

28 April 2023

## March 2023 Quarterly Activities Report

### Summary

- Gulf of Mexico trial expanded to two offshore platforms
- Canadian trial converted to ongoing business
- Small trial commenced in North Dakota
- Update on existing applications (Santos, Canada)
- Update on existing trials and purchase orders
- Rights issue announced
- Discussions with new distributors and agents continue
- Sales and marketing progress
- Continued assessment of new energy and energy technology projects for investment

### Gulf of Mexico Trial Expanded to Two Offshore Platforms

Post quarter end Hydrocarbon Dynamics Limited (“HCD” or “the Company”) announced that it received additional feedback from its customer, a mid-sized producer in the Gulf of Mexico, on two separate field trials to control paraffin deposition related issues. As reported in the 27 January 2023 update, the producer started injecting HCD Multi-Flow downhole on the first of two continuously flowing offshore wells on 12 January 2023. The purpose of the first trial is to reduce the paraffin buildup in the production tubing between wax cuttings on this 500 bopd well. The trial is scheduled to run for 90 days.

Prior to commencement of the trial, the well was run for 90 days without any mechanical paraffin treatment. On the day that they were scheduled to cut paraffin, they instead started injecting HCD Multi-Flow paraffin control agent on the ‘dirty’ system to:

1. Observe its efficacy as a remediation chemical to liquefy and remove existing paraffin deposits.
2. To examine its effectiveness as a paraffin inhibitor to inhibit the formation of new deposits.

After injecting HCD Multi-Flow for 12 days, the producer ran a paraffin scraper to determine if the production tubing was clean. The producer has reported that the system was very clean and showed little to no paraffin. The customer was pleased and decided to continue the treatment for the remainder of the 90-day period to see if the system remains clean.

After the success of the first trial, injection of HCD Multi-Flow downhole on a second offshore platform was initiated. The producer mechanically cuts paraffin on this extremely waxy well at least once a day to maintain production, notwithstanding the incumbent chemical treatment. A report was shared with HCD after 12 days of treatment during which paraffin cutting was stopped for the last 4 ½ days due to construction hot work on the platform. The operations lead reported that he was “shocked” that after 4 ½ days of no wax cutting, they were able to make it down with one run of a paraffin scratcher. This has never been accomplished before after 2 days without cutting.

As a direct consequence of this success, the producer is now in discussions with HCD regarding a purchase order for treatment of a spur pipeline. Further positive results are expected to lead to continuous applications and will provide the opportunity to expand our position with this producer as well as others in the Gulf of Mexico.

## **Update on HCD Multi-Flow Applications in Canada, Australia**

### Cooper Basin Well Treatment Update

Cooper Basin well paraffin control chemical treatment for Santos is a seasonal business that takes place during the winter months. HCD expects a purchase order soon for the 2023 season’s paraffin control treatment as well as an opportunity to expand into additional newly drilled wells, should they experience paraffin related issues.

### Alberta, Canada Trial Expanded and Converted to Ongoing Business

Post quarter end HCD announced it had received feedback from one of its Canadian distributors on the paraffin control field trial with a midsized, independent Canadian oil & gas producer. As reported previously, positive outcomes had led to an expansion of the trial from 1 well to 9 wells. Consequently, they have placed an additional order for approximately A\$37,000 of product to continue the trial.

HCD’s Alberta, Canada distributor has further reported that continuous, positive results have led to an additional expansion from 9 wells to 10 active wells with an additional 5 wells scheduled to start in May 2023. It was also reported that these wells are now off trial mode and are considered to be ongoing business. The distributor is blending HCD Multi-Flow as the key component in their wax inhibitor product and plan to formulate another product with a higher percentage of HCD Multi-Flow in an attempt to reduce or eliminate the need for emulsion breaker at both wells and infield facilities.

The distributor has reported that the product is performing well as they have seen more consistent times on the plungers and cleaner pigs. The distributor is focused on securing a contract for the chemical treatment for the entire field of approximately 100 wells.

After the success of HCD Multi-Flow treatment, the distributor is in the process of incorporating HCD Multi-Flow into a number of their other existing products.

## **Small Trial Commenced in North Dakota**

Post quarter end HCD announced that its new distributor based in Minot, North Dakota informed HCD that they started injecting HCD Multi-Flow on 1 well in the Bakken formation for a midsized independent oil & gas producer.

To date, no changes have been noted on the pump cards for minimum or maximum rod loads which appears to indicate no build-up of paraffin. A second well is on hold awaiting results from the first well, which appears to be their most problematic one.

Success could lead to expansion of HCD Multi-Flow usage with this producer who has approximately 2000 wells in the region, approximately 100 of which are believed to have paraffin problems.

## **Update on HCD Multi-Flow Trials and Purchase Orders**

### Update on Purchase Orders for India

Further to the purchase order announced on 8 August 2022 and update in the 30 January 2023 Quarterly Activities Report, HCD received a purchase order for Tri-Phase Squeeze on 4 wells from an independent oil and gas producer and a Letter of Award (LOA) from a second independent producer for Tri-Phase Squeeze on 1 well. All wells are in Gujarat and payment is based on success criteria being met.

The trials will employ HCD's Tri-Phase Squeeze technology to restore production and enhance oil recovery on a declining well.

### North Sea Purchase Order

In the 30 January 2023 Quarterly Activities Report, HCD reported that it received an initial purchase order for approximately A\$80,000 of HCD Multi-Flow from a large national European energy company to apply HCD Multi-Flow on a North Sea platform suffering from an acute paraffin deposition problem resulting in significant lost production. The producer is employing a paraffin inhibitor as well as a wax dissolver with little success. HCD Multi-Flow outperformed all products in head-to-head, third party wax flow loop testing.

40 drums of HCD Multi-Flow arrived in Aberdeen on 17 April and are awaiting Cefas registration that is needed to apply the chemical in the North Sea. We are in the process of applying for a temporary trial approval from Cefas to allow the producer to run the 60-day trial of HCD Multi-Flow.

### New HCD Tank Cleaning Order for the UAE

The following is a further update to our 30 January 2023 Quarterly Activities Report on a paid tank cleaning job with a large national oil company operating in the United Arab Emirates. HCD's Dubai based distributor has informed us that the 'Technology Group' that awarded them the tank cleaning job has been replaced by a 'Sustainability Department'. Our Dubai based distributor is working with the new group to get the tank cleaning job back on track.

The paid trial will employ approximately A\$135,000 of Kleen-Flow chemistry which has been purchased and delivered to the UAE.

## **Rights Issue Announced**

On April 17 HCD announced that it will undertake a 1 for 4 non-renounceable Rights Issue at \$0.012/share to raise up to approximately \$1.76m. In addition, one free attaching option for every new share will be issued, exercisable at \$0.02 and expiring on 12 May 2025. When announced the issue price of the Rights Issue was at 9% discount to the prevailing 30 day VWAP of \$0.0132.

The small capital raising and discounted price has been structured to encourage shareholder participation and the Company will seek to place any shortfall with sophisticated investors. All Australia directors have stated their intention to support the rights issue for their full allocation.

Peloton Capital Pty Ltd has been appointed to assist Directors to place any shortfall. The Rights Issue is not underwritten.

Funds raised from the Rights Issue will allow the Company to continue marketing its key product, HCD Multi-Flow and to continue to review investment opportunities in the energy and energy technology space as well as for general working capital purposes.

## **Sales & Marketing Progress**

HCD sales and marketing activity during the quarter increased through both HCD's agents and distributors and by way of direct sales activity. The following potential sales opportunities are at various stages and include:

- HCD's new Oklahoma based distributor is close to starting a paraffin control trial with an independent producer in Bakersfield, California. The distributor expects a purchase order in the second quarter for a 1 well trial to remediate paraffin deposits followed by continuous inhibition to keep the system clean. There is a potential to treat approximately 70 wells in this waxy field if proven successful and commercially viable. The distributor is also in negotiations for Tri-Phase Squeeze production enhancement well treatments on 3 to 4 wells.
- HCD is progressing with a small producer in Australia to trial HCD Multi-Flow for pour point reduction of their waxy, high pour point crude, once they secure an offtake agreement and government approvals are in place.
- In Utah, HCD's Texas based distributor reports progress on securing a trial of HCD Multi-Flow for paraffin control with a producer operating in the Uinta field in Utah.
- One of HCD's Texas based distributors continues discussions with a large national oil company operating in the Eagle Ford Shale of southern Texas. The distributor is working multiple channels to secure a trial of HCD Multi-Flow paraffin control technology. This distributor has also submitted a proposal for a crude oil tank cleaning job for a supermajor oil & gas company in Singapore valued at roughly US\$90,000.

- A meeting was held with the Permian Basin technical and operations team of a US supermajor oil & gas company after positive test results of HCD Multi-Flow in their in-house wax flow loop to evaluate its efficacy on their waxy, Permian Basin crude oil. The meeting was scheduled by the supermajor's central flow assurance group to present the results and discuss trialling our technology. We investigated what would be needed to turnkey the trial. Additional data was requested and supplied and a face-to-face meeting in the Permian is the next step.

## Testing Update

Laboratory testing, as always, remains an essential part of HCD's product development and marketing with the current focus being Cefas certification of HCD Multi-Flow for a North Sea application as noted above. HCD is working with Cefas to apply for a temporary trial approval from Cefas to allow the producer to run the 60-day or longer trial of HCD Multi-Flow.

As previously reported, HCD has been working with a US supermajor oil & gas company to test HCD Multi-Flow on their waxy Permian Basin crude oil in their in-house wax flow loop. Testing was completed in the first quarter and HCD Multi-Flow proved to be effective as an inhibitor and as a wax liquefier.

## Finance

At the end of the quarter HCD had \$1.035m in cash reserves and no debt. As noted above a 1 for 4 Rights Issue was announced to raise up to \$1.76m. The issue is not underwritten.

Related party transactions during the quarter were for approximately \$83,000 in Director's fees and \$70,000 in royalty payments.

Approved by the board of Directors.

For further information please contact:

**Stephen Mitchell**  
**Chairman**  
Hydrocarbon Dynamics Limited

**Julie Edwards**  
**Company Secretary**  
Hydrocarbon Dynamics Limited

Telephone: +61 3 9642 2899  
Website: [www.hydrocarbondynamics.com](http://www.hydrocarbondynamics.com)

ASX Code: HCD

## Appendix 5B

### Mining exploration entity or oil and gas exploration entity quarterly cash flow report

Name of entity

Hydrocarbon Dynamics Limited

ABN

75 117 387 354

Quarter ended ("current quarter")

31 March 2023

Consolidated statement of cash flows	Current quarter \$A'000	Year to date (3 months) \$A'000
<b>1. Cash flows from operating activities</b>		
1.1 Receipts from customers	50	50
1.2 Payments for		
(a) exploration & evaluation	(3)	(3)
(b) development	-	-
(c) production	(41)	(41)
(d) staff costs	(206)	(206)
(e) administration and corporate costs	(83)	(83)
1.3 Dividends received (see note 3)	-	-
1.4 Interest received	5	5
1.5 Interest and other costs of finance paid	-	-
1.6 Income taxes paid	-	-
1.7 Government grants and tax incentives	-	-
1.8 Other (royalties)	(70)	(70)
<b>1.9 Net cash from / (used in) operating activities</b>	<b>(348)</b>	<b>(348)</b>
<b>2. Cash flows from investing activities</b>		
2.1 Payments to acquire or for:		
(a) entities	-	-
(b) tenements	-	-
(c) property, plant and equipment	-	-
(d) exploration & evaluation	-	-
(e) investments	-	-
(f) other non-current assets	-	-

## Mining exploration entity or oil and gas exploration entity quarterly cash flow report

Consolidated statement of cash flows		Current quarter \$A'000	Year to date (3 months) \$A'000
2.2	Proceeds from the disposal of:		
	(a) entities	-	-
	(b) tenements	-	-
	(c) property, plant and equipment	-	-
	(d) investments	-	-
	(e) other non-current assets	-	-
2.3	Cash flows from loans to other entities	-	-
2.4	Dividends received (see note 3)	-	-
2.5	Other (provide details if material)	-	-
<b>2.6</b>	<b>Net cash from / (used in) investing activities</b>	-	-
<b>3.</b>	<b>Cash flows from financing activities</b>		
3.1	Proceeds from issues of equity securities (excluding convertible debt securities)	-	-
3.2	Proceeds from issue of convertible debt securities	-	-
3.3	Proceeds from exercise of options	-	-
3.4	Transaction costs related to issues of equity securities or convertible debt securities	-	-
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)	-	-
<b>3.10</b>	<b>Net cash from / (used in) financing activities</b>	-	-
<b>4.</b>	<b>Net increase / (decrease) in cash and cash equivalents for the period</b>	(348)	(348)
4.1	Cash and cash equivalents at beginning of period	1,381	1,381
4.2	Net cash from / (used in) operating activities (item 1.9 above)	(348)	(348)
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)	-	-

## Mining exploration entity or oil and gas exploration entity quarterly cash flow report

<b>Consolidated statement of cash flows</b>		<b>Current quarter \$A'000</b>	<b>Year to date (3 months) \$A'000</b>
4.5	Effect of movement in exchange rates on cash held	2	2
<b>4.6</b>	<b>Cash and cash equivalents at end of period</b>	<b>1,035</b>	<b>1,035</b>

<b>5.</b>	<b>Reconciliation of cash and cash equivalents</b> at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts	<b>Current quarter \$A'000</b>	<b>Previous quarter \$A'000</b>
5.1	Bank balances	735	479
5.2	Call deposits	300	902
5.3	Bank overdrafts	-	-
5.4	Other (provide details)	-	-
<b>5.5</b>	<b>Cash and cash equivalents at end of quarter (should equal item 4.6 above)</b>	<b>1,035</b>	<b>1,381</b>

<b>6.</b>	<b>Payments to related parties of the entity and their associates</b>	<b>Current quarter \$A'000</b>
6.1	Aggregate amount of payments to related parties and their associates included in item 1	(153)
6.2	Aggregate amount of payments to related parties and their associates included in item 2	

*Note: if any amounts are shown in items 6.1 or 6.2, your quarterly activity report must include a description of, and an explanation for, such payments.*



## Mining exploration entity or oil and gas exploration entity quarterly cash flow report

7. <b>Financing facilities</b> <i>Note: the term "facility" includes all forms of financing arrangements available to the entity. Add notes as necessary for an understanding of the sources of finance available to the entity.</i>	<b>Total facility amount at quarter end \$A'000</b>	<b>Amount drawn at quarter end \$A'000</b>
7.1 Loan facilities		
7.2 Credit standby arrangements		
7.3 Other (please specify)		
7.4 <b>Total financing facilities</b>		
7.5 <b>Unused financing facilities available at quarter end</b>		
7.6 Include in the box below a description of each facility above, including the lender, interest rate, maturity date and whether it is secured or unsecured. If any additional financing facilities have been entered into or are proposed to be entered into after quarter end, include a note providing details of those facilities as well.		

8. <b>Estimated cash available for future operating activities</b>	<b>\$A'000</b>
8.1 Net cash from / (used in) operating activities (item 1.9)	(348)
8.2 (Payments for exploration & evaluation classified as investing activities) (item 2.1(d))	-
8.3 Total relevant outgoings (item 8.1 + item 8.2)	(348)
8.4 Cash and cash equivalents at quarter end (item 4.6)	1,035
8.5 Unused finance facilities available at quarter end (item 7.5)	-
8.6 Total available funding (item 8.4 + item 8.5)	1,035
8.7 <b>Estimated quarters of funding available (item 8.6 divided by item 8.3)</b>	2.97
<i>Note: if the entity has reported positive relevant outgoings (ie a net cash inflow) in item 8.3, answer item 8.7 as "N/A". Otherwise, a figure for the estimated quarters of funding available must be included in item 8.7.</i>	
8.8 If item 8.7 is less than 2 quarters, please provide answers to the following questions:	
8.8.1 Does the entity expect that it will continue to have the current level of net operating cash flows for the time being and, if not, why not?	
Answer:	
8.8.2 Has the entity taken any steps, or does it propose to take any steps, to raise further cash to fund its operations and, if so, what are those steps and how likely does it believe that they will be successful?	
Answer:	

## Mining exploration entity or oil and gas exploration entity quarterly cash flow report

8.8.3 Does the entity expect to be able to continue its operations and to meet its business objectives and, if so, on what basis?

Answer:

*Note: where item 8.7 is less than 2 quarters, all of questions 8.8.1, 8.8.2 and 8.8.3 above must be answered.*

### 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.

Date: 28 April 2023

Authorised by: By the Board

### Notes

1. This quarterly cash flow report and the accompanying activity report provide a basis for informing the market about the entity's activities for the past quarter, how they have been financed and the effect this has had on its cash position. An entity that wishes to disclose additional information over and above the minimum required under the Listing Rules is encouraged to do so.
2. If this quarterly cash flow 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 cash flow 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.
4. If this report has been authorised for release to the market by your board of directors, you can insert here: "By the board". If it has been authorised for release to the market by a committee of your board of directors, you can insert here: "By the [name of board committee – eg Audit and Risk Committee]". If it has been authorised for release to the market by a disclosure committee, you can insert here: "By the Disclosure Committee".
5. If this report has been authorised for release to the market by your board of directors and you wish to hold yourself out as complying with recommendation 4.2 of the ASX Corporate Governance Council's *Corporate Governance Principles and Recommendations*, the board should have received a declaration from its CEO and CFO that, in their opinion, the financial records of the entity have been properly maintained, that this report complies with the appropriate accounting standards and gives a true and fair view of the cash flows of the entity, and that their opinion has been formed on the basis of a sound system of risk management and internal control which is operating effectively.