

STRATEGIC PETROLEUM RESERVE WEST HACKBERRY CAVERN 111 OIL LEAK TEST

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ABSTRACT

An oil leak test was conducted on West Hackberry Cavern 111 from November 29, 1988 through August 18, 1989. The test was the final step of a plan to evaluate the integrity of the cavern for continued leaching and/or oil storage. Early in 1988, the cavern experienced an unexplained oil/brine interface rise during routine leaching operations. In part because of the past history of the cavern, leaching was suspended and an investigation into the cause of the interface movement began. A nitrogen well leak test determined that the cased well and borehole had mechanical integrity and were not the cause of the interface rise. The cavern oil leak test indicated a loss rate that is within the tolerance range of the capability to measure and calculate leak rates. Based on the test results the cavern is suitable for oil fill, requiring only normal integrity monitoring.