



SILICA

2022 SUSTAINABILITY REPORT

BUILDING INNOVATION FOR GENERATIONS



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**THE WORLD'S MOST ENVIRONMENTALLY FRIENDLY
EMERGING PRODUCER OF HIGH PURITY SILICA SAND**

MESSAGE FROM THE CEO



I am pleased to share with you our 2022 Environmental, Social, and Governance (ESG) Report. As we strive for transparency, accountability, and sustainability, I am excited to share our commitment to ESG principles in the new and exciting steps we have taken this year outlined in this report.

ENVIRONMENTAL STEWARDSHIP:

At Sio, we recognize the critical importance of protecting the environment and minimizing our ecological footprint. Through advanced technologies and responsible practices, we aim to reduce our environmental impact significantly. Our operations adhere to stringent environmental regulations and focus on conserving biodiversity, minimizing water usage, and mitigating air emissions. Additionally, we continually explore innovative ways to enhance energy efficiency and reduce waste generation throughout the mining process.

SOCIAL RESPONSIBILITY:

Our commitment to social responsibility is deeply ingrained in our corporate culture. We recognize the significance of fostering positive relationships with the communities in which we operate. We actively engage with local stakeholders, including indigenous communities, to understand their needs and concerns. Moreover, we are dedicated to promoting fair labor practices and ensuring a safe and inclusive work environment for all our employees. Our workforce development initiatives aim to empower employees with the necessary skills and knowledge, fostering personal growth and contributing to the overall development of the communities we serve.

GOVERNANCE EXCELLENCE:

Transparent and robust corporate governance is the bedrock of Sio. Our board of directors, executives, and employees strictly adhere to the highest standards of

integrity, ethics, and accountability. Our governance practices ensure that we meet legal and regulatory requirements and uphold the best interests of our shareholders and stakeholders.

INNOVATION AND SUSTAINABLE GROWTH:

As we move forward, we embrace innovation as a catalyst for sustainable growth. We are committed to investing in research and development, seeking out new technologies and solutions that can drive our operations to be even more environmentally friendly and efficient. Our goal is to continually improve our ESG performance and contribute positively to the global effort in combating climate change and advancing sustainability.

COMMUNITY ENGAGEMENT:

We believe that meaningful community engagement is essential for the success of any organization. We actively seek feedback from the communities where we operate and regularly conduct impact assessments to address their concerns. We are dedicated to building lasting partnerships that create shared value and foster long-term economic growth for both our business and the local communities.

At Sio, we recognize that being a responsible corporate citizen is not just a business obligation; it is our moral imperative. We are committed to upholding ESG principles throughout our operations, thereby ensuring a sustainable and prosperous future for all stakeholders. We understand that this journey requires continual learning and adaptation, and we embrace the challenges that lie ahead.

As we progress on our ESG journey, we will remain transparent in our actions and accountable for our commitments. This report is just one step in our ongoing efforts to share our progress and demonstrate our dedication to ESG excellence.

I extend my gratitude to our employees, the Board of Directors, partners, customers, and shareholders for their unwavering support. Together, we will build a better, more sustainable world.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Feisal Somji'. The signature is fluid and cursive, with a horizontal line underneath.

Feisal Somji
President & Chief Executive Officer, Founding Director
Sio Silica Corporation

PURPOSE OF THIS REPORT

Sio is committed to the environment and it's long term protection for future generations and understands that our operations have direct and indirect impacts on various economic, environmental, and societal aspects. Sio's goal is to take a proactive approach in these topics to ensure positive outcomes.

Sio has been working towards planning for its operations and conducting business in the most Environmental, Social and Governance (ESG) minded and responsible manner. The 2021 executive identified critical ESG risks and priorities that were further built upon. Sio continues to strive to operate to the highest of standards in consideration of the Global Reporting Initiative (GRI), United Nations

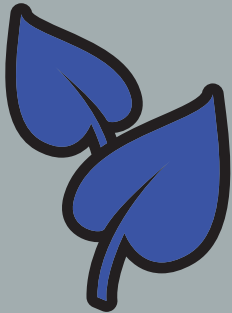
Sustainable Development Goals (UNSDG) and Sustainability Accounting Standards Board (SASB) metrics for our industry.

By focusing on the material topics that present the greatest opportunities and risks to our company, the environment, or communities, it allows us to develop strategies that leverage opportunities and mitigate risks, ensuring our long-term growth, sustainability, and resilience.

These topics have been used to inform the development of this report and future reporting and will be embedded into our Strategic Plan.

Sio acknowledges that these ESG topics can change over time and commits to re-evaluating these topics during the preparation of our annual report.

CRITICAL ESG RISKS AND PRIORITIES



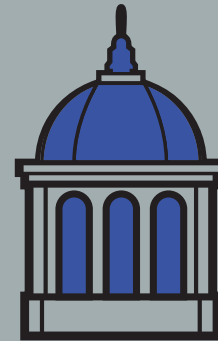
ENVIRONMENTAL

Water Quantity and Quality
Air Emissions
Closure and Rehabilitation
Biodiversity / Ecology
Environmental Compliance



SOCIAL

Local Community Relations
Indigenous Rights
Market Access
Economic Performance
Diverse, Equitable,
and Inclusive Workplace



GOVERNANCE

Land and Resource Rights
Public Policy
Board Oversight in Identifying
and Managing ESG Risks
Transparent Reporting Practices

BUSINESS UPDATES FOR 2022

2022 was a year of preparations and development to identify new technological advancements and efficiencies in operations as well as applications for Sio's high purity silica sand. Much of the core business

activities were spent preparing and executing the additional required permitting phases, and furthering our community outreach and engagements. This included advancements in purity and beneficiation possibilities, a Municipal

Board appeal and hearing, initial phases of the Clean Environment Commission (CEC) hearing process, local Kitchen Table community meetings and ongoing meetings with Indigenous nations.

SIO'S KEY 2022 MILESTONES:

- ▶ Filing of Municipal Board Appeal for bylaw amendment filing to create new zoning district associated with the Facility land area
- ▶ Municipal Board public hearing
- ▶ Pre-hearing meetings and CEC preparation
- ▶ Completion of Round One of Information Requests for CEC process
- ▶ Completion of CEC Technical Expert Report Reviews and Sio Technical Expert Responses
- ▶ Development and release of draft environmental management plans including Water Management Plan, Waste Characterization and Management Plan, Groundwater Monitoring and Impact Mitigation Plan, and Erosion and Sediment Control Plan
- ▶ Various kitchen table meetings with local community members
- ▶ Continued and new discussions with Indigenous groups
- ▶ Ongoing community investment including a record setting Food Bank Challenge
- ▶ Completion and filing of a draft Facility specific Emergency Response Plan
- ▶ Sio Code of Conduct development and release
- ▶ Continued expansion of Governance with new addition to the Board of Directors
- ▶ Ongoing exploration and reclamation activities
- ▶ Identification of new extraction rig technology to increase drilling and extraction efficiency
- ▶ Beta design of food grade compressed air filtration for use in extraction
- ▶ Published and presentation of Technical Paper at the 8th World Conference on Photovoltaic and Energy Conversion – *A New Technological and Environmentally Sustainable Long-Term Supply Chain Solution for the Mass Production of High Purity Silica From Canada*
- ▶ Update and issuance of new 43 101 Technical Report in Bru Property to demonstrate extent of high purity 99.9% silica and suitability for uses in green energy applications
- ▶ Successful lab testing to achieve 4N purity for sand uses in more advanced green energy applications.
- ▶ Successful creation of silicon metal from Sio's Silica





ENVIRONMENT



CONTINUED STEPS TO PROTECTING THE AQUIFER

Protection of the aquifers in the areas we operate is critical. Sio continues to take steps to establish protocols and management plans to monitor and manage operations from potential impacts on the aquifers.

Sustainable Development Goal (SDG) 6 is to “Ensure availability and sustainable management of water and sanitation for all”. Over the life of the project, Sio and its technical team have gained extensive knowledge of the aquifers in the area and their importance. In an effort to continue to ensure protection of this pristine resource Sio is implementing several Management Plans in combination with technology to safeguard against contamination.

Throughout a large part of south-eastern and central Manitoba, the main source of water supply for municipal, industrial, rural, residential, and agricultural uses is groundwater from the Red River Carbonate (limestone) aquifer. A less common source of water supply is from the Winnipeg Sandstone aquifer.

Sio’s activities rely solely on the Winnipeg Sandstone aquifer with no anticipated usage of the more popular Red River Carbonate aquifer. In 2022, Sio released draft documents of our proposed

Management Plans to monitor both the water quality and quantity as part of the Clean Environment Commission process of Information Requests and additional information release. This included the release of the Water Management Plan, Waste Characterization and Management Plan, Groundwater Monitoring and Impact Mitigation Plan, and Erosion and Sediment Control Plan. These plans will be further refined and developed in 2023 to adhere to all requirements of an Environment Act Licence.





Using technology to protect the aquifer is paramount.

Compressed air is intended to be the primary method of extraction of sand slurry from the Winnipeg aquifer to surface as the least invasive method. As

a result, Sio has engaged in a preliminary beta design of a food grade air filtration system that will be utilized with the air compressor during extraction. While

this is not a regulatory requirement, Sio is implementing this technology as an additional safeguard.

ENVIRONMENTAL MANAGEMENT PLAN COMMITMENTS



Real time aquifer quality and quantity monitoring before, during, and after extraction activities

Water quantity conservation and management

Establishment of water monitoring network comprising observation wells, private wells, and new monitoring wells in all aquifers in the project area

Establishing a safe setback between extraction wells and infrastructure (private homes, water wells, etc...)

Use of air filtration and monitoring

3rd party water monitoring services and lab testing to ensure transparency

Transparent reporting and communication

CONTINUED STEPS TO PROTECTING THE AQUIFER

Sio strongly believes in protecting the aquifer. A draft Groundwater Monitoring and Impact Mitigation plan was submitted as part of the CEC process describing plans to protect existing wells in the area.

The groundwater monitoring and mitigation measures will include the following key components :

- ▶ Establishing and maintaining a safe setback between extraction wells and infrastructure (private homes, water wells, etc.).
- ▶ Establishing a groundwater monitoring network comprised of both provincial observation wells, private wells and new monitoring wells.
- ▶ Characterization and monitoring of groundwater quantity (water levels) and quality prior to, during and following operations. This will involve installation of pressure transducers to monitor water levels and collection of water quality samples. Results will be shared with landowners as part of our active engagement efforts.
- ▶ A thorough inspection of water wells within the predicted zone of influence each year in advance of extraction and following complete recovery of the aquifer.
- ▶ Monitoring of groundwater extraction and re-injection rates associated with operations.
- ▶ Monitoring of the water quality of re-injected water to verify treatment efficacy.
- ▶ Management of any materials produced by drilling to ensure they do not affect water quality in the aquifers.
- ▶ Communication with the community on a regular basis and establishment of a communication platform (email, phone, etc.) for the community to share any concerns with Sio. During operations Landowners will be provided with a 24 hours contact number should there be any concerns with their water at any time.
- ▶ A protocol for responding to any concerns. If at any time a water quality or quantity issue is detected, Sio will mitigate the issue immediately. This may require, short-term ceasing of operations, modification of extraction operations, lowering of the water pump in the well, or a temporary external supply of water.
- ▶ Progressive abandonment of each extraction and/or monitoring well after it has reached the end of its productive life in accordance with provincial regulations.
- ▶ Preparation of an annual report by a third party with qualifications in hydrogeology and geochemistry which will be made available to the public following completion of operations each year.

Sio is putting these monitoring measures in place to proactively protect and mitigate impacts.

ELECTRIFICATION OF FIELD OPERATIONS



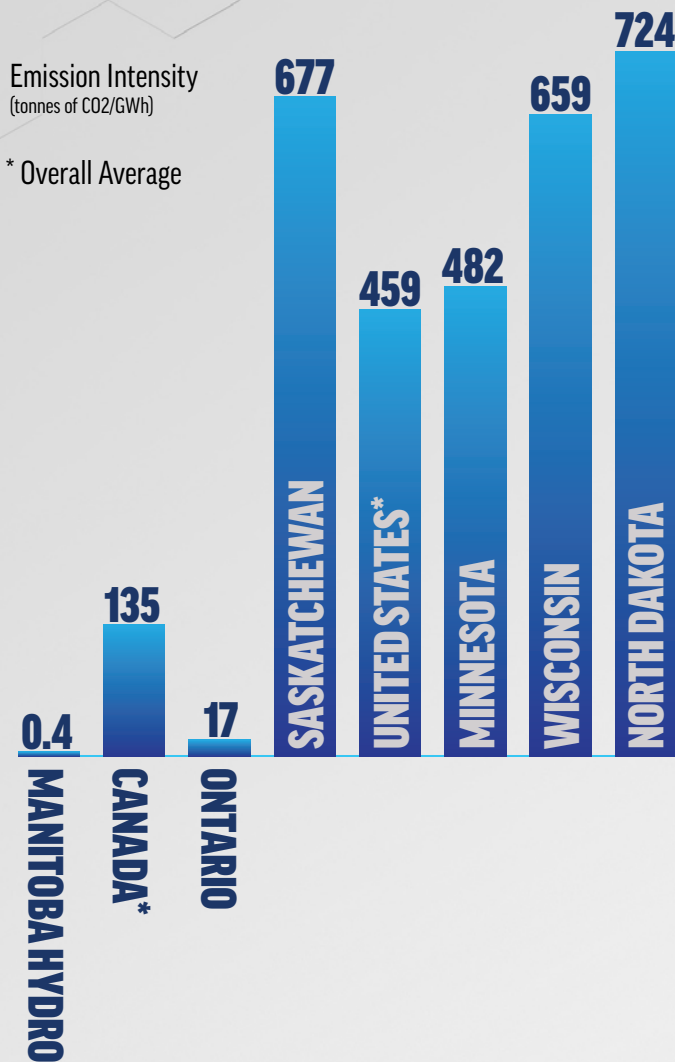
Sio has commenced analysis of technology availability to electrify field equipment that would normally run off diesel fuel.

Due to Manitoba's abundant sources of hydro-electric power, Sio is making efforts to transition from fossil fuels wherever possible. Sio is targeting to electrify the majority of its field extraction equipment over time. While the technology does

exist, many of these technologies are not yet fully commercially available. Sio has identified soon to be available options to electrify its extraction rig fleet. This would have a significant impact on overall GHG emissions.

Sio is working with Manitoba Hydro to plan for the added demand in the future that would result from electrifying the extraction rig fleet and any other equipment.

GHG EMISSIONS INTENSITY COMPARISON OF ELECTRICITY GENERATION







SOCIAL

COMMUNITY ENGAGEMENT

Sio is focused on being a trusted community member in the communities where we live and work. As part of our ongoing commitment to communication we continue to host meaningful and transparent community engagement.

In 2022, Sio commenced a program to facilitate “Kitchen Table” meetings with the local community. Kitchen Table meetings are meetings with local residents in small groups, families or a few households meeting with a Sio representative to share updates on the project, answer questions and discuss concerns. Residents can request a meeting at any time or location.

An overwhelmingly common question and request throughout our community engagement has been about jobs and training. Sio is a Manitoba first company

that prioritizes hiring locally and working with expertise in the community.

Sio also continued its engagement via FACTS MATTER with new YouTube videos and advertorials published in the local paper to respond to questions and concerns from the community.

We will continue to engage with, and inform, communities in the region about our work and demonstrate our commitment to them, the environment, and to economic development in the region.

Sio is committed to the communities where we work, and to the province of

Manitoba. We believe it is crucial that Sio’s operations directly contribute to growth and development in local communities and the region.

Sio directly contributed to the communities where we live and work, identified by both community priorities, and Sio team’s interests and passions.

Going forward Sio will develop a Community Investment Plan that will align with community priorities and needs where we work, as well as who we are as a company.

SHARING INFORMATION WITH OUR COMMUNITIES

Sio is committed to engaging with our communities in various ways to reach as many audiences as possible and provide education and understanding about our product and our operations



In 2021 we launched our YouTube series FACTS MATTER to offer another way to share more information and answer questions about our project. In 2022, new videos and advertorials were added covering a range of topics including:

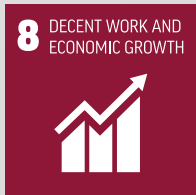
- ▶ De-carbonization and Net Zero
- ▶ Economic Development
- ▶ The "F" Word (Fracking)
- ▶ Interesting Facts About Silica
- ▶ Monitoring Subsidence and Water



FACTS MATTER

What you need to know about SILICA and the VIVIAN SAND PROJECT
<https://www.viviansandproject.com/>

COMMUNITY INVESTMENT AND DEVELOPMENT



Sio seeks to invest in the local community and environment wherever possible. In 2022, Sio directly contributed over \$45,000 dollars to local business organizations, charities, education, environmental incentives and sports and training development.



INDIGENOUS ENGAGEMENT AND RELATIONSHIP BUILDING

Sio recognizes that engagement with Indigenous communities starts with relationships built on trust, respect, and responsiveness.

Sio continued to focus on developing relationships with Indigenous communities, as well as staff within the Government of Manitoba, to set a foundation for continued engagement, learning, and sharing of future opportunities throughout the development of the Vivian Sand Project.

2022 saw additional opportunities to connect with Indigenous communities and answer questions. Follow up meetings were held with Brokenhead Ojibway Nation and the Manitoba Métis Federation as well as some new meetings with Peguis First Nation and the Southern Chiefs Organization.

It is our commitment to continue to engage and work with Indigenous communities in the areas where we operate to ensure transparency, mutual respect, and collaboration with the goal to build lasting relationships.





The Medicine Wheel

In this section, we can see an example of a traditional medicine wheel. Medicine wheel teachings are used in many Indigenous cultures and

have different significance and uses depending on the individual or culture. One commonality besides the circular shape is that a medicine wheel represents

the interconnectivity of all aspects of one's being and connection with the natural world.¹

1. Joseph, B. 2020. What is an indigenous Medicine Wheel? Indigenous Corporate Training Inc. Retrieved from Indigenous Corporate Training Inc. <https://www.ictinc.ca/blog/what-is-an-indigenous-medicine-wheel>





GOVERNANCE





GREEN INITIATIVES THROUGH INNOVATION



Continuous improvement through research and innovation is a core value for Sio. Sio strives to improve its high purity sand output to reach new levels of purity making it eligible for more Green Energy Applications.

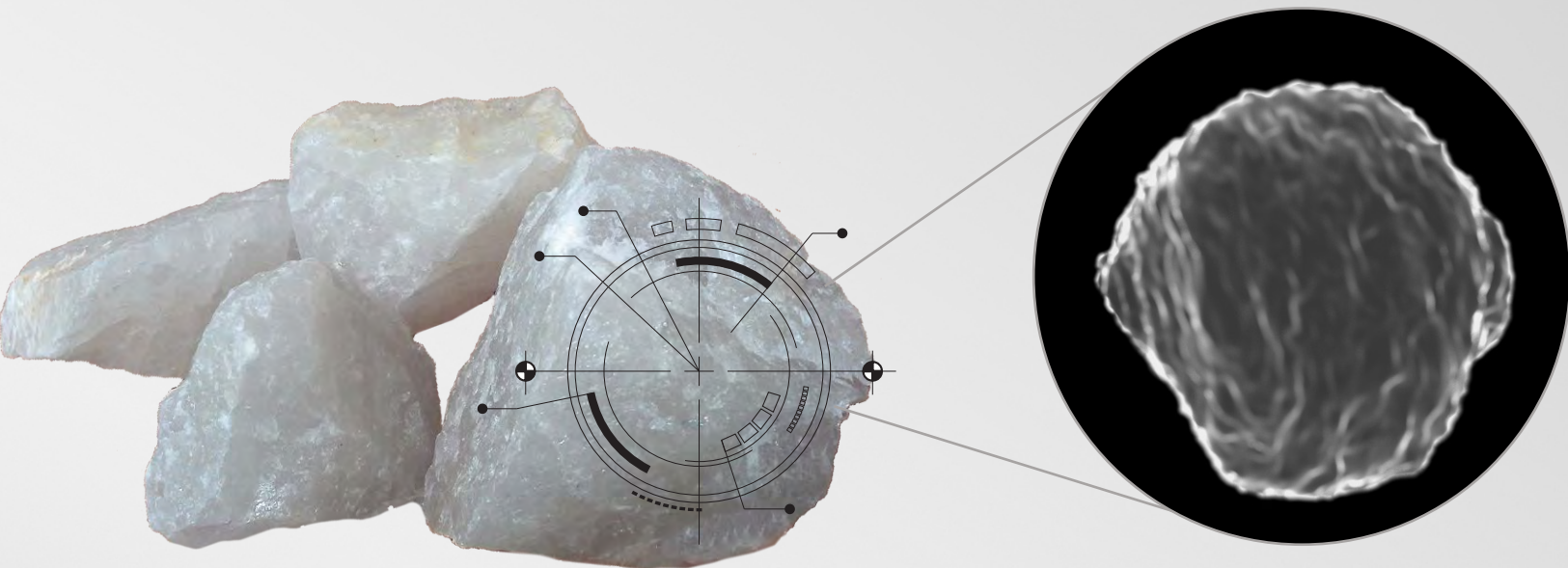
In 2022, Sio invested significant time into exploring methods to increase the purity of its sand from 99.9% to 99.99% (4N) or higher. Through lab testing and application, Sio was able to beneficiate its sand to a 99.99% purity making it eligible as a key input product for a wider range of green energy and technological manufacturing applications.

In continuance of Sio's research and testing, Sio partnered with a research

lab specializing in mineral technology to produce silicon metal from Sio's sand. This is a new and exciting advancement as silicon metal is an intermediary product used in the manufacturing of semiconductors, solar panels and more.

With the new advancements in the high purity space, Sio also reclassified its resource to focus on purity and demonstrate the consistency of the 99.9% purity attainable by a simple

magnetic separation, water wash, and dry. Additional drilling was completed to collect more samples to demonstrate this across the Bru Property allowing for the N 43-101 Technical Report in the Bru Property to be updated to reflect the extent of high purity 99.9% silica and suitability for uses in green energy applications.



PARTNERSHIPS



Sio values collaboration and partnerships and believes these are critical to long and prosperous growth. Ensuring we are engaged with Industry best practices, policies and innovation we became members of the Solar Energy Industries Association (SEIA) and the Solar Power Europe (SPE). Together we support the sustainable and economic growth of the solar industry.

Continuing to partner with community and corporate organizations provides opportunities for us to learn from others and builds a strong foundation of support for our developments and projects.

We are a member of the Springfield Chamber of Commerce, participating in

events such as Dinner with Council, the Annual General Meeting, and an Awards banquet night. We are also members of both the Manitoba Heavy Construction Association and the Manitoba Chamber of Commerce.

Our commitment to the people and economic growth of Manitoba through building both partnerships and business opportunities is a core value for our leadership team. We are proud of our work in the province and will continue to build and grow relationships.



COMMITMENT TO SAFETY



Safety of our people and protection of our environment is our number one priority.

We are committed to ensuring all aspects of our operations will be conducted to align with high industry safety standards and business practices. In 2022 Sio's

Code of Conduct was formally approved and implemented. Sio also developed a preliminary Emergency Response Plan for the Facility to guide our staff and

ensure guidance in case of emergency before we even break ground on our Vivian Sand Project.

Sio is committed to upholding the highest standards and following all governance policies and plans.

- ▶ Audit Committee – Terms of Reference
- ▶ Compensation Committee – Terms of Reference
- ▶ Code of Business Conduct and Ethics
- ▶ Whistle Blower Policy
- ▶ Mandate of the Board of Directors
- ▶ Emergency Response Plan - Facility Site Draft
- ▶ Health and Safety Manual

GROWING THE COMPANY

Sio is committed to local growth and representation in Manitoba.

Sio Silica Corporation announced in June 2022, the appointment of David Filmon, Q.C. to the board of directors. David's Membership to the board brings the number of board members to seven. Mr. Filmon is a highly awarded and experienced lawyer from Manitoba and will be joining both the Governance and Audit Committees. He recently served as Chair and Executive Board Member at the law firm of MLT Aikins LLP, one of Western Canada's largest law firms and the fifteenth largest in Canada. He continues to practice at MTL Aikins LLP, where he has been a Partner since 1998. He also recently served as Chair of the Board of Directors



David Filmon, Q.C.

of Centreport Canada, North America's largest inland port and foreign trade zone.

David has substantial experience in mergers and acquisitions, corporate finance, and securities law with an emphasis on advising public company boards and corporate governance. Mr. Filmon is nationally recognized for his contributions to the legal and business communities and has extensive board experience. He

was recognized in Best Lawyers in Canada 2022 for Securities and Mergers and Acquisitions. In 2019 and 2020 he was recognized in Lexpert Special Edition as one of Canada's leading lawyers in Infrastructure.



2023 OUTLOOK AND UPDATE

As most of 2022 was spent preparing for 2023 activities Sio would like to provide a 2023 outlook that will be expanded upon in our 2023 ESG report. The primary focus in 2023 is to complete the Clean Environment Commission hearings and progress through the permitting process to commence facility construction and extraction operations later in 2023.

The CEC hearings focused on the technical and potential environmental impacts of the project in the local area and largely examined the geotechnical and hydrogeological impacts. Sio's technical experts attended from Stantec, AECOM, Life Cycle Geo and Recens Mine Water Consulting Services to present, and answer questions of opponents, the commission and the public on the technical and environmental impacts of the project for a 3 week period in February

and March. The public, registered participants, and the CEC Technical Experts were also provided with the time to present, and share their opinions or technical findings. Following the hearings, the Commission entered a 90 day period in which a report with recommendations would be issued to the Environment Minister and for the Environmental Approvals Branch review. This report was issued late June and is now under review with the province pending a decision to issue an Environment Act Licence anticipated in the second half of 2023.

At this time, Sio is in an EPC evaluation and selection phase which will allow for the facility engineering to commence immediately following EPC selection and intention to start construction in the fall. Preparations are also underway to commence preliminary extraction in the fall.



GENERAL 2023 MILESTONES AND OUTLOOK:

Q1

- ▶ Round 2 Information Requests for Clean Environment Commission filings
- ▶ Ongoing Indigenous engagement and meetings
- ▶ Release of new Extraction Plan following Geotechnical parameters update
- ▶ Clean Environment Commission hearing preparations and commencement of hearings
- ▶ Clean Environment Commission hearings
- ▶ Municipal Board appeal decision issued
- ▶ Announcement of RCT Solutions GmbH MOU with Sio Silica to build North America's largest solar panel manufacturing operation in Manitoba
- ▶ Draft Vivian Sand Extraction Project Closure Planned filed.

Q2

- ▶ Post Clean Environment Commission review
- ▶ Ongoing Indigenous engagement and meetings
- ▶ Preliminary Economic Assessment update
- ▶ Development Agreement drafting and discussions with RM of Springfield
- ▶ Final Preliminary Economic Assessment update released
- ▶ Release of Clean Environment Commission Report
- ▶ Draft Vivian Sand Extraction Project Closure Plan filed
- ▶ EPC contractor selections begin
- ▶ Development Agreement Appeal filed
- ▶ Announcement of new Board of Directors member
- ▶ Release of S-K 1300 for Bru Property.

Q3

- ▶ Ongoing Indigenous engagement and meetings
- ▶ Facility Engineering and Design
- ▶ EPC contractor in place
- ▶ Project CAPEX commitment
- ▶ Deployment of enhanced water quality monitoring systems
- ▶ Product line enhancement (depth and breadth)
- ▶ Release of S-K 1300 for Den Property.

Q4

- ▶ Pre-construction
- ▶ Creation of ESG Committee and ESG performance award metrics
- ▶ Ongoing Indigenous engagement and meetings
- ▶ Review of building permit applications
- ▶ Preliminary extraction site preparations
- ▶ Water and subsidence monitoring network planning
- ▶ Proposed extraction rig testing, weather permitting.



SILICA

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