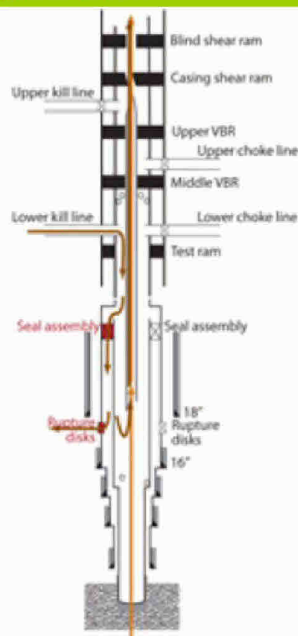


# BP's Analysis of Top Kill's Failure

## Scenario #3:

HC flow is up 9.7/8" casing (and possibly annulus as well) dominant mud flow though failed 16" rupture discs

- HC are flowing through 9.7/8" casing and possibly also through the 9.7/8" x 16" annulus.
- The casing hanger has lifted off its seat due to temperature and/or pressure and one or more rupture discs in the 16" casing failed during the initial event.
- Mud flow is down the casing and back up the drill pipe, and also down the 9.7/8" x 16" annulus. Because the annular flow path is open to the formation, this limits the maximum pressure that can be applied and prevents a successful kill.



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## Scenario #3 Supporting Evidence

HC flow is up 9.7/8" casing (and possibly annulus as well) Dominant mud flow though failed 16" rupture discs.

- Supporting evidence consistent with all Defining Observations 1 to 5.
- Max flow rate up drill pipe < 25 bpm.
- Max flow rate through 7/8" rupture disc openings ca. 60 bpm (six discs failed).
- HC flow continues up drill pipe throughout killing operations.
- Inconsistencies:
  - Pressure during remedial activities have been insufficient to fail discs. Disc(s) would need to have failed during the initial event.

**Conclusion: Possible and Plausible**



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