

Case Study

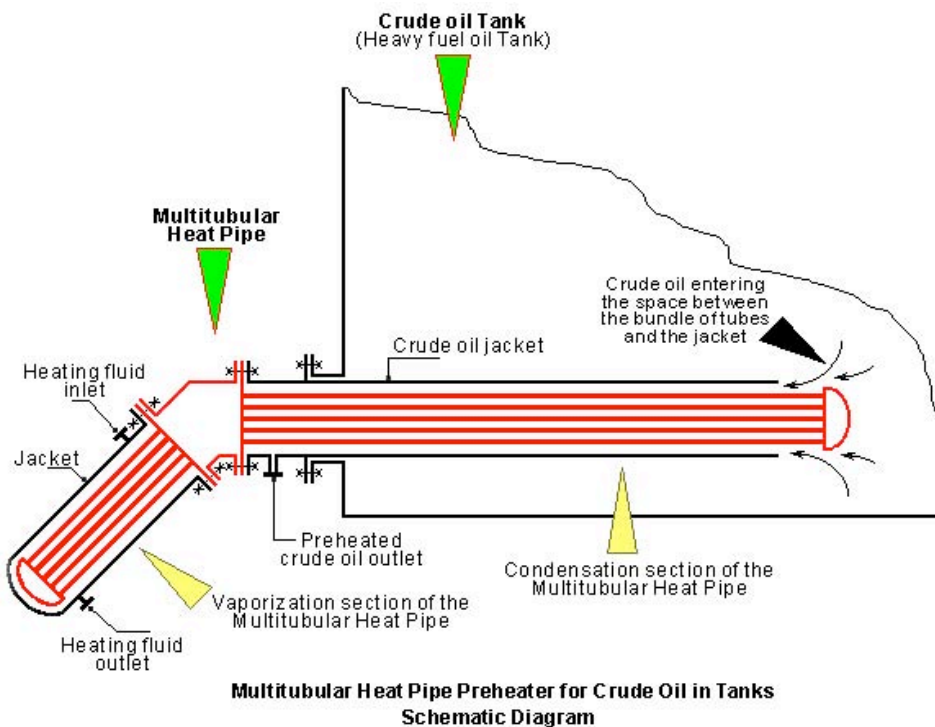
Client - Oil Refinery – Eastern Europe

Project – Heavy Oil Pre-Heater

As part of an overall facility upgrade this major oil refinery decided to seek ways of reducing its heavy oil pre-heating costs. A proposal was submitted that would enable waste heat from the refinery to be used as the source to safely pre-heat the stored heavy oil. The solution proposed the use of a gas to water recovery unit coupled to two heat pipe based oil pre-heaters connected directly to the exit points of the heavy oil storage tanks.

The technical solution offered 2 significant benefits over traditional direct fire burners

1. **Safety** – The oil pre-heaters are heated by hot water and offer no possibility of ignition as in the case of traditional direct fire burners
2. **Cost Saving** – As the heat source is waste heat the oil is pre-heated at no fuel cost. Also the design of the oil pre-heater itself is optimised so that only the oil exiting the tank is heated thus avoiding the need to pre-heat the static content of the storage tank



The proposed solution was implemented in phases and with minimum disruption to the plant and has fulfilled all the objectives set for it and more.



A significant additional benefit is the low maintenance requirement of the oil pre-heater. Its simple structure and passive nature allow it to operate with minimum ongoing maintenance thus further reducing ongoing operating costs.



Figure 1 - Fully installed dual oil tank pre-heaters