



**U.S. Department of the Interior
Minerals Management Service
Gulf of Mexico OCS Region**

Notice No. 168

August 19, 1996

Twisted Valve Stem and Ineffective Level Safety High Result in Oil Spill

Recently, after a cleaning operation on a high-pressure separator, a manual ball valve on the drain line of the separator was thought to have been closed when the valve handle was turned to a position perpendicular to the valve body. However, because of a twisted valve stem, the valve was in fact left slightly open. High-pressure production then flowed through the drain line to an atmospheric sump tank. The tank was protected by a level safety high (LSH) located near the top of the tank. The LSH tubing inlet was located near the bottom of the tank. As oil entered the tank, water already present in the LSH tubing could not be forced high enough to actuate the LSH due to the difference between the specific gravity of the water in the tubing and the composite specific gravity of the oil, water, and probable emulsion in the tank. As a result, oil spilled from the tank without the actuation of the LSH.

Therefore, from consideration of this information, the following are recommended:

1. When it is operationally feasible, opportunities should be taken to check all manual valves periodically for holding capabilities.
2. LSH configurations on atmospheric tanks should be reviewed for effectiveness in the case of an upset condition as described above.