pits, one of which was dated to AD 1440-1670 (Fager and Spear 2002).

Previous investigations on the Coco Palms property also identified numerous burials. During construction for a new wing of the Coco Palms Hotel, 34 burials were identified (Kikuchi 1973). During remediation of soil surrounding the former location of a diesel tank on the grounds of the hotel, one burial was inadvertently disturbed (Elmore and Kennedy 2000).

Investigations at Lydgate State Park include an assessment wherein testing produced negative results (Walton and Spilker 1974), corings in association with the construction of a new comfort station which also produced negative results (Yent 1987), and monitoring of the construction of a bike and pedestrian path during which two burials and two isolated remains from previously disturbed burials were identified along with a subsurface cultural deposit that dated to AD 1440-1660 (Morowski and Dega 2003).

A mapping and testing project was undertaken at Hikinaakala Heiau/Hauola City of Refuge (Site 105) wherein two cultural deposits (one pre-Contact and one post-Contact) were identified along with fire pits (Yent 1989).

An Inventory Survey associated with the Kuhio Highway widening and bypass options project resulted in the identification of a single terrace on the north side of Wailua River (Hammatt et al. 1997).

Section 3.4: Settlement Patterns

The earliest utilization of Wailua Ahupua'a would have likely consisted of the occasional temporary utilization of the littoral zone for the purpose of exploiting its marine resources. Simple structures constructed near the shore would have likely provided temporary shelter. As the population of the islands increased, permanent settlement would have likely been established near the mouth of Wailua River. Land along the streams and floodplains were utilized for *lo'i*, and the *kula* slopes were used for dryland crops such as sweet potato. Permanent habitation was likely restricted to the coast and the developed areas along the waterways. As Wailua was known for being a royal center, particular areas would have been set aside for *ali'i* to reside. Scattered

temporary habitation could have occurred further inland, possibly in association with *kula* crops or in areas from which specific resources were regularly gathered. This pattern continued through the proto-historic period.

Section 3.5: Expected Finds

Based upon the information cited above the predicted finds for the current subject property can be surmised. The current subject property is located within an area where dryland agriculture and/or gathering practices may have occurred during traditional times. Because the access corridor of the current project area was formerly cultivated in sugarcane, any significant cultural remnants which may have once been present would likely have been destroyed. However, the proposed exploratory well site on the western slope of Pu'u A'ahoaka lies in an area which was not planted in sugar, and therefore could contain extant cultural remains. The USGS map of Wailua depicts the presence of graves in the vicinity of the current subject property which have not been relocated (McMahon, pers. com. 2003). As such, features related to dryland agriculture (terraces, mounds, alignments) or possibly burials may be encountered at the proposed exploratory well site.

Section 4: Methodology

Archaeological investigations were conducted on July 22, 2003. All fieldwork was conducted under the direction of the principal investigator, Joseph Kennedy, M.A., Field Supervisor, Michelle Elmore, B.A., was assisted by Michael O'Shaughnessy, B.S..

The subject property was systematically investigated by conducting a 100% surface survey of the parcel. The field crew swept the property using transects spaced approximately 15 meters (m) apart within the proposed exploratory well site. A visual inspection was made of the roadside along the access corridor. Visibility was good to moderate. No surface features were identified, and therefore no subsurface investigations were conducted.

Section 5: Findings

No sites of historic significance were located on the subject property. The positioning of the exploratory well pad on the western slope of Pu'u A'ahoaka is in a location less amenable to traditional land uses of habitation and agriculture as compared with the surrounding areas consisting of less steep terrain and closer sources of water, which may explain the absence of archaeological sites in this area. Disturbances to the ground surface as a result of former

sugarcane cultivation and grading for the existing roads may have destroyed any sites that could have once been present along the access corridor.

Conclusion

An Inventory Survey has been completed on property located at Pu'u A'ahoaka on Kaula'i in Wailua Ahupua'a. No sites of historic significance were identified on the subject property.

Based upon the results of the current investigations, Archaeological Consultants of the Pacific, Inc. recommends that a determination be made that no further archaeological investigations are necessary for the current subject property.

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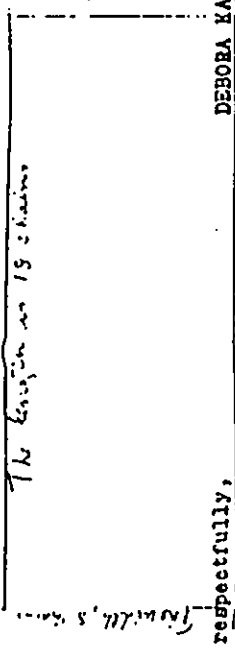
Appendix A: Land Commission Awards in Wailua Ahupua'a

(Note: The following appendix has been taken from Folk et al. 1994.)

No. 3111 Debra Kapule
 Wailua LCAs
 N.R. 12v9

I, Debra Haakulou Kapule, a woman of the Hawaiian Islands living at Wailua on the Island of Kauai, hereby state to you, the Commissioners to Quiet Land Titles, the dimensions of the length of my time of occupancy of a parcel of kula land at Wailua on the Island of Kauai. The length is 18 chains and the width is 8 chains. I have occupied this parcel of kula land from the year 1829 until the present.

Here is the diagram of my house lot claim:



I am, respectfully,
 DEBORA KAPULE
 DEBORA KAPULE
 JANUARY 6, 1848
 F.T. 85-86v13

Witness: I. Nahinu
 See also No. 3589

No. 3111 Debra Kapule Clmt
 3559

Kaiapa sworn says I know the Land of Clmt. It consists of 4 pieces. No. 1 lies in the Ahupuaa of Waimea and is known by the name of "Lahi" it is fenced by Adobe walls in part. No. 2 lies in the Ahupuaa of Wailua & in the ili of Haleula & is Clt's house Lot. No. 3 consists of two Loies adjoining each other but one is in the ili of Pakoli, the other in the ili of Okeoke. No. 4 consists of two fish ponds also in Wailua & in the ili of Kaimuki.

No. 1
 N By Alanui or highway
 E. Land of the Am. Mission
 S. Seashore
 W. Ili of Kikiaola

No. 2 House Lot
 West Wailua River
 North A hillock called Puuki
 East - Auwai of Kapaokaaui
 South Wailua River

No. 3 W. Loi called Papahoku
 N. Ili of Kapaki
 E. Pali of Puuki
 S.

No. 4 W Kula
 N. A fenced field called Kalanakila
 E. Public Road of Mahunapuone
 S. Hou bush called Mceapaki
 Clmt recd No. 1 from her father who had it from Kaumuali. Nos 2, 3, & 4 she had from Kaahumanu. Witness knows of no dispute as to these claims.
 Naakenkai sworn says I have heard the testimony of Kaiapa and it is all true.

No. 3226 Oliwa Chapin Wailua, January 11, 1848
 N.R. 14-15v9

I, Oliwa chapin, a subject of the Hawaiian Islands living at Wailua on the Island of Kauai, hereby state to you, the Commissioners to Quiet Land Titles, my own claim for four lo'i. The length is 126 fathoms and the width is 66 fathoms. The length of my occupancy of this parcel of land is from the year of our Lord 1839 until this year of 1848. The length of my house lot is 58 fathoms, and the width is 47 fathoms. I am, respectfully,
 Witness: Debora H. Kapule
 OLIVA CHAPIN

No. 3226 Oliver Chapin, Clmt
 F.T. 83-84v13

Kaniwi sworn says I know the land of Clmt. It lies in Wailuanui and consists of two pieces.
 No. 1 is four lois in the ili of Papohaku, and a kula
 " 2 " a house lot in the ili of "Kuemanu"
 No. 1 is bounded
 North by Muliwai of Wailua
 East - ili of "Kula hulu"
 South " " " " "Pakole"
 West " Pali of Puuki
 No. 2 is bounded
 North by kula of "Kuamanu"
 East " house lot of Debora
 South " Auwai of Kamuki(?)
 West " Wailua River
 Clmt had his land from Debora in the days of Kaikioewa. There is no opposition to the claim. Oliver died in Feby 1850 and his estate has not yet been settled. Kawakahi sworn and declares that the testimony of Kaniwi is all true.

No. 3238 Hawea Wailua, Kauai, January 11, 1848
 N.R. 16-17v9

I, Hawea, a subject of the Hawaiian Islands, living at Wailua on the Island of Kauai, hereby state to you, the commissioners to Quiet Land Titles, my own claim for land, which is 72 fathoms long by 12 fathoms wide. My house lot is 54 fathoms long by 9 wide. This is my own claim. I am, respectfully,
 Witness: Oliwa Chapin
 HAWEA

No. 3238 Kawea Clmt
 F.T. 74v13
 Lahaina sworn says I know the land of Clmt. It is in the Ahupuaa of Wailua ili of Kahihii

No. 2 is bounded

North by a cluster of Hau bushes
East - house lot of "Kahakua lanea"
South - Sand beach
West - House lot of Nakai

Cimt had his land from Debora in the days of Kaikioewa, and occupied them till her death in 1848, when it descended to her sister - Pualiupo, who occupies it at present. There is no dispute about this claim. Nakai sworn & verifies the testimony of Kaniwi.

I, Sera Wahapu, a woman of the Hawaiian Islands living at Wailua on the Island of Kauai hereby state to you, the Land Commissioners that the length of my land claim is 68 fathoms, and 23 is the width; my house lot is 54 fathoms long, and only four fathoms wide. I am, respectfully,

Witness:
Oliwa Chapina
SERA WAHAPU

No. 3302 Maawe

N.R. 2879

Land Claim: I, Maawe, a subject of the Hawaiian Islands, living at Wailua on the Island of Kauai hereby state to you, the Land Commissioners, my own claim, which is 70 fathoms long by 48 wide. My house lot is 57 fathoms long by 38 wide. That is my own claim. I am, respectfully,

Witness: Oliwa Chapin
MAAWE

No. 3302 Maawi Cimt

F.T. 73-74v13

Kaniwi sworn says I know the land of the Cimt. It lies in the Ahupuaa of Wailua, consists of two pieces.

No. 1 is six in the ili of "Puhauula"

2 - House lot in Kauhale of "Kahakoa"

No. 1 is bounded

North by auwai of Kuluhuhu
East - Popo's loia
South - Auwai of "Puhauula"
West - ili of "Kuluhuhu"

No. 2 is bounded

North by kula of Kahakoa
East - Burying ground of Mahuapuoni
South by Sea shore
West - House lot of Puali

Cimt had his lands from Debora, in the days of Kaikioewa. Maawe died about two years since, and the land then passed to his wife as his heir. Kahakualamea, is her name. There is no opposition to this claim. Poka sworn verifies the testimony of Kaniwi.

No. 3303 Makaiki

N.R. 2979

I, Makaiki, a subject of the Hawaiian Islands living at Wailua on the Island of Kauai hereby state to you, the Land Commissioners, my own claim for land, 32 fathoms long by 22 fathoms

No. 1 loia is bounded

North by Auwai of Kaluapulu
East - Naele, a pool of rushes
South - loia called "Kaluapulu"
West - Pali of Puuki

No. 2 house lot is bounded

North by clump of Hau bushes called Moeapaki
East - house lot of Nakai
South - Sea beach
West - Wahine's house lot

Cimt had his land from Debora in the days of Kaikioewa. The claim is without dispute. Poka sworn says he has heard the testimony of last witness and it is true.

No. 3248 Hanalea

Wailua, January 14, 1848

N.R. 20v9

Land Claim. Greetings to the Land Commissioners: I, Hanale, a Hawaiian subject living at Wailua on the Island of Kauai hereby state my claim for land to you. There are 14 claims, that is, there are 14 loia. At the shore of Kalapaki are four loia, Palanohi, and a kula. The length is perhaps 40 chains, and the width is perhaps 39 chains. Some of the land was received from Paulo Kanoa and some from Daniela Oleloa. A respectful farewell to you all,
HANALE

No. 3264 Lanikaula

Wailua, January 12, 1848

N.R. 21v9

Land Claim. I Lanikaula, a subject of the Hawaiian Islands living at Wailua on the Island of Kauai, hereby state to you, the Land Commissioners my own claim for land which is 60 fathoms long by 35 fathoms wide. The length of my house lot is 40 and the width is 20 fathoms. This is my claim. Respectfully,
Witness: Oliwa

LANIKAULA

No. 3264 Lanikaula Cimt

F.T. 75-76v13

Kawakahi says I know the land of Cimt. It lies in the Ahupuaa of Wailua, ili of Hio and consists of seven loia & three loia uncultivated(?), also a houses lot in the ili of Kamani. No. 1 is bounded

North by ili of Maui

East - Makia moaina

South - Auwai of Mauiilo

West - Muliwai of Wailua

No. 2 is bounded

North by Ahuauile

East - Road leading inland

South - Muliwai called "Kamole"

West - "Wailua"

Cimt had his lands from Kaumuali and has occupied it ever since, and there is no opposition to his claim. Kulelei, sworn says I have heard the testimony of last witness, and it is true.

No. 3281 Wahine Wailua, January 11, 1848 N.R. 25v9

I, Wahine, a subject of the Hawaiian Islands living at Wailua on the Island of Kauai hereby state to you, the Land Commissioners, the length and width of my claim -- 85 fathoms /long/ and 36 wide. The length of my house lot is 54 and the width is 9 fathoms. That is my entire claim at Wailua. Respectfully.
Witness: Oliwa Chapin

WAHINE

No. 3281 Wahineai Clmt F.T. 76v13

Kaniwi sworn says I know the land of Clmt. It lies in the Ahupuaa of Wailua, in the ili of "Maioakama." It consists of two lois & house lot in village of Kahakoa.

No. 1 is bounded

North by Pohoi lois
East " Pahunoi "
South " Auwai of Wailua
West " lois called Malino
No. 2 is bounded
North by kula of Kahakoa
East "
South by Sand beach
West " Wailua River

The House lot is surrounded by turf fence. Clmt had his land from Debora, in the days of Kaiioewa and he has occupied it ever since. His claim has never been disputed.
Kawakahi, sworn verifies the testimony of last witness.

I, Wahine, a subject of the Hawaiian Islands living at Wailua on the Island of Kauai hereby state to you, the Land Commissioners, the length and width of my claim -- 85 fathoms /long/ and 36 wide. The length of my house lot is 54 and the width is 9 fathoms. That is my entire claim at Wailua. Respectfully Witness: Oliwa Chapin
WAHINE

No. 3282 Sera Wahapuu Wailua, January 11, 1858 N.R. 25v9

I, Sera Wahapuu, a woman of the Hawaiian Islands living at Wailua on the Island of Kauai hereby state to you, the Land Commissioners that the length of my land claim is 68 fathoms, and 23 is the width; my house is 54 fathoms long, and only four fathoms wide. I am respectfully,
Witness: Oliwa Chapin

SERA WAHAPUU

No. 3282 Sera Mahapuu, Clmt F.T. 76v13

Kaniwi says I know the land of Clmt. It lies in the ili of Wailua

No. 1 is two lois, ili of Halepuola
" 2 " house lot, in village of Kahakoa
North by ili o:of "Kapuhai"
East " Wailua River
South " ili of "Kamalukukui"
West " " " "Kahalike"

wide. My house lot is 25 fathoms long by 18 fathoms wide. That is my own claim. I am, respectfully,

Witness: Debora H. Kapule

MAKAIKI

No. 3303 Makaiiki Clmt F.T. 79-80v13

Kaniwi sworn says he knows the land of Clmt. It lies in Wailua, nei, and consists of two pieces.

No. 1 is one loi, in the ili of Kapalai

" 2 " house lot in the village of "Kapuaiomolohua"

No. 1 is bounded

North, by Nakai's loi
East, " Kekua "
South " Wailua River
West " Waianea's loi
No. 2 is bounded
North, by pond called "Weuwewu"
East " Kula of Molohua
South " Road, leading to Kapaa
West " Kula of Molohua.

Clmt had his land from Debora in the days of Kaumualii and occupied it till his death which took place about two years ago, when the land descended to his only Son, Pahua, who occupies it at present. Witness knows of no opposition to this claim.
Nakai, sworn says the testimony of Kaiwi is true.

No. 3345 Nakai Wailua, Kauai, January 11, 1848 N.R. 35v9

I, Nakai, a Hawaiian subject living at Wailua on the Island of Kauai hereby state to you, the Land Commissioners, my claim for land. It is 50 fathoms in length by 25 fathoms in width, and my house lot is 54 fathoms long and 7 fathoms wide. I am, respectfully,
Witness: Oliwa Chapin

NAKAI

No. 3345 Nakai Clmt F.T. 80v13

Kaniwi sworn, says I know the land of Clmt. It is in Wailua and consists of two pieces.

No. 1 is bounded,

North by Popo's loi

East " Kekua's "

South " Pahua's "

West " Wahineai's "

No. 2 is bounded,

North by kula of Kahakoa

East " house lot of Puai

South " Road

West " house lot of Hawea

Claimant had his land from Debora in the days of Kaiioewa. Witness knows of no opposition to this claim. Kelani, sworn, verifies the testimony of Kaniwi.

No. 3346 Nawai Wailua, Kauai, January 12, 1848 N.R. 35v9

Claim letter. I, Nawai, a Hawaiian subject living at Wailua on the Island of Kauai hereby state to you, the Land Commissioners, my own claim. It is 66 fathoms in length and 26 fathoms in width, and my house lot is 40 long and 30 fathoms wide. This is the size of my claim. I am, respectfully,
Witness: Oliva

NAWAI

No. 3346 Nawai Clmt F.T. 72v13

Kaniwi sworn says I know the land of Clmt. It lies in Wailua in the ili of "Kalaakapao" It consists of lots under cultivation and one lot not planted. also House lot in the ili of "Mahunapuoni"

No. 1 is bounded

North by Hulukao's lots
East - auwai of Kapuhai
South - Pau's lots
West - Wailua River

No. 2 is bounded

North by a pond called Kaimiki
East - House lot of Pau
South - Sea shore
West - Burying ground

Clmt had his land from Debora in the time of Kaunualii and he has occupied it ever since and no opposition has ever been made to the claim. Lupe sworn says I have heard the testimony of Kaniwi and it is true.

No. 3367 Noi Wailua, Kauai, January 10, 1848 N.R. 42v9

I, Noi, a subject of Hawaii, living at Wailua, Island of Kauai, hereby state to you, the Land Commissioners, the size of my land claim. There are three *loi* and the *kula*. The length is 65 fathoms and the width is 10 fathoms. Their name is Hapupu. From the time when Debora lived at Wailua, and after, this was the year 1829, until the present, I have held this land. Furthermore, my house claim is 100 fathoms in length and 9 fathoms in width. The right to the land and this house were acquired at the same time. This was the time of Debora.
NOI

No. 3367 Noi Clmt F.T. 78-79v13

Kaniwi sworn says I know the land of Clmt. It lies in the Ahupuaa of Wailua.

No. 1 is three *loi* and *kula* in the ili of "Hapupu"
- 2 - house lot in Kahakoa

No. 1 is bounded

North by ili of Papalinaulo
East - Wailua River
South - Kamohaula's(?) *loi*
West - Okiokio -

No. 2 is bounded

North by *kula* of Kahakoa
East - House lot of Haea
South - Sea shore
West - House lot of Wahineai

Clmt had his land from Debora, in the days of Kaikioewa. There is no opposition to this claim. Kakai sworn I have heard the testimony of Kaniwi in regard to the land of Noi and it is true.

No. 3368 Naakaakai Wailua, January 14, 1848 N.R. 43v9

I, Naakaakai, a Hawaiian subject living at Wailua, Island of Kauai, hereby state to you, the Land Commissioners, the size of my house claim - it is 12 fathoms long by 11 fathoms wide. This place is at Waimea. The time I received it was when Kaikioewa gave it to Kaniuhi and Kaniuhi gave it to me, that was the year 1827. This place was former a *Heiau* for worshipping idols, Kauhakuole, and afterwards a Church was built on this side, and when it was broken down, the site became mine. this has been my place continuously until this time.
NAAKAAKAI

No. 3403 Pahio Wailua, Kauai, January 11, 1848 N.R. 44v9

I, Pahio, a Hawaiian subject living at Wailua on the Island of Kauai hereby state to you, the Land Commissioners, the size of my own claim. It is 77 fathoms long by 22 fathoms wide. My house lot is 50 fathoms long by 40 wide. I am respectfully,
Witness: Oliva Chapin
PAHIO

No. 3403 Pahio Clmt F.T. 82v13

Wilama Puamana says I know the land of Pahio. It lies in the Ahupuaa of Wailua, consists of two pieces.

No. 1 is three *loi* in ili of Kapuhai, and *kula*
- 2 - house lot, fenced in "Malai haunono"

No. 1 is bounded
North by river of Kapuhai
East - Wailua river
South - Kapuhai
West -

No. 2 is bounded
North by *kula* of "Malaihaanono"
East -
South - Wailua River
West - *kula*

Clmt had this land from Debora in the days of Kaikioewa, and he has occupied the land to the present time and there is no opposition to the claim. Kaniwi sworn declares the testimony of last witness to be true.

No. 3405 Poka Wailua, Kauai, January 11, 1848 N.R. 45v9

Claim Letter. I, Poka, a Hawaiian subject living at Wailua on the Island of Kauai hereby

state to you, the Land Commissioners, my own claim. It is 75 fathoms in length and 36 fathoms in width, and my house lot is 18 fathoms long by 8 fathoms wide. This is my claim. I am, respectfully
Witness: Oliva Chapin

POKA

No. 3405 Foka Clmt

F.T. 86v13

Kaiapa, sworn, says I know the land of Clt. It lies in Wailua in the ili of Haliiahau and consists of three. Clt has also a house lot in the ili of Kaiwikiki which is fenced in with sticks.

Boundaries

No. 1 W. Uncultivated loie called Kamalau

N. Auwai of Kalifahau

E. Lands of konohiki

S. Stream called Kaiwaiiki

No. 2 W. Alanui of Kihapilani

N. Kula

E. Fish Pond of Waiwiiki

S. Kula of Kihapilani

Clt had his land from konohiki in exchange for certain loie which he had from Debora in the days of Kaahumanu. The claim is not disputed. Nankaakai sworn & verifies the testimony of former witness.

No. 3406

Pula

N.R. 45v9

Claim Letter. I, Pula, a Hawaiian subject living at Wailua on the Island of Kauai hereby state to you, the Land Commissioners, my own claim. It is 50 fathoms in length and 4 fathoms in width. My house lot is 40 fathoms long by 16 fathoms wide. I am, respectfully
Witness: Oliva Chapin

PULA

No. 3406

Pula Clmt

F.T. 79v13

Kaniwi sworn says I know the land of Clmt. It lies in Wailua.

No. 1 is bounded and consists of 5 loie in ili of Waioo and Kula

North by Keaho's loie

East - Kula of Waioo

South - Hahakoele's loie

West - Maili's

No. 2 is bounded, consisting of House lot in village of "Kapuaimolohua" surrounded by a stone fence.

North by pond "Weuweu"

East - Kula of "Kapuaimolohua"

South - road from Wailua to Kapaa

West - Kula.

Clt had his lands from Debora in the days of Kaikoewa. Has occupied it ever since without opposition. Kelani sworn says I know the land of Clmt and have heard the testimony of Kaniwi. It is true.

Kaniwi sworn, says I know the land of clmt. It lies in Wailua

F.T. 71v13

No. 3537 Kaniwi Clmt

Debora Kapule sworn says I know the land of Clmt. It lies in the Ahupuaa of Wailua and in the ili of Lanipaa

No. 1 is about fourteen loie in the ili of Lanipaa

No. 2 - House lot Hahakoa where he resides

No. 1 is bounded

North by auwai of "Lanipaa"

East - Kikipau's loie

South - Muliwai of Woailo

West - Alawai

No. 2 is bounded

North by kula of Kahakoa

East -

South - foot Path

West - Wailua River

Clt had his land from (Debora) Witness in the days of Kaahumanu. There is no opposition to this claim. Lupe sworn says he knows the land of Clmt. has heard the testimony of last witness, it is true.

No. 3551 Kaihenui

Claim Letter

N.R. 53v9

I, Kaihenui, a Hawaiian subject living at Wailua on the Island of Kauai, hereby state to you, the Land Commissioners, my own claim. Its length is 120 fathoms and its width is 110 fathoms. My house lot is 100 fathoms in length and 15 fathoms in width. I am, respectfully.
Witness: Oliva

KAIHENUI

No. 3551

Kaihenui, Clmt

F.T. 83v13

Kamakahi sworn says I know the land of Kaihenui. It is in the Ahupuaa of Wailua,

consists of two pieces

No. 1 consists of one loie and two moos not cultivated in the ili of Palauhulu

No. 2 is a house lot, in the ili of "Noliha"

No. 1 is bounded

North by loie of Pepiau

East - Wailua River

South - Moolaina called "Mahuna"

West - Kahawai of Kailiili

No. 2 is bounded

North by house lot of Napuloo

East - Pali of Pualionoliha

South - Pahau of Noliha

West - Wailua River

Clt had his land from Debora in the days of Kaumualihi and has had possession ever

since. This claim has no opposition. Puamana sworn verifies the testimony of last witness.

No. 3552 Kaula

Claim Letter

N.R. 53v9

I, Nakaula, a subject of the Hawaiian Islands living at Wailua on the Island of Kauai hereby state to you, the Land Commissioners, my own claim. Its width is 28 fathoms, its length is

67 fathoms. My house lot is 58 fathoms in length and 10 fathoms in width. That is my claim.
I am, respectfully,
January 13, 1848
Witness: Oliva

KAULA

No. 3552 Nakaula Clmt

F.T. 72v13

He died in 1849 and his land has been returned to the konohiki

No. 3553 Kekalo Wailua, January 13, 1848
Claim Letter

N.R. 53v9

I, Kekalo, a Hawaiian subject, living at Wailua on the Island of Kauai, hereby state to you, the Land Commissioners, my own claim. It is 70 fathoms long by 7 fathoms wide. My house lot is 50 fathoms long and 30 fathoms wide. This is my claim. Respectfully
Witness: Oliva C.
KEKALO

No. 3553 Kikalo Clmt

F.T. 73v13

This man has forsaken his land and left the place and the land is restored to the konohiki.

No. 3555 Kiaipali Wailua, Kauai, January 11, 1848

N.R. 54v9

I, Kiaipali, a Hawaiian subject living at Wailua on the Island of Kauai hereby state to you, the Land Commissioners, my own claim for some lots and the house lot. The length is 59 fathoms, and the width is 39 fathoms. The length of my house lot is 41 and the width is 30 fathoms. That is my own claim. I am, respectfully,
Witness: Debora

No. 3555 Kiaipali Clmt

F.T. 74-75v13

Kaniwi sworn says I know the land of Clmt. It is in the Ahupuaa of Wailua, in the ili of "Naliha" and consists of ten lots also a house lot in the ili of Mele Lakoa

No. 1 is bounded

North by Mohalo's lots
East - Muliwai of Wailua
South - ili of "Kealakiole"
West - Pali of Ahuauili

No. 2 is bounded

North by kula of Melehakoa
East - Wailua River
South - House lot of Kulelii
West - kula of Melehakoa

Clmt recd his lands a few months since from the Konohiki, Kaumuali'i, land which he had recd from Debora in the days of Kaikioewa.
This is no opposition to this claim. Puhuai sworn says land at Kumaina(?) at Wailua and the testimony of Kaniwi is true.

No. 3556 Kekua Wailua, Kauai, January 11, 1848

N.R. 54v9

I, Kekua, a Hawaiian subject living at Wailua on the Island of Kauai hereby state to you, the Land Commissioners, my own claim. It is 74 fathoms in length and 35 fathoms in width. That is my claim. I am, respectfully,
Witness: Oliva Chapin

KEKOA

No. 3556 Kekua Clmt

F.T. 77-78v13

Kawakahi sworn says I know the land of Clmt. It is in Wailua, in the ili of Kapalai, it is bounded

North, by Ohia's loi
East - Auwai of Wailua
South - Makaiki loi
West - Nakai

Clmt had his lots from Debora, in the days of Kaikioewa, and he has occupied them ever since without opposition. Kaailuwale sworn & verifies the testimony of last witness.

No. 3557 Kaniwi Wailua, Kauai, January 10, 1848

N.R. 55v9

I, Kaniwi, a Hawaiian subject living at Wailua on the Island of Kauai hereby state to you, the Land Commissioners, my land claim and house lot claim. The length is 165 fathoms and the width is 65 fathoms. The length is 22 fathoms and the width is 22 fathoms of the house lot? Those are my own claims. I am, respectfully,
Witness: Oliva Chapin

KANIWI

No. 3557 Kaniwi Clmt

F.T. 71v13

Debora Kapule sworn says I know the land of Clmt. It lies in the Ahupuaa of Wailua and in the ili of Lanipaa.

No. 1 is about fourteen lots in the ili of Lanipaa

- 2 - House lot Hahakoa when he resides

No. 1 is bounded

North by Auwai of "Lanipaa"
East - Kokipau's lots
South - Muliwai of Moailo
West - "

No. 2 is bounded

North by Kula of Kahakoa
East -
South - foot path
West - Wailua river

Clmt had his land from (Debora) witness in the days of Kaahumanu. There is no opposition to this claim. Lupe sworn says he knows the land of Clmt. Has heard the testimony of last witness, it is true.

No. 3559 D. Kapule Wailua, Kauai, January 11, 1848 N.R. 55-56v9

I, Debora Kapule, a Hawaiian woman living at Wailua on the Island of Kauai hereby state to you, the Land Commissioners, my own claim, from the time of the war. After the war, the land was given to the chiefs, and Kaahumanu I gave me this land of Wailua, saying to me that I was to be the Haku 'Aina and that the revenue from it was mine. When Kaahumanu I died the land passed to Kaahumanu II and I continued in occupancy. When Kaahumanu II died the land passed to Kaahumanu III - then my occupancy changed. I did not receive certain revenues of the land and what I did receive, from my animals on the land was paid for by the head in Government /taxes/, and I had to cultivate with my own woman's hands for my sustenance, not by means of the po'alima. This is my explanation to you, the Land Commissioners, for your consideration of my true rights, which are for my benefit. And you, Kaauwai and Namauu, know what is my right and what is not; however, when the land was spoken of, they did not hear the words of Kaahumanu I in settling the land /upon me/. That is my explanation to you. I am, respectfully,
DEBORA K. KAPULE

Witness: Oliwa Chapin

See also No. 3111

No. 3560 Kauakahi N.R. 56v9

I, Kauakahi, a Hawaiian subject living at Waipouli on the Island of Kauai hereby state to you, the Land Commissioners that the length of my land is 150 fathoms and the width is 57 fathoms. This is my own claim, of occupancy of this land. I am, respectfully,

KAUAKAHI

Witness: Oliwa Chapin

No. 3560 Kauakahi Clmt F.T. 92v13

Mealihikama sworn, says I know the land of Clmt. It is in Waipouli and in the ili of Pua. It lies in two pieces.

No. 1 is three lo'is & adjoining kula which is not cultivated in the ili of Pua.

No. 2 is Clts House lot in the village of Puuiki

No. 1 is bounded
W. by Auwai of Waipouli

N. " " Kaohu

E. " Waipouli river

S. " Auwai of Waipouli

No. 2 is bounded

W. by River of Waipouli

N. " Fish Pond called Kapokea(?)

E. " Kula of Waipouli

S. " River of "

Clmt had his Land from Kauhaina in the days of Kaahumanu and he has occupied it

in peace ever since. Haluili sworn declares that the testimony of Kauaiwi is all true.

No. 3561 Iosia Kaumualii Wailua, January 8, 1848 N.R. 56-57v9

I, I. Kaumualii, a Hawaiian subject living at Wailua on the Island of Kauai hereby state to you, the Land Commissioners, my claim. My claim which I occupy at Wailua is from

the grave of my Makuaikang to the lo'i which I cultivate -- which is Kolulo. The length of this place is 269 and the width is 175. Within there are my house lot and the po'alima. That is my own claim which I occupy, and the name of my Makuaikang is over Wailua /probably referring to Debora Kapule's having been the Haku 'Aina of Wailua?/. I am, respectfully,
IOSIA KAUMUALII

Witness: Oliwa Chapin

No. 3561 Josia Kaumualii Clmt F.T. 87v13

Naakaakai sworn says I know the land of Clt. It all lies in Wailua and consists of two pieces. No. 1 is the ili Papalalai which consists of about 12 lo'is and adjoining kula, on which is Clt's dwelling houses. No. 2 consists of 8 or ten lo'is witness is not position as to the number, there is also a small kula adjoining.

Boundaries

No. 1 W. Pond called "Kaluapulu"

N. " Pali of Papalalai

E. " "

S. Stone Fence separating it from the village of Wailua

No. 2 W. Pali of Onoliha

N. " Stream of Wauaiiki(?)

E. " "

S. Pali of Ohuauhi

Clmt had his land from Debora in the days of Kaahumanu & his claim is not disputed. Kaiapa sworn & verified the testimony of Naakaakai.

No. 3567 Kaiapa N.R. 59v9

I, Kaiapa Kaonohiohio, a Hawaiian subject living at Wailua on the Island of Kauai hereby state to you the number and the dimensions and the length of my occupancy on a parcel of land /with/ some lo'is at Wailua. Its length is 159 fathoms, its width is 50 fathoms. My house lot is 60 fathoms long by 60 wide. This is my entire claim. I am, respectfully,
KAIAPA KAONOHIOHIO

Witness: Oliwa Chapin

No. 3567 Kaiapa, Clmt F.T. 80-81v13

Lupe sworn, says I know the land of Clmt. It lies in the ahupuaa of Wailua, and consists of two pieces

No. 1 is bounded

North by Auwai of Kanaele

East " Pahau of Hapuupuu

South " Auwai of Lanipaa

West " Kino's lo'is called Lauki

No. 2 is bounded

North by Kula.

East " Pali

South " house lot of Alika

West " Road leading inland.

Clmt had his land from Debora, in the days of Kaikioewa, and he has occupied it ever since without opposition. Kulelei sworn, says the testimony of last witness is true.

No. 3568 Kelani Wailua, Kauai, January 11, 1846 N.R. 59v9
Claim Letter I, Kelani, a Hawaiian subject living at Wailua on the island of Kauai, hereby state to you, the Land Commissioners, my own claim. It is 52 fathoms in length and 49 fathoms wide, and my house lot is 87 fathoms in length and 48 fathoms wide. That is my own claim. I am, respectfully,
Witness: Oliwa Chapin
KELANI

No. 3568 Kelani Clmt F.T. 73v13

Kaniwi sworn says I know the land of Clmt. It lies in the Ahupuaa of Wailua, consists of two pieces

No. 1 is five lo'i in the ili of "Waioo"
- 2 - House lot in the ili of Kaiuki, on the sea shore

No. 1 is bounded
North by Loko called Papuhi
East - Auwai of Wailua
South - Kahikine's lo'i
West - ili of "Maulilo"
No. 2 is bounded
North by kula of village of Wailua
East -
South - pond called "Kaiwika"
West - Halekula.

Clmt had his land from his father in law Haupu, who had it from Debora. Clmt had occupied the land ever since the time of Kaikeoewa.
After a long investigation Clmt abandoned his claim. No one lo'i disputed. Lupe sworn I have heard the testimony of Kaniwi & it is true.

No. 3569 Kupalu N.R. 60v9

Claim Letter. I, Kupalu, a Hawaiian woman living at Wailua on the island of Kauai hereby state to you, the Land Commissioners, my own claim. It is 59 in length, and the width is 229 fathoms. That is my claim. I am, respectfully,
Witness: Oliwa C KUPALU

No. 3569 Kupalu Clmt F.T. 71-72v13

Kaniwi sworn says I know the land of Clmt. It lies in the Ahupuaa of Wailua and consist of two pieces

No. 1 is three lo'i in the ili of Paki
- 2 - House lot in - "Pohoula"

No. 1 is bounded
North by auwai of Wailua
East - Mokuula's lo'i
South - Stone fence
West - lo'i called "Malimo"

No. 2 is bounded
North by Pali of Puuki
East - Kula of Pahoula
South - Wailua River
West - Loko of Pohoula
The land was given to Kaniwi by Debora in the time of Kaumuali'i, and at his death the land continued in the possession of his wife, the present Clmt. The claim is not disputed.
Lupe sworn and verifies the testimony of Kaniwi.

No. 3756 Amaia Clmt F.T. 73v13

This man hung himself about two years ago and the land has been returned to the konohiki.

No. 3759 Alike, Clmt F.T. 77v13

Kaniwi, sworn says I know the land of Clmt. It lies in the Ahupuaa of Wailua.

No. 1 is four lo'i in ili of Alalike, "Ohaiki"
- 2 - House lot in village of Kauakahiunu, fenced with a stone made(?)

No. 1 is bounded

North by auwai of Kamani
East - Wahapuu's loko
South - Popa's loi
West - Paai's "

No. 2 is bounded
North by House lot of Kaiapa
East - Wailua River

South by kula of Kanakahinui
West -

Clmt had his land from Debora, in the days of Kaikeoewa. The claim is not disputed.
Kaaluwale sworn I have heard the testimony of Kaniwi, and it is true.

No. 3909 I. Nahinu Wailua, January 10, 1848 N.R. 94v9

I, I. Nahinu, a Hawaiian woman living at Wailua on the Island of Kauai, hereby state to you, the Land Commissioners, my own claim for four mo'o and all of Pelehuna. I have occupied this land from 1829 until the present. I am, respectfully,
Witness: Oliwa Chapin
IULIANA NAHINU

No. 3909 Juwana Nahinu, Clmt F.T. 75v13

Debora sworn says I know the land of Clmt. It lies in the Ahupuaa of Wailua.

No. 1 is four mo'o's two of which are under cultivation.

- 2 - a Lihi called "Pelehuna" on which are three orange trees.

No. 1 is bounded

North by land of Konohiki called Waiopua
East - ili of "Halilauhau"
South - "Kanalau"
West - Muliwai of Kawai iki

No. 2 is bounded

North by Pali "Pelehuna"
East " a foot path leading to the mountains
South " Kahawai of Palohuna
West " Pali of "Kakino"

The Clmt had this land from Debora in the days of Kaahumanu and has had peaceable possession of it ever since. Wahae(?) knows of no opposition to this claim. Lanikaula sworn I am an old resident here & I know Claimant's land. I have heard the testimony of Debora. It is true.

No. 4146 Kalu

N.R. 100-9

I, Kalu, a subject of Hawaii living at Wailua on the Island of Kauai hereby states to you, the Land Commissioners, my claim for land and the size of my house lot. 5 chains is the length, 2 chains 2 fathoms is the width. The long sides are the same, the wide sides are not. 1 chain is one side, and 3 fathoms is the other. My house lot claim is 6 chains and 7 fathoms, the width is 5 chains. It is a rectangle.

Witness: Nahuilele

KALU

No. 4146 Kalu, Clmt

F.T. 81-82v13

Nahuilele, sworn, says I know the land of Clmt. It is in Wailua, and consists of two pieces.

No. 1 is two lots in the ili of "Kamahuokukui" and kula
" 2 " a House lot in the ili of "Kaulupalau"

No. 1 is bounded

North by Puali's loi
East " Pali Naalealea
South " Auwai loi
West " Alike's loi, called "Ohalehe"

No. 2 is bounded

North by house lot of Kamakaha
East " Wailua River
South " Debora's loi, called Hehei
West " Kula, Kauihalau.

Clmt had this land from Debora while Kekaunohi was Kaaia. There is no opposition to the claim. Kaniwi sworn and verifies the testimony of Nahuilele.

Appendix B

State Historic Preservation Division Letter

August 19, 2003

LINDA LINGLE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

HISTORIC PRESERVATION DIVISION
KAKUHIHEWA BUILDING, ROOM 555
601 KAMOKILA BOULEVARD
KAPOLEI, HAWAII 96707

PETER T. YOUNG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

DAN DAVIDSON
DEPUTY DIRECTOR - LAND

ERNEST Y.W. LAU
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

August 19, 2003

Ms. Michelle Elmore
Archaeological Consultants of the Pacific, Inc.
59-624 Pupukea Road
Haleiwa, Hawaii 96712

LOG NO: 2003.1547
DOC NO: 0308NM08

Dear Ms. Elmore:

**SUBJECT: Chapter 6E-42- Historic Preservation Review – An Archaeological
Inventory Survey Report for Exploratory Wells Located in
Wailua, Lihue, Kauai, (TMK: 3-9-02: 1 and 14)**

Thank you for submitting the archaeological monitoring report (Elmore and Kennedy, 2003, *An Archaeological Inventory Survey Report for the Pu'u A'ahoaka Exploratory Well Located in Wailua Ahupua'a, Lihue District, Island of Kaua'i, ACP, ms.*). We received the report on August 6, 2003.

The background section of the report has adequately reviewed ahupua'a settlement patterns and developed a model of likely project area site patterns. The Mahele information for this area was particularly interesting.

We believe that the survey adequately covered the project area, which is former sugarcane cropland. No historic sites were found in the survey.

We concur that no further archaeological work is necessary in the project area. Your report meets with our approval.

If you have any questions, please call Nancy McMahon, our Kaua'i archaeologist, at 742-7033.

Aloha,

A handwritten signature in cursive script that reads "P. Holly McEldowney".

P. HOLLY McELDOWNEY, Acting Administrator
State Historic Preservation Division

c. Dennis Imada, DLNR Engineering
Earl Matsukawa, Wilson Okamoto Corp. 1907 South Beretania St, Suite 400, Honolulu, HI 96826

NM:ak

Appendix C

Cultural Interviews

6645-01
August 26, 2003

WILSON
OKAMOTO
CORPORATION



ENGINEERS
PLANNERS
1075 BERKELEY STREET
HONOLULU HAWAII 96813
PH (808) 946-2277
FAX (808) 946-2283

CONTACT MEETING INFORMATION MEMO

SUBJECT: Lihue-Hanama'ulu (Pu'u 'A'ohoaka) Exploratory Well,
Wailua, Kauai, Hawaii
Cultural Review

PERSONS PRESENT: Ms. Kehau Kekua, Cultural Practitioner
Ms. Manissa Furfaro, Planner, Wilson Okamoto Corporation

MEETING DATE: Monday, August 25, 2003

MEETING LOCATION: Kauai Heritage Center of Hawaiian Culture & Arts

INFORMATION ITEMS:

Kehau Kekua has been at the Kauai Heritage Center of Hawaiian Culture & Arts for five (5) years. In the past, she worked with Pua and Ed Kanahale in writing the Cultural Impact Assessment (CIA) for the Lihue Airport Runway Extension project. She is a hula practitioner who is very familiar with the Wailua area, as she studies it and frequents it for hula.

Ms. Kekua provided that the Wailua area is very important. The area is referred to as Kaipuha'a in the well-known chant *Kunihi Ka Mauna*:

*Kunihi ka mauna i ka lani e
'O Wailue a'e ia i Wailua
Huki a'e ia i ka lani
Ka papa 'unwai' o Kawakani
Aloi'ia a'e ia e Nounou
Nalo Kaipuha'a
Ka laula ma uka o Kapa'a e
Mai pa'a i ka leo
He'ole ka hea mai e.*

*The mountain stands tall in the calm
Mount Wailue'ale in Wailua
Putting toward the heavens
The Kawakani ditch
Is obstructed by Nounou
Kaipuha'a is hidden
As well as the expanse above Kapa'a
Do not suppress your voice
There is no answer to my request.*

This chant is often used to request permission to enter into a hālau (school). Ms. Kekua expressed that this chant is most often associated with hula and one of the most significant chants in hula practice. *Kunihi Ka Mauna* was initially chanted by Hii'aka to Wailuanuiho'ano for permission to land in Wailua, Kauai. In the chant, Hii'aka honors the features of the land. Ms. Kekua explained that in the chant Kaipuha'a is the poetic reference for the entire basin where Pu'u 'A'ohoaka lies. Ms. Kekua described the basin as one big 'umeke (calabash); the mountains serving as the walls, with Pu'u 'A'ohoaka sitting right in the middle.

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Information Contact Meeting Memo
Page 2
August 26, 2003

Ms. Kekua described 'A'ohoaka as one of three main signal fire sites in the Wailua area that would serve to guide to fisherman safely back into Wailua as well as a significant ko'a marker for fisherman. A ko'a is a fishing shrine as well as fishing grounds that are identified by lining up with marks on the shore. The other two signal fire spots were at Kukui Heiau and Hikinaakala Heiau. Of the three signal fire sites, Ms. Kekua feels that 'A'ohoaka is the most important because it is the most visible throughout the Wailua area. 'A'ohoaka is visible from the homesteads, from Wailua Falls, from 'Opaeka'a falls, from up mauka and from the ocean. When down on the beach or in the ocean, 'A'ohoaka is visible between the ridges of Kalepa and Nounou.

Another chant identifying 'A'ohoaka is found in the book *Kamehameha And His Warrior Kekūhaupio*. The chant is entitled "*Hikikau'e'ia Ka Malama*" and is a prophesizing chant written by Kekūhaupio for Kamehameha's victory over the islands of Hawaii. A portion of the chant follows:

*Hikau'e'ia ka malama
Hiki Mokalii, Kālelo ka bōkō 'o Iana,
Ia hiki pawa moku i ke kai.
Aka'e ia ka i'ena a ka manu,
He hwa kō'u moku ke lani,
He ka 'upu lele moku ke ali,
He moku ke kō nei iā i laila
E le'e malane me he manu a'e
'O Keōhewa na iā he 'ōna.
Ho'ōka'e i muli hope
Waihia ike kua o ka moku
'O kona moku ua iō i ke au kāna'i
Ua iō kō kōna Lehua iā Kalani.
Ke Ta'e nei e ki māua e 'āi.
Ike 'āne'e 'āu o ka wai make ua i Hā'ena iā,
'O ka 'ōpū maka pō'o o Hanakāpāi,
I Kālelo, i Kālelo iā,
Kālelo 'āu, ka ualo pu'u makani
No 'A'ohoaka
'O ua wahine Kō'iauiā,
E kō nei i Kālamāiki,
Ike lūne o 'A'ohoaka
I ke pō'o o Wai'e'ale,
Ua ho'ōhā mālie Puna,
Ke nō nei ka ipō wahine,
Aloha wai'e ka maka o ka hōa,
E lawe nei e ka makani,
Hālele i'io ke Kō'ōlu,
Aloha wai'e ka maka o ka hōa,
A 'ō pau ka hie aloha.*

*Hikau'e'ia is the month,
The stars of Mokalii, Kālelo and Iana rise
Rise above the sky lines cut by the sea
The soaring of the bird is distinctly seen,
The hwa bird that poses over the island of the chief,
A ka 'upu bird flying over the land is the chief,
An island that stands there
Poised for flight like a bird
That is Keōhewa, a land standing behind,
Remaining in the rear
Clear is its back of all growth
An island standing in the calm sea,
He brave warrior taken by the chief
He tells me to fetch that we both may eat
The big mullet that swim in the swells of Hā'ena,
And the stunted 'ōpū fish of Hanakāpāi,
At Kālelo, at Kālelo,
At Kālelo, where the wind rears about the hills
For 'A'ohoaka
That Kō'ōlu woman,
Watches over Kālamāiki,
Over the heights of 'A'ohoaka,
And the summit of Wai'e'ale,
That brings clear weather to Puna,
The women sweetheart moans,
In yearning to see the face of the companion,
It is borne away in the wind,
And deserts the Kō'ōlu,
Beloved face of the companion,
When love is not entirely gone.*

Ms. Kekua stressed that 'A'ahoaka definitely had an important place in Hawaiian society because the integrity of the hill is preserved in more than one *oii* (chant). She feels the value of 'A'ahoaka is evidenced in the above chant, through its rich description of the land in Wailua.

Ms. Kekua defines the name 'A'ahoaka in two parts. First, 'a'a as the glowing from a fire, the bright light from the fire. Hoaka has various meanings; it is a phase of the moon; it is the shape of pig tusks that warriors wear; it is the arch over the door of a house; and it is the open shape of a maile lei. Ms. Kekua finds the definition of the pig tusks that warriors wear to be significant because of the *mo'oielo* (story) that describes 'A'ahoaka as a warrior (Ka Nōpepa Ku'oko'a, 1876-1877). Hoaka being a phase of the moon could also suggest that perhaps certain fires were lit during certain phases of the moon. Ms. Kekua feels that the definition of the place name reconfirms the area's main function in ancient times as one that helped fishermen navigate back to Wailua with signal fires.

When asked how the subject project would affect the cultural significance of the site, Ms. Kekua responded by saying that she has no problem with the subject project as long as it is on a low impact scale and the necessary processes are followed. Ms. Kekua feels that there will be no changes to the cultural significance of the area as long as the project does not entail building a large structure on top of the hill (i.e. a water storage tank). Ms. Kekua believes that the project is small enough and located at a low enough elevation so as not to disturb the integrity of the hill. Ms. Kekua also agreed that the probability of finding archaeological sites in the project location is low and that there are not any plants that are worth gathering for cultural purposes on the hill.

Action Items:

1. Obtain a copy of Erik Kalani Flores' report on Malaeha'akoa Heiau that was conducted for the State of Hawaii, Department of Land and Natural Resources, State Parks Division. Ms. Kekua notes that this report will have an extensive background on the cultural history of the Wailua area.

Submitted by: Marissa Furfaro, Planner

cc: Kehau Kekua, Cultural Practitioner

6645-01
August 22, 2003

WILSON
OKAMOTO
CORPORATION



TELEPHONE MEMO

SUBJECT: Lihue-Hanamā'ulu (Pu'u 'A'ahoaka) Exploratory Well
Wailua, Kaua'i, Hawaii
Cultural Review

PERSON CONTACTED: Mr. John 'Bull' Contrades, Taro Farmer

CONTACT DATE: Friday, August 22, 2003

INFORMATION ITEMS:

Mr. Contrades farms taro in the Wailua area. When asked how he felt about the subject project, Mr. Contrades expressed that he had no problem with drilling for water. He noted that in the past there was discussion of taking surface water from the Wailua River. He is not in favor of using surface water because farmers depend on this water to irrigate their 'ō'i.

When asked if he knew of anyone who may have used the area for cultural practices he could not think of anyone nor would he refer me to anyone that may have such knowledge. Mr. Contrades feels that there is no conflict with cultural practices in the area because there is nothing to gather at Pu'u 'A'ahoaka. He noted that when the sugar plantation occupied the area, the only people he knew of that used the area were hunters.

Submitted by: Marissa Furfaro, Planner

cc: Mr. John Contrades

Appendix D

Archived Newspaper Articles

He Mo'olelo No 'A'ahoaka

December 30, 1876 to March 3, 1877

HE MOOLELO

- NO -

AAHOAKA KE KOA

- A ME -

KONA HANAU KUPANAHA ANA

HE MOOLELO KAHIKO NO KAUAI

Ka Nupepa Kuokoa

12/30/1876 - 3/03/1877

Ho'ākoakoa 'ia e Laiana Wong
1990?

This effort was conducted under the
"Hawaiian Language Project",
supervised by Larry Kimura

and funded by

FIPSE, Fund for the Improvement of Post Secondary
Education

Title page provided by
Hawaiian Collection, Hamilton Library

HAHOAKA KE KOA

KOMAMAHAKUPANAHANA

HE MOOLELO KIHIO KO KAUU

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Maia iho i ka... (Introductory text for the first article)

NA KAUPAPA O 1876.

Parau 20. Ma ka... (First paragraph of the article)

Parau 21. Ma ka... (Second paragraph of the article)

Parau 22. Ma ka... (Third paragraph of the article)

Parau 23. Ma ka... (Fourth paragraph of the article)

Parau 24. Ma ka... (Fifth paragraph of the article)

Parau 25. Ma ka... (Sixth paragraph of the article)

Parau 26. Ma ka... (Seventh paragraph of the article)

Parau 27. Ma ka... (Eighth paragraph of the article)

Parau 28. Ma ka... (Ninth paragraph of the article)

Parau 29. Ma ka... (Tenth paragraph of the article)

Parau 30. Ma ka... (Eleventh paragraph of the article)

Parau 31. Ma ka... (Twelfth paragraph of the article)

Parau 32. Ma ka... (Thirteenth paragraph of the article)

Parau 33. Ma ka... (Fourteenth paragraph of the article)

Parau 34. Ma ka... (Fifteenth paragraph of the article)

Parau 35. Ma ka... (Sixteenth paragraph of the article)

Parau 36. Ma ka... (Seventeenth paragraph of the article)

Parau 37. Ma ka... (Eighteenth paragraph of the article)

Parau 38. Ma ka... (Nineteenth paragraph of the article)

Parau 39. Ma ka... (Twentieth paragraph of the article)

Parau 40. Ma ka... (Twenty-first paragraph of the article)

Parau 41. Ma ka... (Twenty-second paragraph of the article)

Parau 42. Ma ka... (Twenty-third paragraph of the article)

Maia iho i ka... (Introductory text for the second article)

NA KAUPAPA O 1876.

Parau 43. Ma ka... (First paragraph of the second article)

Parau 44. Ma ka... (Second paragraph of the second article)

Parau 45. Ma ka... (Third paragraph of the second article)

Parau 46. Ma ka... (Fourth paragraph of the second article)

Parau 47. Ma ka... (Fifth paragraph of the second article)

Parau 48. Ma ka... (Sixth paragraph of the second article)

Parau 49. Ma ka... (Seventh paragraph of the second article)

Parau 50. Ma ka... (Eighth paragraph of the second article)

Parau 51. Ma ka... (Ninth paragraph of the second article)

Parau 52. Ma ka... (Tenth paragraph of the second article)

Parau 53. Ma ka... (Eleventh paragraph of the second article)

Parau 54. Ma ka... (Twelfth paragraph of the second article)

Parau 55. Ma ka... (Thirteenth paragraph of the second article)

Parau 56. Ma ka... (Fourteenth paragraph of the second article)

Parau 57. Ma ka... (Fifteenth paragraph of the second article)

Parau 58. Ma ka... (Sixteenth paragraph of the second article)

Parau 59. Ma ka... (Seventeenth paragraph of the second article)

Parau 60. Ma ka... (Eighteenth paragraph of the second article)

Parau 61. Ma ka... (Nineteenth paragraph of the second article)

Parau 62. Ma ka... (Twentieth paragraph of the second article)

Parau 63. Ma ka... (Twenty-first paragraph of the second article)

Parau 64. Ma ka... (Twenty-second paragraph of the second article)

Parau 65. Ma ka... (Twenty-third paragraph of the second article)

HONOLULU, POAONO, JANUARI 27, 1877.

HELU 4.

PAI HELU MOOLUO

AAHOAKA KE KOA

KONA WAKAUKUPANAMAAMA

HE NUILOO KAHKO NO KAULI

Main body of the newspaper containing multiple columns of text, including news reports and local announcements.

Bottom section of the newspaper page, containing additional text and possibly a continuation of the main article.

Na K

Right-hand column of text, likely a continuation of the main article or a separate section.

Right-hand column of text, continuing the content from the main body of the page.

Bottom right section of the newspaper page, containing final text or a closing notice.

HONOLULU, POAONO, JANUARI 27, 1877. NA BE

... i ka hiki i ka wai, e hiki i ka wai, e hiki i ka wai... (Main body of the Hawaiian text, appearing as bleed-through from the reverse side of the page)

NA KAWAHI 1876.

... i ka hiki i ka wai, e hiki i ka wai, e hiki i ka wai... (Main body of the Hawaiian text, appearing as bleed-through from the reverse side of the page)

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... HONOLULU, POAONO, FEBRUARI 3, 1878 ...

HELU 3. HEBI MOOLIBILO. AAOHAKA KE KOA. KONA WAKUKUPANAHANA. HE MODOLO KAHRO HO KAULU. ...

... RECEIVED AS FOLLOWS ...

IONOULU, POAONO, MAREKI 3. 1871. NA HEI

HE MOOLELO AANAKA KE KOA

KONA HANAUPANAHANA HE MOOLELO KAHWO HO KAUU

Ua ika, o pua no a pes pua... I ka pua no a pes pua... I ka pua no a pes pua...

Ua ika, o pua no a pes pua... I ka pua no a pes pua... I ka pua no a pes pua...

Ua ika, o pua no a pes pua... I ka pua no a pes pua... I ka pua no a pes pua...

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Ua ika, o pua no a pes pua... I ka pua no a pes pua... I ka pua no a pes pua...

Ua ika, o pua no a pes pua... I ka pua no a pes pua... I ka pua no a pes pua...

Appendix E

**Pre-Assessment Consultation
Comment and Response Letters**



DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT HONOLULU
FT. SHAFTER HAWAII 96858-5440

SENT TO
ATTENTION OF

July 28, 2003

Regulatory Branch

Mr. Earl Matsukawa
Wilson Okamoto Corporation
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96817

Dear Mr. Matsukawa:

This responds to your request for review of the Environmental Assessment (EA) Pre-Assessment Consultation notice for the proposed Lihue-Hanamau Exploratory Well at Lihue, Kauai, Hawaii (TMK 3-9-02: 01). We have reviewed the document with respect to the Corps' authority to issue Department of the Army (DA) permits under Section 10 of the Rivers and Harbors Act of 1899 (33 USC 403) and Section 404 of the Clean Water Act (33 USC 1344).

The information accompanying your letter is not sufficient for us to make a determination of DA permit requirements. Your project description and site plan indicate that the proposed work would include construction of an access road as well as development of the drilling site itself. It appears the proposed road work would involve at least one crossing of an unnamed tributary of the North Fork of the Wailua River which is shown on the 1983 USGS map (Kapaau quadrangle, 1:24,000). The EA should describe the project relative to this tributary and any other water bodies which may be present, including wetlands; we can provide a determination of DA permit requirements when we receive this information.

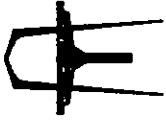
File No. 200300523 has been assigned to this project. Should you have questions concerning this response, please contact Mr. Peter Galloway of my staff by telephone at (808) 438-8416 or by fax at (808) 438-4060. Mailed inquiries concerning this project should be sent to: Regulatory Branch (CEPOH-EC-R/P, Galloway); U.S. Army Engineer District, Honolulu; Building 220, Fort Shafter, Hawaii 96858-5440. Please note that, due to a change of command, correspondence directed to the District Engineer should now be sent to: LTC David C. Press, District Engineer, U.S. Army Engineer District, Honolulu; Building 230; Fort Shafter, Hawaii 96858-5440.

Sincerely,

George P. Young, P.E.
Chief, Regulatory Branch

6645-01
September 22, 2003

**WILSON
OKAMOTO
CORPORATION**



**ENGINEERS
PLANNERS**

1907 S. BERETANIA ST
SUITE 400
HONOLULU, HI 96826
PH: (808) 946-2277
FAX: (808) 946-2253

Mr. George P. Young, P.E., Chief
Regulatory Branch
(CEPOH-EC-R/P. Galloway)
U.S. Army Engineer District, Honolulu
Building 230
Ft. Shafter, Hawaii 96858-5440

Subject: Environmental Assessment (EA) Pre-Assessment Consultation
Lhu'e-Hanama'ulu (Pu'u 'A'ahoaka) Exploratory Well
Wailua, Kaua'i, Hawaii
TMK 3-9-02:01

Dear Mr. Young:

Thank you for your letter of July 28, 2003 (File No. 200300523) received during the subject Environmental Assessment (EA) Pre-Assessment Consultation. We appreciate the information regarding regulatory considerations for the unnamed tributary of the Wailua River, which appears to traverse the project site on the 1996 USGS map. The map shows the unnamed tributary running just south of Pu'u 'A'ahoaka. Upon further investigation, we have determined that the feature was not a stream and no longer exists. According to Mr. Lesley P. Milnes, lessee of the property, the feature on the map depicts the old 'A'ahoaka irrigation ditch, which has since been abandoned and filled. The only water body that will be traversed to access the project site is the South Fork of the Wailua River, which has an existing bridge that allows for crossing.

We appreciate your interest and participation in the consultation phase of the environmental review process. Your letter will be included in the forthcoming Draft EA. Should you have any questions, please call Ms. Marissa Furfaro or myself at 946-2277.

Sincerely,

Earl Matsukawa, AICP, Project Manager

cc: Dennis Imada, Department of Land and Natural Resources,
Engineering Division





United States Department of the Interior

U.S. GEOLOGICAL SURVEY
WATER RESOURCES
677 Ala Moana Blvd., Suite 415
Honolulu, HI 96813
Phone: (808) 587-2400/Fax: (808) 587-2401

August 4, 2003

Mr. Earl Matsukawa
Wilson Okamoto Corporation
1907 South Beretania St. Suite 400
Honolulu, HI 96826


Dear Mr. Matsukawa:

This letter is in response to your request for comments on the proposed project to construct an exploratory well in the Lihue-Hanamaulu area of Kauai, Hawaii. The proposed well site is near the Ahoaka Hill monitor well (2-0222-01) which the U.S. Geological Survey (USGS) drilled in 1998. Enclosed a copy of the well-completion report we submitted to the State Water Commission. The well-completion report contains aquifer-test (i.e. pump-test) data as well as details about the well construction that may be of interest to you.

The aquifer-test data show that draw downs in the Ahoaka Hill monitor well were high even at very low pumping rates. In one test, after 1515 minutes (25.25 hours) of pumping at only 20 to 21 gallons per minute, the draw down was 37.71 feet, and did not show any sign that it would stabilize soon (the test had to be terminated prematurely because the pump became clogged with debris from the uncased borehole). Preliminary analysis indicates that the low yield of this well may be caused by dikes in the Waimea Canyon Basalt into which this well penetrated. The geologic map in Macdonald, et al. (1960, Geology and Groundwater Resources of Kauai, Hawaii, Hawaii Division of Hydrography bulletin 13) shows dikes in Ahoaka Hill.

Also enclosed are copies of recent USGS reports and a journal article that have information on the hydrogeology of the Lihue Basin that may be pertinent to your project. If you have any questions, please feel free to contact me (587-2405; gtribble@usgs.gov) or Scot Izuka (587-2415; skizuka@usgs.gov).

Gordon Tribble


Pacific Islands Director of
USGS Water Programs

Enclosures

cc. Mr. Dennis Imada, State of Hawaii, Department of Land and Natural Resources w/o enclosures

6645-01
September 22, 2003

**WILSON
OKAMOTO
CORPORATION**



**ENGINEERS
PLANNERS**

1907 S. BERETANIA ST.
SUITE 400
HONOLULU HI 96826
PH (808) 546-2777
FAX (808) 546-2253

Mr. Gordon Tribble, District Chief
U.S. Department of the Interior
U.S. Geological Survey
677 Ala Moana Boulevard, Suite 415
Honolulu, Hawaii 96813

Subject: Environmental Assessment (EA) Pre-Assessment Consultation
Lihue-Hanamaulu (Pu'u 'Ahoaka) Exploratory Well
Wailua, Kauai, Hawaii
TMK 3-9-02:01

Dear Mr. Tribble:

Thank you for your letter of August 4, 2003 received during the subject Environmental Assessment (EA) Pre-Assessment Consultation. We are aware of the 'Ahoaka Hill monitor well (2-0222-01) which the U.S. Geological Survey (USGS) drilled in 1998. During the site selection process for the exploratory well site, the project team reviewed the USGS report for this well and inspected the well site. The project hydrologist, Mr. Stephen P. Bowles, believes that the well was a poor producer because it appears to lie entirely within lavas of the Kōloa volcanic series. The drilling logs indicate a predominance of light minerals typical of the Kōloa volcanics. Mr. Bowles' experience is that the Waimea volcanic series produce a dominantly heavy olivine or green mineral. Therefore, Mr. Bowles believes the well, which was drilled into fresh (unweathered) rock, and which resulted in very low yield, did not enter a Waimea formation and that the drilling for the subject exploratory well will enter the formation directly. The site selected for the exploratory well overlies the Waimea series. The site was selected as having the greatest potential for high yield. Nevertheless, the well is exploratory in nature and should be considered as such.

We appreciate your interest and participation in the consultation phase of the environmental review process. Your letter will be included in the forthcoming Draft EA. Should you have any questions, please call Ms. Marissa Furfaro or myself at 946-2277.

Sincerely,

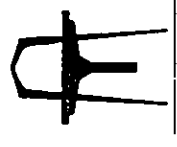


Earl Matsukawa, AICP, Project Manager

cc: Dennis Imada, Department of Land and Natural Resources,
Engineering Division

6645-01
September 22, 2003

**WILSON
OKAMOTO
CORPORATION**



**ENGINEERS
PLANNERS**
1907 S. BERETANIA ST.
SUITE 400
HONOLULU, HI 96826
PH: (808) 946-2277
FAX: (808) 946-2253

Ms. Genevieve Salmonson, Director
State of Hawai'i
Department of Health
Office of Environmental Quality Control
235 S. Beretania Street, Rm. 702
Honolulu, Hawai'i 96813

Subject: Environmental Assessment (EA) Pre-Assessment Consultation
Lihu'e-Hanama'ulu (Pu'u 'A'hoaka) Exploratory Well
Wailua, Kauai, Hawai'i
TMK 3-9-02:01

Dear Ms. Salmonson:

Thank you for your letter of August 11, 2003 received during the subject Environmental Assessment (EA) Pre-Assessment Consultation. We acknowledge that should the exploratory well demonstrate production capability, a second EA may be required to comply with all the information requirements. We also acknowledge that you will reserve further comment until the documents are submitted.

We appreciate your interest and participation in the consultation phase of the environmental review process. Your letter will be included in the forthcoming Draft EA. Should you have any questions, please call Ms. Marissa Furfaro or myself at 946-2277.

Sincerely,

Earl Matsukawa, AICP, Project Manager

cc: Dennis Imada, Department of Land and Natural Resources,
Engineering Division



STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL
1907 S. BERETANIA ST., SUITE 400
HONOLULU, HAWAII 96826
PHONE: (808) 946-2277
FAX: (808) 946-2253

COMMUNICATIONS
UNIT

RECEIVED
SEP 22 2003

August 11, 2003

Mr. Earl Matsukawa
Wilson Okamoto Corporation
1907 S. Beretania St. #400
Honolulu, HI 96826

Subject: Environmental Assessment Pre-Assessment Consultation
Lihu'e-Hanama'ulu Exploratory Well, Lihu'e, Kauai,
Hawaii, TMK 3-9-02:01

Dear Mr. Matsukawa

We have reviewed the information provided for the Lihu'e-Hanama'ulu Exploratory Well. Should the exploratory well yield positive results and demonstrate production capability, a second environmental assessment for the production well should be prepared to comply with all the information requirements.

We have no other comments to offer at this time, but will reserve further comments when the documents are submitted.

Should you have any questions, please feel free to call our office at 586-4185.

Sincerely,

Genevieve Salmonson
Director

CC: Dennis Imada - DLNR





STATE OF HAWAII
DEPARTMENT OF HEALTH
P O BOX 3378
HONOLULU, HAWAII 96801-3378

August 18, 2003

Mr. Earl Matsukawa, AICP
Project Manager
Wilson Okamoto Corporation
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

Dear Mr. Matsukawa:

Subject: Environmental Assessment (EA) Pre-Assessment Consultation
Lihue-Haunamaulu Exploratory Well
Lihue, Kauai, Hawaii
TNK: 3-9-02:01

The Department of Health, Clean Water Branch (CWB) has reviewed the subject document and offers the following comments:

1. The Army Corps of Engineers should be contacted at (808) 438-9238 to identify whether a Federal license or permit (including a Department of Army permit) is required for this project. Pursuant to Section 401(a)(1) of the Federal Water Pollution Act (commonly known as the "Clean Water Act"), a Section 401 Water Quality Certification is required for "[a]ny applicant for Federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may result in any discharge into the navigable waters...."
2. A National Pollutant Discharge Elimination System (NPDES) general permit coverage is required for the following activities:
 - a. Storm water associated with industrial activities, as defined in Title 40, Code of Federal Regulations, Sections 122.26(b)(14)(i) through 122.26(b)(14)(ix) and 122.26(b)(14)(xi).
 - b. Construction activities, including clearing, grading, and excavation, that result in the disturbance of equal to or greater than one (1) acre of total land area. The total land area includes a contiguous area where multiple separate and distinct construction activities may be taking place at different times on different schedules under a larger common plan of development or sale. An NPDES permit is required before the commencement of the construction activities.
 - c. Discharge of treated effluent from leaking underground storage tank remedial activities.
 - d. Discharge of once through cooling water less than one (1) million gallons per day;

Mr. Earl Matsukawa, AICP
August 18, 2003
Page 2

OSTERELL FUNG, MD
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH

060-43PKP-03

- e. Discharge of hydrotesting water.
- f. Discharge of construction dewatering effluent.
- g. Discharge of treated effluent from petroleum bulk stations and terminals.
- h. Discharge of treated effluent from well drilling activities.
- i. Discharges of treated effluent from recycled water distribution systems.
- j. Discharges of storm water from a small municipal separate storm sewer system.
- k. Discharge of circulation water from decorative ponds or tanks.

The CWB requires that a Notice of Intent (NOI) to be covered by a NPDES general permit for any of the above activities be submitted at least 30 days before the commencement of the respective activities. The NOI forms may be picked up at our office or downloaded from our website at <http://www.state.hi.us/doh/sh/cwb/forms/genl-index.html>.

3. The applicant may be required to apply for an individual NPDES permit if there is any type of activity in which wastewater is discharged from the project into State waters and/or coverage of the discharge(s) under the NPDES general permit(s) is not permissible (i.e. discharges into receiving waters within national or state parks or reserves). An application for the NPDES permit is to be submitted at least 180 days before the commencement of the respective activities. The NPDES application forms may also be picked up at our office or downloaded from our website at <http://www.state.hi.us/doh/sh/cwb/forms/indiv-index.html>.

4. Hawaii Administrative Rules, Section 11-55-38, also requires the owner to either submit a copy of the new NOI or NPDES permit application to the State Department of Land and Natural Resources, State Historic Preservation Division (SHPD) or demonstrate to the satisfaction of the DOH that the project, activity, or site covered by the NOI or application has been or is being reviewed by SHPD. Please submit a copy of the request for review by SHPD or SHPD's determination letter for the project.

If you have any questions, please contact the CWB at 586-4309.

Sincerely,

DENIS R. LAU, P. E., CHIEF
Clean Water Branch

KP:cu

c: Mr. Dennis Imada, Engineering Division, State Department of Land and Natural Resources

6645-01
September 22, 2003

**WILSON
OKAMOTO
CORPORATION**



**ENGINEERS
PLANNERS**

1907 S. BERETAN, 5^F
SUITE 450
HONOLULU, HI 96826
PH (808) 587-2277
FAX (808) 587-2253

Mr. Denis R. Lau, Chief
State Department of Health
Clean Water Branch
P.O. Box 3378
Honolulu, Hawaii 96801-3378

Subject: Environmental Assessment (EA) Pre-Assessment Consultation
Lihue-Hanamalu (Pu'u A'ohoaka) Exploratory Well
Wailua, Kauai, Hawaii
TMK 3-9-02:01

Dear Mr. Lau:

Thank you for your letter of August 18, 2003 (08043PKP.03) received during the subject Environmental Assessment (EA) Pre-Assessment Consultation. We offer the following responses in respective order of your comments:

1. The Army Corps of Engineers was included in the Pre-Assessment Consultation. Their letter dated July 28, 2003 is attached.
2. We appreciate the information you provided regarding the potential requirements for obtaining a National Pollutant Discharge Elimination System (NPDES) permit as well as for filing a Notice of Intent (NOI). The Draft EA will discuss the applicability of those requirements for the proposed project.
3. An archaeological inventory survey for the project has been prepared and submitted to the State Historic Preservation Division (SHPD). Attached is the state's determination for the archaeological inventory survey of the project site.

We appreciate your interest and participation in the consultation phase of the environmental review process. Your letter will be included in the forthcoming Draft EA. Should you have any questions, please call Ms. Marissa Furfaro or myself at 946-2277.

Sincerely,

Earl Matsukawa, AICP, Project Manager

cc: Dennis Imada, Department of Land and Natural Resources,
Engineering Division

Enclosures: U.S. Army Corps of Engineers comment letter
State Historic Preservation Division comment letter



United States Department of the Interior

U.S. GEOLOGICAL SURVEY
WATER RESOURCES
677 Ala Moana Blvd., Suite 415
Honolulu, HI 96813
Phone: (808) 587-2400/Fax: (808) 587-2401

August 4, 2003

Mr. Earl Matsukawa
Wilson Okamoto Corporation
1907 South Beretania St. Suite 400
Honolulu, HI 96826

Dear Mr. Matsukawa:

This letter is in response to your request for comments on the proposed project to construct an exploratory well in the Lihue-Hanamalu area of Kauai, Hawaii. The proposed well site is near the Ahoaka Hill monitor well (2-0222-01) which the U.S. Geological Survey (USGS) drilled in 1998. Enclosed a copy of the well-completion report we submitted to the State Water Commission. The well-completion report contains aquifer-test (i.e. pump-test) data as well as details about the well construction that may be of interest to you.

The aquifer-test data show that draw downs in the Ahoaka Hill monitor well were high even at very low pumping rates. In one test, after 1515 minutes (25.25 hours) of pumping at only 20 to 21 gallons per minute, the draw down was 37.71 feet, and did not show any sign that it would stabilize soon (the test had to be terminated prematurely because the pump became clogged with debris from the uncased borehole). Preliminary analysis indicates that the low yield of this well may be caused by dikes in the Waimea Canyon Basalt into which this well penetrated. The geologic map in Macdonald, et al. (1960, Geology and Groundwater Resources of Kauai, Hawaii, Hawaii Division of Hydrography bulletin 13) shows dikes in Ahoaka Hill.

Also enclosed are copies of recent USGS reports and a journal article that have information on the hydrogeology of the Lihue Basin that may be pertinent to your project. If you have any questions, please feel free to contact me (587-2405; grtribble@usgs.gov) or Scot Izuka (587-2415; skizuka@usgs.gov).

Gordon Tribble

Pacific Islands Director of
USGS Water Programs

Enclosures

cc. Mr. Dennis Imada, State of Hawaii, Department of Land and Natural Resources w/o enclosures

DEPARTMENT OF LAND AND NATURAL RESOURCES



PETEAL YOUNG
Commissioner
DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON THE STATE OF HAWAII

DAVIDSON
DEPT. OF LAND
1525 KALANIANA'OLA
HONOLULU, HI 96813

ADVISORY BOARD
ON THE DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON THE STATE OF HAWAII
1525 KALANIANA'OLA
HONOLULU, HI 96813

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

HISTORIC PRESERVATION DIVISION
KALANIANA'OLA BUILDING, ROOM 535
601 KALANOA BOULEVARD
KAPOLEI, HAWAII 96707

August 19, 2003

Ms. Michelle Elmore
Archaeological Consultants of the Pacific, Inc.
59-624 Pupukea Road
Haleiwa, Hawaii 96712

LOG NO. 2003.1547
DOC NO. 0308NN08

Dear Ms. Elmore:

SUBJECT: Chapter 6E-42- Historic Preservation Review - An Archaeological Inventory Survey Report for Exploratory Wells Located in Wailua, Lihue, Kauai, (TMK: 3-9-02: 1 and 14)

Thank you for submitting the archaeological monitoring report (Elmore and Kennedy, 2003, *An Archaeological Inventory Survey Report for the Pu'u Ahooka Exploratory Well Located in Wailua Ahupua'a, Lihue District, Island of Kauai*, ACP, ms). We received the report on August 6, 2003.

The background section of the report has adequately reviewed ahupua'a's settlement patterns and developed a model of likely project area site patterns. The Mabelle information for this area was particularly interesting.

We believe that the survey adequately covered the project area, which is former sugarcane cropland. No historic sites were found in the survey.

We concur that no further archaeological work is necessary in the project area. Your report meets with our approval.

If you have any questions, please call Nancy McMahon, our Kauai's archaeologist, at 742-7033.

Aloha,

Holly McElDowney

P. HOLLY McELDOWNEY, Acting Administrator
State Historic Preservation Division

c. Dennis Imada, DLNR Engineering
Earl Matsukawa, Wilson Okamoto Corp. 1907 South Beretania St. Suite 400, Honolulu, HI 96826

NNI.ak

LOCAL OFFICE
HONOLULU



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT
P O BOX 21
HONOLULU HAWAII 96826

PETER YOUNG
Commissioner
WENDY CHANG
CANTYUN DELANEY
JAMES PRATER
CAROL JONES MD
STEPHANIE ARIEN
ERNEST Y W LAU
Deputy Director

August 7, 2003

Re: Lihue-Hanamaulu exploratory well dr

Mr. Earl Matsukawa
Wilson Okamoto Corporation
1907 South Beretania St., Ste. 400
Honolulu, HI 96826

Dear Mr. Matsukawa:

SUBJECT Environmental Assessment (EA) Pre-Assessment Consultation
Lihue-Hanamaulu Exploratory Well
Lihue, Kauai, Hawaii
Tax Map Key 3-9-02:01

Thank you for the opportunity to review the subject document. Our comments related to water resources are marked below.

In general, the CWRM strongly promotes the efficient use of our water resources through conservation measures and use of alternative non-potable water resources whenever available, feasible, and there are no harmful effects to the ecosystem. Also, the CWRM encourages the protection of water recharge areas, which are important for the maintenance of streams and the replenishment of aquifers.

- We recommend coordination with the county government to incorporate this project into the county's Water Use and Development Plan.
- We recommend coordination with the Engineering Division of the State Department of Land and Natural Resources to incorporate this project into the State Water Projects Plan.
- We are concerned about the potential for ground or surface water degradation/contamination and recommend that approvals for this project be conditioned upon a review by the State Department of Health and the developer's acceptance of any resulting requirements related to water quality.
- A Well Construction Permit and/or a Pump Installation Permit from the Commission would be required before ground water is developed as a source of supply for the project.
- The proposed water supply source for the project is located in a designated water management area, and a Water Use Permit from the Commission would be required prior to use of this source.

Mr. Earl Matsukawa
Page 2
August 7, 2003

- Groundwater withdrawal from this project may affect streamflows, which may require an instream flow standard amendment.
- We are concerned about the potential for degradation of instream uses from development on highly erodible slopes adjacent to streams within or near the project. We recommend that approvals for this project be conditioned upon a review by the corresponding county's Building Department and the developer's acceptance of any resulting requirements related to erosion control.
- If the proposed project includes construction of a stream diversion, the project may require a stream diversion works permit and amend the instream flow standard for the affected stream(s).
- If the proposed project alters the bed and banks of a stream channel, the project may require a stream channel alteration permit.
- OTHER:

If there are any questions, please contact Lenore Y. Nakama at 567-0218.

Sincerely,

ERNEST Y.W. LAU
Deputy Director

LN:ss

c: DLNR, Engineering Branch

LIUEA LINGLE
LAND DIVISION



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809



PETER E. YOUNG
ADMINISTRATOR
DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

LIUEA LINGLE
LAND DIVISION

ERNEST Y. W. LAU
DEPUTY DIRECTOR
COMMISSION ON WATER RESOURCE MANAGEMENT (CWRM)
HONOLULU, HAWAII 96822

September 4, 2003

LIUEWELL.RCM2
LD-NAV

Earl Matsukawa
Wilson Okamoto Corporation
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96828

Dear Mr. Matsukawa:

SUBJECT: Pre-Assessment Consultation for Preparation of a Draft Environmental Assessment
Lihue-Hanamaulu Exploratory Well (Wilson Okamoto Consultant)
Lihue, Island of Kauai, Hawaii - TMK: (4) 3-9-002: 001

This is a follow-up to our letter (LIUEWELLRCM) to you dated August 21, 2003, pertaining to the subject matter.

Attached is a copy of the Commission on Water Resource Management comment.

Should you have any questions, please feel free to contact Nicholas A. Vaccaro of the Land Division Support Services Branch at 808-587-4384.

Very truly yours,

DIERDRE S. MAMIYA
Administrator

C. KDLO



LIUEA LINGLE
LAND DIVISION

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

HONOLULU, HAWAII 96822

August 21, 2003

Ref: PU A-03-04 Water Pre-EA C

TO: Ms Dede Mamiya, Administrator
Land Division

FROM: Ernest Y.W. Lau, Deputy Director
Commission on Water Resource Management (CWRM)

SUBJECT: Environmental Assessment Pre-Assessment Consultation
Lihue-Hanamaulu Exploratory Well, Lihue, Kauai, Hawaii - TMK (4) 3-9-02 001

FILE NO: LIUEWELL.CMT

Thank you for the opportunity to review the subject document. Our comments related to water resources are marked below.

In general, the CWRM strongly promotes the efficient use of our water resources through conservation measures and use of alternative non-potable water resources whenever available, feasible, and there are no harmful effects to the ecosystem. Also, the CWRM encourages the protection of water recharge areas, which are important for the maintenance of streams and the replenishment of aquifers.

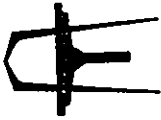
- We recommend coordination with the county government to incorporate this project into the county's Water Use and Development Plan.
- We recommend coordination with the Land Division of the State Department of Land and Natural Resources to incorporate this project into the State Water Projects Plan.
- We are concerned about the potential for ground or surface water degradation/denaturation and recommend that applicants for this project be required to submit a review by the State Department of Health and the developer's acceptance of any resulting requirements related to water quality.
- A Well Construction Permit and/or a Pump Installation Permit from the Commission would be required before ground water is collected as a source of supply for the project.
- The proposed water supply source for the project is located in a designated water management area, and a Water Use Permit from the Commission would be required prior to use of this source.
- Groundwater withdrawal from this project may affect streamflows, which may require an instream flow standard amendment.
- We are concerned about the potential for degradation of instream uses from development on highly erodible slopes adjacent to streams within or near the project. We recommend that applicants for this project be required to submit a review by the corresponding county's Building Department and the developer's acceptance of any resulting requirements related to erosion control.
- If the proposed project includes construction of a stream diversion, the project may require a stream diversion work permit and amend the instream flow standard for the affected stream(s).
- If the proposed project alters the bed and banks of a stream channel, the project may require a stream channel alteration permit.
- OTHER

Prior exploratory drilling shows the well may be affected by volcanic dikes and healed/dikes basalt that have been mapped in the hill.

If there are any questions, please contact Commission staff at 587-0225

6645-01
September 22, 2003

WILSON
OKAMOTO
CORPORATION



ENGINEERS
PLANNERS

1977 S. BERTLAND ST.
SUITE 400
HONOLULU, HI 96813
PH: (808) 946-2277
FAX: (808) 946-2253

Mr. Ernest Lau, Deputy Chair
State of Hawaii
Department of Land and Natural Resources
Commission on Water Resource Management
1151 Punchbowl Street, Room 227
Honolulu, Hawaii 96813

Subject: Environmental Assessment (EA) Pre-Assessment Consultation
L'hu'e-Hanamā'ulu (Pu'u 'A'ahoaka) Exploratory Well
Wailua, Kaua'i, Hawaii
TMK 3-9-02:01

Dear Mr. Lau:

Thank you for your letters of August 7, 2003 (l'hu'e-hanamā'ulu exploratory well dr) and August 21, 2003 (Pu'u Aahoaka Well Pre-EA.dr) received during the subject Environmental Assessment (EA) Pre-Assessment Consultation. We offer the following responses in the respective order of your comments:

1. The Kaua'i County Department of Water was consulted during the Pre-Assessment Consultation phase and will be involved in the EA review process.
2. The proposed project is being coordinated by the Engineering Division of the State Department of Land and Natural Resources.
3. We acknowledge that if the exploratory well proves suitable for permanent production a Well Construction Permit and/or a Pump Installation Permit from the Commission will be required before ground water is developed as a source of supply.
4. No significant impacts on stream flows are anticipated as a result of well pumping test(s) since water will be drawn at a much lower elevation relative to existing streams in the project vicinity. If test pumping affects stream flow, an instream flow standard amendment may be required prior to developing the exploratory well as a production well.
5. An unnamed tributary of the Wailua River appears to traverse the project site on the 1996 USGS map. The map shows the unnamed tributary running just south of Pu'u 'A'ahoaka. Upon further investigation, we have determined that the feature was not a stream and no longer exists. According to Mr. Lesley P. Milnes, lessee of the property, the feature on the map depicts the old 'A'ahoaka irrigation ditch, which has since been abandoned and filled. The only water body

6645-01
Letter to Mr. Lau
Page 2
September 22, 2003

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OKAMOTO
CORPORATION

6. that will be traversed to access the project site is the South Fork of the Wailua River, which has an existing bridge that allows for crossing. The proposed project will not alter the bed or banks of any stream channel. The project hydrologist, Mr. Stephen P. Bowles, believes that prior drilling conducted by the USGS in the area produced poor results because that well appears to lie entirely within lavas of the Kōloa volcanic series. The drilling logs indicate a predominance of light minerals typical of the Kōloa volcanics. Mr. Bowles' experience is that the Waiimea volcanic series produce a dominantly heavy olivine or green mineral. Therefore, Mr. Bowles believes the well, which was drilled into fresh (unweathered) rock, and which resulted in very low yield, did not enter a Waiimea formation and that the drilling for the subject exploratory well will enter the formation directly. The site selected for the exploratory well overflies the Waiimea series. The site was selected as having the greatest potential for high yield.

We appreciate your interest and participation in the consultation phase of the environmental review process. Your letter will be included in the forthcoming Draft EA. Should you have any questions, please call Ms. Marissa Furfaro or myself at 946-2277.

Sincerely,

Earl Matsukawa, AICP, Project Manager

cc: Dennis Imada, Department of Land and Natural Resources,
Engineering Division

LIHUE WELLS
DIVISION OF WATER



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION
POST OFFICE BOX 621
HONOLULU, HAWAII 96809

PETER T. YOUNG
Commissioner
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON NATURAL RESOURCE MANAGEMENT
DEPUTY DIRECTOR - LAND
DAN DAVIDSON
DEPUTY DIRECTOR - WATER
ERNEST Y. R. LAU
DEPUTY DIRECTOR - AIR
ADVICE AND ASSISTANCE
PLANNING AND POLICY FORMULATION
BUREAU OF CONSERVATION
COMMISSION ON WATER RESOURCES
CONSERVATION AND COASTAL LANDS
COMMISSION ON NATURAL RESOURCE MANAGEMENT
FORESTRY AND WILDLIFE
PLANNING AND POLICY FORMULATION
LAND
ENGINEERING

LIHUEWELL.RCM
LD-NAV

Earl Matsukawa
Wilson Okamoto Corporation
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96828

Dear Mr. Matsukawa:

SUBJECT: Pre-Assessment Consultation for Preparation of a Draft Environmental Assessment
Lihue-Hanama'ulu Exploratory Well (Wilson Okamoto Consultant)
Lihue, Island of Kauai, Hawaii - TMK (4) 3-9-002: 001

Thank you for the opportunity to review and comment on the subject matter.

A copy of your letter dated July 23, 2003 along with the proposed project summary was distributed to the following Department of Land and Natural Resources (DLNR) Divisions for their review and comment:

- Division of Forestry and Wildlife
- Division of State Parks
- Engineering Division
- Commission on Water Resources Management
- Office of Conservation and Coastal Lands
- Land-Kauai District Land Office

Based on the attached responses, the Department of Land and Natural Resources has no comment to offer on the subject matter.

Should you have any questions, please feel free to contact Nicholas A. Vaccaro of the Land Division Support Services Branch at 808-587-0384.

Very truly yours,

DIERDRE S. MAMIYA
Administrator

C: KDLO

6645-01
September 22, 2003

WILSON
OKAMOTO
CORPORATION



ENGINEERS
PLANNERS
1907 S. BERETANIA ST.
SUITE 400
HONOLULU, HI 96826
PH: 808-945-2277
FAX: 808-945-2253

Ms. Dierdre S. Mamiya, Administrator
State Department of Land and Natural Resources
Land Division
P.O. Box 621
Honolulu, Hawaii 96809

Subject: Environmental Assessment (EA) Pre-Assessment Consultation
Lihue-Hanama'ulu (Pu'u 'A'hoaka) Exploratory Well
Wailua, Kauai, Hawaii
TMK 3-9-02:01

Dear Ms. Mamiya:

Thank you for your letter of August 21, 2003 (LIHUEWELL.RCM LD-NAV) received during the subject Environmental Assessment (EA) Pre-Assessment Consultation. We acknowledge that you have no comments to offer at this time.

We appreciate your interest and participation in the consultation phase of the environmental review process. Your letter will be included in the forthcoming Draft EA. Should you have any questions, please call Ms. Marissa Furfaro or myself at 946-2277.

Sincerely,

Earl Matsukawa, AICP, Project Manager

cc: Dennis Imada, Department of Land and Natural Resources,
Engineering Division

LINDA LUCIFRE
COMMISSIONER OF NATURAL RESOURCES

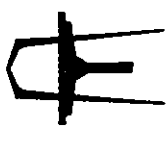


STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION
POST OFFICE BOX 621
HONOLULU, HAWAII 96809
August 7, 2003

DAVID I. YOUNG
COMMISSIONER
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON THE REVENUE MANAGEMENT
OF LAND AND NATURAL RESOURCES
DAN ELLISON
DEPUTY DIRECTOR, LAND
RESOURCES DIVISION
1505 BERETANIA ST
SUITE 409
HONOLULU, HI 96826
PH: (808) 346-2277
FAX: (808) 946-2253

6645-01
September 22, 2003

WILSON
OKAMOTO
CORPORATION



ENGINEERS
PLANNERS
1007 S. BERETANIA ST
SUITE 409
HONOLULU, HI 96826
PH: (808) 346-2277
FAX: (808) 946-2253

LD/NAV
Ref.: LIHUEWELL.CMT
MEMORANDUM:

TO: XXX Division of Forestry & Wildlife
XXX Division of State Parks
XXX Engineering Division (RD)
XXX Commission on Water Resource Management
XXX Office of Conservation and Coastal Lands
XXX Land-Kauai District Land Office

FROM: Deirdre S. Mamiya, Administrator
Land Division

SUBJECT: Environmental Assessment Pre-Assessment Consultation
Lihue-Hanamaulu Exploratory Well
Lihue, Kauai, Hawaii - TMK (4) 3-9-02: 001
Wilson Okamoto Corporation (Earl Matsukawa)

Please review the document pertaining to the subject matter and submit your comments (if any) on Division letterhead signed and dated by the suspense date.

If you have any questions, please contact Nicholas A. Vaccaro at ext.: 7-0384.

If this office does not receive your comments by the suspense date, we will assume there are no comments.

We have no comments. Comments attached.
Division State Parks Signed: [Signature]
Date: 8/11/03 Title: State Parks Admin

Mr. Daniel Quinn, Administrator
State Department of Land and Natural Resources
Land Division, State Parks
P.O. Box 621
Honolulu, Hawaii 96809

Subject: Environmental Assessment (EA) Pre-Assessment Consultation
Lihue-Hanamaulu (Pu'u A'ahoaka) Exploratory Well
Wailua, Kauai, Hawaii
TMK 3-9-02:01

Dear Mr. Quinn:

Thank you for your letter of August 7, 2003 (LIHUEWELL.CMT) received during the subject Environmental Assessment (EA) Pre-Assessment Consultation. We acknowledge that you have no comments to offer at this time.

We appreciate your interest and participation in the consultation phase of the environmental review process. Your letter will be included in the forthcoming Draft EA. Should you have any questions, please call Ms. Marissa Furfaro or myself at 946-2277.

Sincerely,

[Signature]

Earl Matsukawa, AICP, Project Manager

cc: Dennis Imada, Department of Land and Natural Resources,
Engineering Division

LAND AND NATURAL RESOURCES
DIVISION

RECEIVED
LAND DIVISION



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

August 7, 2003

PETER F. YOUNG
Commissioner
DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSIONER OF LAND AND NATURAL RESOURCES
LAND DIVISION
1900 KALANIANA'OLANI BLVD., SUITE 400
HONOLULU, HAWAII 96813

FOR THE DIRECTOR
DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSIONER OF LAND AND NATURAL RESOURCES
LAND DIVISION
1900 KALANIANA'OLANI BLVD., SUITE 400
HONOLULU, HAWAII 96813

LD/NAV

Ref.: LIHUEWELL.CMT

MEMORANDUM:

Suspense Date: 8/20/03

TO:

- XXX Division of Forestry & Wildlife
- XXX Division of State Parks
- XXX Engineering Division (RD)
- XXX Commission on Water Resource Management
- XXX Office of Conservation and Coastal Lands
- XXX Land-Kauai District Land Office

FROM:

Deirdre S. Mamiya, Administrator
Land Division

SUBJECT: Environmental Assessment Pre-Assessment Consultation

Lihue-Hanamaulu Exploratory Well
Lihue, Kauai, Hawaii - TMK (4) 3-9-02: 001
Wilson Okamoto Corporation (Earl Matsukawa)

Please review the document pertaining to the subject matter and submit your comments (if any) on Division letterhead signed and dated by the suspense date.

If you have any questions, please contact Nicholas A. Vaccaro at ext.: 7-0384.

If this office does not receive your comments by the suspense date, we will assume there are no comments.

We have no comments.

Comments attached.

Division _____

Signed: *AMB*

Date: AUG 12

Title: MICHAEL G. BUCK, ADMINISTRATOR
DIVISION OF FORESTRY AND WILDLIFE

6645-01
September 22, 2003

**WILSON
OKAMOTO
CORPORATION**



ENGINEERS
PLANNERS
1907 S. BEREIANA ST
SUITE 400
HONOLULU, HI 96826
PH: 808-946-2177
FAX: 808-946-2753

Mr. Michael B. Buck, Administrator
State Department of Land and Natural Resources
Land Division, Division of Forestry and Wildlife
P.O. Box 621
Honolulu, Hawaii 96809

Subject: Environmental Assessment (EA) Pre-Assessment Consultation
Lihue-Hanamaulu (Pu'u 'Ahoaka) Exploratory Well
Wailua, Kauai, Hawaii
TMK 3-9-02:01

Dear Mr. Buck:

Thank you for your letter of August 7, 2003 (LIHUEWELL.CMT) received during the subject Environmental Assessment (EA) Pre-Assessment Consultation. We acknowledge that you have no comments to offer at this time.

We appreciate your interest and participation in the consultation phase of the environmental review process. Your letter will be included in the forthcoming Draft EA. Should you have any questions, please call Ms. Marissa Furfaro or myself at 946-2277.

Sincerely,

Earl Matsukawa, AICP, Project Manager

cc: Dennis Imada, Department of Land and Natural Resources,
Engineering Division

LEIOLA'ILEI
GOVERNOR



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 651
HONOLULU, HAWAII 96809



PYBURN, YOUNG
CHAMBERLAIN
CONSULTANTS
INCORPORATED
1000 KALANOA'OLE DRIVE
SUITE 200
HONOLULU, HAWAII 96813
TEL: 808-551-1111
FAX: 808-551-1112
WWW.PYBURN.COM

LIHUEWELL RCM3
LD-NAV

Earl Matsukawa
Wilson Okamoto Corporation
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

September 5, 2003

Dear Mr. Matsukawa:

SUBJECT: Pre-Assessment Consultation for Preparation of a Draft Environmental Assessment
Lihue-Hanalei Exploratory Well (Wilson Okamoto Consultant)
Lihue, Island of Kauai, Hawaii - TMK (4) 3-9-002: 001

This is a follow-up to our letters (LIHUEWELLRCM and LIHUEWELLRCM2) dated August 21,
2003 and September 4, 2003, pertaining to the subject matter.

Attached is a copy of the Engineering Division comment.

The Department of Land and Natural Resources has no other comment to offer on the subject
matter at this time.

Should you have any questions, please feel free to contact Nicholas A. Vaccaro of the Land
Division Support Services Branch at 808-587-0384.

Very truly yours,

DIERDRE S. MAMIYA
Administrator

C: KDLO

DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

LD/NAV

Ref:

COMMENTS

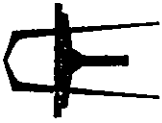
- () We confirm that the project site is located in Zone _____.
- Please note that the project site is located in Zone X.
- () Please note that the correct Flood Zone designation for the project site is _____.
- () Please note that the project must comply with rules and regulations of the National Flood Insurance Program (NFIP), whenever work is required within a flood zone. If there are questions regarding the NFIP, please contact the State Coordinator, Mr. Sterling Young, of the Department of Land and Natural Resources at 587-0248. If there are questions regarding flood ordinances, please call the applicable County coordinators below.
 - () Mr. Robert Sumitomo at (808) 523-4254 or Mr. Mario Siu Li at (808) 523-4247 of the City and County of Honolulu, Department of Planning and Permitting.
 - () Mr. Kelly Gomes at (808) 961-8327 (Hilo) or Mr. Kiran Emler at (808) 327-3530 (Kona) of the County of Hawaii, Department of Public Works.
 - () Mr. Francis Cerizo at (808) 270-7771 of the County of Maui, Department of Planning.
 - () Mr. Wallace Kudo at (808) 241-6620 of the County of Kauai, Department of Public Works.
- () The applicant should include project water demands and infrastructure required to meet water demands. Please note that the implementation of any State-sponsored projects requiring water service from the Honolulu Board of Water Supply system must first obtain water allocation credits from the Engineering Division before it can receive a building permit and/or water meter.
- () The applicant should provide the water demands and calculations to the Engineering Division the water demands will be included in the State Water Projects Plan update.
- () Additional Comments: _____

Should you have any questions, please call Mr. Andrew Monden of the Planning Branch at 587-0229.

Signed:
ERIC T. HIRANO, CHIEF ENGINEER
Date: 8/20/03

6645-01
September 22, 2003

**WILSON
OKAMOTO
CORPORATION**



**ENGINEERS
PLANNERS**
1507 S. BERETANIA ST
SUITE 400
HONOLULU HI 96826
PH (808) 946-2277
FAX (808) 946-2253

Mr. Eric T. Hirano, Chief Engineer
State Department of Land and Natural Resources
Engineering Division
Kalanimoku Building, Room 221
P.O. Box 373
Honolulu, Hawaii 96809

Subject: Environmental Assessment (EA) Pre-Assessment Consultation
Lihue-Hanama'ulu (Pu'u 'A'ahoaka) Exploratory Well
Wailua, Kauai, Hawaii
TMK 3-9-02:01

Dear Mr. Hirano:

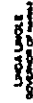
Thank you for your letter of August 20, 2003 (LD/NAV) received during the subject Environmental Assessment (EA) Pre-Assessment Consultation. We acknowledge that the project site is designated Zone X, areas determined to be outside the 500-year flood plain.

We appreciate your interest and participation in the consultation phase of the environmental review process. Your letter will be included in the forthcoming Draft EA. Should you have any questions, please call Ms. Marissa Furfaro or myself at 946-2277.

Sincerely,

Earl Matsukawa, AICP, Project Manager

cc: Dennis Imada, Department of Land and Natural Resources,
Engineering Division



PETER E. WILSON
 CONSULTANT
 DEPARTMENT OF LAND AND NATURAL RESOURCES
 CONSULTANT ON THE STATE LANDS ADMINISTRATION

DAVE DAVENON
 DEPUTY DIRECTOR, LAND

BERNIE YU LAU
 DEPUTY DIRECTOR, ACP

BOBIE KESSLER
 DEPUTY DIRECTOR, ACP

BOBIE KESSLER
 DEPUTY DIRECTOR, ACP

BUREAU OF CONSERVATION
 DEPARTMENT OF LAND AND NATURAL RESOURCES
 CONSULTATION AND SURVEY DIVISION
 601 KAMOKILA BOULEVARD
 KAPOLEI, HAWAII 96707
 PHONE 808/346-2277
 FAX 808/346-2253

STATE OF HAWAII
 DEPARTMENT OF LAND AND NATURAL RESOURCES
 HISTORIC PRESERVATION DIVISION
 KAKUHIHewa BUILDING, ROOM 555
 601 KAMOKILA BOULEVARD
 KAPOLEI, HAWAII 96707

August 19, 2003

Ms. Michelle Elmore
 Archaeological Consultants of the Pacific, Inc.
 59-624 Pupukea Road
 Haleiwa, Hawaii 96712

Dear Ms. Elmore:

SUBJECT: Chapter 6E-42- Historic Preservation Review - An Archaeological Inventory Survey Report for Exploratory Wells Located in Waialeale, Lihue, Kauai, (LINK: 3-9-02: 1 and 14)

Thank you for submitting the archaeological monitoring report (Elmore and Kennedy, 2003, *An Archaeological Inventory Survey Report for the Pu'u A'ahoaka Exploratory Well Located in Waialeale, Lihue District, Island of Kauai, ACP, ms.*). We received the report on August 6, 2003.

The background section of the report has adequately reviewed ahupua'a's settlement patterns and developed a model of likely project area site patterns. The Mahele information for this area was particularly interesting.

We believe that the survey adequately covered the project area, which is former sugarcane cropland. No historic sites were found in the survey.

We concur that no further archaeological work is necessary in this project area. Your report meets with our approval.

If you have any questions, please call Nancy McMahon, our Kauai archaeologist, at 742-7033.

Aloha,

P. Holly McElDowney

P. HOLLY McELDOWNEY, Acting Administrator
 State Historic Preservation Division

c. Dennis Imada, DLNR Engineering
 Earl Matsukawa, Wilson Otamoko Corp. 1907 South Beretania St, Suite 400, Honolulu, HI 96826

NM:ak

6645-01
 September 22, 2003

Ms. P. Holly McElDowney, Acting Administrator
 State Department of Land and Natural Resources
 Historic Preservation Division
 Kakuhihewa Building, Room 555
 601 Kamokila Boulevard
 Kapolei, Hawaii 96707

WILSON
 OKAMOTO
 CORPORATION



ENGINEERS
 PLANNERS
 1907 S. BERETANIA ST
 SUITE 420
 HONOLULU, HI 96826
 PH 808/346-2277
 FAX 808/346-2253

Subject: Environmental Assessment (EA) Pre-Assessment Consultation
 Lihue-Hanamā'ulu (Pu'u A'ahoaka) Exploratory Well
 Waialeale, Kauai, Hawaii
 TMK 3-9-02:01

Dear Ms. McElDowney:

Thank you for your letter of August 19, 2003 (0308NNM08) received during the subject Environmental Assessment (EA) Pre-Assessment Consultation. We acknowledge that the Archaeological Inventory Survey Report for the Pu'u A'ahoaka Exploratory Well Located in Waialeale, Lihue District, Island of Kauai, ACP, ms. meets with your approval and that no further archaeological work is necessary in the project area.

We appreciate your interest and participation in the consultation phase of the environmental review process. Your letter will be included in the forthcoming Draft EA. Should you have any questions, please call Ms. Manasa Furfaro or myself at 946-2277.

Sincerely,

Earl Matsukawa

Earl Matsukawa, AICP, Project Manager

cc: Dennis Imada, Department of Land and Natural Resources,
 Engineering Division



Water has no substitute..... Conserve it

6645-01
September 22, 2003

August 1, 2003

Mr. Earl Matsukawa
Wilson Okamoto Corporation
1907 South Beretania Street, Suite 400
Honolulu, HI 96826


Dear Mr. Matsukawa:

Subject: Environmental Assessment (EA) Pre-Assessment Consultation,
Lihue-Hanamaulu Exploratory Well, TMK: 3-9-02:1, Lihue, Kauai

This is regarding your letter of July 22, 2003. The Department of Water is in favor of the proposed project which involves the drilling and testing of an exploratory well on Parcel 1.

If you have any questions, please call Edward Doi at 245-5417.

Sincerely,


Greg Fujikawa
Water Resource and Planning Division Head

ED:emi
c: Dennis Imada
State Department of Land and Natural Resources, Engineering Division
P.O. Box 373
Honolulu, HI 96809

22-313 Lihue, Makalea

**WILSON
OKAMOTO
CORPORATION**



**ENGINEERS
PLANNERS**
1907 S BERETANIA ST
SUITE 400
HONOLULU, HI 96826
PH: (808) 946-2277
FAX: (808) 946-2253

Mr. Edward W. Tschupp, P.E.
Manager and Chief Engineer
County of Kauai
Department of Water
P.O. Box 1706
Lihue, Hawaii 96766

Subject: Environmental Assessment (EA) Pre-Assessment Consultation
Lihue-Hanamaulu (Pu'u 'A'ahoaka) Exploratory Well
Wailua, Kauai, Hawaii
TMK 3-9-02:01

Dear Mr. Tschupp:

Thank you for your letter of August 1, 2003 received during the subject Environmental Assessment (EA) Pre-Assessment Consultation. We acknowledge that you are in favor of the subject project and have no comments to offer at this time.

We appreciate your interest and participation in the consultation phase of the environmental review process. Your letter will be included in the forthcoming Draft EA. Should you have any questions, please call Ms. Marissa Furfaro or myself at 946-2277.

Sincerely,



Earl Matsukawa, AICP, Project Manager

cc: Dennis Imada, Department of Land and Natural Resources,
Engineering Division

August 11, 2003

Mr. Earl Matsukawa
Wilson Okamoto Corporation
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826
Facsimile: (808) 946-2253

Subject: Environmental Assessment (EA) Pre-Assessment Consultation
Lihue-Hanamaulu Exploratory Well
Lihue, Kauai, Hawaii
TMK: 3-9-02:01

Dear Mr. Matsukawa,

Mahalo for your letter requesting comments on this proposed project. Mahalo to Ms. Furfaro for her diligence in contacting us and making us aware of this project. I have discussed some of my concerns with Ms. Furfaro via telephone and she has been very helpful. Some of the things we discussed are listed in the following:

- 1) Why was Pu'u A'ohoaka selected as the place? This was the first question asked by a kupuna (revered elder) I spoke to about this. In my research of this site, it was found that the place name is listed as a Kipuka. A Kipuka is a pristine area of land that is untouched by new lava flows; a very old area that contains endemic flora and fauna. I feel that a kipuka establishes this site as culturally significant.
- 2) How long will they (Kauai County) be taking water from this well? Are they looking to the future for sustainability and the availability of water for future generations? How many other wells are in this ahupua'a?
- 3) What will the well look like above the ground and how deep are they going to dig? What if there are burials there?
- 4) If the water is going from Waiiua ahupua'a to Lihue and Hanamaulu na ahupua'a, it is not culturally appropriate to do that, that is if you are thinking in a Hawaiian way.
- 5) The archaeological inventory survey is not enough. What if culturally significant sites have already been destroyed by the former occupation of the sugar plantation? Will that make the area less culturally significant or less worthy of preservation? Cultural significance is not just about physical artifacts; it is about oli, mele, stories and legends that are about Pu'u A'ohoaka and the people who once lived there.
- 6) This land is State lands and all State lands are ceded/stolen Hawaiian lands. The State and the University of Hawaii is presently working on an inventory on ceded lands. There should be a moratorium of any development on State Lands until the inventory is completed. Is DLNR going to take this up with

the Native Hawaiians as to what they can do on ceded lands?

- 7) You have stated in your report that Pu'u A'ohoaka is designated Open zoned. More and more our open spaces are being taken away from us. I strongly believe that it should be treated as special areas worthy of preservation and conservation.
- 8) Will taking water out of this well deplete groundwater resources? Will the exploratory well affect nearby streams and ecosystems?
- 9) I spoke to a kupuna in the area who told me about an old Hawaiian Newspaper he found at the University of Hawaii, Hamilton Library which contains a legend about a chief named A'ohoaka. He also said the legend tells of his birth and of his sisters, it has some relation to food given to women at childbirth and also has some relation to the hole in the mountain range of Kalalea located at Anahola, Kauai.

Again, I would like to thank you for this opportunity to participate in this process and I do hope you will NOT find this pre-assessment a FONSI. I would appreciate a written response from you regarding my comments or if you should have any questions, please feel free to call my at 652-1249 or 821-2267.

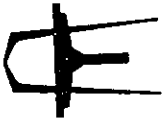
Most sincerely,

Puanani Rogers
Ho'okipa Network - Kauai

cc: Dennis Imada, Engineer, DLNR
Marisa Furfaro, Planner
Cheryl Lovell-Obatake, Nawiliwili Bay Watershed Council

6645-01
September 22, 2003

**WILSON
OKAMOTO
CORPORATION**



**ENGINEERS
PLANNERS**
1907 S. BERETANIA ST.
SUITE 200
HONOLULU, HAWAII 96826
PH: (808) 946-2277
FAX: (808) 946-2251

Ms. Puanani Rogers
P.O. Box 88
Kapa'a, Hawaii 96746

Subject: Environmental Assessment (EA) Pre-Assessment Consultation
Lihue-Hanamā'ulu Exploratory Well at Pu'u A'ahoaka
Wailua, Kaua'i, Hawaii
TMK 3-9-02:01

Dear Ms. Rogers:

Thank you for your letter of August 11, 2003 received during the subject Environmental Assessment (EA) Pre-Assessment Consultation. We offer the following responses in the respective order of your comments:

1. The Pu'u A'ahoaka site was selected from among three potential sites considered. It was judged to be the site with the greatest potential for developing a high-yielding well. The site was also favorable because it is on State-owned land, which avoids the need to acquire the site. The forthcoming Draft EA will discuss the cultural significance of the site and impacts of the proposed project.
2. If the exploratory well pump testing proves that it is suitable for development as a production well, the State Department of Land and Natural Resources (DLNR) will subsequently pursue its development as a separate project. The completed production well will then be dedicated to the Kaua'i County Department of Water (DOW) to become a new source for the County's water system. It is assumed that such a production well will be used as long as it is required and capable of meeting future water needs. There are other wells in the area but the project is not judged to impact the production of those wells. Even if the exploratory well proves to be highly productive, the total yield from the Lihue Aquifer Sector in which the well site is located would be within the DLNR sustainable yield for this Sector.
3. Drawings of the proposed exploratory well and a description of the construction required will be provided in the Draft EA. An archaeological inventory survey of the project site will be included in the Draft EA. The survey found no archaeological sites or indications of potential human burials. Should any archaeological, cultural or historic sites or human burials be uncovered during construction or drilling activities, all work will cease and the State DLNR Historic Preservation Division (SHPD) will be notified.

6645-01
Letter to Ms. Rogers
Page 2
September 22, 2003

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CORPORATION**

4. Traditionally, Native Hawaiians did not regulate groundwater, they only managed surface water sources. The ahupua'a of Wailua and Lihue are a part of the same aquifer system and were traditionally a part of the same district, the district of Puna.
5. The forthcoming Draft EA will discuss the cultural significance of the site and impacts of the proposed project. Cultural significance considers physical evidence of culture, such as archaeological and historical sites and features; on-going cultural practices, including the traditional use of plant and animal resources found at the site; as well as references in oral and written history about the cultural significance of the site. Impacts of the project are potential ways that the various aspects of cultural significance associated with the site may change as a result of the project.
6. Until otherwise resolved, the project is proceeding based on the current status of the project site, which is owned by the State. Property issues, including ceded land status, is beyond the scope of an environmental assessment.
7. A purpose of Open zoning is to protect landforms from development that might affect scenic views. The proposed exploratory well is a permitted use within the Open zone. The forthcoming Draft EA will discuss the visual impacts of the project. Essentially, after the well-drilling rig is removed, the vertical profile of the exploratory well will be very low. A photograph of a typical sealed exploratory well will be provided in the forthcoming Draft EA.
8. No significant impacts on the basal aquifer are anticipated as a result of test pumping or for potential future operation of a production well. Even if the well proves to be highly productive, the total yield from the Lihue Aquifer Sector in which the well site is located would be within the DLNR sustainable yield for this Sector. No impacts on groundwater recharge are anticipated as a result of constructing the exploratory well. In terms of surface water, no significant impacts on stream flows are anticipated as a result of well pumping tests. Test pumping will be drawing water at a much lower elevation relative to existing streams in the project vicinity. If test pumping affects stream flows, an instream flow standard amendment may be required prior to developing the exploratory well as a production well. Nearby streams and ecosystems will not be affected by water generated during test pumping because it will be discharged onto open

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fields and irrigation ditches. This will also temporarily increase groundwater recharge in the immediate vicinity.

9. We located the legend about a chief named A'ahoaka in Ka Nūpepa Kū'oko'a, December 30, 1876 – March 3, 1877, at the University of Hawaii Hamilton Library. The name of the legend is "He Mo'olelo No 'A'ahoaka. Ke Koa a me Kona Hānau Kupanaha Ana He Mo'olelo Kahiko No Kauai." The cultural significance of the legend to the project site will be discussed in the forthcoming Draft EA.

We appreciate your interest and participation in the consultation phase of the environmental review process. Your letter, together with this response, will be included in the forthcoming Draft EA that will be sent to you for your review. Should you have any questions, please call Ms. Marissa Furfaro or myself at 946-2277.

Sincerely,



Earl Matsukawa, AICP, Project Manager

cc: Dennis Imada, Department of Land and Natural Resources,
Engineering Division

Appendix F

**Draft Environmental Assessment Public Review
Comment and Response Letters**



DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, HONOLULU
FT. SHAFTER, HAWAII 96858-5440

READY TO
ATTENTION OF

September 24, 2003

Regulatory Branch

Mr. Earl Matsukawa
Wilson Okamoto Corporation
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96817

Dear Mr. Matsukawa:

Thank you for your letter dated September 22, 2003 concerning our review of the Environmental Assessment (EA) Pre-Assessment Consultation notice for the proposed Lihue-Hanamaulu Exploratory Well at Lihue, Kauai, Hawaii (TMK 3-9-02: 01).

Your letter explains that the unnamed feature which appears (on USGS maps) to be a tributary of the North Fork of the Wailua River is in fact the old 'A' ahoaka irrigation ditch, a manmade feature which has been abandoned and filled. Your letter also notes that the only water body that will be traversed to access the project site is the South Fork of the Wailua River, which has an existing bridge that allows for crossing.

Based on the additional information you provided, I have determined that the proposed activity does not involve the discharge of dredged or fill material into waters of the United States, including adjacent wetlands; therefore, a Department of the Army permit will not be required.

Should you have questions concerning this determination, please contact Mr. Peter Galloway of my staff by telephone at (808) 438-8416 or by fax at (808) 438-4060. Mailed inquiries should cite File No. 200300523 and should be sent to: Regulatory Branch (CEPOH-EC-R/P, Galloway); U.S. Army Engineer District, Honolulu; Building 230; Fort Shafter, Hawaii 96858-5440. A copy of this letter has been provided to the Department of Land and Natural Resources, Engineering Division.

Sincerely,

George P. Young, P.E.
Chief, Regulatory Branch

LEIHA LEIHA
ENGINEER OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

ENGINEERING DIVISION
POST OFFICE BOX 373
HONOLULU, HAWAII 96809

JUN 15 2004

PETER T. YOUNG
CHIEF ENGINEER
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON THE STATE RESOURCE MANAGEMENT

DEAN DALYSON
DEPUTY DIRECTOR - LAND
ERIKSIEVE W. LIAI
DEPUTY DIRECTOR - WATER

ADULTIC RESOURCES
LAND AND WATER REGULATION
COMMISSION ON THE STATE RESOURCE MANAGEMENT
CONSULTATION AND RESOURCES MANAGEMENT
ENGINEERING
POST OFFICE BOX 373
HONOLULU, HAWAII 96809
STATE PLANNING
HONOLULU ISLAND RESOURCES COMMISSION
STATE PLANNING

Mr. George P. Young, P.E., Chief
Regulatory Branch (CEPOH-EC-R/P, Galloway)
U.S. Army Engineer District, Honolulu
Building 230
Ft. Shafter, Hawaii 96858-5440

Dear Mr. Young:

Draft Environmental Assessment (EA) for Job No. G17CCK11A,
Lihue-Hanamaulu (Pu'u 'A'ahoaka) Exploratory Well,
TMK 3-9-02: Portion of 01, Wailua, Kauai, Hawaii

Thank you for your letter of September 24, 2003 (File No. 200300523) communicating on the subject Draft Environmental Assessment (EA).

We acknowledge that a Department of the Army permit will not be required as the proposed activity will not involve the discharge of dredged or fill material into waters of the United States, including adjacent wetlands.

We appreciate your interest and participation in the public review phase of the Draft EA. Your letter will be reproduced in the forthcoming Final EA.

Should you have any questions or comments, please contact Mr. Andrew Monden of the Planning Branch at 587-0229.

Sincerely,

ERIC T. HIRANO
Chief Engineer

Dick
c: Earl Matsukawa, Wilson Okamoto Corporation



STATE OF HAWAII
DEPARTMENT OF HEALTH
P.O. BOX 3378
HONOLULU, HAWAII 96801-3378

CATHERINE L. FURUKO, M.D.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH

10067FKP.03

October 15, 2003

Mr. Earl Matsukawa
Project Manager
Wilson Okamoto Corporation
1907 South Bertania Street, Suite 400
Honolulu, Hawaii 96826

Dear Mr. Matsukawa:

**Subject: Draft Environmental Assessment
Libue-Hanamaulu (Puu Aboaka) Exploratory Well
Waialua, Kaula, Hawaii**

The Department of Health, Clean Water Branch (CWB), has reviewed the subject document and offers the following comments:

1. The Army Corps of Engineers should be contacted at (808) 438-9258 to identify whether a Federal license or permit (including a Department of Army permit) is required for this project. Pursuant to Section 401(a)(1) of the Federal Water Pollution Act (commonly known as the "Clean Water Act"), a Section 401 Water Quality Certification is required for "[a]ny applicant for Federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may result in any discharge into the navigable waters...."
2. A National Pollutant Discharge Elimination System (NPDES) general permit coverage is required for the following activities:
 - a. Storm water associated with industrial activities, as defined in Title 40, Code of Federal Regulations, Sections 122.26(b)(1)(X) through 122.26(b)(1)(ix) and 122.26(b)(1)(xi).
 - b. Construction activities, including clearing, grading, and excavation, that result in the disturbance of equal to or greater than one (1) acre of total land area. The total land area includes a contiguous area where multiple separate and distinct construction activities may be taking place at different times on different schedules under a larger common plan of development or sale. An NPDES permit is required before the commencement of the construction activities.
 - c. Discharges of treated effluent from leaking underground storage tank remedial activities.
 - d. Discharges of once through cooling water less than one (1) million gallons per day.

Mr. Earl Matsukawa
October 15, 2003
Page 2

- e. Discharges of hydrotesting water.
- f. Discharges of construction dewatering effluent.
- g. Discharges of treated effluent from petroleum bulk stations and terminals.
- h. Discharges of treated effluent from well drilling activities.
- i. Discharges of treated effluent from recycled water distribution systems.
- j. Discharges of storm water from a small municipal separate storm sewer system.
- k. Discharges of circulation water from decorative ponds or tanks.

The CWB requires that a Notice of Intent (NOI) to be covered by a NPDES general permit for any of the above activities be submitted at least 30 days before the commencement of the respective activities. The NOI forms may be picked up at our office or downloaded from our website at <http://www.state.hi.us/doh/cwb/forms/genl-index.html>.

3. The applicant may be required to apply for an individual NPDES permit if there is any type of activity in which wastewater is discharged from the project into State waters and/or coverage of the discharge(s) under the NPDES general permit(s) is not permissible. An application for the NPDES permit is to be submitted at least 180 days before the commencement of the respective activities. The NPDES application forms may also be picked up at our office or downloaded from our website at <http://www.state.hi.us/doh/cwb/forms/indiv-index.html>.
4. Hawaii Administrative Rules, Section 11-55-38, also requires the owner to either submit a copy of the new NOI or NPDES permit application to the State Department of Land and Natural Resources, State Historic Preservation Division (SHPD), or demonstrate to the satisfaction of the DOH that the project, activity, or site covered by the NOI or application has been or is being reviewed by SHPD. Please submit a copy of the request for review by SHPD or SHPD's determination letter for the project.

If you have any questions, please contact the CWB at 586-4309.

Sincerely,

DENNIS R. LAU, P.E., CHIEF
Clean Water Branch

- c. Mr. Dennis Imada, Engineering Division, Department of Land and Natural Resources
[via facsimile 587-0283]
Ms. Genevieve Salmonson, Office of Environmental Quality Control
[via facsimile 586-4186]

LINDA LAMOLE
OFFICE OF PLANNING



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION
POST OFFICE BOX 373
HONOLULU, HAWAII 96809

JUN 15 2004

PETER T. YOUNG
DIRECTOR
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON THE RESOURCES MANAGEMENT

DAN DALVENSON
DEPUTY DIRECTOR - LAND
DENISE Y. LIU LAU
DEPUTY DIRECTOR - WATER

ADOLPHO RESOURCES
MANAGEMENT CONSULTANTS
A DIVISION OF CONSTRUCTION
CONSULTANTS OF HAWAII, INC.
CONSULTANTS FOR THE RESOURCES MANAGEMENT
COMMISSION AND RESOURCES MANAGEMENT
COMMISSIONERS
PO BOX 373
HONOLULU, HAWAII 96809
LAND AND NATURAL RESOURCES
STATE PLANS

TO: Mr. Denis R. Lau, Chief
Department of Health
Clean Water Branch

FROM: Eric T. Hirano, Chief Engineer *Eric T. Hirano*

SUBJECT: Draft Environmental Assessment (EA) for Job No. G17CK11A,
Lih'u-e-Haunani'u'u (Pu'u 'A'ahoaka) Exploratory Well,
TMK 3-9-02; Portion of 01, Waialua, Kaua'i, Hawai'i

Thank you for your letter of October 15, 2003 (10067PKP.03) commenting on the subject Draft Environmental Assessment (EA). We offer the following responses in respective order of your comments:

1. The Army Corps of Engineers has determined that a Department of the Army permit will not be required for the proposed project. Attached is the Corps determination letter dated September 24, 2003.
2. A National Pollutant Discharge Elimination System (NPDES) Notice of Intent (NOI) permit for Construction Stormwater Discharge will not be required because the area of disturbance, including the 100' by 200' level area at the well site and access road, will be less than one acre.
3. The proposed project will not discharge wastewater from the project site into State waters.
4. An archaeological inventory survey for the project has been prepared and submitted to the State Historic Preservation Division (SHPD). The SHPD has determined that intensive cultivation has altered the land, that an acceptable archaeological inventory survey found no historic properties, and that no historic properties will be affected by this undertaking. Attached is the SHPD's determination for the archaeological inventory survey of the project site dated September 14, 2003.

We appreciate your interest and participation in the public review phase of the Draft EA. Your letter will be reproduced in the forthcoming Final EA.

Should you have any questions or comments, please contact Mr. Andrew Monden of the Planning Branch at extension 7-0229.

Dick
c: Earl Matsukawa, Wilson Okamoto Corporation

Attachment: U.S. Army Corps of Engineers Determination Letter
DLNR, State Historic Preservation Division Determination Letter



STATE OF HAWAII
DEPARTMENT OF HEALTH
PO BOX 3719
HONOLULU, HAWAII 96801-3719

CYRILLE L. FURUKO, M.D.
DIRECTOR OF HEALTH

BY: *[Signature]*
DATE: 10/15/03

October 15, 2003

Mr. Earl Matsukawa
Project Manager
Wilson Okamoto Corporation
1907 South Beretania Street, Suite 400
Honolulu, HI 96826

Dear Mr. Matsukawa:

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT (DEA)
LIHUE-HANAMAULU (PU'U 'A'AHOKA) EXPLORATORY WELL
WAILUA, KAUAI
TMK: 3-9-2: 01 (PORTION)

Thank you for the opportunity to review and comment on the subject document. The Department of Health, Safe Drinking Water Branch has examined the DEA and offers the following comments:

1. The DEA indicates that the project involves the development of a new source of potable water that will be conveyed to the County of Kauai, Department of Water (Public Water System No. 410, DM Lihue). Section 11-20-29 of Chapter 20 requires that all new sources of potable water serving a public water system be approved by the Director of Health prior to its use. Such an approval is based primarily upon the submission of a satisfactory engineering report which addresses the requirements set in Section 11-20-29.
2. The engineering report must identify all potential sources of contamination and evaluate alternative control measures which could be implemented to reduce or eliminate the potential for contamination, including treatment of the water source. In addition, water quality analyses, performed by a laboratory certified in the state of Hawaii, must be submitted as part of the report to demonstrate compliance with all drinking water standards. Additional tests may be required by the Director upon his review of the information submitted.

Mr. Earl Matsukawa
October 15, 2003
Page 2

If you have any questions concerning drinking water, please contact me, at 586-4258.

Sincerely,

[Signature]

WILLIAM WONG, P.E., CHIEF
Safe Drinking Water Branch
Environmental Management Division

SY:sm

c: 1. Dennis Imada
Department of Land and Natural Resources
Engineering Division
1151 Punchbowl Street
Honolulu, HI 96809

2. Ms. Genevieve Salmonson, Director
Office of Environmental Quality Control
235 Beretania Street, Suite 702
Honolulu, HI 96813

LAND & NATURAL RESOURCES
DEPARTMENT OF HEALTH



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION
POST OFFICE BOX 373
HONOLULU, HAWAII 96809

JUN 15 2004

PETER T. YOUNG
Chairman
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCES MANAGEMENT

DAVID S. BARNES
DEPUTY DIRECTOR, LAND

DONALD T. LAU
DEPUTY DIRECTOR, WATER

ADULT RESOURCES
BOATING AND OCEAN RECREATION
COMMISSION ON WATER RESOURCES MANAGEMENT
CONSERVATION AND LAND USE
COMPREHENSIVE WATER RESOURCES
MANAGEMENT
NATURAL RESOURCES
HAWAIIAN ISLAND RESERVE COMMISSION
STATE PRINTING

TO: Mr. William Wong, P.E., Chief
Department of Health
Environmental Management Division
Safe Drinking Water Branch

FROM: Eric T. Hirano, Chief Engineer *Eric T. Hirano*

SUBJECT: Draft Environmental Assessment (EA) for Job No. G17CK11A,
Lihua'e-Hanama'ulu (Pu'u 'A'ahoaka) Exploratory Well,
TMK 3-9-02; Portion of O1, Waialua, Kaua'i, Hawai'i

Thank you for your letter of October 15, 2003, commenting on the subject Draft Environmental Assessment (EA). We offer the following responses in respective order of your comments:

1. An engineering report will be submitted to your office following the completion of pump tests for water quality and quantity.
2. The engineering report will identify all potential sources of contamination and evaluate alternative control measures, which could be implemented to reduce or eliminate the potential for contamination, including treatment of the water source. Water quality analyses will be performed by a laboratory certified in the State of Hawai'i. We acknowledge that additional tests may be required by the Director upon his review of the information submitted.

Thank you for your interest and participation in the public review phase of the Draft EA. Your letter will be reproduced in the forthcoming Final EA.

Should you have any questions or comments, please contact Mr. Andrew Monden of the Planning Branch at extension 7-0229.

Direk
c: Earl Matsukawa, Wilson Okamoto Corporation

LAND USE
OFFICE OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

October 24, 2003

PETER T. YOUNG
DIRECTOR
DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCES MANAGEMENT

DAN DAVIDSON
DEPUTY DIRECTOR - LAND
ERNEST Y. JIN, LAU
DEPUTY DIRECTOR - WATER

PUUAAHOAKAWELLKAUAI.RCM
LD-NAV

Earl Matsukawa, Project Manager
Wilson Okamoto Corporation
1907 South Beretania Street, Suite 400
Honolulu, Hawaii

Dear Mr. Matsukawa:

Subject: Draft Environmental Assessment (DEA) Wailua, Kauai, Hawaii
Lihue-Hanamaulu (Puu Aahoaka) Exploratory Well - TMK: (4) 3-9-002 Por. 001

Thank you for the opportunity to review and comment on the subject matter.

A copy of the DEA pertaining to the subject matter was distributed to the following
Department of Land and Natural Resources' Divisions for their review and comment:

- Division of Aquatic Resources
- Division of Forestry and Wildlife
- Division of State Parks
- Engineering Division (APPLICANT)
- Office of Conservation and Coastal Lands
- Land-Kauai District Land Office

The Department of Land and Natural Resources' Land Division received no comments on
the subject matter.

Should you have any questions, please feel free to contact Nicholas A. Vaccaro of the
Land Division Support Services Branch at 1-808-587-0384.

Very truly yours,

DIERDRE S. MAMIYA
Administrator

C: KDLO

DEPARTMENT OF LAND AND NATURAL RESOURCES
Engineering Division

JWH 115 2004

TO: Ms. Dierdre S. Mamiya, Administrator
Land Division

FROM: Eric T. Hirano, Chief Engineer

SUBJECT: Draft Environmental Assessment (EA) for Job No. G17CK11A,
Lihue-Hanamaulu (Puu 'A'ahoaka) Exploratory Well,
TMK 3-9-02: Portion of 01, Wailua, Kauai, Hawaii

Thank you for your letter of October 24, 2003 (PUUAAHOAKAWELLKAUAI.RCM)
indicating that your division has no comments to offer on the subject Draft Environmental
Assessment (EA).

We appreciate your interest and participation in the public review phase of the Draft EA. Your
letter will be reproduced in the forthcoming Final EA.

Should you have any questions or comments, please contact Mr. Andrew Monden of the
Planning Branch at extension 7-0229.

Dick
c: Earl Matsukawa, Wilson Okamoto Corporation





STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
HISTORIC PRESERVATION DIVISION
KANUHIHEWA BUILDING, ROOM 555
601 KAAHAKOLA BOULEVARD
KAPOLEI, HAWAII 96707



PETER T. YOUNG
Chairman
BOARD OF LAND AND NATURAL RESOURCES
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DEPT. OF LAND AND NATURAL RESOURCES
STATE OF HAWAII
601 KAAHAKOLA BOULEVARD
KAPOLEI, HAWAII 96707
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COMMISSION ON THE HISTORIC PRESERVATION
DEPT. OF LAND AND NATURAL RESOURCES
STATE OF HAWAII
601 KAAHAKOLA BOULEVARD
KAPOLEI, HAWAII 96707

September 16, 2003

Ms. Michelle Elmore
ACP, Inc.
59-624 Pupukea Road
Haleiwa, Hawaii 96712

Dear Ms. Elmore:

LOG NO: 2003.1754
DOC NO: 0309NM06

SUBJECT: Chapter 6E-42 Historic Preservation Review of Revised Pages for An Archaeological Inventory Survey Report for Exploratory Wells Located in Wailua, Lihue, Kauai
TMK: (4) 3-9-02: 1

Thank you for correcting the tax map key information, and submitting the revised pages on September 9, 2003 (Elmore and Kennedy, 2002. An Archaeological Inventory Survey for the Pu'u A'ahoaka Exploratory Well Located in Wailua Ahupua'a, Lihue District, Island of Kauai, ACP ms.). We accept the revised report as final, and concur with its recommendation that no further work is necessary.

If you have any questions, please call Nancy McMahon 742-7033.

Aloha,

P. Holly McEldowney

P. HOLLY MCELDOWNEY, Acting Administrator
State Historic Preservation Division

c. Ian Costa, County of Kauai
Land, DLNR
Kauai's Historic Preservation Review Commission

NM:ak

DEPARTMENT OF LAND AND NATURAL RESOURCES
Engineering Division
JUN 15 2004

TO: Ms. P. Holly McEldowney, Acting Administrator
Historic Preservation Division
FROM: Eric T. Hirano, Chief Engineer *Eric T. Hirano*
SUBJECT: Draft Environmental Assessment (EA) for Job No. G17CK11A,
Lihue'e-Hanamā'u (Pu'u 'A'ahoaka) Exploratory Well,
TMK 3-9-02: Portion of 01, Wailua, Kauai, Hawaii

Thank you for your letter of September 16, 2003 (0309NM06) commenting on the subject Draft Environmental Assessment (EA). We acknowledge that the revised *Archaeological Inventory Survey Report for the Pu'u 'A'ahoaka Exploratory Well Located in Wailua Ahupua'a, Lihue District, Island of Kauai, ACP, ms.*, which will be reproduced in the Final EA, has been accepted and that no further archaeological work is necessary.

We appreciate your interest and participation in the public review phase of the Draft EA. Your letter will be reproduced in the forthcoming Final EA.

Should you have any questions or comments, please contact Mr. Andrew Monden of the Planning Branch at extension 7-0229.

Dick
c: Earl Matukawa, Wilson Okamoto Corporation



Title: Archaeologist for Kauai

LAND AND NATURAL RESOURCES
DEPARTMENT OF LAND AND NATURAL RESOURCES



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
HISTORIC PRESERVATION DIVISION
KAOIUREWA BUILDING, ROOM 655
601 KALANOKUA BOULEVARD
KAPOLEI, HAWAII 96707
HAWAII HISTORIC PRESERVATION
DIVISION REVIEW

PETER T. VOLPE
BOARD OF LAND AND NATURAL RESOURCES
COMMISSIONER OF LAND AND NATURAL RESOURCES
DAY EAVYSON
DEPUTY DIRECTOR - LAND
BENNETT Y. LAU
DEPUTY DIRECTOR - CULTURE

HAWAII HISTORIC PRESERVATION
DIVISION REVIEW
COMMISSIONER OF LAND AND NATURAL RESOURCES
DEPUTY DIRECTOR - LAND
DEPUTY DIRECTOR - CULTURE
DEPUTY DIRECTOR - PLANNING
DEPUTY DIRECTOR - RECREATION
DEPUTY DIRECTOR - TOURISM
DEPUTY DIRECTOR - UTILITIES
DEPUTY DIRECTOR - WATER

Log #: 2003.1960
Doc #: 0310NM21.doc

Applicant/Agency: Earl Matsukawa, Project Manager, Wilson Okamoto Corp/Department of Water,
County of Kauai

Address: 1907 South Beresford Street, Suite 500
Honolulu, HI 96826

SUBJECT: Historic Preservation Review - DEFA - Lihue-Haunani (Pu'u 'A'ahoaka)
Exploratory Well

Ampua'u, Waialua
District, Island: Lihue Kauai
TMK: (4) 3-9-2: 0 | por

1. We believe there are no historic properties present, because:

- a) intensive cultivation has altered the land
- b) residential development/turbanization has altered the land
- c) previous grubbing/grading has altered the land
- d) an acceptable archaeological assessment or inventory survey found no historic properties
- e) other:

2. This project has already gone through the historic preservation review process, and mitigation has been completed.

Thus, we believe that "no historic properties will be affected" by this undertaking

Staff: Nancy McMahon Date: 10/14/03

Title: Archaeologist for Kauai

DEPARTMENT OF LAND AND NATURAL RESOURCES
Engineering Division
JAN 15 2004

TO: Ms. Nancy McMahon, Kauai Archaeologist
Historic Preservation Division
FROM: Eric T. Hirano, Chief Engineer *Eric T. Hirano*
SUBJECT: Draft Environmental Assessment (EA) for Job No. G17CK11A,
Lihue-Haunani (Pu'u 'A'ahoaka) Exploratory Well,
TMK 3-9-02: Portion of 01, Waialua, Kauai, Hawaii

Thank you for your letter of October 14, 2003 (0310NM21), commenting on the subject Draft Environmental Assessment (EA). We acknowledge your determination that intensive cultivation has altered the land and that an acceptable archaeological inventory survey found no historic properties. Therefore, we understand that you believe no historic properties will be affected by this undertaking.

We appreciate your interest and participation in the public review phase of the Draft EA. Your letter will be reproduced in the forthcoming Final EA.

Should you have any questions or comments, please contact Mr. Andrew Monden of the Planning Branch in Honolulu at 587-0229.

Dick
c: Earl Matsukawa, Wilson Okamoto Corporation



PHONE (808) 544-1848



STATE OF HAWAII
OFFICE OF HAWAIIAN AFFAIRS
711 KAPOLUNA BOULEVARD, SUITE 500
HONOLULU, HAWAII 96813

FAX (808) 594-1843

September 26, 2003

Mr. Earl Matsukawa
Wilson Okamoto Corporation
1907 South Beretania St., Ste 400
Honolulu, HI 96826

RE: Environmental Assessment Pre-Consultation Lihue-Hanalei Exploratory Well, Lihue, Kauai, TMK
3-9-02.01

HRD03/1121

Dear Mr. Matsukawa,

OHA is in receipt of your July 22, 2003 request for comments on the above project. We apologize for our late response and offer the following comments.

Pu'u A'ahoaka has both historic and prehistoric village sites. Your assessment should include an archaeological inventory survey in the area of the well to ensure that the well is sited so as not to disturb cultural deposits or burials.

OHA is curious as to why a well is being located at Pu'u A'ahoaka. OHA's understanding is that the State land under lease in the area had enough water so that additional water sources would not have to be tapped. Furthermore, we believe it is the State's responsibility to ensure that ground water from Blue Hole, which is currently being diverted across former Amfoc lands, be returned to the State for use on the 640 acres (more or less) being leased behind Kalapa Ridge.

If the water is for potable uses, those uses should be identified in the EA. The EA should also address the sustainable yield of the aquifer and any planning processes in place to ensure that enough water for any projects that may use the aquifer in the future.

Thank you for this opportunity to comment. If you have further questions, please contact Pua Aiu at 594-1931 or e-mail her at paiu@oha.org.

Sincerely,

A handwritten signature in black ink, appearing to read "Peter L. Yen".

Peter L. Yen
Director
Neighborhood and Native Rights

LINDA LINDALE
OFFICE OF NATURAL RESOURCES



PETER S. YOUNG
COMMISSIONER
OFFICE OF LAND AND NATURAL RESOURCES
COMMISSIONER OF WATER RESOURCE MANAGEMENT

OLUF DAMVONSEN
DEPUTY DIRECTOR - LAND

ERNEST YUN LAU
DEPUTY DIRECTOR - NATIVE

AGRICULTURE, FORESTRY AND RANGELANDS
DIVISION
BUREAU OF CONSERVATION
COMMISSIONER OF WATER RESOURCE MANAGEMENT
COMMISSIONER OF LAND AND NATURAL RESOURCES
FORESTRY AND WILDLIFE
DIVISION
BUREAU OF LAND RESOURCE MANAGEMENT
LAND
DIVISION

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION
POST OFFICE BOX 373
HONOLULU, HAWAII 96809

JAN 15 2004

TO: Mr. Peter Yee, Director
Office of Hawaiian Affairs
Nationhood and Native Rights

FROM: Eric T. Hirano, Chief Engineer *Eric T. Hirano*

SUBJECT: Draft Environmental Assessment (EA) for Job No. G17CK11A,
Lihue-Hanama'ulu (Pu'u 'A'ahoaka) Exploratory Well,
TMK 3-9-02: Portion of 01, Waialua, Kauai'i, Hawaii'i

Thank you for your letter of September 26, 2003 (HRD03/1121), in response to our Pre-Assessment Consultation Letter dated July 22, 2003. Inasmuch as your letter was received after the Draft Environmental Assessment (EA) was published on September 22, 2003, it is not included in that document. We offer the following responses in the respective order of your comments:

1. An archaeological inventory survey for the project has been prepared and submitted to the State Historic Preservation Division (SHPD). The inventory survey report was also reproduced in the Draft EA and a revised report will be reproduced in the Final EA. The SHPD has determined that "no historic properties will be affected" by the proposed project. Attached is the SHPD's determination for the archaeological inventory survey of the project site dated September 14, 2003.

2. A site assessment of the region was conducted to determine the most suitable location for an exploratory well and, of three candidate sites, Pu'u 'A'ahoaka was recommended as the most favorable.

The State Department of Land and Natural Resources is responsible for developing potable water sources to meet water demands for State projects in the Lihue-Hanama'ulu area. If pumping tests are successful and the well is developed for permanent production, it will be conveyed to the County of Kauai'i Department of Water to serve the greater Lihue-Hanama'ulu area. The project is not related to the need for water in the immediate vicinity of State-owned lands at Kālepa Ridge.

The situation regarding the diversion of ground water from Blue Hole is beyond the scope of this project.

3. Both the Draft EA and Final EA discuss the use for the potable water and the sustainable yield of the aquifer. Currently, the State Commission on Water Resource Management (CWRM) identifies the combined sustainable yield for the area from Puhī to Waialua as 100 million gallons per day (mgd). It is estimated that Kauai's aquifers are recharged by 652 mgd while it only pumps a total of about 46 mgd. Therefore, Kauai is not in danger of exceeding its sustainable levels of withdrawal from its aquifers at this time.

We appreciate your interest and participation in the public review phase of the Draft EA. Your letter will be reproduced in the forthcoming Final EA.

Should you have any questions or comments, please contact Mr. Andrew Monden of the Planning Branch at 587-0229.

Direct
c: Earl Matsukawa, Wilson Okamoto Corporation

Attachment: State Historic Preservation Comment Letter



STATE OF HAWAII
DEPARTMENT OF HAWAIIAN HOME LANDS

FO BOX 1079
HONOLULU, HAWAII 96810

MICAH A. KANE
CHAIRMAN
HAWAIIAN HOMES COMMISSION
REN KOSAKA
DEPUTY TO THE CHAIRMAN
KAREN M. PEARCE
EXECUTIVE ASSISTANT

November 7, 2003

Mr. Earl Matsukawa, Project Manager
Wilson Okamoto Corporation
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

Dear Mr. Matsukawa:

Subject: Lihu'e-Hanama'ulu (Fu'u 'A'ohoaka) Exploratory
Well, Tax Map Key: 3-9-02:01(por); Wailua, Kaua'i

After review of the September 2003 draft environmental assessment (DEA) for the subject project, the Department of Hawaiian Home Lands (DHHL) offers the following:

1. The DHHL supports the purpose of the project to increase the water service capacities in populated and new growth areas where there are current or anticipated shortages. Should the exploratory well prove successful, the Department of Land and Natural Resources (DLNR) would develop it into a production well for conveyance to the County Department of Water (DOW). (Page 1-1)

The EA should describe and provide a map of the County water system into which the well would be tied. How far is it to make the DOW service connection and where are other wells in this system? The DHHL would also like to know if the service area would include lands under our jurisdiction located makai, beyond the Kalepa Ridge and just south of the Wailua River: TMK 3-9-02:12, 17, 24-27; 3-9-06: 9, 11.
2. The report states that this particular Fu'u 'A'ohoaka site was selected because of its great potential for developing a high-yielding well. Both the location and the elevation of the selected spot (between and above two waterfalls) are

Mr. Earl Matsukawa
November 7, 2003
Page 2

significant based on an hydrogeologic estimate of the presence of a higher water table. (Page 4-1)

The project site is described as an undeveloped hill surrounded by lands formerly used for sugarcane cultivation. [Page 1-1] Is there an intention to also develop a storage tank on the site or nearby if the well is developed for production?

3. Fu'u 'A'ohoaka has some cultural significance, being mentioned in oral and written historical accounts. The site was not used for sugarcane cultivation, so there may be intact cultural features and native flora and fauna. Great care should be exercised when doing land clearing and drilling, especially in view of comments from the State Historic Preservation Division that old records indicate the presence of grave sites. While a visual reconnaissance was conducted, some surface and buried features could have been missed by the transect spacing of 15 meters (about 45 feet). (Appendix B, Page 13)

Thank you for allowing our review and comments. If you have any questions, please call Joe Chu of our Planning Office at 587-6421.

Aloha and mahalo,

Janell Jago
for
Micah A. Kane, Chairman
Hawaiian Homes Commission

c: DLNR - Engineering
OEQC

LOCAL LANDS
DIVISION OF LANDS



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION
POST OFFICE BOX 373
HONOLULU, HAWAII 96809
JUN 15 2004

PETER E. YOUNG
Chairman
BOARD OF LAND AND NATURAL RESOURCES
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DEPT. DIRECTOR - LAND
ERNEST Y. K. LAU
DEPT. DIRECTOR - WATER
ADJUTANT GENERAL
BOYD AND DEAN REYNOLDS
COMMISSIONER OF CONSERVATION
COMMISSIONER OF FOREST AND COASTAL LANDS
COMMISSIONER OF HISTORIC PRESERVATION
COMMISSIONER OF PUBLIC WORKS
PROPERTY AND UTILITIES
DIVISION
HAWAIIAN ISLAND RESERVE COMMISSION
1511 PINE
EST. 1976

TO: Mr. Micah Kane, Chairman
Department of Hawaiian Home Lands
Hawaiian Homes Commission

FROM: Eric T. Hirano, Chief Engineer

SUBJECT: Draft Environmental Assessment (EA) for Job No. G17CK11A,
Lihu'e-Hanama'u (Pu'u 'A'ahoaka) Exploratory Well,
TMK 3-9-02: Portion of 01, Waialua, Kauai, Hawaii

Thank you for your letter of November 7, 2003, commenting on the subject Draft Environmental Assessment (EA). We offer the following responses in the respective order of your comments:

1. The County of Kauai Department of Water (DOW) was consulted during both the site selection process and the Draft EA. An analysis was conducted using the DOW water system maps to select the project site. However, for security reasons, the DOW has requested that the water system maps not be included in the Draft EA.

The land under DHHL jurisdiction, located makai, beyond the Kalepa Ridge and just south of the Waialua River (TMK 3-9-02:12, 17, 24-37 and 3-9-06:9, 11) is currently serviced by the Waialua-Kapa'a Water Service System, not by the Puhi-Lihu'e-Hanama'u Water Service System.
2. If tests conducted on the exploratory well prove successful and the well is developed for production, a second Environmental Assessment will be prepared to address the development of production and transmission facilities. The site selection study assumed that the production well site would not require a reservoir. One of the selection criteria was the cost of developing a transmission line connecting into the existing 16" mainline along Ma'alo Road.
3. An archaeological inventory survey for the project has been prepared and submitted to the State Historic Preservation Division (SHPD). The SHPD has determined that intensive cultivation has altered the land, that an acceptable archaeological inventory

survey found no historic properties, and that no historic properties will be affected by this undertaking. Attached is the state's determination for the archaeological inventory survey of the project site dated September 14, 2003. Should any archaeological, cultural or historic sites be uncovered during construction or drilling activities, all work in the vicinity will cease and the State of Hawaii Department of Land and Natural Resources Historic Preservation Officer will be notified immediately.

We appreciate your interest and participation in the public review phase of the Draft EA. Your letter will be reproduced in the forthcoming Final EA.

Should you have any questions or comments, please contact Mr. Andrew Monden of the Planning Branch at extension 7-0229.

Dick
c: Earl Matsukawa, Wilson Okamoto Corporation

Attachment: DLNR, State Historic Preservation Division Determination Letter



November 6, 2003

Mr. Earl Matsukawa
Wilson Okamoto Corporation
1907 S. Beretania Street, Suite 400
Honolulu, HI 96826

Dear Mr. Matsukawa:

Subject: Draft Environmental Assessment for Lihue-Hanamaulu (Pu'u A'ahoaka)
Exploratory Well, TMK: 3-9-2:1 (por.), Wailua, Kauai, Hawaii

This is in regard to your letter of October 7, 2003. We have no objections and are in favor of the proposed project.

If you have any questions, please call Edward Doi at 245-5417.

Sincerely,

Greg Fujikawa
Chief of Water Resource and Planning Division

ED:emi

c: Mr. Dennis Imada
State of Hawaii, DLNR, Engineering Division
1151 Punchbowl Street
P.O. Box 373
Honolulu, HI 96809

Ms. Genevieve Salmonson
State of Hawaii, Office of Environmental Quality Control
235 Beretania Street, Suite 702
Honolulu, HI 96813

23-412 Hanalei, Kauai

Water has no substitute..... Consider it

LOCAL LEGISLATIVE
OFFICE OF HONOLULU



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION
POST OFFICE BOX 373
HONOLULU, HAWAII 96809

JAN 15 2004

PETER T. YOUNG
CHAIRMAN
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

DAN DAVIDSON
DEPUTY DIRECTOR - LAND
ERNEST YUK LAU
DEPUTY DIRECTOR - WATER

AGRICULTURE
BUREAU OF COUNTY PLANNING
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSTRUCTION AND RESOURCE ENFORCEMENT
ENVIRONMENTAL AND PLANNING
HISTORIC PRESERVATION
LAND AND NATURAL RESOURCES
MARINE RESOURCE COMMISSION
PLANNING

Mr. Gregg Fujikawa, Chief
County of Kauai Department of Water
Water Resource and Planning Division
P.O. Box 1706
Lihue, Kauai, Hawaii 96766

Dear Mr. Fujikawa:

Draft Environmental Assessment (EA) for Job No. G17CK11A,
Lihue-Hanamaulu (Pu'u A'ahoaka) Exploratory Well,
TMK 3-9-02: Portion of 01, Wailua, Kauai, Hawaii

Thank you for your letter of November 6, 2003, commenting on the subject Draft Environmental Assessment (EA). We acknowledge that you are in favor of the subject project and have no comments to offer at this time.

We appreciate your interest and participation in the public review phase of the Draft EA. Your letter will be reproduced in the forthcoming Final EA.

Should you have any questions or comments, please contact Mr. Andrew Monden of the Planning Branch in Honolulu at (808) 587-0229.

Sincerely,

ERIC T. HIRANO
Chief Engineer

Dick
c: Earl Matsukawa, Wilson Okamoto Corporation

BRYAN J. BAPTISTE
MAYOR

GARY K. HEU
ADMINISTRATIVE ASSISTANT



COUNTY ENGINEER
TELEPHONE 241-6600

WYNNE M. USHIGOME
DEPUTY COUNTY ENGINEER
TELEPHONE 241-6845

AN EQUAL OPPORTUNITY EMPLOYER

COUNTY OF KAUAI
DEPARTMENT OF PUBLIC WORKS
4444 RICE STREET
MOTIKENA BUILDING, SUITE 275
LIHUE, KAUAI, HAWAII 96766-1340

October 20, 2003

Wilson Okamoto Corporation
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

Attention: Mr. Earl Matsukawa

Gentlemen:

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT (DEA) FOR
LIHUE-HANAMA'ULU (PU'U A' AHOAKA) EXPLORATORY
WELL, TMK: 3-9-02-01 (POR.) WAILUA, KAUAI, HAWAII

We reviewed the subject draft environmental assessment and offer the following comments in regards to grading:

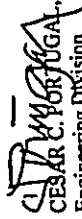
A. GRADING:

1. Although a grading permit is not required from the County for grading on State lands which are within a self contained government controlled area, we expect the State to provide and incorporate best management practices (BMP's) in the development of the construction plans for the subject exploratory well. During the site preparation of the well site and the access road to the well site, We also expect the State to inspect and monitor the BMP's at all times to reduce the impacts of polluted runoff to the environment and to waters of the State.
2. A separate grading permit may be required for the disposal of the excess wasted excavated material from the grading of the well site and access road. The disposal site will need to be identified.

Wilson Okamoto Corporation
October 20, 2003
Page (2)

Thank you for this opportunity to provide our comments. Should you have any questions, please feel free to contact Wallace Kudo of my staff at (808) 241-6622.

Very truly yours,


CESAR C. PORCUGA, P.E.
Engineering Division

wk

cc: Mr. Dennis Imada, Project Engineer
State of Hawaii
Department of Land and Natural Resources
Engineering Division
1151 Punchbowl Street
P.O. Box 373
Honolulu, Hawaii 96809

Ms. Genevieve Salmonson, Director
State of Hawaii
Office of Environmental Quality Control
235 Beretania Street, Suite 702
Honolulu, Hawaii 96813

Wynne Ushigome
Design and Permitting Section



Wilson Okamoto Corporation

Planning | Civil Engineering | Structural Engineering | Traffic Engineering