

#### 31 October 2018

## **October 2018 Quarterly Activity and Cashflow Report**

#### Summary

- Large oil resources certified for INK project in Utah and additional acres leased
- Testing commences in INK owned Kentucky project after good oil shows
- Two field trials in the Uinta Basin completed for two oil producers in four wells
- Testing for 4 producers in Canada continues including two in-field tests
- Indago invited to undertake two well trials in China
- New agent in Colombia obtained oil samples from 4 producers
- Assessment of north American heavy and paraffinic oil accumulations for potential joint venture or acquisition continued
- Rights Issue completed and placement of shortfall oversubscribed raising \$2.6m
- Cash position at 30th September 2018 of A\$3.0m

### Initial Oil Resources Certified in INK's New Oilsands Project in Utah

On 24 September 2018 Indago Energy Limited ("INK") announced that it had received its first oil certification for its new oil sands project in Utah.

An independent Contingent Oil Resources report was prepared by Netherland Sewell & Associates Inc ("NSAI") for Indago's 100% owned Utah oil sands project. NSAI estimated that the Contingent Oil Resources within the project are 12.4 million barrels of oil ("mmbbl") on a 2C basis, 6.2 mmbbls on a 1C basis and 24.8 mmbbls on a 3C basis from an Original Oil in Place ("OOIP") of 141.7 mmbbls.

The initial Contingent Resource report confirmed internal analysis of a very substantial oil resource within INK's project area. INK will assess both mining the shallow oil resource and more conventional petroleum production methods for the deeper sands. In each case the use of INK's key product, HCD Multi-Flow<sup>®</sup> will be used in the next stage of testing.



# Indago Energy Limited

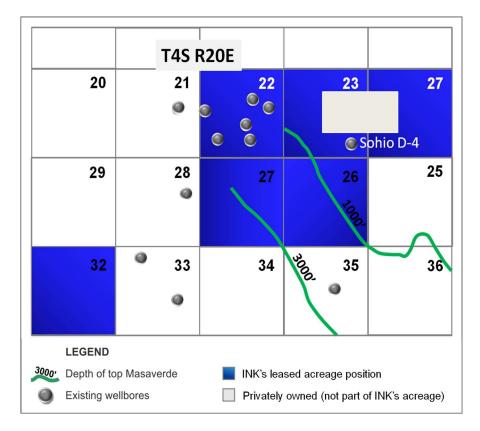


Figure 1. Indago's leasehold acreage. Note that there is a privately owned lease (grey) that is not part of INK's acreage.

INK has now acquired a total of 3,459 acres including Section 22 (T4S R20E) where six wells drilled by previous operators provide detailed information on key aspects of the reservoir and oil. Results of more than 330 core samples taken from these six test wells were published on the Utah Geological Survey website and show that the target zone has a reported average porosity of 30.3%, average permeability of 524 millidarcies, oil saturation of 65.6% and an oil gravity of 10-140 API.

Utilising existing data from earlier drilling and mining operations, INK will now determine the distribution of where the target zone is sufficiently shallow for bulk sampling by hand auger or backhoe excavation and design a series of tests to determine the effectiveness of its technology, HCD Multi-Flow<sup>®</sup>, in liberating the oil from the sands. This test work is expected to include analysis of oil recovery rates at different HCD Multi-Flow<sup>®</sup> dosage rates.





Figure 2. Photo of the Rimrock Sandstone (left) seeping heavy oil from an outcrop adjacent to INK's new lease acreage acquisition and photo of Asphalt Ridge (right).

#### **Testing Commenced in First Kentucky Well**

On 12 October 2018, INK announced that it had commenced field work in preparation to production test the Weldon Young #1A well at its 100% owned heavy oil project in Kentucky. At the time of writing the well had been perforated and operations to locate, seal and stabilise an old well had occurred.

Production testing operations are expected to commence within days, weather permitting. Pump trucks will be used to heat and then inject HCD Multi-Flow® along with a carrier fluid into the perforations. Once the fluid has been injected, the well will be shut-in for several days to allow the HCD Multi-Flow® to contact as much of the reservoir as possible and to mobilise the oil contained therein. The well will then be opened up and tested using a swabbing technique.

These tests will initially be conducted over a period of several weeks.

The Weldon Young #1A well is the first of several planned to appraise INK's Kentucky heavy oil project. INK will use information from this first well to design the most effective completion techniques to promote oil production using HCD Multi-Flow® and any necessary enhancements, such as carrier fluids, stimulation techniques or bacteria.



INK's announcement on 6 March 2018 that it had received its first oil certification for its heavy oil project in Kentucky. An independent Contingent Oil Resources report prepared by Netherland Sewell & Associates Inc ("NSAI") estimated that the Contingent Oil Resources within the 100% owned project are 3.74 million barrels of oil ("mmbbl") on a 2C basis, 1.87 mmbbls on a 1C basis and 7.49 mmbbls on a 3C basis from an Original Oil in Place ("OOIP") of 42.8 mmbbls.



Figure 3 – Drilling the Weldon-Young #1A well in Kentucky.

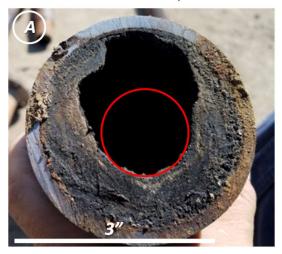
#### **Field Trials Update**

Four well tests with two major producers in the Uinta basin aimed at reducing waxy crude oil pour point have been concluded. Testing of two wells with one major producer were successful with pour point reduced by up to 25°F. The producer is now evaluating the commercial implications of these pour point reductions. Well tests with the other major producer were undertaken by a third party contractor and did not result in any change of pour point despite testing the same crude oil from the same reservoir formation. The most likely cause for this result is the incorrect application of HCD Multi-Flow® in the field. Indago is investigating the contractor's operational procedures and will seek follow-up testing.



In a brief, low-dosage trial, HCD Multi-Flow® successfully removed asphaltene-impregnated scale from the water outlet piping of a 3-phase separator in a cyclic steam operation in California. Such scale problems are commonplace in heavy oil production operations and Indago is investigating potential market opportunities.

#### Horizontal Pipe



### Horizontal Pipe Computer reconstruction



Figure 4. Asphaltene/hydrocarbon scale in the horizontal pipe after a brief HCD Multi-Flow® treatment (A) and the computer reconstruction of the asphaltene/hydrocarbon scale in the horizontal pipe before HCD Multi-Flow® treatment (B).

#### **Distributor and Agent Update**

Novatech LLC, Indago's Sales and Marketing agent in Colombia, has obtained crude oil samples from four major operators and is preparing to test these samples at Intertek Laboratories in Barranquilla, Colombia. The crude oil samples are representative of the 2 major heavy oil provinces in Colombia: the Llanos basin and the Magdalena Valley, and the testing will measure the ability of HCD Multi-Flow® to lower crude oil viscosity and uplift API<sup>0</sup> gravity of these heavy, viscous crudes.

In China, Indago's Distributor has arranged for the Company invited to undertake two well trials in China, one well each with 2 major producers. The first well is offshore and seeking to remove bitumen plugging from the 300 metre horizontal section of the well to restore full production. The second well is onshore and will trial HCD's Tri-Phase squeeze technology to increase daily oil production rate and reduce water cut.



#### Laboratory Testing & Product Update

Laboratory testing during the Quarter included reducing crude oil cloud point with HCD Multi-Flow<sup>®</sup> for a major Canadian producer. The producer's current methodology of reducing cloud point is by adding methane. Their baseline sample has a cloud point of 14.9<sup>o</sup>C and the reduction achieved by adding methane is 14.2<sup>o</sup>C. HCD Multi-Flow<sup>®</sup> was tested with and without methane and the best result, a cloud point of 13.7<sup>o</sup>C, was achieved without methane. HCD Multi-Flow<sup>®</sup> was superior to the producer's current cloud point reduction method and also eliminates the need for methane. The producer is evaluating the commercial implications for using HCD Multi-Flow<sup>®</sup> in their operation to reduce cloud point.

Laboratory testing has commenced at OEC Laboratories in California on heavy Athabasca crude oil from a major Canadian SAGD producer. The objective of the testing is to see by what percentage diluents can be reduced utilising HCD Multi-Flow<sup>®</sup> but keeping the crude oil pipeline compliant for viscosity and API<sup>0</sup> gravity.

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

No work was conducted during the quarter. INK currently holds 3149 acres, of this 1595 acres are due to expire during the next quarter, with the balance expiring in 2019.

#### Financial

On 27 August 2018, Indago announced it had completed a 1 for 5 Rights Issue at 7.4 cent per share and had placed the entire shortfall. The rights issue had an excellent take-up rate of 47 % and the financing raised a total of \$2.6m.

At 30 June 2018, Indago Energy had cash resources of \$3 million.



Oil and Gas Tenements as at 30 September 2018

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 2018
Newkirk	Kay and Noble Counties, Oklahoma	-	3,149	100%
Kentucky	Butler and Warren Counties, Kentucky	-	1,786	100%
Utah	Uintah, County	1,539	3,459	100%

For further information please contact:

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ASX Code: INK

+Rule 5.5

## 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")

30 September 2018

Con	solidated statement of cash flows	Current quarter \$A'000	Year to date (9 months) \$A'000	
1.	Cash flows from operating activities			
144	Receipts from customers	-	10	
1.2	Payments for			
	(a) exploration & evaluation	(127)	(581)	
	(b) development	-	-	
	(c) production	-	-	
	(d) staff costs (including marketing)	(300)	(1,025)	
	(e) administration and corporate costs	(172)	(630)	
1.3	Dividends received (see note 3)	-	-	
1.4	Interest received	1	11	
1.5	Interest and other costs of finance paid	-	(2)	
1.6	Income taxes paid	-	-	
1.7	Research and development refunds	-	-	
1.8	Other - Royalties	(88)	(214)	
1.9	Net cash from / (used in) operating activities	(686)	(2,431)	

2.	Cash flows from investing activities		
2.1	Payments to acquire:		
	(a) property, plant and equipment	-	(1)
	(b) tenements (see item 10)	(54)	(168)
	(c) investments	-	-
	(d) other non-current assets	-	(7)

+ See chapter 19 for defined terms

1 September 2016

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Mining exploration entity and oil and gas exploration entity quarterl	y report

Con	solidated statement of cash flows	Current quarter \$A'000	Year to date (9 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	10	26
2.4	Dividends received (see note 3)	-	-
2.5	Other (cash purchased on acquisition)	-	-
2.6	Net cash from / (used in) investing activities	(44)	(150)

3.	Cash flows from financing activities		
3.1	Proceeds from issues of shares	2,748	2,748
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	(90)	(90)
3.5	Proceeds from borrowings	-	64
3.6	Repayment of borrowings	(20)	(47)
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	2,638	2,675

4.	Net increase / (decrease) in cash and cash equivalents for the period		
4.1	Cash and cash equivalents at beginning of period	1,145	2,947
4.2	Net cash from / (used in) operating activities (item 1.9 above)	(686)	(2,431)
4.3	Net cash from / (used in) investing activities (item 2.6 above)	(44)	(150)
4.4	Net cash from / (used in) financing activities (item 3.10 above)	2,638	2,675
4.5	Effect of movement in exchange rates on cash held	6	18
4.6	Cash and cash equivalents at end of period	3,059	3,059

+ See chapter 19 for defined terms 1 September 2016

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	3,059	1,145
5.2	Call deposits	-	-
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)	3,059	1,145

6.	Payments to directors of the entity and their associates	Current quarter \$A'000
6.1	Aggregate amount of payments to these parties included in item 1.2	(270)
6.2	Aggregate amount of cash flow from loans to these parties included in item 2.3	10
6.3	Include below any explanation necessary to understand the transactio items 6.1 and 6.2	ns included in
6.1 -	Directors fees, Consultancy and Royalties	

6.2 -	Director	loan r	epar	vment (	aco	uired	with	HCD	purchase)	)
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7.	Payments to related entities of the entity and their associates	Current quarter \$A'000
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 transaction items 7.1 and 7.2	ons included in

8.	Financing facilities available Add notes as necessary for an understanding of the position	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.

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)	300
9.5	Administration and corporate costs	175
9.6	Other - Royalties	65
9.7	Total estimated cash outflows	690

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	Uintah Basin, Utah	100% in acreage	-	1,539 Acres

#### 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.

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Company secretary

Date: 31 October 2018

Print name: Julie Edwards

#### Notes

Sign here:

- 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.