

# Geysers Steamline

GEYSERS GEOTHERMAL ASSOCIATION

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Fall 2006

## Ross Kauper Retires

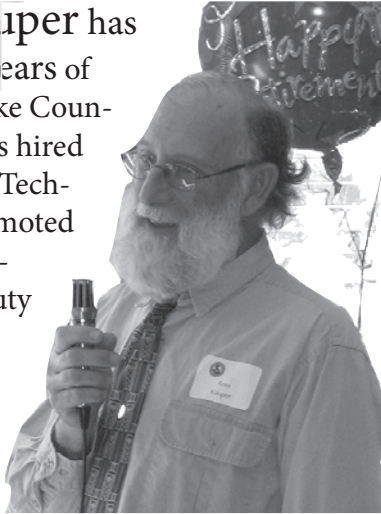
Ross Kauper has retired after 24 years of service with the Lake County AQMD. Ross was hired as an Air Pollution Technician in 1982, promoted to Air Quality Engineer and then Deputy APCO upon the retirement of Don Saderlund.

Ross' talent, dedication to science, and concern for the

air we all breathe was a part of the marked air improvement progress in the geothermal industry. His efforts have earned the respect of all, contributed to the skills of staff, and have been essential to achieving attainment status with all Ambient Air Quality Standards for the past 18 consecutive years. Ross will continue with the AQMD working on special projects as he eases into retirement.

A luncheon honoring Ross Kauper upon his retirement as Deputy Air Pollution Control Officer, LCAQMD was held on Tuesday September 19, 2006 at Westlake Village Hilltop Clubhouse. Speakers at the luncheon included Bob Reynolds, Alex Saschi, Meriel Medrano, Brian Berndt, Lowell Grant, Anthony Farrington, Gary Lewis, Ed Robey, Howard Strickler, Susie Hamilton and Peggy King.

~ by Bob Reynolds, LCAQMD



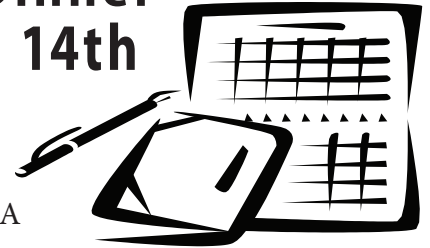
Ross Kauper

## GGA Fall Dinner November 14th

Reserve your spot today for the GGA Fall Membership dinner meeting on **Tuesday, November 14<sup>th</sup>** at Charlie's in Windsor. Charlie's is located at the Windsor Golf Club at 1320 19th Hole Drive. The no-host social hour starts at 6:00 PM followed by a buffet dinner at 7:00PM and costs \$32.00 per person.

Speakers will be Dr. Curt Robinson, new GRC Executive Director, and Rich Estabrook, BLM Engineer.

**RSVP** no later than November 7<sup>th</sup>. Contact Pam Bordi, NCPA, at (707) 987-2381 or e-mail at [pbordi@ncpageo.com](mailto:pbordi@ncpageo.com).



## Western GeoPower Acquires Unit 15

Western GeoPower Corp., a renewable energy company focused on geothermal energy development, announced the acquisition of a geothermal lease covering 140 acres contiguous to the recently acquired Unit 15 Steam Field located within The Geysers Geothermal Field in Northern California. The total area under lease by Western GeoPower at The Geysers exceeds 500 acres and it is anticipated that one power plant will process steam production from both leaseholds.

Continued on page 6



## *President's Message*

By Ron Sues

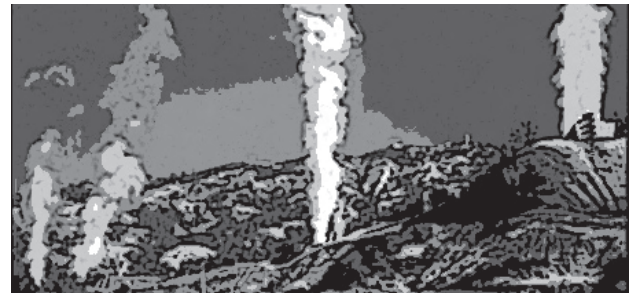
# *Heightened Activity*

***“There is life in them thar hills!”*** This is a well known phrase that has been used to exclaim that, for (you name it here), there are more good things ahead. This phrase has become a rubric or well established tradition that certainly captures life at The Geysers.

There definitely seems to be a revitalized spirit at The Geysers. There was even a very noticeable surge of energy flowing throughout the attendees and action at the recently concluded Geothermal Resource Council’s Annual Meeting in San Diego. These are positive indicators that the geothermal energy industry is picking up steam! The application of this pun really is intended here because it works.

Now, I may have colored lenses through which I’m looking in view of the fact that Bottle Rock Power Plant is anticipating start-up within the next several weeks. My unique vantage point provides that perspective. Nevertheless, there is a lot of activity in and around the Plant that is coupled with an air of excitement. Many skilled people are hard at work revitalizing the Plant and Steamfield. Drilling rigs are at work or being fitted for operation. Local industries, professionals, and service people are contributing significantly to the complete effort at Bottle Rock. And this energy has positively affected other areas of The Geysers.

It is reasonable to anticipate that more drilling activity will occur at The Geysers apart from any such activity at Bottle Rock. Increased distribution capability of recharge water for injection continues to be a realized



priority on The Hill. Another geothermal company has plans to revive the old PG&E Unit 15 area and produce 25 or more megawatts. Maybe this activity at The Geysers is contagious as evidenced by the renewed activity within the geothermal industry at large as evidenced at the GRC Meeting. In any event, it seems clear that the advent and implementation of California’s Renewable Portfolio Standard program is producing the desired positive stimulus desired and needed by our industry. We will take as much of this stimulus as is possible.

The GGA continues to contribute to this heightened activity through its SHEL Committee (Safety, Health, Environment, and Legislative). This Committee has led the effort to stay abreast of the ever changing diesel engine regulations that affect diesel engines at The Geysers as well as statewide, including especially the so-called portable diesel engines. This is potentially a very costly compliance program for all of us. The drilling rigs are being retrofitted with new engines that comply with the tiered diesel program. The SHEL Committee, composed of knowledgeable professionals from all three operators at The Geysers, has been working with diesel engine industry and regulatory agency representatives to stay on top of this key program.

All in all, there appears to be a real buzz of excitement at The Geysers. As in life itself, there is an ebb and flow over time that affects life at the Geysers. Even so, there is now a very deeply perceived sense that “there’s life in them thar hills”, namely the Geysers! And the GGA is happy for it and pleased to be a part of it.

## Time for a Celebration

# NCPA: 20 Years at The Geysers

NCPA celebrated the 20th anniversary of the Geothermal Energy Project in the Geysers area on the border of Lake and Sonoma Counties on Thursday, October 26th. The project is jointly owned by the cities of Alameda, Biggs, Gridley, Healdsburg, Lodi, Lompoc, Roseville, Santa Clara, and Ukiah, as well as the Plumas-Sierra Rural Electric Cooperative and the Turlock Irrigation District.

Several state lawmakers, regulators, and other dignitaries attended the event, in addition to staff from NCPA's state legislative delegation. Speakers included Jeff Byron, Commissioner, California Energy Commission, Dennis Albiani, Governor Schwarzenegger's Deputy of Legislative Affairs, B.B. Blevins, Executive Director of the California Energy Commission, Ed Randolph, Consultant to the Assembly Utilities and Commerce Committee, Lawrence Lingbloom, Principal Consultant to the Senate Energy Committee, Ed Robey, Lake County District 1 Supervisor, and Don Von Raesfeld, former Council Member, City Manager, and Director of Public Works and Utilities for the City of Santa Clara. The event was well-attended, and our guests had high praise for NCPA's efforts during the past two decades.

"The success of NCPA's geysers facility represents the best of inter-governmental partner-

ship," said California Energy Commissioner Jeff Byron. "Their foresight has maintained generating capacity while protecting the environment,

and has benefited rate-payers in this area and statewide."

"This is what happens when you have a utility that focuses on serving its customers." Lawrence Lingbloom, Principal Consultant to the California Senate Energy Committee, told the gathered guests and dignitaries. "We didn't need to legislate that."

The Principal Consultant for the State Assembly Energy Committee, Edward Randolph, was also in attendance. "This [project] shows that clean, reliable, and affordable are not mutually exclusive," he said.

Dennis Albiani, Governor Schwarzenegger's Deputy of Legislative Affairs, added, "This effort fits with the Governor's vision and priorities on energy and environmental issues. We need to encourage more projects like this."

In addition, staff members representing Congressman Mike Thompson, State Senator Wesley Chesbro and State Assembly member Patty Berg each presented NCPA with official State and Federal resolutions honoring NCPA for two decades of energy and environmental leadership through the Geysers Geothermal Energy Project.



Commerative Tree Planting Ceremony



# GGA BUSINESS DIRECTORY

## Support the businesses that support the GGA

The following businesses are Corporate Members who are the backbone of the GGA.  
Keep our organization strong by calling on them when you need the following services:

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#### Northern California Power Agency

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559 237-9173

# Steve Brodnansky

**Steve Brodnansky** of Lakeport, passed away October 16, 2006 at the age of 65.

Steve was born Aug. 20, 1941 in Santa Rosa, to John and Mable Brodnansky.

He is survived by his wife, Linda of 45 years, sons Derek and Darin, grandchildren Garrett, Logan, Mitchell and Cole; brother John, of Santa Rosa, sister, Sandra Allison of Cloverdale; as well as many loving nieces, nephews, aunts and cousins.

Steve spent 31 years working with PG&E and retired in May 1993, after serving as Lake County Area Manager. As a result of Steve's reputation as a manager, the County of Lake recruited him as

the Special Districts Administrator in 1993, until his retirement in 2002.

While living in Lakeport he was an active member of Rotary, where he served as president and was a Paul Harris Fellow. He served on numerous boards with a strong commitment to community service. He was also a 45-year member of the Odd Fellows Osceola Lodge of Windsor and served as a past District Deputy Grand Master.

While he was with the Lake County Sanitation District, Steve was a primary player in the development and approval of the Lake County Effluent Pipeline Project. He will be missed by all of us who had the privilege of working with him.

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## SB 1294 Approved by the Governor

On August 22, 2006, the Governor approved a bill authored by Ducheny. Source: Mid-American Energy Holdings Company regarding their Salton Sea Facilities. Here is a summary and analysis prepared by Steve Archibald for the Assembly which can be found at <http://info.sen.ca.gov>. Parts of this bill may have some impact on operations at The Geysers.

### *Summary*

This bill conditionally exempts, from hazardous waste management, regulation by the Department of Toxic Substances Control (DTSC), wastes generated from the exploration, development, or production of geothermal energy that are contained within equipment or surface impoundments associated with the geothermal plant.

### *Rationale*

The author contends that potentially hazardous components contained in the steam derived from underground geothermal resources are appropriately regulated by the regional water quality control board with jurisdiction over the water re-injection activities of particular geothermal plants. Because the water that forms after

the steam has been used to produce electricity can contain hazardous heavy metals, geothermal plants may be subject to regional water board regulation that requires these heavy metals to be separated out before water is re-injected into the geothermal field or that restrict re-injection. It is these onsite activities that are conditionally exempted by this bill from DTSC regulation.

### *Background*

Geothermal energy is produced by the heat of the earth and is generated in regions associated with volcanic and seismic activity. Geothermal plants tap into super-heated geothermal fields. The pressurized steam produced from these fields powers turbines at the plant that generate electricity. Once the steam cools, the resulting fluids are discharged to surface water channels, contained in plant equipment or surface impoundments, or ultimately re-injected into the geothermal field for reuse. Because the water that is re-injected could also be considered a recycled hazardous waste, the DTSC technically has jurisdiction over the same process that is currently regulated by regional water boards.

~ by *Steve Eneedy, NCPA*

## Western GeoPower:

Western GeoPower has retained consultants GeothermEx, Inc. of Richmond, California, to provide an independent due diligence assessment of the resource on the combined leaseholds. GeothermEx is nearing completion of a review of a large database of resource and production history and anticipates completing its report during October, 2006.

“The new leasehold was an important contributor to generation at the original 62 megawatt capacity power plant, known as PG&E Unit 15, which operated at the steam field during 1979-1989,” said Kenneth MacLeod, President and Chief Executive Officer of Western GeoPower. “The acquisition will enable Western GeoPower to regulate steam production from the combined properties to achieve the optimum conditions for power plant management and conservation of the resource.”

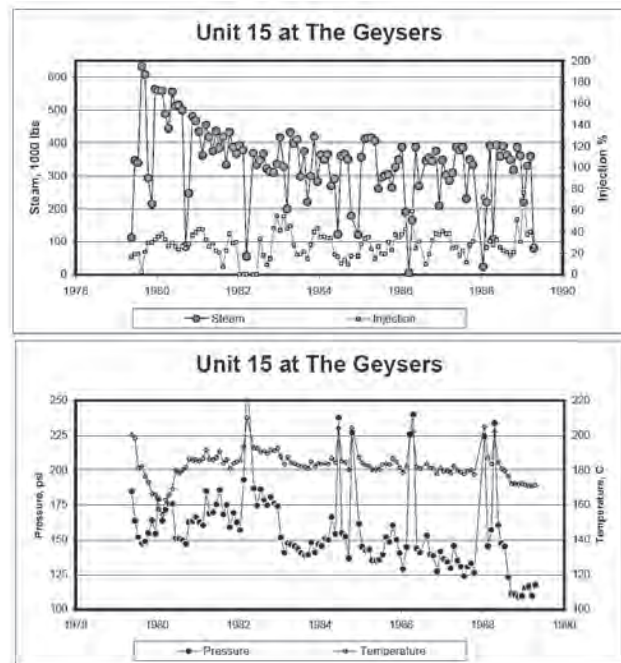
Roads and drill pad infrastructure are in excellent condition throughout both leaseholds and a 115 kilovolt transmission line connects the property to the transmission grid.

The Geysers Geothermal Field, located 75 miles north of San Francisco, California, is the largest producer of geothermal electricity in the world. Commercial geothermal power has been generated continuously at The Geysers since 1960, the present generation level being about 900 megawatts of clean, baseload electricity. Western GeoPower’s Unit 15 leasehold is situated in the southwestern region of The Geysers in Sonoma County and much of the leasehold lies within the presently known boundary of The Geysers Geothermal Field. A commercial power plant of 62 megawatt (gross) capacity, known as PG&E Unit 15, operated at the leasehold during 1979-1989. The plant was shut down in 1989 and eventually dismantled, and the wells were plugged and abandoned.

It is now recognized that the Unit 15 plant was oversized for the available resource. For this reason, the wells supplying the plant experienced an unduly rapid decline in productivity, similar to the decline experienced throughout The Geysers at that time. Following the injection of reclaimed water into The Geysers from the Lake County Project starting in 1997 and the Santa Rosa Project starting in 2003, the earlier decline in productivity has been reversed, with an estimated resultant increase of 100 megawatts of capacity and an extension to the life of the field.

Western GeoPower Corp. is a renewable energy company dedicated to the development of geothermal energy projects for the delivery of clean, base-load electricity generation. The Company holds 100% interests in the South Meager Geothermal Project in British Columbia, Canada and the Unit 15 Steam Field located in The Geysers Geothermal Field in California, United States.

~Press Release, October 12, 2006



Figures of Unit 15 Production/Injection and Pressure/ Temperature courtesy of Ali Kahn, DOGGR

# Bottle Rock LLC Completes Well Pad Test



*Opening the well head valves on West Coleman 4-6 during flow test and gathering pressure build-up data.*

**B**ottle Rock Power LLC successfully completed a multi-well test on the West Coleman pad from September 22 through September 24. Three production wells on the pad were flow tested over several days with intermittent pressure build-up tests in addition to geochemical sampling. Abatement and monitoring of non-condensable gases and H<sub>2</sub>S was performed continuously throughout the well test in accordance to Lake County Air Quality Control Monitoring Board procedures.

The wells were successfully opened up after being shut in since being re-entered without being on bleed. The production test results compared favorably to rig test results from earlier in the year. Well production characterization of the individual wells was determined in addition to well interference and reservoir boundary effects.

This information will be used for planning purposes for plant and steamfield considerations. Turbines are expected to roll later this year to test and be on production early next year.

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## GGA Mission Statement

*The GGA is dedicated to dealing with issues related to the geothermal industry at The Geysers and serving as an educational and exchange forum for our members. We also strive to promote public understanding of the contributions our industry makes to Lake and Sonoma Counties and the State through working committees set up to address health, safety, legislative and environmental issues.*



*West Coleman well pad site during flow test.*

## GGA Board Members on the Move!

**T**here's been a change in the GGA lineup recently. Charlene Wardlow has left The Geysers area and has taken a position with Ormat Technologies, Inc. Charlene has worn many GGA hats over the years. Most recently Charlene served as GGA Secretary and Public Relations Chair. Ben Barker a Geothermal Engineering Consultant has stepped up to become GGA Secretary. Pam Bordi of NCPA has been kind enough to take the Public Relation Chair. Jane Suess has agreed to continue to help with the GGA dinners and BBQs as she has in the past.

Paul Brophy of EGS was elected president of GRC and has stepped down as Membership Chair. Steve Eney of NCPA has taken on these

duties in addition to Scholarship Chair with the help of Pam Ramirez also of NCPA.

Many familiar faces are still on the GGA board with Ron Suess of RESCO at the helm as President, Ralph Aviles of Calpine as Vice President / Finance Officer, Wayne Stith of NCPA as SHEL Chair, Dorothy Beebee as Webmistress and Kathy Eney of Graphic Vision as Newsletter Editor. Other GGA board members include Lou Capuano, Jr., Boyd Green, Ted Wilmsen, Garratt Sharp, Steve Burden, and Doug Jung.

**Visit our web site—  
[www.theGGA.org](http://www.theGGA.org)**

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