DRILLING MUD (also referred to as Drilling Fluids)
Questions & Answers

1. **What is drilling mud?**
   Drilling mud is used to aid in the drilling of wells into the earth's crust. Drilling mud serves many purposes including lubricating the drill bit to enable drilling, carrying the cuttings from the well to the drilling unit for processing, and maintaining pressure control of the well.

2. **How is drilling mud selected?**
   Drilling mud is specifically designed for each well, and for use in the marine environment in the case of wells being drilled offshore.

   It is recognized that some drilling mud will end up in the marine environment. Some quantity of drilling mud is routinely released with drill cuttings during regular drilling operations. Additionally, drilling mud could end up in the marine environment as a result of an accidental discharge, or during an emergency disconnect.

3. **Is drilling mud toxic?**
   The drilling mud used in the BP exploration well has been designed for use in marine environment. Drilling mud used must meet the CNSOPB's Offshore Chemical Selection Guidelines, which promotes the use of low toxicity mud components to minimize any potential environmental impact.

   The largest volumetric component of the drilling mud used for the BP exploration well is synthetic base oil, and the drilling mud is thus referred to as a synthetic base mud (SBM). The synthetic base oil is required to have a total polycyclic aromatic hydrocarbon concentration of less than 10 mg/kg, making it low toxicity in the marine environment.

   The drilling mud composition used for the BP exploration well can be found here.

4. **What is the environmental impact of a bulk drilling mud discharge?**
   Environmental fate and effects analysis will be required from BP as part of the investigation following the accidental release of the drilling mud.

   The fate and effects of drilling mud has been analyzed in many environments. The synthetic base drilling mud used in the BP exploration well is heavier than water, therefore it will sink to the seabed. As it falls to the seafloor, there is minimal potential for surface impacts to marine mammals, or seabirds.

   As discharged drilling mud sinks to the seafloor, trace amounts may disperse into the water column. The synthetic base oil and other components used in the drilling mud have a low toxicity, and the concentrations that may disperse into the water column would be very low, therefore the drilling mud would not be expected to have an impact on fish or other marine animals in the water column.

As the drilling mud settles on the seafloor, it may result in physical smothering of the seabed due to the coverage by the mud. The synthetic base oil contained in the drilling mud will biodegrade overtime.

For the BP well, videos of the seafloor in the vicinity of the wellsite were taken by a remote operated vehicle prior to drilling the well. No aggregations of coral or sponges, or any other environmentally sensitive features were identified on the seafloor. There were very few animals observed living on or near the seabed.