

Senior Editor Takes to the High Seas

Angeline T Miller

It is difficult to say no when a once-in-a-lifetime opportunity comes along.

Last year, staff members in the Publication Services Department at the Ocean Drilling Program (ODP) at Texas A&M University were offered a chance to sail for 2 months aboard the program's scientific drillship, the *JOIDES Resolution*. I was familiar with the role the *Resolution* has played in scientific deep-sea drilling since 1985 and had visited the ship twice, once in Iceland and another time in Australia. But to have a chance to experience shipboard life firsthand in the last year and a half of ODP's drilling operations was another matter. I had to say yes.

Five employees from our department volunteered to staff the vacant position of yeoman (the gender-neutral equivalent of yeoman) on the remaining even-numbered research cruises, or legs, that the *Resolution* was scheduled to sail from April 2002 to September 2003. Although staffing considerations ultimately scuttled the plan to send five different volunteers, I was selected to participate on Leg 204 on the Oregon continental margin from early July to early September 2002.

The primary focus of Leg 204 would be the study of gas hydrate, an icelike substance that contains methane and other low-molecular-weight gases in a lattice of ice crystals. An international team of scientists and engineers would try to use new tools and techniques to gain a better understanding of such things as the role of gas hydrate as a natural hazard, its impact on seafloor stability and climate, and its economic potential as an energy source.

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All Aboard

My summer at sea began and ended at port calls in Victoria, British Columbia, Canada. With a ship like the *Resolution*, which sails from one scientific expedition to the next without returning to a home port, the few days between cruises are a hectic time when the ship is resupplied and made ready for the next 2-month voyage. Typically, about 20 ODP technical staff members and program representatives support the shipboard laboratories and oversee the science program and drilling operations during each cruise. Once the ship is in port, the oncoming ODP personnel cross over with their offgoing counterparts at a briefing meeting. Over the next 2 to 5 days, while the technical staff prepares the shipboard laboratories and computers, an additional 60 people on the oncoming ship's crew make preparations to sail.

The final group to board the ship is the scientific party, which represents the various fields of earth science pertinent to each leg's mission. ODP is an international partnership organized to study the evolution and structure of the earth, and the members of the science party for each research cruise are drawn from universities, government, and industry in 22 ODP member countries and consortia. About 25 scientists usually participate in each research cruise. But for Leg 204, the ship's proximity to the Oregon coast would place the *Resolution* within helicopter and supply boat range, making it possible for more than 40 scientists, engineers, and representatives of industry, government, and the mass media to participate.

Learning the Ropes

The 10th edition of Merriam-Webster's *Collegiate Dictionary* defines "yeoman" as a naval petty officer who performs clerical duties. That definition is certainly apt, but aboard the *Resolution* the job includes substantial publication responsibilities as well, which is why members of Publication Services were considered for the job. Our



Angeline Miller celebrates her birthday at sea at a weekend barbecue on deck. On the right is Marine Laboratory Technician Sandy Dillard.

PHOTO BY BRAD JULSON



A helicopter carrying a Department of Energy official and fresh produce arrives on the helipad in early August.

PHOTO BY ANGELINE MILLER



A crane operator transfers passengers from the supply boat Mauna Loa to the *JOIDES Resolution*.

PHOTO BY ANGELINE MILLER

High Seas continued

department publishes the *Proceedings of the Ocean Drilling Program*, a two-part series that consists of an *Initial Reports* volume distributed 1 year after each leg ends and a peer-reviewed *Scientific Results* volume published 4 years after the cruise. The science party of each leg writes a draft version of the *Initial Reports* volume while the cruise is under way, and the yeoperson plays a crucial role in organizing and preparing the contents of each book.

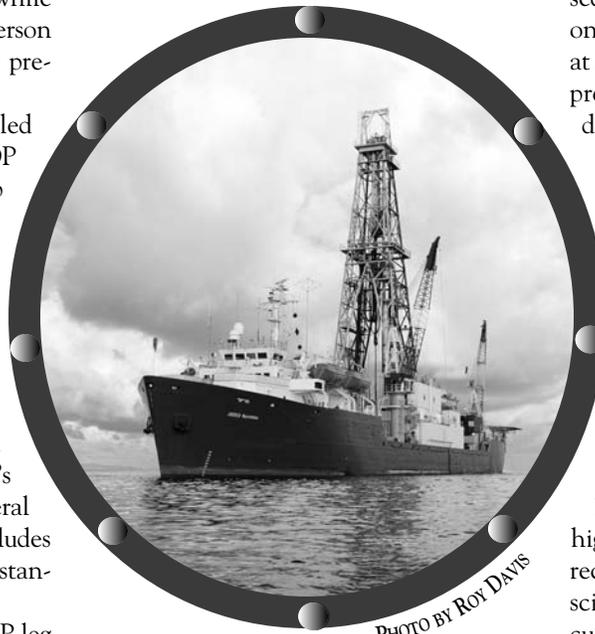
Michiko Hitchcox, who has sailed as yeoperson on more than 50 ODP research cruises, provided on-the-job training when the first yeoperson from Publication Services arrived in Valparaiso, Chile, in April 2002 for the Leg 202 port call. Hitchcox repeated the exercise with me at the Leg 204 port call. She familiarized me with office equipment, oriented me to the layout of the ship, and handed off her copy of the “Yeoperson’s Cookbook”, which details the general and specific duties of the job and includes templates and pertinent examples of standard reports and documents.

The beginning and end of an ODP leg are times of peak activity for the yeoperson, starting with the check-in process for each member of the scientific party and technical staff. Passports must be collected for safekeeping, end-of-leg hotel arrangements must be verified, and first-time arrivals must be briefed about shipboard life and given policy handouts and safety information. Meeting notices and mailbox labels must be posted, arrival and departure times for the crews recorded, and the first of many dozens of notebooks prepared. Hitchcox provided an extra set of hands to help with the flurry of paperwork, but eventually it was time for her to say goodbye and for the *Resolution* to sail.

Getting Under Way and to Work

The *Resolution* left Victoria on the morning of 11 July. After passing through the Strait of Juan de Fuca, the ship headed south for the Oregon coast. It took little more than a day before we arrived at the first of nine drill sites. The *Resolution* would not be

alone in the waters over “Hydrate Ridge”, as scientists refer to this region about 60 miles off the Oregon coast. Scientific parties aboard four other scientific research vessels—the *Sonne* from Germany, the *Atlantis* and the deep-sea submersible *Alvin* of Woods Hole Oceanographic Institution



The derrick of the scientific research vessel *JOIDES Resolution* stands 61.5 m (202 ft) above the waterline. The drillship is 143 m (469 ft) long and 21 m (68.9 ft) wide. The acronym *JOIDES* stands for Joint Oceanographic Institutions for Deep Earth Sampling, the advisory body responsible for the Ocean Drilling Program’s overall scientific planning. Since 1985, the *Resolution* has drilled in all of the world’s oceans to recover geological and environmental information recorded in seafloor sediments and rocks.

in Massachusetts, and the *Maurice Ewing* of Lamont-Doherty Earth Observatory of Columbia University—would also take advantage of the prime summer months in the Pacific Northwest to conduct experiments of their own. The presence of these ships created numerous photo opportunities on deck and a chance for some collaborative experiments between the vessels.

On most ODP research cruises, drilling operations conclude at one site before the

ship proceeds to the next site. During the transit to a new location, the scientists on board write their site reports and prepare the figures and data tables that will accompany the text. To achieve the science objectives of Leg 204, drilling operations proceeded in more of a hopscotch than a sequential manner. Drilling would end at one site, begin at another, and then resume at a site that had been visited days or weeks previously. Eventually, 45 holes were drilled at the nine sites—a record number of holes for an ODP leg. The drilling strategy dictated that the science party would be unable to complete the final reports for almost every site until the last 2 weeks, and in some cases the last few days, of Leg 204; this would make the usual end-of-leg rush even more hectic than usual.

Despite delays in report-writing, work flowed through the yeoperson’s office. On many days, about half my 12-hour shift was spent in converting high-resolution digital color images of the recovered sediment into PDF files for the scientists’ use. The process used was a circuitous one. A digital image of each 1.5-m-long section of recovered core was exported as a JPEG file by using the software package Image Tools from Geotek, Ltd. The JPEG files were then cropped and scaled in batches with an Adobe Photoshop action. Next, images of an entire core (as many as eight sections at a time) were assembled in a one-page Adobe Illustrator layout with a template that included a scale bar on the left side of the page and identifying information in headings at the top of the page. After PDF files were generated from the Illustrator files, the PDFs were moved to a shipboard server where the scientists could access them. The entire process took about 20 minutes per core, which represented about 150 hours of work over the course of the entire leg. Preparing the PDF files was tedious and repetitive work, but the scientists on board, particularly the sedimentologists, appreciated having the images for reference after laboratory measurements and descriptions were completed and individual cores had been

moved to cold storage.

ODP Senior Graphic Designer Debbie Partain created the Photoshop action and Illustrator template used in the routine described above while she served as yeoperson during Leg 202. From shore, Partain modified the action and template so that they would work with the camera settings in place during Leg 204. She sent the revised files as e-mail attachments to the ship.

As of Leg 206, the process of generating compiled images of each recovered core has been automated. Scientists aboard the *Resolution* can now use a Web browser with the Image Tools software to view low-resolution composite JPEG images of all sections of a single core. The automated process allows the resulting images to be printed but, unfortunately, not saved as a single file.

Preparing Shipboard Reports

Historically, the yeoperson on the *Resolution* has converted any Microsoft Word files intended for publication into Corel WordPerfect files. ODP Publication Services editors “on the beach” preferred WordPerfect files for two reasons: early versions of the page-layout program FrameMaker did a better job of filtering WordPerfect text, and ODP editors found WordPerfect’s “Reveal Codes” feature to be especially useful for removing unwanted embedded codes. But by early 2002, the editorial group was willing to make a change, especially because most ODP scientists prefer to use Word. In-house testing was complete on several Word cleanup macros, and FrameMaker’s latest Word

conversion filters were doing a much better job of translating symbols and special characters. Starting with Leg 202, Publication Services started accepting either Word or WordPerfect files from the ship; but during Leg 204, Word was used exclusively for word processing of the shipboard reports.

One seeming advantage to sailing an editor as yeoperson is the opportunity to edit shipboard reports at sea. Unfortunately, there was time for me to review only about 20% of the reports submitted. About 750 pages of text, 450 figures, and 120 data tables were drafted for the Leg 204 *Initial Reports* volume. In the end, most files received perfunctory processing and were photocopied in triplicate, placed in notebooks, and saved to backup media in a race against the end of the leg.

I was able to contribute editorially on the preparation of visual core descriptions created with the software application AppleCORE, which allows ODP scientists to create graphical representations of each recovered core. Specific patterns denote lithology and graphical symbols denote texture, structure, drilling disturbance, and sample locations. After the Leg 204 scientists completed their descriptions, I standardized the accompanying text descriptions in each AppleCORE file and verified sample locations against those shown in core photographs taken by the shipboard photographer.

Lasting Experience

I was sorry to say goodbye to my new friends at the end of Leg 204. The close working and living conditions and sense of common purpose resulted in an intense

personal and professional experience like no other I have experienced. But not everyone would enjoy life aboard the *Resolution*, where each employee is expected to work 12-hour shifts 7 days a week. The pace is tiring at times, but shipboard life has a certain charm. The housekeeping and catering staff clean the cabins daily and serve tasty meals in the ship’s galley four times a day. Dirty laundry is whisked away almost as quickly as it is placed in a mesh bag outside each cabin door, only to be returned clean and folded a few hours later. Off shift, those sailing on the *Resolution* are free to watch movies in the lounge, read from an extensive collection of books and magazines, or work out in the gym or on the helipad. E-mail keeps family members and friends in touch. Once a week, usually on Sunday, a barbecue is staged on deck, weather permitting. The barbecue provides a much-needed change of pace and serves as a touch of the home life everyone is missing.

I took back more than memories when I returned to College Station and my duties as senior editor at ODP. Most important, I experienced how the seagoing half of our organization works and lives apart from loved ones for 2 months at a time. I learned new software skills with a crash course in several graphics applications. And I saw ways that ODP could benefit from better collaboration among the groups that provide science, database, and publication services. It is unlikely that I will have a chance to sail again on the *Resolution* before Leg 210 ends in September 2003, but if the call comes, I have a duffel bag that won’t take long to pack. 📦