Synthetic Base Mud (SBM) Inadvertently Discharged Overboard

During mud removal operations to clean out the active mud pits in preparation for upcoming completion operations, the Driller noticed an abnormal fluid loss and shut down operations. It was discovered that 98 bbl of SBM was inadvertently discharged overboard into Gulf waters. All valves in the low pressure system were then shut-in to stop the unintended overboard discharge.

A BOEMRE investigation revealed the following:

- The transfer line had been added subsequent to initial rig construction, but the associated mud system schematic had not been revised to reflect this modification. Certain circulatory valves were also improperly labeled and identified.
- The drilling crew was unaware that the mud pit return line was aligned into the open overboard dump line from the reserve pits to the active pits.
- Drilling supervisory personnel did not assign anyone to trace the mud system lines to ensure that the proper mud cleaning flow path existed prior to initiating operations.
- Although a Job Safety Analysis (JSA) existed, the JSA was generic in format and did not cover personnel duties and responsibilities during the pit cleaning operations.
- No Lock-Out/Tag-Out (LOTO) policy existed for the mud handling system.

Therefore, the BOEMRE recommends Lessees and its contractors:

- Conduct a piping verification audit and labeling of the rig’s mud system to ensure the mud system schematic is accurate.
- Ensure that the pit cleaning JSA covers all aspects of the operation (including tracing the mud system lines/valves to ensure the proper procedures are followed), while including duties and responsibilities of the personnel involved.
- Consider the need for a LOTO policy covering overboard specific mud system components; e.g., shunt valve, reserve pit and transfer line valves, etc., while reviewing the need for rig-based mud system and pit cleaning operational training.
- Review Safety Alert No. 224 (a 165 bbl SBM dump valve release) that also discussed the need to correct plumbing and schematics.

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A Safety Alert is a tool used by BOEMRE to inform the offshore oil and gas industry of the circumstances surrounding an accident or a near miss. It also contains recommendations that should help prevent the recurrence of such an incident on the Outer Continental Shelf.