public information.

Institutional problems that have been addressed include water rights (both to hot and cold water) and effluent discharge. Electricity generated at the facility will be used locally and will constitute about 4% of the area's requirements.

If the generator lives up to its specifications, and if the institutional problems can be resolved, a deep (5,000 ft; 1,524 m) exploration well will be drilled to search for hotter water in larger volume.

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Mammalian Biochronology of Late Cenozoic Basins of New Mexico

The remains of fossil mammals have been collected from the late Cenozoic basins of New Mexico since the middle of the last century. Intensive work in the northern Albuquerque and Espanola basins in this country has resulted in large collections whose lithostratigraphic context has recently been published. Work on the biochronologic significance of these fossils has revealed that these thick basinal deposits preserve a record of the succession of mammalian faunas covering nearly the entire span of Miocene time. The record in each basin is not completely synchronous, but overlaps sufficiently so that the composite succession will eventually yield an important biostratigraphic standard for southwestern North America.

It is possible to correlate this faunal succession and many other scattered fossil mammal occurrences within New Mexico with the geochrons of the North American Mammal Ages. Such correlations can be calibrated with a maximum precision of 1-2 m.y. and are thus of significance to historical geology. Geochronologically important fossil mammal remains are known in most of the late Cenozoic basins of New Mexico, but many of these have either gone unrecorded or have not been critically examined. Examples are: late Miocene through early Pleistocene successions in basins drained by the Gila River; early Miocene mammals from the northern Black Range; the Pliocene and Pleistocene faunas of the basins drained by the Rio Grande from Albuquerque south to the border; and early Miocene mammals from pre-Santa Fe Group rocks in the Espanola basin.

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NOAA/DOE State Geothermal Mapping Program

The Data Mapping Group of the U.S. National Oceanic and Atmospheric Administration (NOAA), National Geophysical and Solar-Terrestrial Data Center, has been producing geothermal maps and other geothermal data products for the U.S. Department of Energy (DOE) under DOE's state geothermal resource assessment program. Under this program, DOE-funded state teams collect, analyze, and interpret the geothermal data in their respective states. These data are provided to the NOAA team which is responsible for making the state maps. The University of Utah Research Institute and Los Alamos Scientific Laboratory act as liaison between the state teams and NOAA.

For most states in the program, two maps will be produced. First is a "public usage" map which is designed to communicate the extent of a state's geothermal resources to legislators, land-use planners, environmentalists, entrepreneurs, and the general public. Geothermal data sets on these maps include location, temperature, flow rate, and total dissolved solids (TDS) of thermal wells and springs, depth of wells, heat flow data, known geothermal resource areas (KGRA), and areas considered to have a high probability of additional low-temperature geothermal resources. The second map will be more technical and emphasize the tectonic, geophysical, and geochemical parameters associated with the geothermal resource.

"Public usage" maps for California, New Mexico, Utah, Colorado, and Idaho have been printed as has "Thermal Springs List for the United States." Maps for 11 other states will follow.

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Dolostone Reservoirs in Horquilla Formation (Pennsylvanian-Permian), Big Hatchet Peak Section, Hidalgo County, New Mexico

Dolostone reservoirs with net thickness of 484 ft (148 m) in upper Horquilla, are exposed in the Big Hatchet Peak section of southwestern New Mexico and constitute the best petroleum objective demonstrated to date in the Pedregosa basin.

This shallow-marine carbonate section includes uppermost Paradise Formation (Chesterian) and 3,230 ft (985 m) of Horquilla (Morrowan-Wolfcampian). The lower member of the Horquilla consists of limestone and chert; a disconformity at the top formed during the Desmoinesian. The upper member is at least 1,867 ft (569 m) thick; limestones contain phylloid-algal biostromes and ancient solution cavities; alternating laterally extensive dolostones are 54 to 148 ft (16.5 to 45 m) thick and exhibit much vuggy porosity.

Petrographic evidence demonstrates that the limestones were stabilized within freshwater diagenetic environments, that they contained much primary or secondary porosity, and that practically all of it was occluded by marine or freshwater cements. Dolostones also contained much secondary intercrystalline and moldic porosity that was partly occluded by epitaxial cements and coarse recrystallization of initial neomorphic rhombs. Anhydrite porphyroblasts were emplaced by hypersaline waters and were dissolved later by fresh ground waters to form molds with distinctive stairstep outlines; this tertiary (third stage) porosity in dolostones was partly filled by gravitational cements, and some microstalactite tips were *dolomitized paramorphically*.

Dark Horquilla limestones are rated as fair petroleum-source units. Land-derived kerogens indicate sources of gas; alteration indices of 3 to 3+ indicate moderate thermal history. Dolostones in the upper member are rated as fair to good reservoir units. Matrix porosity and permeability are poor but should improve farther south along the shelf edge and on the slope into Alamo Hueco basin.

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Application of Lacustrine-Humate Model to New Mexico Grants Mineral Belt and Relation Between Ore Types and Hydrologic History of San Juan Basin

In the Grants mineral belt, greenish-gray lacustrine claystones and mudstones of the Brushy Basin Member and K