

Hudson Ranch I

The Hudson Ranch I Geothermal Project

by Larry Grogan, Senior Vice President
Resource and Development, EnergySource LLC
lgrogan@energysource.us.com

In the beginning there was land.....

Few if any projects can point to the exact time of their beginning like the Hudson Ranch I Geothermal Project can. It all began one day in the Imperial Valley of Southern California with a visit by John Featherstone and Doug Powell to Valley Pawn—yes, a pawn shop—in El Centro, California. It was in late 2004 and the owner of the pawnshop, a Larry Grogan—yes, me—had worked as a Landman in the Imperial Valley since 1975. Our conversation that day ranged over the geothermal activities in the Imperial Valley for the last 20 years. It turned out two companies, Hannon Armstrong of Annapolis, Maryland,

and Catalyst Renewables, of Dallas, Texas, had contacted John and Doug to locate land in the Imperial Valley for a geothermal project.

John and Larry had shared an office from 1976 to 1978 when both worked for a *Joint Venture* between Magma Power and San Diego Gas & Electric, a California public utility. Doug had worked for Morrison Knutson in the 1980s on a project for Bear Creek Mining, a division of Kennecott (Copper) and a part of British Petroleum. Larry had been a Landman with Bear Creek during this time and had met Doug. Over the years they had either seen or were aware of each other's careers—the geothermal industry is



View of the Hudson Ranch I Geothermal Project. The primary crystallizer-reactor-clarifier is on the left. The secondary crystallizer-reactor-clarifier, still under construction, stands in front of the crane. Both are part of the brine-handling system. The rows of short pillars are bases for the pipe racks. A portion of the large-columnar structure on the right—the turbine-generator pedestal—is pictured on the cover of this issue. The cooling towers are in back of the photographer. PHOTO BY J. GALBRAITH.

Hudson Ranch I

a small community.

Eventually conversation turned to questions of land, geothermal leases, and if Larry was available for land leasing activities. As he had just been elected an Imperial County Supervisor and was due to take office in January, he declined.

About nine months later, both John and Doug stopped by the pawn shop to say they were unable to acquire leases through a broker. They said it was a shame because they thought they had the financial backing for at least two power plants. Faced with this potential loss of economic development in a county with 30% unemployment, Larry agreed to see whether or not a lease with sufficient resources could be acquired. To avoid any conflict of interest as a public official, Larry told Imperial County of his leasing activities and never participated in any decision where a possible conflict existed.

Eric Spomer, of Catalyst, and Dave Watson, of Hannon Armstrong, became active managing

partners of a newly created company called CHAR, an acronym with the first letters of both companies. CHAR looked for geothermal leases. After negotiations ended with some Brawley landowners, a search was made for open land in the Salton Sea area. A large leasehold happened to be available and after some negotiations, CHAR leased almost 1,500 acres from the Hudson family. The lease was followed by additional leases and options covering almost 3,000 acres.

It so happened this was in the same area



Standing at the Hudson Ranch I Geothermal Project are, left to right, Dave Watson, EnergySource President; John Featherstone, EnergySource SVP of Engineering and Operations; Doug Powell, EnergySource SVP of Project and Construction Management; Eric Spomer, Catalyst Renewables President; and Larry Grogan, EnergySource SVP of Resource and Development. PHOTO COURTESY OF ENERGYSOURCE.



View of the switchyard—northeast of the turbine-generator pedestal. PHOTO COURTESY OF ENERGYSOURCE.

Hudson Ranch I

where Larry had leased land in the early 1980s for Bear Creek Mining and had drilled three wells. One was well State 2-14, a US Department of Energy, University of Riverside, and Kennecott well. It was drilled, cored, and tested to 10,560 feet—and proved to be commercial.

This well is less than one half mile from where well 1-13, the first Hudson Ranch production well, was drilled. Today the well field for the Hudson Ranch I Project consists of three production wells and four injection wells.

Eventually the Hudson Ranch I Project entered a new phase of drilling, well flow testing, plant engineering, and project financing—and the name of *CHAR* was changed to EnergySource LLC. Both the acquisition of the power-plant site and the collapse of the credit market added new challenges to building the first, stand-alone, flash-geothermal plant in a number of years in California's Salton Sea Geothermal Field. Debt financing for the nearly \$350 million project was raised by an eight-member bank syndicate. In fact, the EnergySource financial plan received *Project Finance Magazine's*, "2010 North American Geothermal Deal of the Year" award.

With the financing in place, construction has begun on the 49 MWe power plant. It will be a triple-flash geothermal power plant using high-temperature, crystallizer-reactor-clarifier technology to process the well steam and the brine. The plant is scheduled to go on line in the first quarter of 2012.

The Hudson Ranch I Project once held the unique distinction of having the oldest

Hudson Ranch II Project

On March 16, the Imperial County Board of Supervisors returned the Hudson Ranch II project—to be built near Niland, California, in the Imperial Valley—to the county Planning Department for further environmental study—after a group appealed the county Planning Commission's approval, the *Imperial Valley Press* reported. Thomas Enslow, attorney for the California Unions for Reliable Energy and a group of valley residents, said serious concerns exist on the environmental impact of the power plant, production wells, and brine pipeline. The project initially received a *Mitigated Negative Declaration*.

The Salton Sea Power Plants

The geothermal power plants located in the Salton Sea Geothermal Field are operated by CalEnergy Operating Corporation, an indirect subsidiary of CE Gen. The power-plant names and dates of commercial operation follow: Vulcan, 1986; Del Ranch and J.J. Elmore, 1989; J.M. Leathers, 1990; CE Turbo, 2000, and the five Salton Sea Units (which CalEnergy calls Region 1)—Unit 1, 1982; Unit 2, 1990; Unit 3, 1989; Unit 4, 1996; and Unit 5, 2000. "Units 1 through 5 include seven individual, turbine/generator sets," explained Mark T. Gran, VP Real Estate Assets/Community Relations for CalEnergy. "All are operated by the two brine-handling systems located at Units 3 and 4."

Most CalEnergy Salton Sea power-plant locations are on the *Geothermal Map of California*, available on the website of the California Department of Conservation, Division of Oil, Gas, and Geothermal Resources.

management staff—until several recent hires. John Featherstone, Doug Powell, Jim Turner, and Dennis Downs are, let's say, drawing or getting close to drawing social security. Larry will, within the year, say good-bye to the sixties, and no, we're not talking bell-bottoms. Many of the project consultants who participated have 30 to 40 years of experience in the geothermal industry or in related fields. In fact Dave Watson, the President of EnergySource, is the youngest of us all, but able to keep the project on track and the "old guys" focused.

I once was asked "What's it like to work on your last project?" Aside from the morbid implications, it's fun. Working with people that are truly competent is an honor. The meetings are an experience and not for the faint of heart. No prisoners are taken.

Geothermal is a great industry. While it is unfortunate a 20-year gap exists between this generation and its replacement, herein lie the opportunities for great careers for those who choose to follow.

"And what do we who are about to retire leave behind?" The answer is easy. We kept alive the dream of energy independence and we improved the technology for building a better tomorrow. Now it's all yours! ■