

ESPs successfully supplied 13.8-MW geothermal power plant

A developer completed the construction of a 13.8-MW organic Rankine turbine geothermal power plant in 2018 after successful drilling and well tests. The higher elevation of the power plant compared to the neighboring facilities in the region meant that artesian production of the five wells was not an option. Baker Hughes, a GE company (BHGE), was contracted to supply a turnkey production solution.

The well testing, also performed by BHGE, revealed harsh fluid conditions at temperatures up to 157°C (314°F).

A high production rate from each well was required to meet power generating requirements and target economic returns. Using the robust and reliable geothermal equipment from BHGE's **CENitic™ electrical submersible pumping (ESP) system**, the entire production of this facility was supplied with five downhole systems. Factoring in the capital investment of the ESP and operational expenditures such as installation, the ROI was 3.5 months for the customer. BHGE continues to offer equipment capable of producing more fluid at increasing temperatures and is a world leader in geothermal ESPs.

Challenges

- Bottomhole temperature ranged from 144 to 157°C
- High flow required for economic viability of facility
- Harsh well conditions

Results

- Achieved a rapid, 3.5-month return-on-investment (ROI) for the complete production solution
- Delivered successful turnkey production solution
- Acquired total production rate of more than 5,800 gal/min (0.037 m³/s)

Well	Production rate		Fluid temperature	
	Gal/Min	L/s	°F	°C
1	1,541	97	314.6	157
2	1,100	69	293	145
3	885	56	302	150
4	960	61	312.8	156
5	1,320	83	291.2	144

bhge.com

Copyright 2019 Baker Hughes, a GE company, LLC ("BHGE"). All rights reserved.

The information contained in this document is company confidential and proprietary property of BHGE and its affiliates. It is to be used only for the benefit of BHGE and may not be distributed, transmitted, reproduced, altered, or used for any purpose without the express written consent of BHGE.

Baker Hughes reserves the right to make changes in specifications and features shown herein, or discontinue the product described at any time without notice or obligation. Contact your BHGE representative for the most current information. The Baker Hughes logo and CENetic are trademarks of Baker Hughes, a GE company, LLC. GE and the GE Monogram are trademarks of the General Electric Company.