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17.3 **Environmental and Operational Aspects of an Oil Shale Industrial Plant in Brazil**

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The Company started the development of its oil shale process – PETROSIX®-, tailored to the oil shale from the Irati Geological Formation, in the 1950s, and has been operating an industrial plant in south Brazil since 1991. The industrial plant, called MI (Industrial Module), has already produced more than 20 million barrels of oil. In the oil shale complex, beside the industrial plant, the Company has got a prototype plant and laboratory facilities in order to conduct research and development, aiming to keep the oil shale processing technology updated. The prototype plant and laboratory facilities also allow the Company to research and develop the adaptation of the PETROSIX® to shale from different geological formations. This paper will provide an overview of the oil shale complex in south Brazil and will also present data and figures of the main equipment involved in the PETROSIX® industrial plant, focusing on reliability, operational results and environmental issues. In order to continue the oil shale operations, a new shale mine is currently being developed and will be in operation in 2009. This article reports the measures the Company has been taking in order to mitigate the social and environmental impacts of the mining operations, the land reclamation practices aiming to return the mined areas as close as possible to the original condition and the disposal of the process waste (spent shale) together with the city garbage into the mine pits. It shows that the remediation process starts since the beginning of the mining activities and continues even after the mine exhaustion. Other characteristics of the PETROSIX® process such as the pyrolysis of tires and the agricultural application of some of its by-products, especially water, will also be focused.

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