

## **Development and Project Utilization of Heater Cable in ESP Production Systems**

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It has been more than a decade since heater cables were first introduced to facilitate oil production at the North Slope, in Alaska. Since then, the product has spread to acquire a global presence with successful project implementation in a number of countries. There has been increasing interest expressed in using heater cable products in heavy-oil applications given that such products offer significant benefits in reducing fluid viscosity and, consequently, increases the yield rate of horizontal laterals. This paper focuses on the implementation of heater cables, in both technical and project management perspectives. The theories behind the product including electrical and thermal principles in relation to electrical submersible pump (ESP) production systems will be discussed. In addition, project management data such as equipment requirements and field performance through various case histories are presented