



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT
P.O. BOX 621
HONOLULU, HAWAII 96809

STAFF SUBMITTAL

COMMISSION ON WATER RESOURCE MANAGEMENT

July 17, 2013
Honolulu, Oahu

NORMAN RIZK
APPLICATION FOR A WATER USE PERMIT
Papohaku-Rizk Well (Well No. 1015-01), TMK 5-1-006:072, WUP No. 937
Future (Agricultural) Use for 0.006 mgd
Kaluakoi Ground Water Management Area, Molokai

APPLICANT:

Norman Rizk
P.O. Box 71 1001 Kamokila Blvd.
Maunaloa, HI 96803

LANDOWNER:

Same

SUMMARY OF REQUEST:

The applicant requests that the Commission on Water Resource Management ("Commission") approve a Ground Water Use Permit ("WUP") to use **0.006** million gallons per day (mgd) of **non-potable basal** ground water from a new well to irrigate **5 acres of agricultural land**.

LOCATION MAP: See Exhibit 1a & 1b

BACKGROUND:

- October 6, 2011 The applicant submitted applications for a ground water use permit (GWUPA) and a well construction/pump installation permit (WCPIPA). Later emails on October 14, 2013 indicated the applications were incomplete.
- May 1, 2013 The applicant resubmitted amended complete GWUPA & WCPIPA, except that a licensed contractor needed to sign the application.
- May 13, 2013 The applicant agreed to proceed with processing the GWUPA and defer completion of the WCPIPA details until the GWUPA is approved. Therefore,

this date constitutes the completion date of the GWUPA. Public Notice was published on May 30, and June 6, 2013. Comments and objections were due June 21, 2013.

July 2, 2103

The Commission received an emailed letter dated June 26, 2013, claiming the application was incomplete because it had not shown evidence that readily available sources on gathering rights were consulted. OHA raised questions about a) potential impacts of well pumping on the near-shore discharge essential to marine resources important to traditional and customary gathering; and b) potential impacts on migratory birds if the aquaculture shrimp became diseased.

These questions were re-circulated to the applicant and to the Department of Health and the Aquatics Division of DLNR.

Additional information regarding the source, use, notification, objections, and field investigation(s) is provided in Attachment A.

No objections were submitted. Several parties raised questions or concerns. Most were answered on the application. Staff does not recommend a public hearing.

ANALYSIS / ISSUES:

The State Water Code, Haw. Rev. Stat. § 174C-49(a), establishes seven (7) criteria that must be met to obtain a water use permit. We analyze the 7 criteria in order:

(1) Water availability

Through its 2008 Water Resource Protection Plan (WRPP 2008) of the overall Hawaii Water Plan, the Commission adopted 2 mgd as the sustainable yield for the **Kaluakoi** Aquifer System Area. All of it is brackish. Individual existing water use permits in this aquifer system area are shown in Exhibit 2. All wells in the aquifer area are shown in Exhibit 3. A summary of the current ground water allocation conditions in the aquifer is provided in Table 1:

Table 1. Kaluakoi Aquifer System Area

| <u>ITEM</u> | Kaluaoi Aquifer System Area (mgd) |
|---|--|
| Sustainable Yield | 2 |
| Less: Other Existing Water Use Permits (shown in Exhibit 2) | 0.016 |
| Reservation to DHHL | 0 |
| Subtotal (Current Available Allocation) | 1.984 |
| Less: Other Completed Applications (shown in Exhibit 2) | 0.008 |
| Less: This Application | 0.006 |
| Subtotal (Potential Available Allocation/Allocation Deficit) | 1.970 |

Therefore, there is adequate water available to accommodate this application. The water is likely to be brackish. Desalinization may make the water useful.

(2) Reasonable-beneficial

Haw. Rev. Stat. §174C-3 defines "reasonable-beneficial use" is

. . . [T]he use of water in such a quantity as is necessary for economic and efficient utilization, for a purpose, and in a manner which is both reasonable and consistent with the state and county land use plans and the public interest.

I. Purpose of Use

The applicant is requesting the use of brackish, non-potable ground water to irrigate an acre of citrus trees and four acres of general landscaping. The Declaration of Policy, Haw. Rev. Stat. §174C-2(c) states that the Water Code shall be liberally interpreted to obtain maximum beneficial use of the waters of the State for various purposes including industrial and irrigation uses.

II. Quantity

The applicant requests **0.006** mgd (6,000 gpd) to irrigate 1 acre of citrus trees at the rate of 2,000 gpd and 4 acres of general landscaping at the rate of 4,000 gpd.

III. Efficiency

The applicant states that its operations are water efficient because the trees will be trickle or drip-irrigated. The four acres of general landscaping will use multiple sprinklers.

Updated irrigation models designed by the University of Hawaii College of Tropical Agriculture and Human Resources (Irrigation Water Requirement Estimate Decision Support System, or IWREDSS Ver 2.0) calculates the amounts appropriate for the location and season. Ver 2.0 incorporates the latest and best data for rainfall (2011 Rainfall Atlas), soil types (Sept 2012 NRCS state soil maps) typical natural ground cover, crop transpiration and root depth, and slope factors) with daily climate and crop types.

The IWREDSS Ver 2.0 estimated demand for citrus trees and for grass and either heliconia or a domestic garden. (See Exhibit 4) The requirement estimated for citrus trees over the year for the standard 1 in 5 year drought is 4,009 gpd per acre. This is twice the requested amount. The IWREDSS Ver 2.0 estimated the 1 in 5 drought for grass at about 5,500 gpd per acre, and for heliconia at 5,365 gpd/ac, a domestic garden 5,500 gpd/ac. These are roughly in line with the standards and five times the proposed amount. Either the plan has a very sparse landscape or the proposed use is far too low. Water Use Permit holders are required to report their use monthly from meter readings.

Table 2. Estimated IWREDSS 12-Month Moving Average Water Demand

| Crop | Acres | Irrigation Method | IWRED SS 80 % gpd/acre | Average Daily Use gpd |
|-------------------------------------|-------------|-------------------------------|------------------------------|-----------------------------|
| Citrus Trees | 1.00 | trickle spray | 4,009 | 4,009 |
| Bermuda Grass | 4.00 | multiple sprinkler | 5,492 | |
| Heliconia | 4.00 | multiple sprinkler | 5,364 | |
| Domestic Garden | 4.00 | multiple sprinkler | 5,474 | |
| General Landscaping (av) | 4.00 | multiple sprinkler | 5,443 | 21,773 |
| TOTAL | 5.00 | | | 25,782 |

IV. Analysis of Practical Alternatives

The applicant identified 4 alternatives to the proposed use of brackish caprock water.

1. Municipal – unavailable for irrigation
2. Wastewater - unavailable
3. Desalting – this is the proposed use
4. Conservation – drought-tolerant species will be planted, and large shade trees planted to minimize evaporation. A hedge of naupaka will not require irrigation

The 2000 Legislature amended the Water Code to include a new section, Haw. Rev. Stat. §174C-51.5 that provides the Commission with the authority to require dual line (potable and non-potable) water supply systems in new industrial and commercial developments located in designated water management areas. The applicant does not have potable water service. He proposes to install only a single non-potable system. Therefore, no dual line (potable and non-potable) water supply system is required.

Haw. Rev. Stat. §174C-51.5(3)(b) requires the county boards of water supply, in consultation with the department of health, to adopt standards for non-potable water distributed through dual line water supply systems and rules regarding the use of non-potable water. The standards and rules shall be adopted in accordance with Chapter 91 and shall protect existing water quality and the health and safety of the public. Staff will follow up with the county boards of water supply as to the status of their dual-line standards and rules adoption, so that the Commission may invoke this provision under appropriate future circumstances.

(3) Interference with other existing legal uses

There are 3 other wells within 1 mile of this source intended for irrigation. Only the Harris Well (0915-002) is believed to be currently in use. With a pump of only 22 gpm, no pump test is required. Water quality information for the Harris Well shows a chloride content of over 1000 mg/L. This is quite brackish but usable for salt-tolerant plants. The temperature is about 72 degrees Fahrenheit and originates at a low elevation. The well will employ a reverse osmosis process to reduce salinity and brine from a saltwater pond. There is no requirement for a disposal system under Department of Health permit.

(4) Public interest

The Water Code, Haw. Rev. Stat. §174C-2, Declaration of Policy, defines the public interest:

- (c) *The state water code shall be liberally interpreted to obtain maximum beneficial use of the waters of the State for purposes such as domestic uses, aquaculture uses, irrigation and other agricultural uses, power development, and commercial and industrial uses. However, adequate provision shall be made for the protection of traditional and customary Hawaiian rights, the protection and procreation of fish and wildlife, the maintenance of proper ecological balance and scenic beauty, and the preservation and enhancement of waters of the State for municipal uses, public recreation, public water supply, agriculture, and navigation. Such objectives are declared to be in the public interest.*

Gathering Rights

The Department of Hawaiian Home Lands comments that public trust gathering rights that are distinct from those of the Department of Hawaiian Home Lands must also be protected. It states “that the effects of ground water withdrawals on the near shore environment and related practices have been established during litigation on this island”. (See Exhibit 5)

A copy of the application and the public notice was sent to members of the Molokai Water Working Group, which has been convened on three occasions to examine hydrological conditions on Molokai and to establish water resource management priorities suited to the island’s community values. The Group represents a continuity of knowledge and interest about use of water within the community. No one has expressed knowledge of gathering rights at this location. The applicant states that there is no limu in this area, that salt is not collected, and that the only fishing is done offshore from boats. Gathering rights are not evident in this review.

Through the WRPP 2008, the approved sustainable yield of 2 mgd for Kaluakoi is 36% of recharge, which means that 64% of total recharge in the area is allowed to discharge to the ocean even if pumped to full sustainable yield. The proposed well’s impact on discharge would be limited to a portion of the 10,000-foot length of open sandy shoreline no more than the distance to the shore, i.e. 1,000 ft., reduced by surrounding ground water flow. The amounts of local discharge are not known. In previous test cases, the impacts of well pumping on near shore discharge have represented a small percent of the total ground water ocean discharge. The proposed pump for this well is 15 gpm. The proposed withdrawals represent 3 thousandths of one percent (0.003) of the sustainable yield.

Contested cases raising this issue provided testimony from marine scientists noting five factors influence gathered resources in the near shore environment. Only one factor is discharge. They cannot say which factor is more important, nor how the factors relate to each other. Near shore discharge was identified as the freshness of the water and its microscopic mineral nutrients, important to some species in the larval stage. There was no test of how fresh the water needs to be. Previous investigations did not specify how fresh.

Other factors include substrate, turbidity, and currents, all of which were discussed in contexts other than the open sand beach location here. The ground water in this location is relatively fresh compared with sea water, but far more brackish than elsewhere gathering rights are claimed. It is not drinkable. Staff concludes that not only is the impact of any change in discharge on gathered resources is minimal. There is no scientifically identifiable loss. In this case, any potential impact of pumping on discharge is insignificant and negligible.

On July 2, 2013, eleven days after the deadline for objections, Office of Hawaiian Affairs commented. They claim not to have had enough time to adequately address gathering rights (See Exhibit 6). The letter questioned the impact of well pumping on near shore resources of potential interest to gathering rights. It also notes that various reports discuss the importance of the West end in traditional and customary practices, and gathering as a prominent practice of life on Molokai. It does not identify gathering practices on the West End. It fairly states that a review of relevant and knowable information such as these reports may have led to follow up fact-finding by the applicant to assure a more adequate discussion of them. Finally, it raised a question of the impacts on migratory birds if aquaculture shrimp becomes diseased.

For reasons noted earlier, pumpage effects on sustainable yield discharge to the ocean are insignificant. The other questions were re-circulated to the applicant, Department of Health, and DLNR Division of Aquatics for additional comment.

Brine Injection and aquaculture discharge

The Department of Health responded to the issues within its jurisdiction and applicable requirements. The Safe Drinking Water Branch administers Title 11, Chapter 23 of the Hawaii Administrative Rules, governing underground injection. The Clean Water Branch administers Chapter 55, governing discharge into state waters, whether from well drilling fluids, aquaculture maintenance, or other sources. The applicant is responsible for complying with these requirements by law, as well as by special condition familiarly imposed by the Commission in water use or well construction permit approvals. The applicant's agent has been notified of these requirements, and advised to inquire regarding any applicable requirements. The applicant responded that if the water use permit is approved, he will take the other steps to meet Commission requirements

The applicant responded to DHHL's comments on June 26, 2013. (See Exhibit 7).

Gathering rights have been addressed by the applicant and are consistent with near shore conditions at that location. Staff believes that potential impacts upon gathering rights are negligible. This application otherwise meets the criteria of the public interest.

(5) State & county general plans and land use designations

The proposed uses are in the State **Agriculture** District. County zoning is **agriculture**. Therefore, the proposed use is consistent with these land use designations. Separately, staff has requested clarification of the county's zoning classifications with regard to unoccupied parcels. The County did not object or comment. The issues appear moot.

Normal agency review includes:

- 1) State's Department of Land and Natural Resources (DLNR) and its State Parks, Aquatic Resources, Historic Preservation, and Land Divisions; the Department of Health (DOH) with its Clean Water, Safe Drinking Water, and Wastewater Branches; the Department of Hawaiian Home Lands (DHHL), and Land Use Commission (LUC); and the Office of Hawaiian Affairs (OHA).
- 2) Office of the Mayor, Department of Planning, and the Department of Water Supply;

No comments or objections have been made through this review. These proposed uses are consistent with the state and county general plans and land use designations.

Therefore, this application **meets** the state & county general plans and land use designations.

(6) County land use plans and policies

Normal County review includes Office of the Mayor, Department of Planning, and the Department of Water Supply. No comments or objections were received.

Therefore, this application **meets** the county land use plans and policies.

(7) Interference with Hawaiian home lands rights

All permits are subject to the prior rights of Hawaiian home lands. The Department of Hawaiian Home Lands (DHHL) and the Office of Hawaiian Affairs reviewed this application. Standard water use permit conditions 3.g., 6, and 9.f. notify all water use permittees that their permits are subject to and cannot interfere with Hawaiian home land rights.

DHHL has offered significant comments (Exhibit 5):

"The applicant has provided no analysis of the potential impacts that water withdrawal from the Kaluako'i aquifer system (sic) has on the other Ground Water Management Areas,

more specifically, the Kualapuu aquifer system.”

Staff comment: The applicant is expected to rely upon the WRPP 2008, as may the Department of Hawaiian Home Lands. The WRPP 2008 spells out the ground water management system, sets forth the assumptions and analysis leading to estimate sustainable yields, and establishes hydrologic units for management. Molokai has four distinct aquifer sectors, based upon the geologic understanding that ground water flows in known ways and is prevented from flowing in other ways. The Kaluakoi Aquifer System Area is one of two system areas in the West Sector of Molokai, defining the ground water flows that originate and flow within the lavas of the West Molokai Volcano. These are overlain by lavas of the East Molokai volcano, which has been divided into three sectors, between which ground water is unlikely to flow. Ground water from the outer flanks of the main volcano flow west toward Maunaloa (the Central Sector) and meet water passing east beneath the Mahana Plain. These easterly and westerly flows, upon meeting, move toward the ocean to north and south. Ground water flowing weakly west from the peak of the West Molokai volcano toward Papohaku and the well in question is highly improbable to affect ground water flowing with greater head and volume westerly from the East Molokai volcano. The cone of depression from the well will stop growing once an equal amount of discharge along the shore on the west end (essentially 0.003 % of the shoreline of the west end) is reduced.

The Department of Hawaiian Home Lands has partnered with the U.S. Geological Survey and has created a ground water model for the island of Molokai (USGS Oki 1997) to assess ground water flow in and around the DHHL well field at Kauluwai. This model and this partnership can provide a deeper understanding of the basic nature of ground water flows affecting DHHL’s ability to use them. It would be appropriate to use the ground water model to predict possible impacts from this application. Staff anticipates results consistent with the preceding paragraph expectations for impacts to the ground water from this application.

DHHL is not restricted to withdrawing water from beneath or on its own properties...the applicant is inferring that the distance (from Hawaiian home lands) is sufficient to establish that there will be no impact on DHHL ...DHHL seeks...(that) CWRM’s decision on this WUPA ‘shall, to the extent applicable and consistent with other legal requirements and authority, incorporate and protect adequate reserves of water for current and foreseeable development and use of Hawaiian home lands as set forth in section 221 of the Hawaiian Homes Commission Act’.

Staff comment: Section 221 of the HHCA (1921) states in relevant part “All water licenses (sic) shall be deemed subject to the condition...that the licensee (sic) shall, *upon demand*

by the department, grant to it the right to use...any water which the department deems necessary adequately to supply the livestock, aquaculture operations, agriculture operations, or domestic needs of individuals upon any tract” (emphasis added). The Department of Hawaiian Home Lands, as trustee for the Hawaiian home lands trust and on behalf of its beneficiaries, has an affirmative duty to define its mandate in terms specific enough to establish current and foreseeable needs.

A large reservation of water for the area is provided by DHHL’s current wells (Kauluwai Wells 1 & 2, Well Nos. 0801-01 & -02), The reservation was established upon DHHL’s request, having defined current and foreseeable needs at the time, far in excess of its current use.

At the same time, DHHL has for several years over-pumped these wells beyond the allocation of its water use permit (WUP 267 for 0.367 mgd). DHHL’s water use reporting is also delinquent. The Commission is unable to empirically assess the dimension of potential problems at the well field. There has long been a concern that this location risks higher chlorides from excessive pumping at this location. Limited reporting indicates a dramatic rise in chlorides, as predicted, verifying the unwanted consequence of over pumping. DHHL’s over pumping impacts are real consequences, not speculative ones.

The Commission has recommended the development of alternative sources to relieve the now-demonstrated negative impacts of over pumping. Enforcement has been stayed, in part due to the fact that DHHL requested and received a water reservation for unused portions of the aquifer system area’s sustainable yield. To date, DHHL has not applied for relief wells nor requested that its reservation be applied to the over pumped amounts from their existing wells.

Staff finds that the Papohaku-Risk Well does not interfere with Hawaiian home lands rights.

(8) Other issues

I. Chapter 343 – Environmental Assessment (EA) Compliance

EA Triggers

In accordance with §HRS 343-5(a), applicant’s proposed action does not trigger the need for an EA.

II. Well Construction/Pump Installation

The applications for well construction and pump installation are incomplete. Upon obtaining a water use permit, the applicant may select a contractor to complete those

applications and submit them for the normal review. Approval is subject to the normal review concerns.

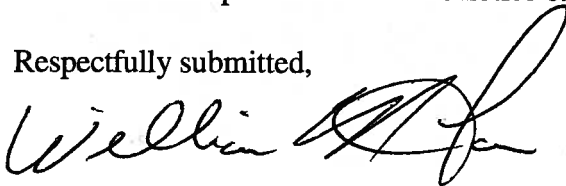
Among those concerns will be the not-yet described desalinating process, which involves producing waste brine requiring safe disposal without affecting environmental values. The Department of Health regulates waste product brine.

RECOMMENDATION:

That the Commission approve the issuance of ground water use permit No. 937 to Norman Rizk for the reasonable and beneficial use of 6,000 gallons per day (0.006 million gallons per day) of brackish ground water for Agricultural use from the anticipated Papohaku-Rizk Well (Well No. 1015-001), subject to the standard water use permit conditions listed in Attachment B and the following special conditions:

1. Prior to commencement of well construction, the applicant shall present documentation to the Commission of consultation with the Department of Health regarding any necessary compliance with administrative rules concerning injection of desalting by-products or aquaculture discharge.
2. Prior to commencement of well construction, the applicant shall present documentation to the Commission of consultation with the Department of Agriculture's Aquaculture Program regarding any necessary compliance with administrative rules and proper preparation of an aquaculture plan to protect the near shore environment from negative impacts.
3. In the event that the tax map key at the location of the water use is changed, the permittee shall notify the Commission in writing of the tax map key change within thirty (30) days after the permittee receives notice of the tax map key change.

Respectfully submitted,



WILLIAM M. TAM
Deputy Director

Attachment(s): A (Water Use Permit Detailed Information)
 B (Water Use Permit Standard Conditions)

- Exhibit(s):
- 1 (a - Location Map; b - irrigation features on parcel map)
 - 2 (Existing Water Use Permits, Pending Applications, and 12-Month Moving Average Withdrawal)
 - 3 (All Wells in Kaluakoi Aquifer System Area)
 - 4 (IWREDSS Summary)
 - 5 (DHHL letter dated June 18, 2013)
 - 6 (OHA letter dated June 26, 2013)
 - 7 (Applicant's response dated June 26, 2013)

APPROVED FOR SUBMITTAL:



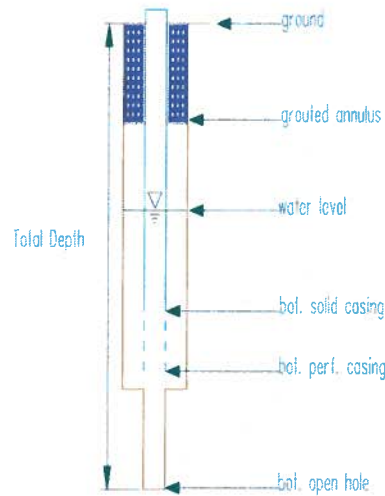
WILLIAM J. AILA, JR.
Chairperson

July 17, 2013 Staff Submittal

NORMAN RIZK, APPLICATION FOR A WATER USE PERMIT
Papohaku-Rizk Well (Well No. 1015-01), TMK 5-1-006:072, WUP No. 937
Future (Agricultural) Use for 0.006 mgd
Kaluakoi Ground Water Management Area, Molokai

WATER USE PERMIT DETAILED INFORMATION**Source Information**

| | |
|-----------------------------------|--|
| AQUIFER: | Kaluakoi System, West Sector, Molokai |
| Sustainable Yield: | 2 mgd |
| Existing Water Use Permits: | 0.016 mgd |
| Available Allocation: | 1.984 mgd |
| Total other pending applications: | 0.008 mgd |
| This application: | 0.006 mgd |
| | |
| WELL: | Papohaku-Rizk (Well No. 1015-01) |
| Location: | Papohaku Ranchlands TMK: 5-1-006:072 |
| Year Drilled: | proposed 2013 |
| Casing Diameter: | 12 in. |
| <u>Elevations</u> (msl= 0 ft.) | |
| Water Level: | unknown |
| Ground: | unknown |
| Bottom of Solid Casing: | unknown |
| Bottom of Perforated: | unknown |
| Bottom of Open Hole: | unknown |
| | |
| Total Depth: | unknown |
| Grouted Annulus Depth: | unknown |
| | |
| Pump Capacity | proposed: 15 gpm |



Use Information

| | |
|---|------------------------|
| Quantity Requested: | 6,000 gallons per day. |
| Future Type of Water Use: | Agricultural |
| Place of Water Use: | TMK: 5-1-006:072 |
| Reported Water Usage: | 0 gpd |
| Nearby Similar Water Usage: | 0 gpd |
| Kaluakoi Aquifer System | |
| Current 12-Month Moving Average Withdrawal (See Exhibit 2): | 0.000 mgd |

Nearby Surrounding Wells and Other Registered Ground Water Use

There are 2 other wells within a mile of the well (see Exhibit 1). One of these wells is currently in use. Information from the registration program indicates there are possibly 8 existing wells in the Kaluakoi Aquifer System. Several of these wells may have been initially field checked but many of the declarants, including the larger users, have not been completely field verified. Several are not in use or are rights claims. The Final Report of the Molokai Working Group Estimated the actual use from the Kaluakoi Aquifer System to be 0 mgd.

Public Notice

In accordance with HAR §13-171-17, a public notice was published in the Honolulu Advertiser on May 30, 2013 and June 6, 2013 and a copy of the notice was sent to the Office of the Mayor. Copies of the completed application were sent to the Department/Board of Water Supply, Planning Department, Department of Health, Department of Hawaiian Home Lands, Office of Hawaiian Affairs, the various divisions within the Department of Land and Natural Resources, and other interested parties for comments. Written comments and objections to the proposed permit were to be submitted to the Commission by June 21, 2013.

Objections

The public notice specifies that an objector meet the following requirements: (1) state property or other interest in the matter; (2) set forth questions of procedure, fact, law, or policy, to which objections are taken; (3) state all grounds for objections to the proposed permits, (4) provide a copy of the objection letter(s) to the applicant, and (5) submit objections meeting the previous requirements to the Commission by June 21, 2013.

To the best of staff's knowledge there are no objections, no comments from those who have property interest within the Kaluakoi Aquifer System or who will be directly and immediately affected by the proposed water use.

Briefs in Support

Responses to objections, or briefs in support, regarding the application are required to be filed with the Commission ten (10) days after an objection is filed and, presumably, copies are served to the applicant. No briefs in support were filed with the Commission.

Field Investigation

The water source and Future use have not been investigated.

STANDARD WATER USE PERMIT CONDITIONS

1. The water described in this water use permit may only be taken from the location described and used for the reasonable beneficial use described at the location described above. Reasonable beneficial uses means "the use of water in such a quantity as is necessary for economic and efficient utilization which is both reasonable and consistent with State and County land use plans and the public interest." (HRS § 174C-3)
2. The right to use ground water is a shared use right.
3. The water use must at all times meet the requirements set forth in HRS § 174C-49 (a), which means that it:
 - a. Can be accommodated with the available water source;
 - b. Is a reasonable-beneficial use as defined in HRS § 174C-3;
 - c. Will not interfere with any existing legal use of water;
 - d. Is consistent with the public interest;
 - e. Is consistent with State and County general plans and land use designations;
 - f. Is consistent with County land use plans and policies; and
 - g. Will not interfere with the rights of the Department of Hawaiian Home Lands as provided in section 221 of the Hawaiian Homes Commission Act and HRS § 174C-101(a).
4. The ground water use here must not interfere with surface or other ground water rights or reservations.
5. The ground water use here must not interfere with interim or permanent instream flow standards. If it does, then:
 - a. A separate water use permit for surface water must be obtained in the case an area is also designated as a surface water management area;
 - b. The interim or permanent instream flow standard, as applicable, must be amended.
6. The water use authorized here is subject to the requirements of the Hawaiian Homes Commission Act, as amended, if applicable.
7. The water use permit application and submittal, as amended, approved by the Commission at its July 17, 2013 meeting are incorporated into this permit by reference.
8. Any modification of the permit terms, conditions, or uses may only be made with the express written consent of the Commission.
9. This permit may be modified by the Commission and the amount of water initially granted to the permittee may be reduced if the Commission determines it is necessary to:
 - a. protect the water sources (quantity or quality);

- b. meet other legal obligations including other correlative rights;
- c. insure adequate conservation measures;
- d. require efficiency of water uses;
- e. reserve water for future uses, provided that all legal existing uses of water as of June, 1987 shall be protected;
- f. meet legal obligations to the Department of Hawaiian Home Lands, if applicable;
or
- g. carry out such other necessary and proper exercise of the State's and the Commission's police powers under law as may be required.

Prior to any reduction, the Commission shall give notice of its proposed action to the permittee and provide the permittee an opportunity to be heard.

- 10. An approved flow meter(s) must be installed to measure monthly withdrawals and a monthly record of withdrawals, salinity, temperature, and pumping times must be kept and reported to the Commission on Water Resource Management on forms provided by the Commission on a monthly basis (attached).
- 11. This permit shall be subject to the Commission's periodic review of the **Kaluakoi** Aquifer System's sustainable yield. The amount of water authorized by this permit may be reduced by the Commission if the sustainable yield of the **Kaluakoi** Aquifer System, or relevant modified aquifer(s), is reduced.
- 12. A permit may be transferred, in whole or in part, from the permittee to another, if:
 - a. The conditions of use of the permit, including, but not limited to, place, quantity, and purpose of the use, remain the same; and
 - b. The Commission is informed of the transfer within ninety days.

Failure to inform the department of the transfer invalidates the transfer and constitutes a ground for revocation of the permit. A transfer which involves a change in any condition of the permit, including a change in use covered in HRS § 174C-57, is also invalid and constitutes a ground for revocation.

- 13. The use(s) authorized by law and by this permit do not constitute ownership rights.
- 14. The permittee shall request modification of the permit as necessary to comply with all applicable laws, rules, and ordinances which will affect the permittee's water use.
- 15. The permittee understands that under HRS § 174C-58(4), that partial or total nonuse, for reasons other than conservation, of the water allowed by this permit for a period of four (4) continuous years or more may result in a permanent revocation as to the amount of water not in use. The Commission and the permittee may enter into a written agreement that, for reasons satisfactory to the Commission, any period of nonuse may not apply towards the four-year period. Any period of nonuse which is caused by a declaration of water shortage pursuant to section HRS § 174C-62 shall not apply towards the four-year period of forfeiture.

16. The permittee shall prepare and submit a water shortage plan within 30 days of the issuance of this permit as required by HAR § 13-171-42(c). The permittee's water shortage plan shall identify what the permittee is willing to do should the Commission declare a water shortage in the **Kaluakoi** Ground Water Management Area.
17. The water use permit shall be subject to the Commission's establishment of instream standards and policies relating to the Stream Protection and Management (SPAM) program, as well as legislative mandates to protect stream resources.
18. Special conditions in the attached cover transmittal letter are incorporated herein by reference.
19. The permittee understands that any willful violation of any of the above conditions or any provisions of HRS § 174C or HAR § 13-171 may result in the suspension or revocation of this permit.

1-Mile Radius Tool

1. Move the blue pin or right click on the map to select a center position.
2. Click on "Go" button to find a well within the specified radius from the center position.

Latitude: Longitude: Radius: mile

3 wells found. [Download KML](#) | [Download Excel](#)



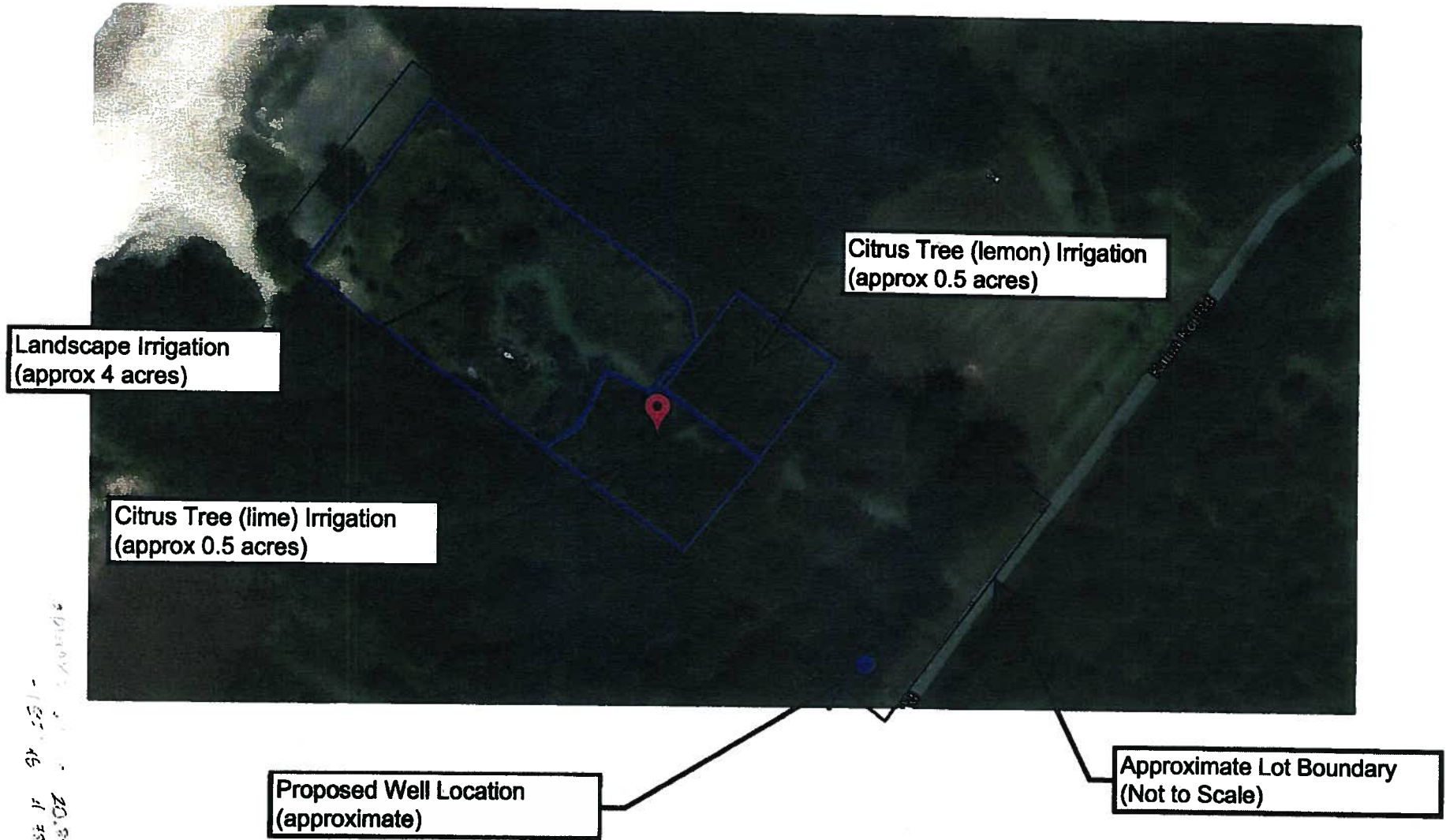
3 matching results found.

Sort By:

| Well Number | Aquifer System | Well Name | Well Owner | Water Use Reporter | Land Owner | TMK | Use | Year Drilled | Distance (miles) |
|-------------|----------------|------------------|--------------------------|--------------------------|--------------------------|-----------------|-----|--------------|------------------|
| 4-0915-001 | 40101 Kaluakea | Papohaku Beach | Molokai Acquisition, LLC | Molokai Acquisition, LLC | Molokai Acquisition, LLC | (2) 5-1-007.011 | UNU | 1974 | 0.89 |
| 4-0915-002 | 40101 Kaluakea | Papohaku-Harris | Pamela Harris | Pamela Harris | Pamela Harris | (2) 5-1-007.008 | IRR | 2010 | 0.66 |
| 4-1014-001 | 40101 Kaluakea | Papohaku Gulch 2 | Kevin Judice | Kevin Judice | Kevin Judice | (2) 5-1-006.030 | IRR | 1974 | 0.53 |

RIZK, NORMAN
TMK (2) 5-1-006:072
NOT TO SCALE

Source and Location of Proposed Uses Map



2/10/2025
- 10:45 AM
20:25

Report Parameters

Island: Molokai
 Applicant: All
 Well # Prefix: All
 Date: All
 Aquifer: 40101 Kaluakoi
 TMK: All
 Aquifer Type: All

WUP = Water Use Permit, 12-MAV = 12 month moving average, Diff = WUP-12-MAV, mgd = million gallons per day

Island of Molokai

Aquifer System Ground Water Management Area: 40101 Kaluakoi
Sustainable Yield (mgd): 2

| WUP No | Approved | Permittee | Well No | Well Name | WUP (mgd) |
|----------------------|------------|----------------------|------------|---------------------|-----------|
| 869 | 02/18/2009 | Pierluigi Zappacosta | 4-0916-001 | Papohaku Zappacosta | 0.008 |
| 878 | 11/18/2009 | Terry & Pam Harris | 4-0915-002 | Papohaku-Harris | 0.008 |
| Total: | | | | | 0.016 |
| SY Available: | | | | | 1.984 |

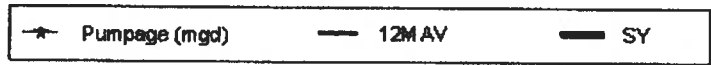
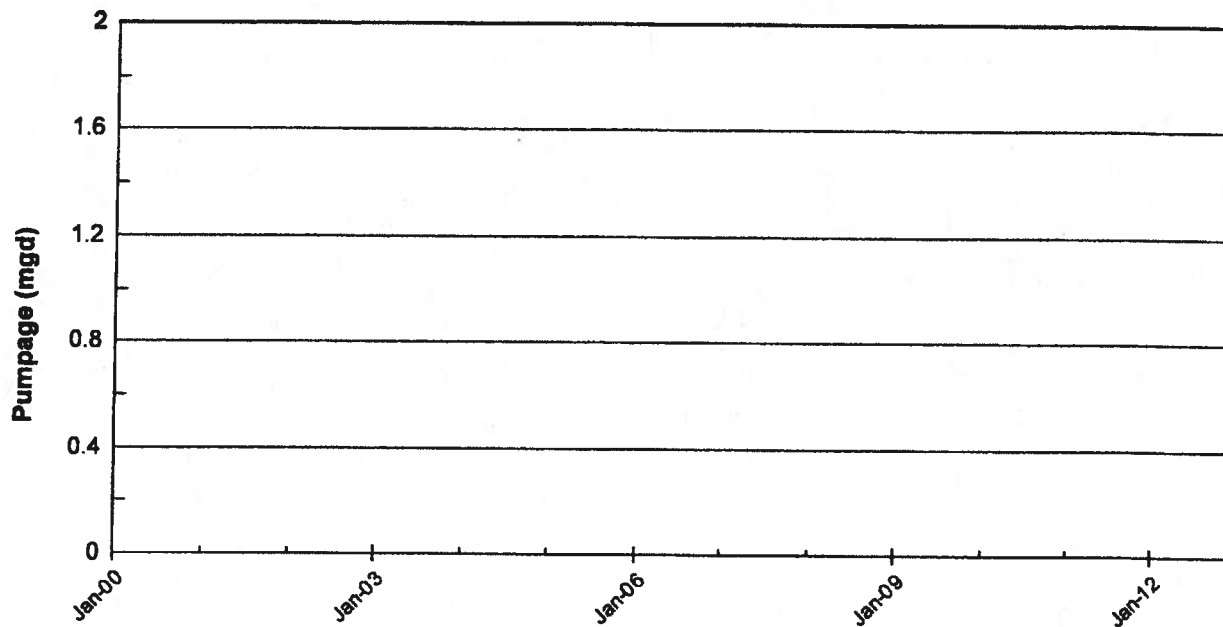
Summary for Kaluakoi (2 detail records)

| WUPA No | Well No. | Applicant | Well Name | mgd | Received | Accept |
|---------------------------------------|------------|----------------|-----------|--------------------------------|------------|------------|
| Aquifer System: 40101 Kaluakoi | | | | | | |
| 337 | 4-1015-001 | Norman Rizk | | 0.006 | 05/01/2013 | 05/13/2013 |
| 377 | 4-0916-002 | Richard Foster | | 0.008 | 05/01/2013 | 05/13/2013 |
| | | | | 2 WUPAs totalling 0.014 | | |

Number of Wells: 2

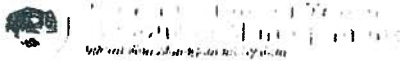


Monthly Pumpage Chart 12 Month Moving Average



Report Parameters

Date: 01/01/2000 2/31/2012
Island: Molokai
Aquifer: 40101 Kaluakoi
Well Owner: All
Well Reporter: All
TMK: All
Well # Prefix: All
Aquifer Type: All
Well Use: All



Wells Reviewed in Report

Island: Molokai
Well Owner: All
Well Reporter: All
Land Owner: All
Aquifer: 40101 Kaluakoi
TMK: All
Well Use: All

| Well No | Well Name | Aquifer | Well Owner | Coordinates(NAD83) | | Physical Data | | | Elevations in feet (msl) | | | | Initial | | Pump Test Result | | | |
|------------------------|---------------------|---------|---------------------------------|--------------------|-------------|---------------|------|----------------|--------------------------|--------|---------------------|--------------------|----------------|-------------|------------------|------|----------|-----------|
| | | | | Year Drilled | Latitude DD | Longitude DD | Type | Casing Dia in. | Total Depth ft. | Ground | Bottom Solid Casing | Bottom Perf Casing | Bottom of Hole | Static Head | Cl | Temp | Spec Cap | T |
| Island: Molokai | | | | | | | | | | | | | | | | | | |
| 40101 Kaluakoi | | | | | | | | | | | | | | | | | | |
| 4-0915-001 | Papohaku Beach | 40101 | Molokai Acquisition, LLC | 1974 | 21.161111 | -157.258333 | ROT | 4 | 60 | 48 | | | -12 | 6.70 | | | | UNU |
| 4-0915-002 | Papohaku-Harris | 40101 | Pamela Harris | 2010 | 21.166867 | -157.259722 | DUG | 12 | 11 | | | | | 1.00 | 1,000 | | | 0.032 IRR |
| 4-0916-001 | Papohaku Zappacosta | 40101 | Tellos, L.P. | 2010 | 21.151944 | -157.261111 | PER | 6 | 57 | 50 | 0 | -10 | -17 | 1.30 | 9,600 | | | IRR |
| 4-1011-001 | Kakaako Gulch | 40101 | Spencer Bevill | 1945 | 21.169167 | -157.185833 | | 6 | 540 | 503 | 106 | -14 | -37 | 5.60 | 2,900 | | | 0.100 UNU |
| 4-1014-001 | Papohaku Gulch 2 | 40101 | Kevin Judice | 1974 | 21.171667 | -157.243333 | ROT | | 70 | 63 | | | -7 | 5.60 | | | | IRR |
| 4-1109-001 | Moomomi | 40101 | Molokai Properties Limited, MPL | | 21.193889 | -157.161111 | DUG | | 31 | 29 | | | -2 | | 4,840 | | | UNU |
| 4-1114-001 | Kakaako Gulch 3 | 40101 | Kaluakoi Real Estate, LLC | 1974 | 21.167500 | -157.240000 | ROT | | 93 | 76 | | | -17 | 1.00 | | | | IRR |
| 4-1114-002 | Pohakumauliul 4 | 40101 | Kaluakoi Golf Course, LLC | 1974 | 21.194167 | -157.244167 | ROT | | 70 | 63 | | | -7 | 9.40 | | | | IRR |

Total installed Pump Capacity in Aquifer in mgd: 0.132
Total Number of wells in Aquifer: 8

* Commission on Water Resources Management IWREDSS Summary *

IWREDSS estimates that irrigation needs for the application is:

| UNIT | *DROUGHT FREQUENCY | | | | OTHER STATISTICS | | | |
|-----------------|----------------------|----------------|-----------------|---------------------|------------------|--------|--------|--------|
| | / 1 in 2 / / year | 1 in 5 year | 1 in 10 year | 1 in 20 / year / | Mean | Median | Max | Min |
| inch/acre | 49.518 | 53.885 | 55.856 | 57.350 | 48.896 | 49.216 | 60.525 | 31.845 |
| Thou. gpd/acre | 3.684 | 4.009 | 4.155 | 4.267 | 3.638 | 3.661 | 4.503 | 2.369 |
| Total thou. gpd | 10.966 | 11.933 | 12.370 | 12.701 | 10.828 | 10.899 | 13.404 | 7.052 |

*Drought frequency of 2, 5, 10 and 20 year return periods are GIR values of 50%, 80%, 90% and 95% probabilities, respectively.

*GIR of 1 in 5 year return period is recommended by CTAHR for design or water use allocation purposes.

where:

Irrigation season = 1-1 TO 12-31
 Irrigation total days = 365 days

Irrigation system:

TYPE = TRICKLE, SPRAY
 Design Application Efficiency = 80 %
 Fraction of Soil Surface Irrigated = 50 %
 Fraction extracted from irrigated zone = 40 %

Climate Data Base:

Location = MOLOKAI AP Latitude 21.15
 Length of Record = 55 YEARS (1957~2011)
 No. of missing rainfall days = 0
 No. of missing ET days = 0

TMK = 251006072
 TMK Area (Acre) = 5.954
 Soil Series = Jaucas(0.076), Ma1a(0.924)
 SCS Curve Number = 80
 Net Irrigated Area (Acre) = 2.977
 Depth to water table (feet) = 50.00

Crop type = CITRUS

NEIL ABERCROMBIE
GOVERNOR
STATE OF HAWAII



JOBIE M. K. MASAGATANI
CHAIRMAN
HAWAIIAN HOMES COMMISSION

DARRELL T. YOUNG
DEPUTY TO THE CHAIRMAN

STATE OF HAWAII
DEPARTMENT OF HAWAIIAN HOME LANDS

P. O. BOX 1879
HONOLULU, HAWAII 96805

June 18, 2013

MEMORANDUM

TO: The Honorable William J. Aila, Jr., Chairperson
Commission on Water Resource Management

FROM: Jobie M. K. Masagatani, Chairman
Hawaiian Homes Commission *J.M. Masagatani*

SUBJECT: Water Use Permit Application (WUPA No. 977)
Kaluakoi Ground Water Management Area, Molokai

2013 JUN 20 PM 1:05

The Department of Hawaiian Home Lands (DHHL) reviewed the subject Water Use Permit Application, WUPA No. 977 by Mr. Richard Foster for use of 8,000 gallons per day from Well No. 0916-002 (Papohaku-Foster Well TMK (2)5-1-007:048). We appreciate the applicant trying to address the specific requirements that water uses in designated water management areas do not harm Hawaiian rights, including the rights of DHHL to water and the traditional and customary practices of Native Hawaiians that depend directly on water or the use of water-dependent species. We offer the following comments:

The State, and particularly the Commission on Water Resource Management (CWRM), has a duty to protect the rights of DHHL to water, as enumerated in the Hawaiian Homes Commission Act (HHCA) §§ 101(4), 220, 221; the Hawaii Constitution Article XI, §§ 1 and 7 and Article XII, § 7; and Hawaii Revised Statutes Chapter 174C, the State Water Code.

DHHL owns approximately 25,899 acres of land on the island of Molokai, some of which do not currently have allocations or reservations of water, e.g., Ualapue. The State Water Projects Plan (SWPP), now underway, will estimate the foreseeable water demands on Hawaiian home lands and those will be used as the

EXHIBIT 5

basis for seeking further reservations. DHHL has an existing reservation for 2.905 million gallons per day of ground water from State lands in the Kualapuu aquifer system for use on Hawaiian home lands on Molokai. This amount shall be in excess of the existing uses of water on Hawaiian home lands as of June 10, 1995 (§13-171-63 HAR). Based on these facts, we believe the applicant's responses to Items 15 - "*Interference with the Rights of the Department of Hawaiian Home Lands*" and Item 16 are incomplete.

Since the entire Island of Moloka'i is a designated ground water management area, the WUPA provides no analysis of the potential impacts that water withdrawal from the Kaluakoi aquifer system has on the other Ground Water Management Areas, more specifically, the Kualapuu aquifer system.

With these points in mind, we further specifically note that the applicant's responses to questions 15 and 16 of the WUPA form contain inaccuracies and omissions. In particular we note:

- **DHHL lands and water needs.** The applicant notes that the source property is over ten miles from property of the Hawaiian home lands trust. It is presumed that the applicant is inferring that the distance is sufficient to establish that there will be no impact on DHHL. We must note that DHHL is not restricted to withdrawing water from beneath or on its own properties; if it were so restricted, the majority of DHHL lands could not be used for their intended purposes.
- **Gathering rights.** We first observe that gathering rights are distinct from the rights of DHHL to water (though our beneficiaries hold both sets of rights); the language in this section would have been more properly placed in response to question 16. We further note that the issue at question here would not be what may exist on the property or immediately adjacent properties, but rather what practices may be impacted down gradient from this water withdrawal. Finally, in this regard, we note that the effects of groundwater withdrawals on the near-shore environment and related practices have been established during litigation on

The Honorable William J. Aila, Jr.
June 18, 2013
Page 3 of 3

this island; the applicant offers no argument to address this issue.

- **Comments on aquifers and "designation."** We note that the applicant conflates issues of designation, the degree to which water is brackish, and the relationship of Hawaiian rights to water.

DHHL, therefore, seeks, as is described in HRS 174C-101(a), CWRM's decision on this WUPA:

"...shall, to the extent applicable and consistent with other legal requirements and authority, incorporate and protect adequate reserves of water for current and foreseeable development and use of Hawaiian home lands as set forth in section 221 of the Hawaiian Homes Commission Act."

On Molokai, it is critical that sufficient water be reserved for foreseeable needs of Hawaiian home lands. We recommend that CWRM adopt an interim policy to achieve this purpose until the SWPP is completed and approved.

While we are not objecting to this application, we are concerned that CWRM staff accepted this application as complete, when it clearly did not fully or accurately address the rights of DHHL. We would strongly encourage CWRM to not accept applications as complete, until the applicant address these issues properly. We note, that Hawaii water law is clear that the burden of demonstrating no harm to public trust interest lies on the applicant, not on agencies who defend the public trust interests, or any one else.

Mahalo for the opportunity to comment on this WUPA. If you have any questions or require additional information, please call me at (808) 620-9501, or Kaleo Manuel in our Planning Office at (808) 620-9485.

c: Richard Foster

PHONE (808) 594-1888

FAX (808) 594-1886



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

June 26, 2013

Commission on Water Resources
Department of Land and Natural Resources
Contact: Charley Ice
P.O. Box 321
Honolulu, Hawaii 96809

Re: Request for Comments on Norman Rizk's and Richard Foster's Ground Water Use Permit Applications – New Use, Kaluako'i Ground Water Management Area, WUPA Nos. 00937 and 00977

Aloha e Charley Ice,

The Office of Hawaiian Affairs (OHA) is in receipt of the public notices for the Norman Rizk and Richard Foster ground water use permit applications dated May 21, 2013. Without delving into questions regarding the propriety of creating inland shrimp/fish ponds or landscaping in an area devoid of ground water or surface water sources, we provide the following comments and concerns on these two applications.

OHA is the constitutionally-established body responsible for protecting and promoting the rights of Native Hawaiians.¹ OHA is required to serve as the principal public agency in the State of Hawai'i responsible for the performance, development, and coordination of programs and activities relating to native Hawaiians and Hawaiians; assess the policies and practices of other agencies impacting native Hawaiians and Hawaiians; and conduct advocacy efforts for native Hawaiians and Hawaiians.² Accordingly, OHA has substantive obligations to protect the cultural and natural resources of Hawai'i for the agency's beneficiaries.³ It is with this kuleana in mind that OHA provides the following comments.

¹ HAW. CONST. ART. XII SEC. 5

² HRS § 10-3.

³ See Haw. Rev. Stat. ("HRS") Chapter 10.

Pumping brackish water from the Kaluako'i aquifer may reduce discharge into the nearshore marine area. Although the applications reference salt water in one instance, it is not clear whether the applicants intend to pump brackish water or salt water, the latter of which would require deeper drilling. If the applicants intend to pump brackish water, OHA notes that pumping brackish ground water will likely reduce discharge into the nearshore marine area.⁴ The closer to the shoreline that the ground water is pumped, the more concentrated the decrease in coastal discharge may be in the coastal area immediately downgradient from the well. Coastal discharge is critical to sustaining the livelihood of the abundant marine resources found off the coast of the Kaluako'i ahupua'a.

The failure of the applicants to fulfill their burden to show that their water use will not abridge or deny constitutionally protected Native Hawaiian traditional and customary rights and practices provides the commission with sufficient grounds for immediate denial of the permit applications.⁵ This heightened burden requires more than a mere recitation that "there are no existing or pre-existing Hawaiian gathering rights located within the boundaries of [the] property or other properties bordering [the] lot," a statement which itself is questionable. The application does not include *any* information on the research or inquiries that were performed to identify cultural resources and practices that exist in the immediate vicinity of the proposed well site or in the nearby nearshore area. Accordingly, it also does not include any information on whether these resources or practices would be impacted. **The Hawai'i Supreme Court has reversed commission decisions that were rendered without applicants showing that they met their burdens.** In one such case, *In re Wai'ola O Moloka'i Inc.*, the Hawai'i Supreme Court made it clear that "the absence of evidence that the proposed use would affect native Hawaiian rights was insufficient to meet the" applicant's burden and held that the commission had erred in finding that the applicant had satisfied the requisite conditions to obtain a permit for a new use.⁶

It is well known that the west coast of Moloka'i has historically been and continues to be an important place for Native Hawaiians. Although it was "sparsely inhabited, Kaluako'i has several significant natural and cultural resources which Moloka'i residents utilized on a seasonal basis or for specific purposes[.]"⁷ Archaeological evidence, mo'olelo and traditional knowledge support that Native Hawaiians relied upon the coastline for fishing and gathering of marine resources. This continues to be the case today, as a substantial number of Native Hawaiian families on Moloka'i engage in subsistence living by fishing, diving, hunting and gathering land and marine flora and fauna for as much as 38 percent of their diet.⁸ Subsistence is not only essential to Native Hawaiian people's diet and health, but also to the maintenance of the Native Hawaiian people's religious and spiritual relationship to the land and nearshore environment, and the perpetuation of their commitment to mālama 'āina.⁹ Native Hawaiian practitioners have

⁴ See Generally USGS Scientific Investigations Report 2006-5177 (2006); USGS Scientific Investigations Report 2007-5128 (2007).

⁵ *In re Wai'ola O Moloka'i, Inc.* ("Waiola"), 103 Hawai'i 401 (2004).

⁶ *Id.*

⁷ McGregor, Davianna Dr., Cultural Impact Assessment for the La'au Point Rural-Residential Development (2006).

⁸ The Governor's Moloka'i Subsistence Task Force Study (1994); *Wai'ola* 103 Hawai'i 401, 439 (2004).

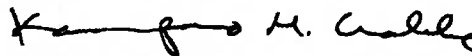
⁹ *Wai'ola* 103 Hawai'i 401, 439 (2004).

specifically identified the west coast, including the coastline closest to the applicants' proposed well site, as important subsistence sites. Furthermore, with little effort, we were able to locate known historic settlement villages of Kepuhi (Village of the Eel) and Pāpōhaku (the Stone Wall) not far from one of the applicants' parcels, increasing the likelihood that other resources and practices exist in these areas.¹⁰

The ground water use permit applications raise other important issues and questions. OHA has questions about the applicants' plans related to the desalting process and the disposal of the brine. The proposed shrimp farm raises important questions about protection of our bird life and marine life from diseases and impacts from effluent discharging into the nearshore waters. Finally, the controversy over the source and transmission of fresh water for Kaluako'i residents, including the unpermitted pumping of Well 17 and the month to month lease of the Molokai irrigation system, highlight the need to identify and ensure planning for this community.

Thank you for the opportunity to provide comments on the ground water use permit applications. We are particularly grateful that you have allowed us an extension on the time to provide our comments. Should you have any questions please contact Jocelyn Doane by phone at 594-1834 or by email at jocelynd@oha.org.

Sincerely,



Kamana'o pono M. Crabbe, Ph.D.
Ka Pouhana, Chief Executive Officer

JD

¹⁰ McGregor, Davianna Dr., Cultural Impact Assessment for the Lā'au Point Rural-Residential Development (2006).

ARCHITECTURAL DRAFTING SERVICE

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KAUNAKAKAI, HI 96748

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Email: luigis@hawaiiantel.biz

June 26, 2013

State Of Hawaii
Department of Land and Natural Resources
Commission on Water Resource Management
Attention: Charley Ice
P.O. Box 621
Honolulu, Hawaii 96809

Subject: Ground Water Use, Well Construction/Pump Installation Permit Applications
Well No. 0916-002, Kaluakoi, Island of Molokai
Mr. Richard Foster ~~and Norman Rizk~~
P.O. Box 1949
Kaunakakai, HI 96748

Dear Mr. Ice,

On June 24, 2013, the applicant received a letter from the Department of Hawaiian Home Lands dated June 18, 2013 and postmarked June 19, 2013.

In response to the comments we offer the following:

COMMENT:

Page 2, second paragraph states:

"Since the entire Island of Moloka'i is a designated ground water management area, the WUPA provides no analysis of the potential impacts that water withdrawal from the Kaluakoi aquifer system has on the other Ground Water Management Areas, more specifically, the Kualapuu aquifer system."

REPLY: In a report titled:

**AQUIFER IDENTIFICATION AND CLASSIFICATION
FOR MOLOKA'I: Groundwater Protection
Strategy for Hawai'i**

John F. Mink

L. Stephen Lau

Technical Report No. 187

October 1992

On page 12 within the section titled "AQUIFER SECTOR: WEST (401), Aquifer System: Kaluakoi (40101)" it states " GROUNDWATER. Groundwater is predominantly basal and occurs in both flank lavas and dike compartments. To date no fresh groundwater has been discovered, and it is improbable that domestic quality water is developable. Brackish water permeates the entire region, most of it having salinity in excess of 1000 mg/l chloride. Test borings have been drilled, but groundwater is not yet being developed."

Since at the time of this report there had not been a discovery of any fresh groundwater and it is improbable that domestic quality water is developable, it is unlikely that this well would have any effect on the Kualapuu aquifer system because it has no relationship to freshwater or the Kualapuu aquifer. We have attached this report and it's findings for your review.

The intent is to utilize desalinated salt water for the purposes of irrigation, and untreated salt water for a fish pond. We appreciate the comments of the Department of Hawaiian Home Lands but cannot see how they are germane to the specific application of the proposed well.

In a recently completed report for a similar well in the near vicinity, which has received all necessary statutory approvals, the salinity levels found were at readings above that of brackish water. We have attached the report and findings for your review.

If during the construction we encounter any brackish water we will disclose the findings and facts before the well goes into production and any desalination takes place. There has been no discovery of fresh ground water on the west end of Molokai whatsoever. All of the previously approved wells in the vicinity have found only salt water.

There is no limu in the vicinity of the proposed wells, no salt gathering activity, and the only fishing activity is in deep water. We would like to note that the proposed well site is over 1000 feet from the shoreline.

Thank you for your time in reviewing our response to the Department of Hawaiian Home Lands comments.

Should you require any additional information about this project, please contact me at the above address or by my cell phone 808 870 3499.

Sincerely,



Luigi Manera