

Case Study

The worlds largest treatment facility for recovery of drilling fluids



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Imagine – Zero industrial waste ... !

Drilling oil recovery from drill cuttings XXL

by econ industries VacuDry® indirect heated vacuum distillation

The two largest oil & gas companies in Azerbaijan engaged econ industries to design and build the world's largest recycling facility for drilling mud. The brand-new Waste Management Center is located south of Baku and consists of two VacuDry® 12,000 x 2 plants, capable of treating 240 tons of drilling mud daily. The plants were manufactured in Germany and from there shipped to Azerbaijan for erection and commissioning in 2016. The complete scope was managed and supervised by econ's engineers who also trained local staff for the 3-shift operation.

The vacuum distillation process involves temperatures below 250 °C and a partial vacuum at 50 mbar. This unique combination of vacuum, low process temperatures and nitrogen blanketing ensures low energy consumption and the highest quality of the recovered oil. Together with a highly energy efficient thermal oil heating unit, it enables a very low energy consumption.

The VacuDry® technology is flexible regarding the type of input materials, hence the plant was designed to also treat contaminated soil and other industrial wastes. The centralized treatment facility is the most economic and environmentally friendly solution due to low treatment costs, high value of recycled synthetical drilling oils, extremely clean solids & water and a low carbon footprint.

Performance data

■ Vacuum dryer type:	4 x VacuDry® 12,000
■ Batch size:	4 x 10,000 litres
■ Throughput capacity:	10 t/h
■ Heating system:	2 x 2,000 kW / 350 °C thermal oil units, heated with natural gas
■ Operating pressure:	50 - 800 mbar (abs)
■ Output material:	TPH C10—C40 < 1,00 mg/kg



Shipping of 4 VacuDry® 12,000



Output: Recovered liquid



Output: Treated solids

Design characteristics

- Highest flexibility - no limitation regarding oil, water and solid content
- High quality of recovered drilling oil - low temperature, vacuum and nitrogen prevent deterioration of oil
- Low energy demand - highly efficient thermal oil heating and vacuum system
- Full process control - due to online monitored batch process
- Highest safety level - CE and ATEX certified
- Low wear and tear - few moving parts, low friction and slow-moving agitators