

COMMENTS FROM THE EDITORS

We are back!! Our last Quarterly *Bulletin* was the January 2008 issue (Vol. 28, No. 4). With a reduction in the USDOE Office of Geothermal Technologies budget over the past years, no funds were available to continue the publication of the *Bulletin*. With the recent Stimulus Funds for geothermal and an increase in the Office of Geothermal Technologies budget, we have again been funded for at least three years to publish the *Bulletin*.

Much has happened in the past two years on campus. In February of 2009 the drilling of a deep geothermal well on campus was started (see article this issue). In just under 40 days, the well was drilled 5,300 ft (1,600 m) and intersection the high angle (70°) normal fault on the east side of campus. We had hoped to reach around 300°F (150°C) geothermal fluids (based on geochemistry), but a subsequent pump test produced only 196°F (91°C) water, and the well proved to be isothermal over the entire length. Even though we only test pumped the well to 1,500 gpm (95 L/s) with a 23-ft (7-m) drawdown, it appears that we can pump up to 2,500 gpm (158 L/s) with only a 75-foot (23-m) drawdown. If this is proven and we obtain the water rights for the higher amount, this flow should be adequate for a 1.0 to 1.2 MWe (gross) binary power plant, which we hope to install by 2012.

The second major event on campus was the installation and commissioning of a 280 kW (gross) binary power plant (see article this issue). The plant, installed in our heat exchange building near our existing production wells, is a PureCycle™ United Technology Corporation (UTC) unit (now under Pratt and Whitney). The plant was delivered on campus in March 2009 and was dedicated in an official ceremony April 20, 2010. It uses geothermal water from our existing wells, up to 600 gpm (38 L/s) at up to 196°F (91°C), and uses a wet cooling tower for the condenser water. The “waste water” is then used to heat campus. The electricity from the plant can either be used directly on campus or fed into the Pacific Power grid.

Much has happened to the original founders of the Geo-Heat Center in 1975. Paul Lienau, the first Director, passed away on Camano Island, Washington on September 27, 2008 after a long bout with cancer. John Lund and Toni Boyd attended his memorial service. Lars Svanevik has retired but continues as an adjunct professor of chemistry and renewable energy on campus. Unfortunately, he suffered a stroke in December 2009 and is convalescing in Klamath Falls. Gene Culver, retired for several years, continues to ranch and raise sheep and alpacas south of Klamath Falls. He also occasionally helps with research projects at the Center. John Lund, after working on campus for 43 years, both as a professor of Civil Engineering and then as Director of the Center will retire in June. Toni Boyd, who was hired 15 years ago, is still with the Center as the Assistant Director. A Mechanical Engineer and Program Manager will be hired and hopefully will be on board in July. The Center is now part of the Oregon Renewable Energy Center (OREC) established on campus in 2001. John and Toni have been teaching geothermal classes for the new

Renewable Energy Engineer Bachelors degree that is offer both at our Portland and Klamath Falls campuses.

In August of 2010, the Geo-Heat Center along with the Geothermal Energy Association of Washington, D.C. held a two-day geothermal conference and field trip on campus. The emphasis was on the direct utilization of geothermal energy, with presentation by many local geothermal developers. The field trip visited the campus, the downtown district heating system, and various agri-business applications at “Gone Fishing” and the Liskey Ranch south of Klamath Falls. It was attended by over 100 persons.

Both John and Toni were actively involved with the recent World Geothermal Congress 2010 (WGC2010) that was held in Bali, Indonesia in late April. Around 2,500 persons from at least 85 countries attended the Congress, with over 1,000 papers and posters presented. John and Toni were involved with five papers, including the World Direct-Use Summary and the U.S. Geothermal Summary (see paper this issue). John was also convener of geothermal heat pump workshop at the Congress, and his son Thomas (age 16) as the youngest participant, presented a paper on the heating systems of the three Klamath Falls schools he had attended. Toni presented the other two papers published in this issue.

The Geo-Heat Center has received a number of contracts recently that has helped to continue the operation of the Center. These included:

“A Review of the Geothermal Resources Underlying Glenwood Springs, Colorado and of the Technologies Appropriate for Use in Their Potential Development” (a feasibility study and final report was prepared and submitted to the City of Glenwood Springs in September, 2009).

“Oregon Institute of Technology Geo-Heat Center” – a grant from USDOE Office of Geothermal Technologies for funding the drilling of the deep well and for the 1.0 to 1.2 MWe binary power plant. It also provides funding to continue the operation of the Center

“National Geothermal Database” a contract to Boise State University of which the Center is a subcontractor. This is five-year contract.

“The Potential Employment, Energy and Environmental Impacts of Direct-Use Applications” a USDOE subcontract under Bob Lawrence & Associates, Inc., Virginia. This is a three-year contract, and includes providing technical assistance and the publication of our Quarterly *Bulletin*.

“Geothermal Workforce Education Development and Retention” to establish a geothermal training facility on the University of Nevada, Reno campus. The Center is subcontracted to provide the geothermal direct-use training. This is a one-year contract with possible extensions.

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