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GEOTHERMAL RESEARCH DEPARTMENT 8866

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Sandia's work in drilling technology is aimed at reducing costs and risk associated with drilling in harsh environments and significantly expanding the nation's utilization of geothermal energy. This focus leads to practical solutions to challenges associated with tapping the most intense sources of heat, typically found well below the earth's surface. Because a large portion of the cost and risk of generating electricity from geothermal sources is associated with drilling and completing exploration, production, and injection wells, Sandia's primary focus has been on the development of improved drilling and completion technologies such as diagnostics while drilling, high-temperature electronics, advanced drill bit technologies, downhole rotation, and drilling vibration reduction. We also actively work on advanced drilling concepts to provide economical access to deeper and hotter resources in the future. Most of these research projects are conducted in cooperation with geothermal operators within the well service industry. On a cost-per-foot basis, geothermal drilling is among the most expensive type of drilling performed; and Sandia's work in this area has created natural synergies that benefit other industries and agencies (e.g.,Oil & Gas and DOD) requiring drilled access to the underground.

Sandia National Laboratories

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