

## **Nighthawk Energy plc**

### **Jolly Ranch Development Update**

#### **Cisco Springs Independent 2P Reserves Review**

#### **Project Prioritisation and Development**

The directors of Nighthawk Energy plc ("Nighthawk" or "the Company") (AIM: HAWK), the US-focused hydrocarbon production and development company, are delighted to announce details of well test results and development plans in respect of the Jolly Ranch Group project (Jolly Ranch, Middle Mist and Mustang Creek), details of the Cisco Springs independent 2P reserves review and the Company's project prioritisation strategy.

#### **Jolly Ranch Development Update**

- Five vertical wells have been drilled to date at Jolly Ranch. All wells encountered hydrocarbons in multiple horizons.
- The Craig 8-1 well produced 80 barrels of oil per day ("BOPD") under production test from the Lower Atoka shales. Initial swab testing indicates that production rates could rise to in excess of 300 BOPD.
- The Jolly 2-1 well is currently producing 25 BOPD of sweet oil from the Marmaton carbonate formation. A higher capacity pump jack to increase oil production is to be installed.
- The Jolly 16-1 well flowed 76 barrels of oil over 17 hours from the Lower Atoka shales and production equipment is currently being installed.
- The API gravity from each of the wells tested is in the range of 34 to 39.
- The gross Jolly Ranch Group project acreage has increased to 299,159 acres (225,859 acres on a net basis) providing an extensive development opportunity.
- An emerging regional shale play covers the entire project area.

The Jolly Ranch project is located in Lincoln, Elbert and Washington Counties, Colorado. Nighthawk holds a 50 per cent. working interest in the Jolly Ranch project, and Running Foxes Petroleum Inc. ("Running Foxes"), the operator, holds the remaining interest.

The primary target of the initial drilling programme was the regional Marmaton formation which has been present in each of the wells drilled. Secondary targets were the Atoka and Cherokee shales from which BHP, Mull and Anschutz produced oil within the Denver Basin on a commercial basis during the 1980s and 1990s prior to relinquishing the acreage due to low oil prices.

To date, of the shale zones only the Lower Atoka shales have been evaluated by the Company and they have delivered results that have greatly exceeded expectations. The Upper Atoka shales and Cherokee formation also contain hydrocarbons and await testing.

The Atoka and Cherokee shales can be compared geologically to the prolific Bakken shales, which the United States Geological Survey estimated in April 2008 to contain a technically recoverable oil resource of between 3.0 and 4.3 billion barrels. Shale plays such as the Barnett, Marcellus, Fayetteville and Bakken, have become the most active hydrocarbon exploration and development targets onshore US in recent years. Regional studies indicate that the Atoka and Cherokee shales are continuous throughout the whole Jolly Ranch Group project area and can now be considered a new regional shale play.

In addition, hydrocarbons were observed in both sample and log shows in respect of the Codell formation of Cretaceous age from 3,000 to 3,500 feet in the Jolly 2-1 and Jolly 16-1. Subsequently, a further four wells have been staked adjacent to the Jolly 16-1 to test this zone. The operator plans to secure a smaller drilling rig to drill and complete this shallower zone.

To date, five wells have been drilled to target depth, all of which encountered hydrocarbons in multiple formations. Planned wells are projected to be vertical to minimise costs. The current status of these wells is as follows:

#### *Craig 8-1*

The Craig 8-1 well has been perforated, acidised and fraced in the Lower Atoka shales from 6,736 to 6,850 feet. The well was acidised and small amounts of oil and gas and acid were swabbed back. The well was stimulated with a slickwater frac of 4,000 barrels of KCL water and 37,000 lbs of sand. The well flowed back frac fluid and increasing amounts of oil and gas. Swabbing of the well indicated equivalent daily rates of over 300 BOPD. Fluid levels during swabbing did not fall below 4,000 feet from surface indicating excellent hydrocarbon inflow.

Under production test the operator limited production to 80 BOPD to minimise frac sand movement into the well. Sand re-entry into the well bore, which is a common occurrence in shale plays, will disappear after a short period and does not affect the ultimate recovery of oil from the well. Following completion of the initial evaluation, a higher capacity pump jack will be installed.

#### *Jolly 2-1*

The Jolly 2-1 well was completed in the Marmaton reservoir from 6,841 to 6,852 feet. The well is currently producing 25 BOPD and the oil cut is increasing as the well is cleaned up. The oil is sweet, 36 degrees API gravity. A higher capacity pump jack to increase oil production further will be installed. The Marmaton reservoir is present in all the wells drilled by the Company on the project as well as the previous wells drilled by other operators.

#### *Jolly 16-1*

The Jolly 16-1 well has been perforated in the Lower Atoka shales from 7,236 to 7,380 feet, acidised and swabbed. The well was initially acidised and flowed back small amounts of oil and gas and acid water. The Lower Atoka Shales were then stimulated with a slickwater frac using 5,000 barrels of KCL water and 50,000 lbs of sand. The well immediately flowed back frac water and significant oil and gas. Shut-in pressures during the flowback exceeded 1,000 psi at surface. The well flowed 76 barrels of oil (excluding frac water) over a 17 hour period. The oil and gas cut increased throughout this production test. Fluid levels during swabbing did not fall below 4,000 feet from surface. The well is currently shut-in whilst a pump jack and associated surface equipment are installed. Production is expected to begin within the next 10 days.

Fracture analysis of specialty logs by Fronterra Geosciences indicates numerous natural fractures in the shales present both in the Craig 8-1 and the Jolly Ranch 2-1 wells, which benefits the productivity of the reservoir. The Jolly 16-1 is seven miles to the north-west of the Craig 8-1 indicating a large and continuous reservoir.

#### *Jolly 4-13*

The Jolly 4-13 has been drilled to the Arbuckle formation and cased to a total depth of 8,307 feet. The well has similar Marmaton, Cherokee and Atoka formations to the Craig 8-1, Jolly 2-1 and Jolly 16-1. The well has been logged through casing for further evaluation. The operator plans to complete the well in the Lower Atoka shales. The Jolly 4-13 is five miles to the north of the Jolly 16-1.

#### *Craig 4-4*

The Craig 4-4 has been drilled to the Arbuckle formation and cased to 7,653 feet. The well has similar Marmaton, Cherokee and Atoka formations as the Craig 8-1, Jolly 2-1, Jolly 16-1 and the Craig 4-4 wells. The operator plans to begin completion of the Lower Atoka shales within 14 days. The well is four miles to the west of the Craig 8-1 and six miles to the south of Jolly 16-1.

The Craig 15-32, the sixth well overall and the third in the current 10 well programme, spudded on 22 September 2008. The well will shortly reach total depth and the operator plans to complete the well in the Cherokee shales.

The Jolly Ranch Group project represents a high quality shale play as it is producing primarily oil. The operator plans to drill the wells targeting the shale zones initially on 80 acre spacing, providing over 2,800 locations. Wells targeting the Marmaton formation will be drilled separately on 40 acre spacing.

The three shale wells drilled by BHP, Mull and Anschutz in the 1980s and early 1990s were acidised only with 500 to 4,000 gallons of HCL. The wells were not stimulated by fracking and produced an average of 18,000 barrels per well prior to the operators plugging the wells due to low oil prices. These wells only drained oil from the reservoirs within a few feet of the wellbore as acid is non-invasive. Present fracking technology which was not available at that time is now

applied to all shale plays to maximise production and create conductivity in the reservoir. Typically, stimulation by fracking increases recoverable reserves from shale reservoirs by three to ten times. Both the Craig 8-1 and Jolly 16-1 wells were acidised in the same way as the previous three shale wells and made limited amounts of oil and gas. After fracking, indicated flow rates are now exceeding 300 BOPD with excellent reservoir conductivity.

An initial evaluation by consulting engineers, Apex, indicates the frac length to be 200 to 400 feet exposing much more of the reservoir to the wellbore. Based on the initial results from the Craig 8-1 and Jolly 16-1, the operator is expecting to increase the response from the reservoirs significantly.

The Jolly Ranch Group project now has 13 further wells permitted, which are planned to be drilled before the end of the year. In addition, the operator is in the process of staking ten wells in the Middle Mist area and an additional 20 wells at Jolly Ranch.

### **Cisco Springs Independent 2P Reserves Review**

Oilfield Production Consultants Ltd. (“OPC”) has completed a review of Nighthawk’s interest in the Cisco Springs field for the purpose of estimating the 2P deterministic oil and gas reserves. The report was submitted to the Company on 30 September 2008.

- 2P (proved + probable) net deterministic gas reserves increased by 5.5% to 121 BCF
- 2P net deterministic oil reserves increased by 192% to 3.8 MMbbl
- Potential of Mancos formation confirmed
- Unrisked net Mancos reserves of 16.0 MMbbl oil and 30.8 BCF gas calculated

Nighthawk holds a 50 per cent. working interest in the Cisco Springs project located in Grand County, Utah, which now covers approximately 24,000 acres. Running Foxes, the operator, holds the remaining interest.

Data provided by the Company for use in the reserves analysis include recent well construction and completion information, open-hole well logs, mud logs, structure maps, isopach maps, reservoir fluid properties, production data and a field well database. Logs from a total of 30 wells were also analysed.

A total of 20,080 leased acres located in 51 sections in six townships in the Cisco Springs field were evaluated. The remaining outlying acreage of approximately 3,000 acres was not evaluated by OPC as there is no drill information in proximity to these areas.

In February 2007, OPC completed a competent person’s report on the Cisco Springs project in connection with Nighthawk’s admission to AIM (the “2007 report”). The reserves contained in the 2007 report were calculated on a probabilistic basis, rather than deterministic. Deterministic

reserves are derived from the single best estimate of reserves calculated from the known geological, engineering and economic data. Probabilistic reserves are derived from a range of estimates based on probabilities applied to the known data. OPC has advised that a deterministic basis is more appropriate for the evaluation of the Cisco Springs project given the additional well and geological data now available. The deterministic basis is compliant with Society of Petroleum Engineers standards.

Four primary sand channel systems, the Dakota, Cedar Mountain, Brushy Basin, and Salt Wash were evaluated by OPC. A further horizon, the Mancos Shale, a blanket formation continuous throughout the Cisco Springs field, has also been included in OPC's evaluation as additional information is now available. Mancos shale reserves were not calculated in the 2007 report, but the Mancos was stated by OPC to hold additional potential upside for the project. The new evaluation has confirmed this potential. 2P and unrisks oil and gas reserves have been calculated for this formation and are shown separately below.

*Cisco Springs 2P Deterministic Reserves (net to Nighthawk) \**

Reservoir System	2008 net oil MMbbl	2008 net gas BCF	2007 net oil MMbbl	2007 net gas BCF
Primary channels	1.9	115.5	1.3	114.7
Mancos Shale	1.9	5.5	0	0
Total	3.8	121.0	1.3	114.7

\* At the time of the 2007 report, Nighthawk held a 37.5% working interest in the project which then covered approximately 16,500 acres. The interest is now 50% 2007 figures in the table above are also on the basis of a 50% working interest.

Within the report, OPC estimates Nighthawk's unrisks Mancos reserves to be 16.0 MMbbl of oil and 30.8 BCF of gas.

OPC is an independent consultancy providing expertise to the energy industry including reserves assessment and economic evaluation of oil and gas producing properties. The above reserve calculations have been supervised and approved by Piers Johnson, a chartered engineer who is also a member of the Society of Petroleum Engineers, a member of the Petroleum Exploration Society of Great Britain and a member of the Energy Institute. He has over 20 years of experience working in the oil and gas industry, the majority of which has been spent evaluating oil and gas producing properties.

A drilling programme is ongoing targeting the Mancos shales and channel sands in the northern part of the acreage position. Production focus is currently on oil production as gas prices in the Rocky Mountain region remain seasonally soft.

A glossary of terms and measures in respect of this reserves review is set out in the Appendix to this announcement.

## **Project Prioritisation and Development**

Nighthawk's strategy is focused on growth and near term cash flow from its production and development projects.

At the time of the Company's admission to AIM in March 2007, Nighthawk's project portfolio consisted solely of a 37.5 per cent. interest in the Cisco Springs field. Subsequently, Nighthawk has acquired significant interests in a number of further projects namely: Devon Oilfield (previously Vogel Bartlesville), Jolly Ranch, Centurion, Cliffs, the Buchanan Group and Xenia.

Nighthawk, together with its partner, Running Foxes, has during the last 18 months drilled in excess of 100 wells spread over most of the above projects. Ongoing evaluation of these results and other technical data have clearly exhibited to the Board a major difference between the projects in both scalability and, most importantly, the capability of generating sizeable near term production and cash flow.

The Directors strongly believe that results from both Jolly Ranch and the waterflood projects, namely the Buchanan Group, Devon Oilfield and Xenia, are such that the potential returns from these ventures in terms of likely proven reserves and cash flow will be a multiple of those from the other projects, including Cisco Springs. For this reason, in conjunction with Running Foxes, the Directors have taken the decision, whilst still advancing the other projects, to focus resources on Jolly Ranch and the waterflood projects with the objective of growing production and cash flow in the near term.

David Racher B.Sc (Hons) Geology, who is a consultant to Nighthawk and has over 37 years of experience in the hydrocarbon industry and previously managed the Lasmo plc onshore US portfolio in Kansas, Louisiana, South Dakota, Texas and Wyoming, has reviewed and approved the technical information contained in this announcement.

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## Appendix

### Glossary of Terms and Measures

“2P reserves”	proved plus probable reserves
“BCF”	billion cubic feet; 1 BCF = 0.83 million tonnes of oil equivalent
“formation”	a mappable rock layer
“isopach maps”	a map that uses contours to show the thickness of a sub-surface rock layer
“logs”	a record of rock properties in a well
“MMbbls	millions of barrels of oil
“mud logs”	a record of hydrocarbons in the drilling mud and well cuttings made when a well is being drilled.
“oil equivalent”	international standard for comparing the thermal energy of different fuels
“probable”	reserves which are less certain to be recovered than proved reserves. It is equally likely that the actual quantities recovered will be greater or less than the sum of the estimated proved plus probable reserves
“proved”	reserves which can be estimated with a high degree of certainty to be recoverable under current economic conditions
“reserves”	the amount of oil and/or gas in a particular reservoir that is available for production
“reservoir”	the underground formation where oil and/or gas has accumulated consisting of a porous rock to hold the oil and/or gas and a cap rock that prevents its escape.
“shale”	a very common sedimentary rock composed of clay-sized particles. Black shales are source rocks for petroleum.
“unrisked”	unrisked reserves are those estimated to be recoverable in the case of successful drilling. The estimate is not adjusted for the level of

confidence but accurately reflects the available data