DURING THE SECOND YEAR OF THIS THREE YEAR PROJECT, WE HAVE WORKED ON THREE PUBLICATIONS (SEE ATTACHMENT), SPONSORED THE VISITS OF TWO FORMER SOVIET UNION SCIENTISTS TO THE USA AND DISCUSSED DATA RESCUE WITH THEM, AND WE HAVE MADE PROGRESS ON IDENTIFYING IN SITU NITRATE SENSORS. (SEE ATTACHMENT)
GENERAL INSTRUCTIONS FOR COMPLETING SF 298

The Report Documentation Page (RDP) is used in announcing and cataloging reports. It is important that this information be consistent with the rest of the report, particularly the cover and title page. Instructions for filling in each block of the form follow. It is important to stay within the lines to meet optical scanning requirements.

Block 1. Agency Use Only (Leave blank).

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Block 5. Funding Numbers. To include contract and grant numbers; may include program element number(s), project number(s), task number(s), and work unit number(s). Use the following labels:

- C - Contract
- G - Grant
- PE - Program
- PR - Project
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- WU - Work Unit
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Consolidating and Advancing Knowledge of the Chemical
Oceanography of the Arctic Ocean
ONR Grant No.: N00014-94-0682
Old Dominion Project Nos. 243361&243362

This project has the following major objectives:
1) Facilitating the consolidation and dissemination of the scientific results of the Arctic
   Nuclear Waste Assessment Program (ANWAP).
2) Helping to ensure that chemical oceanographic data from the Arctic Ocean that was
   collected by the Former Soviet Union (FSU) does not disappear with the collapse of some
   of the scientific infrastructure in the FSU.
3) Introducing new instrumentation for autonomously collecting chemical oceanographic
   data from the Arctic Ocean and its adjacent seas.

During the second year of this three year project, effort devoted towards objective
1 has included:
1) Finalizing a manuscript for the Oceanographic Society Magazine that describes the
   ANWAP program and its initial results (Edson, et al. in press.)
2) Attending the ANWAP investigators' workshop that was held this spring at Snowbird,
   Utah.
3) Beginning to organize a volume of Marine Chemistry that will be devoted to ANWAP
   results.

Progress under objective two has included sponsoring the visits of two FSU
colleagues to the United States and holding initial discussions on the joint analysis of data
from the FSU Arctic. One of these visitors was Dr. Igor Melnikov of the P.P. Shirshov
Institute in Moscow. The other was Dr. Anatoliy F. Mandych of the Institute of
Geography. We hope to initiate joint data analysis and rescue projects with both
investigators within the next few months in collaboration with Dr. Peter Becker of the
Battelle Marine Laboratory.

Efforts under objective 3 are planned to peak during the last year of this three year
program of research, but we have established an initial collaboration with Dr. T. Whitledge
of the University of the Texas, to purchase a commercial in situ nutrient sensor. Three
models are under consideration, two of which are based on wet chemical analyses. The
third is based on the absorption of UV light and will not be commercially available until
this fall. Because the UV based instrument has the most potential to be integrated with
autonomous vehicles and does not require chemicals, we have opted to wait until fall
before purchasing an instrument. In the meantime, we have contracted with Mr. Dean
Lambourn of the University of Washington to construct an automated syringe sampler that
will provide periodic reference samples needed for testing the in situ device that we will
purchase within the next several months.

This award has also supported the completion of a manuscript dealing with
biogeochemical cycling in Arctic shelf sediments that has recently been submitted to *Continental Shelf Research* (Devol *et al.*, submitted) and publication of a comment in *Nature* (Codispoti, 1995).

**References**

