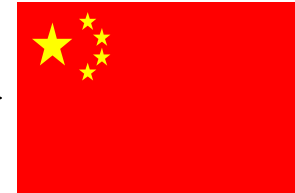

*Enhanced CBM/CO₂ Storage Micro-pilot Test
in the Anthracitic Coals of the
Qinshui Basin, Shanxi Province, China*

**John Robinson, Bernice Kadatz Sam Wong, Bill Gunter,
Alberta Research Council**

&

**Feng Sanli, Fan Zhiqiang,
China United CoalBed Methane Corporation**

China ECBM Project



**Canadian International
Development Agency
(CIDA)**

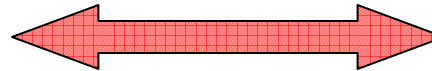
**Ministry of Commerce
(MOFCOM)**

**Canadian Climate
Change Development
Fund (CCCDF)
(CA \$ 5 million)**

**China United Coalbed
Methane Corporation
Ltd. (CUCBM)
(CA \$ 5 million)**

**3.5 - year CA \$ 10 million Project
(Started March 2002)**

Participants



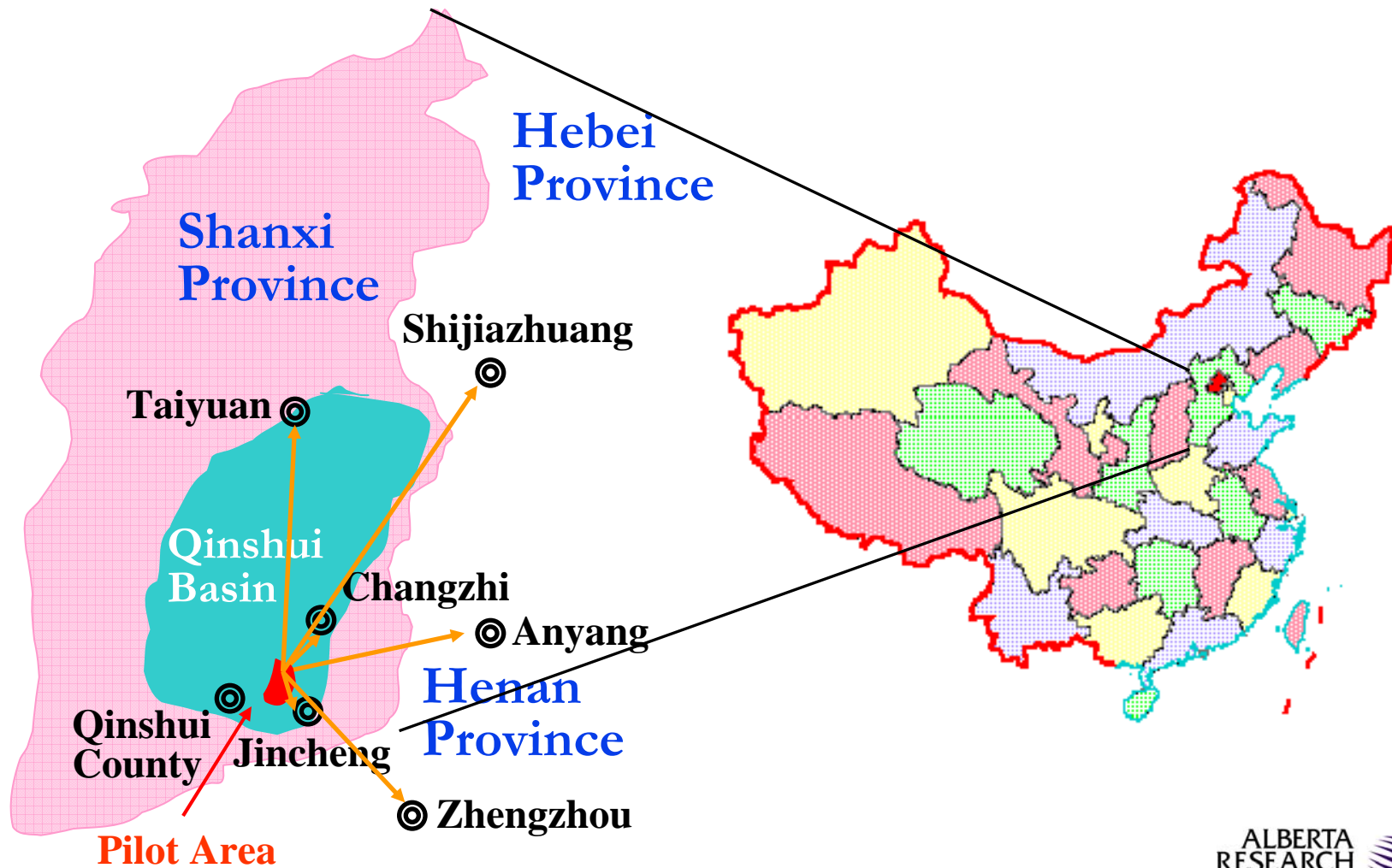
CIDA

Canadian Consortium:

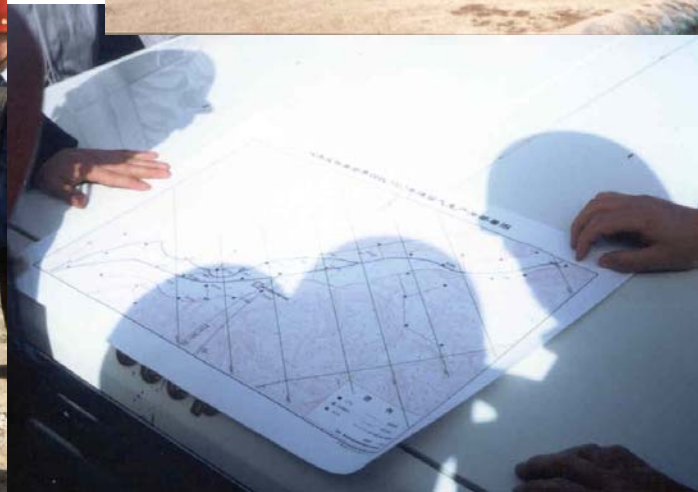
- **Alberta Research Council (ARC)**
- Sproule International Ltd.
- Computer Modelling Group (CMG)
- SNC-Lavalin Inc.
- Computalog
- CalFrac Well Services
- Porteous Engineering

- China United Coalbed Methane Corporation Ltd. (CUCBM)

Demonstration Site Location



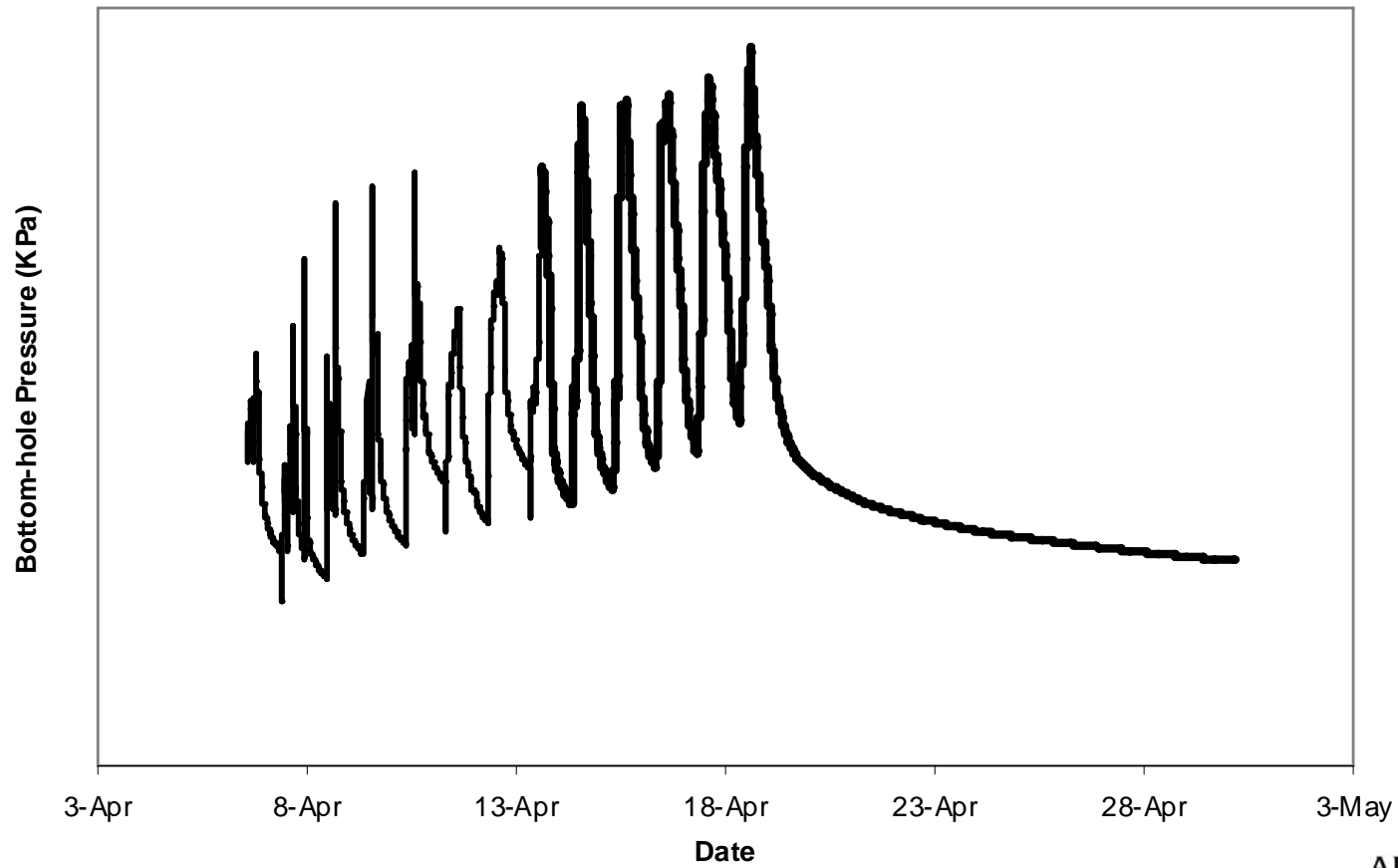
Site Visit



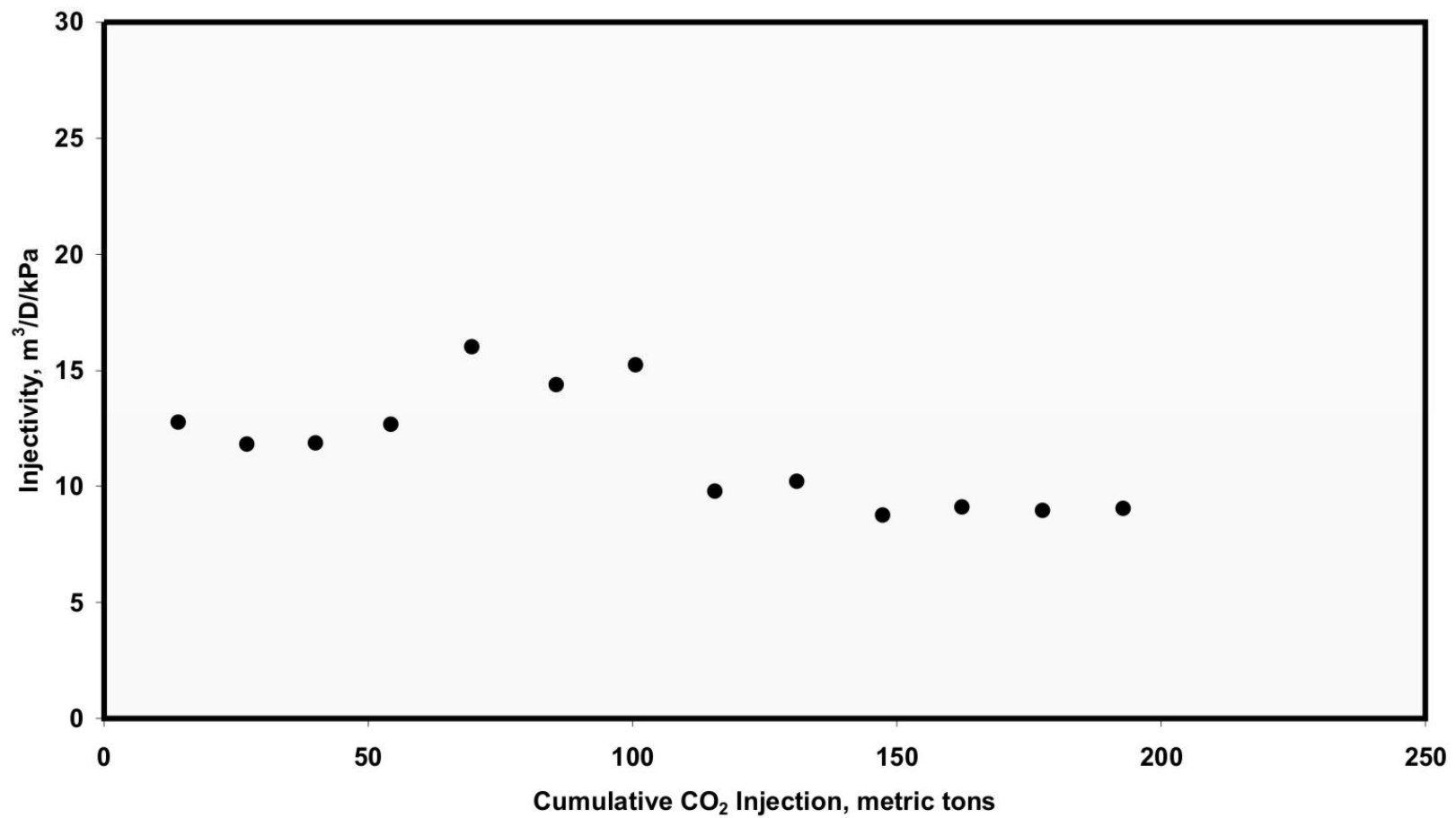
Injecting Liquid CO₂



Bottom-hole Pressure Response During CO₂ Injection



Injectivity versus Cumulative CO₂



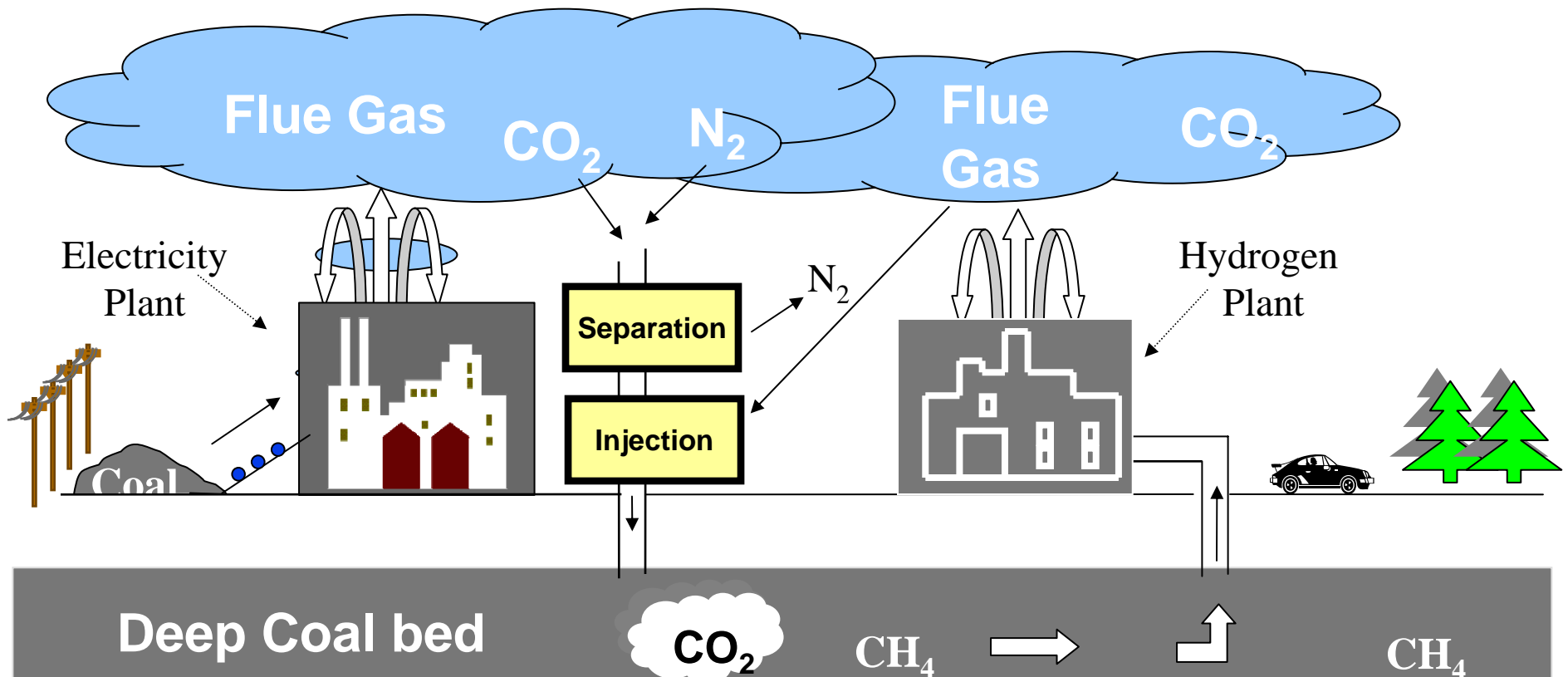
Summary

- **The single well micro-pilot test as conducted in the South Qinshui TL-003 well has been completed successfully and has met all the technical objectives of the micro-pilot test.**
- **The history matching of the dataset from the micro-pilot and the simulation prediction for the multi-well pilot indicated a significant production enhancement compared to primary production, and that substantial CO₂ storage in the coal seam is feasible.**

Major Tasks for 2005

- Multi-well pilot design based on verification of Micro-pilot reservoir simulator predictions
- Initial commercial economic evaluation
- Training and technology transfer being conducted in Canada and China
- Initiate multi-well pilot project

The Future!



- Enhanced coalbed methane (ECBM) recovery
- Sequestration of CO_2