

Lee Powell Retires

by Cliff Thurber and Bill Unger

After more than four decades on the UW staff, Lee Powell retired at the end of 2008. Lee is an extraordinary individual who has made fundamental contributions to our department, the university, and to the broader geophysical community over decades of dedicated work.

Lee began his career as a student hourly employee in 1964 while completing his BS degree in electrical engineering. He worked with the department's Geophysical and Polar Research Center's crustal seismology group, directed by the late Professor Robert P. Meyer. The following year, Bob hired Lee as an Academic Staff project assistant. In the decades that followed, Lee led the technical development of a broad range of geophysical instrumentation systems, including marine and land-based seismographs and multi-channel recording systems (including Vibroseis™), magnetometers, sonars, and airborne radar data acquisition. Lee took advantage of the rapid evolution in electronics (vacuum tubes to transistors to integrated circuits) and computer systems (early computers with kilobytes of memory and kilohertz CPU speeds to the present gigabyte/gigahertz systems). Recently, Lee developed, for the Ice Core Drilling Services program, a software system to control a newly designed Ice Core Drill for use in Greenland and the Antarctic.

UW projects took him to Antarctica, Papua New Guinea, Peru, Bolivia, Colombia, Mexico, Iceland, Siberia, Kenya, Alaska, Hawaii, and many places throughout the conterminous United States, and marine work near Hawaii, the East Coast of the U.S., and on the Great Lakes. Between 2000 and 2006, Lee spent many weeks participating in the joint UW-RPI Parkfield Area Seismic Observatory (PASO) project, which set the stage for the San Andreas Fault Observatory at Depth fault zone drilling project. In summer 2008, he helped Alaska Volcano Observatory (AVO) scientists install eleven portable seismographs surrounding Trident Volcano in Katmai National Park as part of a collaborative UW-AVO project.

Not only did Lee develop instrumentation systems, he was also deeply involved in their use in the field and in working with the acquired data back in the lab.

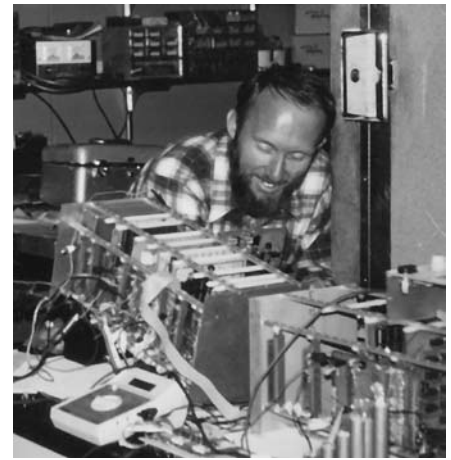
It is this end-to-end experience and wisdom in geophysical data acquisition and analysis that sets Lee apart from his peers, and has gained him recognition in the university, nationally, and internationally. In the 1980's, the Incorporated Research Institutions for Seismology (IRIS) consortium called on Lee to participate in the

design specifications of the portable seismograph developed for their very successful Program of Array Seismic Studies of the Continental Lithosphere (PASSCAL).

Lee's remarkable abilities were also important outside geophysics. Lee has played a pivotal role in the development, operation, and maintenance of instrumentation in a number of department labs. Among these are the electron microprobe, the stable isotope lab, the rare gas geochronology lab, the radiogenic isotope lab, and most recently Wisc-SIMS, the department's new ion microprobe lab. Lee has served as a one-man service contract for many of these instruments, keeping them running almost non-stop. Lee's development of a computer-controlled automation system in the rare gas lab has revolutionized approaches to many Earth Science questions which require ever-larger and more precise data sets. Lee's technical expertise was also pivotal in the lab preparation for and installation of Wisc-SIMS.

Despite the diverse demands on Lee's time, he has always been available to help with technical problems large and small around Weeks Hall. Anyone who has had the pleasure of interacting with him knows that Lee will go the extra mile with a smile on his face, happy to tackle any manner of problem with tenacity, creativity, and an incredible knack for finding a solution.

Lee says, "My plans for retirement include traveling with my wife, Mary, spending time with our children and grandchildren, volunteering with my church, Appalachia Service Project, Habitat



Lee Powell, c. 1977. (Ben Abernathy)



Lee working on a seismic station installation in Katmai National Park, Alaska, on the flank of Trident Volcano (2008). Mageik Volcano is in the background. (Cliff Thurber)

for Humanity, and Holden Village. I look forward to continued learning and developing computer hardware and software technology. Mary and I also plan on spending a lot more time at Williams Wood, our riparian woodland and prairie property near Beaver Dam." ●

I've always been in awe of Lee's ability to walk into any situation and apply his technical skills to save the day. In my eyes, Lee attained super-hero status during Charlie Bentley's 1987 Antarctic field program at the remote camp Downstream Bravo. That season we were using airborne radar in a ski-equipped Twin Otter turboprop bush plane to survey 25,000 square miles of the West Antarctic ice sheet.

All our plans were put on indefinite hold when the aircrew found that the inertial navigation system (INS), which allowed them to navigate the flat featureless ice sheet, was dead.

While desperate calls went out on the camp radio stating the plane's status was AOG (air-

plane on ground), Lee started to work. With no prior experience with the avionics he was able to backtrack from the dead INS, and, sorting through a thousand connections, find two pins that had shorted out the INS power. Going back farther, he found the dead avionic power inverter with 18 fried transistors. Knowing it would take weeks to get replacement parts to remote West Antarctica, Lee scoured geophysical instrument spare parts we brought with us and even disassembled nonessential equipment to find enough substitute power transistors to repair the INS. The whole camp was amazed and elated when the plane's navigational system sprang back to life. Neal Lord