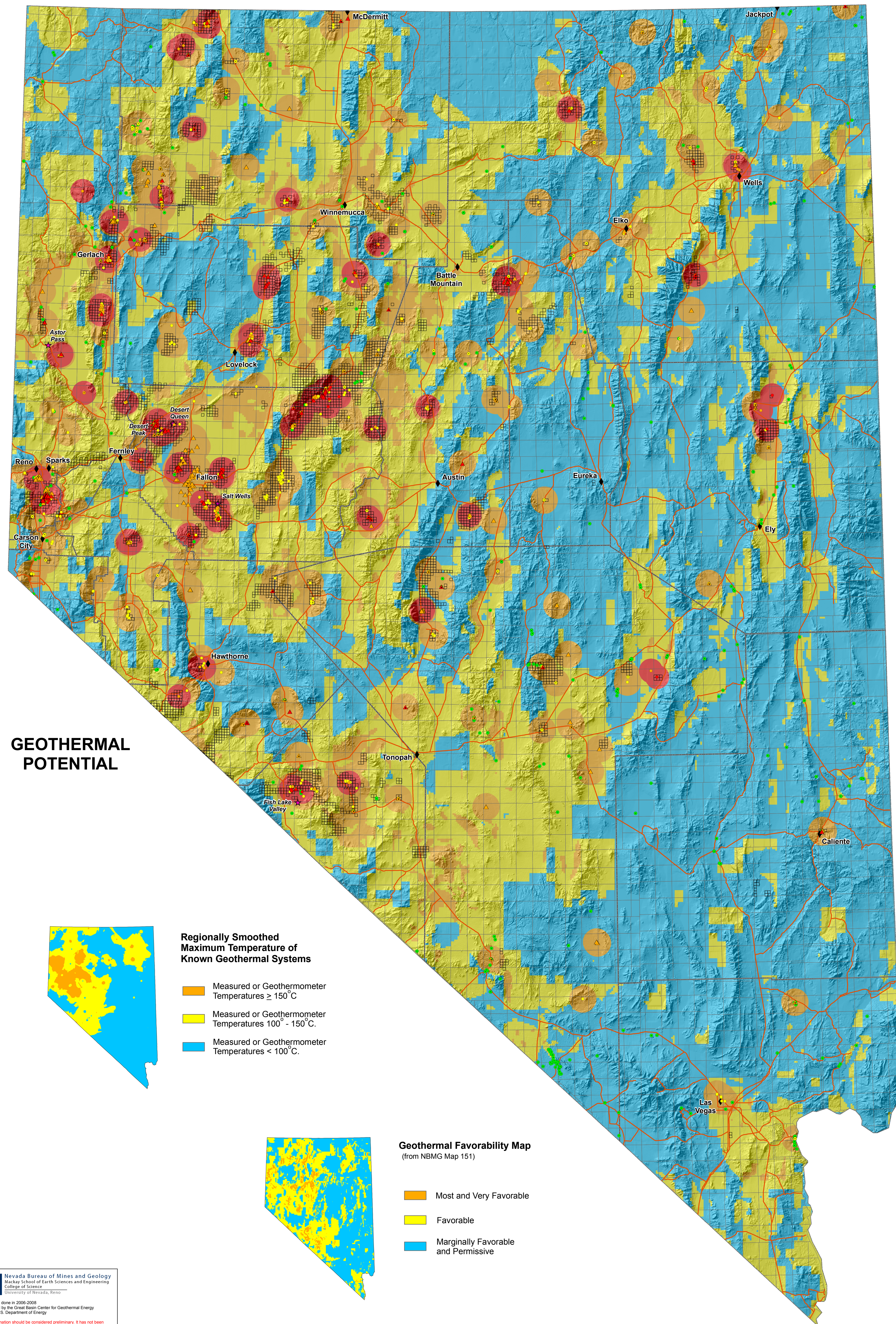
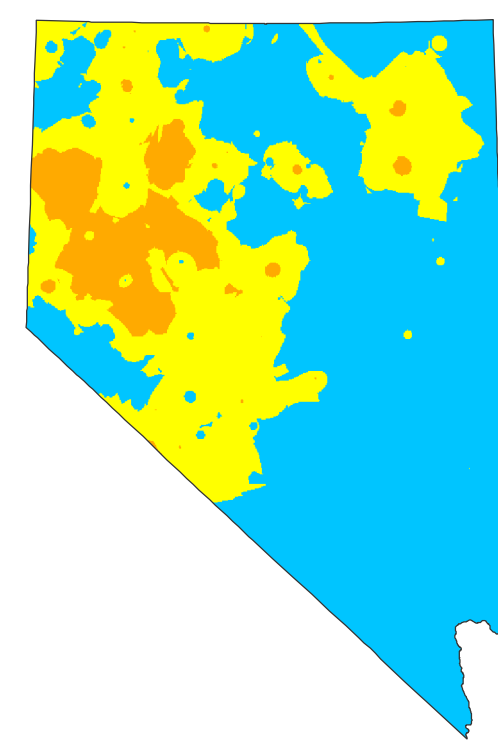


PRELIMINARY GEOTHERMAL POTENTIAL AND EXPLORATION ACTIVITY IN NEVADA

Richard Zehner, Mark Coolbaugh, and Lisa Shevenell
2009

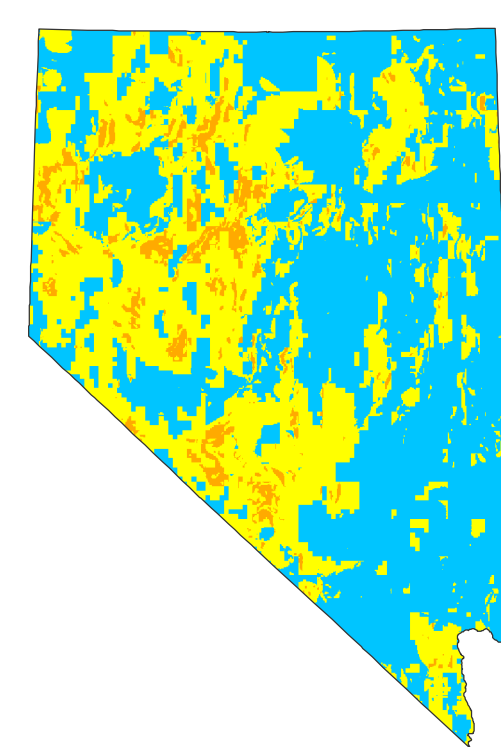


GEOTHERMAL POTENTIAL



Regionally Smoothed Maximum Temperature of Known Geothermal Systems

- Measured or Geothermometer Temperatures $\geq 150^{\circ}\text{C}$
- Measured or Geothermometer Temperatures $100^{\circ} - 150^{\circ}\text{C}$
- Measured or Geothermometer Temperatures $< 100^{\circ}\text{C}$



Geothermal Favorability Map (from NBMG Map 151)

- Most and Very Favorable
- Favorable
- Marginally Favorable and Permissive

Nevada Bureau of Mines and Geology
Mackay School of Earth Sciences and Engineering
University of Nevada, Reno

Field work done in 2006-2008
Supported by the Great Basin Center for Geothermal Energy and the U.S. Department of Energy

This information should be considered preliminary. It has not been thoroughly edited or checked for completeness or accuracy. Although the published information has been checked for accuracy, the user should exercise caution in the use of this information, particularly in the location of specific points on the map. Users should consult the original information and records, preferably on the ground, before making critical decisions.

Edited by Jennifer Hendry
Compiled by Rick Zehner and Elizabeth Drake
Cartography and Design by Matthew Hutchinson
Printed by Nevada Bureau of Mines and Geology

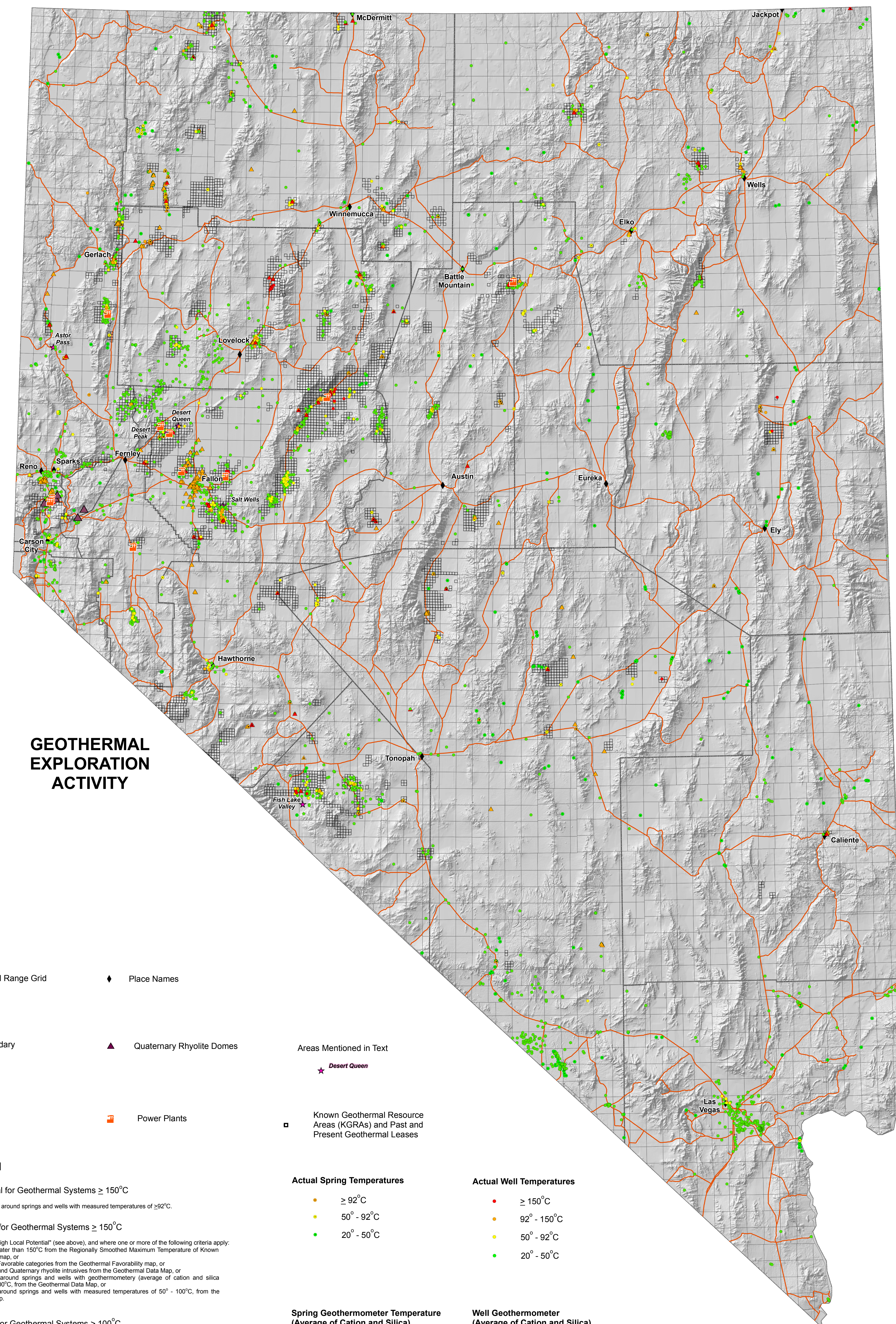
This map was prepared on an advisory basis. The user assumes all responsibility for the use of this map. The Nevada Bureau of Mines and Geology does not warrant the accuracy or completeness of the information presented on this map.

For sale by:
Nevada Bureau of Mines and Geology
University of Nevada, Reno, NV 89512
Phone: (775) 784-6551, ext. 2
www.nvbgm.unr.edu

Projection: Lambert Conformable Conic
First Standard Parallel: 33°
Second Standard Parallel: 45°
False Easting: 0
False Northing: 0
Datum: NAD 27

Scale 1:1,000,000
1 inch equals approximately 16 miles

0 10 20 30 40 50 Miles
0 20 40 60 80 Kilometers



GEOTHERMAL EXPLORATION ACTIVITY

- Township and Range Grid
- Place Names
- County Boundary
- Quaternary Rhyolite Domes
- Roads
- Power Plants

- Areas Mentioned in Text**
- Desert Queen

- Known Geothermal Resource Areas (KGRAs) and Past and Present Geothermal Leases

Geothermal Potential

- High Local Potential for Geothermal Systems $\geq 150^{\circ}\text{C}$**
Consists of a 7 km buffer around springs and wells with measured temperatures of $\geq 92^{\circ}\text{C}$.
- Regional Potential for Geothermal Systems $\geq 150^{\circ}\text{C}$**
Areas not classified as "High Local Potential" (see above), and where one or more of the following criteria apply:
(a) temperatures greater than 150°C from the Regionally Smoothed Maximum Temperature of Known Geothermal System map, or
(b) "Most" and "Very" Favorable categories from the Geothermal Favorability map, or
(c) a 5 km buffer around Quaternary rhyolite intrusions from the Geothermal Data Map, or
(d) an 8 km buffer around springs and wells with geothermometry (average of cation and silica geothermometry) $\geq 100^{\circ}\text{C}$, from the Geothermal Data Map, or
(e) an 8 km buffer around springs and wells with measured temperatures of $50^{\circ} - 100^{\circ}\text{C}$, from the Geothermal Data Map.
- Regional Potential for Geothermal Systems $\geq 100^{\circ}\text{C}$**
Areas not classified by either of the above two rankings, and where (a) temperatures between 100°C and 150°C occur on the Regionally Smoothed Maximum Temperature of Known Geothermal Systems map or (b) areas comprising the "Favorable" category on the Geothermal Favorability map.
- Lower Regional Potential**
Areas not classified in any of the above rankings. Includes (a) areas with temperatures less than 100°C from the Regionally Smoothed Maximum Temperature of Known Geothermal Systems map or (b) either the "Marginally Favorable" or "Permissive" categories from the Geothermal Favorability map.

Actual Spring Temperatures

- $\geq 92^{\circ}\text{C}$
- $50^{\circ} - 92^{\circ}\text{C}$
- $20^{\circ} - 50^{\circ}\text{C}$

Actual Well Temperatures

- $\geq 150^{\circ}\text{C}$
- $92^{\circ} - 150^{\circ}\text{C}$
- $50^{\circ} - 92^{\circ}\text{C}$
- $20^{\circ} - 50^{\circ}\text{C}$

Spring Geothermometer Temperature (Average of Cation and Silica)

- $150^{\circ} - 236^{\circ}\text{C}$
- $100^{\circ} - 150^{\circ}\text{C}$

Well Geothermometer (Average of Cation and Silica)

- $150^{\circ} - 350^{\circ}\text{C}$
- $100^{\circ} - 150^{\circ}\text{C}$