

Oil shale seam stratigraphy of the Attarat um Ghudran deposit, Jordan

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A recent (2010) geological study of the Attarat um Ghudran oil shale (OS) by Enefit has resulted in the creation of a detailed stratigraphic scheme of the deposit. The new scheme differs significantly from schemes resulting from five earlier exploration campaigns where the OS seam, which is tens of meters thick, was described as a uniform single bed. The recent study was started by re-examination of the earlier cores and continued with new drilling. Unlike the historical drilling, the new cores penetrate the entire thickness of the seam, which is substantially larger than previously known, allowing correct definition of its upper and lower boundaries. A new detailed lithostratigraphic classification and as well as new terminology for subunits of the seam have been developed by applying chemical, mineralogical, and lithological methods. As a result of recent studies, a total of 8 distinct OS layers (named from bottom to top as A, B1, B2, C, D, E1, E2, and E3) and 3 dolomitic interlayers (A/B, B/C, and D/E, which serve as significant markers for correlation purposes) were defined. The OS layers are each chemically and mineralogically uniform throughout the survey area. The defined units control variation of the energetic value and, thus, are vital for design of mining and thermal processing technology as well as for the sustainable development of the deposit in general.