

# Full suite of services utilised to optimize gas production and develop asset



**SOUTHERN CROSS**  
ENERGY



- **Location: Russia**
- **Sector: Unconventional Gas**
- **Services:**
  - **Geology & Geophysics Analysis**
  - **Reservoir Characterization**
  - **Reservoir Simulation**
  - **Well Test Interpretation**
  - **Gas Content & Isothermal Testing**
  - **Well Design (Drilling & Completion)**
  - **Production Optimization**
  - **Overall Development Plan**
  - **Project Management Services**

## Outline

Southern Cross Energy led a team of strategic partners to deliver a full suite of Upstream Engineering Services that concluded in delivery of an Overall Development Plan (ODP) and Drilling Pilot Project in Siberia.

## Challenges

Multiple well design, testing, drilling and completion technologies had historically been deployed across neighboring Greenfield operations with limited success. Inconsistent interpretation of well test data had led to incorrect completion and stimulation designs, and this resulted in significant reservoir damage along with poor production results.

As Coal Bed Methane was an emerging sector in this region, existing methodologies and associated regulations were based around an already well established conventional oil & gas industry. This saw significant challenges that were overcome before being able to operationalize the pilot.

## Solutions

SCE approached the project from multiple angles, firstly completing a comprehensive review of existing data for reinterpretation before moving to a more detail analysis phase. Production history matching, well testing reinterpretation, resource characterization combined with in house isothermal adsorption and gas testing was undertaken in order to recharacterize the resource. Furthermore, significant geological assessment was conducted with isopach modelling to facilitate the development of a new subsurface map and understanding of the resources area.

An updated geological and reservoir model enabled the development of an ODP with further optimize well placement. This additionally yielded benefits by enhancing the surface gas gathering infrastructure in a topographically challenging region. Multiple completion designs were utilized for various reservoir targets including under-reaming, fracture stimulation and horizontal / multilateral SIS wells.

The technology and methodologies outlined in the ODP were supported with a multi-well pilot campaign that included re-completion of existing wells, along with the drilling of several new wells. The program was successful in providing gas production optimization and introducing new technology and processes to the market.