

# Monthly Operations Report

For the month ending 30 April 2014

## 2014 WORK PROGRAM — DELIVERING PIPELINE PRODUCTION

### Operational Update

- ▶ *Drilling program — eight wells completed drilling on Linxing (West)*
- ▶ *Well testing program — testing of six wells underway*
- ▶ *Pilot pipeline production program progressing as third party pipeline and central gathering station approach completion on Sanjiaobei*

Operations continue to ramp-up as Sino Gas & Energy Holdings Limited (ASX:SEH, “Sino Gas”, “the Company”) focus on the strategy of delivering pipeline production across its Production Sharing Contracts (PSCs) in 2014.

During April, the Strategic Partners met and agreed key priorities for the operating company: to drive hard towards project approvals, improve single well productivity, and maximise production. To that end, over 17,000 metres have been drilled this year, completing eight of the thirteen remaining wells required for the first round of Chinese Reserve Report submissions for both PSCs. Initial results from Linxing (West) show encouraging amounts of total pay were identified during drilling. Once site preparations have been completed on Sanjiaobei, two rigs are expected to be mobilised from Linxing to the sites to commence drilling.

Testing operations have commenced on both PSCs, with multiple zones planned to be tested for Chinese Reserve Reporting and development planning purposes in order to maximise reservoir efficiency and recovery. As per previous years, the lowest zones planned to be tested will be fraced first, before moving up sequentially to the higher zones. To date this year, six wells have been fraced, with further positive results being received on Linxing (West) from single middle level zones on three wells in the discovered area. Sino Gas’ first horizontal well is planned to be fraced in the coming weeks, and the second horizontal well to the north of Linxing (West) is expected to be spud before the end of the quarter.

Progress continues to be made on preparations for the pilot pipeline production program, with the design work completed for the required internal and external pipelines on Linxing (West) and surveying is expected to be completed for the internal gathering pipelines during May. Land lease negotiations and construction is expected to commence on both pipelines by the end of the quarter, and take approximately three months to complete. At the same time components for the central gathering station are expected to commence arriving on site during the second quarter. Engineering construction for the surface gathering facilities is progressing on the Sanjiaobei central gathering station, and additional equipment is expected to be delivered mid-year to complete the central gathering facility, while the third-party pipeline spur is approaching completion.

### Corporate Update

As a part of the Board and management refresh currently underway, the Company announced the appointment of Philip Bainbridge as Non-Executive Director in April. Mr Bainbridge brings a wealth of experience to the Sino Gas board, having spent 23 years with BP Group in a range of roles in the UK, Australia and USA, and six years with Oil Search Limited as Chief Operating Officer and Executive General Manager LNG.

Furthermore, on 15 May the Company announced that Mr Frank Fu had been appointed to the position of Chief Operating Officer (COO) commencing 1 June 2014. Mr Fu has a 22 year career in oil, gas and coal bed methane, including over 14 years with Phillips and ConocoPhillips both in China and the USA. Mr Fu re-joins the Company having previously held the position of COO with Sino Gas from 2010 to 2012, and will play a key role in all of Sino Gas’s China operations, including partner liaison going forward. As previously advised in the announcement on 7 April 2014, Sino Gas continues to progress plans to appoint a new Chief Executive Officer.

In the coming months, the Company will be presenting to a number of institutions, banks and conferences, including Scotiabank (refer ASX announcement 9 May 2014), Credit Suisse and UBS.

### HIGHLIGHTS

- ▶ **Linxing** — First round of drilling for year completed on Linxing (West) and testing operations underway.
- ▶ **Sanjiaobei** — Preparation for drilling program underway. Testing operations commenced. Third-party pipeline and central gathering station approaching completion.
- ▶ **New Chief Operating Officer Frank Fu** appointed to play a key role in Sino Gas’ China operations.



### **Linxing (West) - Sino Gas 31.7%** **Shanxi Province, People's Republic of China**

Processing and interpretation of 285km of seismic lines continued to be conducted by a third party contractor during April, and is expected to be completed by the end of the quarter.

Following the first well spud of the 2014 drilling program in March, five wells reached total depth in April and all eight rigs by time of writing in May. Three wells drilled outside of the discovered area to the west of the acreage produced encouraging results, with preliminary electric wireline results identifying 12.4 -15.7 metres of total pay identified during drilling. Furthermore, preliminary results from two wells drilled within the discovered area identified 5.1 and 20.6 metres in total pay.

Eleven wells are expected to be drilled and tested in 2014, with an average spacing of approximately 5km in the northern portion to complete the CRR drilling requirements for Linxing (West) by mid-year. Once these wells have been completed, the rigs will be mobilised to the south of the block to commence drilling additional wells which will be available for tie-in into the pilot production program.

Three testing teams have been deployed and commenced frac testing operations on Linxing (West). Testing is planned to be conducted over both the northern and southern areas of the acreage to enable the pilot program to be expanded in the south, while allowing important reservoir information to be gathered in the north. Preliminary testing results in the discovered area are positive, with 3 wells testing at an average of 192 thousand standard cubic feet (Mscf)/day from middle level zones. TB-21 was tested in the prospective area at a rate of 187 Mscf/day for 17 days from a single lower level zone.

Sino Gas' first horizontal well is planned to be fraced in the coming weeks and the second horizontal well to the north of Linxing (West) is expected to be spud before the end of the quarter.

### **Linxing PSC (East) - Sino Gas 31.7%** **Shanxi Province, People's Republic of China**

The dewatering program continued during the month on six wells and gas to surface has been achieved on five of the shallow wells to date. Sufficient data was gathered from these six wells to enable CRR submission at the end of August 2013. Following preliminary approval from the National Reservoir Committee, the CRR was modified inline with feedback provided by the Chinese Ministry of Land & Resources (MOLAR) and submitted in Q1 of this year for final approval.

Further exploration step-out drilling and testing is scheduled mid-year on deeper payzones. The first exploration well to the north-west of the acreage was drilled and tested in 2013. An additional well is scheduled to be drilled and tested in 2014 on existing seismic lines to gain a deeper understanding of the exploration potential within Linxing (East). The potential for further seismic on Linxing (East) will be determined following the analysis of drilling and testing results from the exploration wells and previous seismic analysis.



Major components delivered to the Sanjiaobei central gathering station





### Sanjiaobei PSC

Shanxi Province, People's Republic of China

Well sites have been selected for two exploration wells planned according to the 2014 work program on the Sanjiaobei PSC, and land lease negotiations are currently underway. Fracturing and testing teams commenced on-site operations in April in order to acquire relevant reservoirs parameters.

A small number of delineation wells are planned to be drilled within the western portion of Sanjiaobei block in 2014, which are to be frac tested along with existing wells. A pool of ten existing and new wells is expected to be initially available for hooking up into the pilot program.

### Pilot Program Update

Long lead items for the Linxing central gathering station have been ordered and are expected commence delivery in Q2 ahead of pilot pipeline gas sales scheduled in the second half of 2014. Surveying and design has been completed on the third-party pipeline spur. Design has been completed for the internal gathering pipelines and surveying was commenced in May. Land lease negotiations and construction is expected to commence on both the internal and external pipelines in the second quarter and take approximately three months to complete. A pipeline gas sales agreement has been signed for the Linxing PSC (announced 26 June 2013).

Engineering for the Qiaojiaoshan pilot program is progressing in accordance with the approval of the Sanjiaobei Joint Management Committee, and additional equipment is expected to be delivered mid-year to complete the central gathering facility, while the third-party pipeline spur is approaching completion.

The pilot programs on both PSCs are initially planned be connected to existing wells (including the first horizontal well), and will be supplemented by additional wells as they are drilled and brought online. Gas pricing is expected to be revised in line with prevailing provincial rates (approximately ~\$US8.50 per thousand standard cubic feet) on an annual basis once production commences. Key terms for a second gas sales agreement have been agreed with a purchaser for delivery into a regional pipeline, with finalization expected in 2H 2014.



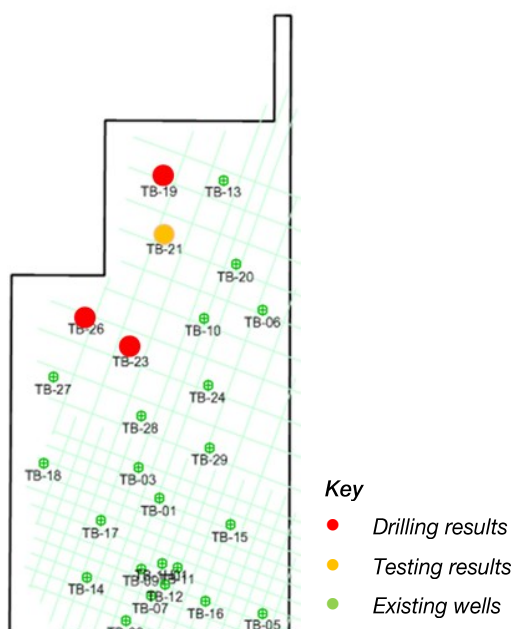
Third-party spur pipeline approaching the Sanjiaobei central gathering station

## PSC WORK PROGRAM UPDATE



Exploration Disclosure	Drilling Result	Drilling Result	Drilling Result	Testing Result
(a) The name and type of well.	TB-19 (Vertical Well)	TB-23 (Vertical Well)	TB-26 (Vertical Well)	TB-21 (Vertical Well)
(b) The location of the well and the details of the permit or lease in which the well is located.	Linxing Production Sharing Contract (PSC). Refer to maps below.			
(c) The +entity's working interest in the well.	31.70%			
(d) If the gross pay thickness is reported for an interval of conventional resources, the net pay thickness.	Electric wireline logs identified 12.4m of net pay	Electric wireline logs identified 15.7m of net pay	Electric wireline logs identified 14.2m of net pay	Electric wireline logs identified 8.75m of net pay
(e) The geological rock type of the formation drilled.	Coal bearing formations from the Permian to Carboniferous System.			
(f) The depth of the zones tested.	N/A Testing scheduled in 2014.			Test target payzone was at a depth of 1,862-1,875m
(g) The types of test(s) undertaken and the duration of				Fraced and gas flow tested for 17 days.
(h) The hydrocarbon phases recovered in the test(s).				Gas
(i) Any other recovery, such as, formation water and water, associated with the test(s) and their respective proportions.				None
(j) The choke size used, the flow rates and, if measured, the volumes of the hydrocarbon phases measured.				Needle valve used. Post-frac test gas rate was 187,000 scf/d with well head pressure of ~1.28MPa.
(k) If applicable, the number of fracture stimulation stages and the size and nature of fracture stimulation applied.				One stage
(l) Any material volumes of non-hydrocarbon gases, such as, carbon dioxide, nitrogen, hydrogen sulphide and sulphur.				Adjacent well TB-13 gas sample from same payzone shows CH <sub>4</sub> 85.676%, C <sub>2</sub> -C <sub>6</sub> 13.792%, CO <sub>2</sub> 0.395%, N <sub>2</sub> 0.731%.
(m) Any other information that is material to understanding the reported results.				None

Linxing (West)



## ABOUT SINO GAS & ENERGY HOLDINGS LIMITED

Sino Gas & Energy Holdings Limited ("Sino Gas" ASX: SEH) is an Australian energy company focused on developing Chinese unconventional gas assets. Sino Gas holds a 49% interest in Sino Gas & Energy Limited ("SGE") through a strategic partnership completed with MIE Holdings Corporation ("MIE" SEHK: 1555) in July 2012. SGE has been established in Beijing since 2006 and is the operator of the Linxing and Sanjiaobei Production Sharing Contracts (PSCs) in the Ordos Basin, Shanxi province.

SGE's interest in the Linxing PSC with CUCBM is 64.75% and 49% for the Sanjiaobei PSC held with PCCBM. SGE has a 100% working interest during the exploration phase of the PSC, with SGE's PSC partners being entitled to back-in upon Overall Development Plan (ODP) approval, by contributing development and operating costs in line with their PSC interest.

The PSCs are located in the Ordos Basin and cover an area of approximately 3,000km<sup>2</sup>. The Ordos Basin is the second largest onshore oil and gas producing basin in China. The region has mature field developments with an established pipeline infrastructure to major markets. Rapid economic development is being experienced in the provinces in which Sino Gas' PSCs are located and natural gas is seen as a key component of clean energy supply in China.



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[www.sinogasenergy.com](http://www.sinogasenergy.com)





## SINO GAS' RESERVES & RESOURCES

Sino Gas' Attributable Net Reserves & Resources are summarised below:

Sino Gas' Attributable Net Reserves & Resources	1P RESERVES (Bcf)	2P RESERVES (Bcf)	3P RESERVES (Bcf)	2C CONTINGENT RESOURCES* (Bcf)	P50 PROSPECTIVE RESOURCES* (Bcf)	EMV <sub>10</sub> (\$US\$m)
31 December 2013 (Announced 4 March 2014)	129	291	480	850	1,023	2,258
31 December 2012 (Announced 20 March 2013)	32	94	199	653	885	1,556
CHANGE (+/-)%	+211% (2P Reserves)			+30%	+16%	+45%
Total Project 31 December 2013	466	1,068	1,786	2,941	3,978	N/A

\*Note: Contingent and Prospective Resources have not been risked for the risk of development and discovery. The estimated quantities of petroleum may potentially be recovered by the application of future development project(s) relate to undiscovered accumulations. These estimates have both an associated risk of discovery and a risk of development. Further exploration and appraisal is required to determine the existence of a significant quantity of potentially moveable hydrocarbons.

Sino Gas' share of the project's success case Net Present Value ("NPV") and risk weighted EMV are summarised below:

SINO GAS' ATTRIBUTABLE ECONOMIC VALUE	NPV <sub>10</sub> (\$US\$m)	EMV <sub>10</sub> (\$US\$m)
Reserves	625	653
Contingent Resources	828	754
Prospective Resources	1,350	851
TOTAL		2,258

### RESOURCES STATEMENT & DISCLAIMER

The statements of resources in this release have been independently determined to Society of Petroleum Engineers (SPE) Petroleum Resource Management Systems (PRMS) standards by internationally recognized oil and gas consultants RISC (Announced 4 March 2014) using probabilistic estimation methods. These statements were not prepared to comply with the China Petroleum Reserves Office (PRO-2005) standards or the U.S. Securities and Exchange Commission regulations and have not been verified by SGE's PSC partners CNPC and CUCBM. EMV is the probability weighted net present value (NPV), including the range of project NPVs and the risk of the project not progressing. Project NPV<sub>10</sub> is based on a mid-case wellhead gas price of \$US8.79/Mscf and lifting costs (opex+capex) of ~ US\$1.5/Mscf for mid-case Reserves, Contingent & Prospective Resources. All resource figures quoted are unrisks mid-case unless otherwise noted. Sino Gas' attributable net Reserves & Resources assumes PSC partner back-in upon ODP approval, CBM Energy's option to acquire an interest of 5.25% in the Linxing PSC (by paying 7.5% of back costs) is exercised, and MIE fulfil funding obligations under the strategic partnership agreement. Reserves & Resources are net of 4% in-field fuel for field compression and field operations. Reference point is defined to be at the field gate. No material changes have occurred in the assumptions and subsequent work program exploration and appraisal results have been in line with expectations.

Certain statements included in this release constitute forward looking information. This information is based upon a number of estimates and assumptions made on a reasonable basis by the Company in light of its experience, current conditions and expectations of future developments, as well as other factors that the Company believes are appropriate in the circumstances. While these estimates and assumptions are considered reasonable, they are inherently subject to business, economic, competitive, political and social uncertainties and contingencies.

Many factors could cause the Company's actual results to differ materially from those expressed or implied in any forward-looking information provided by the Company, or on behalf of, the Company. Such factors include, among other things, risks relating to additional funding requirements, gas prices, exploration, acquisition, development and operating risks, competition, production risks, regulatory restrictions, including environmental regulation and liability and potential title disputes. Forward-looking information is no guarantee of future performance and, accordingly, investors are cautioned not to put undue reliance on forward-looking information due to the inherent uncertainty therein. Forward-looking information is made as at the date of this release and the Company disclaims any intent or obligation to update publicly such forward-looking information, whether as a result of new information, future events or results or otherwise.

### COMPETENT PERSONS STATEMENT

Information on the Resources in this release is based on an independent evaluation conducted by RISC Operations Pty Ltd (RISC), a leading independent petroleum advisory firm. The evaluation was carried out by RISC under the supervision of Mr Peter Stephenson, RISC Partner, in accordance with the SPE-PRMS guidelines. Mr Stephenson has a M.Eng in Petroleum Engineering and 30 years of experience in the oil and gas industry. RISC consents to the inclusion of this information in this release.