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## Process Optimization for Value Added Products from the Bibiyana Gas Field Condensate

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Natural Gas Condensate, a low density, high API gravity colorless or light-yellow liquid hydrocarbons is generally found with raw natural gas produced from many natural gas fields. Globally, the composition of the condensates varies from field to field and each one has its own unique composition. Bibiyana gas field is the second largest gas field so far discovered in Bangladesh and the total reserve of gas has been estimated about 5.5TCF (Trillion cubic feet) and 30.7 million barrels of condensate. In this study the physicochemical characteristics of raw gas condensate of Bibiyana gas field, commercial motor spirit, kerosene and diesel fuel as well as products obtained from gas condensate have been carried out. Process optimization have been performed to produce motor spirit, kerosene and diesel from raw gas condensate based on boiling ranges. The experiments revealed that collected gas condensate contains more than 50% motor spirit (regular octane/petrol) in the boiling range of 21-145°C, 23% kerosene in the boiling range of 140-221°C and 24-25% diesel in the boiling range of 178-335°C with small amount of residue and system loss. The characteristics of different obtained fractions (Motor spirit, Kerosene & Diesel) are very comparable to commercial products available from nearby fuel pump station supplied by Meghna petroleum which is fulfill the Bangladesh Standard and Testing Institute (BSTI) standard. The octane number of motor spirit could be increased by adding 5% of supper octane or ethanol or MTBE. The improved motor spirit as well as fractionated value-added products could directly be used as transport fuel and contribute in saving foreign currency of the country.

**Keywords:** Bibiyana gas field; Gas condensate; Boiling Point; BSTI; Motor spirit (Petrol); Kerosene; Diesel; MTBE & Super octane.

### Biography:

S.M. Asaduzzaman Sujan is currently serving as a **Senior Scientific Officer** in the Institute of Fuel Research and Development, BCSIR, Ministry of Science and Technology, Bangladesh. He is also a PhD fellow in the department of Environmental Science, Jahangirnagar University, Bangladesh and have been completed his M.Sc and B.Sc from Dhaka University. In his career, more than 21 research articles published at peer reviewed journals. Besides this he has completed 2 projects (\$2.5 million) as a **Project Director** funded by Bangladesh Climate Change TrustFund. Now he is working as an **expert (Consultant)** in the **World Bank** Project under Ministry of Environment and Forest, Bangladesh.