

A CASE HISTORY OF A MULTI-WELL INTERFERENCE TEST PROGRAM AT THE UENOTAI GEOTHERMAL FIELD, AKITA PREFECTURE, JAPAN

**Menzies, A. J.¹, Antunez, E. U.¹, Sanyal, S. K.¹, Naka, T.², Takeuch, R.², Iwata, S.³
Saeki, Y.⁴, and Inoue, T.⁴**

¹GeothermEx Inc., 5221 Central Avenue, Suite 201, Richmond, CA, 94804 USA

²Akita Geothermal Energy Company, Tokyo, Japan

³Akita Geothermal Energy Company, Oyasu, Japan

⁴Dowa Mining Company, Tokyo, Japan

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ABSTRACT

A multi-well interference test was conducted in the Uenotai geothermal field from August to December 1988. The test involved eight production, two injection and five observation wells. Analysis of the collected data indicate that the eight production wells have a combined output of 26.1 MW. Pressure drawdown in the wells is as high as 120 ksc and this causes some of the wells to produce superheated steam. The high drawdowns, high injection pressures and relatively low reservoir transmissivities calculated from pressure buildup tests suggest the reservoir has low intrinsic permeability. The interference data has been analyzed using both analytical and numerical models. The analytical modeling suggests higher transmissivities than obtained from the pressure buildup tests but the analysis is strongly affected by assumptions on reservoir fluid properties. The numerical modeling gives results consistent with the pressure buildup results.

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