PROCESS MODELING AND PILOT TESTS FOR FUSHUN RETORT

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Computer modeling provides great time saving in the research and development of oil shale processing technology. Possible scenarios for different process conditions can be investigated and design mistakes in early stages can be avoided. In this paper, computer modeling has been applied to the analysis of the Fushun vertical retort process. Mass and heat balances are achieved and compared with the data obtained from pilot tests. The results of the simulations show reasonable agreement with the data obtained in pilot tests. The results lay a foundation for further investigation of process scale up, process operation and design optimization. The methods and the results of the modeling simulation is described and discussed in the paper.
This study has revealed a valuable simulation tool and skills in applying a commercial process simulation program in oil shale technology development with knowledge accumulated from operation of a real plant. This study has showed that modeling analysis is helpful in understanding the chemical reactions that occur inside the retort. The application of computer modeling to other oil shale conversion processes could be carried out in order to get more understanding and improved performance.