

EUB Backgrounder: Steam Assisted Gravity Drainage

Steam Assisted Gravity Drainage (SAGD)

Steam assisted gravity drainage (SAGD) is a process used to recover bitumen from oil sands. Typically, pairs of horizontal wells are drilled, one for steam injection and one for production. Under the ground, the horizontal wells run parallel to each other in the bitumen zone, with the production well located below the injection well. Steam is injected into the reservoir from the injection well, and as the steam permeates the oil sands, the bitumen is heated, allowing it to flow, and the bitumen is then pumped to the surface via the production well.

Two schematics are available that illustrate the effect a pressure depleted gas pool can have on the steam injected by a SAGD operation in an underlying oil sands zone. In the undepleted case, the steam is mostly contained within the oil sands zone where it is able to heat the bitumen so that bitumen can flow to the producing well. In the depleted case, some of the steam escapes into the lower pressure gas pool and this steam is not available to heat the bitumen.

