

# GEOHERMAL PIPELINE

Progress and Development Update  
from the Geothermal Progress Monitor

## GEO-HEAT CENTER HOMEPAGE

URL:<http://www.oit.osshe.edu/~geoheat>

Introduction. The Internet has experienced explosive growth in the past year. What is the Internet you might ask? The Internet (also known as the Net) is a global community of communities. As of November 1994, it is estimated that there are 30 million Internet users in over 80 countries. These millions of people, from all walks of life, count on the Internet as an integral part of their day-to-day activities (Internet Passport, 1995). The Internet is a new way to bring information to people with the touch of a keyboard or the click of a mouse.

What It Contains. The Geo-Heat Center Homepage (URL: <http://www.oit.osshe.edu/~geoheat>) is an introduction into what is offered by the Geo-Heat Center. Its main headings include:

- What is Geothermal?,
- Services offered,
- Publication list,
- Bulletin,
- Collocated resources,
- Directory of consultants and Equipment manufacturers, and
- Other places of interest.

Below is a description of the main headings and what is available in each.

What Is Geothermal? This webpage contains a brief summary explaining what geothermal is. This page is mainly for people who are unfamiliar with geothermal energy and how it is used.

Services Offered. This webpage explains some of the services offered by the Geo-Heat Center, like technical assistance, resource information, tours and library access. It also has a link to the Library's subject matter listing; where, you can find the keywords to help find information within our Library, and the Geothermal Resources Council library.

Publications List. This webpage contains the publications which can be requested through a form within the webpage. It has a listing of technical papers, research reports, past bulletin articles, and the geothermal guidebook.

Bulletin. This webpage is the jump-off point to the most recent issue of the GHC Quarterly Bulletin (Vol. 16, No. 4). It will take you into the Table of Contents where you can jump to the article you wish to view. Text only is available for the

articles in this Bulletin, no figures or tables were included. The next issue of the Bulletin (Vol. 17, No. 1) will also be placed within the webpage, but will contain all the text, figures and tables.

Collocated Resources. The Geo-Heat Center just completed a Collocated Resources study of the 10 western states. The study identified 271 cities and communities that could potentially utilize geothermal energy for district heating and other applications. A collocated community is defined as being within 8 km of a geothermal resource with a temperature of at least 50°C. The Collocated Resources webpage contains a brief description of the what a collocated resource is, and provides links to the 10 western states. The links for each state include a brief description on the state, and a listing of the collocated communities by county. It contains such information as: location, well depth, resource temperature, flow, TDS, weather information, current use, and general information of each area.

Directory of Consultants and Equipment Manufacturers. This webpage contains listings of consultants and what they do. It also contains a listing of equipment manufacturers for various types of geothermal equipment such as well pumps, plate heat exchangers, piping, and commercial GSHP design information. This listing can be updated; therefore, company names may be added or deleted by contacting the Geo-Heat Center.

Other Places of Interest. This webpage contains links to other websites concerning geothermal information. This list can be updated. If you know of a good website and think it should be added, please contact the Geo-Heat Center and let us know the URL (Uniform Resource Locator). We would gladly include it on our list.

## OREGON

### Heated Sidewalks Keep Snow at Bay in Klamath Falls

While most of town is buried by 16 inches of snow, the sidewalk in front of Waddie Hollamon's barbershop is clear and dry.

His metal, wood-handled snow shovel is propped up against a wall.

"I'm gonna hang a sign on it 'retired'," Hollamon said.

The reason: the fabulous melting sidewalks installed last summer on nearly three blocks of Main Street in downtown Klamath Falls.

The sidewalks, heated by geothermal water that lies below the city, have performed admirably in a month of nearly 2 feet of snow, brightening people's perspective on a retail center that's crumbled in recent years.



For years, Klamath Falls has tapped into a shallow reservoir of hot water below the city that extends for at least 6.8 miles and is about 2 miles wide. The water isn't hot enough to generate power; but, it is used widely for cheap heating. Buildings that use the geothermal district heating system include the Oregon Institute of Technology campus, Merle West Medical Center (sic.), Ross Ragland Theater and several government buildings.

The sidewalks are part of a larger downtown renewal project that included the addition of street benches and ornate lamp posts. The \$400,000 sidewalk project included heated red-brick crosswalks between the heated blocks.

The system can keep the sidewalks at 37 degrees when it's 15 degrees outside, said Brian Brown, the project's engineer.

The city plans to heat sidewalks on three more blocks by next winter. (Source: *Oregonian*, January 30, 1996)

## IDAHO

### Idaho Fish Farmer Eaten by Gators

Well... it hasn't actually happened yet; but, it's possible that you could see a headline like this sometime in the near future.

... but for now, it's almost time to harvest Leo Ray's first batch of alligators, and they don't appear to be all that cooperative. He's still confident though, having just taken delivery of a new herd of 300 six- to seven-inch reptiles that he plans to grow-out for next year.

Leo started out with 200 little gators last year and they were up to about 4 feet in length when we visited the Idaho-based gator farm in September. That makes for a very healthy cash crop according to Leo. Not only is the meat in demand; but, the skins are worth over \$100 each.

Leo has a very unique operation, even for Idaho. His water comes from several geothermal artesian wells. At a constant temperature of 95°F, he has to mix the water with regular stream water to get the 85°F which is perfect for raising catfish, one of his other crops.

The warm water works its way down a gentle slope, used over and over again in isolated groups of raceways and alligator containments, eventually reaching yet another crop, tilapia, at the bottom of the slope.

Leo also raises trout at a separate cold-water site and he has a processing plant to handle his whole product line and a distribution system that covers upwards of 50 cities in the Pacific Northwest.

So, why alligators? It comes down to two simple factors, says Leo--free heat and free food. He can maintain a constant temperature in the 90s for the entire growth cycle of the animal and, as for the free food, what better way to dispose of morts (dead fish) then feed them to a bunch of hungary alligators. As unlikely as it seems, you may soon be able to go into a fine restaurant and order an Idaho alligator steak, along with your baked Idaho potato of course. (Source: *Northern Aquaculture*, Vol. 1, No. 8, December 1995)