

Using Electromagnetic Methods to Image SAGD Steam Chambers

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Abstract

Steam Assisted Gravity Drainage (SAGD) is an enhanced oil recovery method, used to produce bitumen from oil sands. Two horizontal wells are drilled at the bottom of the bitumen reservoir (Butler, 1994). Steam is injected into the top well and a steam chamber grows upwards and outwards. The steam heats the oil, which drains downwards and is captured by the lower horizontal well. The success of this technique is dependent upon having the steam propagate throughout the bitumen layer. Unfortunately, mudstone laminations in the reservoir conspire so that the steam does not always propagate as desired and it is therefore important to image steam chambers so their location and growth can be monitored.

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