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A COMPARISON OF CRUDE OIL RECEIPT AND DISTRIBUTION ISSUES BETWEEN WATER BORNE DELIVERIES AND PIPELINE DELIVERIES

Carl L. Brassow, Coastal Caverns, Inc., Houston, Texas

Abstract

Large cargoes of crude oil imported into the US marketplace have traditionally been delivered via large crude carrier vessels and offloaded into surface tankage. Recently, several proposals have been made to construct dedicated pipelines from Canada to various points within the US for the delivery of heavy Canadian crude oil. Construction of new surface tankage is considerably more expensive today than in the past, and with the large volumes of capacity needed by these pipelines, cavern storage for receipt, storage and distribution has become increasingly economically attractive. The receipt of multiple grades (segregations) of crude oil at a continuous high rate of delivery coupled with the requirement of emergency storage creates certain operational complexities that differ from the traditional methods utilized in conjunction with surface tanks. This paper outlines a preliminary concept of operations for caverns and compares them against surface storage operations. Proposed conceptual process flow diagrams are presented along with a schematic cavern construction diagram.