



# Monthly drilling report - December 2013

Release Date: 8 January 2014

# **Key points**

- 13 of 15 oil wells drilled to date in 2013/14 cased and suspended for future production and testing
- Growler-13 exploration well in PPL 242 to be cased and suspended for future production testing after successfully intersecting approximately 10 metres of oil-saturated mid-Birkhead sandstone
- Vintage Crop-3 appraisal well in PPL 241 to be cased and suspended as a future Birkhead oil producer after intersecting approximately seven metres of interpreted net oil pay
- Acrasia-6 appraisal well in PPL 203 intersects 31 metres net oil pay and an additional
  15 metres probable net oil pay across stacked reservoirs including a new oil accumulation in the upper Tinchoo sandstone
- Drilling is underway on the Acrasia-8 development well in PPL 203
- Coal seam gas drilling campaign for 2013 successfully completed in the Queensland Surat Basin with four core holes drilled

### **OIL EXPLORATION, APPRAISAL AND DEVELOPMENT**

Since 1 July 2013, Senex Energy Limited (Senex, ASX: SXY) and its joint venture partners have drilled 15 oil wells. Of those wells, 13 have been cased and suspended for future production and testing. The location of Senex oil fields is shown in Figure 1.

### **Growler-13 exploration well** (PPL 242: Senex 60% and operator)

The Growler-13 exploration well has confirmed an extension of the mid-Birkhead reservoir east of the main Growler field. The well spudded on 27 December 2013 and reached a total depth of 1,836 metres on 2 January 2014. Good oil and gas shows were observed during drilling and preliminary analysis of well data indicates approximately 10 metres of oil-saturated mid-Birkhead Formation above the field oil-water contact. The well has been cased and suspended pending production testing.



### Vintage Crop-3 appraisal well (PPL 241: Senex 100%)

The Vintage Crop-3 appraisal well confirmed the southern extension of the field having intersected the McKinlay Member, Murta, Birkhead and Hutton formations. Interpretation of wireline logs indicates 3.8 metres of net pay in the Murta Formation and a further 3 metres of net pay in the Birkhead Formation.

Vintage Crop-3, which was drilled to a total depth of 1,714 metres, is located approximately 430 metres south of the Vintage Crop-1 oil discovery. The well will be completed for production in the Birkhead Formation.

### Acrasia-6 appraisal well (PPL 203: Senex 100%)

The Acrasia-6 appraisal well confirmed several opportunities to increase oil production from the Acrasia oil field, 125 kilometres north east of Moomba, near the Queensland border:

- 1. Exploitation of partially-swept oil accumulations in the Hutton, Birkhead, Poolowanna and lower Tinchoo formations;
- 2. Production from a newly discovered oil accumulation in a sandstone reservoir of the upper Tinchoo Formation; and
- 3. Further evaluation of the oil production potential of the Arrabury Formation sandstones.

Acrasia-6 spudded on 14 November 2013 and reached a total depth of 2,369 metres with good oil shows evident throughout the sandstones of the Hutton, Birkhead, Poolowanna and Tinchoo formations. Interpretation of wireline logs indicate approximately 31 metres of net pay across these four target zones with an additional 15 metres of probable pay calculated for the Birkhead and Tinchoo formations. Net pay in the Arrabury Formation will be assessed when the results of core analysis are available to calibrate the wireline logs. Acrasia-6 is located approximately 300 metres south of Acrasia-1.

### Acrasia-8 development well (PPL 203: Senex 100%)

Following successful appraisal at Acrasia-6, Ensign Rig 754 commenced drilling the Acrasia-8 development well on 30 December 2013. The deviated well, which is co-located on the Acrasia-6 well pad, was primarily designed to accelerate oil recovery from the Acrasia oil field by draining the known Poolowanna oil pool and providing an additional drainage point for the Hutton Sandstone. The secondary objectives are to access the Birkhead Formation and test the extent of the upper Tinchoo sandstone accumulation intersected by Acrasia-6.

The rig is drilling ahead, targeting total depth of 2,548 metres.



#### FORWARD OIL DRILLING PROGRAM

By the end of December 2013, Senex had commenced drilling the sixteenth oil well of more than 30 wells planned to be drilled across the Cooper-Eromanga Basin during 2013/14. To date, the drilling program has successfully discovered four new oil accumulations in the southern Cooper-Eromanga Basin and revitalised the Acrasia field north east of Moomba.

The drilling program will now expand to encompass Senex's highly-prospective acreage on the western flank oil fairway with wells planned for Spitfire, Growler, Mustang and Snatcher oil fields. Drilling will also continue across the Company's southern permits to appraise recent discoveries and further develop known accumulations.

In December 2013, Senex announced that a year-long program of work on oil and gas prospectivity had identified more than 450 leads and prospects across majority held, operated permits in the South Australian Cooper-Eromanga Basin (refer Figure 2). These leads and prospects, combined with analysis and interpretation of more than 2,000 square kilometres of new 3D seismic data, will create a substantial portfolio of low risk exploration targets for Senex in coming years.

The next five drilling targets are described below.

## Spitfire-4 appraisal well (PEL 104: Senex 60% and operator)

Spitfire-4 will appraise the extent of the mid-Birkhead reservoir encountered in previous Spitfire wells. Spitfire-4 will be drilled 500 metres north west of Spitfire-2, which intersected an interpreted net oil pay of 6.5 metres in the mid-Birkhead Formation.

### Snatcher-11 appraisal well (PPL 240: Senex 60% and operator)

Snatcher-11 will assess the channel sands of the Birkhead Formation in the northern zone of Snatcher oil field. The well is located approximately 430 metres to the north of Snatcher-9, which intersected 11.2 metres of net pay.

### **Growler-12 appraisal well** (PPL 242: Senex 60% and operator)

Growler-12 will appraise the extent the Birkhead reservoir north of the main Growler field. Growler-12 is located 1,400 metres northwest of Growler-3, which intersected an interpreted net oil pay of 14.7 metres in the mid-Birkhead Formation.



### Mirage-5 appraisal well (PPL 213: Senex 100%)

EDA Rig 3 will commence the Mirage-5 well in mid January 2014. Mirage-5 is located approximately 650 metres south west of Mirage-4. The well will test the extent of the Mirage oil field which produces from the Murta Formation. Additional targets include the McKinlay Member and Hutton Sandstone.

## Mirage-6 appraisal well (PPL 213: Senex 100%)

After Mirage-5, EDA Rig 3 will mobilise to drill the Mirage-6 appraisal well in early February 2014. Mirage-6 is located approximately 850 metres south east of Mirage-4 and is primarily designed to test the extent of the field. The well will also test the Namur Sandstone that is producing in the nearby Burruna oil field.

### **COAL SEAM GAS EXPLORATION**

### Western Surat Basin permits

Senex has completed a four core hole program in its western Surat Basin coal seam gas permits ATP 593P and ATP 771P (both Senex 45% and operator), which was designed to further delineate reserves and resources.

The final well, Indy-4, spudded on 9 December 2013 and reached total depth of 210 metres on 15 December 2013. Gas shows were present across multiple coal seams. Eight coal desorption samples were collected for testing and four drill stem tests were conducted to determine permeability.

All coal samples from the four wells are still presently undergoing desorption testing before more analytical testing from which Senex and its consultants will then review the results of the drilling program and then undertake a reserves and resources review across both permits.

All four wells were plugged and abandoned upon completion of testing as planned.

#### Eastern Surat Basin permits

Senex expects work to commence in calendar year 2014 on the six planned wells in the QGC operated eastern Surat Basin permits PL 171 and ATP 574P (Senex 20% and 30% respectively).



# **DRILLING REGISTER**

Exploration, appraisal and development drilling undertaken in 2013/14 is shown below. The location of Senex oil fields is shown in Figure 1.

# Oil

Well	Location	Spud date	Туре	Result
Worrior-8	PPL 207	22-Jun-2013	Development	Net pay of up to 18 metres
Worrior-9	PPL 207	4-Jul-2013	Exploration	Plugged and abandoned
Burruna-2	PEL 115	6-Aug-2013	Exploration	Net pay of 5.3 metres,
				3,600 bopd during testing
Acrasia-7	PPL 203	24-Aug-2013	Development	Net pay of 6.3 metres
Ventura-2	PPL 214	28-Aug-2013	Development	Net pay of 13.4 metres
Kobari-2	PEL 516	14-Sep-2013	Exploration	Oil shows over 22 metres
Pirie-1 <sup>1</sup>	PEL 105	30-Sep-2013	Exploration	Moderate oil shows in the Birkhead Formation
Dunlop-1	PEL 113	1-Oct-2013	Exploration	Net pay of 3 metres, 1,200 bopd during drill stem testing
Moothandella-4 <sup>2</sup>	ATP 794P	5-Oct-2013	Appraisal	Interpreted net pay of 10 metres in total
Sprigg-1	PEL 514	6-Oct-2013	Exploration	Interpreted net pay of 6.3 metres
Pirraminta-2	PEL 514	22-Oct-2013	Exploration	Residual oil. Cased and suspended as a future water well
Burruna-3	PEL 115	8-Nov-2013	Appraisal	Interpreted net pay of approximately 3 metres
Acrasia-6	PPL 203	14-Nov-2013	Appraisal	31 metres net pay, 15 metres possible net pay
Vintage Crop-3	PPL 241	24-Nov-2013	Appraisal	Approximately 6.8 metres net pay
Growler-13	PPL 242	27-Dec-2013	Exploration	Oil-saturated interval intersected
Acrasia-8	PPL 203	30-Dec-2013	Development	Drilling ahead





### Gas

Well	Location	Spud date	Туре	Result
Paradise Downs-10 <sup>3</sup>	PL 171	13-Aug-2013	Appraisal	Cased and suspended
Kato-3 <sup>4</sup>	ATP 593P	13-Oct-2013	Exploration	Plugged and abandoned after testing
Kato-4 <sup>4</sup>	ATP 593P	27-Oct-2013	Exploration	Plugged and abandoned after testing
Indy-3 <sup>4</sup>	ATP 771P	22-Nov-2013	Exploration	Plugged and abandoned after testing
Indy-4 <sup>4</sup>	ATP 771P	9-Dec-2013	Exploration	Plugged and abandoned after testing

- 1 Operated by Tellus Resources
- 2 Operated by Bridgeport Energy

- 3 Operated by QGC
- 4 Core hole not designed for gas production

#### For further information contact:

Ian Davies

**Managing Director** 

Senex Energy Limited

Phone: (07) 3837 9900

Andrew Barber

**Investor Relations Manager** 

Senex Energy Limited

Phone: (07) 3335 9821 or 0418 783 701

### Competent person's statement

Unless otherwise indicated, the statements contained in this drilling report about Senex's reserves and resources estimates have been compiled by Mr James Crowley BSc (Hons), who is General Manager – Exploration, a full time employee of Senex, in accordance with the definitions and guidelines in the 2007 Petroleum Resources Management System approved by the Society of Petroleum Engineers (SPE PRMS). Mr Crowley consents to the inclusion of the estimates in the form and context in which they appear. Senex's reserves and resources are consistent with the SPE PRMS.





QUEENSLAND Senex gas field SOUTH AUSTRALIA Senex oil field моомва **•** Gas pipeline Oil pipeline Senex permit interests Senex permit application interests Divested assets **WESTERN FLANK OIL FAIRWAY** Acrasia Snatcher -Sprigg Mustang -Spitfire -Growler UNCONVENTIONAL MOOMBA **GAS FAIRWAY** Hornet Worrior

Figure 1: Senex conventional oil fields (operated and non-operated)

Dunlop

Harpoono

Padulla -

Senex

**COOPER BASIN** 

Kobari

Derrilyn Toporoa Fury

Burruna

Mirage

**NEW SOUTH** 

WALES

SENEX-CORP-GI-MAO-070-2 07/01/2014

Vintage Crop

Ventura





Figure 2: Cooper-Eromanga Basin leads and prospects

