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The U.S. Department of Energy’s (DOE) Geopressed Program is presently involved in a large amount of activity. Much of this activity is centered around the Well Operation Program. This program consists of the operation of three geopressed wells and supporting research and technology at four universities. The goals and objectives for this project are summarized below.

- Improve the understanding of how geopressed reservoirs behave over extended periods of time. Specifically, decrease uncertainty in reservoir performance theory to enable predictions (i.e., reservoir size and production longevity, hydrocarbon content, salinity) with 90% confidence over a ten-year operating period by 1992.

- Prove the long-term injectibility of large volumes of spent fluid at multiple sites by 1992.

- Improve methods for extracting economically optimum amounts of energy from geopressed fluids by 1993.

- Determine environmental acceptability of production and disposal of fluids by 1995.

- Develop technology for automated operation of geopressed production systems by 1993.

- Transfer of all information gained in this program to industry.

These goals and objectives are gradually being obtained by flow testing the geopressed reservoirs, operating experimental power plants, and continuously evaluating the production and its impacts on the equipment and the environment. These activities are taking place at the three geopressed well sites located on the Gulf Coast. The three well sites are in various stages of development.

The Gladys McCall Well is located in Cameron Parish, LA. The well has a total depth of 15,831 feet. The temperature of the brine at the surface has been recorded at 288°F. The brine has a total dissolved solids value of 92,800 ppm and a gas/water ratio of 31.8 scf/bbl. This site also has an injection well where brine is injected at a depth of 3,514 feet.

Flow testing of the Gladys McCall Well was initiated December 1982. The well was tested on and off through October 1987 when it was shut in so that the reservoir pressure could recover. During the production period 27 million barrels of salt water brine were produced which resulted in 676 million scf of gas. The production period was considered very successful both because of the large amount of brine that was produced and injected, and because an effective scale inhibitor was developed. The well head pressures before and after flow...
testing were 5,935 psia and 3,580 psia respectively. Currently, the well has been shut in for 37 months and the well head pressure is 5,242 psia. Present plans for the well call for a short-term flow test (1-2 weeks) to determine the post buildup kH and then, either plug and abandon the well, or pass it to industry.

The Pleasant Bayou Well is located in Brazoria County, TX. The well has a total depth of 16,500 feet. The temperature of the brine at the surface is 291°F. The brine has a total dissolved solids count of 131,320 ppm and a gas/water ratio of 29 scf/bbl. The site also has an injection well, where brine is being injected at a depth of 6,400 feet.

In May 1988 the flow testing of the well was initiated. It is currently being flow tested at approximately 20,000 barrels per day. The intent of this flow test is to stress the reservoir enough to cause the reservoir pressure to decline. To date, very little pressure drawdown has occurred. This has led to speculation that the reservoir is much larger than originally anticipated. From October 1989 to June 1990, an experimental 1 MWe Hybrid Power System (HPS) was operated at the Pleasant Bayou site. This power plant utilized the Pleasant Bayou geopressed-geothermal brine as a heat source for a binary cycle and used some of the methane produced to power a gas engine. The exhaust from the gas engine was also used as an additional heat source to the binary cycle. The experiment was very successful and the final report is in progress. The completed report will be available to interested parties.

The current plan for this well site is to continue the flow test through October 1991 and then to initiate a reservoir pressure buildup test to last up to one year. At the completion of the pressure buildup test, final reservoir testing may be performed. The well will then be plugged and abandoned or passed to industry.

The Hulin Well is located in Erath, LA. This well has a total depth of 20,700 feet. The resource temperature is 366°F. An injection well has been drilled to a depth of 6,700 feet.

In October 1989, a short-term flow test was performed at the Hulin Well. The flow rate was limited to 6,000 bpd. The flow test results indicated that the permeability of the reservoir may be high enough to support flow rates of 14,000 to 17,000 bpd. The gas/water ratio was 34 scf/bbl.

The current plan for this well is to conduct additional limited flow tests in December 1991. If these tests justify long term production, a surface facility will be installed and the long term flow test will be initiated during the Summer of 1992.

The DOE Geopressed Program is very interested in working with industry. This is presently being done by providing information to the Geopressed Industrial Consortium and presenting program accomplishments at various national meetings. The DOE is exploring opportunities to work together in the future with industry in cost shared research at the geopressed-geothermal well sites. This may be very fruitful for industry as they can obtain geological data without drilling the wells and the DOE can obtain data at a lower cost to the program. Finally, the DOE is interested in transferring the
well site leases to industry once the testing program has been completed. This transfer would require acceptance from both the site owners and the DOE.

It is our belief that by continuing the coordinated test plan at the DOE Geopressured-Geothermal well sites and also by working closely with industry, the geopressured-geothermal resource can one day make a strong contribution to America's energy strategy.