

# Fuel for Thought

## QER Test Unit Starting Up

It's been a busy few months, completing construction and starting up our locally built 'retort feed test unit'.

As I've mentioned before in this column, the purpose of the unit is to test and refine the ore feeding mechanism at the top of our retort.

The 'retort' is the core process of QER's operation, where oil is produced from the fine grained, organic rich rock, located north of Gladstone and at a few other locations around Central Queensland.

If you can imagine, the retort is really just a simple silo, with a bed of rock slowly moving downwards. Hot gas is injected in at the side and moves up between the rock particles. The hot gas heats up the rock, which then transforms the organic matter into a fine mist of oil.

This oil mist (along with some water vapour) is carried by the gas up to a pipe near the top of the retort and it is then condensed into liquid oil. The oil is separated from the water and then refined into retail quality transport fuel – mainly diesel and aviation fuel.

The test unit we are running will help us test and refine the way we feed the rock in at the top of the retort. The rock particles range in size from 10mm to 40mm and for the process to produce the maximum amount of oil, the different rock sizes need to be as evenly distributed as possible. Our test unit rotates at the top of the retort, evenly distributing the rocks. This means that gas can move evenly upwards within the retort, resulting in the most efficient production.

We have only done a few commissioning runs, but so far, so good.

We have already made a few minor refinements to the unit, and it seems to be working the way we expected.

We'll be running a series of trials over the next few months to continue to demonstrate and refine the design. We'll keep you in the loop as the project progresses!



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Creating new fuels for Australia

[www.qer.com.au](http://www.qer.com.au)

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