Summary of SilverWillow Energy's Feedback and Reservoir Containment Team's (RCT) Response on Technical Reports

Section	Stakeholder Feedback - Issue	Possible Solution or Recommendation	Rationale to Support Solution or Recommendation	RCT Response
Page 4, Section 5	IHS are not considered suitable for containing steam and heated reservoir fluids for the reasons outlined below. Changes in lateral and vertical facies associated with point-bar deposits make predicting the occurrence and continuity of mud beds within IHS successions difficult, even with good quality log and core data for well that may be spaced only tens to hundreds of meters apart. In addition, channel migration creates erosional surfaces that may deposit higher permeability sandstone adjacent to silty mudstone IHS.	IHS may not be considered suitable for containing steam and heated reservoir fluids in locations where the deposits are not continuous or where they contain eroded incised channels containing higher permeability sandstone.	In many instances within current operating SAGD projects, the Upper McMurray IHS and Tidal Flat HS are acting as the effective cap rock and are containing steam (see attached examples). This demonstrates that these deposits can have sufficient lateral extent and low permeability to effectively contain reservoir fluids over the normal distances associated with SAGD steam chambers (Collins et, al. 2011). Tidal flat Heterolithic strata associated with estuarine deposits can also be quite large and extensive (Sisulak, C.F. and Dashtgard S.E., 2010, Johnson, S.M. and Dashtgard S.E., 2012). As these deposits have demonstrated their effectiveness in containing steam at many operating SAGD locations and can be continuous over lateral distances larger than a SAGD well pad, their use as caprock to contain reservoir fluids should not be dismissed just because of depositional variability in some locations. Although these deposits can be eroded and variable in some locations, they can also be continuous, extensive and uniform in function in others.	The RCT agrees that the examples provided by SilverWillow indicate that on a localized scale, where the Clearwater shale is present, IHS can act as an impediment to steam rise. However the RCT continues to believe that changes in lateral and vertical facies associated with point-bar deposits make predicting the occurrence and continuity of mud beds within IHS successions difficult. As such. the RCT does not believe that the IHS in isolation has been demonstrated to be a caprock over a large area.
Page 4, Section 5	Interbedded sandstones and silty mudstones within the McMurray IHS can be inclined up to 12 degrees. The inclined higher-permeability sandstone interbeds may provide a pathway for vertical fluid migration.	Remove	Although IHS may be inclined up to 12 degrees and contain higher permeability sandstone interbeds, they may also be flatter, truncated by other on lapping shale breaks or tidal flat deposits that act as barriers to fluid migration (Zeito G.A. 1965). They may also contain bitumen within the pore space that acts as a barrier in itself to fluid migration. Under any normal SAGD pressures, steam within one of these interbeds would also condense before migrating sufficient distance laterally to extend beyond the entire thickness of the deposit.	The RCT agrees that IHS may have an inclination of less than 12 degrees. However, the RCT continues to believe that inclined higher-permeability sandstone interbeds may provide a pathway for vertical fluid migration.