NEWS RELEASE **MARCH 13, 2023**

CARDINAL ENERGY LTD. ANNOUNCES FOURTH QUARTER 2022 AND YEAR-END FINANCIAL RESULTS

Calgary, Alberta – Cardinal Energy Ltd. ("Cardinal" or the "Company") (TSX: CJ) is pleased to announce its operating and financial results for the fourth quarter and year ended December 31, 2022.

HIGHLIGHTS FROM THE FOURTH QUARTER AND FULL YEAR OF 2022

- Reduced net debt(1) by $115.5 million in 2022, a 65% reduction over year-end 2021 which reduces corporate risk and increases Cardinal's sustainability;
- Reinstated our monthly dividend in 2022 and subsequently increased it to $0.06 per share per month in the fourth quarter providing shareholders with direct returns. In addition, we repurchased and cancelled 3.7 million common shares with our normal course issuer bid ("NCIB") in 2022;
- Expanded our development drilling inventory with the addition of over 90 Rex locations in our Central operating area and began the development of our Tide Lake Ellerslie pool in Southern Alberta where our four most recent multilateral horizontal wells have delivered initial production rates after 90 days ("IP90") of over 400 boe/d per well;
- Reduced our future abandonment and reclamation obligations ("ARO") in 2022 through a combination of dispositions of non-core assets with a high ARO and approximately $19.6 million of actual expenditures further reducing our inactive liabilities;
- For the fourth quarter and for 2022, production increased 4% and 12%, respectively, over the same periods in 2021;
- Increased adjusted funds flow(1) for the fourth quarter and for the full year of 2022 by 28% and 174%, respectively, over the same periods in 2021.

(1) See non-GAAP and other financial measures.

The following table summarizes our fourth quarter and annual 2022 operating and financial highlights:

($000's except shares, per share and operating amounts)	Three months ended December 31			Year ended December 31		
	2022	2021	% Chg	2022	2021	% Chg
Financial						
Petroleum and natural gas revenue	154,894	140,409	10	737,590	445,069	66
Cash flow from operating activities	68,685	51,973	32	337,263	125,121	170
Adjusted funds flow (1)	68,248	53,495	28	362,783	132,507	174
per share - basic	$ 0.44	$ 0.36	22	$ 2.36	$ 0.92	157
per share - diluted	$ 0.43	$ 0.33	30	$ 2.30	$ 0.86	167
Earnings	113,865	38,955	192	302,687	284,415	6
per share - basic	$ 0.73	$ 0.26	181	$ 1.97	$ 1.98	(1)
per share - diluted	$ 0.71	$ 0.24	196	$ 1.92	$ 1.84	4
Development capital expenditures (1)	32,156	18,110	78	115,422	50,576	128
Other capital expenditures (1)	890	621	43	2,803	1,493	88
Property acquisitions less dispositions (1)	1,862	(10,069)	n/m	2,007	(6,041)	n/m
Total capital expenditures (1)	34,908	8,662	303	120,232	46,028	161
Common shares, net of treasury shares (000s)	155,757	150,442	4	155,757	150,442	4
Dividends declared	28,699	-	n/m	60,856	-	n/m
Per share	0.18	-	n/m	0.38	-	n/m
Total Payout ratio (1)	89%	34%		49%	38%	
Bank debt				31,280	142,412	(78)
Adjusted working capital deficiency (1)				31,392	23,235	35
Net bank debt (1)				62,672	165,647	(62)
Secured notes				-	12,546	(100)
Net debt (1)				62,672	178,193	(65)
Net debt to adjusted fund flow ratio (1)				0.2	1.3	(85)
Operating						
Average daily production						
Light oil (bbl/d)	8,051	7,509	7	8,045	7,293	10
Medium/heavy oil (bbl/d)	9,891	9,857	-	10,086	8,533	18
NGL (bbl/d)	802	870	(8)	851	915	(7)
Natural gas (mcf/d)	15,222	13,733	11	14,933	14,093	6
Total (boe/d)	21,281	20,525	4	21,471	19,090	12
Netback ($/boe) (1)						
Petroleum and natural gas revenue	79.11	74.36	6	94.12	63.88	47
Royalties	(15.43)	(14.67)	5	(19.14)	(11.49)	67
Net operating expenses (1)	(25.72)	(22.29)	15	(24.88)	(22.22)	12
Transportation expenses	(0.87)	(0.73)	19	(0.80)	(0.49)	63
Netback (1)	37.09	36.67	1	49.30	29.68	66
Realized gain/(loss) on commodity contracts	0.85	(4.74)	n/m	0.21	(6.72)	n/m
Interest and other	(0.67)	(1.26)	(46)	(0.86)	(1.79)	(52)
G&A	(2.41)	(2.34)	3	(2.36)	(2.15)	10
Adjusted funds flow (1)	34.86	28.33	23	46.29	19.02	143

(1) See non-GAAP and other financial measures.
n/m Not meaningful or not calculable

FOURTH QUARTER OVERVIEW

In the fourth quarter of 2022, oil prices continued to be strong although decreased by 10% over the third quarter of 2022 with the West Texas Intermediate ("WTI") benchmark oil price averaging US$82.65/bbl. Canadian oil differentials widened during the fourth quarter which decreased the Western Canadian Select ("WCS") benchmark price by approximately 18% over the third quarter. Production remained above our budget but was down from the prior quarter as cold weather impacted operations during the fourth quarter.

Fourth quarter 2022 adjusted funds flow of $68.2 million was 28% higher than the same period in 2021. On a per diluted share basis, adjusted funds flow was $0.43/share, a 30% increase over the fourth quarter of 2021. Fourth quarter 2022 free cash flow of $36.1 million was utilized for increased dividends and additional asset retirement expenditures further reducing our environmental footprint to enhance the long-term sustainability of the Company.

Earnings increased to $113.9 million in the fourth quarter of 2022 due to a reversal of a prior year impairment and the recovery of a deferred tax asset combined with increased revenue. The Company has now recovered all remaining prior year impairments available for reversal. During the quarter, Cardinal also recovered its deferred tax asset as there was sufficient certainty of future utilization. The Company has approximately $1.3 billion of tax pools and based on current forecast pricing does not expect to be taxable until 2026 or beyond.

In the fourth quarter of 2022, the Company invested $34.9 million in capital expenditures focused on the expansion of our Tide Lake, Southern Alberta Ellerslie development along with increasing our land position on the Wainwright, Central Alberta Rex oil prospect. At Tide Lake, the final five (5.0 net) commitment wells were drilled, completed and brought on stream late in the fourth quarter through our newly commissioned and expanded infrastructure. In particular the success of the fourth quarter 2022 four (4.0 net) Ellerslie wells has further expanded the prospective long term development area. The Company has identified 40 potential locations in the Ellerslie development at Tide Lake with eight undeveloped locations recognized in our year-end reserve report. As development continues over the next several years we anticipate the potential of significant future reserve bookings.

Over the past several months, Cardinal has been successful in consolidating its land position covering the prospective area associated with the Wainwright Rex oil discovery. Between October of 2022 and February of this year, through a combination of Crown land sales, freehold leasing and acquisitions, the Company has added over 20 sections of prospective acreage within the play boundaries and now has identified 90 future drilling locations, of which three were booked at year end on this emerging multilateral oil prospect.

Cardinal continues to be responsible stewards of its capital in enhancing shareholder value. Although our 2022 year end reserve report release on February 27, 2023 disclosed proved producing reserves per share increasing in 2022 on both a barrel equivalent (8%) and a present value 10% discounted basis (34%), Cardinal continued with its prudent booking practices. Proved producing reserves accounted for over 68% of total reserve volumes. The future capital which is reflected in booked reserves represents less than two times our capital expenditures for 2022. Both metrics are among the best exhibited by our oil and gas industry peers. The drilling locations embedded in our report represent less than 15% of internally identified economic locations on our lands.

Supporting our low base decline, the Company continued with its well reactivation program on recompletions and workovers throughout its operating areas and continued with the enhanced oil recovery program with CO_2 injection at Midale, Saskatchewan. In the fourth quarter, Cardinal also closed net acquisitions of $1.9 million which included an increase in a unit working interest in the North area partially offset by a $0.4 million disposition of approximately 300 boe/d of high cost heavy oil with associated decommissioning obligations of $8.0 million.

Fourth quarter 2022 net operating expenses per boe were 4% lower than the prior quarter at $25.72/boe due to lower fourth quarter Alberta electricity costs and reduced workover activity. In 2022, net operating expenses were higher than historical levels as Alberta power prices have significantly increased over 2021. In 2022, average Alberta power prices increased approximately 60% averaging over $162/MWh, which elevated net operating costs by over

$2.00/boe as compared to 2021. To mitigate increasing future power costs, Cardinal has entered into power contracts that fix the price of over 70% of the Company's average monthly Alberta power usage at an average price of $85/MWh which is 48% lower than the average price in 2022.

Cardinal's net debt closed 2022 at $62.7 million which included $31.3 million of bank debt and $31.4 million of a working capital deficiency. The $31.3 million of bank debt represents drawings of 20% on our $155 million credit facility. During the fourth quarter, the Company chose to reduce our credit facility by $30 million in order to reduce standby fees which has contributed to a 46% decrease in interest and other costs per boe over the same period in 2021.

In the fourth quarter of 2022, Cardinal increased its dividend by 20% to $0.06 per common share for a total of $28.7 million of dividends. In 2022, Cardinal has returned over $106 million to shareholders in the form of dividends, treasury share purchases and common share cancellations through our NCIB.

(1) See non-GAAP and other financial measures.

OPERATIONS

Cardinal's average production was 21,471 boe/d in 2022. The Company drilled 26 (24.8 net) wells in the year consisting of 23 (22.3 net) producing wells, two (1.5 net) injection wells and one (1.0 net) unsuccessful exploratory well. In aggregate, the 23 producing wells have delivered production at rates above expectations with average capital efficiency based upon IP90 rates of approximately $10,000/boe per day. Cardinal's entire drill, complete, equip and tie-in development capital paid out in 2022 from the income generated from the wells drilled. Drilling results across our asset base outperformed expectations with select highlights as follows:

- At Tide Lake, we continued to see successful drill results throughout 2022 with average drill, complete, equip and tie-in development capital costs of $1.8 million per well on our four (4.0 net) Tide Lake Ellerslie multilateral oil wells which delivered average IP90 rates over 400 boe/d per well. The infrastructure expansion in this area through the last half of the year created capacity to accommodate all of our 2021 and 2022 drilling and future drilling. Over the past two years our production within the Tide Lake area has grown from approximately 500 boe/d to over 3,000 boe/d;

- After being on stream for over ten months our four (4.0 net) Clearwater (Nipisi) multilateral wells continue to exceed our forecasts with current aggregate production of approximately 550 boe/d. These wells have paid out over two times to date;

- Brought on stream in August, our Wainwright Central Alberta Rex multilateral discovery well continues to produce above expectation with current rates over 125 boe/d. With our existing land position expanded through additional acquisitions in 2022 and 2023 the Company has identified over 90 potential multi-lateral follow up locations on this play trend to develop over the next several years;

- At Midale, Saskatchewan our 2022 drills consisting of two (1.5 net) injector wells and two (1.5 net) producing wells continue to supplement the long life low decline oil production.

Optimization efforts through the first quarter across our asset base have continued to support Cardinal’s top decile base decline rate. To date, in 2023, Cardinal has drilled three (3.0 net) multi-leg Clearwater oil wells at Nipisi of the four (4.0 net) wells planned on a single padsite. These wells are expected to be on-stream early in the second quarter of 2023.

ENVIRONMENTAL, SOCIAL AND GOVERNANCE ("ESG")

Cardinal's strong corporate emissions performance has continued in 2022 with ongoing CO_2 sequestration in Saskatchewan and further implementation of projects aimed at reducing emissions from our operations across Alberta. Through our world class Carbon Capture and Sequestration ("CCS") enhanced oil recovery ("EOR") operation at Midale, the Company sequestered approximately 292,000 tonnes of CO_2 equivalent in 2022. This amount of carbon sequestration far exceeds our scope 1 emissions. To date, the Midale CCS EOR project has sequestered over five million tonnes of CO_2 and has reduced oil production decline rates from this project to approximately 3%.

Cardinal's safety record continues to be in the top tier of the industry, as is our regulatory compliance level.

In 2022, Cardinal continued its commitment to responsible, sustainable operations spending $19.6 million towards ARO. The government funded programs ended in 2022; however, Cardinal utilized approximately $30 million of gross funding along with its own combined spend to abandon 556 (482 net) wells in the last three years. Reclamation and returning the surface to its original use remains an ongoing focus. Cardinal has reclaimed 271 (237 net) sites and continues with the ongoing vegetation monitoring and moving these sites forward to closure. We minimize our environmental footprint through multi-well padsites for new drilling, with only 40% of drills on new leases.

In 2022, Cardinal disposed of approximately $11 million of undiscounted future ARO liability from interests in 281 well licenses and nine facilities. In 2023, Cardinal continues to high-grade our assets and has disposed of, or has agreements in place to dispose of, interests in 59 (27 net) well licenses and eight facility licenses, reducing our undiscounted future ARO by $4.9 million.

Cardinal will continue with our commitment to reduce our environmental footprint with $23 million in our 2023 budget for ARO, more than 2.5 times our required regulatory spend requirements.

OUTLOOK

2022 was a very successful year for Cardinal and its shareholders. When we prepared our 2022 budget in late 2021, our focus was to accomplish three things; reduce the risk in our business, improve our sustainability and provide returns to shareholders.

Our single largest achievement in 2022 was the significant reduction in our debt. At current debt levels we no longer view debt as a significant risk factor but will strive to reduce it to zero as appropriate.

Sustainability was dramatically improved in 2022 with large increases to our development drilling inventory throughout our asset base.

In our Central operating area, we were able to identify and test an oil zone using new multi-leg technology resulting in the successful drilling of a well which, with further land acquisitions in 2022 and 2023, has given us an estimated 90 development drilling locations. The success of this play not only gives the area a large inventory of future locations but has the added benefit of reducing the operating costs on existing production and facilities through economies of scale. Cardinal plans to drill six to eight wells on this play in 2023 which, if successful, we expect will reduce operating costs on the existing property by $8-$9/boe based on approximately 1,100 boe/d of current production. Although this is one example of true half cycle economics, we are doing similar projects in our Southern Alberta business unit and receive this benefit in our other operating areas as well.

Our overall focus for 2023 will not change from 2022. Continue to improve our sustainability, reduce risk and ensure returns to shareholders utilizing our NCIB, dividends and special dividends when appropriate.

On behalf of the Board of Directors, management and employees, we would like to thank our shareholders for their continued support.

ANNUAL FILINGS

Cardinal also announces the filing of its Audited Financial Statements for the year ended December 31, 2022 and related Management's Discussion and Analysis with the Canadian securities regulatory authorities on the System for Electronic Analysis and Retrieval ("SEDAR"). In addition, Cardinal will file its Annual Information Form for the year ended December 31, 2022 on SEDAR on or prior to March 31, 2023. Electronic copies may be obtained on Cardinal's website at www.cardinalenergy.ca and on Cardinal's SEDAR profile at www.sedar.com.

Note Regarding Forward-Looking Statements

This press release contains forward-looking statements and forward-looking information (collectively "forward-looking information") within the meaning of applicable securities laws relating to Cardinal's plans and other aspects of Cardinal's anticipated future operations, management focus, objectives, strategies, financial, operating and production results. Forward-looking information typically uses words such as "anticipate", "believe", "project", "expect", "goal", "plan", "intend", "may", "would", "could" or "will" or similar words suggesting future outcomes, events or performance. The forward-looking statements contained in this press release speak only as of the date thereof and are expressly qualified by this cautionary statement.

Specifically, this press release contains forward-looking statements relating to: the Company's expectation of the potential of significant future reserve bookings as development continues at the Ellerslie development at Tide Lake, that Cardinal's Clearwater oil wells at Nipisi are expected to be on-stream late in the first quarter or early in the second quarter of 2023, Cardinal's intention to continue with its commitment to reduce its environmental footprint with $23 million in its 2023 budget for ARO, matters set forth under "Outlook" including that the Company will strive to reduce debt to zero as appropriate, that Cardinal plans to drill six to eight wells in its Central operating area in 2023 which, if successful, it expects will reduce operating costs on the existing property by $8-$9/boe based on approximately 1,100 boe/d of production, Cardinal's intention to continue to improve its sustainability, reduce risk and ensure returns to shareholders utilizing our NCIB, dividends and special dividends when appropriate, our business strategies, plans and objectives, plans to continue with our debt reduction strategy, our 2023 capital program and spending plans, our drilling and completion plans, expectations with respect to ongoing new wells and our drilling inventory, the sufficiency of our infrastructure at Tide Lake, the quality of our asset base and decline rates, that the Company does not expect to be taxable until 2026 or beyond, our abandonment and reclamation program, expectations with respect to future operating costs, our future ESG performance, plans to upgrade our drilling inventory, dividend plans, NCIB plans and strategies, plans to operate our assets in a responsible and environmentally sensitive manner, our plans to reduce risk and return capital to shareholders (including through dividends and share buybacks), strategies with respect to Cardinal's share based compensation programs, and our future forecasted and targeted debt levels.

Forward-looking statements regarding Cardinal are based on certain key expectations and assumptions of Cardinal concerning anticipated financial performance, business prospects, strategies, regulatory developments, current and future commodity prices and exchange rates, effects of inflation, applicable royalty rates, tax laws, industry conditions, availability of government subsidies and abandonment and reclamation programs, future well production rates and reserve volumes, future operating costs, the performance of existing and future wells, the success of our exploration and development activities, the sufficiency and timing of budgeted capital expenditures in carrying out planned activities, the timing and success of our cost cutting initiatives and power projects, the availability and cost of labor and services, the impact of competition, conditions in general economic and financial markets, availability of drilling and related equipment, effects of regulation by governmental agencies, the ability to obtain financing on acceptable terms which are subject to change based on commodity prices, market conditions and drilling success and potential timing delays.

These forward-looking statements are subject to numerous risks and uncertainties, certain of which are beyond Cardinal's control. Such risks and uncertainties include, without limitation: the impact of general economic conditions; volatility in market prices for crude oil and natural gas; industry conditions; currency fluctuations; imprecision of reserve estimates; liabilities inherent in crude oil and natural gas operations; environmental risks; incorrect assessments of the value of acquisitions and exploration and development programs; competition from other producers; the lack of availability of qualified personnel, drilling rigs or other services; changes in income tax laws or changes in royalty rates and incentive programs relating to the oil and gas industry including abandonment and reclamation programs; hazards such as fire, explosion, blowouts, and spills, each of which could result in substantial damage to wells, production facilities, other property and the environment or in personal injury; and ability to access sufficient capital from internal and external sources.

Management has included the forward-looking statements above and a summary of assumptions and risks related to forward-looking statements provided in this press release in order to provide readers with a more complete perspective on Cardinal's future operations and such information may not be appropriate for other purposes. Cardinal's actual results, performance or achievement could differ materially from those expressed in, or implied by, these forward-looking statements and, accordingly, no assurance can be given that any of the events anticipated by the forward-looking statements will transpire or occur, or if any of them do so, what benefits that Cardinal will derive there from. Readers are cautioned that the foregoing lists of factors are not exhaustive. These forward-looking statements are made as of the date of this press release and Cardinal disclaims any intent or obligation to update publicly any forward-looking statements, whether as a result of new information, future events or results or otherwise, other than as required by applicable securities laws.

Supplemental Information Regarding Product Types

This news release includes references to 2022 and 2021 production. The Company discloses crude oil production based on the pricing index that the oil is priced off of. The following table is intended to provide the product type composition as defined by NI 51-101.

	Light/Medium Crude Oil	Heavy Oil	NGL	Conventional Natural Gas	Total (boe/d)
Q4/22	49%	35%	4%	12%	21,281
Q4/21	51%	34%	4%	11%	20,525
2022	50%	34%	4%	12%	21,471
2021	54%	29%	5%	12%	19,090
Tide Lake	-	89%	-	11	400
Nipisi	-	97%	-	3	550
Central AB Rex	-	100%	-	-	125
Disposed	-	100%	-	-	300

Non-GAAP and Other Financial Measures

This news release contains certain specified measures consisting of non-GAAP financial measures, capital management measures, non-GAAP financial ratios, and supplementary financial measures. Since these specified financial measures may not have a standardized meaning, they must be clearly defined and, where required, reconciled with their nearest GAAP measure and may not be comparable with the calculation of similar financial measures disclosed by other entities.

Non-GAAP Financial Measures

Net operating expenses

Net operating expenses is calculated as operating expense less processing and other revenue primarily generated by processing third party volumes at processing facilities where the Company has an ownership interest, and can be expressed on a per boe basis. As the Company's principal business is not that of a midstream entity, management believes this is a useful supplemental measure to reflect the true cash outlay at its processing facilities by utilizing spare capacity to process third party volumes.

	Three months ended		**Year ended**	
	Dec 31, 2022	Dec 31, 2021	**Dec 31, 2022**	Dec 31, 2021
Operating expenses	**51,301**	42,932	**199,197**	158,529
Less: Processing and other revenue	**(950)**	(842)	**(4,250)**	(3,686)
Net operating expenses	**50,351**	42,090	**194,947**	154,843

Netback

Cardinal utilizes netback as key performance indicator and is utilized by Cardinal to better analyze the operating performance of its petroleum and natural gas assets against prior periods. Netback is calculated as petroleum and natural gas revenue deducted by royalties, net operating expenses, and transportation expenses. The following table reconciles petroleum and natural gas revenue to netback:

	Three months ended		**Year ended**	
	Dec 31, 2022	Dec 31, 2021	**Dec 31, 2022**	Dec 31, 2021
Petroleum and natural gas revenue	**154,894**	140,409	**737,590**	445,069
Royalties	**(30,201)**	(27,693)	**(150,001)**	(80,051)
Net operating expenses	**(50,351)**	(42,090)	**(194,947)**	(154,843)
Transportation expenses	**(1,699)**	(1,378)	**(6,275)**	(3,406)
Netback	**72,643**	69,248	**386,367**	206,769

Capital expenditures and development capital expenditures

Cardinal utilizes capital expenditures as a measure of capital investment on property, plant and equipment compared to the annual budgeted capital expenditure. Capital expenditures is calculated as cash flow from investing activities excluding change in non-cash working capital and corporate acquisition.

Cardinal utilizes development capital expenditures as a measure of capital investment on property, plant and equipment excluding capitalized G&A, other assets and property acquisitions and is compared to the annual budgeted capital expenditures. Other capital expenditures includes capitalized G&A and office expenditures. The following table reconciles cash flow from investing activities to total capital expenditures to total development capital expenditures:

	Three months ended		**Year ended**	
	Dec 31, 2022	Dec 31, 2021	**Dec 31, 2022**	Dec 31, 2021
Cash flow from investing activities	**30,186**	3,540	**116,181**	46,571
Change in non-cash working capital	**4,722**	5,122	**4,051**	15,268
Corporate acquisition	**-**	-	**-**	(15,811)
Capital expenditures	**34,908**	8,662	**120,232**	46,028
Less:				
Capitalized G&A	**(495)**	(567)	**(1,949)**	(1,339)
Other assets	**(395)**	(54)	**(854)**	(154)
Property acquisitions	**(2,287)**	(306)	**(2,432)**	(4,334)
Property dispositions	**425**	10,375	**425**	10,375
Development capital expenditures	**32,156**	18,110	**115,422**	50,576

Adjusted working capital deficiency

Management utilizes adjusted working capital to monitor its capital structure, liquidity, and its ability to fund current operations. Adjusted working capital is calculated as current liabilities less current assets (adjusted for the fair value of financial instruments, current decommissioning obligation, and current lease liabilities). The following table reconciles working capital to adjusted working capital:

As at	**Dec 31, 2022**	Dec 31, 2021
Working capital deficiency	**39,919**	30,086
Lease liabilities	**1,487**	1,371
Decommissioning obligation	**8,573**	5,480
Fair value of financial instruments, net	**(1,533)**	-
Adjusted working capital deficiency	**31,392**	23,235

Net debt

Management utilizes net debt to analyze the financial position, liquidity and leverage of Cardinal. Net debt is calculated as bank debt plus secured notes and adjusted working capital.

Net bank debt

Management utilizes net bank debt to analyze the financial position, liquidity, leverage and borrowing capacity on Cardinal's bank line. Net bank debt is calculated as net debt less the secured notes.

The following table reconciles bank debt to net bank debt and net debt:

As at	**Dec 31, 2022**	Dec 31, 2021
Bank debt	**31,280**	142,412
Adjusted working capital deficiency	**31,392**	23,235
Net bank debt	**62,672**	165,647
Secured notes	**-**	12,546
Net debt	**62,672**	178,193

Funds flow

Management utilizes funds flow as a useful measure of Cardinal's ability to generate cash not subject to short-term movements in non-cash operating working capital. As shown below, funds flow is calculated as cash flow from operating activities excluding the change in non-cash working capital.

Adjusted funds flow

Management utilizes adjusted funds flow as a key measure to assess the ability of the Company to generate the funds necessary for financing activities, operating activities, capital expenditures and shareholder returns. As shown below, adjusted funds flow is calculated as funds flow excluding transaction costs, decommissioning expenditures since Cardinal believes the timing of payment or incurrence of these items involves a high degree of discretion and variability. Expenditures on decommissioning obligations vary from period to period depending on the maturity of the Company's operating areas and availability of adjusted funds flow and are viewed as part of the Company's capital budgeting process.

Free cash flow

Management utilizes free cash flow as a measure to assess Cardinal's ability to generate cash, after taking into account the development capital expenditures, to increase returns to shareholders, repay debt, or for other corporate purposes. As shown below, free cash flow is calculated as adjusted funds flow less development capital expenditures.

The following table reconciles cash flow from operating activities, funds flow, adjusted funds flow, and free cash flow:

	Three months ended		Year ended	
	Dec 31, 2022	Dec 31, 2021	**Dec 31, 2022**	Dec 31, 2021
Cash flow from operating activities	**68,685**	51,793	**337,263**	125,121
Change in non-cash working capital	**(5,159)**	(789)	**5,910**	414
Funds flow	**63,526**	51,184	**343,173**	125,535
Decommissioning expenditures	**4,722**	2,260	**19,610**	6,302
Transaction costs	**-**	51	**-**	670
Adjusted funds flow	**68,248**	53,495	**362,783**	132,507
Total development capital expenditures	**(32,156)**	(18,110)	**(115,422)**	(50,576)
Free cash flow	**36,092**	35,385	**247,361**	81,931

Non-GAAP Financial Ratios

Netback per boe

Cardinal utilizes operating netback per boe to assess the Company's operating performance of its petroleum and natural gas assets on a per unit of production basis. Netback per boe is calculated as netback divided by total production for the applicable period. The following table details the calculation of netback per boe:

	Three months ended		Year ended	
	Dec 31, 2022	Dec 31, 2021	**Dec 31, 2022**	Dec 31, 2021
Petroleum and natural gas revenue	**79.11**	74.36	**94.12**	63.88
Royalties	**(15.43)**	(14.67)	**(19.14)**	(11.49)
Net operating expenses	**(25.72)**	(22.29)	**(24.88)**	(22.22)
Transportation expenses	**(0.87)**	(0.73)	**(0.80)**	(0.49)
Netback per boe	**37.09**	36.67	**49.30**	29.68

Net debt to adjusted funds flow ratio

Cardinal utilizes net debt to adjusted funds flow to measure the Company's overall debt position and to measure the strength of the Company's balance sheet. Cardinal monitors this ratio and uses this as a key measure in making decisions regarding financing, capital expenditures and shareholder returns. Net debt to adjusted funds flow is calculated as net debt divided by annualized adjusted funds flow for the applicable period.

Total payout ratio

Cardinal utilizes this ratio as key measure to assess the Company's ability to fund financing activities, operating activities, and capital expenditures. Total payout ratio is calculated as the sum of dividends declared plus development capital expenditures divided by adjusted funds flow.

Net operating expenses per boe

Cardinal utilizes net operating expenses per boe to assess Cardinal’s operating efficiency of its petroleum and natural gas assets on a per unit of production basis. Net operating expense per boe is calculated as net operating expenses divided by total production for the applicable period.

Adjusted funds flow per boe

Cardinal utilizes adjusted funds flow per boe as a measure to assess the ability of the Company to generate the funds necessary for financing activities, operating activities, capital expenditures and shareholder returns on a per boe basis. Adjusted funds flow per boe is calculated using adjusted funds flow divided by total production for the applicable period.

Adjusted funds flow per basic share

Cardinal utilizes adjusted funds flow per share as a measure to assess the ability of the Company to generate the funds necessary for financing activities, operating activities, capital expenditures and shareholder returns on a per basic share basis. Adjusted funds flow per basic share is calculated using adjusted funds flow divided by the weighted average basic shares outstanding.

Adjusted funds flow per diluted share

Cardinal utilizes adjusted funds flow per share as a measure to assess the ability of the Company to generate the funds necessary for financing activities, operating activities, capital expenditures and shareholder returns on a per diluted share basis. Adjusted funds flow per diluted share is calculated using adjusted funds flow divided by the weighted average diluted shares outstanding.

Supplementary Financial Measures

NI 52-112 defines a supplementary financial measure as a financial measure that: (i) is, or is intended to be, disclosed on a periodic basis to depict the historical or expected future financial performance, financial position or cash flow of an entity; (ii) is not disclosed in the financial statements of the entity; (iii) is not a non-GAAP financial measure; and (iv) is not a non-GAAP ratio. The supplementary financial measures used in this news release are either a per unit disclosure of a corresponding GAAP measure, or a component of a corresponding GAAP measure, presented in the financial statements. Supplementary financial measures that are disclosed on a per unit basis are calculated by dividing the aggregate GAAP measure (or component thereof) by the applicable unit for the period. Supplementary financial measures that are disclosed on a component basis of a corresponding GAAP measure are a granular representation of a financial statement line item and are determined in accordance with GAAP.

Oil and Gas Metrics

The term "boe" or barrels of oil equivalent may be misleading, particularly if used in isolation. A boe conversion ratio of six thousand cubic feet of natural gas to one barrel of oil equivalent (6 Mcf: 1 bbl) is based on an energy equivalency conversion method primarily applicable at the burner tip and does not represent a value equivalency at the wellhead. Additionally, given that the value ratio based on the current price of crude oil, as compared to natural gas, is significantly different from the energy equivalency of 6:1; utilizing a conversion ratio of 6:1 may be misleading as an indication of value.

"Payout" means the anticipated years of production from a well required to fully pay for all capital spent to drill, complete, equip and tie-in a well.

Initial Production

Any references in this news release to initial production rates are useful in confirming the presence of hydrocarbons, however, such rates are not determinative of the rates at which such wells will continue production and decline thereafter. While encouraging, readers are cautioned not to place reliance on such rates in calculating the aggregate production for Cardinal.

Drilling Locations

This news release discloses Cardinal's inventory of 90 potential locations Wainwright Central Alberta Rex and 40 potential locations in the Ellerslie development at Tide Lake, of which in respect of Wainwright Central Alberta Rex 2 locations are booked proved undeveloped, 1 net is booked probable undeveloped locations and 87 net are unbooked and in respect of Ellerslie 1 location is booked proved undeveloped, 7 net are booked probable undeveloped locations and 32 net are unbooked. The booked locations are derived from the Company's year-end 2022 reserves evaluation by GLJ Ltd. with an effective date of December 31, 2022 and account for drilling locations that have associated proved and/or probable reserves, as applicable. Unbooked locations are internal estimates based on the Company's prospective acreage and an assumption as to the number of wells that can be drilled per section based on industry practice and internal review. Unbooked locations do not have attributed reserves. Unbooked locations have been identified by management as an estimation of the Company's multi-year drilling activities based on evaluation of applicable geologic, seismic, engineering, production and reserves information. There is no certainty that the Company will drill all unbooked drilling locations and if drilled there is no certainty that such locations will result in additional oil and gas reserves, resources or production. The drilling locations on which the Company will actually drill wells, including the number and timing thereof is ultimately dependent upon the availability of funding, regulatory approvals, seasonal restrictions, oil and natural gas prices, costs, actual drilling results, additional reservoir information that is obtained and other factors. While a certain number of the unbooked drilling locations have been derisked by drilling existing wells in relative close proximity to such unbooked drilling locations, the majority of other unbooked drilling locations are farther away from existing wells where management has less information about the characteristics of the reservoir and therefore there is more uncertainty whether wells will be drilled in such locations and if drilled there is more uncertainty that such wells will result in additional oil and gas reserves, resources or production.

About Cardinal Energy Ltd.

Cardinal works to continually improve its Environmental, Social and Governance profile and operates its assets in a responsible and environmentally sensitive manner. As part of this mandate, Cardinal injects and conserves more carbon than it directly emits making us one of the few Canadian energy companies to have a negative carbon footprint.

Cardinal is a Canadian oil and natural gas company with operations focused on low decline oil in Western Canada.

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