

### 12.3

#### **Oil shale, tar sand and asphalt deposits of Buton Island, southeast Sulawesi Province, Indonesia**

Mr. Hadiyanto, S.M. Tobing, Hendro Fujiono

*Center of GeoResources, Geological Agency, Ministry of Energy and Mineral Resources  
Republic of Indonesia, Bandung, West Java, Indonesia*

An assessment team from the Fossil Energy Functional Group of the Center for GeoResources (CGR) conducted a preliminary study of the asphalt/tar sand in Buton Island to estimate the oil shale resource and to recommend further exploration methods for the development of this resource in the future. Buton's asphalt/tar sand is categorized as an oil shale of the hydrocarbon or solid/semi-solid type that naturally occurs within porous media or rocky cracks. The preliminary study mainly used secondary data from reports of previous fieldwork in this area. There are two forms of oil shale in Buton, primary oil shale (Winto Formation) and secondary oil shale in the form of asphalt rock/tar sand (Sampolakosa and Tondo Formation). With a retorting system, the primary oil shale may be considered as an alternative energy source. The secondary oil shale has been used for road construction. The hypothetical resources of the primary oil shale is 159.5 million tons (million barrels of crude oil) while the hypothetical resources for the secondary oil shale in the belt of Sampolakosa is about 3.6 billions tons of asphalt, equivalent to 226.4 millions barrel of crude oil. Refraction seismic method is recommended for further study of the major geologic structures whereas the resistivity method is recommended for further study of the asphalt/tar sand distribution.