New Exploration Methods Applied to Previously Studied “Known Geothermal Resource Areas” in Southern Idaho and Eastern Oregon

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Understudied KGRA Test Cases

Preston Geothermal Prospect, Idaho

The Preston Geothermal Prospect is located in the North Cache Valley (NCV) of northern Idaho. This region has been the site of a number of geothermal exploration efforts. The most notable of these efforts include the NCV Geothermal Project. This project, which was initiated in the early 1980s, aimed to evaluate the geothermal potential of the NCV. The project was funded by the U.S. Department of Energy, and it resulted in a number of significant findings. For example, the project confirmed the presence of geothermal resources in the NCV, and it also identified a number of potential hot springs and geothermal anomalies. The project was also successful in identifying a number of potential exploration targets, which have since been investigated by private and public sector organizations. The Preston Geothermal Prospect is one such target, and it is considered to be a high potential area for the development of geothermal energy. The project was also successful in identifying a number of potential exploration targets, which have since been investigated by private and public sector organizations. The Preston Geothermal Prospect is one such target, and it is considered to be a high potential area for the development of geothermal energy.

Figure 6. This new data set provides strong support for further investigation and sampling of wells and springs (Figure 3) in the Northern Cache Valley, proposed for the summer of 2015. The shallow thermal anomalies appear to be controlled by fault-controlled fluid flow (Figures 5 & 7).

Abundant Basin Oregon (test case only)

The Abundant Basin project is located in the Abundant Basin area of eastern Oregon, where a group of high-resolution geophysical images was collected. The Abundant Basin project is a joint effort between the U.S. Department of Energy and the Oregon Department of Geology and Geophysics. The project was initiated in 1995 and has since been expanded to include a number of additional geophysical studies. The Abundant Basin project has yielded a number of significant findings, including the identification of a number of potential geothermal anomalies. The project has also been successful in identifying a number of potential exploration targets, which have since been investigated by private and public sector organizations. The Abundant Basin project is one such target, and it is considered to be a high potential area for the development of geothermal energy.

Figure 3. A sampling campaign is planned for the summer of 2015. Water samples will be retrieved from wells and springs of the NCV and the Abundant Basin in USGS geothermometers will be analyzed for heat flow patterns.

Regional Setting of the North Cache Valley (KGRA)

The North Cache Valley (NCV) is a sub-basin of the basaltic-basaltic complex, located in southeastern Idaho and northern Nevada. It is bounded by the boundaries of the Snake River Plain, the Bingham County area, and the Bannock County area. The NCV is characterized by a number of geothermal anomalies, including the Preston Geothermal Prospect. The NCV is also characterized by a number of geophysical anomalies, including the Abundant Basin geothermal anomaly. The NCV is characterized by a number of geophysical anomalies, including the Abundant Basin geothermal anomaly. These geophysical anomalies, along with the geothermal anomalies, suggest that the NCV is a high potential area for the development of geothermal energy. The NCV is characterized by a number of geophysical anomalies, including the Abundant Basin geothermal anomaly. These geophysical anomalies, along with the geothermal anomalies, suggest that the NCV is a high potential area for the development of geothermal energy.

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References


