

**Monterey Bay
Aquarium
Research Institute
(MBARI)**

Wednesday, December 1, 2010

Commanding Officer
Naval Facilities Engineering Service Center
1100 23rd Avenue
Port Hueneme, CA 93043-4370

Dear Sir;

MBARI is developing a long-term seafloor observatory for deployment in the mid-Atlantic and we have five strobe housings, a camera housing and a battery housing that need to be pressure tested before deployment. The strobes are mounted inside 13" diameter glass spheres with plastic hard-hat covers. The camera housing is 8.5" diameter and 12" long and is constructed of 6al-4v titanium. The battery housing is 8.5" diameter and 22" long and is also constructed of 6al-4v titanium. The strobes will be inside the glass balls, but the two titanium housings will be filled with golf balls, to reduce the implodable volume. All housings are designed to resist pressure to depths of 9 km. We would like the glass balls to be tested separately to a pressure of 10,000 psi. The titanium housings should also be tested separately to a pressure of 8700 psi.

We have discussed our proposed test program with Fernando Ruiz and he has informed us that it is technically feasible and can be accomplished in your 72 or 24 inch diameter pressure vessel.

We have investigated the available commercial testing laboratories engaged in this type of work and have determined that there are no facilities available that satisfy our testing and scheduling requirements.

Therefore, we would like to utilize the services of your Deep Ocean Simulation Facility to conduct the testing of the pressure housings mentioned. ***The test would require one-day use of the facility on December 2nd, 2010***

Sincerely
Brett Hobson
Mechanical Engineer
MBARI
hobson@mbari.org

