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SOME ENVIRONMENTAL ASPECTS OF DURI STEAM FLOOD PROJECT

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ABSTRACT

The Duri Steam Flood (DSF) Project was implemented to increase oil recovery from the Duri Field in Riau Province, Sumatra, Indonesia. The Duri field reached a maximum of 65,000 BOPD under primary production and is currently producing about 300,000 BOPD from the DSF tertiary recovery project. Approximately 1,300,000 barrels of water are recovered, treated and converted to 80% quality steam for injection per day.

The DSF Project has brought significant economic benefits to the Company and Government of Indonesia (GOI); but it has also presented environmental challenges to the Company to meet emission quality standards and to monitor the operations of this project. This paper will discuss some efforts that CPI has been carrying out successfully to meet environmental quality standards and GOI regulations.

For example, to reduce hydrocarbon discharges to the atmosphere which are produced through the production well casings, CPI has installed about 70 aerial coolers which function as hydrocarbon condensers in the Duri Field area. The value of those

coolers exceeds ten million US Dollars. Besides the above example, CPI has successfully constructed numerous other projects in order to reduce environmental impacts which are inherent with the DSF operational processes.

Examples of CPI's air and water quality monitoring programs are :

1. Air quality monitoring program monitors air quality of emission testing in ambient air (NHMC and H₂S levels) and in the workplace by use of a mobile AAQMS.
2. Duri Emission Inventory Project Program is used to identify major emission sources, perform qualitative analyses and do dispersion modeling.
3. Effluent Water Quality Monitoring Program monitors quality of ground and surface waters. Some of the qualities monitored are temperature, oil content (hydrocarbon and vegetable oil), BOD5, COD and Total Phenol.

This paper will discuss all of the above CPI efforts and commitments to ensure the Duri Steam Flood environment meets the GOI/MIGAS Environmental regulations.

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