

29 July 2022

June 2022 Quarterly Activities Report

Summary

- Santos expands use of Multi-Flow to 30 wells after successful trial
- Trial awarded for mid-sized producer in the Gulf of Mexico
- Downhole trial awarded in Texas on single well for small producer
- Discussions with new distributors and agents continue
- Sales and marketing progress
- Testing update
- Continued assessment of new energy and energy technology projects

Cooper Basin 30 Well Treatment

On 26th April Hydrocarbon Dynamics Limited (“HCD”) announced that it had been awarded the chemical treatment business for thirty wells with receipt of a follow-up order from Santos, a large Australian oil and gas producer in the Cooper Basin. The order follows a successful trial on three wells in 2021 and was reported in the March quarterly report released on 29th April 2022.

In its announcement HCD noted that it’s technology was replacing one of the world’s largest oilfield chemical companies that previously treated these wells and that the initial order was for approximately A\$140,000.

The treatment is occurring on a waxy field in the Cooper Basin where it is being used to mitigate down time and production loss issues stemming from paraffin build-up. Treatment on the new wells commenced in mid-June and reports so far are very positive. The wells treated with HCD Multi-Flow have seen a significant improvement as expected.

During the trial the use of HCD Multi-Flow reduced lost production by 96% with the added benefits of cleaner flow lines and no additional build-up of sludge in the tanks.

HCD is connecting with other producers in the region with similar production issues to communicate the success of the HCD technology and to look for additional opportunities.

Gulf of Mexico Trial

On 4 July 2022 HCD announced that a mid-cap producer in the Gulf of Mexico had taken delivery of 8 drums of HCD Multi-Flow to test the chemical’s ability to mitigate paraffin deposits in a subsea pipeline causing high pressures and restricting crude oil flow. The current treatment regime has proven ineffective and the aromatic solvent soaks that helped in the past now have limited success.

This application is a new type of challenge for HCD technology as the crude oil flow is intermittent with long periods of downtime. It will test the limits of HCD's technology and if successful, provide another revenue pathway for HCD's chemistry.

Success is expected to result in a continuous application and expansion into other wells with this producer as well as lead to opportunities with other producers in the Gulf of Mexico.

In addition to this trial, the producer is looking for opportunities to trial HCD Multi-Flow on a pipeline with continuous flow and wax deposition issues. They have identified at least one potential option.

Small Treatment on Texas Well

One of HCD's new USA based distributors was awarded a production enhancement squeeze with a small operator on a stripper well in the Permian basin. HCD performed a Tri-Phase Squeeze on 21 July and the well was brought back online on 25 July. The purpose of the squeeze is to enhance oil and gas production, operational efficiency, and field economics. The well will be closely monitored and evaluated over the following months. Although initial signs look promising, it is too early to assess.

This producer operates roughly 1600 wells, many with similar paraffin issues. An operational and economic success here could lead to additional squeeze jobs with this operator as well as opportunities with other producers in the region.

Sales & Marketing Progress

- As previously reported, HCD was given a verbal commitment from a national oil company operating in the North Sea to trial HCD's paraffin control technology, contingent on Cefas product registration. Cefas testing is progressing, and we anticipate the current stage to be completed in the last week of July. Results will dictate if additional testing is required.
- Progress is being made with a USA supermajor oil and gas company. They are exploring the possibility of trialling our technology in three different areas for heavy oil diluent reduction, asphaltene control on a gas lift asset and for paraffin control. Wax flow loop testing on HCD Multi-Flow is expected to start in the next few weeks. Positive test results are expected to lead to trial opportunities.
- HCD is currently in discussion with a potential new distributor in North Dakota, USA, to trial our HCD Multi-Flow technology with a Bakken operator who has production with long flowlines and consistent paraffin issues.
- Wax flow loop testing is expected to start in late July or early August on a waxy Eagle Ford Shale crude for a midsized Texas based distributor. The test is being performed to demonstrate HCD Multi-Flow's ability to control paraffin, which has proven to be difficult to do under the current chemical regime. A successful outcome is expected to result in a trial.

- HCD's Dubai based distributor is slowly moving forward with a national oil company operating in the United Arab Emirates for tank cleaning opportunities and anticipates a tank cleaning project to take place with Kleen-Flow in the 4th Quarter of 2022. A positive outcome could lead to a significant volume of business. The distributor is also moving forward with similar opportunities in North Africa.
- HCD's India based distributor is progressing with a large private sector producer in India, for the treatment of a significant crude oil pipeline. Rheology testing was completed and shared with the producer. Tests show that the only option to reach the ultra low viscosity target for their pipeline is a combination of heat boilers and HCD Multi-Flow where Multi-Flow allows them to eliminate some of their boilers. A trial will be needed to demonstrate this. The producer is considering whether award a.

Testing Update

Laboratory testing remains a continuing and important part of HCD's product development and marketing with the current focus being Cefas certification of HCD Multi-Flow for a large North Sea application. Cefas certification documentation, which is required for HCD to progress the North Sea opportunity, have recently been submitted and we are now undergoing the Partitioning Test phase of certification. Test results are expected at the end of July. HCD Multi-Flow is also undergoing compatibility testing with the incumbent wax prevention product used in the producer's offshore application. The independent testing group, Intertek UK, will be running this testing and results are expected in two to three weeks to further move us toward this offshore application.

Flow loop testing has commenced on samples in the Eagle Ford Shale and the Permian Basin as flow loop testing best simulates field conditions and accentuates the effectiveness of HCD Multi-Flow in field applications. Results are to be available at the end of July according to AFS laboratory.

Viscosity reduction testing was performed on a crude oil from a large independent producer in India using the Brookfield viscosity method. Average viscosity reduction showed a very promising result of 86% reduction at an estimated injection rate of 1850 PPM HCD Multi-Flow. Testing was performed at 30C, 40C, and 50C. The distributor is in discussion with the producer to ascertain the next step for a field application.

Finance

At the end of the quarter HCD had \$2.2m in cash reserves and no debt.

Related party transactions during the quarter were for approximately \$93,000 in Director's fees and \$66,000 in royalty payments.

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")

30 June 2022

Consolidated statement of cash flows		Current quarter \$A'000	Year to date (6 months) \$A'000
1.	Cash flows from operating activities		
1.1	Receipts from customers	-	20
1.2	Payments for		
	(a) exploration & evaluation (if expensed)	(25)	(35)
	(b) development		
	(c) production	(31)	(46)
	(d) staff costs	(192)	(372)
	(e) administration and corporate costs	(115)	(196)
1.3	Dividends received (see note 3)		
1.4	Interest received	1	1
1.5	Interest and other costs of finance paid	-	-
1.6	Income taxes paid	-	-
1.7	Government grants and tax incentives	-	-
1.8	Other (Royalty)	(89)	(134)
1.9	Net cash from / (used in) operating activities	(451)	(762)

2.	Cash flows from investing activities		
2.1	Payments to acquire:		
	(a) entities		
	(b) tenements		
	(c) property, plant and equipment		
	(d) exploration & evaluation (if capitalised)		
	(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 (6 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 (Bond)		
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)	68	1,615
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	(17)	(55)
3.5	Proceeds from borrowings		
3.6	Repayment of borrowings	(40)	(40)
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	11	1520

4.	Net increase / (decrease) in cash and cash equivalents for the period		
4.1	Cash and cash equivalents at beginning of period	2,592	1,394
4.2	Net cash from / (used in) operating activities (item 1.9 above)	(451)	(762)
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)	11	1,520

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 (6 months) \$A'000
4.5	Effect of movement in exchange rates on cash held	-	-
4.6	Cash and cash equivalents at end of period	2,152	2,152

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	1,851	2,291
5.2	Call deposits	301	301
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)	2,152	2,592

6. Payments to related parties of the entity and their associates

- 6.1 Aggregate amount of payments to related parties and their associates included in item 1
- 6.2 Aggregate amount of payments to related parties and their associates included in item 2

Current quarter \$A'000
(182)
-

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)	(451)
8.2 Capitalised exploration & evaluation (Item 2.1(d))	-
8.3 Total relevant outgoings (Item 8.1 + Item 8.2)	(451)
8.4 Cash and cash equivalents at quarter end (Item 4.6)	2,152
8.5 Unused finance facilities available at quarter end (Item 7.5)	-
8.6 Total available funding (Item 8.4 + Item 8.5)	2,152
8.7 Estimated quarters of funding available (Item 8.6 divided by Item 8.3)	4.77

8.8 If Item 8.7 is less than 2 quarters, please provide answers to the following questions:

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?

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?

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

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: 29 July 2022

Authorised: 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.