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Icebreaker Arrives At McMurdo Station

by JO2 Trevor Poulsen

USCGC Polar Sea (WAGB 11) arrived at Winter Quarters Bay Jan. 5th. The ship is one of two U.S. Coast Guard icebreakers that take turns making the annual voyage to McMurdo Station on behalf of the United States Antarctic Program (USAP).

Polar Sea, and its sister ship Polar Star, are the largest ships in the Coast Guard and the world's most powerful non- nuclear icebreakers. Both are homeported in Seattle and have been operating in both polar regions since being commissioned in the 1970's.

In 1994, Polar Sea became the first American surface ship to reach the North Pole and the first vessel to reach both ends of the global ocean. Polar Sea also completed the first Pacific to Atlantic crossing of the Arctic Ocean during a science expedition that same year.

The ship made its ninth voyage to the Antarctic this season. The last time she came to McMurdo Station was early 1995 to finish an aborted mission by Polar Star.

Polar Sea's primary mission in Antarctica is to clear a channel through the ice to McMurdo Station and escort ships operating for USAP in the area. This year, the research vessel R/V Nathaniel B. Palmer, the fuel tanker M/V Samuel Cobb and cargo ship M/V Greenwave will visit the station.

"Polar Sea is running really well this year," said LCDR Stephen Wheeler, Coast Guard Ship Operations Officer. "We had a 16.8 mile approach from the ice edge to Hut Point which is a little longer than the norm."

"I would say it's generally a pretty normal ice year down here," he added. "Two years ago, we had 54 miles of ice to break to get down here, so it's not nearly as bad."

Secondary missions include resupplying the helicopter fuel depot at Marble Point and servicing automatic weather stations.

The vessel also assists with science projects in the Ross Sea area. Two projects scheduled for this season include a mission to map Ross Ice Shelf and a penguin study at nearby rookeries. A 14-member helicopter

detachment on board with two HH-65A "Dolphin" helicopters will provide air mobility to project scientists. Total crew size stands at 160 which includes the detachment and numerous individuals from Polar Star.

Formerly Polar Star's Operations Officer, Wheeler says the Coast Guard icebreaker community is a closely-knit group of people. For example, Polar Sea's Commanding Officer CAPT Jeffrey Garrett previously served in the Star's number two position as executive officer.

Wheeler compares his current assignment in Building 165 as liaison between the ship and Naval Support Force Antarctica with duty on Polar Star.

"It's really quite a different world being stationed ashore as opposed to being stationed on the ship when you get to see a lot more of the wildlife," he said. "It's just a completely different world on the other side of Hut Point."

Polar Sea is scheduled to depart McMurdo after the Greenwave leaves Feb. 8. Its return voyage will take it along the western coast of Australia, to Singapore, Shanghai and finally to Seattle where it is homeported.

Changes Regarding Club Crowds Not Expected Yet

by JO2 Trevor Poulsen

Recent concerns about maximum safe occupant loads for common areas, according to National Fire Protection Standards, will not result in any immediate changes at the Erebus and Southern Exposure clubs, according to Station Manager Al Martin.

The policy regarding which club will be designated as the smoking club will be made prior to the start of the next summer season. Until that time, tables and chairs will be removed from the Erebus during special events at the club.

Leaning bars have been installed in the Erebus for customer use during those times when the tables and chairs are removed.

Currently, the station fire department has set the maximum safe occupant load for the Erebus at 152 persons. The limit increases to 243 persons when the furniture is removed.

In the "E" side of the dining area, the number with tables is 141 and without tables is 301 - a number which hasn't yet been exceeded, according to Martin.

ASA To Continue Present Check Cashing Policy

On Feb. 1, Antarctic Suppor Associates (ASA) will assume responsibility of banking services now provided by the Navy at McMurdo Station.

The change in ownership will not affect check cashing privileges for military members. However, members must have a military I.D., not be within 90 days of EAOS , and limit monthly withdrawals to $200.

In addition, the Commander, Naval Support Force, Antarctica has authorized immediate garnishment of wages for all bounced checks and their associated processing fees.

ASA has also installed a full-time Automated Teller Maching (ATM) next to the check cashing window. The machine will accept all major debit cards (Plus, Cirrus, Novus, etc...) and cash withdrawal credit cards.

Call DK2 Steven Alexander at 2457/8 for further information.

AROUND USAP

by JOC(AW) Jacqueline Kiel

McMurdo Station - Antarctic Development Squadron SIX (VXE-6) completed two flights to Automatic Geophysical Observatory Five (AGO 5) for maintenance, calibration, data recovery and refueling on Jan. 3 and 4.

On Wednesday, VXE-6 dropped off groomers at the AGO 6 site. The groomers will prepare the skiway for the LC-130 carrying the AGO unit, the installation team and supplies. Approximately two- thirds of the equipment were staged at the site last season to prepare for installation of the final AGO unit.

The Pegasus ice runway is scheduled to open Wednesday. Fleet Operations personnel had covered the runway with 10 inches of snow at the beginning of the season to preserve its surface through the summer. Now that the sun is lower in the sky, the 10-inch layer of snow is being reduced to five inches. Eventually, the layer will be taken down to one inch which is when operations can begin. The first flight arriving at Pegasus is scheduled for Jan. 22.

South Pole - Station personnel celebrated the new year on Jan. 4 with the first annual "South County Fair," which included an outdoor barbecue and various contests such as a three-legged race called a "bag drag."

The Hazardous Waste Manager and Supervisor visited the station to assist in identifying and packing various chemicals and to clarify management procedures. Areas that could be improved to allow for better handling of waste were identified.

R/V Nathaniel B. Palmer - The ship arrived at McMurdo Station Wednesday. While here, cargo and research personnel were transferred and the crew prepared for the next research cruise.

The ship departed yesterday in support of the Southern Ocean experiment for the Joint Global Ocean Flux Study, which is a three-year study to track the flow of carbon through its organic and inorganic pathways south of the Polar Frontal Zone.

R/V Polar Duke - The ship departed Punta Arenas, Chile on Friday, Jan. 3, heading south toward the Hugo Island archipelago to service an automatic weather station. It will continue onto Palmer Station.

Palmer Station - Personnel are preparing for the next Long-Term Ecological Research cruise on board the R/V Polar Duke, readying cargo, supplies and equipment.

MacRelay Links McMurdo To Remote Areas

by JO2 Trevor Poulsen

Naval Support Force Antarctica's (NSFA) Radio Division (MacRelay) working in conjunction with the Field Operations Control Center (FOCC) provides a vital radio communications link between McMurdo Station and remote field parties; the South Pole Station; and aircraft and ships supporting the United States Antarctic Program.

In addition, all official naval messages sent to and from the continent pass through MacRelay located in Building 165. Operators process all outgoing naval messages and send them via the internet to NSFA's homeport message center in Port Hueneme, CA for further dissemination. All message traffic received by MacRelay from South Pole Station, Christchurch, or the message center at Port Hueneme is electronically routed via the Message Dissemination System (MDS) to individuals requiring the information.

"When a plane departs from McMurdo Station, MacRelay sends a departure message letting Christchurch and/or South Pole know how many passengers they can expect," adds RMC(SW) Donald Acker, Winter-over Radio Officer.

"We also receive weather reports from South Pole Station which we relay to the Meteorology Division so they can forecast weather at the South Pole."

MacRelay also operates and monitors the HF-GTOR which is a developmental circuit still in its testing stage that sends and receives email via HF radio signal to and from outlying field camps.

The seven member division has three Radiomen (RMs) and one Electronics Technician (ET) who stand watches in 12-hour shifts to monitor and process radio traffic around-the-clock.

"The pace (on watch) is usually fairly calm," said RMSN Doug Patotzka, Watch Supervisor.

"When a problem does arise then things can get very hectic, especially if we've lost contact with one of the camps. We have to figure out what the problem is immediately so they can get back in contact with us."

Effective Oct 1, 1997, Antarctic Support Associates (ASA) will assume responsibility for operation of MacRelay as part of the ongoing transition of NSFA's functions in preparation for the command's March 1998 decommissioning.

SCIENCE PROJECT UPDATE

by JOC(AW) Jacqueline Kiel

Three-Dimensional Magma Dynamics in Large Sills and Beneath Ocean Ridges (S-056)

This research focuses on the emplacement and solidification of sills which are tabular bodies of igneous rock injected while molten between layers of rock beds. Their evolution will be compared to dynamics of similar bodies on Reunion Island. This information may help in understanding the evolution of Earth.

Dr. Bruce Marsh and his field Team will spend time in various areas in the Dry Valleys during January. The team will perform geologic mapping and collect igneous rocks. Samples will be processed at the Crary Lab and then sent to Johns Hopkins University for further studies.

Geodetic Surveys for Transantarctic Mountain Deformation Study; Photogrammetric Control Surveys: Digital Cartography Data Base; Antarctic Map and Aerial Photography Library (S-052)

The United States Geological Survey (USGS) provides topographic mapping, geodetic control for extremely accurate mapping and geographic information systems support for the U.S. Antarctic Program.

This season, Principle Investigator Jerry Mullins, from the USGS, and his field team will conduct geodetic surveys from McMurdo Station and global positioning system observations from various sites, including the Dry Valleys. The team will conduct maintenance on existing equipment and install new equipment. They will also complete photogrammetric control surveys.

"Life On Mars" Shown To Be Just Crystals

by Samantha Tisdel

Any suggestion of life on Mars is certain to cause great titillation in the American media and science-loving public. When NASA announced last summer that it had discovered signs of microscopic life in a Martian meteorite found several years ago in Antarctica, the clamor was tremendous.

Now public attention has swung with equal gusto to the findings of planetary geologist Ralph Harvey, and his colleagues, whose newly published paper about the famous Martian rock blatantly contradicts NASA's findings.

Over the past few weeks, Harvey and his associates have enjoyed coverage in such major publications as Science News, New Scientist, and even the front page of the Sunday New York Times.

"No scientist wants to go right to some other scientist and say 'You're wrong,' but in this case, they are wrong!" Harvey exclaimed. "We're being painted as 'The Grinches that Stole the Martians at Christmas!'"

Harvey, a Senior Research Associate at Cleveland's Case Western University, has a vested interest in setting the record straight. He is the Principal Investigator of the Antarctic Search for Meteorites Program (ANSMET) which discovered the Martian rock in the first place. Harvey inherited the program from ANSMET founder Bill Cassidy, who is widely recognized as the grand-daddy of meteorite science.

The culprit in the "Live vs. Not-Life" discrepancy is a mineral called magnetite. NASA scientists observed magnetite crystals in the meteorite which appeared to be growing in little worm-like chains, mirroring the way the mineral grows in certain earthly microorganisms.

"You can think of these chains as a sort of compass the [earthly] microorganisms use to figure out which way is up," Harvey explained.

Harvey and his team members had already published a paper on the meteorite a month prior to NASA's announcement. Their studies of the rock contained no evidence to support the "Life on Mars" theory. Rather, they focused on the presence of secondary minerals within the meteorite which gave clues to its origin.

"The question of "Life vs. Not-Life" did not even occur to us," Harvey said.

So as soon as NASA's findings were reported, Harvey and his team went back to the lab to have another look. "We looked at the same spots in the rock for the magnetite, with a better instrument than the one NASA was using, and found that the magnetite structures were more like ribbons than worms, with a spiral shape which is known to occur with magnetite only under very special conditions -- very high temperature, and under the presence of a vapor rather than a liquid."

These findings put NASA's claims on shaky ground. "There's no organism on earth that makes magnetite this way," Harvey explained. "The pictures of the little wormy things were just these ribbons of magnetite."

The final verdict on the now-infamous meteorite will probably not be decided for many years. "There is so much more to learn about this rock," Harvey sighed. "No theory fits all the data. You're just as likely to be wrong as right. Unfortunately, the question of how the rock was formed has been ruined now because there's this whole specter of the 'Life on Mars' thing."

Public interest in the Martian rock debate has lead to a veritable tsunami of media attention for Harvey's Antarctic work. The ANSMET group has had more visitors from the media this year than in the last 10 years combined. They've also hosted a number of "DV's" (Distinguished Visitors) at this year's field camp near Griffin Nunatak.

"Usually we go out for six weeks and don't see anybody," Harvey laughed. "This year it felt like Grand Central Station, which was kind of fun for us."

The study of meteorites is popular by nature, invested as it is with the exoticness of outer space. Scientists estimate that every year the earth acquires 50,000 tons of new material from outer space, most of it coming from the asteroid belt -- "Kind of primordial left-over bits and pieces of the solar system," Harvey explained. "These are uniformly the oldest rocks known; they are 4.556 billion years old."

Dislodged chunks of the moon and Mars occasionally make it here as well (hence the Mars-rock controversy). After journeying from its origins for up to 20 million years, most of the space junk that collides with Earth either falls into the ocean or scatters over the various continents in random fashion.

What makes Antarctica a good place to find meteorites is its landscape of snow and ice, against which anything non-white is easy to spot. Additionally, some areas of the Trans-Antarctic mountains provide a natural mechanism for meteorite concentration.

Such areas are the focus of the ANSMET project. A normal day of meteorite-hunting consists of the field team members lining up six abreast, spread 30 meters apart, driving slowly across the ice. It may seem fairly simple, but the method has yielded over 8,000 meteorites in 20 years. This year alone, over 400 meteorites were found.

USAP PERSON OF THE WEEK

by JO3 Roland Ortiz

This past New Year's Eve was an extra special occasion for PN3 Stefanie Proffitt as she was promoted to Petty Officer 3rd Class.

Proffitt was meritoriously advanced, or "capped", on Dec. 31st. "You get paid and hold the rank immediately," Proffitt said. "Needless to say, I was ecstatic."

Proffitt's promotion is not the only thing she's ecstatic about.

"I'm getting married this year on June 14 in Hopkins, Mich.," she said. "I guess you can say I'm a little excited about all this happening."

Proffitt deployed to McMurdo in October with Antarctic Development Squadron SIX (VXE-6) as an assistant postal clerk.

Her regular job is a personnelman, an administrative clerk for enlisted Sailors. However, VXE-6 was over-manned in their Personnel division so Proffitt was assigned to help at the post office.

"I sell stamps and process incoming and outgoing letter mail and packages," she said.

McMurdo Station is not the only isolated assignment to which Proffitt has been deployed.

Personnel Support Detachment, Diego Garcia, located in the Indian Ocean, was a year-long tour for her. "I updated enlisted service records with college course and dependents' applications in Diego," she said.

A native of Hazel Park, Mich., she departs McMurdo this month, but expects to return to the ice next year.