Pueblo of Jemez Geothermal Feasibility Study

Presented by
Steve Blodgett
Director
Pueblo of Jemez
Department of Resource Protection
Background

- Project funded by DOE under contract DE-FC36-02G012104
- Evaluating geothermal potential of Red Rocks area on northern Jemez Reservation (this study)
Study Organization

- **Phase I**– Geothermal Reservoirs and Geothermal Drilling at Jemez Pueblo by Jim Witcher, NMSU/SDTI
- Compilation of four reports (district heating, native herbs greenhouse, tree seedling greenhouse, spa market analysis) by Jack Whittier, McNeil Technologies
- **Phase II**– Geologic mapping of Red Rocks area by Dr. Shari Kelley
- Geophysical surveys of Red Rocks area by Geophysical Solutions
Geothermal Reservoirs/Drilling

- Valles Caldera outflow plume
- Soda Dam, Jemez Springs, other hot springs in Jemez Valley
- Indian Springs well (JP-1)
Business feasibility studies

- Native herbs greenhouse
- District heating system
- Tree seedling greenhouse
- Commercial spa
Phase II-- Geologic mapping of Red Rocks area–
Dr. Shari Kelley, NM Tech

- Map scale= $1: 6000$
- Several previously unrecognized faults mapped
- Two fault sets (N-S and E-W) intersect in area of interest
- Calcite veins outcrop along E-W fault
Geophysical surveys

- Time Domain Electromagnetics
- Self Potential
- Terrain Conductivity
- Resistivity Sounding

- Conductive zone (confined aquifer in Abo Fm. channel sandstones?) located at 400 ft bgs along E-W fault trace
Conclusions

- Best geothermal drilling location in Red Rocks area is ~0.3 miles east of Hwy 4 along trace of E-W fault and 400 ft bgs.
- Best business opportunities for geothermal development at Jemez are commercial herb greenhouse and spa.
- Some potential for space heating.