

Oxygen\_nutrient\_waste\_GEOTHealy

From: Susan Becker [sbecker@ucsd.edu]  
Sent: Thursday, February 19, 2015 3:33 PM  
To: Forcucci, David CIV; dkadko@fiu.edu  
Subject: nutrient and oxygen waste on GEOT/Healy  
Attachments: hazardous\_waste\_regulatory\_limits.pdf; 02 & Nutrient Waste Analysis Summary.pdf

The Oceanographic Data Facility (ODF) of Scripps Institution of Oceanography provides reference quality analysis of sea water salinity, dissolved oxygen and nutrients. Rather than collect and store the waste streams from these analyses during research cruises, ODF decided to pursue the possibility of direct discharge overboard. Nothing is added to sea water samples during salinity analysis, so discharge of samples after analysis is routine. Following the recommendation of the Environment Health and Safety (EH&S) Office at the University of California San Diego, ODF submitted samples to an EPA-certified analytical laboratory. The lab's regulatory criteria for testing is based on limits found in the federal Resource Conservation and Recovery Act (RCRA), and is explained in detail on their website:

<http://www.eurofi.usus.com/environment-testing/laboratories/eurofi-us-cal-science/services/hazardous-waste/>

With one exception, the samples were determined to be non-hazardous under federal and California regulations. Concentrations of cadmium (Cd) in one channel of nutrient analysis exceeded allowable limits. The lab results were submitted to the EH&S Office of UC San Diego for review. ODF was given approval to discharge overboard all waste except for the nutrient analysis showing high levels of Cd. For the final chain of approval all documentation (lab results and decision from UC San Diego EH&S) was submitted to the National Science Foundation (NSF) and the ship operator for the next upcoming cruise. Both agreed that material designated non-hazardous could be discharged overboard.

We request approval to continue this practice on the GEOTRACES cruise scheduled for summer 2015 on board USCGC HEALY.

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