UK P&I CLUB

Ship Type: Tanker **Trade Area: Sudan**

Bulletin 160 - 10/00 - Nile Blend Crude Oil Problems - Ex Marsa Bashayer - Sudan

We have recently experienced an incident involving a very high ROB arising on one of our Members' ships after discharge of a cargo of Nile Blend Crude Oil loaded at Marsa Bashayer, Sudan. This is a new crude oil from recently developed oil fields in Sudan. The shipment of this grade by sea only started in September 1999 and its nature and the difficulties arising during its transportation are not widely known.

Nile Blend Crude Oil is a paraffinic crude oil with a high wax content, high pour point (+30°C to +36°C) and high wax appearance temperature (+39°C and above). The wax appearance temperature (WAT) or cloud point is the temperature at which waxy solids form by precipitation in the crude oil. At or below the WAT waxy solids will precipitate or settle out onto the tank bottoms and horizontal structural members. Once wax deposition occurs heating alone will not normally place the deposited wax back into suspension within the main body of the cargo.

As with all high wax crude oils, Nile Blend requires careful handling during loading, carriage and discharge with regard to the cargo temperature. Historically, pour point was relied upon as the indicator as to whether the crude oil required heating during carriage and to what temperature, experience showing that a carriage temperature of least 10°C above the pour point was required. However, the WAT is a more suitable indicator for the required carriage temperature for waxy paraffinic crude oils. The cargo temperature should not be less than 10°C - 15°C above the WAT at any time during loading, carriage and discharge to prevent wax deposition in the cargo tanks. Ambient conditions which may be encountered during the voyage should also be given consideration and may require the carriage temperature to be increased accordingly.

As was the case with the cargo transported by our Member, information regarding the wax content and WAT of the shipment may not be provided at the load port, which makes determining the minimum carriage temperature difficult. This data should be sought prior to or at the time of loading. In any event, representative samples of the cargo in each cargo tank should be taken by the ship and retained. In the case referred to, the cargo temperature (+ 33°C), in the shore tanks and of the cargo as loaded on board was significantly below the WAT. The cargo was maintained at this temperature for a significant proportion of the voyage under the instructions of the charterer. The result was that substantial wax deposition occurred in the cargo tanks resulting in the high ROB at the discharge port. The receivers may have exacerbated the problem and the degree of ROB by preventing the ship from conducting a COW programme during discharge.

With the continued development of oilfield technology it is expected that other new crude oils will be transported at sea that require careful handling. Information regarding required handling conditions should be sought from charterers as a matter of routine.

Source of the information:

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