



DEPARTMENT OF CONSERVATION

CALIFORNIA GEOLOGICAL SURVEY

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March 24, 2011

Jonathan G. Price, Ph. D.
State Geologist and Director
Nevada Bureau of Mines and Geology
University of Nevada, Reno
Mail Stop 178
Reno, Nevada 89557-0178

Re: Proposed Reduction in NBMG Funding

Dear Jon:

It is most troubling to learn of the proposed 53 percent reduction in state funding for the Nevada Bureau of Mines and Geology (NBMG). As neighboring States, the predecessors of today's NBMG and California's Geological Survey (CGS) have been working together closely and productively since 1865, and have developed and shared many common interests in serving the citizens and businesses of our respective States.

I believe today that the NBMG and the CGS have a closer, and more diversified working relationship than any other two neighboring geological surveys, with important mutual interests. It is of great concern that our mutual cooperating programs will be negatively impacted by this proposed reduction in funding, and the resultant shrinking of the NBMG's operations.

As you know, both Nevada and California were founded because of mining and mineral interests – so much so that both states carry the monikers of “The Silver State” and “The Golden State”, respectively. Nevada, today, continues to be one of the nation's richest mineral resource areas. Like CGS, which is charged with tracking the mineral assets of California, NBMG is the single, independent and unbiased source for information and analysis of Nevada's mineral assets. The NBMG has been a leading force in the development of the State's mineral resources, much to the economic benefit of the mining industry and of the entire State. Based on NBMG's researches, it is estimated that there remain undiscovered mineral deposits valued in the range of \$1.2 trillion. It seems imperative that the NBMG be permitted to continue to evaluate the State's mineral assets so that Nevada's policy makers and

business investors can make informed decisions about the State's future economic directions.

Sharing a long, common border, both Nevada's and California's geological mapping programs have cooperated for many years, starting about 1868 with the Whitney and King mapping surveys. Whitney's 1874 publication of California/Nevada Map clearly depicts the closeness of this cooperation. Geological mapping forms the basis for many types of derivative maps that are used for exposing geological hazards, locating valuable mineral deposits, and discerning seismic hazards zones. Geological maps are indispensable for land developments and community planning. I have had the pleasurable experience of sitting on the U. S. Geological Survey's StateMap Panel, in which all 50 state geological surveys submit geologic maps as part of a competitive Federal grant program. The geologic maps produced by the NBMG consistently ranked in the top five survey submittals. This is most indicative of a great and valuable state survey.

Nevada's and California's surveys have continued to work very closely in mapping the Basin and Range Province common to both States, and in deciphering the potential risks of its seismic threats from this area. One of the most beautiful, and important, maps jointly produced by NBMG and CGS is the *Geologic Map of the Lake Tahoe Basin, California and Nevada*. This geologic map has taken on new significance and spurred continued research regarding the large faults on the Lake's floor, and their destructive potential to surrounding communities from both ground shaking and tsunamis created in the Lake.

In addition, the California Geological Survey is mapping and "zoning" the surface traces of active faults in the Lake Tahoe region under its Alquist-Priolo Act. It is most beneficial to CGS that it employs the expertise of NBMG geological findings in tracing those surface faults along the common borderlands. The results from these maps will be equally beneficial to the State of Nevada through the NBMG, which can translate California's findings into Nevada.

Like California, Nevada is "Earthquake Country", as has been recently demonstrated by the Mw 6.0 Wells Earthquake in February 2008, and the slightly more recent Mogul Earthquake Swarm in April 2008. The Wells Earthquake destroyed the rural town of Wells. The Mogul Earthquake Swarm nearly destroyed a modern community development outside Reno – not from its great magnitude, but from its incessant consistency of ground shaking. The CGS was able to gather valuable information from the NBMG about the geology of these activities; information that will contribute to the future safety of both Nevada's and California's citizens through improved building codes and site locations.

NBMG and CGS have a strong cooperative interface in monitoring and analyzing the events and risks involved at the Long Valley Caldera. This ancient volcanic remnant, but large active magna chamber, continues to rumble and vent poisonous CO₂ into the atmosphere. This active feature poses threats to both Nevada and California, and requires cooperative investments in its monitoring and understanding.

Nevada and California have active geothermal energy-producing programs and industries. As reliance on renewable and sustainable energy sources play larger roles in our economic lives, the sharing of geologic and engineering information regarding geothermal activities and events between our two States takes on greater significance. Of specific shared concerns are the triggering of earthquakes by the pressured injection of water into geothermal systems. These types of earthquakes are common in California's Geysers Geothermal Field. The events at the geothermal field south of Reno are also of interest since there are large, potentially dangerous faults in that part of Nevada.

Of most recent shared interests is the Sequestration of Carbon Dioxide as part of the U. S. effort to reduce the amount of CO₂ released into the atmosphere. Both Nevada and California have similar geological structures and basins for the sequestration of CO₂, as well as shared geology which ignores state borders. Cooperation in exploring and analyzing basin reservoir characteristics is beneficial to both States' economies and environments, and works in the national interest.

It is with the strongest conviction that I believe the proposal to reduce funding to the NBMG is most unwise, in that it will adversely affect the well being of Nevada's citizens, its business economy, and its environment. The NBMG has repeatedly demonstrated its valuable contributions not only to Nevada, but to its neighbors in California. The NBMG is one of the great state geological surveys in the nation, and it's reduction would be a sad, and significant loss to both Nevada and California.

Sincerely,

A handwritten signature in blue ink that reads "John G. Parrish". The signature is written in a cursive style with a large, sweeping initial "J".

John G. Parrish, Ph. D, PG
California State Geologist