

BPMARRK™: An intelligent device for predicting refining characteristics of oil

BPMARRK™ is an intelligent device developed by Corporate R&D of BPCL for prediction of detailed refining characteristics of crude oil. Typically, refining characteristics of crude oil consists of key information such as TBP distillation yields (wt % & vol %), distillate quality, hydrogen consumption in hydroprocessing, residue-potential and crude oil/blends selection for diverse business decisions.

The innovative product based on mathematical co-relations uses only four properties to provide detailed crude oil assay which has been done first time in the world. With this tool crude oil characteristics can be estimated in a short time i.e. < 1 hour compared to conventional method which typically takes 240 hours. In order to get realistic assay for every crude oil parcel / mixture of two or three crude oils, only four physical parameters data is required as an input which is then fed into **BPMARRK™**. Before commercial implementation, the methodology was tested and validated with more than 100 different crude assay analyses. This is useful for regular monitoring, planning, controlling and operating decision making related to crude oils.

BPMARRK™ 6 nos. licenses have been provided to four BPCL refineries, Supply Chain Optimization and International Trade departments. The product is valued at Rs. 80 Lakh per device per license key for 100 detailed crude characterization reports generation. BPCL is exploring business opportunities to exploit innovation in the oil industry globally.

In the year 2014, the present invention has conferred with Special Commendation Award for "**Innovator of the year – Team**", by *Petroleum Federation of India*. ASTM suggested this invention for new standards and certification in **ASTM D02.04 K section**.

BPMARRK™ has been patented in India, USA, Europe and Africa. The intelligent device has been indigenously manufactured for commercial use qualifying for **MADE IN INDIA INITIATIVE (Product Innovated And Produced In India)**.

