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CENTRAL TESTING LABORATORY
CRUDE OIL ASSAY

A place of knowledge and excellence!
**CRUDE OIL ASSAY**

- Crude oil assay (COA) represents a set of data which comprises distillation curve, the physical-chemical properties of crude oil and oil fractions and their yields. Data is obtained by the crude oil distillation process in laboratory conditions.
- The greatest advantage and importance of COA is to provide accurate information on the characteristics of crude oil and fractions to the customer.
- Possibility of gas condensates, crude oil and oil blends distillation.
- COA preparation is carried out in accordance with international standards and methods developed by accredited INA Laboratories.
- Central Testing Laboratory (CTL) is unique in INA Group and MOL Group in COA preparation.

**Why COA preparation?**

- COAs have essential role in the technical and economic evaluation of crude oil.
- Data from COA is being used during defining process parameters and refinery operation optimization.
- COA contains a detailed characterization of crude oil and crude oil fractions obtained on the results of laboratory analysis and indicates the quality of future products.
- There are no identical crude oils, each crude oil has unique physical and chemical properties and quality differences.
- The physical-chemical characteristics of crude oil change over time, so it is necessary to control the quality of crude oil at certain time intervals.
- In petroleum industry there are increasing demands on: environmental protection, crude oil reserves reduction, crude oil quality.

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**TECHNICAL DATA**

In CTL two distillation units are installed and continuously working:

1. **EuroDist TBP (Figure 2)** – according to ASTM D2892 method:
   - Atmospheric distillation, AET = 370 °C
   - 15 theoretical plates
   - Cut adjustment every 5 °C
   - Sample volume up to 14 l
   - Completely automatic and maximum flexibility

2. **EuroDist Potstill (Figure 3)** – according ASTM D5236 method:
   - Vacuum distillation, for hydrocarbon mixtures with initial boiling point >150 °C
   - AET = 550 °C, pressures 1 mmHg and 0.2 mm Hg
   - Sample volume up to 4 l

TBP and Potstill distillation data can be merged into one single distillation report – distillation curve from 15 up to 550 °C.

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**INA’S COA BASE**

- Since 2010 over 60 different crude oils and blends were analyzed and over 120 COAs were prepared.
- In CTL unique INA’s COA base was created.

- Blends: 9%
- Middle East: 14%
- Former Soviet union: 24%
- North Africa: 18%
- Domestic Croatian: 15%
- Others: 20%

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**Crude oil and crude oil fractions**