

# U-Gas News Report

## Unconventional Gas Activities in the World

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### ***COALBED METHANE & COAL SEAM GAS***

#### ***EXPLORATION DISCOVERIES***

##### **AUSTRALIA : WestSide expands its exploration program in Bowen Basin. — UG<sub>36-1</sub>**

WestSide Corporation Ltd announces the expansion of its 2009 coal seam gas exploration program in Australia, with up to 16 new holes now planned to be drilled in the Company's two Bowen Basin tenements. The program also has the option for five more wells in early 2010. The program aims to build on WestSide's initial gas reserves. WestSide Chairman Angus Karoll said "Our recent certification of 3P reserves in these areas has confirmed our assessment of the prospectivity of these assets". "Converting our certified 3P reserves into 2P reserves at Paranui and Tilbrook will support Petroleum Lease applications which will form the basis for commercialising these gas assets". WestSide and QGC each hold a 50% interest in ATP 688P and ATP 769P. (Oilvoice, August 13, 2009)

##### **CHINA : Enviro plans more wells. — UG<sub>36-2</sub>**

Enviro Energy International Holdings, plans to drill up to five wells of coal-bed methane/shale gas in Western China in 2009, and five more in 2010, a top company official said recently. Hong Kong-listed Enviro will invest some \$2.25 million in exploratory activities in China, especially in the Junggar Basin in western Xinjiang province, Chief Executive Officer Kenny Chan said. Commercial CBM production in the Junggar Basin could take place in 2011, he added. "Two wells were drilled in our PSC area last year. The basin is estimated to

hold 69 trillion cubic feet of gas resources," Chan added. Enviro could potentially supply the gas in the regional capital Urumqi in Xinjiang or feed the gas into the West-East pipeline, which runs from Lunnan in Xinjiang to Shanghai. The Junggar Basin project is a joint venture between China United Coalbed Methane Corp (CUCBM) and Terrawest, in which Enviro holds 65.58 percent and Petromin the rest. Terrawest owns 47 percent stake in the Junggar Basin while 53 percent by CUCBM. (International Business Times, August 20, 2009)

##### **INDONESIA : CPC studies coal bed methane project in East Kalimantan. — UG<sub>36-3</sub>**

Shih Yen-Shiang, Chairman of Taiwan's CPC Corp. said recently that the Company is studying coal seam gas exploration in Indonesia. CPC is conducting the coal seam gas feasibility study with its partners in the Sanga Sanga oil and gas production block in Indonesia's East Kalimantan, Shih said. The feasibility study will take two years, he added. "The gas in Sanga Sanga is being depleted, so we want to see if we can extract the gas from the coal bed," Shih said. The project would be CPC's first foray into coal seam gas (Dow Jones Newswires, September 2, 2009)



# Coal Mine Methane

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- Oleg Tailakov, Director/Head of Laboratory, Uglemetan/Institute of Coal and Coal Chemistry of SB RAS
- Yeen Chan, Project Manager, Green Gas International
- Anthony McClure, Managing Director, European Gas
- Neil Butler, Technical Director, Harworth Energy
- Tom Cairn, Director, Barclays Capital

#### KEY TOPICS INCLUDE:

- UNECE Activities in promoting CMM
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**INDONESIA : CBM Asia acquires stake of South Sumatra production sharing contract. — UG36-4**

CBM Asia Development Corp. announced recently that it has signed a Letter of Intent with Batavia Energy Inc. to acquire 48 percent of South Sumatra Energy Inc. ("SSE") which, together with PT Medco CBM Sekayu ("PT Medco"), holds a Production Sharing Contract for coalbed methane on a 58,349 hectare block located in the South Sumatra Basin (the "Sekayu Block PSC"), Indonesia. PT Medco Energi Internasional Tbk ("Medco"), operator of the Sekayu Block PSC, has forecasted that the first commercial coalbed methane production will begin in 2011 and peak in six years.

Indonesia's estimated coalbed methane resource is 453 trillion cubic feet of gas in place. The South Sumatra Basin, the largest coalbed methane basin in Indonesia, is estimated to contain in-place resources of approximately 183 Tcf. Under the LOI, the Company will earn a participation interest in Batavia's 31.5 percent working interest in the Sekayu Block PSC, and has committed to exploration and appraisal expenditures over the next three years to determine the commercial feasibility of coalbed methane production. (Rigzone, August 24, 2009)

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**INDONESIA : Arrow Energy signs production sharing contract for the Tanjung Enim block in South Sumatra. — UG36-5**

Arrow Energy entered recently into a Production Sharing Contract with the Government of Indonesia over the Tanjung Enim block in South Sumatra. Arrow has the majority contractor share of the PSC at 45% participating interest, and will be the operator of the block as agreed between its partners. Arrow's partners in the PSC are PT Pertamina EP (Pertamina) and PT Bukit Asam (Persero) TBK (PTBA), each with 27.5% participating interests. The PSC is 189 sq. km. in area, contains coal of bituminous rank and is of Miocene age. Arrow's regional geological modelling has highlighted this area as one of the most prospective for CBM in South Sumatra. (Oilvoice, August 5, 2009)

***PRODUCTION***

**CHINA : Greka Energy and ConocoPhillips in CBM joint venture agreement. — UG36-6**

Green Dragon Gas Ltd announced recently a farm-out agreement between its wholly-owned unit Greka Energy (International) BV and ConocoPhillips for the development of wells in its Chinese coal bed methane interests. Under the agreement, ConocoPhillips will make an initial payment of US\$20 million to Greka, and will fund up to a total of US\$30 million of capital expenditure on the development of surface-

to-inseam wells at the Shizhuang South, Shizhuang North and Qinyuan Production Sharing Contracts (PSC) before the end of 2010. ConocoPhillips will also have an option to continue into a second phase development plan by paying US\$120 million to acquire 50% of Greka's interest in three of its six Chinese coal bed methane PSCs. (Oilvoice, August 24, 2009)

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**China : Authorities want to encourage coal bed methane extraction. — UG36-7**

Zhang Guobao, deputy chairman of the National Development and Reform Commission said recently that China is working on ways to encourage large-scale coal bed methane extraction in efforts to improve coal mine safety. The measures would include higher subsidies for gas

extraction. He said the government will implement a policy to subsidize power suppliers who used coal bed methane gas to produce electricity and sell it to power grids. The State has set the goals of forming the capacity to extract 3.5 billion cubic meters of coal bed methane and produce 2 bcm by 2010. The National Energy Administration, led by Zhang, will be in charge of drafting and implementing plans for large-scale methane extraction and use in mining areas. Coal mine operators will be encouraged to use methane gas as fuel for residents' daily lives and for power generation, said Zhang. (Xinhua, September 3, 2009)

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### **CHINA : Far East Energy announces increased CBM production. — UG36-8**

Far East Energy Corporation announced recently that gas production in the Number 15 coal seam of its 1H Pilot Area in the Shouyang Block of Shanxi Province, China continues to rise. Far East also announced that preliminary results indicate that it may have discovered a second coal seam capable of significant gas production. Additionally, a parameter well some 7 kilometers distant from the 1H Pilot Area has started producing gas from the Number 15 coal seam and shows promise for production from the Number 9 seam. Gas production in the 1H Pilot Area has now risen to over 300,000 cubic feet, or 300 Mcf per day. Additionally, Far East recompleted a well in the Number 9 coal seam in the 1H Pilot Area on June 30th, and that well began producing gas from the Number 9 coal seam on July 15, 2009. Production in that well has generally ranged

between 20 and 37 Mcf per day since late July. Due to the quantity of gas being produced in the field, Far East has begun discussions with its Chinese partner, China United Coalbed Methane Co. Ltd. (CUCBM), regarding a gas marketing agreement that would allow Far East to jointly market its gas with CUCBM through a gas sales facility. Far East believes that any initial gas sales facility would be a compressed natural gas facility and would likely have a potential capacity to process 1 to 3 million cubic feet of gas per day. "We plan to begin negotiations for this facility after completing discussions with CUCBM for the marketing agreement, and believe we will begin gas sales in the last half of 2010," stated Phil Christian, COO of Far East Energy. (PRNewswire, September 8, 2009)

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### **INDIA : 7 Mmcm/day of coal-seam gas may be produced by 2013. — UG36-9**

D. N. Prasad, director at the Ministry of Coal, said recently that India is set to extract 7 million cubic metres a day of coal seam gas by 2013, as three more blocks go into commercial production. India now produces 0.15 mmscmd of coal-bed methane. "The commercial output in Madhya Pradesh will start shortly," said Prasad. Of the 26 CBM blocks allotted by India, the Raniganj block has already started commercial production while three more, Madhya Pradesh, Jharkand and West Bengal, will soon follow. (Reuters, August 19, 2009)

## **RESERVES**

### **AUSTRALIA : Bow Energy reports more CSG certified reserves in the Blackwater Field. — UG36-10**

Bow Energy Limited announced recently a major upgrade to the certified coal seam gas reserves for its Blackwater Field in Queensland's Bowen Basin. Independent consultants MHA Petroleum Consultants, LLC have certified 559 petajoules of possible reserves (3P) gas reserves for the Rangal

Coal Measures within the Blackwater Field, which is located in Bow's 100% owned Comet block (ATP 1025P). This represents a 385 PJ (321%) increase over the previous 3P reserves certified in the field and takes Bow's total net 3P reserves to 664 PJ. (Oilonline, August 17, 2009)



## **SHALE GAS**

### **EXPLORATION - DISCOVERIES**

#### **SWITZERLAND : Ascent Resources and Schuepbach Energy in exploration partnership. — UG36-11**

Ascent Resources plc recently signed an agreement with Schuepbach Energy LLC of Dallas, Texas, for an option to participate in the exploration of the Jurassic shales in Ascent's exploration and appraisal project in the Canton of Vaud in Switzerland. The option is exercisable in the event that Schuepbach drills a well to evaluate the potential for gas production from the shales. Schuepbach have an exploration concession in the Canton of Fribourg which adjoins

Ascent's exploration concession in the Canton of Vaud where Ascent hold a 90% beneficial interest with the balance held by SEAG of Switzerland. Ascent Managing Director Jeremy Eng said, "Shale gas has become a major contributor to gas production in the United States of America but has not been widely investigated in Europe. (Ascent Resources press release, September 2, 2009)

### **PRODUCTION**

#### **United States : DOE funds shale gas and CBM technology studies. — UG36-12**

DOE's Fossil Energy Office announced recently that The US Department of Energy's National Energy Technology Laboratory is supporting nine projects targeting environmental tools and technology for shale gas and coalbed methane production. It said the NETL projects' goals are to improve management of water resources, usage, and disposal; and to support science that will help the shale gas development regulatory and permitting process. DOE's share of the projects' total \$10.2 million cost will be \$6.9 million, it indicated.

- ALL Consulting of Tulsa will receive \$776,574 to go with \$334,496 it is providing for a 36-month project to help operators and regulators plan all aspects of water management associated with shale gas development.
- General Electrical Co. of Niskayuna, NY, will receive \$799,897 to use with \$199,976 of its money for an 18-month project to develop a low-cost mobile process to treat total dissolved solids in hydraulic fracturing operations' flowback water.
- A 32-month project at the University of West Virginia in Morgantown, which includes development of a pretreatment filter and associated elements for handling frac water returns from Marcellus shale wells is scheduled to receive \$609,619 from DOE.
- University of Arkansas at Fayetteville is scheduled to receive \$637,467 to use with \$179,517 which it has budgeted already for a 24-month project which would be used in the Fayetteville shale region. It said that the strategy is to develop a water management decision support system by modifying and integrating a state-of-the-art water resource simulation model with a modern enterprise geographic information system (GIS).
- The Ground Water Protection Research Foundation in Oklahoma City is due to receive \$845,923 to go with \$211,474 which it has budgeted to develop a new hydraulic fracturing module as an add-on for regulators and operators to use with GWPRF's risk-based data management system.
- Alabama Geological Survey will receive \$725,647 to use with \$314,316 it has budgeted already for a 36-month study aimed at developing a large, high-quality database and GIS to provide a basis for more efficient development of CBM reservoirs and identification of produced water in the Black Warrior basin.
- Altela Inc. of Albuquerque is scheduled to receive \$886,025 for use with \$912,316 of its own money for an 18-month demonstration of its AltelaRain technology to treat Marcellus shale produced and flowback water under state and federal regulations.

- University of Pittsburgh will receive \$794,225 to use with \$269,011 of the school's money for a 36-month evaluation of the potential for combining and treating two waste streams (flowback water and acid mine drainage) for reuse as a fracturing fluid. Some of the money also will be used to develop novel viscosity modifiers for water high in total dissolved solids.
- Texas Engineering Experiment Station at College Station will receive \$844,216 to identify an efficient and cost-effective pretreatment method of treating and re-using field-produced brine and fracture flowback waters. (Oil and Gas Journal, August 19, 2009)

## ***RESERVES***

### **CANADA : 3.9 TCF total estimated ultimate recoverable gas reported at Hamburg shale play. — UG36-13**

Mooncor Oil & Gas Corp. announced recently that BOE Solutions Inc. of Calgary, Alberta, has completed a comprehensive report, "Advanced Flow Analysis". The main objective of the study was to compare Mooncor's Muskwa Formation shale gas play at Hamburg in northwest Alberta with shale gas discoveries in the Horn River Basin of northeast British Columbia. BOE Solutions' "Advance Flow Analysis" for Hamburg Muskwa, a technical non-compliant NI 51-101 study, yields the optimal development scenario of 24 Bcf of liquids-rich recoverable gas per section (3 wells per section, 8 fracs per well) over 50 years, or about 40% of the estimated ultimate recovery for Horn River wells which will require 10 wells versus Mooncor's 3 wells.

Vastly greater permeability at Hamburg, however, leads to significantly better short term economic results with 5-year cumulative production of about 2.5 Bcf per well per section (3 wells, 8 fracs/well) compared to Horn River's 1.8 Bcf per well per section (10 wells, 8 fracs/well). Using the industry-standard GLJ price forecast and current Alberta Crown royalty incentives, Mooncor's optimal case horizontal development program for the Muskwa shale gas play at Hamburg yields a before-tax rate of return of about 21%. With 162 sections of 100% working interest land, Mooncor's Hamburg play could lead to about 500 new wells and about 3.9 TCF total estimated ultimate recoverable gas. (CNW, August 25, 2009)

## ***GAS HYDRATE***

### ***EXPLORATION - DISCOVERIES***

#### **CHILE : Gas hydrates research team seeks investors. — UG36-14**

The Chilean coastline, especially between Valparaiso (Region V) and Concepcion (Region VIII), makes for a perfect methane hotspot. This area makes up 3 percent of the world's methane reserves, but for many in the energy industry it sounds just too good to be true. In Chile, investors and the government are reluctant to get involved in methane drilling projects, mainly because the environmental impacts are widely unknown, and the extraction of the gas is a highly complicated and costly process. Juan Diaz, a doctor of geophysics from the Valparaiso Catholic University (UCV) who is leading a study to locate an ideal methane drilling area, believes this is a big opportunity for Chile. Since 2004 the UCV has carried out studies along the Chilean coastline. "We are looking for where the methane lies, how much of it is there, what types of rocks and chemical components are with it; if it is in a safe geological environment or if there could be collapses, as well as if there are marine communities that could be affected by the drilling," said Diaz. In 2004 the UCV team was hoping drilling would begin in Chile by 2008, but a lack of funds over the past five years has made it difficult for the university researchers to keep their project afloat. "A more advanced study with more funding, and focusing specifically on the daily energy-production potential, needs to be done," said Diaz. This would involve the construction of a drilling platform and a drilling test to determine how quickly it

might be possible to extract the gas from such great depths. But this requires money, something the team doesn't have. The investigators are currently relying on funding from Chile's Science and Technology Development Fund (FONDEF) which contributed \$200 million pesos (US\$361,000). But even with support from partners The National Oil company (ENAP), COPEC, The Natural Gas Distribution Association, and Geodatos, they still don't have enough support to carry out the appropriate tests. (Santiago Times, August 20, 2009)

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