

LABORATORY TEST RIG FOR COMBUSTING ESTONIAN OIL SHALE IN CIRCULATING FLUIDIZED BED

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The designed laboratory test rig allows investigating oil shale combustion in circulating fluidized bed. The behavior of oil shale ash micron-size particles was studied with the purpose to estimate the fouling of heat-exchange surfaces. The samples taken from special points of the test rig were analyzed to trace sulphur capture in circulating fluidized bed. There are few successful studies made in full-scale high-temperature conditions on the test rig with circulating fluidized bed. The test data enable, to a certain extent, to prognosticate operating conditions of heat-exchange surface and sulphur capture. The success in understanding oil shale behavior, fouling, and sulphur capture needs future research on combustion in circulating fluidized bed.

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