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The oil sands deposits of northern Alberta represent one of the few reliable, long-term sources of oil supply. The oil sands represent the world's third largest proven reserves of oil. Canada is the leading source of oil imports for the U.S.

The Alberta oil sands resource is estimated to contain as much as 1.7 trillion barrels of bitumen. The reserves - the amount that can be recovered economically with existing technology - are estimated to hold 170 billion barrels of recoverable bitumen, which would be enough to produce 2.5 million barrels per day for 186 years.



Oil sands, sometimes referred to as tar sands, are naturally occurring mixtures of bitumen, sand, water, small amounts of heavy metals and other contaminants. Each grain of sand is surrounded by a layer of water and a film of bitumen. The oil sands are found mainly in the Athabasca, Peace River and Cold Lake areas of Alberta.

Oil Sands Surface Mining

Surface mining is used when the oil sands are close to the surface, using huge trucks and power shovels. The oil sands are transported to a processing facility where hot water is used to separate the bitumen from the sands. About 20 per cent of the oil sands are shallow enough to be recoverable through surface mining.



Oil Sands In Situ

In situ, meaning "in place," recovers deposits that are hundreds of metres below the surface. Most in situ methods inject steam into the oil sands deposit to heat and release bitumen so it can be pumped up to the surface. There are two main in situ methods – Cyclic Steam Stimulation (CSS) and Steam Assisted Gravity Drainage (SAGD).

