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**THE DEVELOPMENT OF A PORTABLE INSTRUMENT AND AUTOMATED DATA
PROCESSING SOFTWARE TO PREDICT/CONTROL HEAVY FUEL OILS
STABILITY/COMPATIBILITY CHARACTERISTICS**

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Baker Petrolite has developed a portable instrument to predict the stability and/or compatibility of heavy fuel oils. This paper presents recent instrumental developments, progress on implementation of an automated data collection, and processing software that allows the user to obtain faster and reliable results.

Heavy fuel oils, also known as # 6 oils or residual fuels and heavy opportunity crudes are lower grade fuels but very important resources for different industries such as: marine and power generation. Transformation of these resources into high economic values is typically done by either mixing them with high quality fuels or by blending lower quality fuels with higher quality ones. With new worldwide legislation changes, an increase in fuel quality specifications and requirements is predicted. One of the main quality characteristics of these fuels is to remain stable upon mixing with a high-grade fuel or compatible by blending different sources of low-to high-grade fuels.

This paper presents recent developments on a new optical tool with improved features relative to common methods currently available on the market. This instrument uses the onset of flocculation of asphaltenes as the primary parameter in assessing the stability/compatibility of these fuels. The key development has enhanced the following features: portability and robustness, faster data acquisition, integrated and automated design and ease of data processing. Data obtained with this new instrument, as well as comparisons with existing methods such as Hot Filtration Test (HFT) and TURBISCAN® turbidity analysis, will be presented.

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