



Indago Energy Limited

30 April 2019

March 2019 Quarterly Activities and Cashflow Report

Summary

- First purchase orders received for Multi-Flow in California from three producers
- Successful diluent reduction trial leads to pilot-scale field trial proposal to major national Chinese onshore producer
- Successful laboratory tests of viscosity reduction from three Colombian heavy oil fields leads to proposals for field trials with two independent operators
- Excellent laboratory results from three Middle East crudes and sludges tested in the US
- Successful laboratory tests of pour point and BS&W reduction in a waxy Turkmenistan crude oil for a major Malaysian Producer
- A two well test program for major producer in California awaiting crude oil Multi-Flow compatibility testing
- Cash position at 31st March 2019 of A\$1.3m

Multi-Flow Sales in California

During the Quarter Indago received Purchase Orders for a total of approximately \$48,000 of Multi-Flow from 3 different operators in California to conduct tests on heavy crude oil viscosity reductions. Details of these trials follow later in this report.

Kentucky Update

The *proof of concept* that Multi-Flow could substantially reduce heavy crude oil viscosity in the reservoir and enable the crude oil to be lifted to the surface utilizing conventional pumping equipment was reported in last quarter's review. To recap, Multi-Flow was able to reduce the *in situ* crude oil viscosity from 50,000-100,000 cSt to 490 cSt at an estimated Multi-Flow dosage rate of 1.8%.

Indago expected that production from the Weldon Young 1A well would cease once all the native crude oil contacted by the Multi-Flow squeeze had been produced, and this occurred several weeks after the swabbing and pumping operations concluded. 63 barrels of oil were produced and transported for sale.

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Attention is now focussed on designing the most effective completion techniques to promote sustained oil production using HCD Multi-Flow and any necessary enhancements such as carrier fluids, bacterial injections, chemical floods, horizontal well completions or stimulation techniques. The least costly of these was attempted with a simple injection of bacteria into the well after it had ceased production with no additional oil recovered.

Utah Project Update

No significant work was undertaken on the Company's Utah project during Quarter as bulk sample collection of the near surface oil-saturated Rimrock Sandstone must wait until after the necessary cultural surveys are complete which in turn await the thaw of winter snow. Permit applications, required by the State of Utah for bulk sample collection, that were lodged in December 2018 are expected to be granted in the current quarter.

China Update

INK and its distributor in China have focussed heavily this quarter on taking advantage of the very successful results of the diluent reduction trial undertaken in CNPC's giant heavy oilfield in November 2018. A detailed analysis and proposal has been submitted to CNPC, and negotiations are underway for a substantial paid pilot-scale field trial. Currently diluent (in this case light oil) is shipped in from a different field and used to assist production and transportation of the oil in this large heavy oilfield. The diluent reduction trial utilising Multi-Flow resulted in a 21% increase in crude oil production, a 65% reduction in crude oil viscosity and an estimated 40% reduction in the amount of diluent required. The Multi-Flow also inadvertently provided an additional benefit of reducing the required heating of the diluent tank from 500C to 200C because the locally produced diluent is very waxy with a high pour point that must be heated to 500C to remain liquid before being delivered downhole. The Multi-Flow reduced the pour point of the waxy diluent to 200C offering CNPC additional cost savings associated with heat.

Delivery of diluent to each of the nearly 1,000 wells in CNPC's giant heavy oil field is by way of ~80-well clusters surrounding large diluent tanks. The field produces approximately 38,000 barrels of heavy oil/day. INK and its Chinese Distributor have proposed a field-scale pilot to CNPC that mixes Multi-Flow into one of the diluent tanks delivering diluent to an 80-well cluster. Success of the pilot-scale field trial at increasing crude oil production, reducing crude oil viscosity and diluent needs, along with ancillary benefits of reducing diluent tank heating costs, could lead to near full field roll-out of Multi-Flow treatment.

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The Company's distributor in China also reported it had secured a trial with a major Chinese producer in the Bohai Sea which is expected to be undertaken in the second quarter of 2019. The trial will address technical problems associated with bitumen plugging in gravel pack completions and wax deposition in perforations and production tubulars.

Middle East Update

INK and its Middle East distributor, Gulf Green Crude Dynamics (GGCD), progressed discussions with oil producers in Kuwait, the UAE, Iraq and Oman. Several samples of sales oil and sludges have been provided by UAE's ADNOC and ADOC and Kuwait's National Oil Company. These crudes and sludges were tested in independent laboratories in the USA and all results were highly successful.

ADOC is pursuing tank cleaning requirements and a preventative maintenance program to avoid future sludge build-up in tank storage facilities and pipeline infrastructure. The ADOC sludge has a gravity of only 24.50API, but a viscosity too high to measure, which is indicative of very high paraffin content. Multi-Flow reduced the viscosity of the sludge to less than 1,000 cSt demonstrating its efficacy at liquefying and keeping liquid the paraffins in the sludge and crude. Sediment content of the sludge was less than 0.3% which means that virtually 100% of the sludge is converted to saleable crude with the addition of Multi-Flow. The demonstrated capability of Multi-Flow to liquefy all the paraffin in the sludge also indicates that the preventative maintenance programme aimed at eliminating future paraffin deposition from the crude oil in tank storage facilities and pipeline infrastructure should be successful with a continuous low dosage Multi-Flow treatment. A proposal for field trial has been submitted to ADOC management.

ADNOC's sludge was immediately liquefied with the addition of Multi-Flow plus ADNOC's crude acting as a carrier fluid. The ADNOC sludge is "dry" because it has a very high sediment content (>75%), and the combination of Multi-Flow with the native crude carrier fluid was very effective at liquefying the sludge in the laboratory. ADNOC also conducted their own tests with Multi-Flow under differing environments in their onshore laboratory and its performance was found acceptable. To proceed further with physical utilization HCD and GGCD have been invited to attend a technical meeting with ADNOC's oil storage tanks main maintenance contractor on 2nd May 2019.

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Results of the laboratory analysis of the Multi-Flow treated Kuwait sludge was similarly successful. Introduction of Multi-Flow, combined with the Kuwait crude as a carrier fluid, reduced viscosity of Kuwait sludge sufficiently to not only enable pumping of the sludge from the tank but also enable gravity separation of the hydrocarbon, water and sediment phases in the sludge, thus offering a compelling tank clean solution for Kuwaiti sludges. The positive laboratory results on the Kuwait crude and sludge, particularly the viscosity reduction, enhances and complements the potential for success of the well stimulation pilot recently approved by the Kuwait Oil Company utilising Multi-Flow in the Abduliyah Oilfield (adjacent to the Greater Burgan field). The objective of the Abduliyah trial is to increase the production flow rate by reducing crude oil viscosity in an oilfield that produces from mixed carbonate-siliciclastic reservoir rocks in thousands of producing wells. Drums of Multi-Flow for the trial have already been purchased and currently reside in Kuwait. Tentative scheduling of the Pilot is expected to commence sometime between May and July.

GGCD submitted two pilot proposals to Basrah Oil Company in Iraq, one for a tank clean and the other a small-scale pipeline clean-up across a length redirected from a high volume trunk line. Data for these proposals is currently being collected by staff at Basrah Oil Company for final trial design and GGCD anticipates approval for these pilots with a tentative start date in the third quarter of 2019.

In Oman, negotiation for pilot studies in the 2 billion barrel HabHab field is ongoing.

Field Trials Update

In California, a small independent producer from Huntington Beach purchased several drums of Multi-Flow to clean-up asphaltene deposition and increase daily oil production in a heavy oil well. Prior to the Multi-Flow treatment the well was producing 14 barrels of fluid per day at a high water cut. Following the Multi-Flow treatment daily fluid production increased to 34 barrels per day with an 80% oil cut (or 27 barrels of oil per day). Multi-Flow clearly increased daily crude oil production substantially as the oil cut greatly increased, though the overall increase in daily fluid rate attributed to MultiFlow could not be precisely determined due to other work conducted on the well. The Huntington Beach producer was satisfied that Multi-Flow increased crude oil production and will utilize HCD's chemical in other wells once regulatory hurdles with California's Orange County are overcome.

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Distributor and Agent Update

The 2-well field trial, reported last quarter by Indago's sales and marketing agent, of a large heavy oilfield with a major Californian producer is awaiting bottle testing of the crude with Multi-Flow. Bottle testing is standard practice to demonstrate that Multi-Flow is compatible with the crude. The heavy oil field currently uses a competitor product to reduce the viscosity of the crude to enable artificial lift and pipeline transport of the crude oil produced. The field trial is a good opportunity for Multi-Flow because of the simplicity of the operation where Multi-Flow is substituted for the existing chemical treatment and utilises the same down-hole chemical delivery system. Several drums of Multi-Flow were purchased and are already onsite for the trial which should commence in the current quarter.

Although some crude oil sampling and testing in Colombia by HCD's sales partner was reported in the December 2018 Quarter, additional crude oil samples were collected and have been successfully tested in an Intertek Laboratory in the current quarter. To date three large oilfields have been sampled and all have demonstrated meaningful reductions in crude oil viscosity. API gravity uplifts in the range from ~130 API to 150API were achieved in all 3 fields and kinematic viscosity significantly reduced. Field trials with two companies are currently being negotiated, and as reported last quarter, if the same viscosity reductions observed in the laboratory tests are achieved in the field trials then these crudes would be pipeline compliant without the need for any addition of expensive diluents. The National Oil Company currently transports up to 400,000 barrels of oil per day and spends approximately \$US1 billion per annum on diluents to enable this transport, representing an exciting opportunity for Multi-Flow.

Laboratory Testing & Product Update

In addition to the successful laboratory tests on several Middle East crude oils and sludges, Indago received excellent results from laboratory testing of a paraffin-rich crude oil from Turkmenistan this quarter. The crude oil is produced by a major Malaysian operator in the offshore Caspian Sea, Turkmenistan. The high pour point waxy crudes are subject to cold ambient subsea and sea surface temperatures in all but the summer months in the Caspian, creating major issues with wax deposition in production tubulars and transport pipeline networks. Moderate laboratory dosage rates of Multi-Flow lowered the pour point of the crude oil sample from 240C to -90C, much lower than the average sea surface ambient winter temperatures of 80C, potentially resolving paraffin deposition issues year-round. The Multi-Flow also reduced Basic Sediment and Water (BS&W) content from 13% down to 0.3%,

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substantially improving the quality of the produced crude. Indago has prepared a proposal to the Malaysian operator to treat their high pour point crudes und with a low dosage continuous feed of Multi-Flow for flow assurance throughout the Turkmenistan production facilities as well as enhancing crude oil quality.

Newkirk Project, Kay County Oklahoma (100% WI 81.25%NRI)

No work was conducted during the quarter. INK currently holds 1,473 acres with no change in the March Quarter.

Financial

At 31st March 2019, Indago Energy had cash resources of \$1.3 million.

Oil and Gas Tenements as at 31 March 2019

Project	Location	Interest acquired or disposed of during the quarter net to Indago	Total acres owned net to Indago	Working Interest held as at 31 March 2019
Newkirk	Kay and Noble Counties,	-	1,473	100%
Kentucky	Butler and Warren Counties, Kentucky	-	1,786	100%
Utah	Uintah, County	-	3,459	100%

For further information please contact:

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Appendix 5B

Mining exploration entity and oil and gas exploration entity quarterly report

Introduced 01/07/96 Origin Appendix 8 Amended 01/07/97, 01/07/98, 30/09/01, 01/06/10, 17/12/10, 01/05/13, 01/09/16

Name of entity

Indago Energy Limited

ABN

75 117 387 354

Quarter ended ("current quarter")

31 March 2019

Consolidated statement of cash flows	Current quarter \$A'000	Year to date (3 months) \$A'000
1. Cash flows from operating activities		
144 Receipts from customers	-	-
1.2 Payments for		
(a) exploration & evaluation	(232)	(232)
(b) development	-	-
(c) production	-	-
(d) staff costs (including marketing)	(367)	(367)
(e) administration and corporate costs	(201)	(201)
1.3 Dividends received (see note 3)	-	-
1.4 Interest received	8	8
1.5 Interest and other costs of finance paid	-	-
1.6 Income taxes paid	-	-
1.7 Research and development refunds	-	-
1.8 Other - Royalties	(90)	(90)
1.9 Net cash from / (used in) operating activities	(882)	(882)

2. Cash flows from investing activities		
2.1 Payments to acquire:		
(a) property, plant and equipment	-	-
(b) tenements (see item 10)	-	-
(c) investments	-	-
(d) other non-current assets	-	-

Consolidated statement of cash flows	Current quarter \$A'000	Year to date (3 months) \$A'000
2.2 Proceeds from the disposal of:		
(a) property, plant and equipment	-	-
(b) tenements (see item 10)	-	-
(c) investments	-	-
(d) other non-current assets	-	-
2.3 Cash flows from loans to other entities	-	-
2.4 Dividends received (see note 3)	-	-
2.5 Other (cash purchased on acquisition)	-	-
2.6 Net cash from / (used in) investing activities	-	-

3. Cash flows from financing activities		
3.1 Proceeds from issues of shares	-	-
3.2 Proceeds from issue of convertible notes	-	-
3.3 Proceeds from exercise of share options	-	-
3.4 Transaction costs related to issues of shares, convertible notes or options	-	-
3.5 Proceeds from borrowings	-	-
3.6 Repayment of borrowings	-	-
3.7 Transaction costs related to loans and borrowings	-	-
3.8 Dividends paid	-	-
3.9 Other (provide details if material)	-	-
3.10 Net cash from / (used in) financing activities	-	-

4. Net increase / (decrease) in cash and cash equivalents for the period		
4.1 Cash and cash equivalents at beginning of period	2,206	2,206
4.2 Net cash from / (used in) operating activities (item 1.9 above)	(882)	(882)
4.3 Net cash from / (used in) investing activities (item 2.6 above)		
4.4 Net cash from / (used in) financing activities (item 3.10 above)		
4.5 Effect of movement in exchange rates on cash held		
4.6 Cash and cash equivalents at end of period	1,324	1,324

5. Reconciliation of cash and cash equivalents at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts	Current quarter \$A'000	Previous quarter \$A'000
5.1 Bank balances	724	497
5.2 Call deposits	600	1,709
5.3 Bank overdrafts	-	-
5.4 Other (provide details)	-	-
5.5 Cash and cash equivalents at end of quarter (should equal item 4.6 above)	1,324	2,206

6. Payments to directors of the entity and their associates

- 6.1 Aggregate amount of payments to these parties included in item 1.2
- 6.2 Aggregate amount of cash flow from loans to these parties included in item 2.3
- 6.3 Include below any explanation necessary to understand the transactions included in items 6.1 and 6.2

**Current quarter
\$A'000**

(272)

Directors fees, Consultancy and Royalties

7. Payments to related entities of the entity and their associates

- 7.1 Aggregate amount of payments to these parties included in item 1.2
- 7.2 Aggregate amount of cash flow from loans to these parties included in item 2.3
- 7.3 Include below any explanation necessary to understand the transactions included in items 7.1 and 7.2

**Current quarter
\$A'000**

-

-

Mining exploration entity and oil and gas exploration entity quarterly report

8. Financing facilities available <i>Add notes as necessary for an understanding of the position</i>	Total facility amount at quarter end \$A'000	Amount drawn at quarter end \$A'000
8.1 Loan facilities	-	-
8.2 Credit standby arrangements	-	-
8.3 Other (please specify)	-	-
8.4 Include below a description of each facility above, including the lender, interest rate and whether it is secured or unsecured. If any additional facilities have been entered into or are proposed to be entered into after quarter end, include details of those facilities as well.		

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9. Estimated cash outflows for next quarter	\$A'000
9.1 Exploration and evaluation	150
9.2 Development	-
9.3 Production	-
9.4 Staff costs (including marketing)	270
9.5 Administration and corporate costs	180
9.6 Other - Royalties	45
Other - Tax	135
9.7 Total estimated cash outflows	780

10. Changes in tenements (items 2.1(b) and 2.2(b) above)	Tenement reference and location	Nature of interest	Interest at beginning of quarter	Interest at end of quarter
10.1 Interests in mining tenements and petroleum tenements lapsed, relinquished or reduced				
10.2 Interests in mining tenements and petroleum tenements acquired or increased				

Compliance statement

- 1 This statement has been prepared in accordance with accounting standards and policies which comply with Listing Rule 19.11A.
- 2 This statement gives a true and fair view of the matters disclosed.

Sign here:


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Company secretary

Date: 30 April 2019

Print name: Julie Edwards

Notes

1. The quarterly report provides a basis for informing the market how the entity's activities have been financed for the past quarter and the effect on its cash position. An entity that wishes to disclose additional information is encouraged to do so, in a note or notes included in or attached to this report.
2. If this quarterly report has been prepared in accordance with Australian Accounting Standards, the definitions in, and provisions of, AASB 6: Exploration for and Evaluation of Mineral Resources and AASB 107: Statement of Cash Flows apply to this report. If this quarterly report has been prepared in accordance with other accounting standards agreed by ASX pursuant to Listing Rule 19.11A, the corresponding equivalent standards apply to this report.
3. Dividends received may be classified either as cash flows from operating activities or cash flows from investing activities, depending on the accounting policy of the entity.