

LARGO

Creating Resilience.

2023 SUSTAINABILITY REPORT

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About This Report

Largo Inc. (Largo) presents its sixth sustainability report, focusing on the management of key risks, opportunities, impacts, and outcomes at the Maracás Menchen Mine vanadium operations in Brazil. This report aligns with Largo's consolidated financial reporting, with financial figures denoted in U.S. Dollars ($) using conversion rates from the Annual Information Form (AIF) for the year ended December 31, 2023 and covers the period from January 1 to December 31, 2023.

Changes in Reporting: We have enhanced our Scope 3 estimation for various categories, reported for the entire organization of Largo. Data assurance for this report was conducted internally and reviewed at multiple hierarchical levels within our organization. For inquiries regarding this report or its contents, please contact Alex Guthrie, Senior Manager of External Relations, at aguthrie@largoinc.com.

Publication date: June 24, 2024

Scope of the report: This report primarily focuses on our main subsidiary in Brazil, Largo Vanádio de Maracás S.A. (LVMSA), and its activities at the Maracás Menchen Mine, which covers over 92% of our employees and is our only mining and processing operation. Supplementary information about Largo and Largo Clean Energy (LCE) is provided where pertinent to offer context.

SUBSIDIARY	LOCATION	OWNERSHIP	% HEADCOUNT	% REVENUES	KEY ACTIVITIES – FACILITIES	MATERIAL TOPICS
Largo Inc. (Ontario)	Canada		1.1%		Admin – hot desks with no control of thermostat	None
Largo Physical Vanadium (British Columbia)		65.7%				
Largo Resources (Yukon) Ltd. (Yukon)		100%				
Largo Resources USA Inc. (Delaware)	USA	100%	0.6%			
Largo Vanádio de Maracás S.A. (LVMSA)	Brazil	99.94%*	92.7%	94%**	Open pit mining and ore processing operations, tailings storage and admin facilities	Scope of this report
Largo Campo Alegre de Lourdes Ltda.		100%			Mineral exploration (use LVMSA facilities)	
Largo Mineraçäo Currais Novos Ltda.		100%				
Largo Titânio Ltda.		100%			R&D (mini-plant) in leased space	None
Largo Tech Ltda.		100%			No physical operations	
Largo Clean Energy Corp. (Delaware)	USA	100%	4.5%		Light industrial manufacturing in leased space	
Largo Clean Energy España	Spain	100%			No physical operations	
Largo Commodities Holding Limited	Ireland	100%	1.1%		Admin – hot desks with no control of thermostat	
Largo Commodities Trading Limited		100%				

* Companhia Baiana de Pesquisa Mineral, an entity controlled by the Brazilian State of Bahia, owns 0.06% of Largo Vanádio de Maracás S.A.

** Revenues come from the sale of V_2O_5 equivalent produced by this subsidiary, and ferrovanadium.



About Largo

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Message from the Chairman of the Board



2023 tested Largo's resilience and dedication, underscoring our commitment to safety and sustainability.

We deeply mourn the loss of one of our team members – the first fatality in our nine-year history. This event profoundly affected us all, and our thoughts remain with the family enduring this profound sorrow. Prior to this incident, efforts were already underway to bolster our safety culture. Following a thorough investigation, we have implemented immediate and long-term measures to ensure the welfare of every individual within our Largo community.

Challenges such as above-average rains in December 2022, which impacted production early in 2023, were mitigated through our proactive measures from previous years. Operational adjustments in H1 2023, including the installation of new equipment and strategic leadership appointments, resulted in improved production rates at the end of the year.

Despite these difficulties, we were pleased to make some notable achievements in 2023. We continued strategic community programs, executed all biodiversity management plans, and intensified our focus on high-purity products, reinforcing our position as a leading supplier in the industry.

As part of Largo's commitment to sustainability, we completed our ilmenite plant, diversifying our revenue stream and promoting resource efficiency. Ilmenite is concentrated from the by-products of the vanadium operations, thus reducing tailings volumes.

On the clean energy front, deploying our 6.1 MWh battery in Spain for Enel Green Power furthers our commitment to sustainable energy solutions, marking the largest vanadium-based energy storage project constructed in Europe.

We are also prioritizing ESG initiatives and establishing baselines to inform our efforts to set specific, measurable, and achievable targets for material topics. In 2023, LVMSA formed a Decarbonization Working Group to spearhead projects to reduce GHG emissions through enhanced energy efficiency and cleaner technologies.

As we release our sixth sustainability report, we reaffirm our dedication to continuous improvement and building resilience at Largo.

Vanadium is pivotal in transitioning to a low-carbon future, and we aim to be at the forefront of responsible mining in Brazil. Together, we navigate challenges with empathy, united in our commitment to a sustainable and compassionate Largo.

Sincerely,

Alberto Arias
Chairman of the Board of Directors
Largo Inc.

LARGO energizing a sustainable future

Our mission is to be the leading vanadium-focused company providing the world with low carbon solutions, creating value through our unique products, responsible business practices, and the commitment of our talented team.

We are committed to being a global leader in providing the products, materials, and solutions for a low-carbon future. We believe Largo is a force for good in the world, and we apply our courage, creativity, and drive to develop responsible products and solutions that meet the needs of tomorrow.

Our Values



WE ARE COMMITTED TO SUPERIOR QUALITY AND INNOVATION.

We're constantly striving for the highest quality solutions and perpetually innovating to achieve a sustainable future.



WE PROMOTE INTEGRITY THROUGHOUT OUR BUSINESS.

We define integrity as respecting people and communities, including prioritizing their safety. We are transparent, sincere and honest.



WE CREATE VALUE FOR ALL SHAREHOLDERS.

We balance financial value for shareholders while not losing sight of social good and sustainability for all our stakeholders, earning their respect and trust.



WE CARE ABOUT PEOPLE.

We're global citizens focused on sustainability and ensuring that the untapped opportunities in the clean energy industry benefit all people around the world.

REPORTABLE ESG GOALS 2023

Completed | On Track | Failed

AREAS	TOPIC	GOAL	PROGRESS
Environmental	**Water**	Install additional measuring valves to improve the robustness of the data, identify new efficiencies and define an improvement plan for 2024.	Completed.
	Energy (electricity and fuels)	Conduct an energy audit to identify inefficiencies and define an improvement plan for 2024.	Completed.
Social	**Safety – Lagging indicators**		
	Fatalities	Maintain zero fatalities.	One employee fatality. There have been no previous fatal incidents in the nine-year history of the operations.
	Lost time incident frequency rate and Total recordable incident frequency rate	Maintain or improve the 3-year average of the lost-time incident frequency rate and total recordable incident frequency rate.	LTIFR– 2020 – 2022 average was 1.36, 2021- 2023 average was 0.96 TRIFR – 2020 – 2022 average was 7.89, 2021-2023 average was 7.34
	Safety – Leading indicator	Fulfill all planned management inspections, to achieve a minimum scoring average of 80%.	All inspections completed with a scoring average of 85%
	Diversity	Assess the diversity of our workforce (e.g., gender, race) through self-identification questionnaires.	The questionnaire has been developed. Pending implementation.
Governance	**Legal Compliance Environment and Social**	Maintain zero reportable incidents and zero fines above $15,000.	LVMSA received a fine above $15,000 related to an environmental incident. The company is appealing the fine.
	Climate Change	Establish a cross-functional "climate action steering group" to lead energy efficiency and decarbonization efforts at Largo globally.	A "Decarbonization Working Group" was formalized at LVMSA in October 2023.
	Compliance Program	Formalize the Compliance Program, including corporate oversight and enhanced training and monitoring of policies and procedures.	LVMSA formalized a Compliance Committee tasked with improving several governance processes in April 2023.
Other Goals from ESG Program	**Policies**	Develop and approve an Enterprise Risk Management (ERM) Policy.	Preliminary work has been completed.
		Develop and approve a Sustainable Procurement Policy.	Preliminary work has been completed.
	Procurement	Maintain continuous improvement of the procurement system for supplier qualification beyond commercial risk.	Since Jan 2023, LVMSA has been using a reputable service provider in due diligence of third parties. This service provides a full legal compliance score, including negative media reports, sanctions, legal actions, bribery assessment, politically exposed persons (PEPs), etc.

Our Value Chain

At Largo, we recognize the interconnectedness of our operations within the broader value chain. From exploration and extraction to processing and distribution, every stage of our value chain is crucial in delivering high-quality vanadium products to our customers while upholding our commitment to sustainability and responsible business practices.

Our value chain encompasses various stakeholders, including suppliers, local communities, customers, and regulatory authorities, all of whom contribute to and are impacted by our activities. By understanding and managing the complexities of our value chain, we strive to create value for our shareholders, society, and the environment.

This report will provide you with information about Largo's value chain including social, economic, and environmental impacts, how we engage stakeholders, and how we address human rights and the health and safety of workers and the community.



Stakeholders involved in this part of the value chain

- Shareholders and the investment community
- Contractors, suppliers and service providers
- Industry associations and business partners
- Government and regulatory agencies
- Civic leaders and NGOs
- Our employees and their families
- Our labour union
- The people in the communities in which operate

Markets

Largo is one of only two large-scale, high-purity vanadium producers in the world. Vanadium is often referred to as a "green metal" due to its various applications in technologies and industries that contribute to environmental sustainability:

End users



STEEL STRENGTHENING

Largo supplies vanadium to end users for use in the steel and aerospace sectors. Using vanadium as an alloy enhances the strength, durability, and heat resistance of steel, producing lighter, stronger, and more durable steel. This reduces raw material use and respective GHG emissions and increases energy efficiency.



AEROSPACE

High-purity vanadium from suppliers such as Largo is essential for aerospace applications. Vanadium-titanium-aluminum alloys provide crucial strength, durability, and heat resistance to aircraft components and contribute to fuel efficiency and lower emissions by reducing weight.



ENERGY STORAGE

Vanadium is a key component in the manufacture of electrolytes required in Vanadium Redox Flow Batteries (VRFBs), which are considered one of the most promising energy storage solutions for long-duration energy storage essential in integrating the intermittent nature of renewable energy sources like wind and solar.

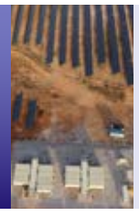
VRFBs have long lifespans, high efficiency, and cawn store large amounts of energy, supporting the integration of renewable energy into the grid and reducing reliance on fossil fuels. VRFBs are considered a true circular-economy technology, given their long life with an electrolyte component that never degrades, carbon savings, low carbon footprint, and safety.

LARGO CLEAN ENERGY CORP. (LCE)

Largo Clean Energy Corp. (LCE) was founded in late 2020 following the acquisition of certain Vanadium Redox Flow Batteries (VRFBs) patent families. LCE operates a stack manufacturing facility in Wilmington, Massachusetts, and is currently undergoing a strategic review and evaluation to optimize its value proposition in the energy storage sector.

On March 18, 2024, Largo announced the signing of a non-binding letter of intent with Stryten Energy LLC to establish a 50:50 joint venture that would combine LCE with Stryten's VRFB business.

LCE recently constructed a 5.5 MWh VRFB for Enel Green Power Espana (EGPE) located on the island of Mallorca, Spain. LCE's VRFB project for EGPE represents the largest VRFB deployed in Europe to date.



Largo Website
>Clean Energy Storage





Governance

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The Board of Directors

Largo prioritizes strong corporate governance as fundamental to resilience and sustainability. Guided by the Board of Directors, our sustainable development commitments emphasize ethical conduct, regulatory compliance, and balanced growth while minimizing environmental impact. The Board oversees Largo's Vision, Mission, and Value statements, aligning them with sustainable development objectives.

The Governance Committee ensures compliance with policies and legal requirements, coordinating with the Clean Energy, Operations, and Audit committees. The Operations Committee supports health, safety, and environmental goals, addressing potential issues through regular reviews.

Communication and transparency are key, with the Board providing final approval for environmental, social, and governance communications. The annual sustainability report undergoes reviews at various levels of the company.

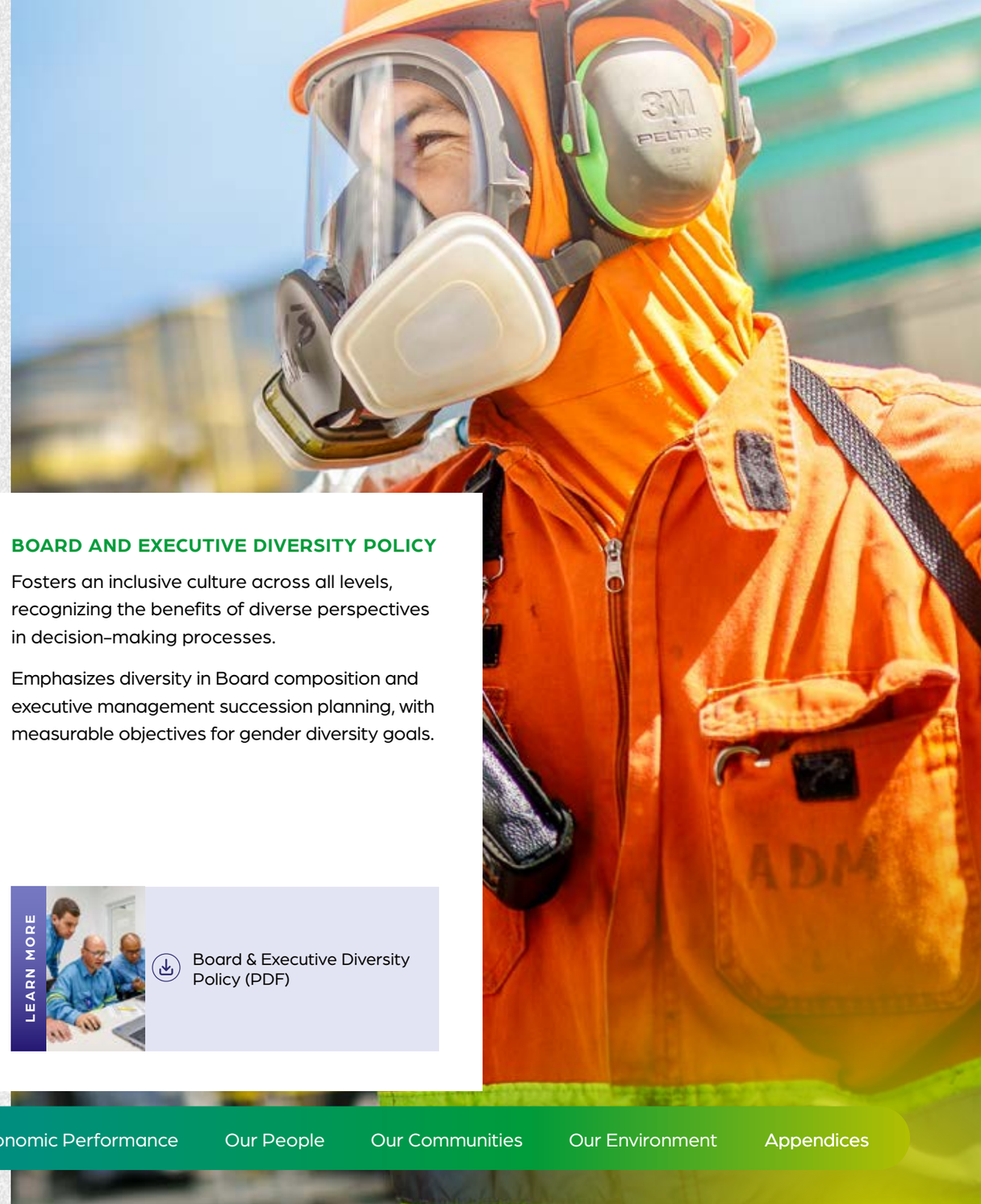
Strategic planning involves active Board participation in evaluating opportunities and risks, with quarterly operational updates and periodic policy reviews to adapt to emerging trends.

The Board conducts the CEO selection, delegating responsibility for effective management and policy adherence. LVMSA's COO provides operational oversight. LVMSA integrates sustainable practices into its organizational structure, with dedicated staff overseeing risk management, human resources, environment, health and safety, and community engagement.



Policies and Practices

Largo reinforces its dedication to responsible and sustainable business practices through various policies and procedures. These policies ensure compliance with evolving standards and are readily accessible on Largo's website, intranet and internal system (SOGI). All new employees and contractors are trained in specific policies and procedures during orientation.



SAFETY, ENVIRONMENT, AND SOCIAL RESPONSIBILITY POLICY

Promotes resource efficiency, waste minimization, and employment opportunities for the local workforce.

We are committed to adopt the Global Industry Standard on Tailings Management for the Brazil mine by August 2025, and already comply with over 90% of the requirements.



- Largo Website > Governance
- Safety Environmental & Social Responsibility Policy (PDF)
- Global Tailings Standard (PDF)

PEOPLE AND HUMAN RIGHTS POLICY

Underlines Largo's commitment to ethical operations and human rights standards, implementing due diligence processes, grievance mechanisms, and regular monitoring.

Fosters a culture of integrity, accountability, and respect for human rights within Largo's business activities.

Engages in respectful dialogue with local communities, opposing forced labour, child labour, and discrimination.



- Human Rights Policy (PDF)

BOARD AND EXECUTIVE DIVERSITY POLICY

Fosters an inclusive culture across all levels, recognizing the benefits of diverse perspectives in decision-making processes.

Emphasizes diversity in Board composition and executive management succession planning, with measurable objectives for gender diversity goals.

- Board & Executive Diversity Policy (PDF)

RESPONSIBLE BUSINESS CONDUCT

Largo's Code of Business Conduct and Ethics sets strict standards for honesty, integrity, and legal compliance across all levels of the organization. It covers compliance with anti-corruption laws, transparency, accountability, conflict of interest, asset protection, equal opportunity, harassment prevention, and guidelines for alcohol and drug use. Reporting mechanisms like the Ethics Hotline and Whistleblower Policy ensure a culture of integrity and accountability.

Largo complies with the Canadian Extractive Sector Transparency Measures Act (ESTMA) and publishes an annual ESTMA report on LVMSA operations in Brazil.

HUMAN RIGHTS DUE DILIGENCE

Due diligence of human rights in our supply chain continues to improve. As of January 2023, a new system for direct (Tier 1) supplier screening has been contracted to provide increased visibility into suppliers' business conduct.



ESTMA 2023

Code of Business Conduct & Ethics PDF

GRIEVANCE MECHANISMS

Largo is committed to having clear ways for people to voice concerns and find solutions, as stated in its Human Rights Policy. Stakeholders can raise grievances and seek remedies through various mechanisms, including the judicial system (criminal and civil actions), government-run offices, the union, and the collective bargaining process. In areas of direct and indirect influence on the community by the Company, the Enterprise Monitoring Committee (CAE – Comissão de Acompanhamento do Empreendimento) provides alternative avenues.

Ethics and Whistleblower Hotline

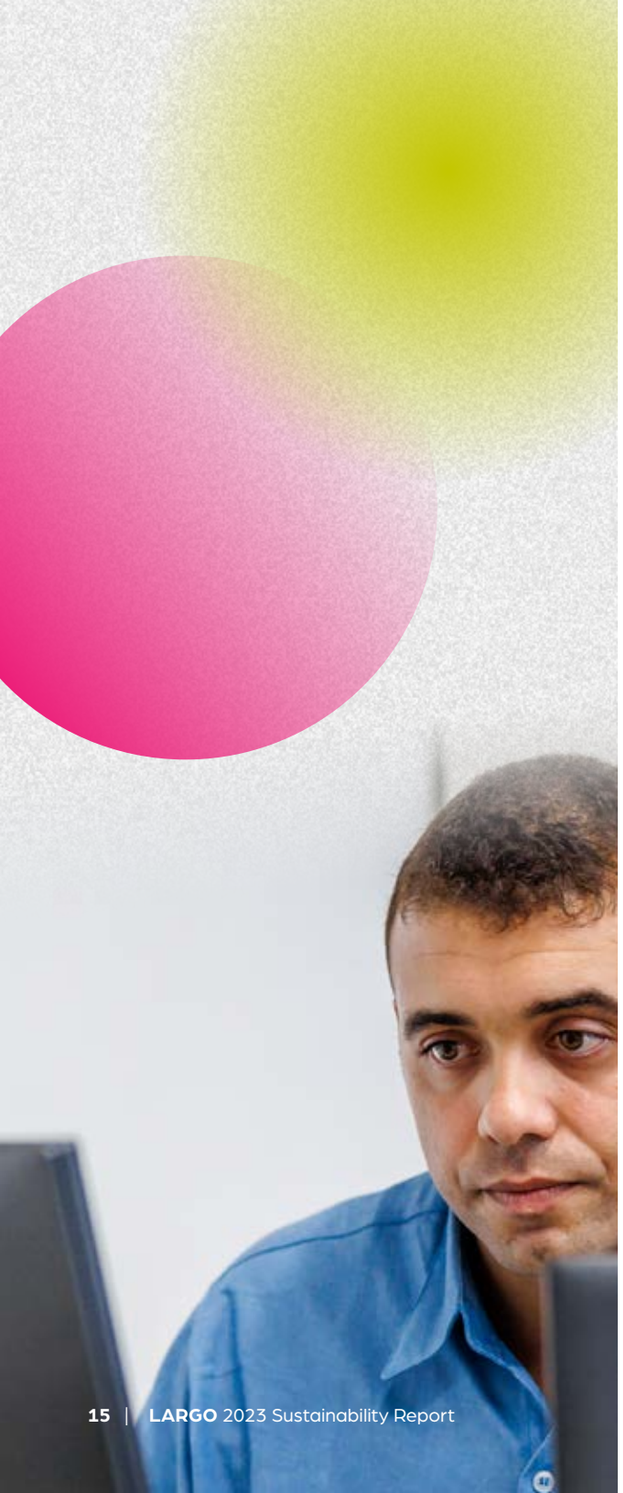
The Ethics and Whistleblower Hotline, available in Portuguese and English via the hotline website or toll-free phone, enables anonymous reporting to safeguard against retaliation. Hotline use is tracked by an independent third-party service provider in Canada who provides monthly reports, while the internal auditor in Brazil oversees internal investigations to ensure impartiality. Fraud, theft, or misappropriation concerns are escalated to the Audit Committee Chair.

Employees were reminded of how to file complaints during COO presentations. Other common concerns addressed included reporting anonymity, non-retaliation, non-preferential treatment for managers, and the impact of reporting. The hotline serves as a confidential channel for governance concerns, promoting awareness, employee protection, and corporate sustainability.

Hotline Reporting

In 2023, 90% of reports were submitted via the hotline and website and 10% directly to a LVMSA internal auditor who later transcribed the reports to the website. No reports were received through the toll-free number. The website has been enhanced for user-friendliness and bilingual support and Largo is committed to ongoing improvements. Statistics on reported concerns are detailed in the Performance Data section.





MEMBERSHIPS

We maintain affiliations with national and international associations, which offer opportunities for exchanging best practices, fostering collaborative innovation, and collectively contributing to the global shift towards a low-carbon future.

IBRAM MINERAÇÃO DO BRASIL

VANITEC TRANSFORMING POSSIBILITIES

SINDIMIBA MINERAÇÃO NA BAHIA

LDES LONG DURATION ENERGY STORAGE COUNCIL

POLITICAL AND OTHER CONTRIBUTIONS

Largo does not make political contributions in any country of operation. There have been no lobbying expenditures in any country. Largo maintains membership in various industry organizations, paying undisclosed membership dues.

CYBERSECURITY AND PERSONAL INFORMATION SECURITY

At Largo, we prioritize information system security and the protection of confidential data collected from employees and stakeholders. Our Information Security Policy in Brazil outlines our strategy to maintain the integrity, availability, and confidentiality of information, focusing on detection, prevention, monitoring, and incident response.

2023 Improvements

Largo continues to improve its systems through audits, implementation of new processes, and updating processes and technologies.

Global improvements in 2023 included:

- Conducted an ITGC audit with an internal and external penetration test globally
- Rolled out a Privilege Access Management (PAM) solution globally
- Implemented Event Log Analyzer, a security information and event management (SIEM) tool
- Implemented VLAN segregation network in all entities
- Implemented backup cloud-based virtual private network (VPN)
- Implemented mobile device management solution
- Executed a cybersecurity incident tabletop exercise
- Completed the standards for the Acceptable Use and Security Incident Response Plan

At our Brazil operations, we completed the following cyber security activities this year:

- Implemented fibre links and redundancy
- Updated old radio protocol to LTE Network
- Implemented tax automation (integrated with eGov)
- Deployed network asset monitoring system
- Implemented radio device monitoring system upgrade
- Implemented a completely revamped security awareness program
- Rebuilt the IT data centre
- Implemented a UPS system and redundancy developed

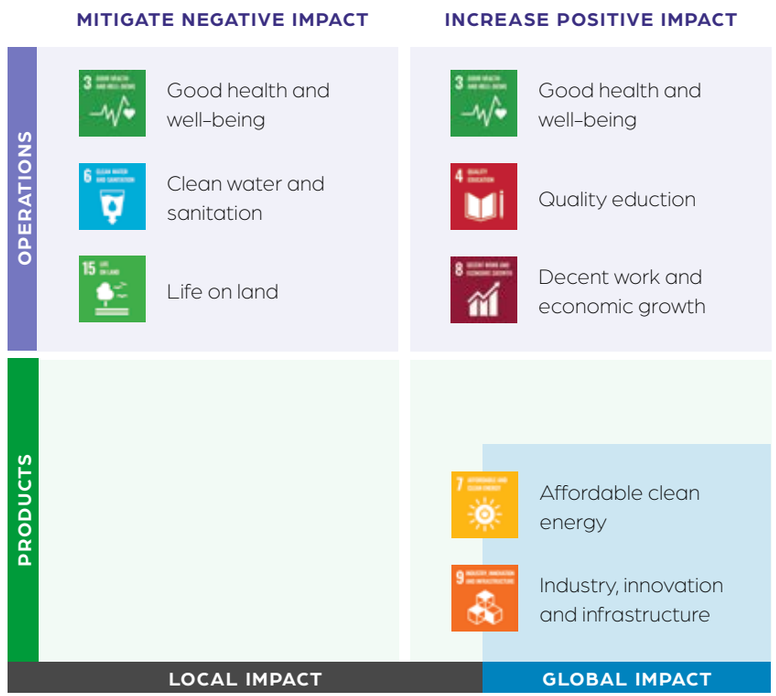
Our Sustainable Development Strategy

Our Sustainable Development Strategy aims to drive local economic growth and advance social development and clean energy solutions while minimizing environmental impacts. We rigorously assess and control risks and adhere to licensing processes, legal mandates, and industry best practices. Our vision prioritizes responsible value extraction from operations and fosters long-term economic independence within our communities.

SODIUM SULFATE

Sodium sulfate is a by-product of our operations, stored in our Bacia de Cloretado (BCL) tailings facilities. In 2023, we successfully tested the use of sodium bicarbonate derived from sodium sulfate in our plant. Furthermore, we identified an external market (paper and cellulose) willing to accept the purity level of our sodium sulfate by-product. These endeavours align with our sustainable development strategy, and we are actively exploring both opportunities.

ALIGNMENT WITH UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS



Ilmenite Concentration Plant

In 2023, Largo completed construction of its ilmenite concentrate processing plant on previously developed land adjacent to the vanadium processing plant. The plant extracts ilmenite from non-magnetic tailings, a by-product of our vanadium ore separation process, contributing to our sustainability objectives by reducing tailings volume by approximately 20%.

Additionally, this initiative addresses the rising local demand for titanium dioxide which is derived from ilmenite. Collaborating with Brazilian academic and governmental organizations, this project not only reinforces our sustainability actions but also generates a new revenue source, optimizing resource value and bolstering our diversification strategy.



8,970t

Ilmenite produced in the fourth quarter of 2023

500t

The first 500-tonne ilmenite sale occurred in January 2024

270

Contractors employed in the construction of the plant in 2023

50

Full time jobs

67,000 t

Ilmenite sales projected to reach between 60,000 and 67,000 tonnes in 2024

Stakeholder Engagement

We prioritize ongoing dialogue and collaboration to drive sustainable outcomes while maintaining our commitment to engaging with stakeholders to understand their concerns and perspectives. Stakeholders, including local communities and site contractors, are identified based on their direct and indirect relationships with our operations. Using various engagement methods such as surveys, interviews, and direct interactions, we gather feedback from a diverse range of stakeholders to inform our decision-making processes and ensure alignment with their expectations.

In April 2023, we surveyed our customers to gauge satisfaction with Largo's products and services, incorporating questions on Environmental, Social and Governance (ESG)-related topics. The majority identified Health and Safety as their top concern, followed by Ethics and Environmental issues.

Which ESG topics, if any, are more relevant to your company?



Materiality

LARGO'S APPROACH TO MATERIALITY

Largo embraces the principle of double materiality, considering our impacts on the economy, environment, and society, as well as the potential impacts these aspects have on us. Through comprehensive risk assessments conducted internally and externally, we identify actual and potential negative and positive impacts across all activities, emphasizing a precautionary approach to minimize harm.

DETERMINING MATERIAL TOPICS

We prioritize transparent reporting on negative impacts while recognizing positive contributions. Material topics are selected based on severity, focusing on impacts that could result in fatalities, disabilities, chronic illnesses, or irreversible damage. Our selection process aligns with industry standards, and is continuously benchmarked against recognized frameworks such as ICMM, IRMA, and SASB.

LIST OF MATERIAL TOPICS*

For 2023, our list of material topics remained the same, except that we are considering including inclusion and diversity due to the potential negative impacts identified during stakeholder engagements.

Our material topics are:

- Occupational health and safety
- Community relations and development
- Water and effluents
- Energy and air emissions
- Biodiversity
- Waste
- Tailings facilities
- Mine closure



* Approved by our Board, this list reflects our commitment to transparency and accountability.

Climate Resilience

The Maracás Menchen Mine has seen a rise in rainfall levels in recent years, creating operational interruptions in 2021 and 2022. Operational interruptions are one of the top 10 risks identified in Largo's Enterprise Risk Management. To manage potential disruptions to production, our operational team has implemented mitigation measures and conducted preventive maintenance during operational downtime.

LEARN MORE



Largo TCFD Climate Report 2022 (PDF)

Rain Accummulation 2012 – 2023



228.6mm

In 2023, the rainfall trend reversed, showing the lowest level of precipitation in the last 10 years.

ESG Progress

In 2023, we advanced our commitment to transparency and ESG progress by releasing our second TCFD-aligned climate report and completing our second CDP questionnaire. LVMSA created the role of ESG Senior Analyst, reporting to the COO. This role supports the tracking of ESG performance data and KPIs, responds to different stakeholder questionnaires and assessments, as well as provides training to relevant leaders and staff.

Third party ESG Ratings and Assessments 2023

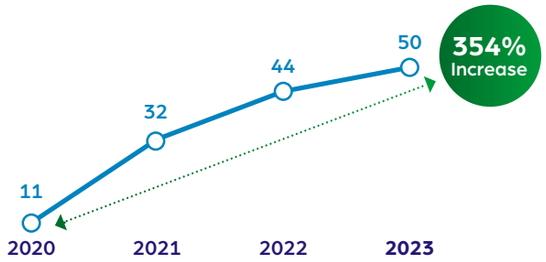
S&P Global

50/100

Our company scored 50 in the 2023 S&P Global Corporate Sustainability Assessment reflecting an improvement of 39 points or approximately 354% over the last 4 years. (CSA Score as of 22/12/2023)

As of 22/12/2023, our company performed in the top quartile in the Metals and Mining Industry in the S&P Global Corporate Sustainability Assessment.





Morgan Stanley Capital International

A Rating



Carbon Disclosure Project

C Rating

Largo Inc. received a C which is in the Awareness band. This is the same as the North America regional average of C, and lower than the Metal smelting, refining & forming sector average of B-.



Morningstar Sustainalytics**

32/100

In September 2023, Largo received an ESG Risk Rating of 32.0 and was assessed by Morningstar Sustainalytics to be at High risk of experiencing material financial impacts from ESG factors. In no event the 2023 Sustainability Report shall be construed as investment advice or expert opinion as defined by the applicable legislation.



** see endnote on page 88

Institutional Shareholder Services Inc.

C+ Rating





Economic Performance

IN THIS SECTION

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Supply Chain Management ›

Benefit Footprint

$17.2M

Employee wages and benefits

$0.25M

Community investment

$30.6M

Taxes and royalties paid in Brazil

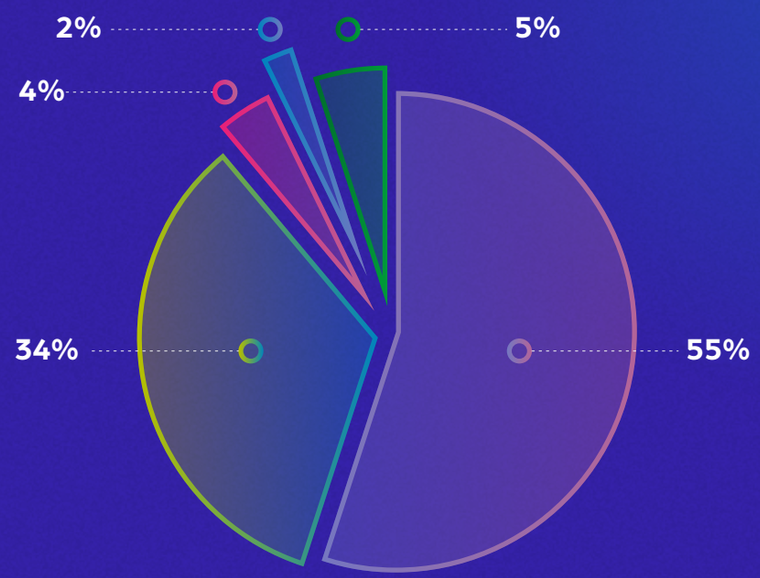
$218.1M

Expenditures with national suppliers

$17.5M

Taxes paid by Largo's supply chain in Brazil due to Largo's business

2023 Local and Regional Hiring



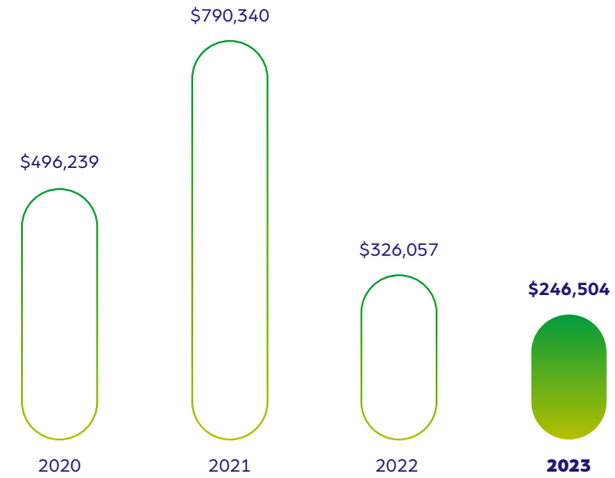
Maracás Area	273
Regional – Bahia*	167
Other states	24
Minas Gerais	18
Goiás	12
Total Hires	**494**

*excluding Maracás area

Economic Presence in Our Communities

We aim for sustainable community development by reducing reliance on Largo. Details of our four-pillar strategy can be found in the Communities section.

Total Investment in Communities



Feira da Diversidade

Feira da Diversidade Project (Diversity Fair Project) promotes local development through a multicultural space of economic and social interest, connecting sustainable agriculture, arts, tourism and leisure and is one of the solidarity economy businesses supported by Mulheres Ativas Program.



Supply Chain Management

Largo's supply chain spans various suppliers and service providers, mainly in Brazil, with global distribution via ports in Salvador and Santos. We prioritize mineral traceability, maintaining control over our vanadium value chain for transparent reporting. Importantly, no adverse environmental or social impacts have been reported within our supply chain.

SUPPLIER SELECTION PROCESS

Our procurement process entails strict criteria, including the requirement for suppliers to possess a Brazilian registration number (CNPJ) to ensure compliance with government regulations. Contracts include clauses mandating adherence to relevant legislation.

REQUEST FOR PROPOSALS (RFP)

Prospective suppliers receive comprehensive documentation outlining mandatory requirements, focusing on occupational health, safety, environmental risk management, and legal compliance. They are guided by Largo's Code of Business Conduct.

SUPPLIER QUALIFICATION

Selected suppliers undergo Largo's qualification process overseen by the Contract Management team to ensure adherence to established procedures. The process includes:

1. Internal Questionnaire: Suppliers complete a questionnaire covering ethics, governance, ISO certifications, and risk management. Qualification requires a minimum score of 70%, with exemptions granted in special cases subject to legal opinion followed by director approval.
2. Due Diligence: Financial and legal due diligence is conducted using the supplier's tax registration number (CNPJ). Largo uses Neoway, a leading Data Analytics and Artificial Intelligence company, for this process. Neoway's platform provides comprehensive information on the supplier's financial status, licences, compliance score, legal proceedings, negative media, PEP cases and environmental notifications. Upon successful completion, the supplier's registration is approved for contract processing in Largo's purchase ERP.

SUPPLY CHAIN RISK MANAGEMENT PROCESS

Neoway assesses various risks associated with suppliers, including fraud, reputational, regulatory, operational, financial, and information security risks. These risks are analyzed, classified, and prioritized based on their probability and impact levels.

Additional Step for High-Risk Critical Suppliers

For critical* suppliers identified as high-risk by Neoway, the "Watcher" tool provides continuous monitoring throughout the contract duration. This tool tracks public data about companies and partners to detect potential compliance issues. Any non-compliance alerts the Contract Management team to take action. Suppliers who fail to address non-compliance may have their registration blocked in Largo's internal ERP until the problem is resolved. No qualified suppliers were blocked in 2023.

2023 Supplier Audits

This year, Largo audited 32 suppliers who had previously failed the first qualification step. All had made improvements to eliminate non-conformances and were approved.

* Refer to our 2022 Sustainability Report Page 32



Our People

IN THIS SECTION

Engaging Our Talent ›
Diversity and Inclusion ›
Occupational Health and Safety ›
Management Approach ›

Engaging Our Talent

At Largo, we recognize that our people are the driving force behind our success. Embracing and nurturing our diverse workforce lies at the heart of Largo's organizational ethos. In line with our commitment to inclusivity, we have continued to enhance our recruitment processes to attract top talent from diverse backgrounds.

LVMSA leadership actively promotes values such as inclusion and diversity, and contributes to the social development of Maracás and the region among employees. These values are communicated as integral to the Company's success and future as one of Brazil's premier mining operations. In 2023, our dedication to fostering a culture of continuous learning and development remained steadfast. We offered various training programs aimed at empowering our employees to excel in their roles.

Our collective agreement, a key component of our employee relations framework, was renegotiated in 2023, demonstrating our commitment to fair treatment for all workforce members. Additionally, we extend our dedication to employee well-being to our major on-site service providers, who are also covered by these agreements.



LEARN MORE

- Our People (PDF)
- Collective Agreements and Other Rights and Benefits (PDF)
- Equity, Diversity & Inclusion (PDF)

LABOUR RELATIONS

Throughout 2023, Largo prioritized maintaining positive labour relations. There was effective participation of all employees, together with the Labour Union, during the negotiations and approval of the 2023–2025 Collective Agreement. This proactively ensures that the interests of both employees and Largo are effectively addressed. Employee performance evaluations were also conducted with the aim of fair and transparent assessment processes that recognize individual contributions.

INNOVATION AND EMPLOYEE ENGAGEMENT

Largo introduced the "Cada Ideia é um Flake" program in 2021, inviting employees to contribute innovative ideas to drive organizational growth, innovation, and continuous improvement. In 2022, 230 ideas were submitted and evaluated. In 2023, an additional 35 new ideas were collected. However, evaluation and implementation are pending due to other operational priorities. Plans are underway for our third employee engagement and satisfaction survey in 2024.

TALENT MANAGEMENT

In line with our strategic objectives, we enhanced talent management practices at Largo. We focused on hiring and a review of roles and remuneration, beginning with leadership positions. By investing in talent development and ensuring equitable compensation, we aim to attract, retain, and empower top talent within our organization.

LEADERSHIP DEVELOPMENT

Recognizing the pivotal role of leadership in driving organizational success, Largo prioritized leadership development initiatives in 2023. Efforts included training sessions to enhance soft skills and other leadership tools. Additionally, one-on-one sessions provided personalized support and guidance. By investing in leadership development, we aim to cultivate effective leaders capable of driving sustainable growth and fostering a positive work culture.

There are further plans for leadership development in 2024 focusing on four themes: self-knowledge, non-conflict communication, emotional intelligence, and transformative leadership.

YOUNG APPRENTICE PROGRAM (PROGRAMA JOVEM APRENDIZ)

The Young Apprentice Program is a government-regulated initiative providing apprenticeships in mechanics and electricians to young individuals. Participants undergo six months of studies and training at the National Service for Industrial Training (SENAI) followed by six months of temporary employment at Largo. Top performers have the opportunity for permanent full-time employment. In 2023, the program extended its practical work duration at Largo to 12 months.

Certifications:

Young Apprentice Program Results 2018–2023

59%

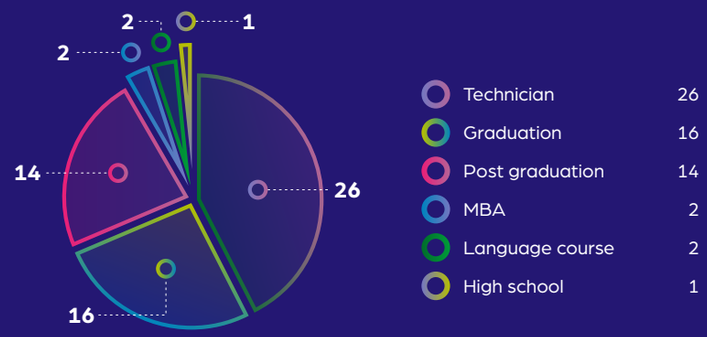
rate of employment at the end of training, considering both Largo and Largo's contractors.



SCHOLARSHIPS

To support skill development and career growth, Largo offers financial assistance of up to 70% of the cost for external courses at high school and college levels, such as mechanics and maintenance technician courses, undergraduate engineering degrees, and advanced studies like master's degrees and MBAs.

Graduated 2018–2023 by degree



EMPLOYEE TRAINING AND DEVELOPMENT INVESTMENT

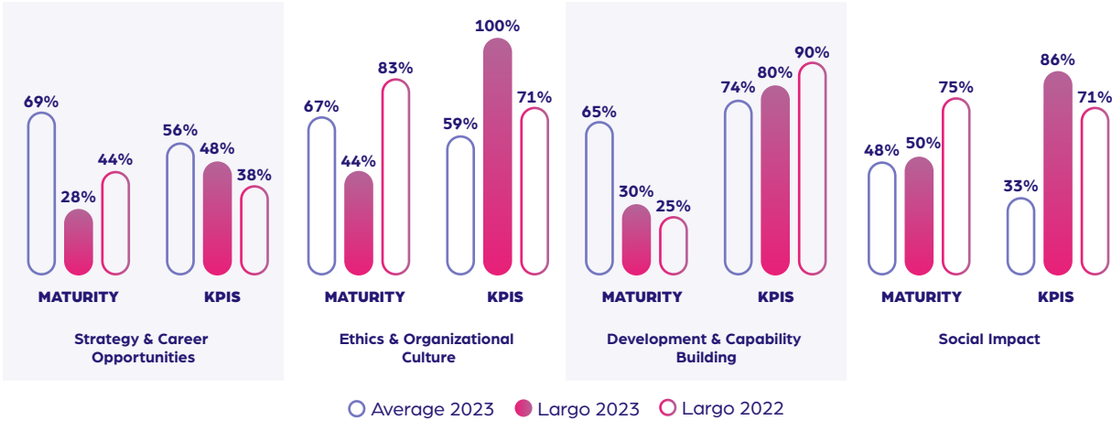


Diversity and Inclusion

WOMEN IN MINING (WIM) BRAZIL

Largo continues to participate as both a signatory and financial sponsor of the Women in Mining (WIM) Brazil Action Plan. In 2023, Largo completed our third self-assessment. The results show some results above the industry average and others below.

WIM Brazil Indicators



Largo drafted a self-identification survey for ethnicity, religion, gender identity, and sexual orientation in 2023. This survey is essential for understanding our workforce's demographic makeup and promoting inclusivity which are an important part of our journey toward a more diverse and equitable workplace.

Awareness Campaign

INTERNATIONAL WOMEN'S DAY

For International Women's Day 2023, Largo launched a multifaceted campaign to promote gender equality and raise awareness about gender bias. Using various channels such as social media, billboards, posters, email, flyers, and stickers, the campaign aimed to challenge societal norms and spark conversations. Leveraging the popularity of women's soccer in Brazil, Largo highlighted the Women's World Soccer Cup to advocate for more equitable representation. At the core of the campaign were "Four Tips to 'keep the ball in play'," incorporating soccer-themed metaphors to convey messages of respect and gender equality.



Awareness Campaigns



BLACK AWARENESS DAY

For Black Awareness Day, Largo ran a campaign via social media, posters, and email highlighting racial expressions to be avoided and helping people reflect on the importance of diversity, equality, and respect for all people.

NATIONAL DAY TO COMBAT RACISM

Largo recognizes that everyone plays a role in overcoming racism. On the National Day to Combat Racism, Largo made recommendations on social media for productions starring Black people to highlight the importance of representation.



NATIONAL DAY OF STRUGGLE FOR PEOPLE WITH DISABILITIES

On the National Day of Struggle for People with Disabilities, Largo held a breakfast for employees with disabilities where they could chat with managers about the needs of people with disabilities within the Company and potential improvements.

LGBT+ PRIDE MONTH

In 2023, Largo continued its support for LGBT+ Pride Month by sponsoring a Pride Festival in Maracás. The festival showcased dance and theater performances, alongside billboards and social media promotion. A Cultural Competition was held to select performers under the theme "Embracing the plural is our commitment." The event also featured visual arts and a diversity fair, supporting local artists. As part of community programs to boost local incomes, 29 local seamstresses were hired to make festival t-shirts, resulting in a 16% increase in income for their families that month. Additionally, Largo participated in the LGBTQ2+ Pride Parade event in Toronto.







Occupational Health and Safety

MANAGEMENT APPROACH

Our safety commitment is embedded in our Safety, Environment, and Social Responsibility Policy, overseen by the Board's Operations Committee. The LVMSA COO ensures adherence, while the Health, Safety, Environment, and Quality manager handles daily operations. Our approach covers governance, risk management, compliance, stakeholder engagement, training, and continuous improvement. Regular stakeholder engagement ensures goal alignment and addresses concerns promptly.

RISKS AND IMPACTS

Mining and processing activities pose various occupational health and safety (OHS) risks, and Largo has incident management procedures in place to address safety concerns promptly. We comply with over 35 regulatory norms, conduct simulation drills annually, hold daily safety dialogues, and provide occupational health services to ensure compliance with legal requirements and enhance employee well-being.

INDICATORS AND CONTINUOUS IMPROVEMENT

Our management system, based on a Plan-Do-Check-Act (PDCA) model, complies with Brazilian regulations. It focuses on risk assessment, control implementation, incident investigation, and continuous improvement. Controls are implemented following a hierarchy, including procedures, training programs, and personal protective equipment (PPE). We continuously strive to enhance our safety performance through ongoing assessment, feedback mechanisms, and the incorporation of best practices.

This year, during our annual Safety in Mining event, we emphasized the importance of mental well-being alongside safety culture. Employees and contractors learned relaxation techniques and stress-relief methods, while enjoying leisure activities with registered family members.

Occupational Health and Safety KPIs

- Management inspection scores
- Compliance with regulatory requirements
- Reported incidents
- Incident frequency rates
- Work-related illnesses
- Medical treatment case rate
- Corrective action closure rate
- Incident investigation
- Training and development rate
- Safety meeting attendance



Largo Website > Health & Safety

Building a Safety Culture (PDF)

Occupational Health (PDF)

FATAL ACCIDENT

On July 13, 2023, an accident occurred at the processing plant (evaporation area), during the preventive replacement of parts of the equipment identified as 550-BO-202. The accident caused fatal injuries to one of our employees and minor injuries to one contractor.

LVMSA immediately decommissioned the equipment and launched an investigation into how this tragedy occurred. Other immediate actions included full support to the family of the deceased employee, ensuring that LVMSA's workforce knew how to access the mental health team, and renewed attention to the Daily Safety Dialogues (DSS).

The investigation was conducted by a multidisciplinary committee formed by eight members of different departments, such as HSE, Engineering & Maintenance, Legal, Union labour representatives, and an external specialized company. During the investigation, the committee analyzed several documents and information and heard from witnesses of the accident. The investigation was concluded in October 2023.

An action plan was developed, and the actions are being completed as per the schedule.

SAFETY CULTURE TRANSFORMATION: HEARTS AND MINDS PROGRAM

In early 2023, LVMSA started the process of strengthening its safety culture. We enlisted the expertise of the Hearts and Minds Program* to assess and upgrade our safety mindset as a core component of our operations.

Through a blend of qualitative and quantitative methods such as document reviews, focus groups, interviews, and behavioral observations, we collected insights from 276 employees and contractors, representing 18% of our workforce. The results revealed areas for improvement, such as our plan for cultural transformation.

PLAN FOR CULTURAL TRANSFORMATION

The initial phase of the Plan for Cultural Transformation, completed in 2023, involved training at operational and leadership levels, which were implemented both before and after the fatality. In 2024, Largo will focus on training and activities covering human factors, incident investigation, communication, safety dialogues, behaviour observation, outcome management, culture management, and engagement.

PROCESS SAFETY MANAGEMENT (PSM)

Largo is implementing Process Safety Management (PSM). We are actively involved in the Brazilian Mining Institute's (IBRAM) PSM Committee and enlisted a consulting company to kickstart this initiative in 2023. Initial steps included a desktop analysis to establish the foundation. The main phase of PSM implementation is scheduled for 2024, focusing on identifying process risks using bowtie methodology and implementing essential prevention and mitigation controls.

IMPROVEMENT OPPORTUNITIES	
Enhance Safety Communication:	Implement methods to boost employee engagement in safety initiatives.
Reassess Prioritization:	Review productivity versus safety balance to uphold safety as paramount.
Foster Psychological Safety:	Create environments encouraging open communication without fear of repercussion.
Enhance Safety Criteria:	Establish stricter safety standards for hiring on-site service providers.
Implement Robust Safety Management:	Integrate incident insights, improvement suggestions, and audit findings into safety actions.

POSITIVE ASPECTS OF CULTURE
Regular safety dialogues foster knowledge sharing.
Preventive tools like Risk Assessments and Permits for Special Work mitigate hazards.
Employees actively contribute to safety best practices.
Management demonstrates a proactive commitment to safety culture.

* Developed by Shell Exploration and Production, the program draws from two decades of research and practical experience, The Hearts and Minds toolkit, tailored for all levels of our workforce, equips managers, team leaders, and staff with tools to integrate health, safety, and environmental (HSE) considerations seamlessly into our daily activities.

CRITICAL RISKS IN MINING

IBRAM conducted a two-year study to identify and develop management guidelines for critical safety risks in mining operations across Brazil. They identified 13 critical risks, four of which (marked with *) are already outlined in Largo's Golden Rules for Safety.

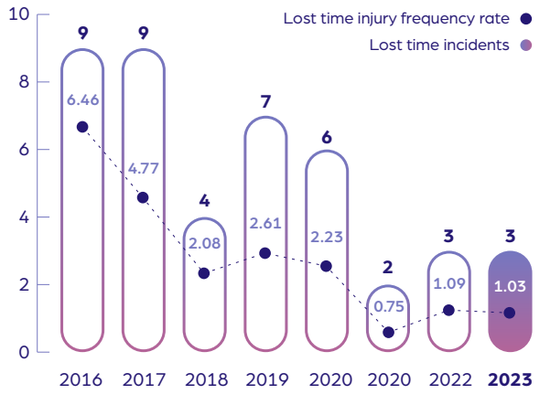
13 Critical Risks Related to Mining

1. Control of hazardous energy
2. Driving road vehicles*
3. Working at heights*
4. Mining mobile equipment*
5. Confined spaces
6. Chemical products and radiation
7. Lifting loads
8. Working with electricity*
9. Working close to water
10. Explosives
11. Prevention and firefighting
12. Machine guarding
13. Pressurized systems

RISK GUARDIANS PROGRAM

As part of implementing IBRAM's critical risks research, Largo initiated the Risk Guardians Program. We assigned one employee to oversee each of the 13 critical risk areas. Selected for their technical proficiency, performance record, and topic expertise, they follow IBRAM guidelines and applicable laws. Each guardian strives to become an expert in their area, with support from safety professionals and managers. They hold weekly meetings with their team to address concerns and monitor progress.

Lost Time Injury Frequency Rate (LTIFR)



OCCUPATIONAL HEALTH PROGRAMS

Ergonomics

Largo tracks Musculoskeletal Disorders (MSD) incidents, analyzing them by affected body parts. In 2023, spines and knees were most affected. An ergonomics consultant was hired to work on a medium- to long-term basis to address MSD issues. The work started by identifying high-risk situations and implementing immediate changes, like elevating the nursery tables to reduce strain when tending to the seedlings. Efforts continue in 2024, moving to administrative office staff.

Psychological Support

Largo recognizes the importance of addressing employees' mental health issues.

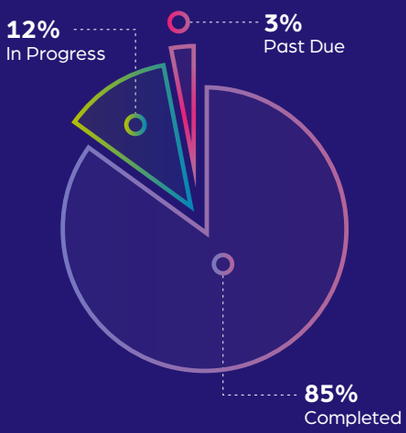
Largo supports mental health by having a psychologist on staff who conducts initial assessments. In 2023, this psychologist directly assisted 60% of cases or referred individuals to other professionals like social workers, municipal services, or occupational physicians. We gather statistics to monitor workplace concerns while ensuring privacy for all individuals.

INCIDENT REPORTING AND CORRECTIVE ACTIONS

Incidents and near misses undergo a thorough investigation to identify causes, with high-potential incidents seen as learning opportunities. Corrective actions follow a control hierarchy, with due dates based on complexity and resources required for implementation. As of December 2023, only 3% of (accumulated) actions were past due, a significant improvement over past years.

Our capital investment to eliminate hazards in 2023 was over $324K.

Actions Arising from High-Potential Incident Investigations 2023





Our Communities

IN THIS SECTION

Management Approach ›

Community Development Strategy ›

Highlights ›

Our Communities

Largo's primary areas of influence are the Direct Influence Area (DIA) and the indirect influence area (IIA), encompassing the town of Maracás. Approximately 500 employees and 1,200 contractors commute daily via buses and cars, with additional transportation services offered to rural communities.



LEARN MORE

Our Communities (PDF)

MANAGEMENT APPROACH

Oversight of sustainable development management falls under Largo's Safety, Environment, and Sustainable Responsibility Policy and the Operations Committee of the Board. We also have a formal grievance mechanism in the form of a hotline which is described under Governance.

In the past three years, LVMSA has prioritized community programs, emphasizing a strategy aligned with our four pillars: Employment and Income, Education, Environment, and Sports, Culture, and Leisure. This approach ensures purposeful efforts that directly address the realities and desires of our stakeholders, avoiding ad hoc donations.

As of January 2024, responsibility for the Community is now under Sustainability management and reports to the LVMSA COO. Our team oversees community programs and projects, engaging through strategic networks: the Enterprise Monitoring Committee (CAE), Social Strengthening Group (GFS – Grupo de Fortalecimento Social), and Community Network Flor do Maracás. Adhering to our People and Human Rights Policy, we respect community rights, oppose involuntary resettlements, and develop sustainable land and water use practices.

COMMUNITY IMPACT AND MITIGATION

Since 2008, we have conducted socio-economic analyses and engaged stakeholders to assess potential impacts on nearby communities. Risks include exposure to air emissions, noise, and increased traffic. We recognize that our operations bring short-term economic benefits, but we also engage in long-term planning to address the potential adverse effects of mine closure.

Community Relations and Development KPIs

- Community satisfaction surveys
- Participation rates in consultation processes
- The number of community initiatives supported
- Increase in family income arising from the programs Liga do Campo and Mulheres Ativas
- The number of people benefited by age and gender, and budget adherence
- Quality and frequency of interactions with key community stakeholders
- Community satisfaction index
- Community investment
- Local supplier utilization rate
- Local employment rate
- Total investment in community development projects

COMMUNITY DEVELOPMENT STRATEGY

LVMSA acknowledges the potential negative impacts of mining operations and collaborates closely with stakeholders to mitigate these effects. Through socio-environmental programs, we aim to promote integrated and sustainable development across our value chain.

Largo's community development strategy is based on four pillars:

STRATEGIC PILLAR	OBJECTIVES	PROGRAMS AND DESCRIPTION
Employment and Income	• Promote income generation and access to jobs through professional development/skills training and entrepreneurship, considering and valuing local vocations. • Increase economic self-reliance by supporting the opening of new small businesses.	• Liga do Campo – Provides technical assistance to family farmers and beekeepers • Mulheres Ativas – Promotes entrepreneurship through new skills
Education 	• Improve the municipal education quality with continuing education for teachers and support for new technologies. • Offer trades and skills education. • Develop community leaders and organizations to be able to execute independent socio-economic projects.	• More Education • Technical Education Centre secondary level trade school • Continuing education for teachers • Four scholarships per year for a three-year program • Liga do Bem – Edital Liga Social Grants program • School Visits • The Social Dialogue
Environment	• Increase environmental awareness for employees, contractors, and residents about the local biome and its conservation.	• Environmental Education • Environmental Happy Hour • Youth training multipliers • Sustainable Cooperation Forum - mitigate environmental impacts across the value chain • Environment Week
Culture, Sport, and Leisure 	• Promote locally valued" leisure, sports, and cultural activities to increase quality of life • Reduce risks associated with inactivity in vulnerable populations.	• Art and Quality of Life • Jiquiriça Project – judo and jiu-jitsu • Sponsor cultural and other events

Our mission is to enact positive community transformations through a participatory approach driven by listening, innovation, and effectiveness.



Listening

We prioritize active listening and thorough analysis of socioeconomic and environmental indicators to address the genuine needs of local communities and foster transparent dialogues.



Innovation

We strive to develop innovative programs aligned with local needs to maximize positive community impact.



Effectiveness

Through participatory monitoring and evaluation, we continuously track program progress, enabling us to adapt and optimize our efforts for local socioeconomic and environmental development.

SATISFACTION SURVEYS

In 2023, Largo conducted its second satisfaction survey with participants aged 19 to 71. The number of participants doubled from 74 to 151. The survey was restricted to members of the Community Team WhatsApp group, with plans to broaden outreach in 2024. Sixty percent of respondents hailed from Maracás, while the remainder represented smaller villages. Over 95% of participants were not affiliated with Largo or its contractors, although 42% reported having relatives employed by Largo.

88%

Think that the social and environmental projects are relevant and make a difference to the community

86%

Think that Largo is important to the municipality

Community satisfaction survey	1 Worst	2	3	4	5	6	7	8	9	10 Best
How do you perceive the importance of LVMSA to the municipality?	0%	1%	0%	1%	4%	1%	7%	**19%**	**19%**	**48%**
How do you perceive the participation and interaction of the company in the communities?	0%	1%	1%	1%	5%	5%	10%	**21%**	**23%**	**32%**
What is your level of satisfaction with LVMSA's presence in the municipality?	1%	1%	0%	1%	7%	3%	7%	**25%**	**22%**	**34%**
In your opinion, do Largo's social and environmental projects make a difference?	1%	1%	1%	0%	3%	4%	3%	**17%**	**21%**	**50%**
How do you evaluate Largo's communication about their social and environmental projects and activities?	0%	1%	1%	5%	7%	5%	9%	**24%**	**17%**	**30%**

Liga do Campo

New initiatives aligned with UN SDGs, focusing on water conservation in irrigation and training programs on conserving the local biome. "Abelha Rainha" provides support for local beekeepers, and is one of the projects covered by Liga do Campo Program.



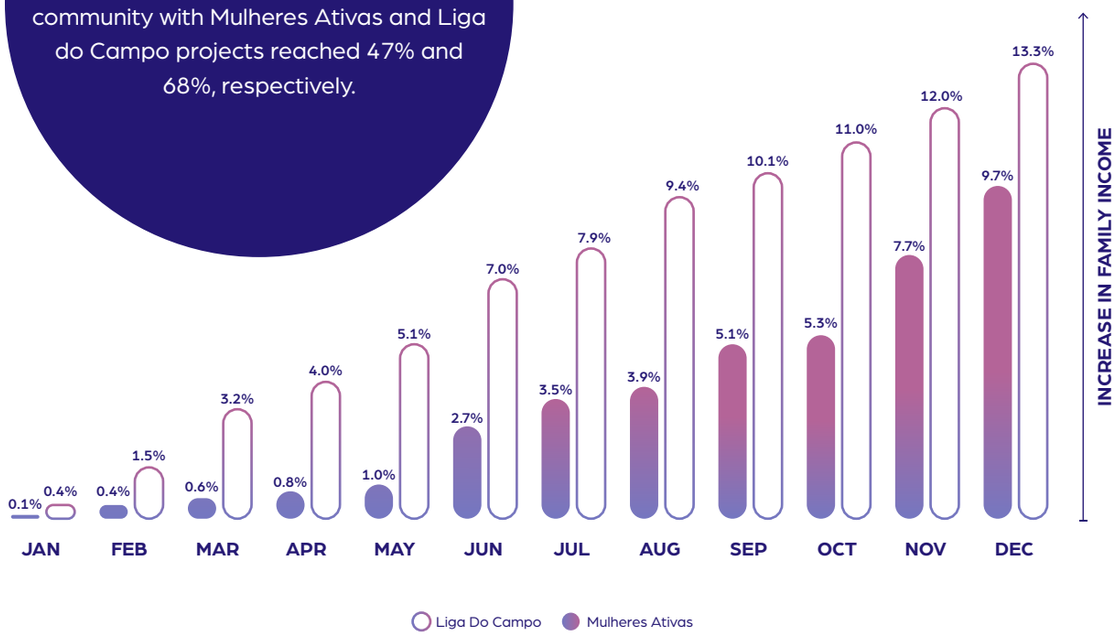
EMPLOYMENT AND INCOME HIGHLIGHTS

2023 Increase in Family Income

We are pleased to report an increase in family income of 13.3% in 2023 from our Mulheres Ativas and 9.7% from Liga do Campo programs. The return on investment (ROI) for the community with Mulheres Ativas and Liga do Campo projects reached 47% and 68%, respectively.

68%

The return on investment (ROI) for the community with Mulheres Ativas and Liga do Campo projects reached 47% and 68%, respectively.



Mulheres Ativas

Expanded its focus to align with UN SDGs, emphasizing women's safety and empowerment and promoting a circular economy through uniform material reuse such as turning fabrics into bags, cases, and other products.



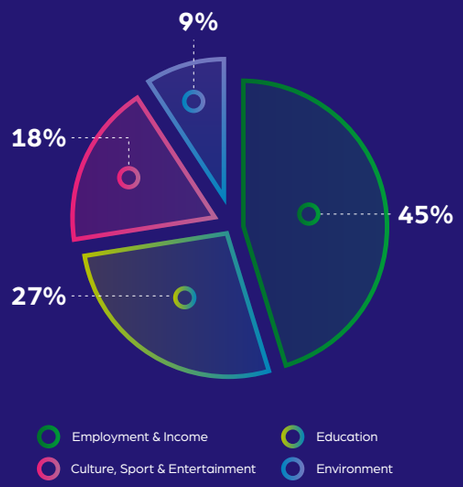
EDUCATION HIGHLIGHTS

School visits – Largo initiated school talks to educate teachers about vanadium and mining processes, aiming to demystify the industry.

The Social and Environmental Dialogue

In 2023, we introduced the Social–Environmental Dialogue, held biannually in nearby communities. This initiative aims to enhance awareness of Largo, our facility, and the socio-environmental aspects of the region. It covers a range of topics, including water quality, wildlife, operational updates, and community concerns, fostering closer ties and open communication.

2023 Number of projects selected by Strategic Pillar

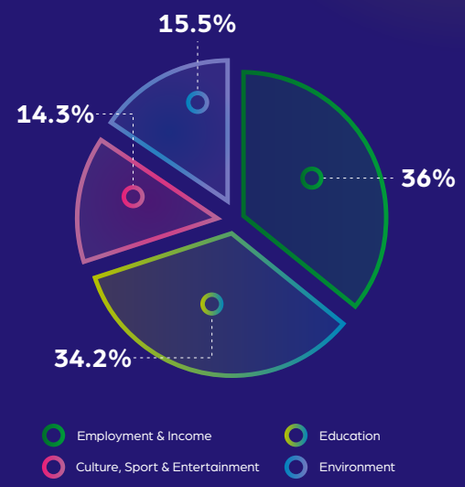


Edital Liga Social – Grants Program (part of Liga do Bem)

The Edital Liga Social initiative supports local socio-environmental projects in Maracás by assisting groups in writing grant proposals for financial support.

In 2023, we hosted a results seminar to celebrate the accomplishments of 2022 and announce the 2023 grants notice. We observed the increased capacity of local groups to secure funding from national grants, reducing their reliance on Largo. However, due to delays and the upcoming election year in 2024, the program will resume in 2025.

2023 Investment by Strategic Pillar



Technical Educational Centre in Maracás

111 Graduates in 2023 – 45% women

442 Graduates since 2021

1 One additional course added, based on local requests in 2023

6 Courses completed in 2023

24% Of all graduates surveyed are employed (December 2023)

ENVIRONMENTAL HIGHLIGHTS

Environmental Happy Hour

River Day raised awareness about water scarcity and the importance of preserving river resources; **National Caatinga Day** was celebrated with live music, interactive games, and exhibitions of the local biome and Largo's sustainability practices for employees and third parties.

Sustainable Cooperation Forum

The inaugural forum brought together 25 participants representing diverse groups to exchange ideas, best practices, and commitments toward environmental sustainability. Suppliers committed to various actions tailored to their activities and priorities, spanning from basic measures like employee recycling training to more ambitious initiatives such as reducing fossil fuel consumption and enhancing water reuse by implementing an air conditioning condensate collection system.

Environment Week

The 2023 focus was "Solutions for Plastic Pollution." Largo discussed its industrial waste management with the public. At the same time, a local school hosted a contest on waste reduction and "Oca Educativa", a tent set up in the main square in Maracás, provided information on climate change adaptation and waste management.









Our Environment

IN THIS SECTION

- Management Approach ›
- Water and Effluents ›
- Energy ›
- Emissions ›
- Biodiversity ›
- Waste ›
- Progressive Reclamation and Mine Closure Plan ›
- Tailings Facilities ›

Management Approach

Our environmental management approach includes several material topics: water and effluents, energy, emissions and climate change, biodiversity, waste, tailings storage facilities and mine closure. Each material topic section discusses specific key performance indicators (KPIs).

Largo adheres to comprehensive policies, including the Safety, Environment, and Social Responsibility Policy and the People and Human Rights Policy, which were approved by our Board. Strict compliance with legal requirements is upheld across all operations. Our environment team oversees prevention and mitigation programs, ensuring the effectiveness of established controls through regular monitoring and reporting to regulatory authorities and the local community.

Our environmental risk assessment, initiated in 2008 and aligned with international impact classifications and control standards, guides our operations. Periodic updates inform implementation, operation, and closure phases. We monitor KPIs internally on a weekly and/or monthly basis, promptly addressing significant issues at executive meetings and escalating to the Board when necessary.

New employees and contractors receive comprehensive training on environmental stewardship, from water conservation, recycling, biodiversity, and local flora and fauna to ongoing ecological monitoring initiatives.



Water and Effluents

Our priority is efficient water management and preserving water quality in our semi-arid region. We address water scarcity and effluent contamination risks by minimizing water consumption, maximizing reuse, and supplying water to the Água Branca local community through our water pipeline. Our operations are designed so there is no release of effluents into the environment.

We conduct water quality monitoring programs for both surface and groundwater, adhering to international standards like the United States Environmental Protection Agency (EPA). Samples are collected and analyzed every three months, assessing microbiological parameters and over 20 elements and compounds, including oils, solids, and turbidity.

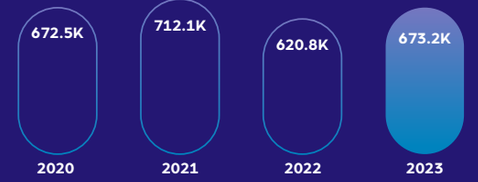
2023 GOAL

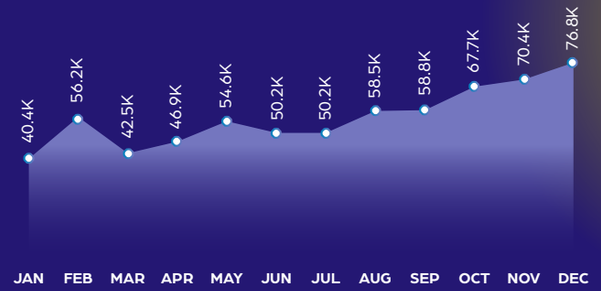
Install additional measuring valves to improve the robustness of the data, identify new efficiencies and define an improvement plan for 2024.

A water balance study in 2022 recommended installing additional measuring valves to improve data quality. In 2023, we installed six new measuring valves at key locations to enhance the robustness of our water data, particularly in tracking water reuse percentages. This enhanced data is helping us identify priority areas for additional water efficiency actions.

Water consumption increased in 2023 from 2022, likely due to the new ilmenite plant and adjustments to the washing flow at the precipitation conveyor filter but remained lower than 2021 levels. No new water use license was required for the Ilmenite project as its water consumption falls within LVMSA's existing license.

Water Withdrawn from the Pedra Reservoir (Megalitres) ML





Water and Effluents KPIs

- Water withdrawal volume
- Water withdrawal donated to the local communities of Água Branca
- Monitoring surface and groundwater quality

LEARN MORE



Water Management (PDF)

Energy

Our vanadium products play a crucial role in reducing the energy footprint of rebar and aerospace steel and enable long-duration energy storage in vanadium-based batteries. However, Largo is also committed to minimizing energy consumption in its operations to mitigate associated risks and impacts.

Key potential risks associated with energy in mining operations include high energy consumption which leads to increased costs and environmental impacts, and reliance on fossil fuels, which contributes to greenhouse gas emissions and climate change. We have maintenance programs in place to monitor and enhance equipment efficiency.

2023 ESG GOAL

Largo's electricity is supplied by SIN*, with a 96% renewable energy mix in 2023.

In 2023, we conducted an energy audit of electricity and fuels to identify inefficiencies and create an improvement plan for 2024. We reviewed electric motors in the following areas: crushing, milling, furnace, dryer, leaching, pre-evaporation and evaporation, precipitation, silica removal, ilmenite plant, water treatment plant, and utilities.

163 pieces of equipment were analyzed and found to have an annual consumption of 82,946.95 kWh/year. The area with the highest consumption of electricity was milling, with a value of 27,718742.4 kWh/year, equivalent to 31% of the entire computed value.

One of the proposed improvements going forward is to enhance the visibility and analysis of the energy consumption data by area and equipment, leading to better prioritization of actions.

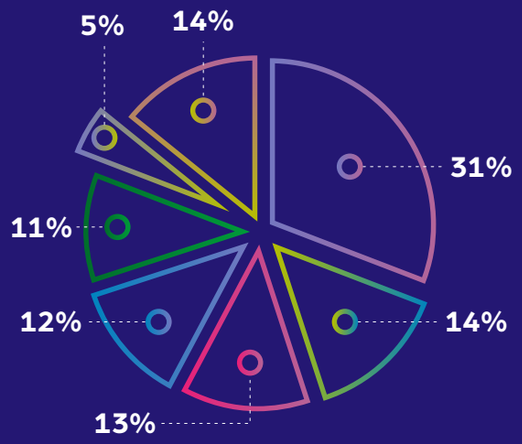
* The National Interconnected System (Sistema Interligado Nacional or "SIN") in Brazil is a complex network that integrates the generation and transmission of electricity across most of the country.

Key Performance Indicators

- Energy consumption (mobile, stationary, electricity)
- Renewable energy percentage
- Energy intensity



% Electricity consumption



Milling	31%
Leaching	14%
Furnace	13%
Evaporation	12%
Crushing 1	11%
Crushing 2	5%
Other	14%

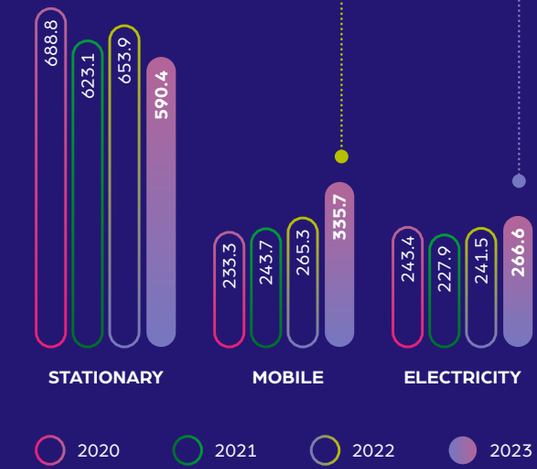
2023 Energy Consumption vs V_2O_5 and Ilmenite Production (t)



2023 Energy Consumption (GJ)

Mining operations saw a substantial rise compared to the previous year, with a 29% increase in ore extraction and a 43% increase in waste rock. This led to heightened truck traffic at the mine, resulting in greater diesel consumption and, therefore, increased mobile combustion.

The completion of our ilmenite flotation plant in Q3 2023 led to increased electricity usage, in addition to a higher volume of V_2O_5 ore milled in the last quarter. This is particularly notable as the milling equipment has the highest electricity consumption.



Emissions

The main risks and impacts of GHG emissions include their contribution to climate change, while non-GHG emissions affect the environment, biodiversity, and human health. Our operational licenses and environmental permits set maximum limits for certain substances, and we have programs and controls to ensure compliance.

We calculate our GHG inventory annually, monitoring fuel and electricity consumption as proxies for emissions. Brazil, as a signatory of the Paris Agreement, is constitutionally obliged to combat climate change, with fuel excise taxes serving as an implicit form of carbon pricing.

A legislative proposal for a Brazilian Greenhouse Gas Emissions Trading System, introduced in 2023, would establish a mandatory emissions trading system for entities emitting more than 25,000 tCO2e per year, exceeding Largo's current emissions.

Emissions KPIs

GHG

- Scope 1, 2 and 3 emissions
- GHG emissions intensity
- Biogenic CO2 emissions
- Climate risk and opportunity assessments

Non-GHG

- VOx, NOx and SOx emissions (exceedance of air quality standards)
- Soil and air quality assessments, vegetation impact studies
- Dust and particulate matter emissions

LEARN MORE



Largo TCFD Climate Report 2022 (PDF)

GHG EMISSIONS

Scope 1 and 2 – LVMSA

The GHG inventory covers Largo's operations in Brazil from January 1 to December 31, 2023. It was compiled internally by our Environment team, adhering to GHG protocol methodologies and Brazil GHG Protocol Program emission factors.

Scope 1 encompasses direct emissions from stationary and mobile combustion, process, and fugitive emissions.

Scope 2 indirect emissions were calculated using the location-based method and Brazilian National Interconnected System (SIN) emission factors.

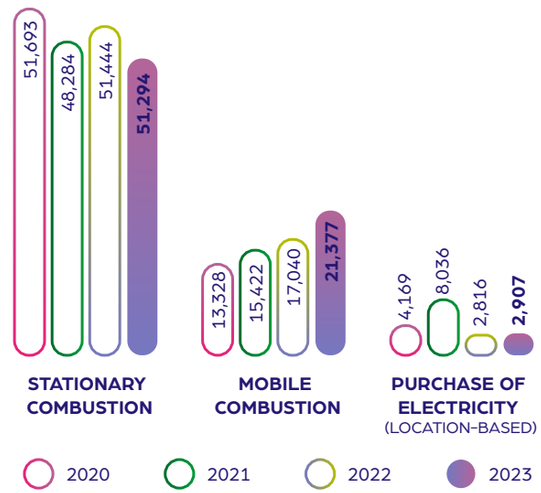
Our Scope 1 and 2 inventories have remained relatively stable over the past four years. The absence of intense droughts in Brazil in 2022 and 2023 led to a decrease in the electricity emission factor compared to 2021.

LEARN MORE



GHG Energy and Emissions (PDF)

Scope 1 and 2 Emissions (tCO2e)



Scope 3 – Largo Inc.

Preliminary Scope 3 emissions are reported for selected categories and relevant subsidiaries in Data Performance.

Decarbonization Group

In 2023, LVMSA formalized its Decarbonization Working Group, providing strategic coordination and integration of projects to reduce GHG emissions through increased energy efficiency, technology improvement, and the use of cleaner fuels.

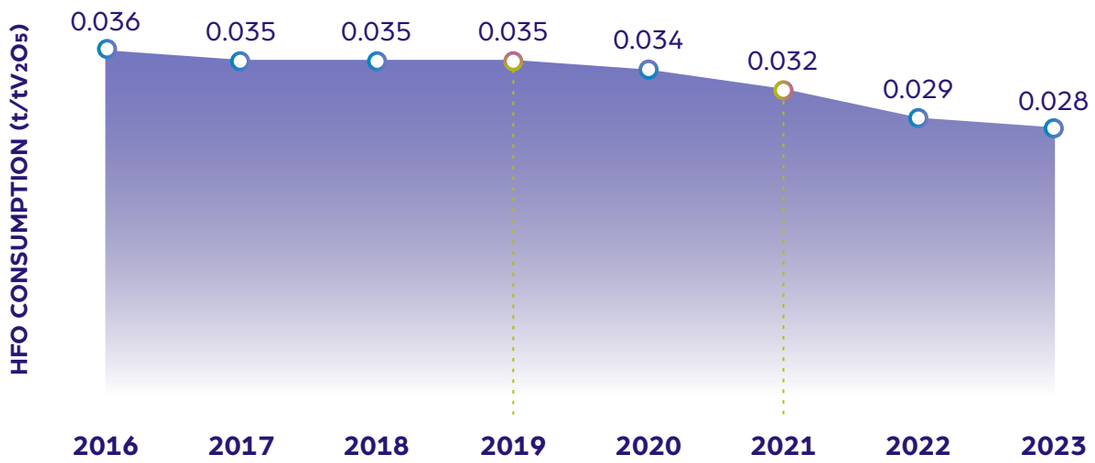
Since the mining project's inception, Largo has aimed to incorporate innovative technologies to minimize non-renewable resource consumption. For instance, the pre-evaporation area uses a mechanical vapor recompression (MVR) technology that allows recoveries of up to 95% of generated steam, reducing energy consumption and operational expenses.

Other decarbonization projects, such as converting equipment to biomass or electricity and harnessing heat from the processing circuit for other purposes, are in the conceptual phase.

Decarbonization Projects

PROJECT	OPERATIONAL AREA	STATUS	OBJECTIVE	DESCRIPTION	NOTES
Rotary kiln efficiency	Mineral Processing	Completed (2019)	Reduce consumption of HFO.	Installed a thermal insulator (ceramic paper) between the casing and the refractory wall to reduce the thermal exchange within.	See graph on pg.48
Rotary kiln efficiency	Mineral Processing	Completed (2021)	Reduce consumption of HFO.	Improved the temperature control, adjusting it based on the silica content of the material.	
Stationary equipment	Mineral Processing	Completed (2021)	Use of cleaner fuel.	Converted a flash dryer (V_2O_5) to burn LPG instead of diesel.	Two additional dryers also were converted, but remain burning diesel due to economic constraints.
Rotary kiln	Mineral Processing	Technical feasibility under way (completion expected in late 2024).	Use cleaner fuel – natural gas.	The state of Bahia is extending a natural gas pipeline closer to the operational site, with no completion date. Studies examined only the technical feasibility. Further studies needed to identify engineering modifications, budgets etc.	
Ore and waste rock transportation distance.	Open-pit	On-going	Reduce consumption of diesel.	Optimized diesel truck routes.	Decreased average transport distance (ATD) from 3.3 km in Jan-May 2023 to 2.63 km in Jun-Dec 2023. No significant reduction in diesel consumption due to increase of trucks in operation.

Rotary kiln efficiency chart showing 2019 and 2021 improvements



The inflection points, where consumption has decreased due to the improvements described.

GHG Reduction Targets

Establishing realistic targets for reducing GHG emissions is a complex process. Informed decision-making requires establishing baselines, assessing reduction opportunities, and exploring the cost of reducing environmental negatives. Pathway charts help visualize projected emission reductions over time across various scenarios.

We currently consider it premature to set formal GHG reduction targets due to uncertainties in cost and opportunity availability.

The rotary kiln contributes the largest share (39% of Largo's GHG Scope 1 and 2 emissions). Largo continues to explore alternative technologies compatible with its calorific requirements. The results of the technical viability studies of using natural gas are expected in 2024.

Mobile equipment accounts for 22% of Scope 1 and 2 emissions. We have already started discussions about the use of electric trucks and equipment with our supplier of mining services, but it is too soon to predict when they will be able to source the equipment. Both gasoline and diesel used in mobile equipment contain renewable components (ethanol and biodiesel).

The Maracas Menchen Mine operates on an electricity grid with a high renewable energy component: wind energy – 61%, hydroelectricity – 24% and solar – 11%, adding up to 96% in 2023.

Largo continues to explore decarbonization opportunities.



We monitor the performance of all filters 24/7 for temperature and ventilation pressure.



NON-GHG EMISSIONS

We have nine chimneys connected to vanadium pentoxide (V_2O_5) production and three chimneys linked to vanadium trioxide (V_2O_3) production. Non-GHG emissions typically include particles with a diameter of 10 micrometers or less, including ammonia, sulfur oxides, nitrogen oxides, vanadium, and vanadium oxides. Emissions vary depending on several factors such as operational stability, burning rate and type of fuel burned, different levels of sulfur contained, etc.

We use chimney filters to cut down on emissions other than greenhouse gases. We have seven bag filters installed in different chimneys: two in fusion, two in ammonia removal, and three in V2O3 flash-drying. These filters are changed out regularly: once a year for fusion and flash-drying chimneys, and every two months for ammonia-removal chimneys. Additionally, we have an ESP filter in the rotary kiln chimney. We closely monitor all filters to monitor temperature and ventilation pressure.

In accordance with the permit granted by INEMA (Instituto do Meio Ambiente e Recursos Hidricos, which is the Bahia state environmental agency), we conduct two programs to monitor non-GHG air emissions: air quality monitoring and chimney emissions. These programs measure the average concentration of specific compounds to ensure they are within the established primary and secondary limits. We use EPA methodology and Brazilian National Environment Council (CONAMA) or World Health Organization (WHO) standards.

Samples are collected monthly over time intervals ranging from one to several hours, depending on the program and methodology.

Air quality monitoring: Six monitoring stations around the mine site measure the concentration of PM10, SOx, NOx, NH_3, V, and VOx.

Chimney controls: In the chimneys, we monitor the average concentration of PM10, NH_3, SOx, NOx, V, and VOx, and the emission rates for some compounds.

The following programs are in place as part of our overall risk management and permit conditions:

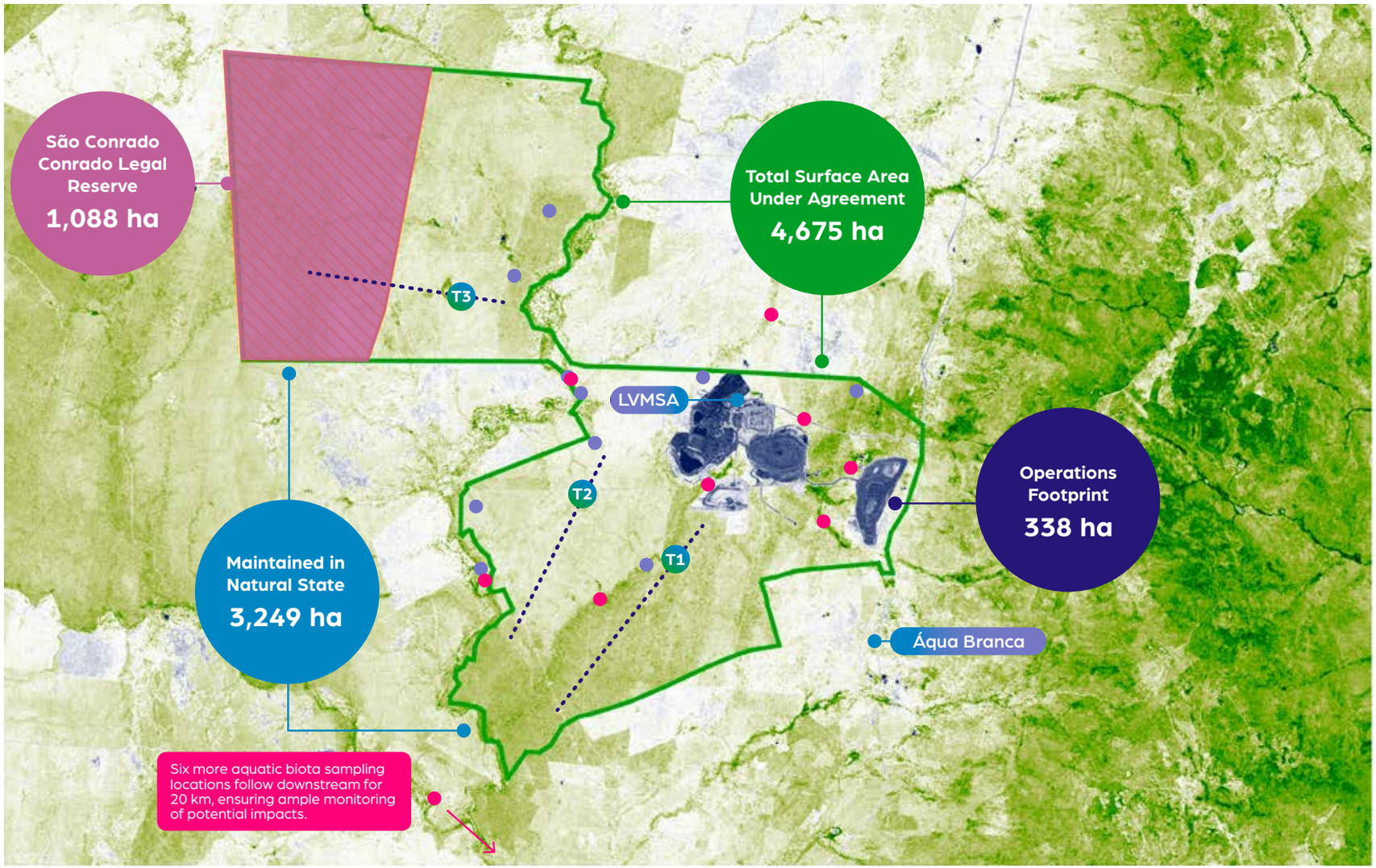
Ambient Noise Monitoring – A noise survey is conducted every six months, using 25 stations that operate during the daytime and three stations that operate over 24-hour periods.

Vibration Monitoring – Blasting events at the mine can cause vibrations throughout the site and in Água Branca, which is 2.6 km away. We monitor vibrations through seismography in two sampling locations. Results indicate that blasting vibrations are under the detectable limit, adhering to the regulatory limit.

Dust and particulate matter abatement – Water is used as dust suppressant on dirt roads.

Soil Contamination Monitoring – Soil samples are taken every three months in the same traverses where we conduct fauna monitoring. Samples are analyzed for the average concentration of specific compounds to ensure that they are within the established primary and secondary limits under EPA, CONAMA, or WHO.

Biodiversity



- Protected Area
- Fauna Monitoring Transect (T1, T2, T3)
- Flora Monitoring Sample Location
- Aquatic Biota Sample Locations

Normalized Difference Vegetation Index (NDVI) images differentiate vegetation from other types of land cover, constituting an important tool for evaluating changes in vegetation cover and land use.

Darker green
Greater vegetative activity

Darker purple
Little or no chlorophyll activity (water bodies, buildings, exposed soil etc)

LEARN MORE



Biodiversity (PDF)

VEGETATION REMOVAL AND COMPENSATORY PLANTING

In 2023, Largo received a vegetation removal permit from INEMA. Valid until 2026, this permit allows clearance of up to 73.7 hectares for operational and administrative structures. Sixty hectares were cleared in 2023 (see map), with compensatory measures mandated by the permit, including planting protected species native to the Caatinga Biome like Baraúna, Angico, and Aroeira. Organic materials were stored and reused to support sustainable operations.

Largo is committed to meeting these obligations by 2026 and has begun the requisite preparations. Over 10,000 seedlings were cultivated from seeds collected within the removal area in 2023, slated for compensatory planting efforts within the project area, aiding in the restoration of disturbed areas and preservation of local genetic heritage.

Potential biodiversity risks in mining include habitat destruction, species displacement, ecosystem fragmentation, pollution, and the introduction of invasive species.

BIODIVERSITY MANAGEMENT PLAN

Largo began biodiversity risk assessments in 2008, analyzing proposed activities and the potential impacts on biodiversity and actions for preventing and mitigating their effects. As habitat loss was the main biodiversity impact identified along with the related loss of flora and fauna, Largo developed a Biodiversity Management Plan (BMP) to prevent and mitigate impacts.

- Conduct flora and fauna rescue programs before vegetation removal, with manual fauna rescue preceding the use of heavy machinery.
- Establish the São Conrado Legal Reserve to protect flora and fauna, house-rescued specimens, and serve as a control area.
- Implement flora and fauna monitoring programs.
- Minimize land conversion to industrial use, requiring permits and compensatory measures such as adding an equivalent area to the Legal Reserve.
- Create vegetation corridors where feasible.
- Monitor noise, dust, and air emissions.
- Store and reuse organic layers affected by vegetation removal.
- Operate a nursery to protect endemic plant species and produce seedlings for land reclamation.
- Practice progressive reclamation.
- Maintain and regularly update a closure plan.



Biodiversity KPIs

Population health of various species of fauna, flora, aquatic biota, and study of cyclical biological events in plants

- Total area of land disturbed compared to the total area of land rehabilitated, restored, or conserved
- Critical habitat protection
- Number of species at risk
- Engagement with local communities in biodiversity conservation efforts
- Monitoring programs to track changes in biodiversity and ecosystem health



MONITORING PROGRAMS

TYPE OF MONITORING	FREQUENCY	NUMBER OF SAMPLING SPOTS	NUMBER OF SPECIES MONITORED
Fauna	Three months	Three transects with four spots each (see map)	Amphibians, birds, mammals and reptiles
Aquatic biota	Six months	An average of five–seven spots sampled	Four communities: • planktonic communities (phytoplankton zooplankton ichthyoplankton) • benthic communities (benthic macroinvertebrates) • nekton communities (ichthyofauna – fish) • aquatic macrophyte communities
Biomonitoring of air quality using impact on vegetation	Four months	Three allotments close to the operation	Four species
Flora–phenological monitoring (seasonal changes)	Monthly	Nine allotments close to the operation and one control in the Legal Reserve	10 species

FAUNA MONITORING

Largo has conducted 42 fauna monitoring campaigns as of December 2023. To assess potential operational impact, we compare monitoring results in areas near the mine that are known to be more affected by noise (transects 1 and 2), to the Legal Reserve (transect 3) which serves as a control, enabling us to identify changes in biological communities.

Our findings consistently demonstrate that our mining activities have not adversely affected local fauna beyond the footprint. Refer here to see the Rarefaction Curves up to 2022.

GROUP	MOST OBSERVED SPECIES IN 2023	UNITS
Reptiles	Tropidurus hispidus	254
Birds	Eupsittula cactorum	148
Mammals	Galea spixii	104
Amphibians	Scinax x-signatus	48 (the region is very dry, so this is not a surprise)

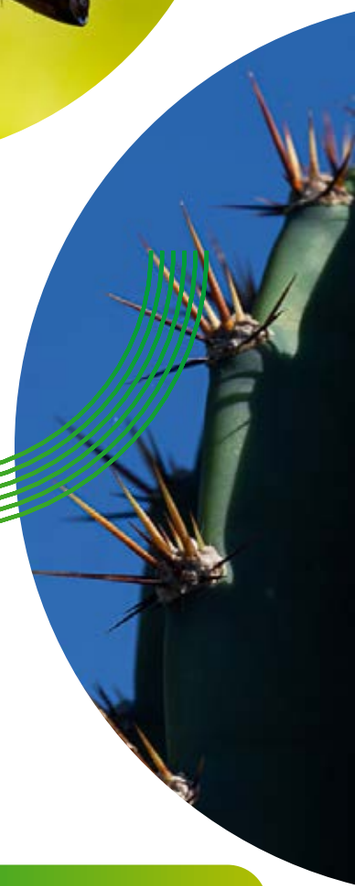
LEARN MORE



A Fauna e a Flora dna área da Vanádio de Maracás (PDF)







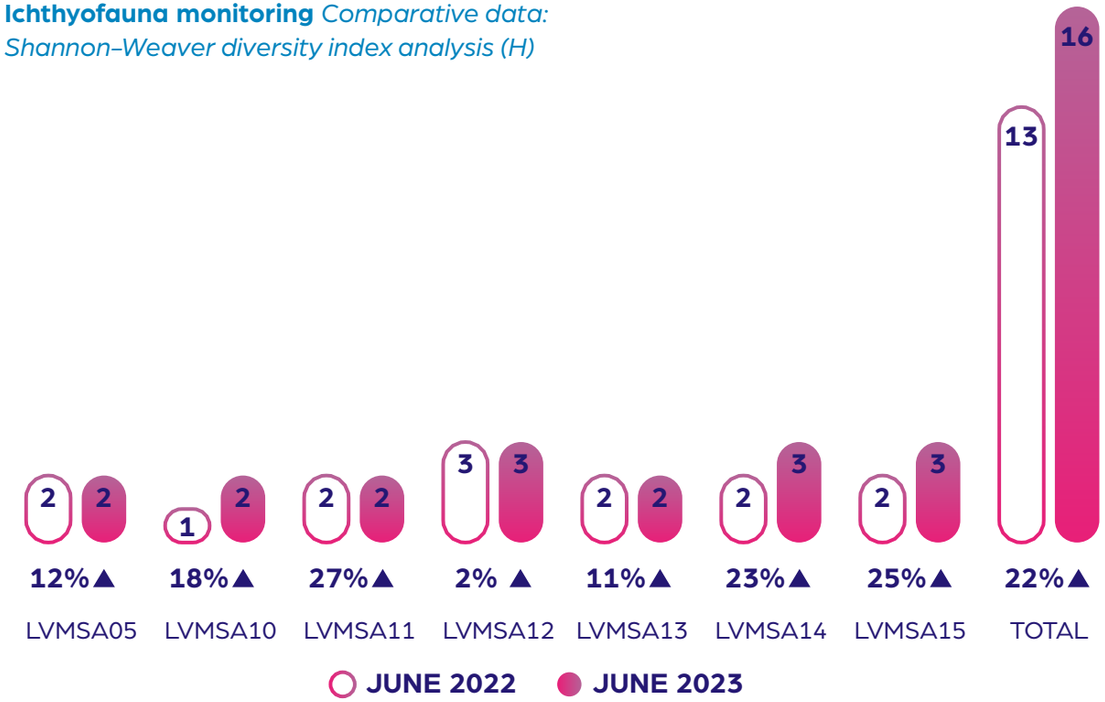
MONITORING AQUATIC POPULATIONS

Aquatic monitoring is conducted biannually, during dry (June) and rainy (December) seasons, at strategic upstream and downstream locations from the mine site. No adverse impacts have been observed on populations after three monitoring campaigns.

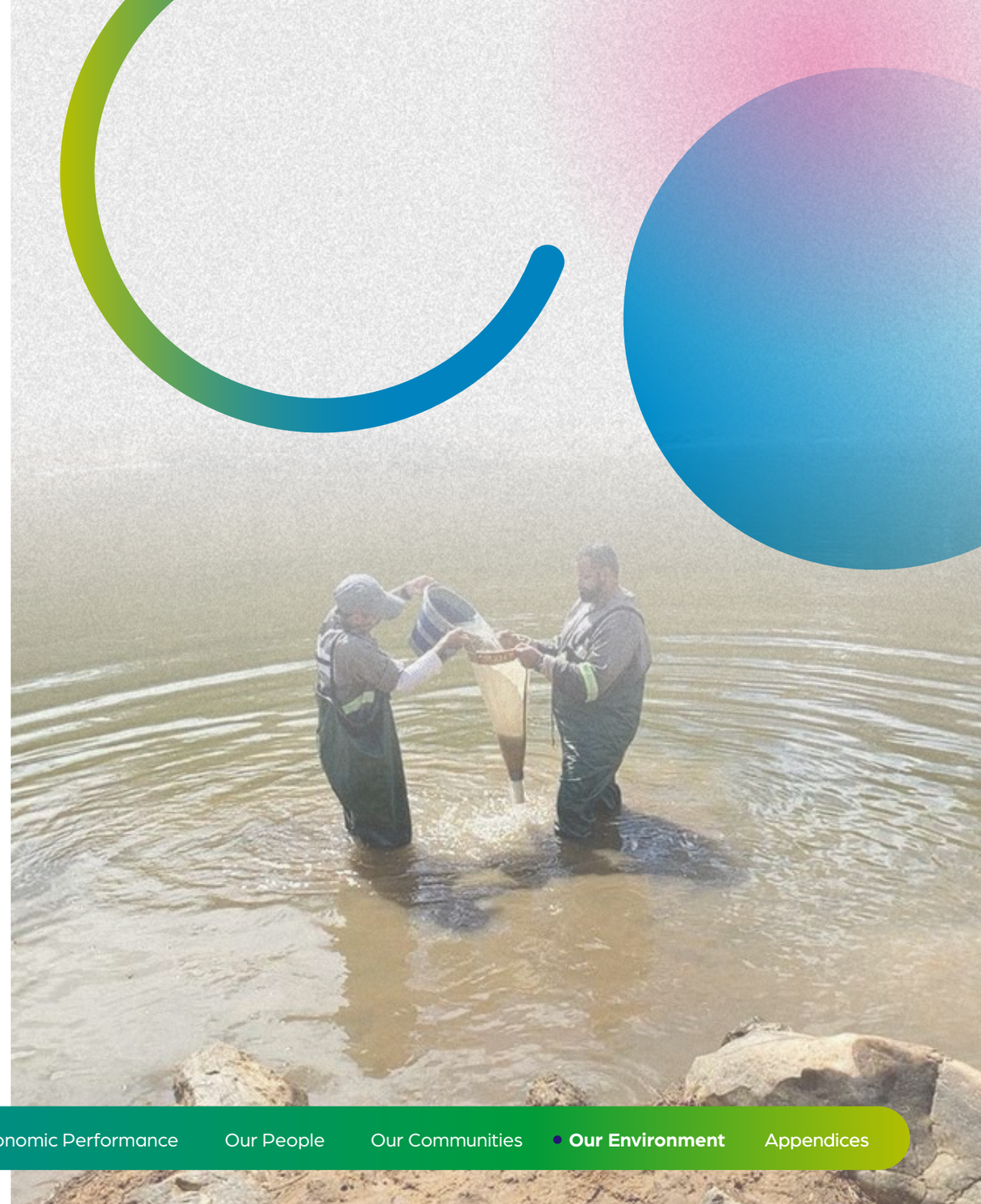
Species most observed in 2023

SCIENTIFIC NAME	UNITS
Astyanax lacustris	33
Plagioscion squamosissimus	28
Poecilia reticulata	27

Ichthyofauna monitoring *Comparative data: Shannon–Weaver diversity index analysis (H)*



The chart illustrates the comparison of statistical results (Shannon Weaver Diversity Analysis) between two dry season (June) campaigns, 2022 and 2023. These are ichthyofauna monitoring points within the limits of LVMSA and points upstream and downstream.



Waste

Our waste management program prioritizes compliance with Brazilian regulations, focusing on reducing, sorting, recycling, and disposing of various waste streams, including mining waste like waste rock and tailings. No significant waste impacts have been observed, with consumables primarily comprising raw materials. Packaging is minimized, and no waste is shipped internationally. Authorized service providers transport waste in compliance with Brazilian legislation, with hazardous and non-hazardous, non-inert waste directed to an industrial landfill near Salvador. Reverse logistics initiatives return used lubricant oil containers and computer equipment to suppliers. Regulatory non-compliance and environmental contamination are mitigated through robust practices and legal adherence.

Water KPIs

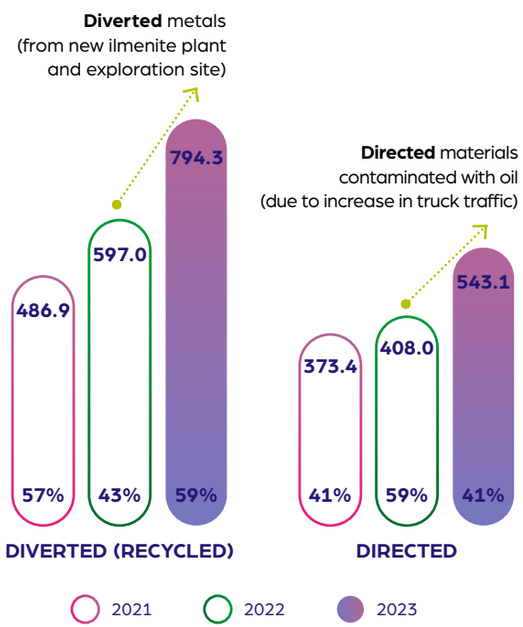
- Waste generation by type
- Diversion (recycling) rates by type



Waste Management (PDF)

Progressive Reclamation and Mine Closure (PDF)

Waste diverted from disposal vs directed to disposal (t)



Progressive Reclamation and Mine Closure

Largo is committed to responsible mine closure practices, minimizing environmental impact and fostering a positive community legacy. LVMSA's COO oversees closure, ensuring adherence to stringent government regulations. Risks include regulatory penalties, environmental impacts, financial liabilities, reputation damage, and operational delays.

We regularly review and update our Mine Closure Plan every two to three years to reflect expansions, community feedback, and technological advancements, ensuring alignment with current standards. Our Safety, Environment, and Social Responsibility Policy, guarantees financial responsibility, with annual reviews of closure liabilities and costs reflected in our financial statements.

We maintain a long-term surface rights agreement signed in 2011, with the landowner, Banco Economico S.A.

Governmental bodies, (INEMA and ANM – Brazilian National Mining Agency) stipulate Largo's responsibility for all post-closure rehabilitation obligations. Plans are underway to formalize community communication regarding closure efforts.

Reclamation and Mine Closure KPIs

- Measuring environmental and socio-economic impacts
- Risks associated with the site closure
- Level of participation of local communities and other stakeholders

Tailings Facilities

Our vanadium processing generates four types of tailings: non-magnetic (wet mix), iron-rich (solid), silica cakes (solid), and chloride salts (saline mix).



Tailings facilities located at the mine site are designed for safety. The width of the basin is large and the facilities are shallow, resulting in stable slopes. The facilities are lined with layers of geomembranes, providing excellent impermeability.

The basins for the tailings facilities were built using the waste rock from the mine. This improves safety as any rain water percolates through the rocks without creating saturation.

Some drymag waste is used to fill in the base of the tailings facilities.

Non-magnetic tailings

A mix of water and solids, resulting from the wet magnetic separation of vanadium ore from the host rock and as of Q4 2023, the removal of concentrated ilmenite.

As the solids separate from the water and deposit at the bottom of the facility, the surface water is pumped back to be reused in the processing circuit. The solids accumulated prior to Q4 2023 are rich in ilmenite and will feed the ilmenite concentration plant, reducing the tailings volume.

Chloride salts

The ore processing circuit includes the recovery of three important materials for reuse: two sulphate salts and water. The excess of saline mix (ammonium sulfate and chlorides) that cannot be reused is pumped to the Bacia de Cloretado (BCL) facilities.

Iron-rich solids and silica cakes

The solids rich in iron can be sold depending on the economics of the transportation. Any water that percolates accumulates at the bottom of the facility and is reused in the processing circuit.



Wet magnetic sorting

The non-magnetic fraction of the vanadium ore is sent to the ilmenite concentration plant.

Ilmenite plant

Completed in 2023, the flotation plant concentrates the ilmenite present in the non-magnetic fraction, reducing the non-magnetic tailings volume generated. These tailings are stored in the Non-magnetic tailings facilities.

MANAGEMENT APPROACH

Largo's approach to tailings management prioritizes safety, environmental protection, and community engagement. Our facilities are designed with stringent safety measures and use impermeable geomembrane liners to prevent water infiltration and ensure stability. These basins, constructed with waste rock, adhere to best-in-class engineering practices and undergo continuous monitoring.

INSPECTION TYPE	FREQUENCY	COMMENTS
Visual	Daily	Structure monitoring
Visual	Weekly	Drone flights (image and level measuring tool)
Formal Inspections	15 Days	Inspection reports are filed in the Dam Safety Plan. Reports for the BNMs are uploaded to the ANM's online SIGBM platform. https://app.anm.gov.br/sigbm/publico
Regular Safety Inspections	Six Months	All inspection and instruments monitoring records are reviewed. The independent consulting company issues the Certificate of Stability Conditions – Declarações de Condição de Estabilidade
ANM	Annual	



Construction of a new tailings facility, BNM 6, began in 2023, using similar shallow basin and impermeable lining methods.

Largo has committed to full adherence to the Global Industry Standard on Tailings Management (GISTM) by 2025, and we comply with strict Brazilian tailings facilities legislation. A gap analysis updated in December 2023 shows that Largo is already compliant with over 90% of the GISTM requirements. The remaining gaps are related to the Engineer of Record role. The GISTM requires an independent role solely dedicated to updating registers and technical records. At Largo, these activities are performed by the engineer in charge of the Tailings Management Coordination, which is part of their overall responsibilities.

LEARN MORE



Tailings Facilities Management (PDF)

Tailings KPIs

- Safety inspections frequency
- Tailings storage capacity utilization
- Monitoring level of water in the slopes of the basin
- Monitoring water-pressure conditions

INCIDENT

In January 2023, during an atypical rainy season with a historically high volume of precipitation, an uncontrolled seepage was identified at the BCAL03 facility. Our local team remedied the incident and restricted it within Largo's boundaries.

An analysis showed that the seepage was caused by a very high volume of rain percolating down the structure. Immediate mitigation actions included the installation of a tank to contain the seepage and the assessment of the conditions of the facility structure. Consultants were hired to evaluate the structural and safety aspects of the facility. Following their comprehensive analysis, the final report confirmed that the structure's integrity was sound.

Following Brazilian legal requirements and best practices, Largo's PAEBM (Mining Dam Emergency Action Plan) is provided to the relevant authorities in the municipality, fire department in Jequié, and government agencies in Salvador (state) and Brasília (federal) in both hard and digital copy.



To assure transparency, engagement, and open dialogue, various stakeholders visit our operational site and the tailings facilities throughout the year. In 2023 these visits included:

2023 Stakeholder Visits

- Three visits from two community groups
- Joint visit from a state university, the Municipal Education Secretary and the Mayor.
- Open Doors Program April – representatives from Maracás leaders
- Open Doors Program May – teachers and merchants (commerce sector)
- Visit of the new command of the Maracás Military Police





Appendices

IN THIS SECTION

2023 Performance Data ›

GRI Content Index
(including SASB disclosures) ›

Corporate Directory ›

2023 Performance Data

General

GENERAL DISCLOSURES

GRI 2–4: Restatements of Information

Largo continues to improve its data and information collection and review processes. Restatements of information are indicated with the symbol †.

These restatements are not anticipated to have any major effects.

GRI 2–6: Activities, value chain and other business relationships

SASB EM–MM–000.A: Production of (1) metal ores and (2) finished metal products

	2022	2023
Total V_2O_5 equivalent sales (t)	**11,091**	**10,396**
Total V_2O_5 equivalent production (t)	**10,436**	**9,680**

Largo does not produce any products that are banned on any markets or are the subject of stakeholder questions or public debate.

Ferrovanadium (FeV) "converters" add iron to V_2O_5 to produce FeV (ferrovanadium), which is the alloy sold to the steel industry. In Largo's value chain, "converters" can be both customers and service providers.

GRI 2–7: Employees

SASB EM–MM–000.B: Total number of employees, percentage contractors

TYPE OF EMPLOYEE	MALE	FEMALE	TOTAL
Permanent	409	71	480
Temporary (apprenticeship)	9	3	12
Temporary (set contract)	1	1	2
Total	**419**	**75**	**494**
Percentages	**85%**	**15%**	**100%**
Full time	415	67	482
Part time – paid student interns	4	8	12
Part time – others	0	0	0
Total	**419**	**75**	**494**
Percentages	**85%**	**15%**	**100%**

In the scope of LVMSA the majority of the employees work at the operational site and less than 20 work at the office location in Salvador. Several employees travel on a regular basis between the locations. The differences are not significant enough to merit the separation in regions and separate analysis.

Largo only uses temporary employees for short-term projects, such as expansion projects. To attract these employees, financial support for housing may be offered.

Largo doesn't have non-guaranteed hours employees. There are no significant fluctuations during or between reporting periods.

Based on head count methodology, on December 31, 2023.

ICMM reports that mining remains male dominated, with women only accounting for 14% of the global workforce*. This is very similar to Largo's 15%.

* https://www.icmm.com/en-gb/our-work/social-performance/diversity-equity-and-inclusion

GRI 2–8: Workers who are not employees (contractors)

SASB EM–MM–000.B: Total number of employees, percentage contractors

CONTRACTORS	MALE	FEMALE	TOTAL
Total contractors	**1136**	**74**	**1210**
Percentages	**94%**	**6%**	**100%**

CONTRACTORS BY SERVICES	TOTAL	PERCENTAGE
Transportation of ore and waste rock	395	33%
Open pit mining	42	3%
Restaurant	28	2%
Explosives	12	1%
Security	11	1%
Topography	10	1%
Others	712	59%
Total	**1210**	**100%**

The number of contractors only fluctuates if there are expansion/construction projects.

The employees of our largest on-site service providers are also covered by collective agreements.

Contractors must complete mandatory training including safety training and medical exams before working on the site.

GRI 2–16: Communication of critical concerns

Critical concerns are reported to the executive team and escalated to the Board as needed. Two critical concerns were escalated in 2023 (fatality and unexpected seepage).

GRI 2–26 Mechanisms for seeking advice and raising concerns

ETHICS HOTLINE – RESPONSE AND INVESTIGATION STATUS	TOTAL
Unfounded	6
Founded or partially founded	10
Not Conclusive	1
Under investigation	2
Insufficient data	0
Outside the scope of the ethical hotline	1
Total	**20**

GRI 2–27: Compliance with laws and regulations

In 2023 Largo incurred two fines related to an uncontrolled seepage at a tailings storage facility. Largo has filed a defense process, which is under review by the government agency. The values are US$10,017 and US$100,170.

There were no fines related to any other environmental (e.g. water withdrawal limits, spills, exceedances on quality or quantity of effluents, air emissions, noise) laws and regulations. There were no fines related to social (e.g. human resources, labour, occupational health and safety)laws and regulations.

GRI 2–30: Collective bargaining agreements

SASB EM–MM–310a.1.: Percentage of active workforce covered under collective bargaining agreements

	2021	2022	2023
Employees covered by a collective bargaining agreement in Brazil.	100%	100%	100%

Economic Procurement

ECONOMIC PERFORMANCE

GRI 201–1: Direct economic value generated and distributed

LARGO VMSA	$ MILLION
Employee wages and benefits	17.2
Taxes & royalties paid in Brazil	30.6
Community investmentw	0.25
Expenditures with national suppliers	218.1

LARGO INC.	$ MILLION
Operating Costs	174.8
Revenues	198.7

GRI 201–3: Defined benefit plan obligations and other retirement plans

There are no retirement plans other than those offered by the Brazilian government. Contributions are paid bythe employer and employees.

GRI 201–4: Financial assistance received from government

Largo has benefitted from tax incentives in Brazil in previous years.

MARKET PRESENCE

GRI 202–1: Ratios of standard entry level wage by gender compared to local community

	2021	2022	2023
For both men and women	31% above the minimum wage	51% above the minimum wage	45% above the minimum wage

GRI 202–2: Proportion of senior management hired from the local community

2021	2022	2023
Zero	Zero	Zero

INDIRECT ECONOMIC IMPACTS

GRI 203–1: Infrastructure investments and services supported

Through its own water pipeline, Largo provides and donates water to the community of Água Branca on a continuous basis.

STRATEGIC PILLAR	2021 ($)	2022 ($)	2023 ($)
Employment and income	91,007	71,287	48,260
Education	33,440	148,034	123,969
Environmental Awareness	14,337	11,809	23,076
Culture, leisure and sports	13,062	46,396	40,137
Health	330,124	36,056	4,826
Infrastructure	308,370		
Other		12,474	6,237
Total	**790,340**	**326,057**	**246,505**

GRI 203–2: Significant indirect economic impacts

HIRING BREAKDOWN BY LOCATION	2023	PERCENTAGES
Maracás Area	273	55%
Regional – Bahia (excluding Maracás area)	167	34%
Minas Gerais	18	4%
Goiás	12	2%
Other states	24	5%
Total	**494**	**100%**

Taxes paid by Largo's supply chain in Brazil due to Largo's business ($ million)	17.5

COMMUNITY PROGRAMS RESULTS

STRATEGIC PILLAR	PROGRAM	KPIS
Employment and Income	Liga do Campo	Nearly 1,000 hours of technical assistance
		Technical assistance provided to 98 farmers
		Family income increase of 9% on average
		Support to 4 community organizations
	Mulheres Ativas	Over 500 hours of business management support and training provided
		62 women benefitted directly
		Family income increase of 13% on average
		Support to 4 local businesses
Education	Trades and Skills Technical Center	442 graduates (from 2021 to 2023)
		23% employment rate
	Continuing Education for Teachers	308 teachers trained
		37 local educational institutions
	Scholarships	12 students per year
	Grants Program	Support for two volunteer networks (GFS + Rede)
		800 expected people benefitted
		11 projects supported
Environment	Environmental Education	2 events for 225 employees and contractors
		1 event for 510 people (local stakeholders)
		104 hours of training, reaching 61 young people
Culture, Sports and Leisure	Jiquiriça	Martial arts program benefitted 440 youth and adults directly
	Viver Bem	Support for cultural events (directly benefited 3,500 people)

PROCUREMENT PRACTICES

GRI 204–1: Proportion of spending on local suppliers

	2023			
GEOGRAPHIC AREA	TOTAL SUPPLIERS	TOTAL SPEND ($ MILLION)	% SUPPLIERS	% SPEND
Local – Maracás Area	79	36.1	8%	17%
Regional – Bahia State (excluding Maracás Area)	290	71.8	28%	33%
Other states in Brazil	681	109.5	65%	50%
Total	**1050**	**217.4**	**100%**	**100%**

GRI 308–1: New suppliers that were screened using environmental criteria

GRI 414–1: New suppliers that were screened using social criteria

	2023	
SUPPLIER QUALIFICATION	NUMBER OF SUPPLIERS	%
Acknowledged Largo's policies	760	100%
Completed qualification questionnaire which includes questions on human rights, ethics and governance, ISO 9001, 14001, 45001, 50001, occupational health and safety, environment and energy use.	760	100%
Suppliers that failed to qualify	156	21%
Qualified with no pending items	604	
Suppliers with pending items for qualification (accumulated as of Dec 31, 2023)	211	
Identified as critical under the Supplier Qualification Procedure	62	
Prioritized for auditing	32	

GRI 308–2 Negative environmental impacts in the supply chain and actions taken

GRI 414–2 Negative social impacts in the supply chain and actions taken

No negative environmental or social impacts have been reported in our supply chain

BUSINESS BEHAVIOUR

GRI 205–1: Operations assessed for risks related to corruption

Largo Vanádio de Maracás S.A. (LVMSA)

GRI 205–3: Confirmed incidents of corruption and actions taken

There were no confirmed incidents of corruption or bribery, money laundering, conflict of interest or insider trading in 2023.

GRI 206–1: Legal actions for anti–competitive behavior, anti–trust, and monopoly practices

Largo has not been identified as a participant on any legal action pending or complete during the reporting period, regarding anti–competitive behaviour and violations of anti–trust and monopoly legislation.

SASB EM–MM–510a.2: Production in countries that have the 20 lowest rankings in Transparency International's Corruption Perception Index

No production in countries that have the 20 lowest ranking.

100% production is in Brazil, ranked 104th out of 180 countries, with a Corruption Perception Index score of 36/100 in 2023.

Environment

MATERIALS

GRI 301–1: Materials used by weight or volume

KEY RAW MATERIALS CONSUMPTION	2021	2022	2023
Material	consumption (t)	consumption (t)	consumption (t)
Na_2CO_3 – Sodium Carbonate	32,793	32,224	30,000
$(NH_4)_2SO_4$ – Ammonium Sulfate	18,313	17,908	17,161
H_2SO_4 – Sulphuric acid	6,458	6,824	5,635

GRI 301–2: Recycled input materials used

The processing circuit includes the recovery of approximately 8% $(NH_4)_2SO_4$ for reuse. Due to technical specifications, there is an excess of saline mix (ammonium sulfate and chlorides) that cannot be reused.

ENERGY

GRI 302–1: Energy consumption within the organization

SASB EM–MM–130a.1: (1) Total energy consumed, (2) percentage grid electricity, (3) percentage renewable

	2020	2021†	2022†	2023	2023
TYPE	GJ	GJ	GJ	GJ	% OF TOTAL ENERGY CONSUMPTION
STATIONARY COMBUSTION					
Heavy Fuel Oil	504,615	542,108	614,046	546,935	
Diesel S500 (contains biodiesel)	182,782	6,435	3,348	1,488	
Liquefied Petroleum Gas	1,377	74,636	36,472	41,920	
Acetylene	*	*	81	98	
Total Stationary Combustion	**688,774**	**623,178**	**653,946**	**590,441**	**50%**
MOBILE COMBUSTION					
Diesel S10 (contains biodiesel)	230,019	240,541	262,529	332,401	
Gasoline (contains ethanol)	3,316	3,207**	2,813**	3,334	
Total Mobile combustion	**233,335**	**243,748**	**265,342**	**335,735**	**28%**
ELECTRICITY					
Purchased Electricity – Brazilian National Integrated System (SIN)	**243,392**	**227,930**	**241,497**	**266,633**	**22%**
ENERGY SOLD					
Energy sold	**0**	**0**	**0**	**0**	
Total Energy Consumption	**1,165,500**	**1,094,857**	**1,160,786**	**1,192,809**	

†Data revised in 2023 during the verification process for the Brazilian GHG Protocol Program Gold Seal. Changes are not significant and have no impact.
* not reported
**Gasoline consumption data not included in the verification process for the Brazilian GHG Protocol Program Gold Seal.

Energy consumption by renewable vs non-renewable

ENERGY SOURCE	RENEWABLE %	RENEWABLE (GJ)	NON-RENEWABLE (GJ)
Heavy Fuel Oil	0%	0	546,935
Diesel S500 (contains biodiesel)	12%	179	1,309
Liquefied Petroleum Gas	0%	0	41,920
Acetylene	0%	0	98
Diesel S10 (contains biodiesel)*	12%	39,888	292,513
Gasoline (contains ethanol)*	24%	800	2,534
Purchased Electricity – Brazilian National Integrated System (SIN)**	96%	256,501	10,132
Total (GJ)		**297,368**	**895,441**
Total (%)		**25%**	**75%**

2023 PURCHASED ELECTRICITY – BRAZILIAN NATIONAL INTEGRATED SYSTEM (SIN)**

ENERGY SOURCE	% NATIONAL	% REGIONAL (NORTHEAST)***
Hydroelectric	67.4%	24.2%
Wind	14.5%	60.9%
Solar	6.6%	11.1%
Total renewable component	**88.5%**	**96.2%**
Thermal	9.3%	3.7%
Nuclear	2.2%	
Total non-renewable component	**11.5%**	**3.7%**

GRI 302-3: Energy intensity

ENERGY INTENSITY	2020	2021	2022	2023
Annual Production (t V_2O_5)	11,825	10,319	10,436	9,680
Total Energy Consumption/V_2O_5 production (GJ/tV_2O_5)	**98.56**	**106.10**	**111.23**	**123.22**

WATER AND EFFLUENTS

SASB EM-MM-140a.1: (1) Total fresh water withdrawn, (2) total fresh water consumed, percentage of each in regions with High or Extremely High Baseline Water Stress

		2020 (ML)	2021 (ML)	2022 (ML)	2023 (ML)
GRI 303-3	**Water withdrawal**				
	Surface water from the Pedra Reservoir – water stressed region	672.5	712.1	620.8	673.2
GRI 303-4	**Water discharge**	0	0	0	0
GRI 303-5	**Water consumption**				
	Donated to the village of Água Branca	11.0	9.4	10.4	12.1
	Operational Site Consumption	661.5	701.9	610.4	661.1

SASB EM-MM-140a.2: Number of incidents of non-compliance associated with water quality permits, standards, and regulations

Zero

† Data revised in 2023 during the verification process for the Brazilian GHG Protocol Program Gold Seal. Changes are not significant and have no impact.

* % used in the GHG calculation - Ferramenta GHG Protocol Versão 2024.0 (base year 2023)

** http://www.ons.org.br/Paginas/resultados-da-operacao/historico-da-operacao/geracao_energia.aspx

*** Largo's only operation - LVMSA - is located in Maracás - BA, northeast region of Brazil.

BIODIVERSITY

GRI 304-3: Habitats protected or restored

G4 MM1: Amount of land (owned or leased, and managed for productive activities of extractive use) disturbed or rehabilitated

	2020 (ha)	2021 (ha)	2022 (ha)	2023 (ha)
Total surface area under long-term agreements	4,675†	4,675†	4,675†	4,675
Operations footprint	260	260	260	338
Protected areas – São Conrado & San Conrado Legal Reserve	1,088	1,088	1,088	1,088
Maintained in natural state	3,329†	3,329†	3,329†	3,249
Areas seeded	1.5	0	8.7	0
Native vegetation removed	35.7	0	0	60

SASB EM-MM-160a.3: Percentage of (1) proved and (2) probable reserves in or near sites with protected conservation status or endangered species habitat

Largo has no proved or probable reserves in or near sites with protected conservation status, as indicated by the Integrated Biodiversity Assessment Tool (IBAT).

† Data restated, with no impact.

GRI 304-4: IUCN Red List species and national conservation list species with habitats in areas affected by operations

	LEAST CONCERN	NEAR THREATENED	VULNERABLE	ENDANGERED	PROTECTED SPECIES
Birds+	231	5 (IUCN)	3 (IUCN)/ 3 (MMA)/ 2 (SEMA)	0	0
Amphibians	25	0	0	0	0
Mammals**	22	0	2 (IUCN)/ 3 (MMA)/ 4 (SEMA)	1 (IUCN)	0
Reptiles***	28	1 (IUCN, MMA)	0	0	0

MMA – Ministério do Meio Ambiente | SEMA – Secretaria do Meio Ambiente (Bahia)

+ One species of songbird much appreciated for breeding in captivity

** Three species are highly targeted by predatory hunting

*** Psilops paeminosus is a lizard species sensitive to environmental degradation

†Data revised in 2023 during the verification process for the Brazilian GHG Protocol Program Gold Seal. The revised data for mobile combustion did not include gasoline consumption. Changes are not significant and have no impact.

EMISSIONS

GRI 305–1: Direct (Scope 1) GHG emissions

SASB EM–MM–110a.1.: Gross Scope 1 emissions – LVMSA only

EMISSION SOURCE CATEGORY	EMISSIONS (tCO_2e) 2020	EMISSIONS (tCO_2e) 2021†	EMISSIONS (tCO_2e) 2022†	EMISSIONS (tCO_2e) 2023
Stationary combustion	51,693	48,284	51,444	51,294
Mobile combustion	13,328	15,422	17,040	21,377
Process emissions	13,303	14,015	14,367	12,848
Land use change	Not included in calculations	0	0	8,352
Fugitive emissions	182	96	97	1
Scope 1 Total	**78,506**	**77,817**	**82,948**	**93,872**
Emissions of Biogenic CO2 (from ethanol and biodiesel consumed by mobile equipment)	2,938	1,818	1,762	2,583

The organizational boundaries and data collection period are the same as the boundaries for this report, restricted to Largo's operations in Brazil, during January 1 to December 31st, 2023.
The compilation of the GHG inventory was conducted by our Environment team, following the GHG Protocol methodologies and emission factors identified by the GHG Protocol Brazilian Program.
Gases included in the inventory include: CO_2, CH_4, HFC and N2O. The presence of chemical reactions that would result in the emission of N_2O during the ore processing is not confirmed, therefore it was excluded from the calculation at this time. Any N2O emissions would be caused by process inefficiencies and their amount would not be significant. There were no emissions of PCFs, SF6 nor NF3.

Scope 1 emissions by type of GHG – 2023

GHG	STATIONARY COMBUSTION	MOBILE COMBUSTION	FUGITIVE EMISSIONS	INDUSTRIAL PROCESSES INDUSTRIALS	CHANGES IN LAND USE	TOTAL (t) 2023
CO_2 (t)	51,139.65	21,029.54	0.43	12,847.94	8,351.64	**93,369.20**
CH_4 (t)	1.92	1.52	0	0	0	**3.45**
N_2O (t)	0.38	1.15	0	0	0.004	**1.54**
HFC (t)	*	*	0.002	0	*	**0.002**
PFC (t)	*	*	0	0	*	**0**
SF_6 (t)	*	*	0	0	*	**0**
NF_3 (t)	*	*	0	0	*	**0**
CO_2e (t)	51,294	21,377	1	0	8,352	**93,873**
Emissions of Biogenic CO_2 (t)	0	2,582.92	*	0	0	**2,582.92**

* Not applicable

GRI 305–2: Indirect (Scope 2) GHG emissions

EMISSION SOURCE CATEGORY	EMISSIONS (tCO_2e) 2020	EMISSIONS (tCO_2e) 2021†	EMISSIONS (tCO_2e) 2022†	EMISSIONS (tCO_2e) 2023
Purchase of electricity (location–based method)	4,169	8,036	2,816	2,907

Scope 2 Emissions by type of GHG

	LOCATION–BASED METHOD			
GHG	ELECTRICITY	LOSSES DUE TO TRANSMISSION AND DISTRIBUTION	PURCHASES OF HEAT OR STEAM	TOTAL
CO_2 (t)	2,907	included	0	**2,907**
CH_4 (t)	0	0	0	**0**
N_2O (t)	0	0	0	**0**
HFC (t)	*	*	*	*
PFC (t)	*	*	*	*
SF_6 (t)	*	*	*	*
NF_3 (t)	*	*	*	*
CO_2e (t)	2,907	included	0	**2,907**
Emissions of Biogenic CO_2 (t)	0	0	0	**0**

†Data revised in 2023 during the audit process for the Brazilian GHG Protocol Program Gold Seal. Changes are not significant and there is no impact.

GRI 305–3: Other indirect (Scope 3) GHG emissions

Scope 3 emissions for ferroalloys were considered immaterial by the Transition Pathway Initiative in their Carbon Performance Assessment in the Diversified Mining Sector: Methodology February 2021 Report, compared to other natural resources' Scope 3 emissions.

CATEGORY	SUBSIDIARIES INCLUDED	EMISSIONS (tCO_2e) 2023	COMMENTS
1 Purchased goods and services	LVMSA only	Not calculated yet	Relevant, not calculated yet.
2 Capital goods	LVMSA only	Not calculated yet	Relevant, not calculated yet.
3 Fuel and energy–related activities	LVMSA only	Not calculated yet	Relevant, not calculated yet.
4 Upstream transportation and distribution	LVMSA only	Not calculated yet	Relevant, not calculated yet.
5 Waste generated in operations – Only waste treatment in facilities owned or operated by third parties	LVMSA only	Not calculated yet	Relevant, not calculated yet.
6 Business travel	Corporate and LVMSA	381	Data provided by the travel agency.
7 Employee commuting	LVMSA only	382	Based on fuel consumed by buses used to transport employees to the site and back.
8 Upstream leased assets	Not relevant	Not relevant	Largo reported Scope 1 and 2 emissions (2022) related to the Wilmington, MA, USA facility. For the leased R&D facility near Salvador, BA in Brazil, electricity is included in the lease, therefore Largo doesn't have operational control and is considered Scope 3. Based on estimates of electricity use, the emissions are not relevant.
9 Downstream transportation and distribution	Consolidated for Largo Inc.	2,775	Worldwide maritime transportation. Road transportation in Europe*, North** and South America.**
10 Processing of sold products	LVMSA only	Not calculated yet	Relevant, not calculated yet. A majority of V_2O_5 produced is converted into FeV, which in turn is added to steel to impart higher strength.
11 Use of sold products	Not relevant	Not relevant	Not relevant. Vanadium is a key transition metal used in greener steel and energy storage applications. The use of vanadium-bearing high-strength steel allows for the use of less steel, which can reduce the carbon footprint of the entire infrastructure project.
12 End–of–life treatment of sold products	Not relevant	Not relevant	Not relevant. High strength steel and master alloys containing vanadium are recyclable. Steel scrap is a key raw material for steel production, contributing to the reduction of overall GHG emissions. Vanadium electrolyte used in long duration energy storage never degrades, offering a reusable long-term solution for renewable energy partners.
13 Downstream leased assets	N/A	N/A	Not applicable. Largo doesn't own any assets that are leased to other entities.
14 Franchises	N/A	N/A	Not applicable. Largo doesn't have any franchises.
15 Investments	N/A	N/A	Not applicable. Largo doesn't have financial investments that generate GHG emissions other than its own subsidiaries and operations.

* https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2022
** https://www.epa.gov/climateleadership/ghg-emission-factors-hub

GRI 305–4

GHG EMISSIONS INTENSITY	2020	2021	2022	2023
Scope 1 and 2 emissions (tCO_2e)	82,675	85,853†	85,764†	96,779
Annual Production (tV_2O_5)	11,825	10,319	10,436	9,680
GHG emissions intensity (tCO_2e/tV_2O_5)	6.99	8.32	8.22	10.00

GRI 305–6: Emissions of ozone–depleting substances (ODS)

	EQUIPMENT	TYPE	EMISSIONS (tCO_2e) 2020	EMISSIONS (tCO_2e) 2021†	EMISSIONS (tCO_2e) 2022†	EMISSIONS (tCO_2e) 2023
Kyoto Protocol	Commercial Air Conditioning	HFC R-410A	182**	96**	97**	1**
	Circuit breakers	SF6	0	0	0	0
Montreal Protocol	Commercial Air Conditioning	HCFC-22 (R22)	16	0	0	0

† Data revised in 2023 during the audit process for the Brazilian GHG Protocol Program Gold Seal. Changes are not significant and have no impact.

** Included in Scope 1 - Fugitive emissions

GRI 305–7: Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions

SASB EM–MM–120a.1.: Air emissions of significant pollutants

TYPE	2020 (t) 9 CHIMNEYS	2021 (t) 13 CHIMNEYS	2022 (t) 13 CHIMNEYS	2023 (t) 12 CHIMNEYS
PM	49.84	89.04	145.35	142.56
SOx	2.62	2.76	4.93	11.25
NOx	38.67	49.21	84.38	112.1
NH_3	32.93	58.92	65.46	54.38
VOC	There is no generation of VOCs in the production process. Occupational health risk assessments have not identified potential risk of hazardous emissions of VOCs except during vehicles fuel supply (gasoline and diesel). Regular tests of exposure levels through personal monitoring equipment are conducted as per legislation. Monitoring of VOCs is not a requirement for Largo's environmental permits.			

	2020	2021	2022	2023 MEDIAN AVERAGE – MG/M3
VOx	*	*	*	7.07

* not reported

WASTE

GRI 306-3: Waste generated

GRI 306-4: Waste diverted from disposal

GRI 306-5: Waste directed to disposal

SASB EM-MM-150a.4: Total weight of non-mineral waste generated

SASB EM-MM-150a.7: Total weight of hazardous waste generated

SASB EM-MM-150a.8: Total weight of hazardous waste recycled

	2021			2022				2023			
WASTE COMPOSITION	WASTE GENERATED (t)	WASTE DIVERTED FROM DISPOSAL (t) – RECYCLED	WASTE DIRECTED TO DISPOSAL (t)	WASTE GENERATED (t)	WASTE DIVERTED FROM DISPOSAL (T) – RECYCLED	WASTE DIRECTED TO DISPOSAL (t)	WASTE DIRECTED TO DISPOSAL (t) – INCINERATED WITHOUT ENERGY RECOVERY	WASTE GENERATED (t)	WASTE DIVERTED FROM DISPOSAL (t) – RECYCLED	WASTE DIRECTED TO DISPOSAL (t)	WASTE DIRECTED TO DISPOSAL (t) – INCINERATED WITHOUT ENERGY RECOVERY
CLASS: HAZARDOUS											
Materials contaminated with oil or chemical products – industrial disposal	277.5	0	277.5	111.2	0	111.2	0	274.0	0	274.0	0
Lubricant oils recycled				55.0	55.0	0		95.4	95.4	0	
Lubricant oils packaging e.g. drums				5.0	5.0			6.0	6.0		
Waste from the Primary care clinic on site – incinerated and disposed	0.1		0.1	0.1	0		0.1	0.3	0		0.3
Lithium batteries	0.003		0.003	0.104		0.104	0	0.010		0.010	0
Lead batteries	1.1	1.1	0	0		0		0		0	
Sub-total Hazardous waste	**278.7**	**1.1**	**277.6**	**171.4**	**59.9**	**111.3**	**0.1**	**375.7**	**101.4**	**274.0**	**0.3**
CLASS: NON-HAZARDOUS											
Regular waste - landfill disposal	95.8	0	95.8	296.7	0	296.7	0	268.8	0	268.8	0
Metal	358.9	358.9	0	255.1	255.1	0		324.0	324.0	0	
Rubber	107.8	107.8		114.5	114.5			123.5	123.5		
Plastic	0.3	0.3		0.5	0.5			3.0	3.0		
Cardboard	3.7	3.7		5.2	5.2			7.5	7.5		
Compostable organic material	12.6	12.6		12.6	12.6			15.2	15.2		
Electronics waste	included in other categories			0.5	0.5			0	0		
Tires				60.2	60.2			92.2	92.2		
Wood				88.4	88.4			127.4	127.4		
Cooking oil	0	0	0	0.1	0.1			0.1	0.1		
Sub-total non-Hazardous waste	**579.1**	**483.3**	**95.8**	**833.7**	**537.0**	**296.7**	**0**	**961.7**	**692.9**	**268.8**	**0.0**
Total Waste	**857.8**	**484.4**	**373.4**	**1,005.1**	**597.0**	**408.0**	**0.1**	**1,337.4**	**794.3**	**542.8**	**0.3**
%	**0**	**56%**	**44%**	**0**	**59%**	**41%**	**0**	**0**	**59%**	**41%**	**0%**

WASTE ROCK AND TAILINGS GENERATED

G4 MM3: Total amounts of overburden, rock, tailings, and sludges

SASB EM-MM-150a.5: Total weight of tailings produced

SASB EM-MM-150a.6: Total weight of waste rock generated

			2020	2021	2021	2022	2023
WASTE		TYPE	GENERATED (t)	GENERATED (t)	DIVERTED (t)	GENERATED (t)	GENERATED (t)
Waste rock – stored in piles		Solid	9,940,272	9,600,937		9,157,283	13,112,880
Drymag waste – stored in piles		Solid	275,142	441,576		496,325	532,327
Tailings	Non-magnetic – stored in lined facilities	Wet mix	638,145	665,982		647,434	761,933
	Iron rich – drystacked in lined facilities	Solid	415,647	400,148	14,000*	405,101	382,199
	Silica cakes – drystacked in lined facilities	Solid	2,564	2,486		2,601	5,539
	Chloride salts – stored in lined facilities	Saline Mix	22,468	88,390		33,359	85,848
Total			**11,294,238**	**11,199,519**	**14,000***	**10,742,103**	**14,880,726**

SASB EM-MM-150a.9: Number of significant incidents associated with hazardous materials and waste management

There have never been any significant incidents, including loss of containment, overspill of tailings facility, breach of tailings facility, or slope failure in a tailings facility. Largo's tailings storage facilities storages are built in basins.

FROM RAMP UP TO 2020	2021	2022	2023
0	0	0	0**

* sold based on high iron content

** An uncontrolled seepage at a tailings storage facility did not release any hazardous waste to the environment and therefore was not considered significant.

TAILINGS STORAGE FACILITIES

SASB EM-MM-540a.1: Tailings storage facility inventory table

FACILITY NAME	TYPE OF MATERIAL	LOCATION	OWNERSHIP STATUS	OPERATIONAL STATUS	CONSTRUCTION METHOD	MAXIMUM PERMITTED STORAGE CAPACITY (m^3)	CURRENT AMOUNT OF TAILINGS STORED (DEC 2023)	CONSEQUENCE CLASSIFICATION (BRAZILIAN NATIONAL MINING AGENCY (ANM) RISK MATRIX FOR DAMS)	MOST RECENT INDEPENDENT TECHNICAL REVIEW	ANY MATERIAL FINDINGS?	MITIGATION MEASURES	SITE-SPECIFIC EPRP (GISTM)
BCAL (Bacia de Calcinado) 1.2*	silica cakes and iron rich material, dry stacked	Maracás, Bahia, Brazil	Owned by LVMSA	Active	Other – stable, small, shallow sedimentation basins built within waste rock piles, and lined with 2 layers of impermeable geotextile	772,650	881.929*	Potential Impacts – Medium	September 2023	No***	Not Applicable	
BCAL (Bacia de Calcinado) 3*						1,041,824	669.869*					
BCL (Bacia de Cloretado) 1.2	saline mix, low evaporation					180,601	140,906					
BCL (Bacia de Cloretado) 3						152.658**	151,559					
BNM (Bacia de Não Magnético) 2	wet mix, water is pumped for reuse in processing					664.857**	662,326					
BNM (Bacia de Não Magnético) 3						549,701	527,758					
BNM (Bacia de Não Magnético) 4						1,888,067	1,843,065					

CLOSURE PLAN

G4 MM10: Number and percentage of operations with closure plans

One mining and processing operational site – 100% of operations

* Facilities are structurally combined, with a total storage capacity of 1,814,474 m^3

** All recommendations for improvement arising from the independent technical review have been implemented.

Social

EMPLOYMENT

GRI 401–1: New employee hires and employee turnover

	NEW HIRES		
AGE	MALE	FEMALE	TOTAL
<30	33	23	56
30–50	42	6	48
50+	5	1	6
Total	80	30	110
Percentages by gender	73%	27%	100%

	VOLUNTARY RESIGNATIONS			DISMISSALS		
AGE	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL
<30	3	1	4	3	1	4
30–50	9	5	14	31	5	36
50+	1	1	2	4	0	4
Total	13	7	20	38	6	44
Percentages by gender	65%	35%	100%	86%	14%	100%

	MALE	FEMALE	TOTAL
Total leaves (voluntary and involuntary)	51	13	64
Employee turnover (Brazilian formula)			1.4%
Employee turnover (voluntary and involuntary leaves divided by total staff)	10%	3%	13%

ABSENTEEISM	%
Due to Covid	0.3%
Other reasons	2.1%
Average	2.4%

GRI 401–2: Benefits provided to full–time employees that are not provided to temporary or part–time employees

Temporary and part–time employees receive the same benefits as full–time employees.

GRI 401–3: Parental leave

	MALE	FEMALE
Total number of employees entitled to parental leave (100%)	419	75
Total number of employees that took parental leave	18	2
Total number of employees that returned to work in the reporting period after parental leave ended	18	2
Total number of employees that returned to work after parental leave ended that were still employed 12 months after their return to work	15	2
Return to work and retention rates of employees that took parental leave	83%	100%

LABOUR/MANAGEMENT RELATIONS

GRI 402–1: Minimum notice periods regarding operational changes

The minimum notice period for employees is 30 days.

G4 MM4: Number of strikes and lock–outs exceeding one week's duration, by country

SASB EM–MM–310a.2.: Number and duration of strikes and lockouts

There were no strikes or lock–outs in Largo's operations in 2023.

OCCUPATIONAL HEALTH AND SAFETY

GRI 403–5: Worker training on occupational health and safety

SASB EM–MM–320a.1: Training in health, safety and emergency response

	2021	2022	2023
Total hours of safety training	**12,016**	**11,069**	**18,388**

GRI 403–8 : Workers covered by an occupational health and safety management system

Covered by Plan Do Check Act system	100%	100%	100%
Audited or certified by third party	Zero	Zero	Zero

GRI 403–9: Work–related injuries

SASB EM–MM–320a.1: Fatalities and incidents rates

ALL RATES BASED ON PER MILLION HOURS WORKED*	2023		
	EMPLOYEES	CONTRACTORS	FREQUENCY RATE
Fatalities	1	Zero	0.34*
Injuries with more than 6 months lost time	0	1	0.34*
Reportable incidents – Lost time injuries	2	1	1.03*
Type of injury	Hand injury	Leg fracture	
Number of hours worked	723,432	2,194,697	

* includes onsite employees and contractors

Other Safety Metrics

ALL RATES REPORTED BASED ON PER MILLION HOURS WORKED. ALL DATA INCLUDE ONSITE EMPLOYEES AND CONTRACTORS.	2020	2021	2022	2023
High potential incidents including near misses	29	45	46	48
Total injuries including First Aid incidents	83	56	112*	83
Total – LTI + RWC + MTC	21	14	29	18
Total Injuries Frequency rate LTI + RWC + MTC	7.81	5.28	10.58	6.17
Lost Time Injuries (LTI)	6	2	3	3
Lost–time injury frequency rate (LTIFR)	2.23	0.75	1.09	1.03
Injuries with over 6 months of lost–time	0	0	0	2
Severity rate		7.93	9.49	2157.2
Fatalities	0	0	0	1
Total work hours per year	2,690,160	2,648,970	2,741,066	2,918,128

LTI – Lost time incident - RWC – Restricted Work Case - MTC – Medical Treatment Case

LEADING INDICATORS	2020	2021	2022	2023
Daily Safety Dialogues	Approximately 2,000	Approximately 2,000	Approximately 2,400	Approximately 1,400
Management Inspections	100% completed with average score of 76%	100% completed with average score 87.7%	100% completed with average score 85.1%	100% completed with average score 85%
INTERNAL AUDITS				
Permit to Work Audits completed	39	240**	Included in Management Inspections	180
Audits of Daily Safety Dialogues	18	350**	169	222
Cross–inspections			100	100

* Restated data - no significant impact

** Audits were increased in 2021 as part of a project to identify the most effective audit teams and schedule.

GRI 403-10: Work-related ill health

	2021		2022		2023	
	EMPLOYEES	CONTRACTORS	EMPLOYEES	CONTRACTORS	EMPLOYEES	CONTRACTORS
Fatalities resulting from work-related ill health	0	0	0	0	0	0
Recordable work-related ill health	0	0	0	0	0	0

Non-work related

Covid cases	69	178	131	183	11	6

Medical Exams (Employees only)

TYPE OF EXAM	2020	2021	2022	2023
AD – upon hiring	59	76	106	108
PR – periodic	316	306	381	489
DE – when leaving	47	63	45	88
MF – change of function	15	33	38	31
RT – back to work	15	6	10	12
Total	**452**	**478**	**580**	**728**

Vanadium Concentration Exams (employees only)

	2021		2022		2023	
TYPE	NUMBER OF TESTS	RESULTS*	NUMBER OF TESTS	RESULTS*	NUMBER OF TESTS	RESULTS*
Blood	760	754 (N) 6 (O)	687	674 (N) 13 (O)	669	659 (N) 10 (O)
Urine	605	602 (N) 3 (O)	500	497 (N) 3 (O)	491	491 (N) 0 (O)

* N - Normal - O - out of range

TRAINING AND EDUCATION

GRI 404–1: Average hours of training per year per employee

	2020	2021	2022	2023
Total training hours (women and men) (hours)	15,987	22,094	22,987	21,954
Average hours of training per year per employee (hours/year)	40	53	47	45

	2023			
	DEVELOPMENT TRAINING	MANDATORY – SAFETY TRAINING	MANDATORY – QUALITY MANAGEMENT SYSTEM	TRAINING INDEX*
Training hours	1,856	18,388	1,710	3.1%

Overall participation in training by gender

	2023			
	MALE	% MALE	FEMALE	% FEMALE
Development	70	80%	18	20%
Mandatory – Safety	329	94%	21	6%
Mandatory – Quality Management System	62	90%	7	10%

GRI 404–2: Programs for upgrading employee skills and transition assistance programs

LARGO'S SCHOLARSHIP PROGRAM	GRADUATES
Total number of graduates since 2018 (as of December 2023)	68

PARTICIPATION IN PROGRAM BY GENDER (DEC 2023)		
Women	29	24%
Men	92	76%
Total	**121**	**24% of the workforce**

Investment in Employees Training and Development

YEAR	INVESTMENT
2014	$13,928
2015	$21,043
2016	$38,320
2017	$76,470
2018	$252,664
2019	$279,913
2020	$123,159
2021	$148,322
2022	$224,558
2023	$180,773

GRI 404–3: Percentage of employees receiving regular performance and career development reviews

Percentage of employees receiving regular performance and career development reviews	100%

* Training index – total training hours/total worked and training hours

DIVERSITY AND EQUAL OPPORTUNITY

GRI 405–1: Diversity of governance bodies and employees (December 31, 2023)

BOARD OF DIRECTORS	MALE	FEMALE	LGBTQ+	UNDERREPRESENTED INDIVIDUAL IN HOME COUNTRY JURISDICTION
Chair	1	0	0	5
Directors	3	2	0	

LARGO – BRAZIL – FUNCTIONS	MALE	FEMALE	TOTAL	% WOMEN TOTAL WORKFORCE	% WOMEN WITHIN FUNCTION	<30 YEARS	30–50 YEARS	50+
President and Directors	3	0	3	0%	0%	0	3	0
Manager	12	0	12	0%	0%	0	10	2
Coordinator/Specialist	23	4	27	5%	15%	2	21	4
Supervisor	17	2	19	3%	11%	2	13	4
University level roles	34	29	63	39%	46%	14	42	7
Operational	314	29	343	39%	8%	103	219	21
Student paid Intern	4	8	12	11%	67%	12	0	0
Individuals with Physical Disabilities*	12	3	15	4%	20%	3	9	3
Totals	**419**	**75**	**494**			**136**	**317**	**41**
%	**85%**	**15%**	**100%**			**28%**	**64%**	**8%**

Promotions by gender and function

FUNCTION	MALE	FEMALE	TOTAL	% WOMEN PROMOTED BY FUNCTION
Manager	1	0	1	0%
Coordinator/Specialist	4	2	6	33%
Supervisor	2	2	4	50%
University level roles	2	4	6	67%
Technical/Operational	22	1	23	4%
Total	**31**	**9**	**40**	

* complies with % mandated by law

GRI 405–2: Average salary and remuneration by function – Ratio women:men

FUNCTION	2020	2021	2022	2023
Manager	No women managers on Dec. 31, 2020	No women managers on Dec. 31, 2021	90:100	No women managers on Dec. 31, 2023
Coordinator/Specialist	98:100*	95:100*	88:100*, **	92:100
Supervisor	99:100	103:100***	96:100	75:100****
University level functions	100:100	100:100	100:100	100:100
Technical/Operational	99:100	108:100***	109:100	99:100
Student Trainee	100:100	100:100	100:100	100:100

NON DISCRIMINATION

GRI 406–1: Incidents of discrimination***** and corrective actions taken

	TYPE OF MISCONDUCT REPORTED	TOTAL NUMBER OF CONCERNS REPORTED	SUPPORTED	PARTIALLY SUPPORTED	UNFOUNDED	CONSULTATION	COMPLETED	FORWARDED TO CLIENT
2020	Discrimination	1		1			1	
2021	Discrimination	0						
2022	Discrimination	0						
2023	Harassment	1					1	

FREEDOM OF ASSOCIATION AND COLLECTIVE BARGAINING

GRI 407–1: Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk

No operations or suppliers at risk have been identified.

CHILD LABOUR

GRI 408–1: Operations and suppliers at significant risk for incidents of child labour

No operations or suppliers at risk have been identified.

FORCED OR COMPULSORY LABOUR

GRI 409–1: Operations and suppliers at significant risk for incidents of forced labour

No operations or suppliers at risk have been identified

SECURITY, HUMAN RIGHTS & RIGHTS OF INDIGENOUS PEOPLES

GRI 410–1: Security personnel trained in human rights policies or procedures

100%

SASB EM–MM–210a.1.: Percentage of (1) proved and (2) probable reserves in or near areas of conflict

Largo has no proved or probable reserves in or near areas of conflict.

SASB EM–MM–210b.2: Number and duration of non–technical delays

There were zero non–technical delays in 2023.

GRI 411–1: Incidents of violations involving rights of indigenous peoples

No incidents. There are no indigenous peoples in or near our operational site.

* The higher averages shown for men reflect the higher number of men with over five years' experience at Largo.
** The higher average shown for men is also attributed to their work location (mine site vs office in Salvador).
*** The averages reflect higher levels of responsibility, complexity and autonomy in their respective functions.
**** One salary increase was gradual and not completed by 31 Dec 2023.
*****GRI 406: Non-discrimination 2016 - Glossary: Discrimination can also include harassment, defined as a course of comments or actions that are unwelcome, or should reasonably be known to be unwelcome, to the person towards whom they are addressed.

GRI 413-1: Operations with local community engagement, impact assessments, and development programs

One mining and processing operation – 100%.

FORMAL ENGAGEMENTS WITH OUR COMMUNITY	2022			2023		
NUMBER OF MEETINGS AND PARTICIPANTS BY GENDER	MEETINGS	FEMALE	MALE	MEETINGS	FEMALE	MALE
Grupo de Fortalecimento Social (DIA*)	11	5	11	9	9	21
Rede Comunitária Flor do Maracá (IIA**)	9	12	5	4	8	2
Enterprise Monitoring Committee – CAE (DIA + IIA)	6	8	12	5	6	6
Total	**26**	**25**	**28**	**18**	**23**	**29**

GRI 413-2: Operations with significant actual and potential negative impacts on local communities

Largo has no operations with significant actual or potential negative impacts on local communities

SASB EM-MM-210a.2.: Percentage of (1) proved and (2) probable reserves in or near indigenous land

G4 MM5: Total number of operations taking place in or adjacent to indigenous peoples' territories, and number and percentage of operations or sites where there are formal agreements with indigenous peoples' communities

Largo has no proved or probable reserves in or near indigenous land.

G4 MM6: Number and description of significant disputes relating to land use, customary rights of local communities and indigenous peoples

G4 MM7: The extent to which grievance mechanisms were used to resolve disputes relating to land use, customary rights of local communities and indigenous peoples, and the outcomes

There were no disputes relating to land use, customary rights of local communities and indigenous peoples.

* DIA – Direct influence area

** IIA – Indirect influence area

G4 MM8: Number (and percentage) of company operating sites where artisanal and small-scale mining (asm) takes place on, or adjacent to, the site; the associated risks and the actions taken to manage and mitigate these risks

There are no artisanal or small-scale mining on or adjacent to Largo's operational site.

G4 MM9: Sites where resettlements took place, the number of households resettled in each, and how their livelihoods were affected in the process

Largo only operates one mining and ore processing site. When Largo started the project around 2011, no one lived in the area, which is very isolated. The land was owned by a bank and there were no economical activities. Largo negotiated long-term surface rights agreements with the owner. In summary, there were no resettlements, physical or economic, in the history of Largo's development of the Maracás Menchen Mine.

IMPACTS ON CUSTOMERS

GRI 416-1: Assessment of the health and safety impacts of product and service categories

Largo's products are certified under the European Union's Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) regulation.

GRI 416-2: Incidents of non-compliance concerning the health and safety impacts of products and services

There were no incidents of non-compliance concerning the health and safety impacts of products.

GRI 417-1: Requirements for product and service information and labeling

Compliance with REACH chemical regulations in the UK and EU.

Compliance with the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

GRI 417-2: Incidents of non-compliance concerning product and service information and labeling

No incidents of non-compliance concerning product information and labelling.

GRI 417-3: Incidents of non-compliance concerning marketing communications

No incidents of non-compliance concerning marketing communications.

Subsidiaries

SUBSIDIARY	LOCATION	MATERIAL TOPICS	OPERATIONS IN HIGH WATER STRESS AREAS	GHG – SCOPE 1 & 2	SIGNIFICANT SPILLS	OPERATIONS WITH AIR EMISSIONS IN/NEAR AREAS OF DENSE POPULATION
Largo Inc. (Ontario) – Corporate Office	Canada	None	None	Zero	Zero	None
Largo Physical Vanadium (British Columbia)						
Largo Resources (Yukon) Ltd. (Yukon)						
Largo Resources USA Inc. (Delaware)	USA					
Largo Vanádio de Maracás S.A. (LVMSA)	Brazil	Scope of this report	Yes – See Performance Data	Yes – See Performance Data		
Largo Campo Alegre de Lourdes Ltda.						
Largo Mineraçäo Currais Novos Ltda.						
Largo Titânio Ltda.		None	None	Zero		
Largo Tech Ltda.						
Largo Clean Energy Corp. (Delaware)	USA			Scope 2 due to space heating and electricity (142 tCO_2e in 2022 and similar in 2023)		
Largo Clean Energy España	Spain		In 2023 this subsidiary's main focus, among other things, was the installation of a VRFB in Spain for Largo's European energy storage partner, ENEL Green Power España. Consumption of water and GHG Scope 1 & 2 emissions and other activities at this subsidiary are considered insignificant compared to LVMSA.			
Largo Commodities Holding Limited	Ireland		None	Zero		
Largo Commodities Trading Limited						

GRI Content Index
(including SASB disclosures)

Statement of use	Largo Inc. has reported in accordance with the GRI Standards for the period January 1, 2023 – December 31, 2023
GRI 1 used	GRI 1: Foundation 2021
Applicable GRI Sector Standard	The Mining Sector Standard was issued in 2024 and will be used in the future. GRI G4 Mining and Metals Sector Supplement disclosures were reported this year.

Following GRI guidance, GRI G4 Mining and Metals Sector and SASB Mining and Metals Sector disclosures are listed under the respective GRI material topic.

Selected non-materials GRI topics and associated disclosures are listed in the index for completeness, in numerical order.

GRI STANDARD/OTHER SOURCE	DISCLOSURE	LOCATION	OMISSION
GENERAL DISCLOSURES			
GRI 2: General Disclosures 2021	2-1 Organizational details	2023 Sustainability Report – About Largo	
	2-2 Entities included in the organization's sustainability reporting	2023 Sustainability Report – About this report	
	2-3 Reporting period, frequency and contact point	2023 Sustainability Report – About this report	
	2-4 Restatements of information	2023 Sustainability Report – About this report	
	2-5 External assurance	2023 Sustainability Report – About this report	
	2-6 Activities, value chain, and other business relationships	2023 Sustainability Report - Our Value Chain; About Us; Our Business; 2023 Sustainability Report - Performance Data; Annual Consolidated Financial Statements for the Years ended December 31, 2023 and 2022	
	2-7 Employees	2023 Sustainability Report - Performance Data	
	2-8 Workers who are not employees	2023 Sustainability Report - Performance Data	
	2-9 Governance structure and composition	2023 Sustainability Report – Governance – The Board of Directors , Board of Directors, Board Diversity Matrix, 2023 Management Information Circular for tenure, independence (pp.10-12,16)	
	2-10 Nomination and selection of the highest governance body	2023 Management Information Circular (p.22)	
	2-11 Chair of the highest governance body	2023 Sustainability Report – Governance – The Board of Directors	
	2-12 Role of the highest governance body in overseeing the management of impacts	2023 Sustainability Report – Governance – The Board of Directors	
	2-13 Delegation of responsibility for managing impacts	2023 Sustainability Report – Governance – The Board of Directors	
	2-14 Role of the highest governance body in sustainability reporting	2023 Sustainability Report – Governance – The Board of Directors	
	2-15 Conflicts of interest	2023 Management Information Circular (p.22)	

GRI STANDARD/OTHER SOURCE	DISCLOSURE	LOCATION	OMISSION
GENERAL DISCLOSURES CONTINUED			
GRI 2: General Disclosures 2021	2-16 Communication of critical concerns	2023 Sustainability Report - Performance Data	
	2-17 Collective knowledge of the highest governance body	2023 Management Information Circular (p.23)	
	2-18 Evaluation of the performance of the highest governance body	2023 Management Information Circular (p.24)	
	2-19 Remuneration policies	2023 Management Information Circular (pp.25-27)	
	2-20 Process to determine remuneration	2023 Management Information Circular (pp.25-27)	
	2-21 Annual total compensation ratio		**Requirement(s) omitted:** 2-21 a, b, c **Reason:** Information unavailable **Explanation:** This information is not currently calculated
	2-22 Statement on sustainable development strategy	2023 Sustainability Report – Message from the Chairman of the Board; 2023 Sustainability Report – Our Sustainable Development Strategy	
	2-23 Policy commitments	2023 Sustainability Report – Policies and Practices	
	2-24 Embedding policy commitments	2023 Sustainability Report – Policies and Practices	
	2-25 Processes to remediate negative impacts	2023 Sustainability Report – Grievance Mechanisms	
	2-26 Mechanisms for seeking advice and raising concerns	2023 Sustainability Report - Performance Data; 2023 Sustainability Report – Responsible Business Conduct	
	2-27 Compliance with laws and regulations	2023 Sustainability Report - Performance Data	
	2-28 Membership associations	2023 Sustainability Report – Membership Associations	
	2-29 Approach to stakeholder engagement	2023 Sustainability Report – Stakeholder Engagement	
	2-30 Collective bargaining agreements	2023 Sustainability Report – Our People, 2023; Sustainability Report - Performance Data	
SASB METALS & MINING VERSION 2023-12: Scale of the Organization	EM-MM-000.A Production of (1) metal ores and (2) finished metal products	2023 Sustainability Report - Performance Data	
	EM-MM-000.B Total number of employees, percentage contractors	2023 Sustainability Report - Performance Data	
SASB METALS & MINING VERSION 2023-12: Labour Relations	EM-MM-310a.1 Percentage of active workforce covered under collective bargaining agreements	2023 Sustainability Report - Performance Data	
MATERIAL TOPICS			
GRI 3: Material Topics 2021	3-1 Process to determine material topics	2023 Sustainability Report – Material Topics	
	3-2 List of material topics	2023 Sustainability Report – List of Material Topics	

GRI STANDARD/OTHER SOURCE	DISCLOSURE	LOCATION	OMISSION
NON-MATERIAL TOPICS (REPORTED FOR COMPLETENESS)			
GRI 201: Economic Performance 2016	201-1 Direct economic value generated and distributed	2023 Sustainability Report – Economic Performance; 2023 Sustainability Report - Performance Data	
	201-2 Financial implications and other risks and opportunities due to climate change	Climate Report 2022 (pp. 12-26), 2023 Sustainability Report – Climate Resilience	
	201-3 Defined benefit plan obligations and other retirement plans	2023 Sustainability Report - Performance Data	
	201-4 Financial assistance received from government	2023 Sustainability Report - Performance Data	
GRI 202: Market Presence 2016	202-1 Ratios of standard entry level wage by gender compared to local minimum wage	2023 Sustainability Report - Performance Data	
	202-2 Proportion of senior management hired from the local community	2023 Sustainability Report - Performance Data	
GRI 203: Indirect Economic Impacts 2016	203-1 Infrastructure investments and services supported	2023 Sustainability Report - Economic Performance; 2023 Sustainability Report - Performance Data	
	203-2 Significant indirect economic impacts	2023 Sustainability Report - Economic Performance; 2023 Sustainability Report - Performance Data	
GRI 204: Procurement Practices 2016	204-1 Proportion of spending on local suppliers	2023 Sustainability Report - Performance Data	
GRI 205: Anti-corruption 2016	205-1 Operations assessed for risks related to corruption	2023 Sustainability Report - Performance Data	
	205-2 Communication and training about anti-corruption policies and procedures	2023 Sustainability Report - Policies and Practices; 2023 Sustainability Report – Responsible Business Conduct	
	205-3 Confirmed incidents of corruption and actions taken	2023 Sustainability Report - Performance Data	
GRI 206: Anti-competitive Behavior 2016	206-1 Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	2023 Sustainability Report - Performance Data	
SASB METALS & MINING VERSION 2023-12: Business Ethics & Transparency	EM-MM-510a.1 Description of the management system for prevention of corruption and bribery throughout the value chain	2023 Sustainability Report – Responsible Business Conduct; Supply Chain Management	
	EM-MM-510a.2 Production in countries that have the 20 lowest rankings in Transparency International's Corruption Perception Index	2023 Sustainability Report - Performance Data	
GRI 301: Materials 2016	301-1 Materials used by weight or volume	2023 Sustainability Report - Performance Data	
MATERIAL TOPIC - ENERGY			
GRI 3: Material Topics	3-3 Management of material topics	2023 Sustainability Report – Our Environment – Management Approach; 2023 Sustainability Report – Energy	
	302-1 Energy consumption within the organization	2023 Sustainability Report – Energy consumption; 2023 Sustainability Report - Performance Data	
	302-2 Energy consumption outside of the organization		**Requirement(s) omitted:** 302-2 a, b, c **Reason:** Information unavailable **Explanation:** This information is not currently estimated.

GRI STANDARD/OTHER SOURCE	DISCLOSURE	LOCATION	OMISSION
MATERIAL TOPIC – ENERGY CONTINUED			
GRI 3: Material Topics	302-3 Energy intensity	2023 Sustainability Report – Performance Data	
	302-4 Reduction of energy consumption	2023 Sustainability Report – Energy	
	302-5 Reductions in energy requirements of products and services	2023 Sustainability Report – Energy	
SASB METALS & MINING VERSION 2023-12: Energy Management	EM-MM-130a.1 (1) Total energy consumed, (2) percentage grid electricity, (3) percentage renewable	2023 Sustainability Report – Performance Data	
MATERIAL TOPIC – WATER AND EFFLUENTS			
GRI 3: Material Topics	3-3 Management of material topics	2023 Sustainability Report – Our Environment – Management Approach; 2023 Sustainability Report – Water and Effluents	
	303-1 Interactions with water as a shared resource	Water Management; 2023 Sustainability Report – Water and Effluents	
GRI 303: Water and Effluents 2018	303-2 Management of water discharge-related impacts	Water Management; 2023 Sustainability Report – Water and Effluents	
	303-3 Water withdrawal	2023 Sustainability Report – Performance Data	
	303-4 Water discharge	2023 Sustainability Report – Performance Data	
	303-5 Water consumption	2023 Sustainability Report – Performance Data	
SASB METALS & MINING VERSION 2023-12: Water Management	EM-MM-140a.1 (1) Total fresh water withdrawn, (2) total fresh water consumed, percentage of each in regions with High or Extremely High Baseline Water Stress	2023 Sustainability Report – Water and Effluents; 2023 Sustainability Report – Performance Data	
	EM-MM-140a.2 Number of incidents of non-compliance associated with water quality permits, standards, and regulations	2023 Sustainability Report – Performance Data	
MATERIAL TOPIC – BIODIVERSITY			
GRI 3: Material Topics	3-3 Management of material topics	2023 Sustainability Report – Our Environment – Management Approach; 2023 Sustainability Report – Biodiversity	
	304-1 Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	Biodiversity	
	304-2 Significant impacts of activities, products, and services on biodiversity	2023 Sustainability Report – Biodiversity	
	304-3 Habitats protected or restored	2023 Sustainability Report – Performance Data	
	304-4 IUCN Red List species and national conservation list species with habitats in areas affected by operations	2023 Sustainability Report – Performance Data	
GRI G4: Mining & Metals Sector Supplement	MM1 Amount of land (owned or leased, and managed for production activities or extractive use) disturbed or rehabilitated	2023 Sustainability Report – Performance Data	
	MM2 The number and percentage of total sites identified as requiring biodiversity management plans according to stated criteria, and the number (percentage) of those sites with plans in place	2023 Sustainability Report – Biodiversity 2023; Sustainability Report – About this report	

GRI STANDARD/OTHER SOURCE	DISCLOSURE	LOCATION	OMISSION
MATERIAL TOPIC – BIODIVERSITY CONTINUED			
SASB METALS & MINING VERSION 2023–12: Biodiversity Impacts	EM–MM–160a.1 Description of environmental management policies and practices for active sites	2023 Sustainability Report – Our Environment – Management Approach; 2023 Sustainability Report - Biodiversity	
	EM–MM–160a.2 Percentage of mine sites where acid rock drainage is: (1) predicted to occur, (2) actively mitigated, and (3) under treatment or remediation	Acid Rock Drainage	
	EM–MM–160a.3 Biodiversity Impacts Percentage of (1) proved and (2) probable reserves in or near sites with protected conservation status or endangered species habitat	2023 Sustainability Report - Performance Data	
MATERIAL TOPIC – EMISSIONS			
GRI 3: Material Topics	3–3 Management of material topics	2023 Sustainability Report – Our Environment – Management Approach; 2023 Sustainability Report - Emissions	
GRI 305: Emissions 2016	305–1 Direct (Scope 1) GHG emissions	2023 Sustainability Report – GHG Emissions – LVMSA – Scope 1 & 2; 2023 Sustainability Report - Performance Data	
	305–2 Energy indirect (Scope 2) GHG emissions	2023 Sustainability Report – GHG Emissions – LVMSA – Scope 1 & 2; 2023 Sustainability Report - Performance Data	
	305–3 Other indirect (Scope 3) GHG emissions	2023 Sustainability Report – GHG Emissions – Scope 3; 2023 Sustainability Report - Performance Data	
	305–4 GHG emissions intensity	2023 Sustainability Report - Performance Data	
	305–5 Reduction of GHG emissions	2023 Sustainability Report – Reducing GHG emissions; Climate Report 2022 pp. 32–34	
	305–6 Emissions of ozone–depleting substances (ODS)	2023 Sustainability Report - Performance Data	
	305–7 Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	2023 Sustainability Report – Non–GHG emissions; 2023 Sustainability Report - Performance Data	
SASB METALS & MINING VERSION 2023–12: Greenhouse Gas Emissions	EM–MM–110a.1 Gross Global Scope 1 emissions	2023 Sustainability Report – GHG Emissions – LVMSA – Scope 1 & 2; 2023 Sustainability Report - Performance Data	
	EM–MM–110a.2 Greenhouse Gas Emissions – Discussion	2023 Sustainability Report – Reducing GHG emissions; Climate Report 2022 pp. 32–34	
SASB METALS & MINING VERSION 2023–12: Air Quality	EM–MM–120a.1 Air emissions of significant pollutants	2023 Sustainability Report – Non–GHG emissions; 2023 Sustainability Report - Performance Data	
MATERIAL TOPIC – WASTE			
GRI 3: Material Topics	3–3 Management of material topics	2023 Sustainability Report – Our Environment – Management Approach; 2023 Sustainability Report – Waste; 2023 Sustainability Report – Tailings Facilities	

GRI STANDARD/OTHER SOURCE	DISCLOSURE	LOCATION	OMISSION
MATERIAL TOPIC – WASTE CONTINUED			
GRI 306: Waste 2020	306-1 Waste generation and significant waste-related impacts	2023 Sustainability Report – Waste; Waste Management, 2023 Sustainability Report – Tailings Facilities; Tailings Management	
	306-2 Management of significant waste-related impacts	2023 Sustainability Report – Waste; Waste Management, 2023 Sustainability Report – Tailings Facilities; Tailings Management	
	306-3 Waste generated	2023 Sustainability Report - Performance Data	
	306-4 Waste diverted from disposal	2023 Sustainability Report - Performance Data	
	306-5 Waste directed to disposal	2023 Sustainability Report - Performance Data	
SASB METALS & MINING VERSION 2023-12: Waste & Hazardous Materials Management	EM-MM-150a.4 Total weight of non-mineral waste generated	2023 Sustainability Report - Performance Data	
	EM-MM-150a.5 Total weight of tailings produced	2023 Sustainability Report - Performance Data	
	EM-MM-150a.6 Total weight of waste rock generated	2023 Sustainability Report - Performance Data	
	EM-MM-150a.7 Total weight of hazardous waste generated	2023 Sustainability Report - Performance Data	
	EM-MM-150a.8 Total weight of hazardous waste recycled	2023 Sustainability Report - Performance Data	
	EM-MM-150a.9 Number of significant incidents associated with hazardous materials and waste management	2023 Sustainability Report - Performance Data	
	EM-MM-150a.10 Description of waste and hazardous materials management policies and procedures for active and inactive operations	2023 Sustainability Report – Our Environment – Management Approach; 2023 Sustainability Report – Waste; 2023 Sustainability Report – Tailings Facilities	
GRI G4: Mining & Metals Sector Supplement	MM3 Total amounts of overburden, rock, tailings, and sludges and their associated risks	2023 Sustainability Report – Tailings Facilities; 2023 Sustainability Report - Performance Data	
SASB METALS & MINING VERSION 2023-12 : Tailings Storage Facilities Management	EM-MM-540a.1 Tailings storage facility inventory table	2023 Sustainability Report - Performance Data	
	EM-MM-540a.2 Summary of tailings management systems and governance structure used to monitor and maintain the stability of tailings storage facilities	2023 Sustainability Report – Tailings Facilities; Tailings Management	
	EM-MM-540a.3 Approach to development of Emergency Preparedness and Response Plans (EPRPs) for tailings storage facilities	2023 Sustainability Report – Tailings Facilities; Emergency Response Plan	
NON-MATERIAL TOPICS (REPORTED FOR COMPLETENESS)			
GRI 308: Supplier Environmental Assessment 2016	308-1 New suppliers that were screened using environmental criteria	2023 Sustainability Report – Supply Chain Management; 2023 Sustainability Report - Performance Data	
	308-2 Negative environmental impacts in the supply chain and actions taken	2023 Sustainability Report - Performance Data	
GRI 401: Employment 2016	401-1 New employee hires and employee turnover	2023 Sustainability Report - Performance Data	
	401-2 Benefits provided to full-time employees that are not provided to temporary or part-time employees	2023 Sustainability Report – Our People; 2023 Sustainability Report - Performance Data	
	401-3 Parental leave	2023 Sustainability Report - Performance Data	
GRI 402: Labor/Management Relations 2016	402-1 Minimum notice periods regarding operational changes	2023 Sustainability Report - Performance Data	

GRI STANDARD/OTHER SOURCE	DISCLOSURE	LOCATION	OMISSION
NON-MATERIAL TOPICS (REPORTED FOR COMPLETENESS) CONTINUED			
GRI G4: Mining & Metals Sector Supplement	MM4 Number of strikes and lock-outs exceeding one week's duration, by country	2023 Sustainability Report - Performance Data	
SASB METALS & MINING VERSION 2023-12: Labour Relations	EM-MM-310a.2 Number and duration of strikes and lockouts	2023 Sustainability Report - Performance Data	
MATERIAL TOPIC - OCCUPATIONAL HEALTH AND SAFETY			
GRI 3: Material Topics	3-3 Management of material topics	2023 Sustainability Report – Occupational Health and Safety – Management Approach	
GRI 403: Occupational Health and Safety 2018	403-1 Occupational health and safety management system	2023 Sustainability Report – Occupational Health and Safety – Indicators and Continuous Improvement	
	403-2 Hazard identification, risk assessment, and incident investigation	2023 Sustainability Report – Occupational Health and Safety; 2023 Sustainability Report - Incident Reporting, Investigations and Corrective Actions; Promoting Safety	
	403-3 Occupational health services	2023 Sustainability Report – Occupational Health and Safety ; Occupational Health Management	
	403-4 Worker participation, consultation, and communication on occupational health and safety	2023 Sustainability Report – Occupational Health and Safety – Safety Culture Transformation; Promoting Safety	
	403-5 Worker training on occupational health and safety	2023 Sustainability Report – Occupational Health and Safety – Safety Culture Transformation; 2023 Sustainability Report - Performance Data	
	403-6 Promotion of worker health	2023 Sustainability Report – Occupational Health and Safety – Safety Culture Transformation; Occupational Health	
	403-7 Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	2023 Sustainability Report – Occupational Health and Safety – Critical Risks; Occupational Health Management; Promoting Safety	
	403-8 Workers covered by an occupational health and safety management system	2023 Sustainability Report - Performance Data	
	403-9 Work-related injuries	2023 Sustainability Report - Performance Data	
	403-10 Work-related ill health	2023 Sustainability Report - Performance Data	
SASB METALS & MINING VERSION 2023-12: Workforce Health & Safety	EM-MM-320a.1 (1) MSHA all-incidence rate, (2) fatality rate, (3) near miss frequency rate (NMFR) and (4) average hours of health, safety, and emergency response training for (a) full-time employees and (b) contract employees	2023 Sustainability Report - Performance Data	
NON-MATERIAL TOPICS (REPORTED FOR COMPLETENESS)			
GRI 404: Training and Education 2016	404-1 Average hours of training per year per employee	2023 Sustainability Report - Performance Data	
	404-2 Programs for upgrading employee skills and transition assistance programs	2023 Sustainability Report – Our People ; 2023 Sustainability Report – Performance Data	
	404-3 Percentage of employees receiving regular performance and career development reviews	2023 Sustainability Report - Performance Data	

GRI STANDARD/OTHER SOURCE	DISCLOSURE	LOCATION	OMISSION
NON-MATERIAL TOPICS (REPORTED FOR COMPLETENESS) CONTINUED			
GRI 405: Diversity and Equal Opportunity 2016	405-1 Diversity of governance bodies and employees	2023 Sustainability Report – Our People; 2023 Sustainability Report – Performance Data	
	405-2 Ratio of basic salary and remuneration of women to men	2023 Sustainability Report – Performance Data	
GRI 406: Non-discrimination 2016	406-1 Incidents of discrimination and corrective actions taken	2023 Sustainability Report – Performance Data	
GRI 407: Freedom of Association and Collective Bargaining 2016	407-1 Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	2023 Sustainability Report – Performance Data	
GRI 408: Child Labor 2016	408-1 Operations and suppliers at significant risk for incidents of child labor	2023 Sustainability Report – Performance Data	
GRI 409: Forced or Compulsory Labor 2016	409-1 Operations and suppliers at significant risk for incidents of forced or compulsory labor	2023 Sustainability Report – Performance Data	
GRI 410: Security Practices 2016	410-1 Security personnel trained in human rights policies or procedures	2023 Sustainability Report – Performance Data	
GRI 411: Rights of Indigenous Peoples 2016	411-1 Incidents of violations involving rights of indigenous peoples	2023 Sustainability Report – Performance Data; 2022 Sustainability Report – Our Communities (p.47)	
GRI G4: Mining & Metals Sector Supplement	MM5 Total number of operations taking place in or adjacent to indigenous peoples' territories, and number and percentage of operations or sites where there are formal agreements with indigenous peoples' communities	2023 Sustainability Report – Performance Data; 2022 Sustainability Report – Our Communities (p.47)	
	MM6 Number and description of significant disputes relating to land use, customary rights of local communities and indigenous peoples	2023 Sustainability Report – Performance Data	
	MM7 The extent to which grievance mechanisms were used to resolve disputes relating to land use, customary rights of local communities and indigenous peoples, and the outcomes	2023 Sustainability Report – Performance Data	
SASB METALS & MINING VERSION 2023-12: Security, Human Rights & Rights of Indigenous Peoples	EM-MM-210a.1 Percentage of (1) proved and (2) probable reserves in or near areas of conflict	2023 Sustainability Report – Performance Data	
	EM-MM-210a.2 Percentage of (1) proved and (2) probable reserves in or near indigenous land	2023 Sustainability Report – Performance Data; 2022 Sustainability Report – Our Communities (p.47)	
	EM-MM-210a.3 Discussion of engagement processes and due diligence practices with respect to human rights, indigenous rights, and operation in areas of conflict	2023 Sustainability Report – Performance Data; 2022 Sustainability Report – Our Communities (p.47)	
GRI G4: Mining & Metals Sector Supplement	MM8 Number (and percentage) of company operating sites where artisanal and small-scale mining takes place on, or adjacent to, the site; the associated risks and the actions taken to manage and mitigate these risks	2023 Sustainability Report – Performance Data	
	MM9 Sites where resettlements took place, the number of households resettled in each, and how their livelihoods were affected in the process	2023 Sustainability Report – Our Communities; 2023 Sustainability Report – Performance Data	
	MM10 Number and percentage of operations with closure plans	2023 Sustainability Report – Progressive Reclamation and Closure Plan; 2023 Sustainability Report – Performance Data	

GRI STANDARD/OTHER SOURCE	DISCLOSURE	LOCATION	OMISSION
MATERIAL TOPIC – LOCAL COMMUNITIES			
GRI 3: Material Topics	3-3 Management of material topics	2023 Sustainability Report – Our Communities	
GRI 413: Local Communities 2016	413-1 Operations with local community engagement, impact assessments, and development programs	2023 Sustainability Report – Our Communities	
	413-2 Operations with significant actual and potential negative impacts on local communities	2023 Sustainability Report - Performance Data	
SASB METALS & MINING VERSION 2023-12: Community Relations	EM-MM-210b.1 Discussion of process to manage risks and opportunities associated with community rights and interests	2023 Sustainability Report – Our Communities	
	EM-MM-210b.2 Number and duration of non-technical delays	2023 Sustainability Report - Performance Data	
NON-MATERIAL TOPICS (REPORTED FOR COMPLETENESS)			
GRI 414: Supplier Social Assessment 2016	414-1 New suppliers that were screened using social criteria	2023 Sustainability Report – Supply Chain Management; 2023 Sustainability Report - Performance Data	
	414-2 Negative social impacts in the supply chain and actions taken	2023 Sustainability Report - Performance Data	
GRI 415: Public Policy 2016	415-1 Political contributions	2023 Sustainability Report – Political and Other Contributions	
GRI 416: Customer Health and Safety 2016	416-1 Assessment of the health and safety impacts of product and service categories	2023 Sustainability Report - Performance Data	
	416-2 Incidents of non-compliance concerning the health and safety impacts of products and services	2023 Sustainability Report - Performance Data	
GRI 417: Marketing and Labeling 2016	417-1 Requirements for product and service information and labeling	2023 Sustainability Report - Performance Data	
	417-2 Incidents of non-compliance concerning product and service information and labeling	2023 Sustainability Report - Performance Data	
	417-3 Incidents of non-compliance concerning marketing communications	2023 Sustainability Report - Performance Data	

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