

#### 4.4 **Successful Test of a Frozen Ground Barrier to Flow**

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An in situ oil shale project depends on effective control of subsurface water flow. Elements of a successful test to construct and operate a frozen barrier for the control of water at a western Piceance Basin test site are discussed. The frozen barrier was constructed from very accurately drilled holes that were chilled by circulating concentrated calcium chloride brine through HDPE pipe inside steel tubulars. We discuss the methods used for monitoring the closure of the frozen barrier. After closure, the free water within the barrier was drained and heaters at the center of the pattern were then used to convert some kerogen within the frozen barrier. After the shale oil was produced, the MIT site was remediated by steam distillation and the freeze wall was allowed to thaw.