

4.3 **Environmental Review of Selected Oil Shale Technologies**

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The re-emergence of interest in oil shale development resulting from the high costs of conventional energy sources has raised concerns about the environmental consequences of extensive oil shale development. Because of these concerns, the National Energy Technology Laboratory (NETL) of the U.S. Department of Energy (USDOE) is conducting an extensive environmental review of potential oil shale technologies. The technologies being reviewed include previously tested and emerging technologies such as Shell's In Situ Conversion Process. The review will evaluate potential risks for groundwater, surface water, and air contamination. Other environmental concerns such as land usage (footprint), water requirements, and power requirements will also be addressed. This report will provide a summary of the review through September 2008. The report will provide a ranked environmental comparison of emerging and previously tested oil shale technologies. Oil shale technologies being reviewed include the technologies selected for Federal leases under the recent solicitations endorsed in the Energy Policy Act of 2005. The technologies selected under this solicitation are the Shell (three variations), EGL, and Chevron processes. Except for the Shell process, these processes have not been field tested. Review of historic and previously tested technologies such as the Paraho and In Situ Combustion processes also will be discussed for comparison. Qualitative assessments and, if possible, quantitative assessments will be provided to support the rankings.