

JOHN WAIHEE  
GOVERNOR OF HAWAII



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
DIVISION OF WATER RESOURCE MANAGEMENT  
P. O. BOX 373  
HONOLULU, HAWAII 96809

September 6, 1990

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WATER RESOURCE MANAGEMENT

Dr. Bruce Anderson  
Acting Director  
Office of Environmental  
Quality Control  
465 South King Street  
Kekuanaoa Building, Room 104  
Honolulu, Hawaii 96813

Dear Dr. Anderson:

Job No. 8-HW-B  
Keel Exploratory Well 4 (No. 2753-03)  
Keel, South Kona, Hawaii

Pursuant to Section 11 of the Environmental Impact Statement Rules, transmitted for processing are four (4) copies of the Environmental Assessment and Notice of Determination (Negative Declaration) for the subject project. Also attached is a completed OEQC Bulletin Publication Form.

If there are any questions on this matter, please have your staff contact Mr. Gordon Akita of the Planning Branch at Extension 8-7496.

Sincerely,

MANABU TAGOMORI  
Manager-Chief Engineer

AM:lc

Enc.

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1990-09-23-HA-FBA

FILE COPY

ENVIRONMENTAL ASSESSMENT  
AND  
NEGATIVE DECLARATION

Job No. 8-HW-B  
Kei Exploratory Well 4  
Well No. 2753-03  
Kei, South Kona, Hawaii

State of Hawaii  
Department of Land and Natural Resources  
Division of Water Resource Management  
April 1990

NOTICE OF DETERMINATION: Negative Declaration

FOR: Job No. 8-HW-B  
Keel Exploratory Well 4 (Well No. 2753-03)  
Keel, South Kona, Hawaii

BY: Division of Water Resource Management  
Department of Land and Natural Resources

The proposed action will have no significant effect on the environment and therefore does not require the preparation of an Environmental Impact Statement. This Notice of Determination and Environmental Assessment, are being filed as a Negative Declaration.

ENVIRONMENTAL ASSESSMENT  
for  
Job No. 8-HW-B  
Kei Exploratory Well 4  
Well No. 2753-03  
Kei, South Kona, Hawaii

I. Proposing Agency

Division of Water Resource Management  
Department of Land and Natural Resources

II. Parties Consulted

Hawaii County Department of Water Supply  
Hawaii County Planning Department  
Historic Preservation Program, DLNR  
Division of Forestry, DLNR

III. Project Description

This project involves the drilling, casing and testing of an 18-inch diameter well approximately 1390 feet deep on the slopes of Mauna Loa, in the district of South Kona, Island of Hawaii. The proposed well site is located on TMK:8-3-11:8. The parcel is owned by B.P. Bishop Estate. See Figures 1 and 2.

Funds for this project are available under Act 216, SLH 1987, Item A-23.

This exploratory well drilling is part of the "Statewide Exploratory Well Drilling Program" to locate new groundwater sources and to gather geo-hydrologic data on the quality and quantity of groundwater resources. Should this well exploration prove successful, it will be turned over to the Hawaii County Department of Water Supply as a water source for the South Kona Water System. A separate environmental assessment for the development of the well will be prepared at that time.

In the event that the exploration is not successful, the well will be sealed and the area restored, as much as practical, to its natural condition.

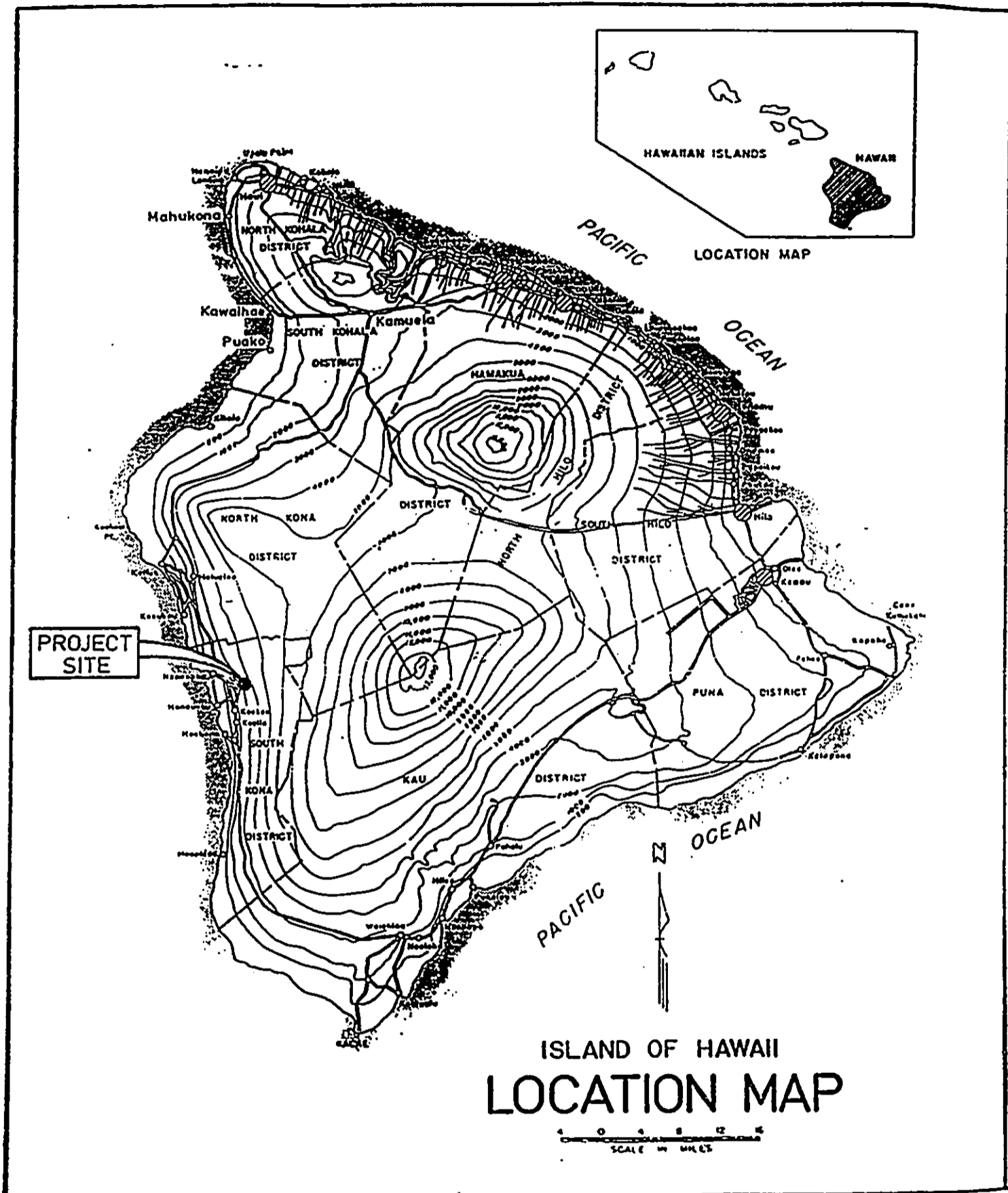


FIGURE 1

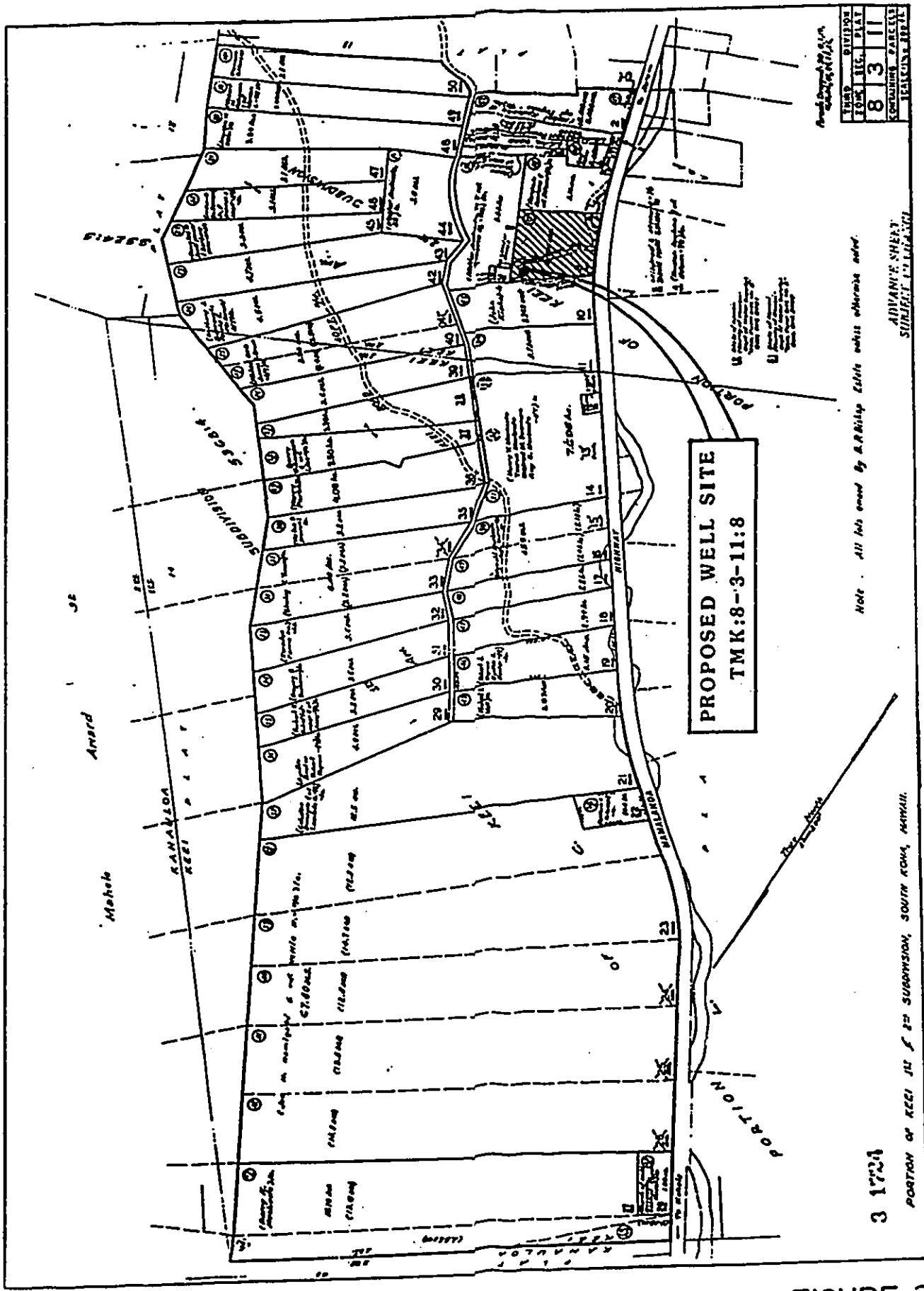


FIGURE 2

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

Ground Elevation: 1320 feet  
Casing Diameter: 18 inches  
Length of Solid Casing: 1310 feet  
Length of Full Flo Shutter Screen: 40 feet  
Length of Open Hole: 40 feet (to be determined in field)  
Total Depth: 1390 feet  
Duration of Pump Test: 72 to 150 hours  
Proposed Pump Test Range: 300 to 1800 gpm  
Length of Project: 9 months  
Estimated Construction Cost: \$954,000

#### IV. The Assessment Process

A geo-hydrologic study of the South Kona area was conducted to identify the potential areas for groundwater exploration. This was followed by engineering analysis to determine the improvement requirements and costs of various alternate well sites and associated environmental and social impacts. The selection of the final site was coordinated with the Hawaii County Department of Water Supply. A field reconnaissance of the project site was conducted to investigate the physical environment and confirm the earlier conclusions made from researching reference materials.

#### V. Description of the Environment

The South Kona district is located on the southwest coast of the island of Hawaii. This district is characterized by the rural communities of Napoopoo, Honaunau and Hookena. The major commercial activities are agricultural endeavors such as coffee, macadamia nuts and cattle ranching.

The steeply sloping terrain of South Kona presents limitations to development. The population of the district was approximately 7,500 in 1988, and its distribution generally dispersed along the main roadways.

The soil type of the area is extremely stony silty clay loam. This material is well drained at slopes of 12 to 20 percent. Permeability is rapid, runoff is slow and erosion hazard is slight. The average annual rainfall of the area is between 40 to 60 inches.

Natural vegetation of the area includes guava, lantana, haole koa and grasses. Fauna of the area include mice, rat and mongoose.

The State Land Use designation of the project site is Agriculture, as is most of the South Kona district. The Hawaii county zoning designation of the site is Agriculture - 1 acre (A-1a). Wells are a permitted use under both State and County designations.

The project site is located below the existing Hawaii County Department of Water Supply's 0.2 million gallon Keei Reservoir. The nearest residence is 300 feet to the east.

The site is presently cultivated with coffee trees. It is unlikely that any archaeological or historical features exist within the site. However, if any unanticipated sites or artifacts are discovered during construction, the work will be halted and the State Historic Preservation Office will be contacted. No endangered species of fauna or flora is expected to be in this site.

#### VI. Probable Impacts and Mitigative Measures

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

A working pad, approximately 5,000 square feet in area, will need to be cleared and graded for the drilling equipment and materials storage. Dust from the clearing and grading work will be minimal because of the lack of soil in the area.

Erosion should be slight and runoff slow due to the rocky soil type of the area. Nevertheless, erosion and sediment control provisions will be included as part of the contract specifications.

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

Noise generated during the drilling work may at times be in excess of 95 decibels at the property line of the construction site. Therefore, drilling work will be restricted to eight (8) hours during the day and as specified in Chapter 44B, Public Health Regulations. No work will be permitted during weekends and holidays without the prior consent of the Department.



After the well has been drilled to the specified depth and cased, a temporary pump will be installed in the well to test the groundwater aquifer for yield and water quality. The pump test will be conducted over a continuous 72 to 150 hour period. The pump motor will generate a droning sound and the noise may, at times, be heard during the night. The Contractor will be required to use mufflers or other sound attenuating devices, as needed to meet applicable noise restriction regulations of the Department of Health.

#### VII. Alternatives

There are two possible options to the proposed project: a "no action" alternative and an alternate well site.

A "no action" alternative would preclude the investigation of groundwater sources and the possibility of adding a new water source for the area. This alternative would not meet the objectives of the project.

Alternative sites were considered for the proposed well. However, based on geo-hydrologic and topographic conditions, cost, risk and environmental and social impacts, the selected site was considered to be superior to the alternative sites.

#### VIII. Determination

Adverse impacts resulting from the drilling and testing of the exploratory well at South Kona, Hawaii, are insignificant and temporary. Based on the findings of this environmental assessment, an Environmental Impact Statement is not required and is hereby being filed as a Negative Declaration.

REFERENCES . . . .

County of Hawaii, General Plan (Draft), August 1987.

State of Hawaii, Department of Business and Economic Development, The State of Hawaii Data Book 1989.

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

United States Department of Agriculture, Soil Conservation Service, Soil Survey of the Island of Hawaii, State of Hawaii, 1973.