

***Sixth Oregon Geothermal Working Group Meeting  
Burns, OR, May 17, 2006  
Minutes***

**When:** Wednesday, May 17 2006, 10 AM to 3:00 PM  
**Where:** Harney Court House, 450 North Buena Vista, Burns. 541-573-6356

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**Agenda & Notes**

Welcome/Introductions – Carel DeWinkel, introduced himself and asked audience members to do the same. Harney County Judge (Commissioner) Steve Grasty welcomed the attendees and pointed to two prior reports identifying geothermal energy potential in his county. He was familiar with both direct use and power generation prospects and encouraging in his words.

Geothermal Energy: Resources, Exploration, Drilling and Economics – Alex Sifford of Ecos

Consulting went over a short presentation on these four general topics. His goal was to lay the groundwork for the following talks by confirming that geothermal resources clearly occur in much of Harney County, referring to the same 1983 report that the Judge did. (Alex & John Lund were significant contributors to that report.) Exploration for the direct use resources in question included researching neighboring well records, prior to drilling. Drilling cost estimates initially provided by Al Waibel of Columbia Geoscience were confirmed with two drilling firm members in the audience. They also indicated the time for a 6 inch diameter 500 foot deep water well in the areas was about one week, at a cost of less than \$50 per foot. The economics discussion focused on letting audience members know the 1) any direct use enterprise must “pencil out” profitably regardless of the energy costs, and 2) higher first costs of developing a geothermal system must pay off in lower operating costs, all other costs being equal.

Introduction to direct use of geothermal energy – John Lund of the Geo-Heat Center gave a comprehensive overview of the many direct use applications worldwide. Many audience members asked about ways to capture heat and costs involved. John shared much of the valuable information accumulated from years of seeing applications worldwide.

Introduction to geothermal heat pumps – Andrew Chiasson of the Geo-Heat Center provided much useful information on using lower temperature water in specific current greenhouse applications. Many audience members asked about sizing greenhouses to match resources.

Greenhouse and aquaculture guides – Toni Boyd of the Geo-Heat Center covered what is in the extensive guides available regarding these two direct uses of energy. She covered some “rules of thumb” for heating requirements of both greenhouses and fish ponds.

Geothermal information and web sites– Toni Boyd collected and shared the many useful internet sites with valuable developer information. Many of these links will be added to the ODOE website. She ranked highly the Great Basin Center for Geothermal Energy (UNR) and NREL websites.

Current local interest in geothermal direct heat applications – this group discussion elucidated much interest in two nearby operations: Crane Hot Springs and a new greenhouse venture underway next door to it. Denise Kryger, owner, described her Crane Hot Springs Resort

(<http://www.cranehotsprings.com>). It uses 185 degree water to heat a swimming pond.

Accommodations include Rustic Cabins, Tent Camping Area, R.V. Sites, Horse Corrals, Natural Spring Swimming Pool and a Bathhouse

Jean Cain described her brand new venture using a similar temperature waters to heat a 13 bay greenhouse that had fallen into disrepair. Her operation is raising vegetables for the fresh market in Bend and nursery stock for a floral shop she operates in Burns.

One audience member indicated a local recreational vehicle factory is using a 134 degree well for space heating. Subsequent research indicates a 94 degree well is being used by the business (well log attached).

The fourth and final takeaway was news that planned institutional building activity is underway that may be able to take advantage of local geothermal resources. Local well logs indicate strong potential for heat pump space conditioning systems (see above). Both the local hospital and high school are apparently in planning stages for renovation that would include new heating and cooling options. ODOE is following up with this possible lead.

Federal and State Incentives – Carel DeWinkel described these incentive topics briefly and the State’s interest in rural agricultural applications.

The meeting concluded with a video of the DVD: “Development of Geothermal energy projects in Klamath/Lake counties”. The excellent video is available from the South Central Oregon Economic Development District.

Following the meeting, a field trip to the geothermal greenhouses in Crane took place. The greenhouses are in remarkably good shape for having been abandoned for almost five years. As it was a warm day the greenhouses were exceptionally productive.



Attendees at newly restored geothermal greenhouse operation, Burns Oregon.