Gemina Laboratories Ltd.

Management Discussion and Analysis
(in Canadian dollars)

For the three and six months ended July 31, 2023

This management discussion and analysis ("**MD&A**") should be read in conjunction with the unaudited condensed interim consolidated financial statements and notes of Gemina Laboratories Ltd. ("Gemina" or the "**Company**") for three and six months ended July 31, 2023. Our unaudited condensed interim consolidated financial statements are prepared in accordance with International Financial Reporting Standards ("**IFRS**") as issued by the International Accounting Standards Board ("**IASB**") and all dollar amounts are expressed in Canadian dollars unless otherwise noted. In this discussion, unless the context requires otherwise, references to "we" or "our" are references to Gemina. Additional information relating to our Company, including Annual Information Form ("AIF") dated May 31, 2023, is available by accessing the SEDAR website at www.sedar.com.

All information contained in this MD&A is current as of September 29, 2023, unless otherwise stated.

Forward Looking Statements

Certain statements and information in this MD&A contain forward-looking statements or forward-looking information under applicable Canadian securities legislation that may not be based on historical fact, including, without limitation, statements containing the words "believe", "may", "plan", "will", "estimate", "continue", "anticipate", "intend", "expect", "predict", "project", "potential", "continue", "ongoing", "could", "would", "seek", "target" or the negative of these terms or other comparable terminology, although not all forward-looking statements contain these words and similar expressions.

Forward-looking statements are necessarily based on estimates and assumptions made by us in light of our experience and perception of historical trends, current conditions and expected future developments, as well as factors that we believe are appropriate. Such forward-looking statements reflect our current views with respect to future events, are subject to risks and uncertainties and are necessarily based upon a number of estimates and assumptions that, while considered reasonable by Gemina as of the date of such statements, are inherently subject to significant scientific, business, economic, competitive, political and social uncertainties and contingencies. Many factors could cause our actual results, performance, achievements, prospects or opportunities to be materially different from any future results, performance or achievements that may be expressed or implied by such forward-looking statements. In making the forward-looking statements included in this MD&A, the Company has made various material assumptions, including, but not limited to: (i) obtaining any regulatory approvals; (ii) assumptions regarding general business and economic conditions; (iii) the Company's ability to successfully develop its products; (iv) that the Company's current positive relationships with third parties will be maintained; (v) the availability of financing on reasonable terms; (vi) the Company's ability to attract and retain skilled employees and consultants; (vii) assumptions regarding market competition; (viii) the products and technology offered by the Company's competitors and (ix) the Company's ability to protect patents and proprietary rights.

In evaluating forward-looking statements, current and prospective shareholders should specifically consider various factors, including the risks outlined under the heading "*Risk Factors*" in the Company's AIF filed on SEDAR (www.SEDAR.com). Should one or more of these risks or uncertainties, or a risk that is not currently known to us, materialize, or should assumptions underlying those forward-looking statements prove incorrect, actual results may vary materially from those described herein. These forward-looking statements are made as of the date of this MD&A and we do not intend, and do not assume any obligation, to update these forward-looking statements except as required by applicable securities laws. Investors are cautioned that forward-looking statements are not guarantees of future performance and are inherently uncertain. Accordingly, investors are cautioned not to put undue reliance on forward-looking statements.

1 Overview of the Company

Gemina Laboratories Ltd. (the "Company" or "Gemina") operates under the name "Gemina Labs." The Company was incorporated under the laws of British Columbia on October 10, 2017. On February 10, 2021, the Company changed its name from "D1 Capital Corp." to "Gemina Laboratories Ltd.". The Company's head office is located at Unit 302 - 3600 Gilmore Way, Burnaby, BC, Canada, V5G 4W8, and its registered office and records are located at 10th floor, 595 Howe Street, Vancouver, British Columbia. The Company is traded on the Canadian Securities Exchange under the symbol GLAB.

The Company is a biotechnology company that currently operates in the *In Vitro* Diagnostics ("**IVD**") and human wellness monitoring markets under the name "Gemina Labs". The Company has developed novel surface functionalization chemistries for the detection of pathogens and biomarkers (the "**Gemina Surface Chemistry**") with a focus on respiratory diseases. The Company recently completed the development of its first lateral flow test, the Legio X™ COVID-19 Rapid Antigen Test ("Legio X™"), validating the Gemina Surface Chemistry on this platform. The Company is pursing extensions to its lateral flow test pipeline to include a combination Flu A/B and Covid 19 antigen test and a Streptococus respiratory test. Additionally, the Company, in collaboration with ReadyGo Diagnostics (a UK Company), is investigating a new platform that utilizes the Gemina Surface Chemistry for molecular assays for diagnosis, the first target being Tuberculosis.

Given the broad, potential application of the Gemina Surface Chemistry, the Company plans to enter into strategic commercial partnerships in respect of applications outside its core respiratory diagnostic focus.

2 Recent developments

LEGIO-X™ COVID RAPID ANTIGEN TEST

The Company's first product developed, the Legio-X™ COVID Rapid Antigen Test, is a Point of Care ("POC") COVID Rapid Antigen Test that embeds the Gemina Surface Chemistry in a lateral flow assay test strip and is used to determine if a person is infected with COVID-19. An antigen test is designed to confirm whether a pathogen is present in the subject to a detectable level, providing a very good indication of infection. Unlike nucleic acid-based tests such as PCR, which detect the presence of genetic material, the Company's POC COVID Antigen Test detects a protein found on the surface of the COVID-19 virus.

The development path for Legio-X™ COVID Rapid Antigen Test involved: the development of a prototype (June 2021) and the protype transfer to a manufacturing partner (IPOC) for manufacturing process development and small scale production for Phase 1 studies; the completion of Phase 1 (September 2021) demonstrating that the test was able to detect 1 ng/mL of SARS-CoV-2 N protein in pooled human saliva; the completion of sensitivity and specificity trials utilizing more than 500 human clinical samples culminating in the grant of the CE Mark for the European Union (May 2022); and the completion of a large-scale, manufacturing process development, suitable for commercial manufacturing of Legio-X™ COVID Rapid Antigen Test (Dec 2022).

In 2023, the market for Covid tests has reduced significantly but the market for Covid/Flu combination tests is growing, and evidence is that the Covid and Flu testing markets will combine. With Gemina's progress on the development of their Flu test the Company is well positioned to

take advantage of this. Gemina is currently investigating various manufacturing and distribution plans before launching these respiratory combination tests commercially.

Pipeline

In 2022, the Company initiated the development of a pipeline of products for the diagnosis of infectious respiratory diseases. The completion of Gemina's prototype Flu A/B test in December 2022 triggered the full development phase of this project and allowed for the commencement of feasibility studies for a new Streptococcus respiratory test, the next target in our respiratory panel.

To date, Gemina's focus has been on developing tests using the lateral flow assay ("LFA's") platform, but the Company recognised that lateral flow technology would not be suitable for diagnosing all respiratory disorders. To address this, the Company established a master services and license agreement with ReadyGo Diagnostics ("ReadyGo" of the United Kingdom. Under this agreement the two companies will work together using the ReadyGo Geo and Gemina chemistries to develop and launch a tuberculosis ("TB") test for primary care screening. This programme is designed to deliver Gemina's first molecular assay (i.e. DNA based test). The agreement gives Gemina the rights to market and sell the resulting TB diagnostic test globally, on an exclusive basis.

In June 2023, the Company announced, that in collaboration with ReadyGo, the successful feasibility testing for the detection of Mycobacterium Tuberculosis ("MTB") in a saliva matrix using the ReadyGo GEO platform. This breakthrough in MTB detection paves the way for affordable testing which will have the potential to significantly impact MTB eradication efforts in countries such as India, Indonesia, and other affected regions worldwide.

The Company is also investigating Wellness testing concepts in targeted areas (for instance, in applications such as sports and fitness). Unlike the conventional point-of-care diagnostics market, the market for wellness monitoring is nascent. As such, Gemina's approach is to work with significant customers and research counterparties to help define strong product-market matches.

Research and development

The Gemina research team continues to innovate and further develop our chemistry platform, and during 2022 the Company filed important extensions to its existing patents. These filings include the application of the chemistry to enable the use of novel materials, such as cellulose, in LFA's that are far more environmentally friendly than the current materials used worldwide. Such innovations open the prospect of developing fully bio-degradable lateral flow devices. Gemina foresees a major evolution in test design that includes the use of sustainable materials which, as far as the Company is aware, are only made possible by the versatility and strength of Gemina's chemistry platform.

The patent filings also cover Gemina's "Universal Test Platform" which allows for the creation of an extremely versatile lateral flow test, which is not only more stable, but much more responsive and adaptive to changing needs and diagnostic requirements around the world.

In May 2023 the Company announced that its proprietary surface chemistry reduced the amount of antibody required for nitrocellulose binding, a standard material used in lateral flow assays, by 75%, without affecting the limit of detection, compared to the standard physisorption methods currently used in production.

In July 2023, Gemina deployed cellulose (paper) test strips in the lateral flow assay format, a fully biodegradable, environmentally friendly alternative to the industry-standard nitrocellulose strip. The Gemina team solved this critical challenge by utilizing the Gemina Bridge molecule to anchor

antibodies (and other biomolecules) to test strips made from a variety of cellulose materials, all of which are fully biodegradable alternatives to nitrocellulose. Developed in the 1800's, nitrocellulose is formed by treating cellulose with a mixture of nitric and sulfuric acids to produce a flammable compound that only degrades slowly in the environment, releasing nitric acid in the process.

Strategic partnerships and investments

Gemina has established a commercial strategy to exploit non-competitive diagnostic product development opportunities. During the second half of 2022, the Company began to nurture several relationships with parallel non-competitive global diagnostic market participants to explore mutually beneficial opportunities to deploy Gemina's platform chemistry.

On January 17, 2023, the Company made an investment in RAPIvD Ltd acquiring 19% of the outstanding shares of RAPIvD with an option to acquire the remaining 81%. Securing this strategic stake in RAPIvD was the first step in a process that aligns the Gemina chemistry platform with accelerated product feature diagnostic device designs, which Gemina plans to bring to market in the future.

The Company, pursuant to a share exchange agreement, purchased 19% of the issued and outstanding shares of RAPIvD in exchange for £259,259 in cash and the issuance of 1,086,956 common shares of the Company with a fair value of $0.52 per common share. Total consideration was valued at $994,423.

The exclusive option allows the Company to purchase all of the remaining RAPIvD shares for the following consideration:

a) £800,000 in cash;
b) the closing cash balance of RAPIvD as at the time the option is exercised;
c) the issuance of 4,347,826 common shares of the Company; and
d) earn-out payments equivalent to 25% of RAPIvD profits for each year for three years after completion of the acquisition.

This option expires on the earlier of: i) June 7, 2024 and; ii) 10 days after the Company gives notice that the acquisition would not qualify as a significant acquisition within the meaning of National Instrument 51-102.

Personnel

As a result of the Company's growth and progress, 2022 saw several hirings and appointments to better position the business for its next phase of growth. The focus has been and continues to be on strengthening the team with highly experienced diagnostic, clinical and strategy professionals who have proven track records of scaling companies to commercial success. Most notably:

The hiring of Brian Firth, a veteran diagnostics executive, who joined Gemina as Chief Executive Officer in September 2022.

The appointment of Dr. Mike Shannon in December 2022, as Chair of the Company's Clinical Advisory Board as the Company focuses on respiratory infections.

The appointment of Dr. Rob Porter as Company President in December 2022. Dr. Porter's appointment was contemporaneous with the Company's investment in RAPIvD, a Company he founded.

The appointment of Dr. Stefan Hamill as Vice President, Strategy, in January 2023. Dr. Hamill is a successful and respected sell-side analyst in the UK healthcare sector known for identifying promising technologies and business models at an early stage and working to attract growth capital for Life Science companies throughout their lifecycle.

The appointment of Dr. Bola Grace to the board of directors January 2023. Dr. Grace is a leader in the biotech/healthcare industry who has delivered award winning diagnostics to the consumer diagnostic marketplace.

The appointment of Martha Najib to the board of directors in March 2023. Ms. Najib is highly recognized and respected for her accomplishments in new product launches, sales, go-to-market, global commercialization and strategic partnerships.

Financings

Prospectus/Private Placement
During the 2023 fiscal year, the Company closed two equity offerings: a brokered, prospectus supplement offering on June 30, 2022 ("Prospectus Offering"), and a non-brokered private placement on July 11, 2022 ("Private Placement Offering"). The terms of both offerings were identical.

Under the Prospectus Offering, the Company issued 5,626,735 Units at $0.60 per Unit for gross proceeds $3,376,041 and under the Private Placement Offering the Company issued 1,536,200 Units at $0.60 per Unit for gross proceeds of $921,720.

Each Unit consisted of one common share and one warrant to purchase a common share at $0.80 with a term of 5 years from the date of closing, subject to acceleration in certain circumstances. The acceleration clause allows the Company to accelerate the expiry date of the share purchase warrants in the event that the volume weighted average trading price of the common shares on the Canadian Securities Exchange exceeds $1.20 for 10 consecutive trading days.

The aggregate gross proceeds from both offerings, $4,297,761, was allocated to share capital and reserves based on the relative fair value of the common share and the warrant. The fair value allocation to share capital was $2,458,285 and to reserves was $1,839,476. The warrants were fair valued using the Black-Scholes pricing model with the following input assumptions:

Expected life – 5 years
Risk free interest rate – 3.10-3.16%
Volatility – 107%
Dividend yield – nil

In connection with the Prospectus Offerings the Company incurred share issuance costs totalling $576,092 and issued 393,871 compensation warrants to the brokers. In connection with the Private

Placement Offering the Company incurred share issuance costs of $15,974 and issued 51,356 compensation warrants to finders.

The compensation warrants allow the holders to purchase common shares for an exercise price of $0.60 and expire five years from the date of closing. The compensation warrants were valued using a Black-Scholes pricing model with the following input assumptions:

Expected life – 5 years
Risk free interest rate – 3.10-3.16%
Volatility – 107%
Dividend yield – nil

The aggregate fair value of the compensation warrants was $205,362 and was recorded as share issuance costs and presented as a reduction in share capital and an increase in reserves.

Warrant exercises
In March 2023, 4,000,000 outstanding warrants were exercised for cash proceeds to the Company of $600,000.

Private placement
On March 27, 2023 the Company completed a private placement offering issuing 3,472,994 common shares at a price of $0.75 per Common Share for gross proceeds of $2,604,745. The Company paid $111,352 in expenses related to this financing, including finder's fees of $95,413 to an eligible finder in connection with the offering.

3 Selected Financial Information

The financial information reported here-in has been derived from the consolidated financial statements prepared in accordance with IFRS as issued by the IASB. The Company uses the Canadian dollar as its functional and presentation currency. From time to time, the Company may deal with several research and development contractors, consultants and suppliers in other countries. Our financial results may be subject to fluctuations between the Canadian dollar and other international currencies.

The table below sets forth unaudited quarterly results prepared by management for the eight previous quarters to July 31, 2023:

	July 31, 2023	April 30, 2023	January 31, 2023	October 31, 2022
Research and development expenses	$883,350	$896,644	$1,312,374	$691,794
General and administration expenses	$694,771	$812,233	$643,683	$559,784
Loss and comprehensive loss	$1,578,121	$1,708,877	$1,956,057	$1,251,578
Basic and diluted loss per share	$0.02	$0.02	$0.03	$0.02

	July 31, 2022	April 30, 2022	January 31, 2022	October 31, 2021
Research and development expenses	$1,567,560	$577,975	$656,302	$804,286
General and administration expenses	$422,653	$203,200	$651,317	$715,073
Loss and comprehensive loss	$1,990,213	$781,175	$1,307,619	$1,519,359
Basic and diluted loss per share	$0.03	$0.01	$0.02	$0.03

The following table represents selected financial information for the Company's three and six months ended July 31, 2023 and 2022.

Selected Consolidated Statement of Loss and Comprehensive Loss:

	Quarter ended July 31, 2023	Quarter ended July 31, 2022	Six months ended July 31, 2023	Six months ended July 31, 2022
Loss and comprehensive loss for the period	$1,578,121	$1,990,213	$3,287,010	$2,771,392
Weighted average number of shares outstanding, basic and diluted	71,585,465	57,832,914	71,585,465	56,736,433
Loss per share, basic and diluted	$0.02	$0.03	$0.05	$0.05

The Company incurred a loss and comprehensive loss for the quarter ended July 31, 2023, of $1,578,121 (2022 - $1,990,213) reflecting net operating expenses for the period.

The Company incurred losses and comprehensive losses for the three and six months ended July 31, 2023, of $1,578,121 and $3,287,010 compared to a losses and comprehensive losses of $1,990,213 and $2,771,392 in the corresponding periods of the prior year**.** The change in the losses reflects changes in net operating expenses as described below.

Selected Consolidated Statements of Financial Position:

	July 31, 2023 $	January 31, 2023 $
Cash	115,056	83,095
Current assets	426,342	562,861
Total assets	1,848,183	1,874,984
Current liabilities	1,505,438	1,748,473
Total liabilities	1,751,484	1,946,795
Total shareholders' equity (deficiency)	96,699	(71,811)

During the six months ended July 31, 2023, cash increased to $115,056 (January 31, 2023 - $83,095) primarily due to the net funds received from a private placement offset by operating expenses during the period.

Results of Operations:

	Quarter ended July 31, 2023	Quarter ended July 31, 2022	Six months ended July 31, 2023	Six months ended July 31, 2022
	$	$	$	$
Research and development	(883,350)	(1,567,560)	(1,780,002)	(2,145,539)
General and administrative	(694,771)	(422,653)	(1,507,008)	(625,853)
Loss and comprehensive loss	(1,578,121)	(1,990,213)	(3,287,010)	(2,771,392)

Operating expenses - Research and Development

Our research and development expenses consist primarily of personnel compensation, research and development contractors, materials and supplies, and intellectual property expenses net of grant funding.

Research and development expenses were $883,350 for the three months ended July 31, 2023 compared to $1,567,560 for the corresponding period last year**.** The decrease in research and development expenses related primarily to reduced spending on contract manufacturing partially offset by increased salaries and benefits.

Research and development expenses were $1,780,002 for the six-month period ended July 31, 2023, compared to $2,145,539 in the prior year period. The decrease in research and development expenses related primarily to reduced spending on contract manufacturing partially offset by increased salaries and benefits.

Looking ahead to 2023, the Company expects to continue the following activities:

- development of our prototype Flu A/B lateral flow test in combination with our SARS – CoV-2 rapid test
- feasibility studies for our Streptococcus test
- development of our first molecular assay in TB with our collaborator ReadyGo Geo
- investigation of potential wellness applications utilizing Gemina Surface Chemistry
- investigation of Gemina Surface Chemistry in conjunction with affimers as an alternative to antibody based tests.
- development of protein production technologies and manufacturing processes.

Operating expenses - General and Administrative

Our general and administration expenses consist primarily of personnel expenses, professional fees, office related expenses and share-based compensation.

General and administration expenses for the three months ended July 31, 2023, were $694,771 compared with $422,653 for the prior year. The increase in the current period reflects higher contractor fees, salaries and benefits, stock-based compensation and investor outreach costs, partially offset by reduced professional fees.

General and administration expenses for the six-month period ended July 31, 2023, were $1,507,008 compared with $625,853 for same period last year. The increase in the current six-month period reflects higher contractor fees, salaries and benefits, stock-based compensation and investor outreach costs.

4 Liquidity, Capital Resources and Outlook

	July 31, 2023 $	January 31, 2023 $
Cash	115,056	83,095
Working capital (deficit)	(1,079,096)	(1,185,612)
Shareholders' equity (deficiency)	96,699	(71,811)

As at July 31, 2023, the Company had cash of $115,056 and net working capital deficit of ($1,079,096) compared to cash of $83,095 and a net working capital deficit of ($1,185,612) at January 31, 2023. The increase in the cash balance and working capital reflects the cash from financing activities offset by cash used in operations.

Management of Cash Resources

The Company uses cash flow forecasts to estimate cash requirements for the ensuing twelve-month period. Based on these requirements, we seek to raise equity capital as required to provide the necessary financial resources for operations, ideally for a minimum of twelve months. The timing of equity financings will depend on market conditions and the Company's cash requirements. The Company's cash flow forecasts are updated on a regular basis to reflect actual cash inflows and outflows so as to monitor the requirements and timing for additional financial resources.

The Company monitors opportunities to raise equity capital and/or secure additional funding through non-dilutive sources such as government grants and additional license agreements.

However, it is possible that our cash and working capital position may not be enough to meet our business objectives in the event of unforeseen circumstances.

Cash Flows for the six months ended July 31, 2023

Cash flows from financing activities

Cash from financing activities was $3,056,389 for the six months ended July 31, 2023, compared to $3,646,476 cash provided in the prior year period. In the current period, the cash from financing activities relates primarily to the net proceeds of $2,604,746 from the non-brokered private placement completed March 27, 2023 and $600,000 in proceeds from the exercise of warrants See “Recent Developments - Financing”.

Cash flows from investing activities

Cash flow used in investing activities was $45,553 primarily related to the purchase of equipment, compared to cash from investing activities in the prior year of $9,000 from sub-lease receipts.

Cash flows used in operations

Cash flows used in operations for the six months ended July 31, 2023 was $2,978,875 compared to $1,858,817 in the corresponding period of the prior year. In the current period, cash flow used in operations primarily reflect the net loss and comprehensive loss discussed above, adjusted for non-cash items, primarily the add back of share-based compensation and the decrease in non-cash working capital components primarily driven by the paydown of accounts payable and accrued liabilities balances from January 31, 2023.

5 Going Concern

The condensed interim consolidated financial statements have been prepared on a going concern basis, which assumes that the Company will be able to continue in operation for the foreseeable future and will be able to realize its assets and discharge its liabilities in the normal course of operations.

The ability of the Company to continue as a going concern is dependent on its ability to generate future cash flows from operations and obtain additional financing. As at July 31, 2023, the Company had net working capital deficit of $1,079,096 (January 31, 2023 – net working capital deficit $1,185,612), had not yet achieved profitable operations and had accumulated a deficit of $14,835,103 since its inception and will require additional funding to maintain its operations. These conditions indicate the existence of a material uncertainty that may cast significant doubt regarding the Company’s ability to continue as a going concern.

The condensed interim consolidated financial statements do not give effect to any adjustments, which would be necessary should the Company be unable to continue as a going concern and, therefore, be required to realize its assets and discharge its liabilities in other than the normal course of business and at amounts different from those reflected in the condensed interim consolidated financial statements. These adjustments could be material.

6 Long-Term Obligations and Other Contractual Commitments

Contractual Commitments

The Company has entered into a lease agreement with Thermo Fisher Financial Services Inc., with respect to laboratory equipment. The lease commenced on September 1, 2021, with monthly lease payments of $307 until August 1, 2024.

The Company has entered into a sublease agreement with Anodyne Chemistries Inc, a related party (see Note 9), with respect to its laboratory in Burnaby, British Columbia. The lease commenced on October 1, 2022, with monthly lease payments of $4,956 until September 30, 2024, $5,116 from October 1, 2024 to September 30, 2026 and $5,277 from October 1, 2026 to September 30, 2027.

The Company has entered into a lease agreement with Omnimar Enterprises Inc, to provide additional space for its laboratory in Burnaby, British Columbia. The lease commenced on July 1, 2023, with monthly lease payments of $3,414 until June 30, 2025 and $3,517 from July 1, 2025 to June 30, 2026.

7 Transactions with Related Parties

Key management personnel are the persons responsible for the planning, directing and controlling the activities of the Company and include both executive and non-executive directors, and entities controlled by such persons. The Company considers all directors and officers of the Company to be key management personnel.

During the six-month periods ended July 31, 2023, and 2022, the Company entered the following transactions with related parties:

- Paid or accrued salaries and benefits of $125,000 (2022 - $nil) to the Chief Executive Officer (“CEO”) of the Company and recognized share-based compensation of $253,618 (2022 - $nil) in relation to stock options granted to the CEO.
- Paid or accrued salaries and benefits of $114,098 (2022 - $nil) and contract research fees of $442,263 (2022 - $nil) to a company controlled by the President of the Company.
- Paid or accrued professional fees of $41,533 (2022 - $24,820) to a company controlled by the Chief Financial Officer (“CFO”) of the Company and recognized share-based compensation of $nil (2022 - $5,819) in relation to stock options granted to the CFO.
- Paid or accrued salaries and benefits of $78,037 (2022 - $80,631) to the Chief Technology Officer (“CTO”) and director of the Company and recognized share-based compensation of $7,786 (2022 - $15,328) in relation to stock options granted to the CTO and director.
- Paid or accrued contractor fees of $60,375 (2022 - $49,875) for advisory services to a company controlled by a director of the Company.
- Recognized share-based compensation of $128,233 (2022 - $27,024) in relation to stock options granted to directors of the Company.

As at July 31, 2023, $4,948 (January 31, 2023 - $5,628) was included in accounts payable and accrued liabilities owing to the CTO and director of the Company in relation to reimbursement of expenses.

As at July 31, 2023, $178,745 (January 31, 2023 - $239,279) was included in accounts payable and accrued liabilities owing to a company owned by the President and director of the Company in relation to salaries and benefits and contract research expenses.

As at July 31, 2023, $nil (January 31, 2023 - $20,970) was included in accounts payable and accrued liabilities owing to the CEO of the Company in relation to wages and $31,031 (January 31, 2023 $15,762) was owed to the CEO of the Company in relation to reimbursement of expenses.

As at July 31, 2023, $22,680 (January 31, 2023 - $17,435) was included in accounts payable and accrued liabilities owing to the company controlled by the CFO of the Company in relation to professional fees.

As at July 31, 2023, $47,317 (January 31, 2023 - $109,003) was included in accounts payable and accrued liabilities owing to the company controlled by a director of the Company in relation to advisory fees.

As at July 31, 2023, $70,909 (January 31, 2023 - $30,054) was included in accounts payable and accrued liabilities owing to directors of the Company in relation to director compensation.

As at July 31, 2023, $31,029 (January 31, 2023 – receivable $4,279) was included in accounts payable and accrued liabilities due to EcoMine, a majority shareholder of the Company.

As at July 31, 2023, $16,129 (January 31, 2023 - $14,299) was included in receivables due from 3R Circuits Solutions Corp., a company controlled by directors of the Company.

As at July 31, 2023, $14,005 (January 31, 2023 - $30,604) was included in receivables due from Anodyne Chemistries Inc., a company controlled by directors of the Company.

8 Off Balance Sheet Arrangements

The Company has no material undisclosed off-balance sheet arrangements that have, or are reasonably likely to have, a current or future effect on our results of operations or financial condition.

9 Critical Accounting Estimates and Judgments

The preparation of financial statements in compliance with IFRS requires the Company's management to make certain estimates and assumptions that they consider reasonable and realistic. Despite regular reviews of these estimates and assumptions, based in particular on past achievements or anticipations, facts and circumstances may lead to changes in these estimates and assumptions which could impact the reported amount of the Company's assets, liabilities, income and expenses. Actual results may differ from those estimates.

Significant judgements

Research versus development expenses – The accounting for research and development expenses differs with research expenses recognized in the statement of loss during the period incurred, whereas development expenses are recognized as an intangible asset in the statement of financial position when incurred. The Company's operations, from time to time, may include both research and development activities. Management has used judgement to determine whether activities should be recognized as research expenses or as an intangible asset for development expenses. To date, management has determined that its activities are research activities and has not incurred any expenses that would qualify as recognition as an intangible asset in the statement of financial position.

Significant estimates

Share-based compensation - The Company generally utilizes the Black-Scholes option pricing model to determine the fair values of the share-based payments and warrants issued in unit offerings. The Company uses significant estimate in the evaluation of the input variables in the Black-Scholes calculation which includes: risk free interest rate, expected stock price volatility, expected life and expected dividend yield.

Fair value of RAPIvD investment - The Company has elected to classify its investment in RAPIvD as FVOCI. In determining the fair value, the Company utilizes unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities. Accordingly, management uses significant estimates in the evaluation of RAPIvD's fair value.

10 Financial Instruments and Financial Risk Management

Fair value

Financial instrument disclosures establish a fair value hierarchy that requires the Company to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. The Company primarily applies the market approach for recurring fair value measurements. This section describes three input levels that may be used to measure fair value:

Level 1 – unadjusted quoted prices in active markets for identical assets or liabilities. An active market for the asset or liability is a market in which transactions for the asset or liability occur with sufficient frequency and volume to provide information on an ongoing basis.

Level 2 – quoted prices for similar assets or liabilities; quoted prices in markets that are not active; or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities.

Level 3 – unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities.

The carrying values of cash, receivables, net investment in sublease and accounts payable and accrued liabilities approximate their fair values due to their short-term maturity. The carrying value of lease liabilities approximate its fair value due to being discounted with a rate of interest that approximates market rates.

Market risk

Market risk is the risk that changes in market prices, such as foreign exchange rates and interest rates, will affect the Company's income or valuation of its financial instruments.

a) Foreign exchange risk

Foreign exchange risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in foreign exchange rates. The Company's foreign exchange risk is not considered significant.

b) Interest rate risk

The Company has cash balances and no interest-bearing debt. The interest rate risk on cash is not considered significant.

Liquidity risk

Liquidity risk is the risk that the Company will encounter difficulty in raising funds to meet cash flow requirements associated with financial instruments. As indicated in Note 1, a material uncertainty exists that may cast significant doubt regarding the Company's ability to continue as a going concern.

The Company continues to manage its liquidity risk by monitoring its cash flows regularly, comparing actual results with budgets and future cash requirements.

The following table summarizes the relative maturities of the financial liabilities of the Company:

	Maturity less than one year	Maturity greater than one year
	$	$
Accounts payable and accrued liabilities	1,430,176	-
Lease liabilities	75,262	246,046
Total	1,505,438	246,046

Credit risk

Credit risk is risk of financial loss to the Company if a counterparty to a financial instrument fails to meet its contractual obligations. The Company's cash is held in large Canadian financial institutions and its receivables mostly consist of amounts due from the Canadian government. As such, the Company determined that it is not exposed to significant credit risk.

11 Risks and Uncertainties

The primary risk factors affecting the Company are set forth in our Annual Information Form. A copy of our Annual Information Form is available on SEDAR at www.sedar.com.

12 Outstanding Share Capital

As at the date of this MD&A, the Company had the following common shares, warrants and stock options outstanding:

Common shares

There were 73,325,878 common shares issued and outstanding.

Warrants

Number of Warrants	Exercise Price	Expiry Date
3,882,562	$0.45	July 16, 2024*
2,015,850	$0.80	October 22, 2023**
291,136	$0.55	October 22, 2023**
5,626,735	$0.80	June 30, 2027***
393,871	$0.60	June 30, 2027***
1,536,200	$0.80	July 11, 2027***
51,356	$0.60	July 11, 2027***
13,797,710		

* The share purchase warrants are subject to an acceleration clause that allows the Company to accelerate the expiry date of the share purchase warrants in the event that the volume weighted average trading price of the common shares on the Canadian Securities Exchange exceeds $1.00 for 10 consecutive trading days.

** The share purchase warrants are subject to an acceleration clause that allows the Company to accelerate the expiry date of the share purchase warrants in the event that the volume weighted average trading price of the common shares on the Canadian Securities Exchange exceeds $2.00 for 10 consecutive trading days.

*** The share purchase warrants are subject to an acceleration clause that allows the Company to accelerate the expiry date of the share purchase warrants in the event that the volume weighted average trading price of the common shares on the Canadian Securities Exchange exceeds $1.20 for 10 consecutive trading days.

Stock options

A summary of the stock options outstanding and exercisable at July 31, 2023, is as follows:

Exercise Price	Number Outstanding	Number Exercisable	Expiry Date
$			
0.30	1,850,000	1,850,000	February 19, 2031
0.30	250,000	250,000	April 1, 2024
0.45	550,000	183,315	September 10, 2026
0.45	200,000	200,000	September 10, 2026
0.45	200,000	200,000	September 14, 2026
0.45	100,000	75,000	November 17, 2026
0.45	250,000	83,333	March 9, 2027
0.60	2,000,000	-	September 6, 2032
0.54	50,000	25,000	January 25, 2028
0.60	285,000	235,000	July 4, 2028
	5,735,000	3,101,648	

13 Additional Information

Additional information about the Company, including the Annual Information Form, is available on SEDAR at www.sedar.com.