

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
Land Division
Honolulu, Hawaii 96813

October 28, 2010

Board of Land and Natural Resources
State of Hawaii
Honolulu, Hawaii

PSF No.: 10HD-075

Hawaii

Issuance of Direct Lease to Hawaii Oceanic Technology, Inc. for Aquaculture Purposes, Offshore Waters of Puanui, Puaiki, Kiiokalani, and Kaihooa, North Kohala, Hawaii, Tax Map Keys: 3rd/ 5-8-001: and 5-9-003: Seaward of Puanui, Puaiki, Kiiokalani, and Kaihooa

APPLICANT:

Hawaii Oceanic Technology, Inc., a Delaware corporation.

LEGAL REFERENCE:

Section 171-59(b), Hawaii Revised Statutes (HRS), as amended.

LOCATION:

Portion of Government submerged lands and marine waters offshore of Puanui, Puaiki, Kiiokalani, and Kaihooa situated at North Kohala, Hawaii, identified by Tax Map Keys: 3rd/ 5-8-001: and 5-9-003: Seaward of Puanui, Puaiki, Kiiokalani, and Kaihooa, as shown on the attached maps labeled Exhibit A.

AREA:

247.129 acres, more or less. The area includes the seafloor (247.129 acres of submerged land), the surface waters directly above and the water column between the seafloor and the surface waters.

ZONING:

State Land Use District: Conservation
County of Hawaii CZO: Unplanned

TRUST LAND STATUS:

Section 5(b) lands of the Hawaii Admission Act

DHHL 30% entitlement lands pursuant to the Hawaii State Constitution: NO

CURRENT USE STATUS:

Vacant and unencumbered.

CHARACTER OF USE:

Aquaculture purposes.

LEASE TERM:

Thirty-five (35) years

COMMENCEMENT DATE:

The first day of the month to be determined by the Chairperson.

ANNUAL RENT:

Fair market annual rent to be determined by independent appraiser, subject to review and approval by the Chairperson.

RENTAL WAIVER:

HRS Section 171-6(7), as amended, authorizes the Board of Land and Natural Resources to waive the lease rental at the beginning of a lease of public land where the land requires substantial improvements to be placed thereon. The rent waiver shall not exceed one year for commercial use. HRS Section 171-1 defines "Land" to include "all interests therein and natural resources including water...." In this case, Hawaii Oceanic Technology, Inc. (Applicant) will be placing substantial improvements within the water column above the submerged land. Applicant advises that it has expended approximately \$500,000 to date on environmental review and permitting requirements, and anticipates spending an additional \$5,000,000 on research and development, design, construction and deployment of one fish cage. Accordingly, staff recommends that the Board approve the waiver of the first year's rent under the lease.

METHOD OF PAYMENT:

Semi-annual payments, in advance.

RENTAL REOPENINGS:

At the 10th, 20th and 30th years of the lease term, by staff or independent appraisal.

PERFORMANCE BOND:

For its land-based leases, the Department of Land and Natural Resources generally requires a performance bond equal to two times the annual rent. But this formula may not provide adequate protection to the State in an aquaculture lease because the base rents charged for submerged lands may be low relative to the potential impact on the environment and the cost of clean-up. In the case of Kona Blue Water Farms, LLC under General Lease No. S-5721 (now assigned to Keahole Point Fish LLC), the Board of Land and Natural Resources established the performance bond at an amount that is approximately 14 times the annual base rent under the lease.

With respect to the present application, staff notes that the Applicant does not intend to anchor or moor its fish cages to the seafloor, or make any other improvements to the submerged lands of the lease area. Rather, Applicant is designing its cages to be self-propelled to maintain their location vertically and laterally in the water column.

At its meeting of October 23, 2009, Item K-3, the Board approved the issuance of Conservation District Use Permit No. HA-3495 to Applicant to allow it to initially deploy up to three fish cages at the lease site under the conditions of the permit. The Board submittal specified that Applicant would need to return to the Board for approval to deploy additional cages. The Applicant explained that it does not expect its fish farming operations to significantly impact the seafloor due to the ocean depth in the area (approximately 1,300 feet). Applicant states that ocean currents should dissipate fecal matter and detritus from the operation. Applicant further explains that its cages are neutrally or positively buoyant, which means that in the event of malfunction the cages should either remain at their operational depth (25-70 meters below sea level) or float to the surface. According to Applicant, this attribute should aid in recovery efforts, and should allow for lower recovery costs than if a cage had to be salvaged from the deep ocean after sinking.

In the October 23, 2009 submittal, staff from the Office of Conservation and Coastal Lands suggested that Applicant should be required to post a bond to cover the cost of recovering the cages. Land Division staff agrees that the cost of cage recovery is a logical basis for establishing a performance bond in light of the particulars of Applicant's proposed operation. Attached as Exhibit B is a drift path analysis prepared by Applicant showing the anticipated drift path and distance of a malfunctioning fish cage after 14 hours. The analysis projects that the cage would drift approximately three nautical miles to the west in that time.

Attached as Exhibit C is a copy of a letter dated July 28, 2010 from Young Brothers,

Hawaiian Tug & Barge, to Applicant providing an estimate for the cost of retrieving an errant fish cage. The letter indicates it would cost \$90,000 to dispatch a tug from Honolulu to the projected location of a drifting cage, and \$1,200 an hour for approximately 6 hours anticipated to secure the cage and tow it back to the lease premises or, if necessary, to Kawaihae Harbor where it could be demobilized. On the basis of this information, a salvage operation could cost up to \$97,200.

Accordingly, staff is recommending a performance bond of \$100,000 (rounded up from \$97,200) for the first cage. Staff is including a recommendation below that the performance bond amount be subject to review and adjustment by the Board as additional cages are deployed.

PROPERTY CHARACTERISTICS:

The 247.129-acre square site is located approximately 2.6 nautical miles (3 statute miles) due southwest of Malae Point, North Kohala. It will encumber a portion of State marine waters (the surface of the water and the water column) and submerged lands at a seafloor depth of approximately 1,320 feet. Although the site-specific seafloor geology classification of the subject site is not known at this time, based on a 2007 study of the West Hawaii seafloor it likely consists of one or more of the following bottom types: low angle sediment with occasional basalt outcrops, basalt flow features with sandy channels and corals, vertical carbonate walls, carbonate blocks, manganese coated carbonate blocks, sandy bottom, basalt and carbonate rubble, basalt outcrops and flow features, barren low angle silt and/or clay bottom.

Applicant proposes to access the area by boat from Kawaihae Harbor, approximately 6 nautical miles away from the site.

The site is not located in the Hawaiian Islands Humpback Whale National Marine Sanctuary. However, whales may transit the site.

CHAPTER 343 - ENVIRONMENTAL ASSESSMENT:

The Final Environmental Impact Statement (FEIS) acceptance notice for the subject project was published in the OEQC's Environmental Notice on July 23, 2009.

The FEIS was prepared in connection with Applicant's Conservation District Use Application for approval of the intended use of the water column over the subject submerged lands. The Board approved the issuance of Conservation District Use Permit No. HA-3495 to Applicant at its meeting of October 23, 2009, Item K-3.

DCCA VERIFICATION:

Place of business registration confirmed:	YES <u>X</u>	NO <u>__</u>
Registered business name confirmed:	YES <u>X</u>	NO <u>__</u>
Applicant in good standing confirmed:	YES <u>X</u>	NO <u>__</u>

APPLICANT REQUIREMENTS:

Applicant shall be required to:

- 1) Pay for an appraisal to determine initial rent;
- 2) Provide survey maps and descriptions according to State DAGS standards and at Applicant's own cost.

REMARKS:

Applicant explains that it will farm pelagic fish (yellowfin and bigeye tuna) in cages called oceanspheres that will not be moored to the seafloor. Rather, Applicant states that its oceanspheres will navigate to maintain their location using a modified Ocean Thermal Energy Conversion (OTEC) engine or other propulsion system. The oceanspheres will occupy the water column to about the 75-meter depth, but will not be raised to the surface unless for harvest, repair, transport or maintenance. Each oceansphere will be tethered to a surface buoy that will also serve as a component of the fish feeding system. The buoys will be equipped with telemetry instruments and hazard lights.

Each oceansphere is 165 feet in diameter and 165 feet in height. The oceanspheres will be constructed of an anodized aluminum frame, and covered in taut, anti-fouling netting. At full operation, Applicant intends to have 12 oceanspheres within the site. The surface buoys will mark the location of each oceansphere. Applicant is requesting that the lease exclude fishermen, boaters, and any other persons engaged in fishing or ocean recreational activities from a 100-foot radius around each buoy. With this safety margin observed, line fishing will be permitted in other portions of the subject surface area. However, anchoring, swimming, snorkeling, spearfishing, SCUBA diving, and free-diving will not be permitted in the premises.

There is no record of any traditional and customary use of the subject site, although the OCCL submittal to the Board for CDUP No. HA-3495 mentioned that surveys conducted in 2007 and 2008 showed that fishing boats occasionally traverse the areas. The site is not a popular fishing or recreation area. Located approximately 2.6 nautical miles offshore, the site is seaward of most ocean related recreation activities. Accordingly, potential conflict with other users is unlikely.

The use of the subject marine waters, as proposed by the Applicant, represents the highest and best use because aquaculture is the only identified commercial use, pursuant to

Chapter 13-5, Hawaii Administrative Rules, suitable for submerged lands.

The Applicant qualifies for a lease by direct negotiation pursuant to HRS Section 171-59(b) as an aquaculture operation.

There are presently two offshore aquaculture operations in the State. Grove Farm Fish & Poi, LLC farms moi (and is authorized to farm other finfish) offshore of Ewa, Oahu, and Keahole Point Fish LLC farms kahala in waters off North Kona, Hawaii (and is also authorized to farm ulua and mahi-mahi, although those species are not presently farmed). Applicant intends to farm yellowfin and bigeye tuna. While Applicant will not compete directly with the existing farms with respect to the specific species they produce, Applicant's operation will encourage competition within the aquaculture industry because wholesalers, retailers and end-consumers will ultimately have a broader selection of Hawaii farmed fish to purchase. The broader availability of fish means that each aquaculture will need to maintain cost-effective operations to remain competitive in the market.

Applicant has not had a lease, permit, easement or other disposition of State lands terminated within the last five years due to non-compliance with such terms and conditions.

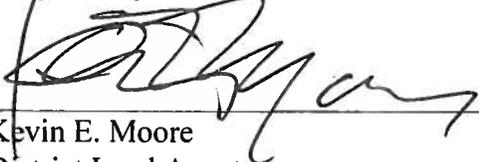
No agency comments were solicited on the disposition as the proposed use of State land has already been through the Final Environmental Impact Statement process, which included agency and public comments.

RECOMMENDATION: That the Board:

1. Subject to the Applicant fulfilling all of the Applicant requirements listed above, authorize the issuance of a direct lease to Hawaii Oceanic Technology, Inc. covering the subject area under the terms and conditions cited above, which are by this reference incorporated herein and further subject to the following:
 - A. The standard terms and conditions of the most current aquaculture lease document form, as may be amended from time to time;
 - B. Applicant shall comply with the conditions of Conservation District Use Permit No. HA-3495, as may be amended from time to time;
 - C. The amount of the performance bond under the lease shall initially be set at \$100,000.00 for the first oceanshpere permitted by CDUP No. HA-3495. When the Applicant is ready to deploy a second oceanshpere, the Applicant shall return to the Board for determination of an adequate performance bond amount for two (or more) oceanspheres;

- D. The first year's rent under the lease shall be waived pursuant to HRS Section 171(6)(7) because the subject land requires substantial improvements to be placed thereon;
 - E. Review and approval by the Department of the Attorney General; and
 - F. Such other terms and conditions as may be prescribed by the Chairperson to best serve the interests of the State.
2. Subject to the Applicant fulfilling all of the Applicant requirements listed above, authorize the issuance of a right-of-entry to Hawaii Oceanic Technology, Inc., its consultants, contractors or agents, to secure financing and begin construction of the submersible oceanspheres and to enter the lease area to commence operation of the offshore facility, subject to the following:
- A. This right-of-entry shall be effective for six (6) months from the date of approval. The Chairperson is authorized to extend the right-of-entry for additional periods of six (6) months upon Applicant's timely request;
 - B. The standard terms and conditions of the most current right-of-entry form as may be amended from time to time;
 - C. The use of the leased area shall not impede the public's access to areas seaward or shoreward of the leased area; and
 - D. Any other conditions as may be determined by the Chairperson to be in the best interests of the State.

Respectfully Submitted,



Kevin E. Moore
District Land Agent

APPROVED FOR SUBMITTAL:




Laura H. Thielen, Chairperson

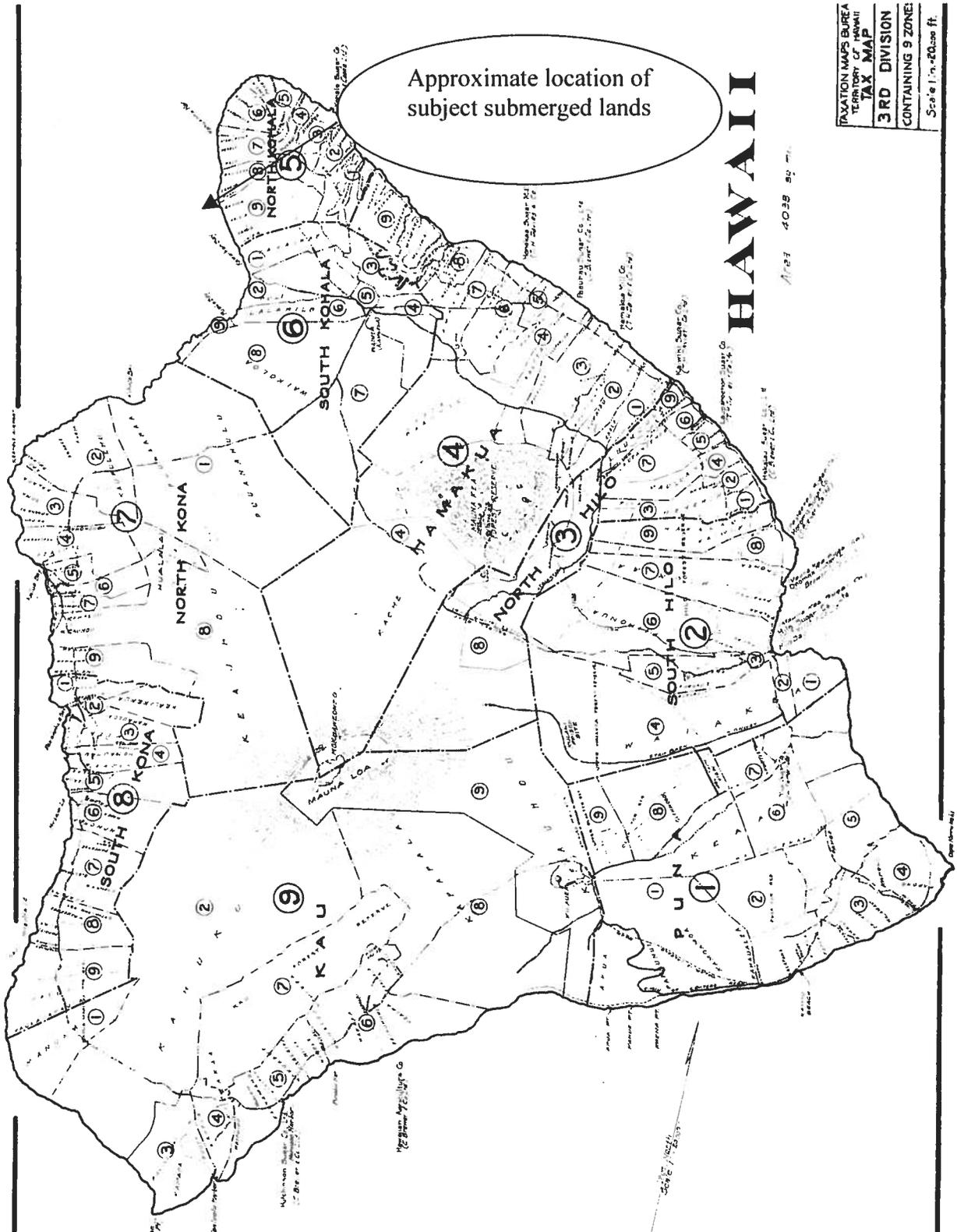
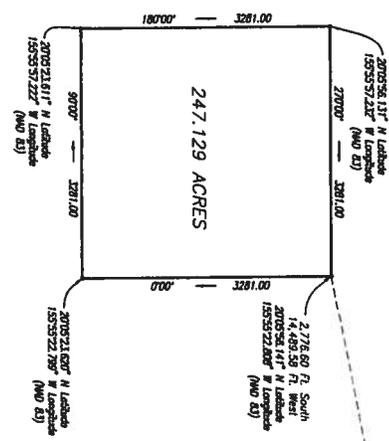


EXHIBIT A

TRUE NORTH
SCALE: 1 INCH = 1,000 FEET



MAP SHOWING
PROPOSED OPEN OCEAN AQUACULTURE SITE
Situatd in the offshore waters of
Puunui, Puaiiki, Kiioakalani and Kaihoood
North Kohala
Island and County of Hawaii, State of Hawaii

NOTES:
1. All methods and computations are referred to Government Survey
Meridian Station KEAWAUNU.

Prepared For:
HAWAII OCEANIC TECHNOLOGY, INC.
C/O ERI CONSULTANTS
425 South Street, Suite 2002
Honolulu, Hawaii 96813

Prepared By:
WEBB THOMAS ASSOCIATES
75-1719 Kaimali Street
Kaimali, Hawaii 96731
Phone: (808) 329-2553
Fax: (808) 329-5131
Email: surveys@webbthomas.com

PROJECT NO.: 18171
DATE: MARCH 4, 2010
FIELD BOOK NO.:
TAX MAP KEY: S-8-001 AND S-9-003 (3RD DIVISION)



This map was prepared by me or
under my direct supervision.
Charles H. Yabasaki
Charles H. Yabasaki
Surveyor
State of Hawaii
Expiration Date: April 2010

OCEANSPIHERE DRIFT PATH AFTER 14 HOURS ADRIFT

Paul Troy, HOT Inc., 7/14/2010

The path that an Oceansphere would drift away from the ocean lease site is predicted by the following data sets. Figure 1 is the average surface flow, based on 40,000 observations of ship drift, 85,000 observations of satellite-tracked drifting buoys, and 8,000 modern current measurements. Sources and periods: historical ship drift, 1895-1993, National Ocean Data Center, NOAA; drifting buoys, 1986-1995: Atlantic Oceanographic and Meteorological Laboratory, NOAA, and Pelagic Fisheries Research Project, University of Hawaii; direct current measurements, 1987 to 1995: ADCP Archive Center, University of Hawaii / NOAA. Units: cm/s (25 cm/s = 0.5 knot).

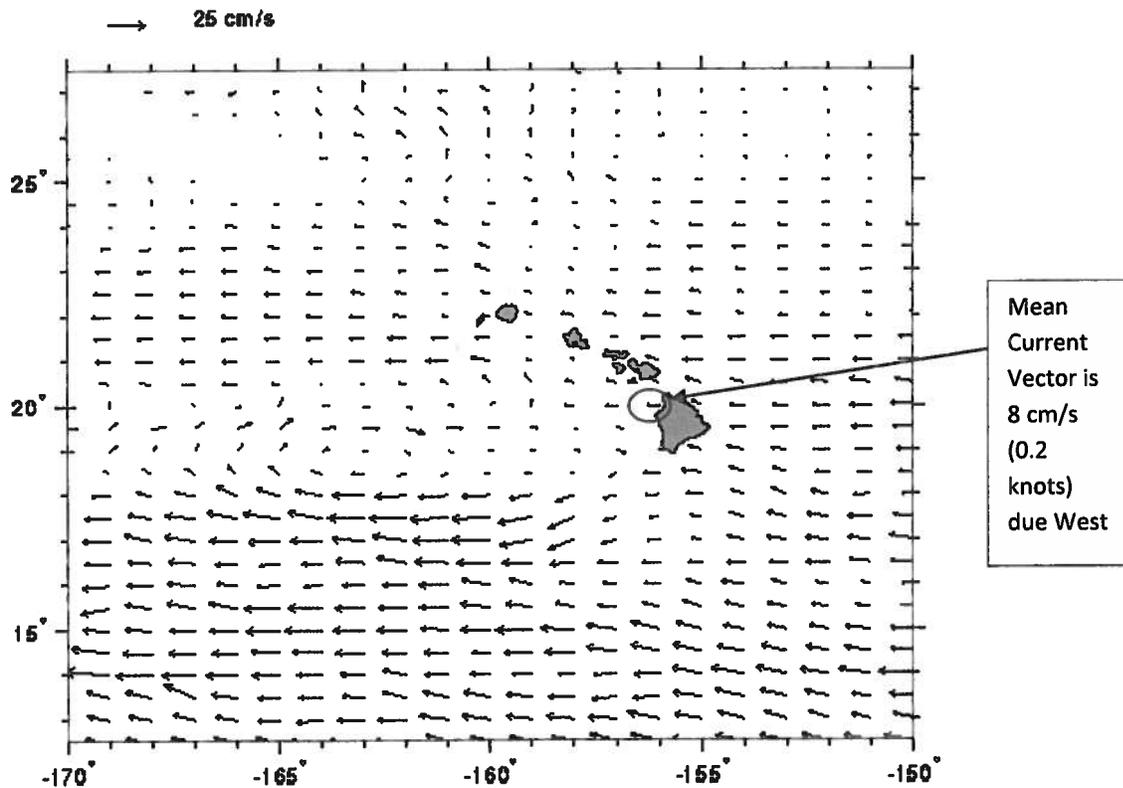


Figure 1 Average surface flow around Hawaii from compilation of historic data. Units: cm/s (25 cm/s = 0.5 knot)(Graph from Ocean Atlas of Hawaii, *P. Flament, S. Kennan, R. Lumpkin, M. Sawyer, and E. D. Stroup* <http://www.soest.hawaii.edu/hioos/oceanatlas/currents.htm>.)

EXHIBIT B

The Ocean Lease Site is centered at 20° 5'40.00"N 155°55'40.00"W. From the above mean current vector of 0.2 knots due West (fig. 1) the Oceansphere should drift 2.8 nautical miles due West to 20° 5'40.00"N 155°58'33.81"W in fourteen hours of being sent adrift as shown in Figure 2.

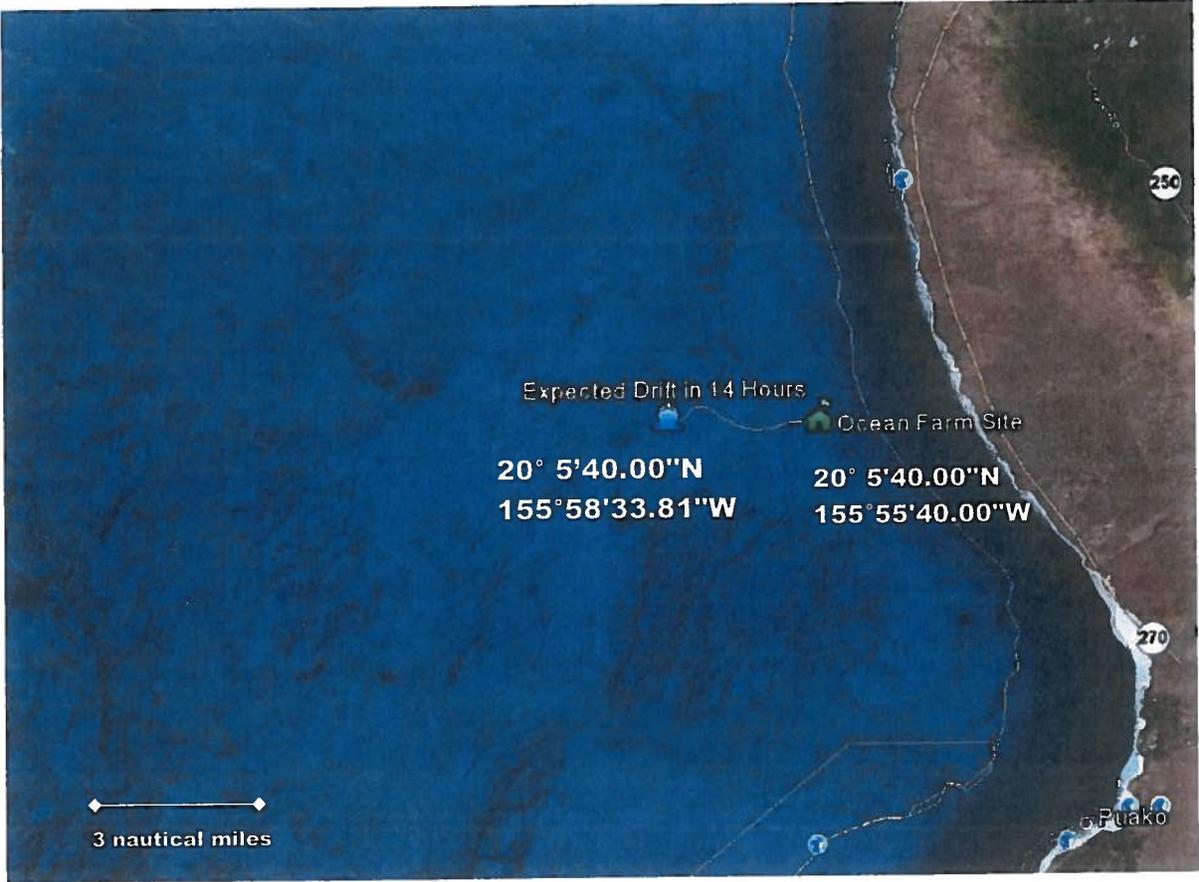


Figure 2 Predicted drift path and location of Oceansphere after 14 hours adrift (map compiled with www.googleearth.com).



Young Brothers, Limited.
"Lifeline of the Hawaiian Islands"
Hawaiian Tug & Barge
"Ready to Serve"



July 28, 2010

To: Mr. Bill Spencer
Hawaii Oceanic Technology

Dear Mr. Spencer:

From our last conversation, following is an update of tug costs to dispatch a tugboat from Honolulu to the cage site location:

- a. \$90,000.00. This price includes tug from Honolulu mob/demob to cage site.
- b. If a fish cage went adrift, based on your analysis in a 14 hour, it would drift approximately 3 nautical miles from the site location. It would take the tug approximately 24 hours from Honolulu to site.
- c. Once the tug reaches the drift location, each hour to tow the cage back to the site location will be charged at \$1,200/hour.
- d. HTB will provide only tug services. Customer will be responsible to hookup tow line to cage. Therefore, any divers or support boat services are to be arranged by Customer.

In regards to time charter of a tugboat and homeport her in Kawaihae Harbor, HTB is unable to provide a price at this time. However, the market price could run approximately \$40,000 to \$50,000 per day, fully funded.

Any information provided is subject to equipment availability, and will not be considered binding until a mutual agreement is reached by both parties.

Please feel free to contact me at (808) 543-9377 should you have any questions, etc. If I'm not available, please leave me a voice message or you can email me at rragunton@htbyb.com.

Sincerely,

Robert Ragunton
Maritime Services Manager