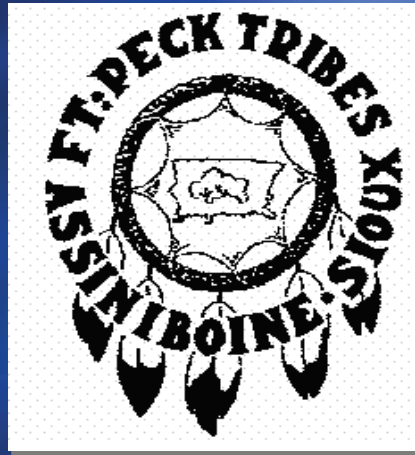


*Fort Peck  
Assiniboine & Sioux Tribes*

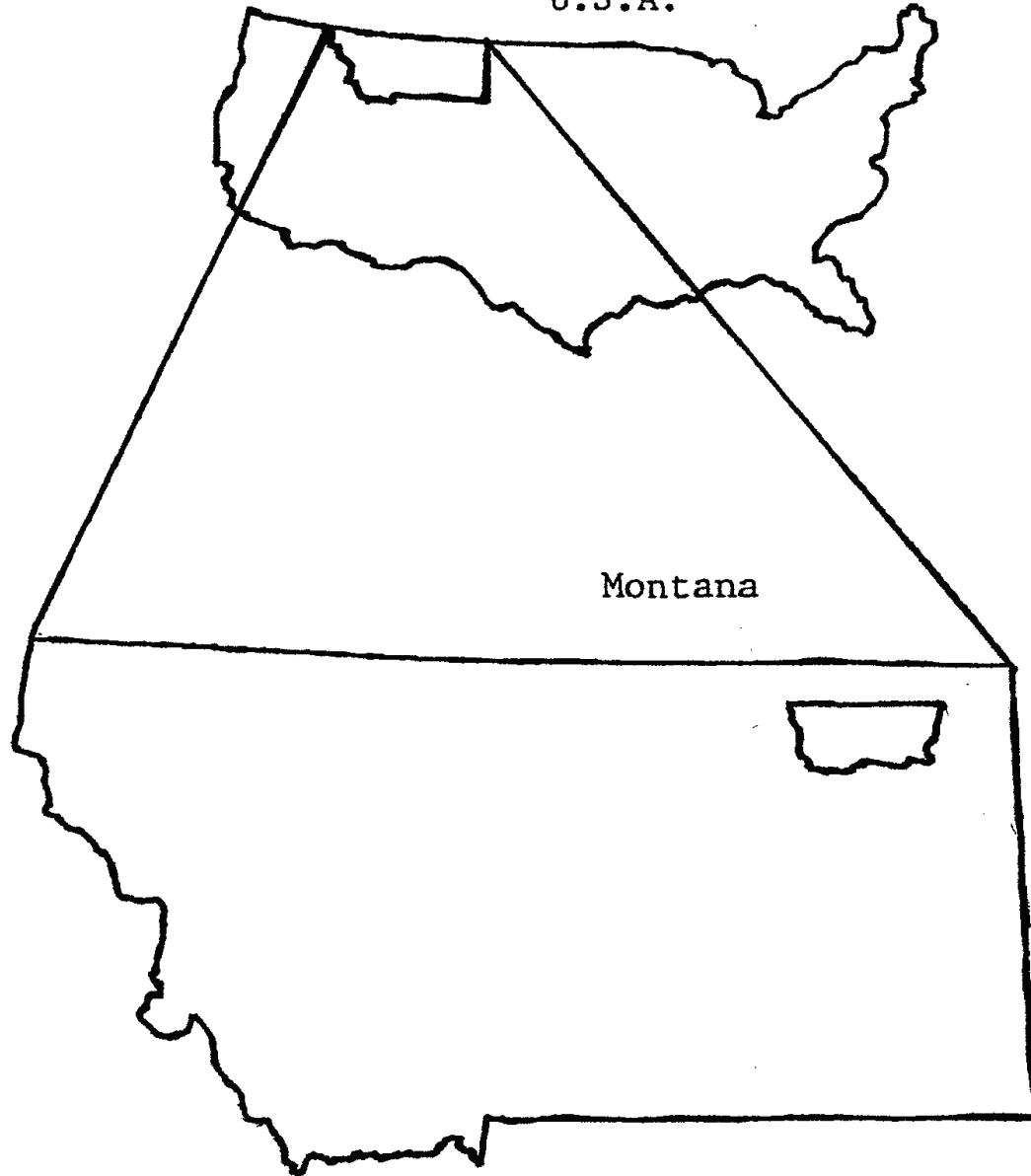


*Office of Economic Development*

*November 18, 2009*

# **Nakona & Dakota Nations**

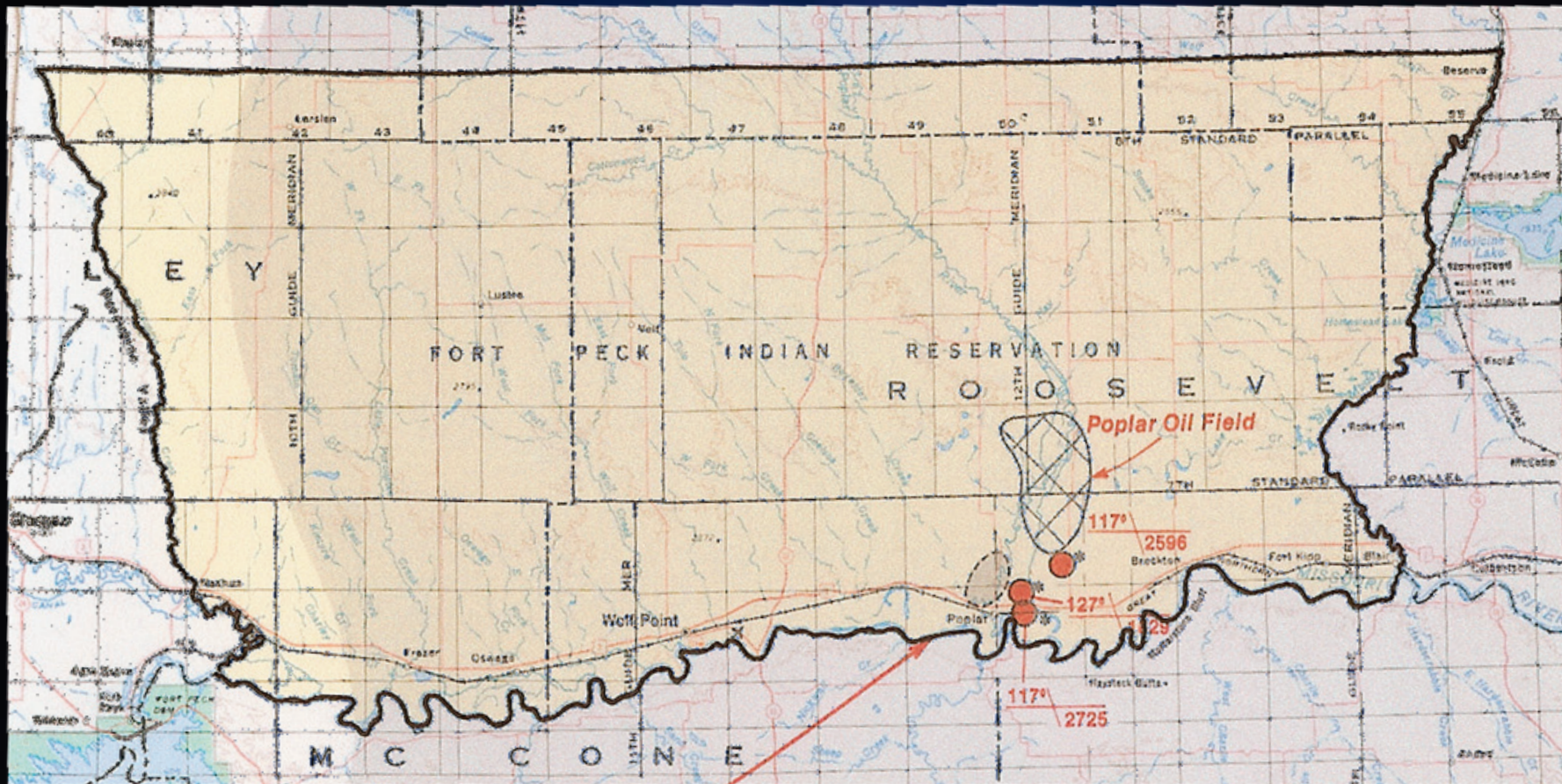
U.S.A.



Montana

QuickTime™ and a  
TIFF (Uncompressed) image  
are needed to see this picture.

- ⊕ 2M Acres
- ⊕ ≈12,000 Membership
- ⊕ 6 Communities along Highway 2
- ⊕ 100 mi. x 35 mi.
- ⊕ Southern Boundary - Missouri River



Black Line is the Reservation Boundary

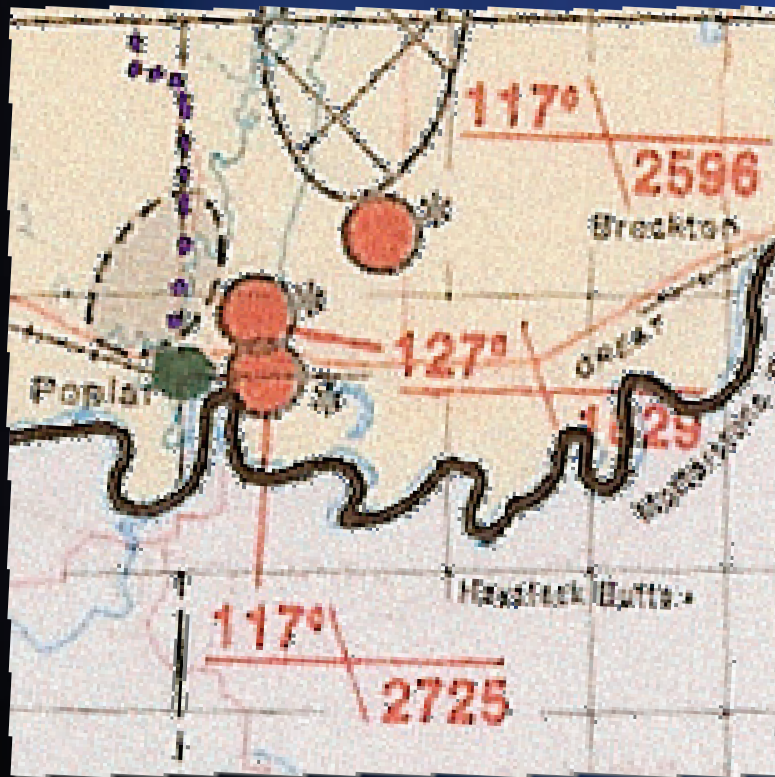
MT Bureau of Mines and Geology Map - 1981

Potential Geothermal Sites.

# *Geothermal*

- ⊕ 1979 Feasibility Study - Scientific Foundation
- ⊕ MIT-Study 2006
- ⊕ Montana Bureau of Mines Information
- ⊕ Co-Produced Liquids Technology - Using abandoned oil wells, current wells.

# MIT STUDY



OIL FIELDS

132° C at 2.2km

GRANITE BASEMENT

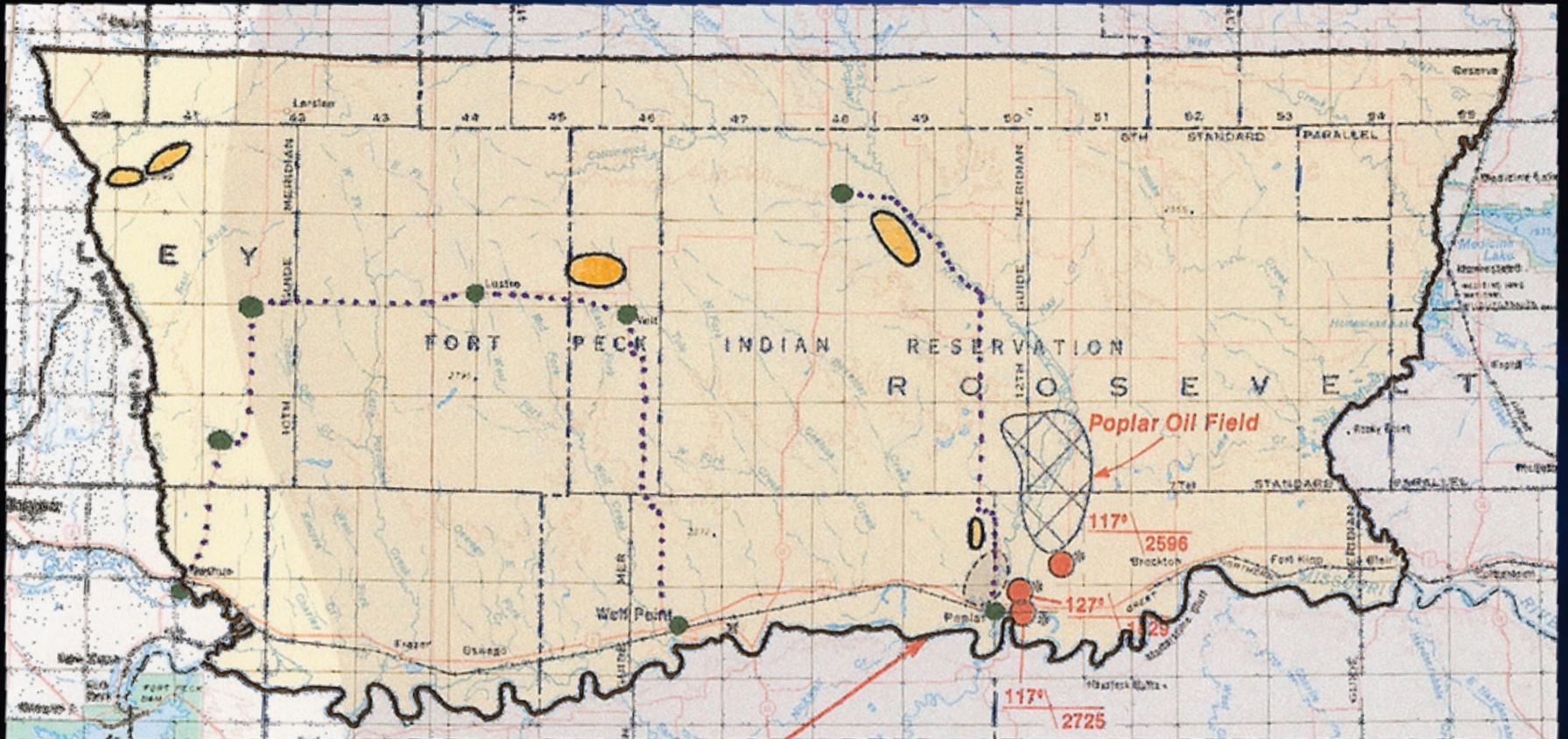
250° C at 6.5km (or less)

Little deep exploration

Few temperature data available

Generally normally pressured





- ⊕ 230 kV Line - East and West along US 2
- ⊕ 1/2 mi. from high temp well to Trans. Line

# 1979

⊕ Hottest Temp according to Well Logs is Number 42 at 243° F @ 6K feet.

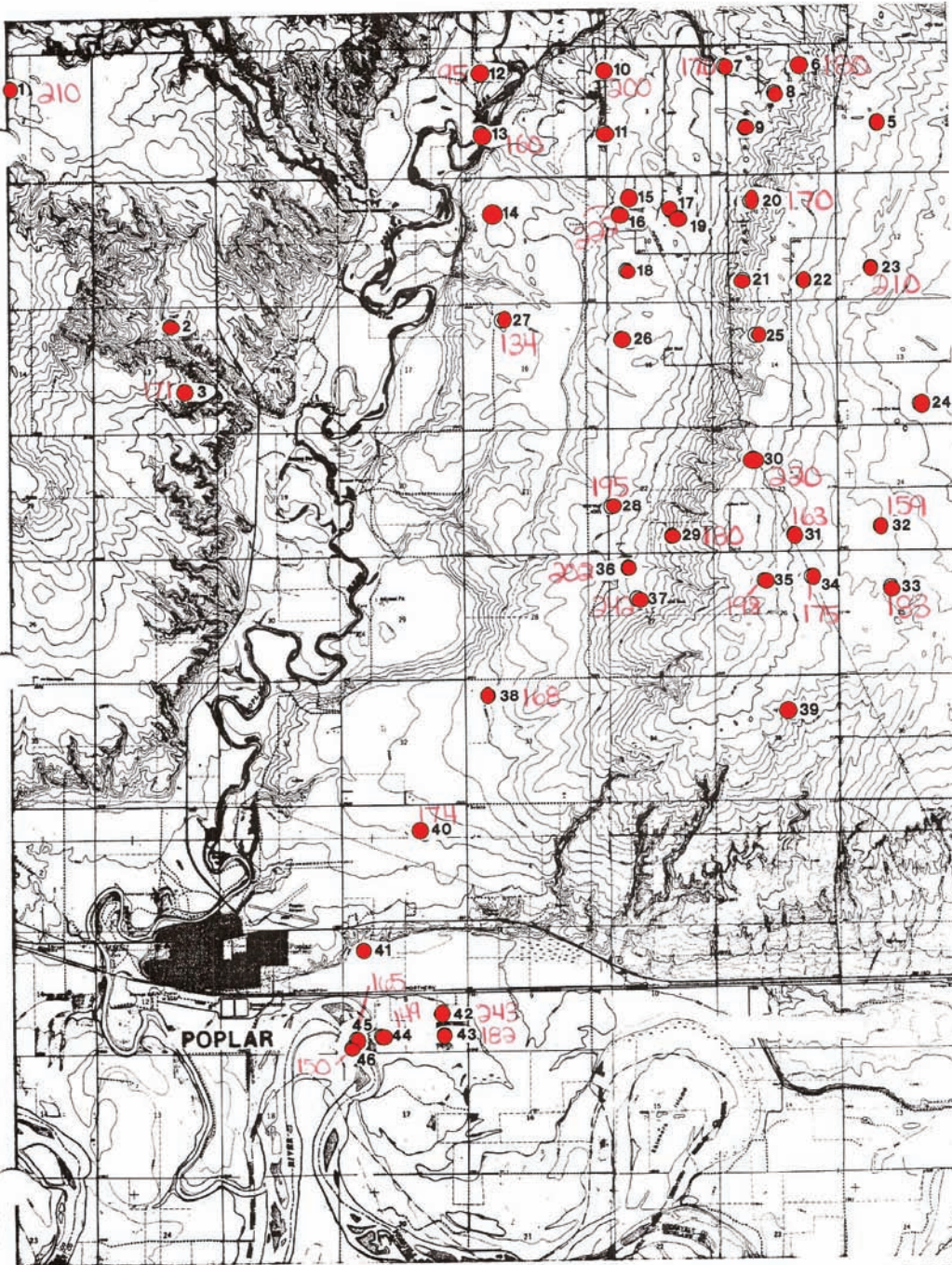
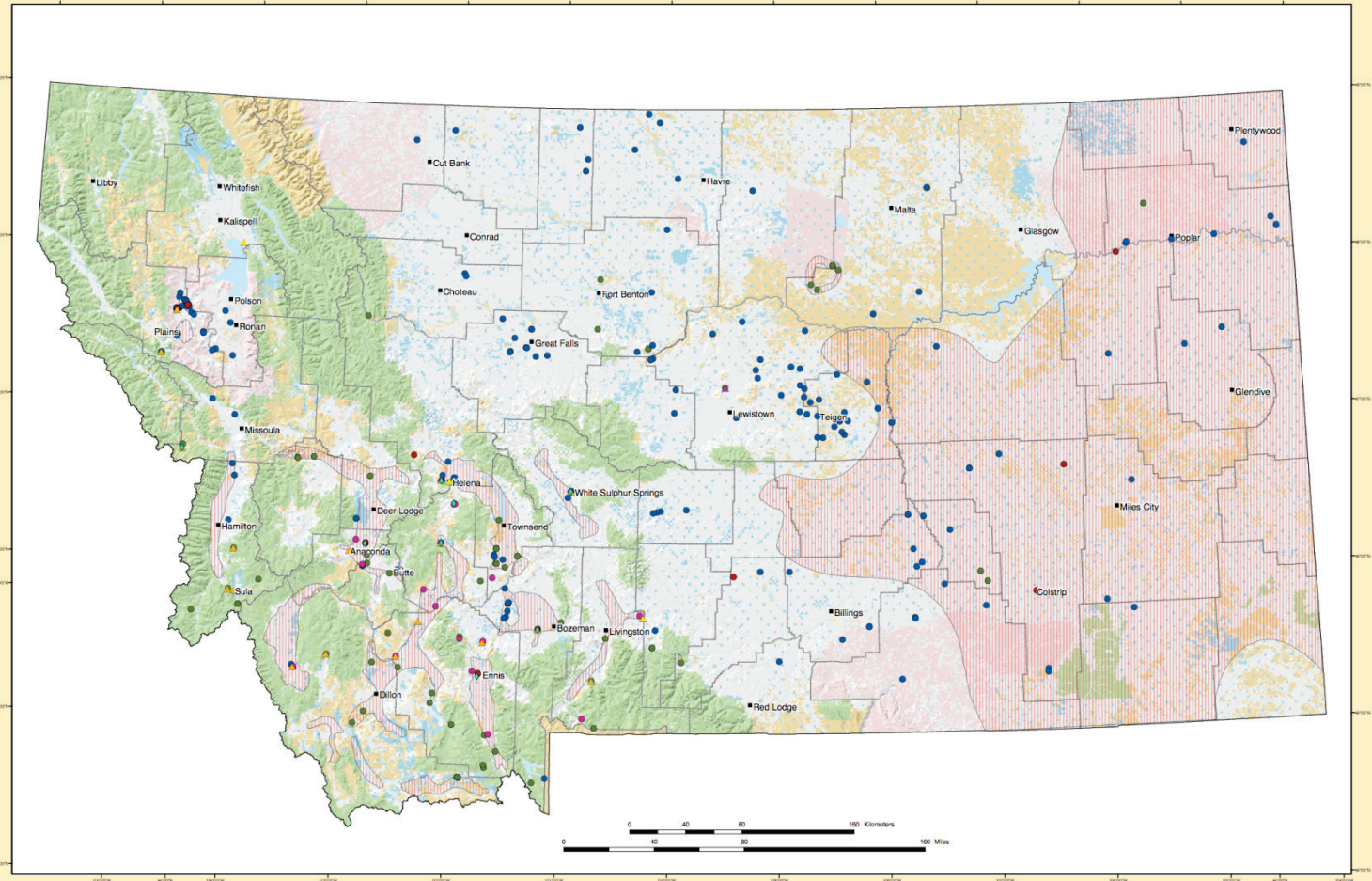


FIGURE III-2 LOCATION OF OIL WELLS USED IN ANALYSIS

# Montana Geothermal Resources



<p><b>Legend</b></p> <ul style="list-style-type: none"> <li>■ Cities/Towns</li> <li>— County Boundaries</li> <li>— Rivers/Streams</li> <li>— Lakes/Reservoirs</li> <li>▲ Greenhouse</li> <li>▲ Aquaculture</li> <li>▲ Space Heating</li> <li>▲ Spas/Resorts/Recreation Sites</li> <li>▨ Regions of Known or Potential Geothermal Resources</li> </ul>	<p><b>Geothermal Categories</b></p> <ul style="list-style-type: none"> <li>● Wells &gt; 50 Degrees C</li> <li>● Springs &gt; 50 Degrees C</li> <li>● Wells &gt; 20 and &lt; 50 Degrees C</li> <li>● Springs &gt; 20 and &lt; 50 Degrees C</li> </ul>	<p><b>Ownership</b></p> <ul style="list-style-type: none"> <li>□ Private Lands</li> <li>□ Bureau of Land Management and Other Federal Lands</li> <li>□ State Lands</li> <li>□ Native American Lands</li> <li>□ U.S. Forest Service Lands</li> </ul>	<p>Map prepared by Patrick Laney and Julie Bruzee at the Idaho National Engineering and Environmental Laboratory                  For                  The U.S. Department of Energy Office of Energy Efficiency and Renewable Energy Geothermal Technologies Program                  Geothermal Data Provided by:                  1. Geo-Heat Center State Geothermal Database, [Compact Disk], February 2002                  2. Sonderegger, John L. Bergantino, R. N., 1981, Hydrogeologic Map HM4 Geothermal Resources of Montana, National Geophysical and Solar-Terrestrial Data Center, National Oceanic and Atmospheric Administration, Prepared for the Division of Geothermal Energy United States Department of Energy, Map 1:1,000,000</p> <p>Montana Geothermal Resources                  Publication No. - INEEL/MG 2002-1619 Rev. 1                  November 2003                  Map Projection Information:                  Projection: Lambert Conformal Conic                  Date: 10/01/03                  Center Meridian: 109.50                  Standard Parallel 1: 45.00                  Standard Parallel 2: 48.00                  Latitude Of Origin: 46.45                  Datum: North American 1983</p>
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# *Scope of Work*

- ⊕ Phase I - Geothermal Resource Assessment
- ⊕ Phase II - Technical, Socioeconomic, and Environmental Analysis
- ⊕ Phase III - Power Sales, Transmission Issues, Project Financing, Tribal Utility Issues, and Tribal Education Support

# *Phase I*

## *Geothermal Resource Assessment*

- ⊕ Compiling and Analyzing Existing geothermal information
- ⊕ Resource Exploration and Reassessment

# *Phase II*

## *Technical, Socioeconomic, and Environmental Analysis*

- ⊕ Technical Assessment
- ⊕ Economic Assessment
- ⊕ Tribal Education and Tribal Support
- ⊕ Environmental /Permitting Analysis
- ⊕ Tribal Benefits Analysis
- ⊕ Business Plan Development

# *Phase III*

## *PPA, Transmission, Financing*

- ⊕ Tribal Utility Issues
- ⊕ Tribal Education and Support
- ⊕ Power Sales and Transmission Issues
- ⊕ Project Financing
- ⊕ Tribal Education and Tribal Support
- ⊕ LOI's and Council Resolutions

# *Grant Award*

\$233,170



# *References*

## ⊕ MIT Study -

[http://geothermal.inel.gov/publications/future\\_of\\_geothermal\\_energy.pdf](http://geothermal.inel.gov/publications/future_of_geothermal_energy.pdf)

## ⊕ 1979-1980 Geothermal Feasibility Study

[http://www.osti.gov/bridge/product.biblio.jsp?osti\\_id=6664705](http://www.osti.gov/bridge/product.biblio.jsp?osti_id=6664705)

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