

# The Confederated Tribes Of Warm Springs

Presentation to DOE Department of Renewable Energy

*October, 2005*

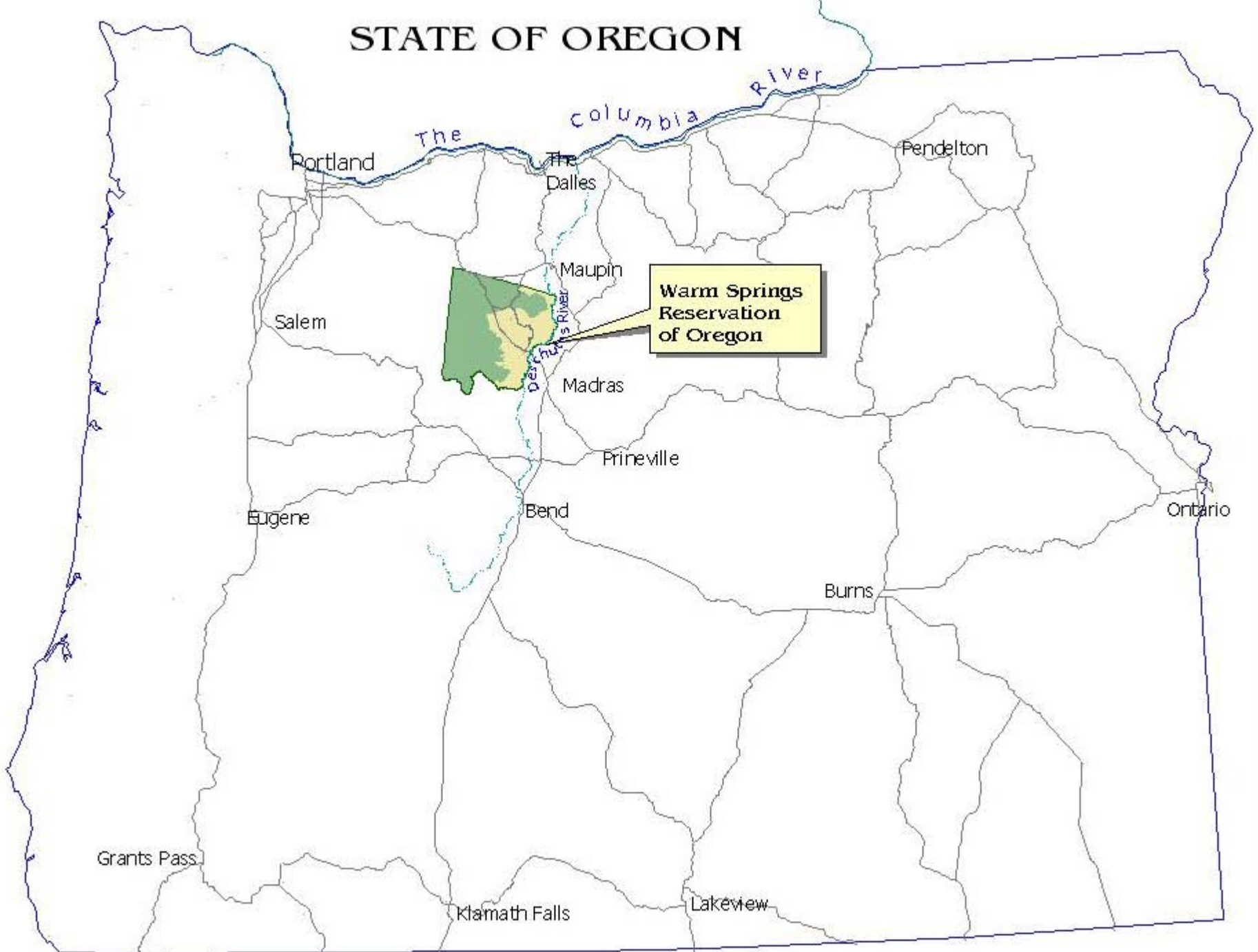
*for  
Geothermal Development Potential  
on  
Confederated Tribes of Warm Springs  
Reservation of Oregon*



# History with Energy Developments

- Intro to Power business in 1955 with the development of the Pelton Project.
- 1970 with the installation of three 3 Mw steam turbines at Warm Springs Forest Products Industries (WSFPI).
- 1982 completed the installation of the Pelton Reregulating Dam Hydroelectric Project
- 1990 began preliminary Geothermal reconnaissance
- 2003 began wind energy assessment on tribal lands, currently underway
- 2004 working with Tribal, State, Federal and private firms to expand Biomass at WSFPI complex. Replacing existing units with one 15 Mw unit Co-Gen plant.

# STATE OF OREGON





# CTWS Geothermal Assessment Program

Warm Springs Power Enterprises is the business entity of the Tribes charged with managing energy developments and investigating development opportunities.

Warm Springs Power Enterprises is the lead developer of a grant from the Department of Energy to explore geothermal potential on reservation land.

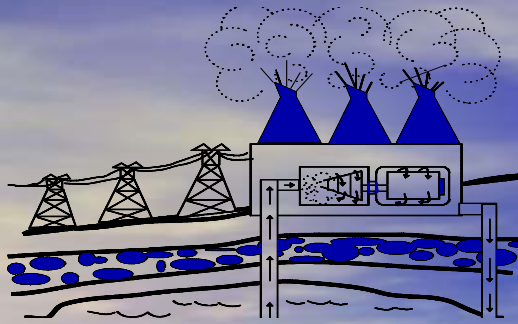
# Geothermal Project Participants

- Tribal Council, 11 members
- Jim Manion, General Manager WSPE
- Morris Holliday, Operations Assistant WSPE
- David McClain, Project oversight, DW McClain Associates
- GeothermEx, Inc.
- Power Systems Engineers, Inc
- Warm Springs GEO Visions Enterprises
- CTWS Natural Resources Branch
- Tribal Attorneys



# Project Overview

- Review information that was compiled by Cal Energy back in 1990.
- What is the potential for a commercial development of a geothermal project.
- What is the current environmental constraints for such a development.
- What infrastructure is necessary to interconnect a development.
- What are current energy market conditions.

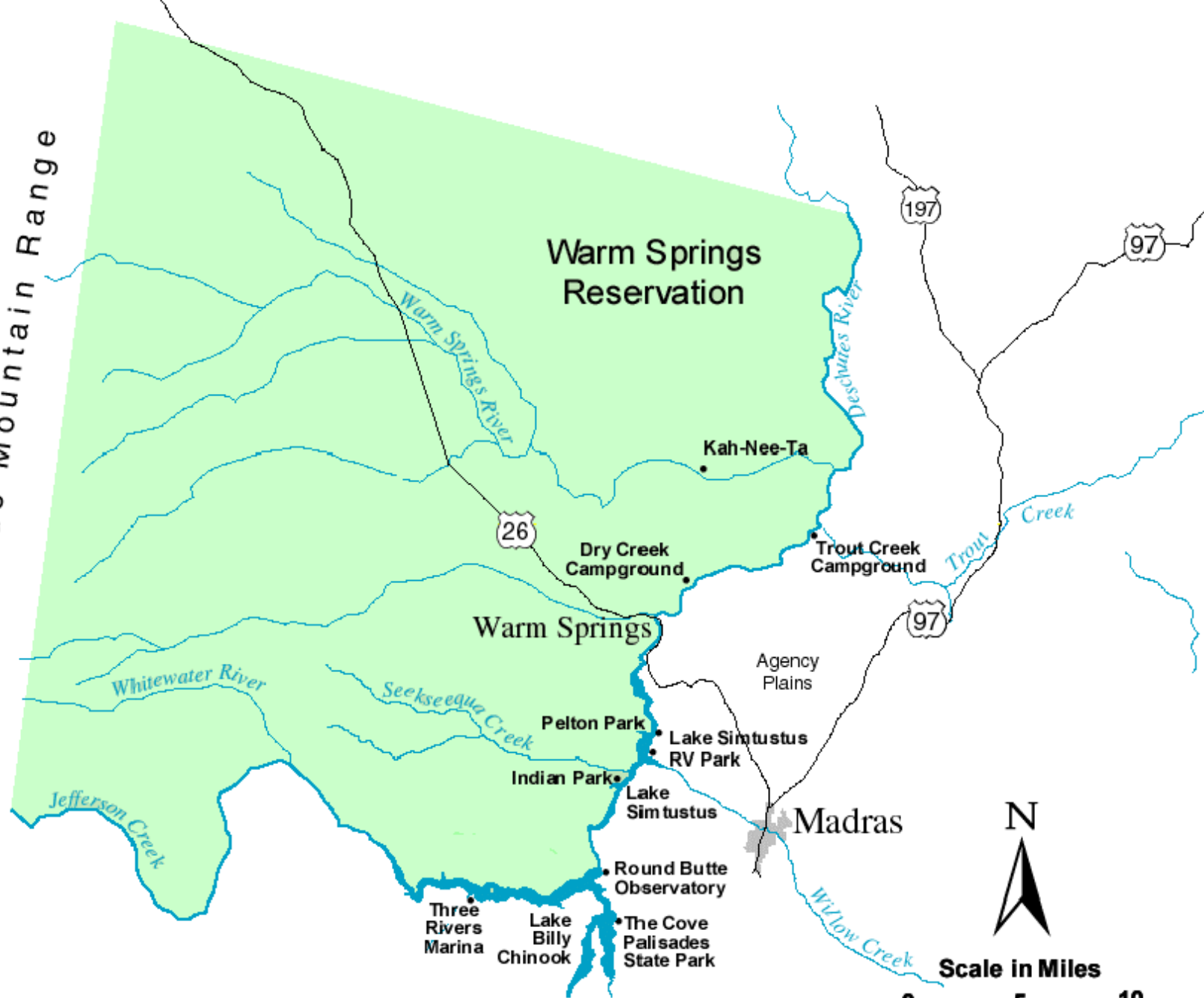


# Geothermal exploration summary

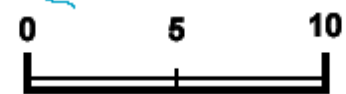
- January 1990 Tribal Council visits Geothermal developments.
- June 1990 Tribal Council enters into MOU with Cal Energy.
- November 1990 Cal Energy submitted report to Tribal Council.
- Conclusion was promising for resource potential
- Energy Markets not at level to proceed.
- 2005 CTWS receives grant from DOE to confirm previous findings and to complete a preliminary review of the next step in the exploration stage.

Cascade Mountain Range

# Warm Springs Reservation



Scale in Miles



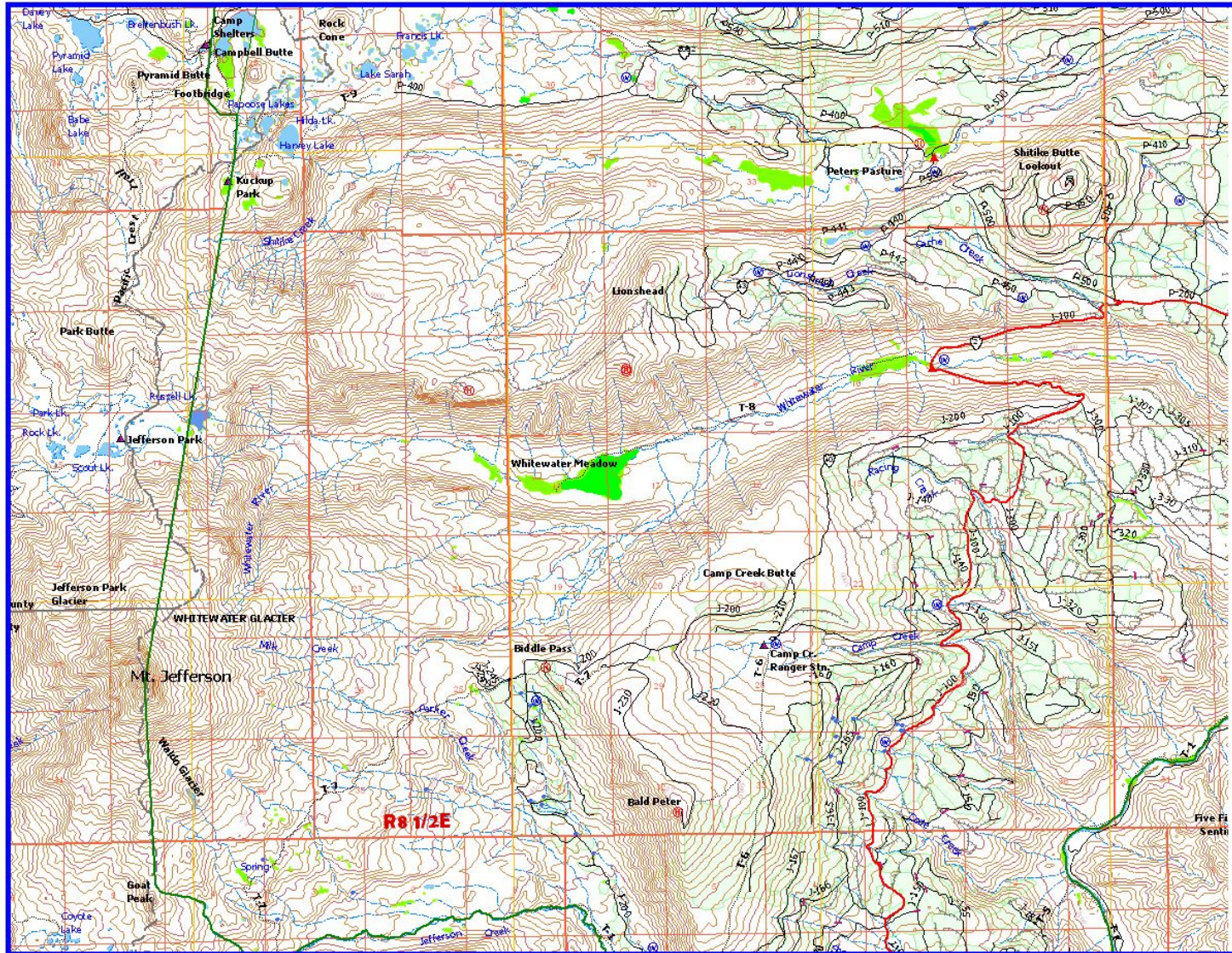






# Geothermal Map

Warm Springs Reservation of Oregon  
Geographic Information Systems



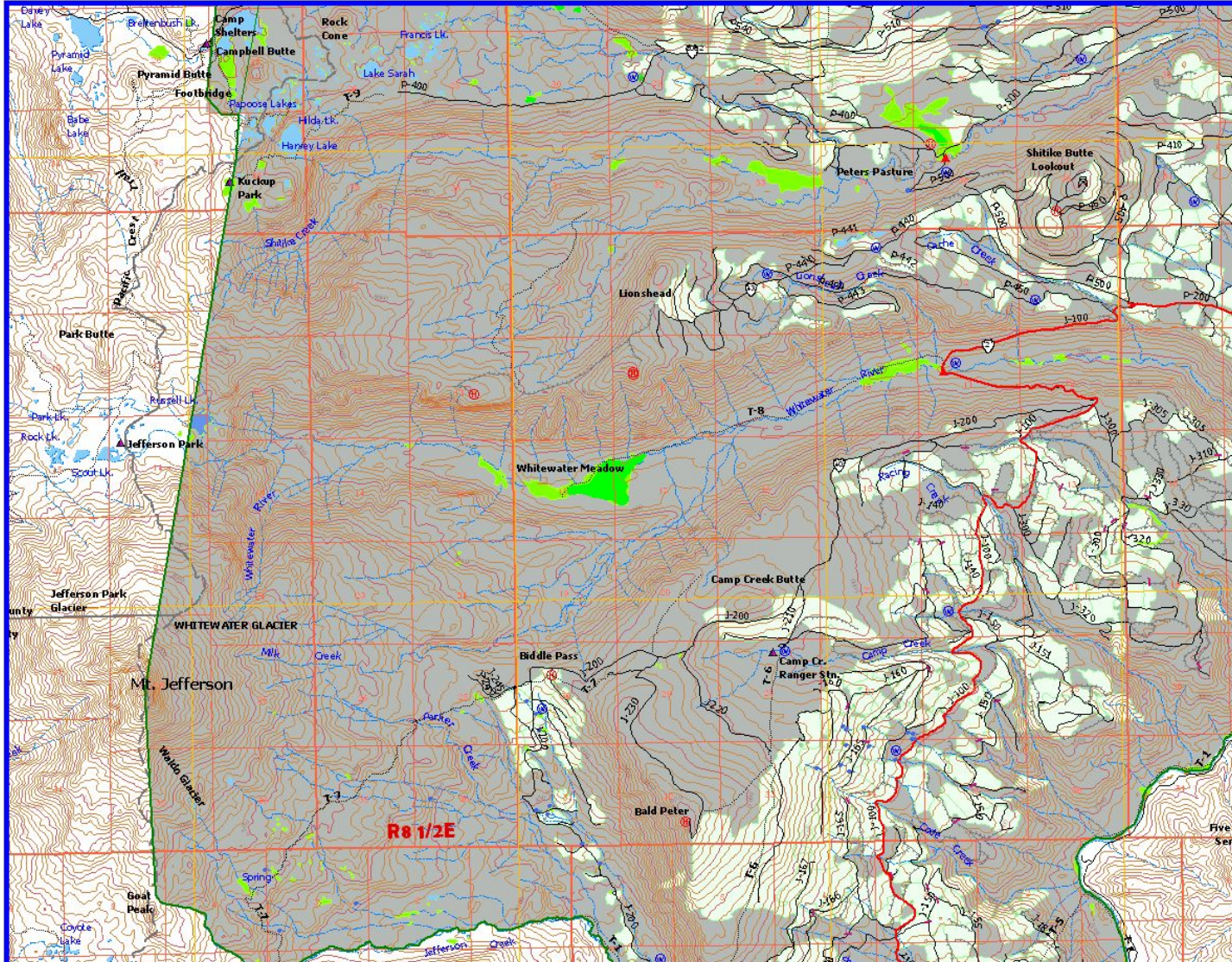
### Legend



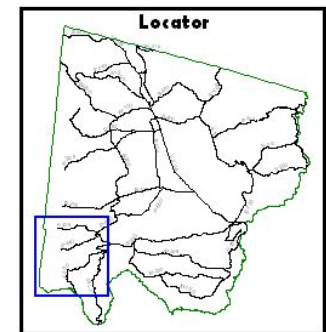

Map Prod by:  
GIS O'Reilly  
Sept. 2005



# Area Showing Forested Grounds

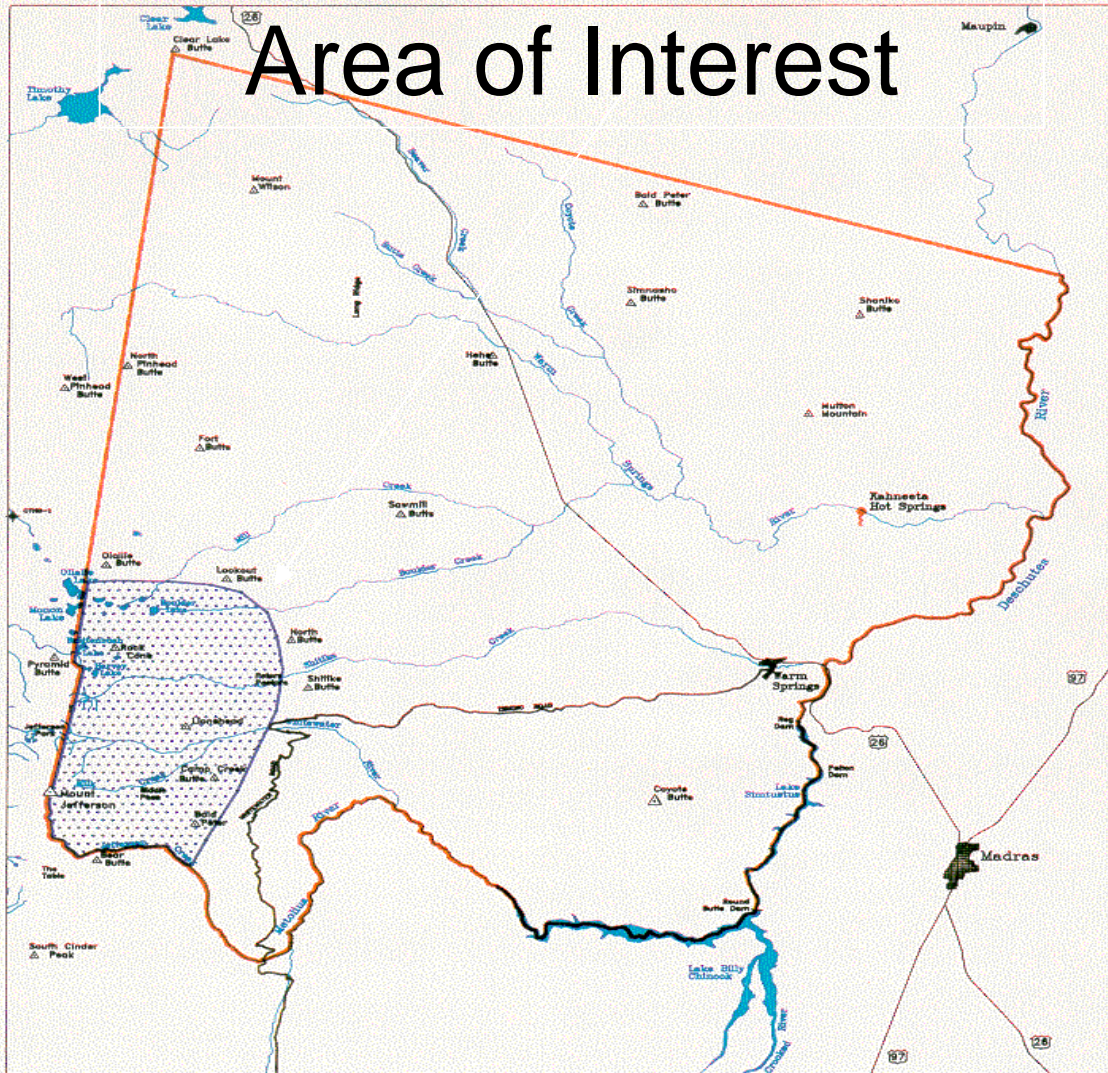


## Geothermal Map Warm Springs Reservation of Oregon Geographic Information Systems





# Area of Interest



- Confederated Tribes of Warm Springs Reservation Boundary
- ▤ Area of Geothermal Energy Exploration
- 97 Federal Highway
- Primary Road



CE EXPLORATION COMPANY  
ORIENTATION  
MAP

Figure 1



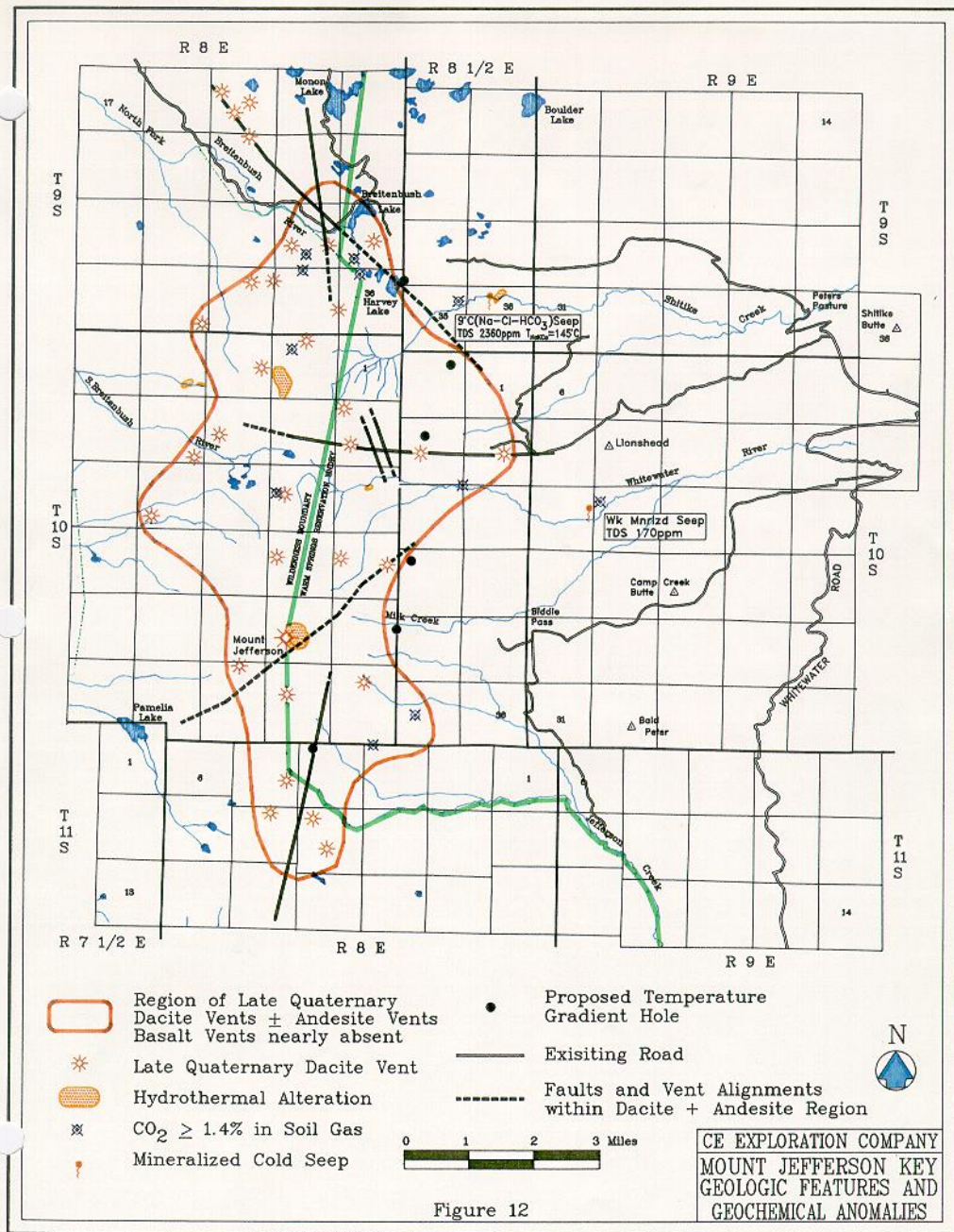


Figure 12

# Objectives

- To investigate the possibilities of geothermal energy development.
- Discovery of any significant environmental barriers.
- Review transmission interconnection options.
- Prepare current economic modeling
  - Market pricing
  - Interconnection costs
  - Social acceptance of such a development
  - Preliminary financing



# Progress to Date

- Reached agreement with DOE on award August 10<sup>th</sup>, 2005.
- GeothermEX out in field for two days performing initial exploratory reconnaissance

# Future Development

- Still accessing potential.
- Developer's, don't call us quite yet, still compiling data and we will announce if and when we are ready to move to next stage.



# MINERALS AND ENERGY RESOURCES OF THE WARM SPRINGS INDIAN RESERVATION

excerpt for IRMP Document of CTWS

- **Mission Statement:** The prudent development of natural resources (consistent with the Tribal cultural framework), for the benefit of the Tribal members.



# Closing

- Tribal Council supports continued review for possible future exploration.
- Market driven decisions to advance to development stage.
- Natural resource considerations paramount in development options.
- Yet to complete the social sensitivity analysis.



Questions or comments?

Thank you for your time