

GAS COMBUSTION RETORTING PERFORMANCE  
IN A LARGE DEMONSTRATION RETORT

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ABSTRACT

The performance of the Gas Combustion oil shale retorting process has been tested in a large demonstration retort (60 sq. ft. cross section) at rates up to 360 tons per day. Satisfactory operations were demonstrated on two shale sizes -- 1 to 2-1/2 inch and 1/4 to 2-1/2 inch -- at shale rates up to 500 lbs/hr/ft<sup>2</sup>. Yields obtained were those which would have been predicted from operation of small pilot units. Conversion of organic values into oil and gas totals about 85% of that in raw shale; however, a substantial quantity of this is utilized in the internal combustion contributing to a loss in useful products. A number of operating limitations were found with the process so that commercial application would have to be restricted to rather narrow limits. The configuration of retort internals also influences process operability, which makes demonstration of proposed modifications in large scale prototype equipment desirable prior to commercial application.

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