

**Title: Oil Shale Resource in Mae Sot Basin, Thailand**

**Abstract:**

The largest oil shale resource in Thailand is found in the northern region in Mae Sot Basin, Tak Province. It covers approximately 600 square kilometers. The largest oil shale resource in Thailand is found in the northern region in Mae Sot Basin, estimated using USGS 891 method at 925.38 million tons. The measured resource of shale oil is 182.86 million barrels.

Mae Sot Basin lies in NW-SE direction. This basin consists of 2 sub-basins (1) the northern sub-basin and (2) the southern sub-basin. The bedding of oil shale layer dips 5-25° in west. The depth of oil shale in the northern sub-basin is shallower than in the southern sub-basin. However, the thickness of oil shale layer in the northern sub-basin is thicker and more continuous than the southern one. The potential yield of oil in the northern sub-basin is also higher than the southern sub-basin.

The quality of the oil shale in general is poor to medium. According to Modified Fischer Assay method, the estimated oil yield varies from 1- 26% by weight or about 2.5 – 65 gallons/ton. The average of oil yield is about 5 % by weight or 12 gallons/ton. The heating value is 700- 4,000 kcal/kg. Moreover, the percentage of ash, organic and shale residual are 56-70, 10–24, and 66-94, respectively. The oil yield given from the Kiviter retorting test is 15.22 gallons/ton oil yield equivalent to 6.1% by weight. The shale oil consists of 84.66 % carbon, 11.20% hydrogen, 1% nitrogen, 2.5% oxygen and 0.64 % sulfur.

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