March 31, 1997

Tim Lowe
Closeout Project Manager
Armstrong Data Services, Inc.
2070 Chain Bridge Road
Suite 150
Vienna, VA 22182

Re: Grant No.N00014-92-J-1217

Dear Mr. Lowe:

On behalf of Frederic R. Siegel, the George Washington University is enclosing the final technical report for the above mentioned grant. Also included to accomplish the close-out of this award is the final inventions report, DD Form 882.

The final financial report will be submitted by the University’s Grants and Contracts Accounting Services. If you have any questions regarding the final financial report, please call Barry Hickson at (202) 973-1046.

If you have any other questions, please do not hesitate to contact Gianna Rudolph, Post Award Coordinator at (202) 994-6257. We sincerely apologize for the delay and thank you for your patience.

Sincerely,

Helen Spencer
Director

enclosures

cc: Barry Hickson
Charles K. Hayes
Barbara M. Thurman (3)
Defense Technical Information Center (2)
Naval Research Laboratory (2)
The mass physical properties of 86 samples from a suite of 8 cores from the Eastern Novaya Zemlya Trough, Kara Sea, were compiled into a database for statistical analysis. The database also included size characteristics, mineralogy of the <2μm size fraction, and chemical composition (40 chemical elements). The chemical elements include the potentially toxic elements being followed in the Arctic Monitoring and Assessment Program. The size frequency, fine-size fraction mineralogy and chemistry of samples affect the mass physical properties.

In the sample suite used for this project, two principal factors influenced the mass physical properties both spatially and in downcore assessments. The principal factors are porosity and silt size content. There were lesser influences from the other factors assessed which were not significant at the confidence level used for the statistical evaluation. Nonetheless, these additional factors such as the influence of transition metals concentrations and aluminum contents continue to be reviewed.

One Master of Science thesis has resulted from this work. (See listing that follows).

Data set summaries can be obtained by DOD/NAVY/ONR from Professor Siegel, the P.I., Department of Geology, George Washington University, Washington, D.C. 20052.

Publications and presentations that came out as a result of the research are:


Master of Science thesis:

Papers In Preparation for Journal Publication:

Spatial and downcore factor analysis of mass physical properties, granulometry, <2\(\mu\)m size mineralogy, and chemistry in a 1965 suite of cores from the Novaya Zemlya Trough, Kara Sea, Russian Arctic (50% completed). (Kravitz, Siegel, Lee and Basinger)

Sediments in the Novaya Zemlya Trough, Kara Sea, 1965: physical-chemical properties and environmental influences (50% completed). (Lee, Siegel and Kravitz)

Work on the Kara Sea sediments but from the Voronin and Santa Anna Troughs is continuing. The following presentations were made on the basis of the continuing work:


Accepted for Presentation:


Paper in preparation:

Arsenic and mercury contaminants in Voronin and Santa Anna Troughs sediments, 1965: origins, pathways and environmental impacts (40% completed). (Siegel, Kravitz and Lee)

A comparison of mass physical properties of sediments from the Novaya Zemlya Trough with those in the Voronin and Santa Anna Troughs, Kara Sea. (in initial stages). (Kravitz, Siegel and Basinger)

\[\text{Signed:} \quad \text{Fred R. Siegel} \]
\[2 \text{ March 1997} \]