

31 January 2024

December 2023 Quarterly Activities Report

Summary

- New purchase orders awarded
- South Sudan trial commences
- Small placement fully subscribed
- Gulf of Mexico trial moves to repeat order
- Share Purchase Plan announced (post quarter end)
- Solid sales and marketing progress with multiple trials underway
- Discussions with new distributors and agents continue
- Continued assessment of new upstream energy and energy technology projects for investment

New Purchase Orders Awarded

Dubai. Hydrocarbon Dynamics Limited (“HCD or “the Company”) received a purchase order from its new Dubai based distributor for approximately A\$130,000 for HCD Multi-Flow. The product is scheduled to arrive in Dubai in the middle of February and will be used by an operator in Africa to clean a pipeline containing organic deposits in preparation for running a smart pig. A successful outcome is expected to lead to other opportunities with this distributor and this client.

Gulf of Mexico. HCD received a second purchase order to trial HCD Multi-Flow on an offshore subsea pipeline in the Gulf of Mexico for the mid-sized oil and gas producer discussed in previous releases. This producer previously trialled HCD Multi-flow on two separate offshore wells as reported in the 21 April 2023 release and the June 2023 Quarterly Activities Report. The trials demonstrated the product’s efficacy at remediating and inhibiting paraffin deposition and led to these additional opportunities. The A\$10,000 purchase order was issued by our new US based distributor who has a significant presence in the Gulf of Mexico. HCD anticipates that success may result in an opportunity to treat their much larger pipeline with chemical treatment estimated at around A\$2,200,000 annually.

The treatment is designed to control paraffin deposition in topsides equipment and in the subsea pipeline. Successes with this producer will also give HCD’s distributor the references and track record needed to launch a sales and marketing campaign with other Gulf of Mexico producers plagued by similar paraffin related problems.

Post quarter end HCD received a repeat order from this customer following successful tests that demonstrated HCD Multi-Flow's effectiveness for paraffin control. HCD chemical injection started on an offshore subsea pipeline on 21 October 2023, replacing the incumbent chemical supplier's product. HCD Multi-Flow at 250 parts per million ("ppm") proved very effective at removing pipeline deposits and keeping the system clean as evidenced by a reduction in subsea pipeline pressure.

As part of the trial the producer then switched chemical treatment from HCD Multi-Flow to an aromatic solvent at 1200 ppm to compare treatments. The competing technology increased paraffin deposition with a subsequent increase in pipeline pressure. The producer immediately switched back to HCD Multi-flow and placed a repeat order for ~A\$9,000 through HCD's new Gulf of Mexico distributor.

USA. During the quarter, HCD continued trials with three new US customers. The first with a supermajor integrated oil and gas company for a one-well paraffin control trial in the Delaware Basin of New Mexico. The inaugural trial well is focused on downhole paraffin fouling that requires hot oiling/hot watering as a secondary means of paraffin control. The trial started in mid-December 2023.

The second one-well, paraffin control trial (2 drums HCD Multi-Flow) by HCD's new Oklahoma based distributor is for an independent oil & gas producer in Bakersfield, California. The trial kicked off in mid-December 2023.

The third trial is with HCD's new North Dakota based distributor. No paraffin related issues have been reported since start of testing in April 2023. The current extreme cold season will test the effectiveness of the product in this region. The producer has approximately 100 similar waxy wells in the region that are candidates for HCD technology upon a successful trial.

All three sales are of inconsequential amounts, but the opportunities can lead to significant business upon success.

Australia. During the quarter, HCD received a purchase order from a new Australian client for approximately A\$27,000 of HCD Multi-Flow. The product was used in a trial for pour point reduction of a high pour point crude. The producer reported that while HCD Multi-Flow reduced the crude's pour point, it was not sufficient to meet their requirements as the quantities required were non-commercial.

Sales and Marketing Progress

South Sudan

Further to the update provided in the September quarterly report, the trial in South Sudan commenced in December 2023. No results have yet been reported.

Previously, HCD reported that it had received the full payment of A\$185,000 for its new product, Bit-Flow D75 from a large operator in South Sudan that is majority owned by Malaysia's state-owned energy company, Petronas. The product shipped from Malaysia and arrived on site in South Sudan.

The operator had previously evaluated HCD chemistry for viscosity reduction on several of their crude oils, with in-house laboratory tests demonstrating that HCD technology is very effective at reducing the viscosity on two of their crude oil grades. The reduction in viscosity of the heavy crude oil is required to meet specifications for pipeline transportation during the winter months.

If the initial field treatment proves successful, the potential revenue associated with this opportunity is estimated to be approximately A\$3,000,000 annually. In addition, it could also lead to similar opportunities with other operators in the region.

Australia – Cooper basin

The HCD Multi-Flow paraffin control program continued to perform well through the 2023 winter season. HCD anticipates new opportunities in the client's other fields because of the effective treatment in their Cooper Basin production.

Alberta, Canada Ongoing Business

As reported in the September 2023 Quarterly Activities Report, HCD's Alberta, Canada distributor's paraffin control business with a mid-sized oil & gas producer is now ongoing. The number of wells being treated with HCD Multi-Flow has been revised to a total of 21 wells.

The distributor intends to expand its use of HCD Multi-Flow for paraffin control in Alberta as well as evaluate it for heavy oil viscosity and diluent reduction opportunities.

Tank Cleaning Trial in the UAE

As previously reported, the paid tank cleaning job with a large national oil company operating in the United Arab Emirates was delayed due to organisational changes, then put back on the schedule for cleaning in October 2023, only to be postponed again. HCD's Dubai based distributor continues to work on getting the job back on the docket and is in the process of attaining full product registration for Kleen-Flow with the National Oil Company.

India. As an update to our June 2023 Quarterly Activities Report, HCD shipped 38 drums of product in October to India for multiple Tri-Phase squeeze trials and a pour point reduction trial, with two different independent producers. The trials provide HCD with an opportunity to break into the independent producer market in India and are on a “no cure no pay” basis.

Cefas Approval Update for North Sea Paraffin Control Trial

As reported in the September 2023 Quarterly Activities Report, HCD has received the approval required for a trial of HCD Multi-Flow in the North Sea.

Platform infrastructure problems continue to delay the startup of the HCD Multi-flow paraffin control trial. We have been informed to expect the long-awaited trial to commence in February 2024. The initial purchase order was for approximately A\$80,000 of HCD Multi-Flow.

Laboratory Testing Update

After receiving approval for trial usage in the North Sea, HCD resubmitted paperwork to Cefas for permanent approval of HCD Multi-Flow. Achieving full North Sea Cefas registration of HCD Multi-Flow and utilising wax flow loop testing to drive sales opportunities continues to be a key focus. Based on the last discussion with Cefas, it is anticipated that approval should be received in February 2024.

Polymer modified bitumen tank sludge samples were received by our Dubai based distributor and shipped to HCD for testing. With much agitation, the tarry sludge was successfully liquified with Kleen-Flow and stayed in the liquid phase for weeks. A writeup is being prepared for our distributor to deliver to the CEO of a large African state-owned company marketing petroleum products and derivatives.

Exploration & Corporate Activities

During the quarter HCD continued to assess exploration opportunities in the energy sector on a regular basis. The Company also reviewed several energy technology opportunities. HCD will also continue to consider options to finance its existing chemical business through joint ventures, private equity and other avenues.

Small Private Placement Fully Subscribed

During the quarter HCD completed a share placement of 120,000,000 fully paid ordinary shares at an issue price of 0.45 cents per share raising \$540,000 before fees. In addition, the Company issued 40,000,000 options, being one free option for every three shares issued. The unlisted options will have an exercise price of 1.5 cents and expire two years from the issue date.

The placement was issued to unrelated parties under existing capacity, with 64,996,591 fully paid ordinary shares issued under the Listing Rule 7.1A and 55,003,409 shares and 40,000,000 options issued under Listing Rule 7.1.

Proceeds from the issue will be used for working capital purposes while the company completes a review of financing options of its existing operations as well as to advance new investment opportunities.

Share Purchase Plan Announced

As a follow-up to the recent share placement, on 5 January 2024 HCD announced a SPP that allows Eligible Shareholders the opportunity to subscribe for up to \$30,000 at an offer price of 0.45 cents per share. The Offer Price is the same price as the price at which Shares have been offered to investors under the Placement announced by HCD on 22 December 2023, and which represents a 10% discount to the Company's closing price of 0.5 cents per Share on 12 January 2024 (being the last trading day prior to the announcement of the Placement), and a 2.5% premium to the Company's 5-day VWAP of 0.44 cents. This opportunity is being provided on a similar basis as the recently announced placement, although no options are being provided as part of the SPP.

Finance

At the end of the quarter HCD had \$974,000 in cash reserves and no debt.

Related party transactions during the quarter were for approximately \$82,000 in Director's fees and \$74,000 in royalty payments.

This release has been approved by the Board of Directors.

For further information please contact:

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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 December 2023

Consolidated statement of cash flows	Current quarter \$A'000	Year to date (12 months) \$A'000
1. Cash flows from operating activities		
1.1 Receipts from customers	35	497
1.2 Payments for		
(a) exploration & evaluation (reallocated to corporate costs)	-	-
(b) development	-	-
(c) production	(106)	(254)
(d) staff costs	(242)	(873)
(e) administration and corporate costs	(239)	(768)
1.3 Dividends received (see note 3)	-	-
1.4 Interest received	2	20
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)	(74)	(291)
1.9 Net cash from / (used in) operating activities	(624)	(1,669)
2. Cash flows from investing activities		
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 (12 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)	-	-
2.6	Net cash from / (used in) investing activities	-	-

3.	Cash flows from financing activities		
3.1	Proceeds from issues of equity securities (excluding convertible debt securities)	540	1,291
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	-	(29)
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	540	1,262

4.	Net increase / (decrease) in cash and cash equivalents for the period	(317)	(311)
4.1	Cash and cash equivalents at beginning of period	1,057	1,381
4.2	Net cash from / (used in) operating activities (item 1.9 above)	(624)	(1,669)
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)	540	1,262

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 (12 months) \$A'000
4.5	Effect of movement in exchange rates on cash held	1	-
4.6	Cash and cash equivalents at end of period	974	974

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	974	553
5.2	Call deposits	-	504
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)	974	1,057

6.	Payments to related parties of the entity and their associates	Current quarter \$A'000
6.1	Aggregate amount of payments to related parties and their associates included in item 1	(156)
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. Financing facilities <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>	Total facility amount at quarter end \$A'000	Amount drawn at quarter end \$A'000
7.1 Loan facilities		
7.2 Credit standby arrangements		
7.3 Other (please specify)		
7.4 Total financing facilities		
7.5 Unused financing facilities available at quarter end		
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. Estimated cash available for future operating activities	\$A'000
8.1 Net cash from / (used in) operating activities (item 1.9)	(624)
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)	(624)
8.4 Cash and cash equivalents at quarter end (item 4.6)	974
8.5 Unused finance facilities available at quarter end (item 7.5)	-
8.6 Total available funding (item 8.4 + item 8.5)	974
8.7 Estimated quarters of funding available (item 8.6 divided by item 8.3)	1.56
<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: No. The Company expects that net operating cashflows will be reduced in the current quarter as it does not intend to incur production (blending) costs, and it has also taken steps to reduce other operational expenditures.	
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: Yes, the Company announced a Share Purchase Plan (SPP) on 15 January 2024. Success of this SPP in raising additional funding will be dependent on market conditions.	

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: Yes, noting that the Company is presently implementing cost cutting measures, undertaking a review of the financing options for its existing operations and advancing potential new investment opportunities.

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: 31 January 2024

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.