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COALBED METHANE & COAL SEAM GAS

EXPLORATION - DISCOVERIES

CHINA: CSIRO and China United Coalbed Methane to launch ECBM pilot.–– UG47-1

CSIRO and China United Coalbed Methane (CUCBM) recently embarked on the joint demonstration project that will also seek to extract methane. According to CSIRO, Australia's national science agency, the project will focus on advancing enhanced coal-bed methane (ECBM) recovery. Director of CSIRO's Advanced Coal Technology research, Dr John Carras, said the ECBM project will trial new approaches to maximise CO_2 injection and methane recovery.

"ECBM wells are typically drilled vertically to inject CO_2 into coal seams, but this demonstration project will drill horizontally, meaning the entry point of the well is more directly embedded in the coal seam, which we predict will increase the flow rate of CO_2 for underground storage", said Dr Carras. The ECBM demonstration project builds on CSIRO's existing collaborations with China, which include supporting the launch of a post-combustion capture (PCC) pilot plant in Beijing and the first capture of CO_2 in China using PCC technology. (The Engineer, July 7, 2010)

INDIA: Tata Power and Arrow Energy plan to produce coal-seam gas by 2014.–– UG47-2

Tata Power Ltd. and Arrow Energy Ltd. plan to produce coal-seam gas from an area in central India by 2014. Arrow, operator of the Satpura block in Madhya Pradesh state, plans to drill 15 core holes and 2 pilot wells in the first two years of its exploration plan to start initial production of methane from 2014, Tata Power said in statement. India's Cabinet approved the award of seven coal-seam gas blocks on June 24, 2010 to companies including the Arrow-Tata venture Essar Oil Ltd., Oil India Ltd., and Great Eastern Energy Corp. India has coalbed methane reserves of at least 8 trillion cubic feet in five discovered blocks, the oil ministry said. The Satpura block may hold 900 billion cubic feet of gas, Tata Power said in a statement, citing an estimate by India's Directorate General of Hydrocarbons. Arrow Energy holds an 80 percent stake in the block, it said. (Bloomberg, July 6, 2010)

INDONESIA: CBM Asia announces joint operating agreement in Kutai Basin.–– UG47-3

CBM Asia Development Corp announced recently that through Kutai West Inc. it has entered into a Joint Operating Agreement ("JOA") with Newton Energy CBM Limited on the Kutai West PSC in the Kutai Basin, East Kalimantan, Indonesia. Kutai West Inc. is jointly owned by Ephindo IIthabi CMB Holding Inc. and CBM Asia on a 60/40 basis. Newton Energy will act as the operator on the block. The Kutai West JOA establishes the rights and obligations of participating interest owners in conducting exploratory and development programs on the block.

The work program for 2010 consisting of a minimum of four wells has been submitted and accepted by Indonesian Executive Agency for Oil and Gas Upstream Business Activities (BPMigas). Indonesia has one of the largest CBM resources in the world with a potential 453 trillion cubic feet in-place. Between May 2008 and August 2009, 15 CBM PSCs were granted by the Government of Indonesia. (CBM Asia press release, June 28, 2010)

PRODUCTION

CHINA: Far East Energy signs long-term gas sales agreement.–– UG47-4

Far East Energy Corporation recently negotiated a Gas Sales Agreement (GSA) with its partner, China United Coal Bed Methane Corporation (CUCBM) and Shanxi Provincial Guoxin Energy Development Group Co., Ltd. (SPG) to sell all production of coalbed methane (CBM) from the contract area covered by the Shouyang Production Sharing Contract. The price received by Far East for its gas will be 1.55 Rmb per cubic meter, including enacted and recently announced Chinese government subsidies, which equates to approximately $6.55 per Mcf at current exchange rates. "We are thrilled", said Michael R. McElwrath, CEO and President of Far East Energy. "This gas price is over thirty-five percent higher than current US gas prices, which are running about $4.80 per Mcf. This is one of the advantages of producing CBM in China, and we are pleased to sign a gas sales contract with a pipeline that has the capacity to take up to 40 to 50 million cubic feet per day of our Shouyang gas." The GSA is a 20-year agreement that provides that SPG is required to purchase all gas produced from the Shouyang Block up to 300,000 cubic meters (10,584,000 cubic feet) per day of CBM gas on a take-or-pay basis with any quantities above such amount to be negotiated pursuant to a separate agreement. This provision gives Far East and CUCBM the opportunity to negotiate a new contract for volumes above 10.584 million cubic feet per day at a time when a second pipeline may have been built to the area, and/or when gas prices may have risen further. The GSA does not have any minimum delivery obligations, but does commit all production from the Shouyang Block up to 300,000 cubic meters per day to SPG. Gas sales are expected to commence upon completion of Far East's in-field gathering system, which will interconnect with SPG's 18-inch diameter line in Shanxi Province that is currently under construction and is scheduled to be completed by September or October 2010. (Scandoil, June 17, 2010)

INDIA: Reliance Industries to develop several CBM blocks.–– UG47-5

Reliance Industries Ltd (RIL) recently floated a tender inviting expression of interest from companies that supply equipment to develop coal bed methane blocks. Reliance Industries has five coal bed methane blocks in the states of Madhya Pradesh, Rajasthan and Chhattisgarh. The company hopes to extract gas from these blocks and expects to drill 100 wells in the next five years to a depth of up to 1,700 metres.

Petroleum minister Murli Deora said recently that based on the current estimates and status of planned field development, CBM production in the country was likely to touch 7.41 million standard cubic metres per day in 2012-13. Twenty-three CBM blocks have been awarded in the first three rounds of auction. The fourth round was launched recently with an offer of 10 blocks covering nearly 5,000 sq km. (Telegraph India, July 7, 2010)

RESERVES

CHINA: CBM resources evaluated for a portion of Liuhuanggou Project.–– UG47-6

Petromin Resources Ltd. announced recently that Terrawest Energy Corp. has reported that a NI 51-101 and Canadian Oil & Gas Evaluation (COGE) Handbook compliant evaluation report on the CBM resources has been completed for a portion of its Liuhuanggou Project lands in Xinjiang, China. The report was completed by Norwest Corporation. The Report provides an

estimate of CBM Contingent Resources which ranges from (Low) 31.29 to (High) 244.18 billion cubic feet with a Best estimate of 68.26 Bcf for the evaluation area. Contingent Resources are the estimated recoverable of the estimated gas initially in place ("GIIP") and a recovery factor of 46.3% was used in the evaluation, taking into account the differing recovery estimates for different individual coal seams. GIIP ranges from (Low) 70.00 to (High) 514.07 billion cubic feet ("Bcf") with a Best estimate of 147.43 Bcf for the evaluation area.
The Liuhuanggou Project lands are unique in offering on the one hand a sequence of a few coal seams with great total thickness (3 main seams up to 50m total intersected thickness) in the J2X and on the other hand a sequence of 20-30 thinner coal seams in the J1B with aggregate gross thickness of over 25m. (PRNewswire, June 21, 2010)

NEW ZEALAND: L&M Energy announces coal seam gas operations update.–– UG47-7

L&M Energy Limited provide recently an update on the completed OM- 4 well located in PEP 38220 (Ohai) on the South Island of New Zealand. Following the completion of coring operations and subsequent suspension as a future production well, gas desorption testing of cores obtained from the well to date indicate that the Morley formation coals contain gas contents of up to 11m3 (dry ash free) per tonne of coal with isotherm testing confirming that the coals are fully saturated with gas. Gas composition is also excellent with methane levels between 97-99%. These results further support the existence of additional gassy Morley coals extending into the Company's adjoining permit PEP 38226 (Waiau), not currently included in the 173PJ of 3P reserves independently certified late in 2009. Pre-well planning is now underway for the drilling of a CSG pilot production project in the Ohai permit, scheduled to begin in September 2010, with a view to the Company certifying the first tranche of 2P CSG reserves early in 2011. (L&M Energy press release, July 8, 2010)

SHALE GAS

EXPLORATION - DISCOVERIES

AUSTRALIA: New Standard Energy expands gas exploration area in the Goldwyer shale.–– UG47-8

New Standard Energy Ltd recently secured additional exploration to increase its shale gas exploration footprint over the Goldwyer shale in the Canning Basin, Western Australia to in excess of 48,000km2.
The additional Canning Basin acreage awarded to New Standard is prospective for shale gas and comprises two awarded application areas, 1/09-0 and 2/09-0. In addition, New Standard has been notified it is the preferred bidder for acreage release area L08-8. In order to efficiently progress the exploration of the Goldwyer shale, the Western Australian Department of Minerals and Petroleum (DMP) and New Standard have agreed to amendments to some of New Standard's existing Goldwyer shale focused permits, EP's 450, 451 and 456. A partial relinquishment has been agreed along with substantial revisions to the work commitments and work programs over these acreage areas. (Scandoil, June 23, 2010)

CHINA: Sinopec to explore shale gas in Sichuan.–– UG47-9

China Petroleum & Chemical Corporation (Sinopec) announced recently that it will start explorations for shale gas in Southwest China through a newly-launched division. "The new department in Sichuan Province will try to achieve a breakthrough on shale gas explorations in three years and to realize industrial explorations in five years," the announcement said. Sinopec started evaluating shale gas exploration in Southwest China's Sichuan Province in April 2010, and its annual output may hit 2.5 billion cubic meters in five years, according to the China Business News. China's top oil and gas refiner plans to build 2.5 billion cubic meters of shale gas production capacity by the end of 2015. And the country has set goals to produce 30 billion cubic meters of gas a year from shale. According to estimates with the International Energy Agency (IEA), the world's shale gas reserves are about 456 trillion cubic meters in total, and China's exploitable reserves are estimated at 26 trillion cubic meters. China's potential gas-bearing shales are mostly located in Sichuan Province, North China's Inner Mongolia Autonomous Region and Northwest China's Xinjiang Uyghur Autonomous Region. (Global Times, July 2, 2010)

INDIA: Authorities to discuss shale gas cooperation with US Geological Survey.–– UG47-10

A team comprising oil ministry officials and the director-general of hydrocarbons (DGH) plans to go to Washington to discuss areas of cooperation. The Centre is likely to seek the assistance of the US Geological Survey to identify reserves, transfer technology required to tap them and finalise a policy for exploration within a year and a half.

The government plans to offer sites for exploration by 2012. DGH S.K. Srivastava said the oil regulator was working on a shale gas policy. 'Several basins in India are known to hold shale gas resources. Our focus is on three basins — Cambay (in Gujarat), Assam-Arakan (in the Northeast) and Gondwana (in central India)', he said. According to preliminary estimates, shale gas reserves in the country may be larger than proven conventional gas deposits. Srivastava said the country would need to change exploration laws to produce shale gas, because current licences do not include tapping unconventional sources. (Telegraph India, July 5, 2010)

INDIA: Stealth Ventures and ONGC to jointly evaluate unconventional resource plays and opportunities.–– UG47-11

Stealth Ventures recently entered into a Joint Study Agreement (JSA) Oil and Natural Gas Corporation (ONGC) to evaluate unconventional resource plays and opportunities in India. The objective of the JSA is to identify the unconventional resource plays within India, and a high priority has been given by both parties to identify high growth profile shale gas and CBM prospects. Stealth and ONGC will commence the evaluation process using ONGC's data base and land profile to identify near term shale gas, CBM and tight sand prospects, with a longer term view to be taken on the basis of the results that emerge from the initial stages of the study. Work is expected to commence by June 30, 2010. (New Statesman, June 16, 2010)

POLAND: Realm Energy awarded three shale gas concessions.–– UG47-12

Realm Energy International Corporation has been recently awarded three concessions in Poland. Collectively, the area extent of these lands, held by the Company, is gross 2,572 km2 and net 1,881 km^2. One concession, "Gniew", is held 100% by Realm Energy and the other two concessions "Ilawa" and "Wegrow" are held 50% by Realm Energy and 50% by Source Energy Partners ("SEP"), a private shale company. All concessions are located in the Eastern European Craton, targeting natural gas in Silurian, Ordovician and Cambrian Shales. In the Baltic

Depression, northern Poland, the Gniew concession, comprising 1,191 km², held 100% by Realm Energy, lays 70km south of Gdansk. The Ilawa concession, 652 km² lays 134km south east of the city of Gdansk and is held 50% by Realm Energy and 50% by SEP. Lands contiguous to Gniew and Ilawa are expected to undergo significant shale gas exploration activity in the near term. Some of the industry players holding adjoining lands include San Leon Energy Plc/Talisman Energy Inc., Marathon Oil Corporation and Lane Energy/Conoco.

The Wegrow concession, 729 km², located in southeast Poland in the Podlasie Sedimentary Basin is held 50% by Realm Energy and 50% by SEP and lies approximately 70 km northeast of Warsaw. The Silurian shales may lie at optimal depths for maturity and natural gas recovery, with TOC (Total Organic Carbon) measured by the Polish Geological Institute ranging from 1% to 17%. Lands, contiguous to Wegrow, have recently been licensed for hydrocarbon exploration by Exxon Mobil Corp., EurEnergy Resources Corporation and Cuadrilla Resources Holding Ltd. (Oilvoice, June 17, 2010)

POLAND : PGNiG starts hydraulic fracturing at its first shale gas well.—— UG47-13

Polskie Gornictwo Naftowe i Gazownictwo SA started recently hydraulic fracturing at its first shale gas well. Contractors from Halliburton Co. began the at the Makrowola-1 drilling site, 120 kilometers from Warsaw. PGNiG expects to make an initial estimate of the deposit's size in about a month, said Piotr Gliniak, head of exploration. 'We'll know in a year or two whether it makes economic sense to extract this deposit, and we could start production five years from now', he said. For the well to be profitable it must hold 'tens of billions' of cubic meters of gas, he said. Grupa Lotos SA, Poland's second-largest oil refiner, may "soon" get "several" exploration licenses, Deputy Treasury Minister Mikolaj Budzanowski announced. (Bloomberg, July 9, 2010)

UNITED STATES: Reliance Industries and Pioneer Natural Resources enter into shale gas joint venture.—— UG47-14

Reliance Industries Limited announced recently that its subsidiary, Reliance Eagleford Upstream LP, has executed definitive agreements to enter into a joint venture with Pioneer Natural Resources Company under which Reliance will acquire a 45% interest in Pioneer's core Eagle Ford Shale acreage position in two separate transactions. Pioneer and Newpek LLC, Pioneer's current partner in the Eagle Ford, will simultaneously convey 45% of their respective interests in the Eagle Ford to Reliance. Newpek, a wholly-owned subsidiary of ALFA, S.A.B. de C.V., currently owns an approximate 16% non-operated interest in Pioneer's core Eagle Ford Shale acreage. Following the transactions,

Pioneer, Reliance and Newpek will own 46%, 45% and 9% of the joint venture interests, respectively. The joint venture will have an approximate net working interest of 91% in 289,000 gross acres implying 263,000 net acres. The joint venture's leasehold, which is largely undeveloped, is located in the core area of the Eagle Ford Shale in south Texas. Low operating costs, significant liquids content (70% of the acreage lies within the condensate window) and excellent access to services in the region combine to make the Eagle Ford one of the most economically attractive unconventional resources plays in North America. Pioneer believes the acreage will support the drilling of over 1,750 wells with a net resource potential to the joint venture of approximately 10 tcf. The joint venture plans to increase the current drilling program to approximately 140 wells per year within three years.

Also included in the transaction is current production of 28 mmcf/d from five currently active horizontal wells. While Pioneer will serve as the development operator for the upstream joint venture, Reliance is expected to begin acting as development operator in certain areas in the coming years as part of the joint venture. Additionally, Reliance and Pioneer have executed definitive agreements to form a midstream joint venture that will service the gathering needs of the upstream joint venture. (Reliance Industries press release, June 24, 2010)

PRODUCTION

AUSTRALIA: CSG industry boosted by new tax regime.–– UG47-15

The Federal Government recently decided to base the industry's new tax regime, an amended version of the petroleum resources rent tax, on the "market value" of the industry's assets rather than book value. Under the tax changes, all oil and gas projects will be covered by the existing 40 per cent petroleum resources rent tax.
They will essentially be able to include the cost of buying assets when calculating capital allowances that can be offset against the tax, as such purchases will be covered by the "market value" of such assets. "That will provide all the CSG groups with a level playing field," Queensland Resources Council chief executive Michael Roche said. Mr Roche said had the tax regime not been changed: "We had been assured by the coal CSG-to-LNG players that their big projects would simply not have been viable the feedback from LNG companies is that these arrangements keep them in the game".
Queensland's LNG hopefuls, Santos, Origin and BG Group, all backed the tax changes. "Now we're on exactly the same playing field we can compete evenly, and that was really important to us," Santos chief David Knox said. "We pay between 40 and 50 per cent tax every year," Mr Knox said. "We believe that to be a fair rate of return of tax and we will continue to do that in the future," he said. (The Courier-Mail July 2, 2010)

CANADA: EnCana and China National Petroleum may create shale gas venture in British Columbia.–– UG47-16

Encana Corp. may form a venture with China National Petroleum Corp. to produce gas from shale formations in Northeastern British Columbia. The companies recently signed a memorandum of understanding to negotiate an agreement to develop gas properties in the Horn River, Greater Sierra and Cutbank Ridge fields, EnCana said in a statement. EnCana is looking for venture partners to help reduce the cost of developing its large tracts of land in gas-producing regions. Chief Executive Officer Randy Eresman said. (Bloomberg, June 24, 2010)

UNITED STATES: Pennsylvania's shale gas industry wants state tax be accompanied by new rules and regulations.–– UG47-17

Pennsylvania's lawmakers recently agreed on a fiscal 2011 budget that would implement a severance by January 1, 2011. The Marcellus Shale Coalition, an industry group, said the tax should not be set in a "vacuum" but as part of a "comprehensive evaluation" of laws and regulations governing the industry. Myron Arnowitt, Pennsylvania director for the environmental group Clean Water Action, said the industry is seeking concessions in return for its agreement on the severance tax. "They are saying, 'If you are going to do that, there are some things that we need from you'" he said.
The industry may want more lax regulation on waste-water treatment and well casings that protect aquifers from drilling chemicals, Arrindell said. Kathryn Klaber, president of the Marcellus Shale Coalition, denied the industry is seeking easier regulations over development of what is expected to become America's most productive natural gas field. She cited the industry's discussions with state regulators over rules to ensure drilling fluids used in hydraulic fracturing don't get into private water wells.
But she criticized tighter regulations on the salinity of drilling waste water, recently agreed by a state legislative panel, as "unworkable". Klaber argued that a "fair tax strategy," coupled with laws and regulations that recognize the industry's recent technological gains, would allow Pennsylvania to compete for new investment in the booming industry. (Reuters, July 7, 2010)

RESERVES

POLAND: True amount of shale gas impossible to verify.–– UG47-18

Henryk Jezierski, Poland's deputy environment minister and chief geologist, recently said that the true amount of gas in Poland is still impossible to verify. US estimates come from comparing Poland's geology to that of parts of the US where shale gas deposits have been found. "The gas is probably there, but to say it with certainty I require documentation," he said, adding that about 12% of Poland has structures that could be favourable for shale gas. Europe could have as much as 14 trillion cm, of which almost a third could be in Poland.

"Poland has the best prospects in Europe," he said. Poland has already issued 58 concessions to explore for shale gas. The European regulatory environment also may make it more difficult to exploit shale gas. EU environmental rules are much stricter than in the US, where some states are already expressing concern about the potential impact of shale gas extraction on water quality.

There are also worries about the release of methane, a greenhouse gas, during mining operations. There are also legal differences between the US and Europe. In the US, surface landowners normally own the mineral rights below their property, while in Europe mineral rights usually belong to the government. That may make it politically more difficult to allow for large-scale gas extraction in Poland, because the benefits will tend to accrue to large foreign companies. (Business Europe, July 5, 2010)

TIGHT GAS

PRODUCTION

OMAN: Tight gas production to start in August 2010.–– UG47-19

An official at Oman's oil ministry, Nasser al-Jashmi, said recently that BP will begin producing tight gas from its Omani fields in August 2010. BP signed a production sharing agreement (PSA) with the Omani government in 2007 for the appraisal and development of the Khazzam and Makarem gas fields, which hold 560-850bn cubic metres of gas reserves, according to company estimates.

Comments by Oman Liquefied Natural Gas Company CEO to in February 2010 indicated that rising domestic gas demand had diminished spot LNG cargo availability for export. Furthermore, increased quantities of natural gas will be needed to sustain Omani oil production (through field injection), which we expect to fall from 850,000 barrels per day (b/d) in 2010 to 615,000b/d in 2020, with a parallel drop in exports. BMI forecasts that Oman's natural gas production will rise from 31bn cubic metres in 2010 to 35bcm in 2013.

Thereafter, we expect production to decline to 25bcm by 2020. Combined with rising domestic consumption, Omani gas exports, although expected to increase from 17.3bcm in 2010 to 18.5 bcm in 2013, are forecast to fall to 4.7bcm by 2020. (Business Monitor, May 27, 2010)

GAS HYDRATE

EXPLORATION - DISCOVERIES

SOUTH KOREA: Researchers to assess gas hydrate reserves in East Sea.

–– UG47-20

The government said recently that South Korea plans to explore gas hydrate reserves off the country's eastern coast to determine the size of potential deposits.
The state-run Gas Hydrate R&D Organization said operations will be conducted for about 90 days in 10 locations where initial probes indicated the possibility of deposits.
The areas to be checked are waters that are more than 1,800 meters deep on the Ulleung Basin, which lies south of the Ulleung and Dokdo islands and north of the Korea Strait. (Asia Pulse, June 29, 2010)

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