

ACKNOWLEDGMENTS

AN INVESTIGATION OF VERTICAL MULTIPHASE FLOW CORRELATIONS
FOR AMOCO'S SAMAAAN FIELD.

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Data was collected from thirty (30) flowing pressure surveys done on gas-lifted wells in the Samaan Field, offshore East Coast Trinidad, operated by Amoco Trinidad Oil Company. These measured pressures associated with vertical multiphase flow were compared against pressures generated by seven (7) industry-accepted correlations. The correlations were the Baxendall and Thomas, Duns and Ros, Hagedorn and Brown, Camco Maracaibo Modified, Orkiszewski, Poettmann and Carpenter, and Ros and Gray. Two methods of comparing the correlations were employed, the Percent Difference (Deviation) and the Absolute Gradient Error methods. The Hagedorn and Brown correlation gave the best match with the measured pressures. Additionally, a simple one-dimensional equation correlating gas liquid ratio and pressure gradient was developed. This correlation can be used in the absence of computing power and working curves. The conclusions of this project will assist the production petroleum engineer to design, optimize and troubleshoot gas-lift installation with confidence.