CASE STUDY

Pure-Bore® use demonstrates excellent productivity on a highly deviated, multi-lateral Coal Bed Methane Well

Challenge
- Effectively stabilise a range of highly complex geological structures
- Maintain clean build and lateral sections
- Avoid downhole losses and minimise the ECD whilst drilling the long lateral sections
- Reservoir protection
- Ecological drilling fluid

Solution
- Pure-Bore® high performance mud system

Well Info
The operator drilled a 1,000m (3,280ft) deep vertical well which became the ultimate production well. The drilling rig was then moved 400m (1,312ft) and a further vertical well drilled. Working from the bottom up, the second vertical well was then side tracked 4 times, with each 1,500m - 2,000m (4,920ft - 6,560ft) lateral production section being drilled up-dip through the narrow coal seams, to maximise coal exposure whilst intersecting the original production well, to enable ultimate dewatering and gas production.

Challenges
Hole collapse potential in the unstable coal seams. Hole cleaning and pack off whilst drilling the extended reach laterals. Reservoir and environmental protection and ECD management to prevent downhole losses.

Solution
Drinking water approved and non-formation damaging Pure-Bore® drilling fluid was used to drill both vertical wells. Clean Pure-Bore® fluid was then carried over to drill each of the long lateral sections. Upon completion of each lateral section the Pure-Bore® drilling fluid was displaced to fresh water. The filtercakes were left to naturally biodegrade, leaving the native formation undamaged/unaffected by the Pure-Bore® reservoir drilling fluid.

Value Created
Pure-Bore® optimised hole cleaning in the long lateral sections, successfully controlling the ECD whilst preventing lost circulation with low drilling fluid costs. Excellent drilling rates and productivity were seen with clean stable laterals and very low torque and drag. **Ultimate reservoir productivity was some 25% greater than forecast** and only limited by the size of the surface production equipment, demonstrating significant benefit associated with the reservoir friendly Pure-Bore® drill-in fluid system.