MMS Safety Alert

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

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Attempt to Stand Gravel Pack Assembly in Derrick Proves Fatal

Recently a completion string became stuck while it was being run into a well. The rig crew pulled the prepacked screen assembly out of the hole and attempted to stand it in the derrick. The five 20-foot joints of gravel pack assembly were stood back in the derrick, as one stand, but when the derrickman unlatched the elevators the screen assembly buckled. The bottom joint fell, hitting a floorhand in the head, and killing him. The second joint pierced the rig floor and the lower grating, while the three remaining joints fell out of the derrick and came to rest on the back wall of the drill floor and the production crane. As this was taking place, the derrickman fell backward, bruising his back.

According to the theoretical and actual buckling loads between joints in the gravel pack assembly, furnished by the equipment manufacturer, the buckling loads were exceeded at the first joint for the five sections of screen. In fact, the buckling loads would have been exceeded at the first joint for foursections of the screen, and even three sections of screen are very close to the calculated buckling loads at the first joint.

From this data, therefore, it is recommended that prepacked screen assemblies not be stood back in the derrick, but laid down as singles as they are removed from a well.