



2020 SUSTAINABILITY REPORT

SOCIALLY RESPONSIBLE MINING





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As a company that is privileged to operate a gold mine in Papua New Guinea (PNG), a country of cultural and ecological diversity, K92 Mining strives to meaningfully engage with and exceed expectations set by the different levels of government and the local community. We believe that operational excellence can be achieved through ethical conduct and meaningful sustainability activities that provide enduring opportunities for people in the areas where we operate, including job creation, capacity building, economic growth and infrastructure development.



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About this report

This is K92’s second annual Sustainability Report, which provides an overview of how we manage key aspects of environmental and social responsibility, along with 2020 and 2021 performance highlights and key metrics from the SASB Metals and Mining Standard. Sustainability data for our 2020 fiscal year (ended December 31, 2020) relates to all operations and activities, and can be found on pages 25 and 26. Unless noted otherwise, financial figures are in U.S. dollars.



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ABOUT K92

K92 Mining Inc. is engaged in the production of gold, copper and silver from the Kora and Judd deposits at the Kainantu Gold Mine in the Eastern Highlands Province of Papua New Guinea, as well as exploration and development of mineral deposits in the immediate vicinity of the mine. The company declared commercial production from Kainantu in February 2018 and is in a strong financial position.

The Stage 2 processing plant expansion was commissioned in late 3Q 2020, doubling annual throughput to 400,000 tonnes and increasing annual gold production to an average run-rate of 120,000 ounces per annum. The company is advancing towards a Kora Stage 3 expansion of the mine based on an updated Preliminary Economic Assessment on the property which was published in July 2020. Drilling and economic studies are underway to support a Definitive Feasibility Study of the Stage 3 expansion.

K92 is headquartered in Vancouver, BC, and trades on the Toronto Stock Exchange (TSX) as symbol KNT and on the OTCQX as symbol KNTNF.



2020/21 HIGHLIGHTS

85% INCREASE

in community investment

- First payment of corporate tax in July 2020, approximately two years after declaring commercial production
- Agreement in principle on a revised Memorandum of Agreement covering the operation
- Commissioned Stage 2 plant expansion to double processing throughput to 400,000 tonnes per annum in late 3Q 2021

TOP 3% SAFETY RECORD

within the mining sector in the Australasia region

- Record annual gold equivalent production – 98,872 ounces
- Increased Kora measured and indicated resources by +180% to 1.1 moz gold equivalent (AuEq) and inferred resources by +50% to 3.7 moz AuEq in April 2020
- Completed Stage 3 Kora expansion Preliminary Economic Assessment in July 2020, outlining Tier 1, +318 koz AuEq run-rate production

CREATION OF \$433,500

COVID-19 Assistance Fund in April 2020

- Graduated to the Toronto Stock Exchange from the Venture Exchange in December 2020 and was added to the S&P/TSX Composite Index in September 2021
- Significant high-grade discovery at the Judd Vein system, with production to commence in Q4 2021 and with the potential for a new major mining front

Awards

OTCQX Best 50 Company

Thayer Lindsley Award for Best Global Discovery from PDAC



LEADERSHIP MESSAGE

This is not the first letter from a CEO reflecting on the extraordinary challenges a business experienced as a result of COVID-19; however, as I think about what our team achieved, from continuity of community projects, to maintaining our environmental commitments, to increasing production through operational expansion, I can't help but feel a sense of pride, accomplishment and gratitude towards an incredible operating team.

Just as the impacts of COVID-19 demanded that we adapt our operations, over the years we have seen sustainability shape how we do business and can now see production starting to benefit local and national economies. When our work is finished, we want to ensure that what we leave behind has had a positive impact on the people in the communities where we operate, the environment, and the country more broadly.

To keep our employees and neighbouring communities safe during the pandemic, we continued supporting medical clinics, including the Bilimoia community clinic, with additional upgrades like a hot water system and a powerful solar power system. Significant support for the PNG government's response to the COVID-19 crisis continued as well, which saw the Eastern Highlands and Morobe governments each receive \$144,500 from our \$433,500 COVID-19 Assistance Fund created in April 2020.

Despite delays as a result of the global pandemic, we have continued to upskill our people, 95% of whom PNG nationals, the majority of whom are from local communities. We continued to expand our relationships with local universities, working with them on projects for our operation, providing financial support and practical work experience for students. Initiatives such as our joint ventures and our Sustainable Agricultural Livelihoods program, described in this report, aim to provide skills, resources and economic benefits to local people long after the mine is closed.

Although K92 has the smallest footprint of any mining operation in PNG, we still look for solutions to reduce it further with projects like our plans to commence underground paste fill with the Stage 3 expansion in order to mitigate tailings at the surface. We also invest in water projects to help our host communities

gain access to clean water within their villages instead of kilometres away. The building and repairing of roads and bridges is another way we support critical infrastructure that benefits the entire community: in 2020, large trucks were seen going further into one area for the first time since most people could remember.

We are not completely there yet, but our vision of what it means to be a sustainable mining company while achieving our expansion goals is quickly coming into focus. I firmly believe we'll never be "done" when it comes to sustainability because this is not a box-ticking exercise – rather, it is like the business itself: essential to continue developing and evolving while always looking at ways to improve, build and grow.



Thank you for taking the time to read our 2020 Sustainability Report.

Sincerely,

A handwritten signature in dark ink, appearing to be 'John Lewins', written in a cursive style.

John Lewins
CEO and Director



OUR APPROACH

STRONG GOVERNANCE, MEANINGFUL PRIORITIES

At K92, we believe that sustainability cannot be separated from operations, and that the two work in tandem to deliver shared value. By meeting and in some cases exceeding our business, environment and social responsibility obligations to our host country, we also hope to raise the bar in terms of setting standards.



8 DECENT WORK AND ECONOMIC GROWTH



9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

GOVERNANCE

At the highest level, K92’s Board of Directors is accountable for the company’s sustainability approach and performance. The Board’s Health and Safety Committee has specific responsibility for overseeing health, safety and environmental matters. The Committee is composed of K92’s CEO, who is the Committee Chair, the SVP of Operations, and a director. The senior mining staff, composed of the General Manager of Kainantu Gold Mine and the General Manager of External Affairs and Sustainable Development, report to the Committee. The Chair of the Committee reports to the Board of Directors.

Our Code of Business Conduct and Ethics (the Code) sets out our expectations for conducting business to the highest standards of openness, honesty and accountability. The Code applies to everyone working on behalf of our company, including contractors.

We also have a Whistleblower Policy for anonymously reporting any potential cases of financial irregularity, fraud or misconduct.

In addition to upholding the Code, we align our policies, practices and contracts with recognized frameworks and initiatives that promote ethical behaviour and respect for human rights:

- We have zero tolerance for bribery and corruption and comply with the *Canadian Extractive Sector Transparency Measures Act* (ESTMA), which aims to deter corruption in the global extractive sector by requiring companies to report any payments given to government bodies. K92’s [2020 report](#), filed in May 2021, is published on the ESTMA website.

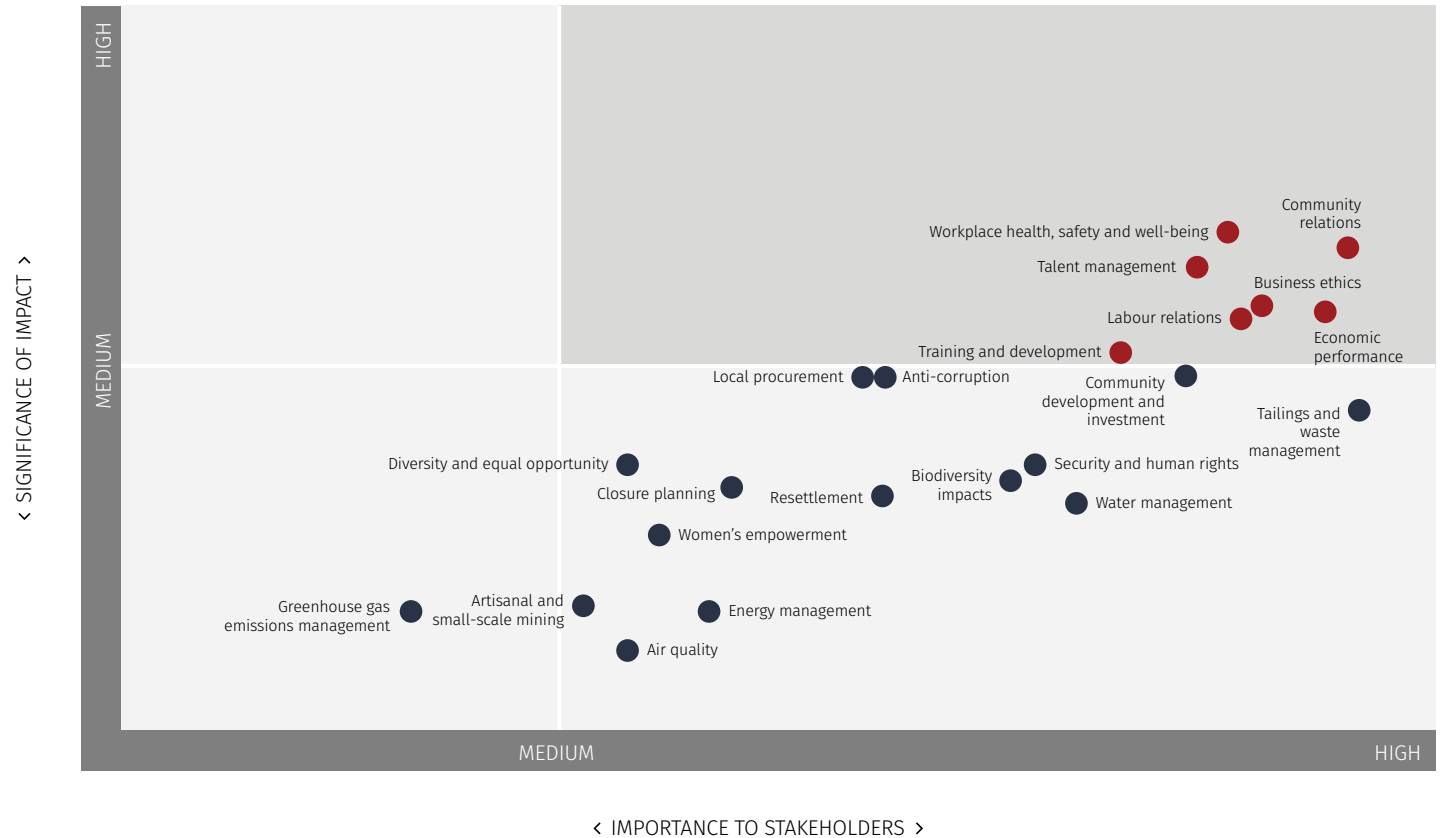


K92 CEO and Director John Lewins presents a cheque to Honorable Minister for Mines Johnson Tuke for the new Kainantu market.

- In the interest of transparency, the MOA between K92 and PNG governments and landowners requires that all payments received from our operations be reported in compliance with the standards and best practices of the Extractive Industries Transparency Initiative.
- Our approach to security is based on the Voluntary Principles on Security and Human Rights (the VPs), which provide a framework for maintaining safe and secure operations while respecting human rights. K92’s contracts with private security providers align with the VPs, and our site security team conducts regular briefings and discussions with security providers and local police to ensure they are aware of the VPs and how to apply them in daily security practice.

Our priorities

In early 2021, K92 completed its first materiality assessment to identify, prioritize and validate the topics that matter most to our business and stakeholders. This exercise guides our short- and long-term environmental, social and governance (ESG) strategy.



Facilitated by a qualified third-party organization, the materiality assessment process included three steps:

- 1. Identification:** A spectrum of issues was identified through desktop research of peer practices, ESG rating agencies and ESG frameworks, and further refined through internal interviews with K92 management.
- 2. Prioritization:** Issues were prioritized through surveys developed to gather internal and external stakeholder insights relating to K92’s properties, performance and impact, and interviews with select survey participants to gain further context in areas where K92 can improve its approach and outcomes.
- 3. Validation:** The final list of material topics was validated by the K92 executive/leadership team during a working session with subject matter experts and executives, and a road map was drafted to identify immediate and mid-term steps to strengthen ESG governance, measurement, management and performance.

Alignment with SDGs

Aligning our priorities and efforts with a globally recognized framework like the [UN Sustainable Development Goals](#) (SDGs) helps us to establish commitments and operate in a manner that benefits all stakeholders, including our communities, governments and investors.

The SDGs also help us set ambitious goals that can guide our ESG strategy in a way that is meaningful for our people, enabling them to envision their role in driving positive change.

We believe our greatest contribution towards the SDGs is achieved through K92 community projects and activities that not only improve quality of life in those communities but also lead to residents acquiring valuable skills for long-term resiliency.



Engaging with key stakeholders

We believe engagement with a variety of internal and external audiences must be ongoing, timely and transparent. Our stakeholders include the government on a national and local level, landowners, and members of local communities near the mine site. Our engagement efforts take many forms, including in-person conversations with community members, email, social media and regular community newsletters.

We take care to approach communication in ways that are culturally appropriate, from issues that arise in our operations, to those that relate to complex clan dynamics in the community, ultimately maintaining the health and safety of all and our social licence to operate.

The following are a few examples of our stakeholder engagement activities in 2020:

MOA meeting and review

We continue to work towards completing the outstanding review of the existing Memorandum of Agreement (MOA), which underpins the relationship between K92, the community and the government and outlines commitments from the various parties. The finalizing of the agreement has experienced multiple delays outside of the control of K92 or the Bilimoia Interim Landowners Association (BILA) and attributed to the COVID-19 pandemic. In July 2020, we had a formal MOA meeting involving the Bilimoia, Watarais, Pomasi and Unantu landowners, the state and the provincial government. Attending the meeting were

representatives from the 10 clans within Mining Lease 150, as well as the remaining 38 clans from the Leases for Mining Purposes (LMPs), the PNG Mining Minister, the Managing Director of the Mineral Resources Authority of PNG, and the Governor of the Eastern Highlands Province. In principle, the parties agreed on a revised MOA on July 17, 2020, subject to final review. K92 expects that the PNG government will be in a position to have the MOA signed by all stakeholders by the end of 2021.

Trusted channels

In 2020, K92 continued to publish a news magazine every two months which covers the company's activities

and initiatives in the community and with government. The magazine also provides health information and practical sustainable development education and instruction.

A new community hub

To complement the work of the community affairs team, K92 opened a community affairs office in Kainantu in 2020. This is the first such office of any mining company in Kainantu for some years, and it aims to cultivate relationships, build trust and provide communities the support of people who speak the local language and understand the culture. It is K92's base for literacy training, other community programs and the K92 radio station that will launch in 2021, which will provide another source for local news and information.

Exploration access

At the start of any major drill program in one of our licence areas, we encourage landowners to establish their own companies to service K92's exploration activities. Jobs are provided in a number of areas including transport, food supply, pad and camp construction and care, surface exploration sampling, and drill offsideers.

Industry involvement

Our CEO, John Lewins, sits on the Council of the PNG Chamber of Mines and Petroleum, an active industry organization whose mission is to promote the mineral and petroleum exploration potential of PNG, and the development of a world-class sustainable resources industry that provides benefit streams to improve the welfare of all Papua New Guineans. The mineral and petroleum industry is a major contributor to the economy of Papua New Guinea, representing 84% of exports and 26% of GDP.

COVID-19

Our Vice President of Government and Community Affairs is one of two industry representatives who worked out of the PNG COVID-19 Controller's headquarters in Port Moresby in 2020 and 2021. The role was established to advise the Controller on the circumstances and needs specific to the mining industry that were affected by the pandemic and to keep the industry informed and updated of the Controller's directives.



OUR PEOPLE

A VALUED WORKFORCE

Our employees demonstrate their commitment to the success of the business every day through their dedication and efforts, and it is our responsibility to provide the safest and best possible work environment for them. As we build a community of skilled workers that can grow with us, we aim to continuously develop opportunities to support our people and their families so that they can share in economic benefits and reach their full personal potential.



COVID-19

In recognition of our responsibility towards health and safety outside of the walls of the mine, K92 continued its support of the PNG government's response to the COVID-19 crisis.

We funded the national government and the Eastern Highlands and Morobe governments with contributions that amounted to \$144,500 each to support efforts in response to the pandemic, for a total of \$433,500.

At our operations, we implemented hygiene and distancing practices early, in late January 2020, and soon after required all workers to quarantine upon arrival at the site or at designated sites near Lae, testing people prior to releasing them from quarantine, and creating longer rosters to address the need for workers to quarantine. Isolation and contact tracing systems were already in place for diseases like typhoid, dengue fever and malaria, providing valuable insights about managing COVID-19.

The Kainantu Gold Mine camp health clinic, run by PNG doctors, nurses and health extension officers, includes a laboratory that has been critical for COVID-19 testing and is being expanded to enable additional stand-alone testing on site. While intended for K92 employees, the clinic often provides emergency support to people living very close to the mine.

K92 has introduced a vaccination program for all site personnel, which is administered by the company. In addition, K92 is working with the Eastern Highlands Provincial Health Authority to roll out a vaccination program for our broader community. Although getting vaccinated is not mandatory, we continue to educate our workforce on the importance of COVID-19 vaccinations and expect that everyone, including our contractors, will be vaccinated by late 2021.



There were many challenges caused by COVID-19 that K92 worked through and continues to navigate. Not only were there mobility restrictions for international flights coming into PNG, but at a local level as well. The mining camp became a “bubble,” with local workers remaining there instead of walking or driving out at the end of the day. Casual workers were not admitted, and though this affected some projects, there was a “camp community” spirit and increased

skill-building, with the pandemic safety measures ultimately facilitating a “zero COVID-19” environment at the mine site.

Furthermore, our systems were audited by the Australian Department of Foreign Affairs and Trade, for use by border patrol, police and other officials, as COVID-19 response best practices.

HEALTH, SAFETY AND SECURITY

The health, safety and security of our employees is vital to our operations and success as a business, and its importance is ingrained in our culture. Our Health, Safety and Environment Policy emphasizes our commitment to going above and beyond statutory requirements and industry standards to protect people and nature. As a result, our safety record is one of the best among mining companies and is within the top 3% in the Australasia region.

Health and safety

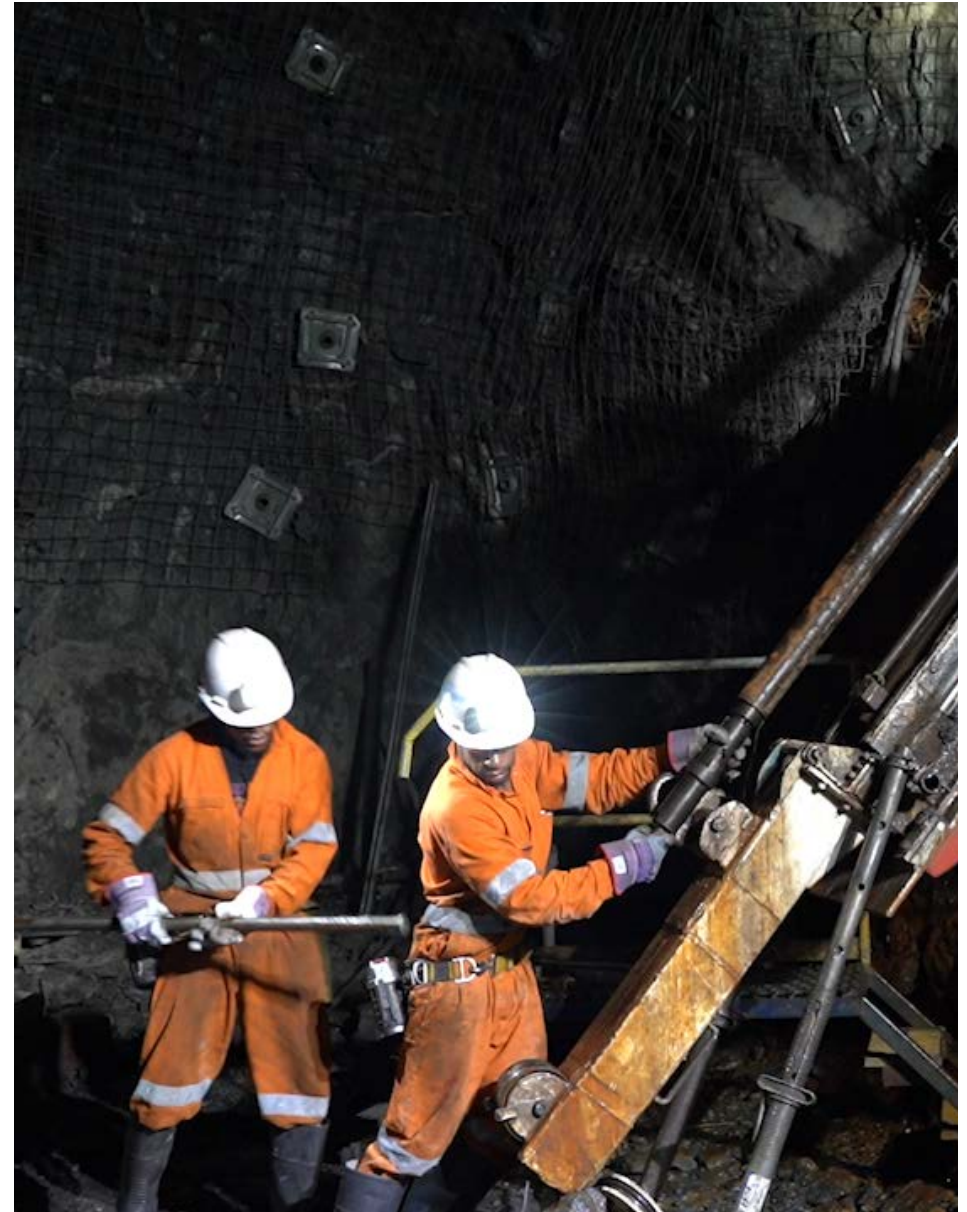
Our health and safety management system and procedures are based on ISO 45001 and OHSAS 18001 standards. Safety training is ongoing and includes pre-start and toolbox talks, stop-work meetings if necessary, safety alerts via notice boards and emails, contractor meetings, and activities initiated by the joint Occupational Health and Safety (OHS) Committee.

Joint OHS Committee

Our joint OHS Committee, composed of safety representatives from each department, meets monthly to discuss current issues and training needs. The committee also spearheads education campaigns, offering health and safety tips that apply not only to the workplace, but to workers' homes and communities as well.

We engage in three different levels of risk assessment: brief individual risk assessments before embarking on a task; job safety and environmental analyses, which document the risks associated with specific activities and the measures to be put in place to control them; and formal risk assessments involving representatives from multiple departments for higher-level risks.

To further protect workers' health, we operate a modern underground mobile equipment fleet fitted with advanced scrubbing systems, which improve air quality by removing particulate matter.



Through our health team, we set up health clinics in the community and provide the training needed to operate them. We also invest in educating employees about hygiene as well as prevention measures for typhoid and malaria to mitigate the rate of infection that occurs on site and when employees return home. We recognize the need to continue to make investments in community health, women’s health and domestic violence reduction initiatives in PNG.

In 2019, we recorded our first lost-time incident (LTI) in three years, when a worker fractured his wrist. In 2020, we also recorded one LTI. Any LTI triggers an in-depth investigation to determine the root cause and add checks and controls if needed. Lessons learned are incorporated into safety training.

To maintain our safety record in the region and to become industry leaders, we plan to continue assessing peers and roll out best practices across current and future K92 sites.

We also aim to improve health and safety governance from an organizational perspective through the following steps, which will formalize Health and Safety Committee meetings:

- Meeting regularly and including company directors in meetings
- Documenting meetings and posting them publicly to help establish a disciplined process and transparency for external stakeholders
- Regular reporting to the Board about on-site health and safety meetings

Security

Maintaining the personal safety of our people is a priority at all times. We experienced some community unrest outside the mine in early 2020. Although this was a local dispute unrelated to our operations, because of the proximity to the mine camp, precautions were taken based on well-established protocols. The situation was then resolved expeditiously, and we returned to the camp with heightened security in place.



Artisanal and small-scale mining is closely monitored and often detected around exploration sites in areas of higher importance. Before it develops into a larger issue, posing safety risks like injuries or death as a result of land collapsing, we conduct ongoing training to raise awareness about the safety implications of illegal mining to keep our people, as well as those in the community, safe.

Working with local-level government and authorities, and taking a holistic approach with the community, is an immediate priority in helping to address emerging conflicts and build trust so that peace and order can be maintained in the area surrounding the mine site.

TALENT MANAGEMENT

As K92 expands into a world-class producer, we aim to grow our talented workforce by training and developing our people. This will allow for succession into critical roles, the creation of a sustainable end-to-end talent pipeline and long-term economic benefit for local people and Papua New Guinea.

We are proud that almost all K92 employees are PNG nationals, with the majority coming from local communities. In 2020, out of 840 employees and 242 contractors, 94% of employees and 96% of contractors were PNG nationals.

For many local landowners, working at K92 is their first formal job outside of the home. Not only does K92 benefit from their service, so too does PNG, because the skills people acquire in our operations are transferrable to other jobs that help drive the country's economic development.

Under the MOA, K92 is committed to maximizing employment opportunities for PNG nationals, with a major focus being on opportunities for our host communities, followed by residents of Eastern Highlands Province.

For specialized skills, we typically recruit from Kainantu Town, which is the local government centre, from the wider Eastern Highlands Province and

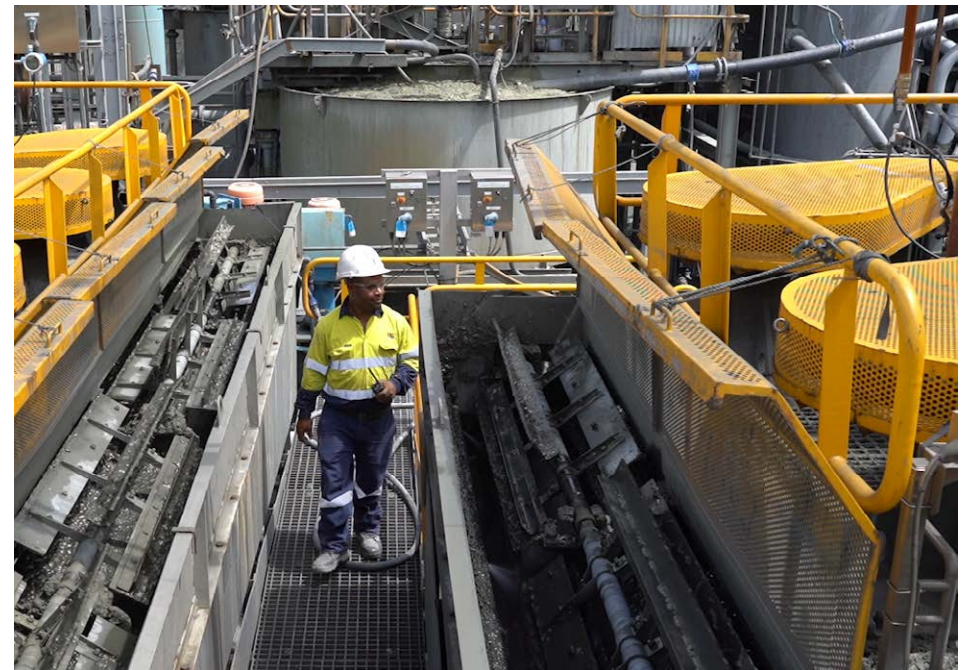
from across PNG. Expatriates, who make up about 5% of our workforce, are mainly in senior management and highly specialized and training roles. While PNG nationals already occupy several senior management positions, our goal is to increase their presence at this level over time, as we support more and more locals in developing the necessary management and technical skills.

Universities are an important part of the recruitment strategy, with 75% of graduates from mineral processing, mining and geology programs in PNG completing their mandatory mining experience at K92 in 2020. K92 is a sponsor of the PNG University of Technology in Lae and the University of Papua New Guinea in Port Moresby. People in this group are potential employees in roles that include engineers and geologists, as well as being future leaders of the country; cultivating this talent pool is to everyone's benefit.

To provide our people with a greater sense of involvement in the company's success, senior PNG employees have been provided equity exposure to the business and its success through stock options or other types of equity grants. Soon this will be expanded to all PNG employees. Additionally, benefits including a safety net in the form of disability and life insurance are in the planning stages.

Skills training and development

Developing skills is essential from a business perspective; however, K92 also recognizes its responsibility to support the development of the people of PNG and provide the opportunities for shared value. As we expand, we will become one of the biggest employers in the country, and our communities rightfully expect an increase in benefits from this growth. This requires longer-term strategies such as looking at opportunities to help youth finish high school,



developing a path for mature locals, establishing scholarships for education programs that would address specific roles in the mine, and providing more formalized mentorship and management training opportunities.

As we move forward in recruiting and developing local talent, we also want to be mindful that we are doing more than training people technically, and that we need to conduct our efforts in ways that respect the different cultural aspects of the people of PNG, and include skill building for life outside of work as well.

The talent of PNG

The effects of COVID-19 were extensive. At every turn it was necessary for us as a team to come together, problem solve, and many times adapt to the resources at hand because of travel restrictions, quarantines and supply chain disruption.

Many of our people upskilled and cross-skilled by necessity in 2020; this was of great value to the company, and it was a time of growth for many of our workers. The COVID-19 pandemic certainly created challenges in terms of accessing international expertise; however, this challenge represented an opportunity for K92 to accelerate its development of skills and expertise domestically while also gaining support remotely. Many of these initiatives are expected to benefit the company in the near and long term.





SOCIAL RESPONSIBILITY

SUPPORTING COMMUNITY

Building resilience and self-sufficiency is the foundation of our social responsibility commitment. By investing in community programs that go well beyond financial contributions, we aim to improve the quality of life of landowners, their families and the generations that follow.



COMMUNITIES

A significant aspect of being sustainable for K92 is engaging with the community and providing financial support for infrastructure and education, but we also provide training and operating frameworks to help community members set up businesses that run independently of the mine.

In 2020, our investment in local communities increased by 85%, from \$654,643 to \$1,187,409, contributing to the development of a healthy ecosystem, enabling sustainable revenue-generating capabilities for our host communities and local resources for the mine.

Community relations

Meaningful investment in local communities would not be possible without a true understanding of their needs and how they function. In an area where there are complex tribal and clan relations, understanding the communities and their structures is critical. It is very important that the mine is transparent and inclusive to avoid misunderstandings or feelings of exploitation that could strain relations.

Our 30-person community affairs and sustainable development team, which includes our Vice President of Government and Community Affairs, continues to bring to life our commitments to host communities, going above and beyond the requirements of our MOA. Composed of experienced community relations practitioners, the team also includes eight village-based liaison officers who help us understand the pulse of the community, and five women in specialist roles focused on empowering women, promoting agricultural production, teaching English and running the Bilimoia health clinic.



Sustainable Livelihoods Project

In 2020, we continued to roll out a Sustainable Livelihoods survey to document and model the various forms of capital and assets that communities already have, and identify those that are underutilized or those of which they may not even be aware. This work creates a complete picture of the natural system in which people live and the social and economic systems they have created for themselves, allowing us to help build on the strengths of communities and address gaps

through carefully designed programs and projects. The work also enables us to monitor the progress of existing projects more closely.

Many women are now also being incorporated into K92's Sustainable Agricultural Livelihoods program as farmers, planting and harvesting new crops and learning the science behind agriculture. Please see the "Growing food, developing businesses and empowering women" section on page 20 for more information on this program.

Education

Education is among our top priorities, and our efforts range from teaching basic business skills and improving women’s literacy levels on a local level, to building and refurbishing schools, assisting with fees for primary education and funding post-secondary education scholarships. This continued investment in education drives long-term economic development for PNG as well as opportunities to foster and train potential talent for our operations.

K92 provided tertiary (post-secondary) scholarships, covering half of the fees, to 50 qualifying students from host communities in 2020. Our contribution of \$59,377 to 24 institutions in scholarships is not limited to mining-related programs, and supports overall development in PNG. We also assisted parents in these communities by paying part of their children’s primary school enrolment fees, a total of \$36,756 in 2020.

In addition, K92’s long-term relationship continued with the Department of Mining Engineering at

the University of Technology in Lae, which includes providing financial assistance (2020 grant of \$14,250), working on technical projects to improve mine efficiency and offering work experience to students and recent graduates.

In recognition of the importance of the education component in our sustainability goals and for the country, we aim to expand our efforts through a longer-term strategic plan for our impacted communities and the wider area, which would include engaging with provincial governments; continuing funding for school fees, scholarships and resources such as books; and establishing baseline data so that we can identify the effectiveness of our programs and where more focused efforts are required. Within 10 years, K92 wants to ensure all children in our communities have opportunities to finish primary education, giving kids the best possible start.

Local procurement

Since the beginning of K92 Mining’s tenure at the Kainantu Mine, 63% of its total expenditure has been with PNG suppliers of goods and services. This reflects our commitment to

the development of sustainable long-term businesses owned by local landowners, and we are very proud to have been part of the development of multiple local landowner businesses to supply and support the Kainantu Gold Mine.

We prioritize local suppliers and facilitate the creation of local landowner businesses to support the mine through joint ventures (JVs). JVs with the local communities currently include services such as transportation, security, camp services, catering, maintenance, mobile equipment and exploration support. They are designed to operate for the long term, set up so that the local landowners eventually own the equipment and gain experience from established supplier partners as a way of positioning them for future growth, including ventures beyond the mine. While we would like to see more of our local communities involved in providing us with goods and services, adequate business understanding and skills are still required to ensure long-term success.



MOA details: community elements

We have met our requirements for the Government of Papua New Guinea’s sign-off of the Kainantu Mine’s MOA negotiated in 2020 and await the government’s signature.

Community features of the renewed Kainantu Mine MOA, agreed in principle, include the following:

- Five percent total interest in the mine to be acquired by local landowners and the Eastern Highlands government
- New community project grants program, with a joint committee representing K92, local communities and the local government to decide on grants in response to project proposals from the communities
- Training for landowners who want to do business with K92, and anybody else who wishes to further their education, in areas such as literacy, numeracy and a range of business topics including bookkeeping, proposal writing and government and legal compliance
- Supply and procurement plan with guidelines for choosing prospective suppliers and preference given to local communities

Growing food, developing businesses and empowering women

As part of the Sustainable Agriculture Livelihoods program, expanding on local knowledge of gardening that includes soil science and new crop introductions for the Pomasi people, and then in the Markham Valley, continued in 2020. Women make up approximately 75% of the farmers and are actively earning income from the produce.

With guidance from K92’s development officer, Joy Jack, and seedlings from our nursery sheds, the Dabua people of the Markham Valley in the Morobe Province’s lowlands planted and subsequently harvested carrots, bulb onions and round cabbage for the first time, crops previously considered possible to grow only in the cooler highlands. After seeing this success, the people of Pomasi and Bilimoia in the lower Highlands have shown interest in joining the program.

Beyond initiatives to facilitate personal food production, business skills like bookkeeping are provided to prepare participants for JVs. The program has already started to supply food for the K92 mess hall, and it is

our aim to see these farmers not only supply to K92 but also sell produce to markets like the new market that received development funding during a public ceremony in early 2021. K92’s CEO presented \$285,000 for the market to Kainantu’s Member of Parliament, Hon. Johnson Tuke (also PNG’s Mining Minister).





ENVIRONMENTAL STEWARDSHIP

TRACKING OUR FOOTPRINT

We believe that it is possible to maintain the balance between human progress and the natural environment. Situated next to the Markham Valley, our underground site and the systems we continue to develop have an environmental footprint that is the smallest of the mining companies in Papua New Guinea. As we expand operations, we strive to reduce our footprint even further.



3 GOOD HEALTH AND WELL-BEING



6 CLEAN WATER AND SANITATION

OUR APPROACH

We see environmental stewardship as a fundamental responsibility of a mining company. We manage our impacts to ensure that our activities and the natural environment can co-exist for the collective benefit of all – both for today and for future generations.

Key features of our approach include the following:

- Our environmental management system is based on the ISO 14001 standard.
- We provide continuous support of exploration activities by doing regular site inspections, and this expanded in 2020 to cover potable water testing for all exploration sites.
- Bi-monthly and annual environmental performance reports were submitted to the PNG Conservation Environment Protection Authority (CEPA).
- The environmental footprint of the underground mine and the processing plant expansion is designed to be as small as possible.

Waste management

K92 is one of only two mining companies currently using a Tailings Storage Facility (TSF) pond to dispose of the waste generated by mining operations in PNG and is exceeding expectations in this area. To protect the 20,000 people living in the area, as well as the river and sea water, no cyanide is used on site and our TSF is situated downstream from the process plant, with an emphasis on recycling water.

All the waste rock from mining is backfilled underground or repurposed for the TSF expansion project. The current TSF has an ultimate capacity of approximately 4 million tonnes, and the total amount deposited by December 2020 was 754,000 tonnes.

The tailings and treated wastewater discharge monitoring were consistent throughout the year, and the water discharged was within permissible range, meeting or exceeding requirements outlined in the K92 Mine

Environment Permits. The annual discharge was 280,278 m³/year (3.8%), and the annual discharge for treated wastewater was 7,153,920 m³/year.

The following are additional waste management highlights from 2020:

- Plans to install a sewage treatment plant are underway.
- We established communication with PNG regulatory body CEPA on the TSF expansion project.

- Waste oil recycling progressed throughout the year with 65,800 litres of waste oil recycled off site.
- Domestic wastes were segregated and managed on site by a local contractor.
- Scrap metal recycling will be reviewed in 2021.



Water stewardship

Water is essential for our operations, our host communities and the environment. Although PNG has the third highest rainfall in the world, there are challenges in capturing the necessary amounts of uncontaminated water for drinking, washing and other domestic purposes.

For our operations, the site draws water from two bore sources. The quantities of water withdrawn are typically measured by flowmeters.

Water quality monitoring continued consistently throughout the year. As a way of improving our practices, several sites apart from those identified in the permits were included, with additional monitoring parameters to cater and capture changes to meet the requirements of the expansions.

Despite the challenges presented by the pandemic, water samples were taken every month as normal, except for the month of May 2020.

Providing impacted communities with fresh water is a key priority. Previously installed water supply lines have either been removed or have required upgrades or extensions to meet the current needs of our host communities, which have been subject to the arduous and time-consuming task of drawing water from nearby creeks and bringing it back to their homes.

Our ongoing work in this area includes conducting needs surveys, improving existing water lines and installing new water supply systems. Two notable community water projects were completed in 2020, for a total investment of \$39,914:

In consultation with the Bilimoias (Bilimoia 1), our consultant engineer identified a water source at an elevation that would be sufficient for a gravity feed supply from a source more than a kilometre away from the village. The project was delayed in the region in 2020 and is starting up again in 2021.



Also in 2020, after generations of loading and carting water almost two kilometres away – and with guidance and encouragement from the K92 community engineer – the people of the Pomasi Village (Pomasi 1) came together to form the Water Users Committee, which coordinated the workers and the daily tasks required

to keep the project going. Clean water began to flow for the first time, and now the group will also manage the future upkeep of the water supply.

Biodiversity

PNG is a unique country with significant species, landscape and ecosystem diversity. Rainforests amount to 80% of the forested area, ranking the third largest after the Amazon and the Congo Basin. It is incumbent upon any company operating in the country to mitigate disturbances caused by business activity and leave the area pristine.

Our modest impact is due to the location where we operate next to a valley, instead of on the coastline where there is an increased risk to aquatic life, as well as the decision to operate an underground mine, which has fewer social and environmental impacts. Additionally, because we typically clear small areas at a time and use hand-held instead of heavy, earth-moving equipment, our exploration footprint is small. We also ensure that revegetation of disturbed sites is ongoing, and these activities as well as efforts to mitigate artisanal mining that can cause serious land impacts, have progressed well throughout the year.

Our mine nursery continues to grow tree seedlings, which we use to rehabilitate land, and also shares them with our communities to support their environmental programs. Although tree-planting activities in 2020 were delayed due to limitations of COVID-19, despite restrictions, we donated 200 tree seedlings to two local primary schools as part of our annual commitment of approximately \$5,700 towards tree planting. This is a contribution to the country's decade-long 10 million tree program where one million new trees are planted each year in PNG to mitigate climate change, protect the environment and improve the livelihoods of local communities.

Energy and greenhouse gas emissions

Currently, the energy consumed at our operations is primarily in the form of fuels such as diesel, petrol, liquefied petroleum gas (LPG) and hydroelectricity.

K92 is committed to using clean, hydroelectric power from the grid and supporting the modernization of grid infrastructure through collaboration with the government in order to reach households that currently do not have access.

We are increasingly exploring the use of solar power as a clean, reliable and renewable energy source. Two clinics in our community use solar power. In 2020, after significantly rehabilitating the Bilimoia community clinic, we installed a hot water system and a powerful solar power system to ensure a 24-hour power supply. A solar power system was also provided for the Punano Clinic to provide nurses with a reliable light source as they deliver babies.

A GHG inventory is in progress that will help us establish a baseline for subsequent monitoring of emissions – which will be important for reporting, particularly as we expand operations – and it will be completed by the end of 2021.



SUSTAINABILITY PERFORMANCE

Key performance indicators

TOPIC/METRIC	UNIT OF MEASURE	2020	2019
Financial/Operations			
Financial and Operational Performance			
Revenue	\$ millions	159.1	101.7
Net income	\$ millions	42.0	32.5
Production of finished metal	AuEq ounces (thousands)	98,872	82,256
Employees and Suppliers			
Total Headcount			
Total number of employees and contractors	Number	840 employees 242 contractors	676 employees 188 contractors
Employees and contractors as a percentage of the workforce	Percentage	76.6% employees 23.4% contractors	78.2% employees 21.8% contractors
Diversity and Inclusion			
PNG employees by nationality	Percentage	95% PNG 5% international	96% PNG 4% international
Health and Safety			
Fatality rate	Rate	0	0
Near miss frequency rate (NMFR)	Rate	8.1	3.4
Lost-time injuries (LTI)	Number	1	1

TOPIC/METRIC	UNIT OF MEASURE	2020	2019
Communities			
Community investment expenditure	\$	1,187,409	665,000
Expenditures to community joint ventures with businesses that are nationally owned	\$	9,867,979	6,600,000
Environment			
Greenhouse gas emissions	Metric tons of carbon dioxide equivalent (MtCO ₂ e)	Not available	Not available
Total energy consumption	Gigajoules (GJ)	79,311	Not available
Total electricity consumption	Megawatt-hours (MWh)	Grid – 14,112 Diesel – 7,919 Total – 22,031	Grid – 12,209 Diesel – 2,662 Total – 14,871
Percentage grid electricity	Percentage	64%	82%
Percentage renewable energy	Percentage	64%	82%
Total freshwater withdrawal	Cubic metres (m ³)	106,642	63,727

SASB CONTENT INDEX 2020

This Sustainability Accounting Standards Board (SASB) content index aims to provide a consolidated overview of K92 Mining's reporting against the SASB Metals & Mining standard (version 2018-10).

TOPIC	ACCOUNTING/ACTIVITY METRIC	CATEGORY	UNIT OF MEASURE	CODE	DISCLOSURE RESPONSE
Greenhouse Gas Emissions	Gross global Scope 1 emissions, percentage covered under emissions-limiting regulations	Quantitative	Metric tons (t) CO ₂ e, Percentage (%)	EM-MM-110a.1	We are currently in the process of establishing an organization-wide greenhouse gas (GHG) emissions Scope 1 and Scope 2 inventory for a baseline year of 2020. We aim to report our emissions, including the percentage covered under emissions-limiting regulations, in our next reporting cycle. We plan to focus on building our monitoring and management systems based on the results of the inventory development. 2020 Sustainability Report > Environmental Stewardship > Energy and Greenhouse Gas Emissions, page 24
	Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	Discussion and Analysis	n/a	EM-MM-110a.2	
Air Quality	Air emissions of the following pollutants: (1) CO, (2) NO _x (excluding N ₂ O), (3) SO _x , (4) particulate matter (PM ₁₀), (5) mercury (Hg), (6) lead (Pb), and (7) volatile organic compounds (VOCs)	Quantitative	Metric tons (t)	EM-MM-120a.1	We do not currently track the total quantity of air emissions emitted but do monitor the concentration of key pollutants in the air, including that of carbon monoxide as per regulatory requirements.

TOPIC	ACCOUNTING/ACTIVITY METRIC	CATEGORY	UNIT OF MEASURE	CODE	DISCLOSURE RESPONSE							
Energy Management	(1) Total energy consumed, (2) percentage grid electricity, (3) percentage renewable	Quantitative	Gigajoules (GJ), Percentage (%)	EM-MM-130a.1	(1) Total energy consumed – 79,311 GJ (2) and (3) Percentage grid electricity and percentage renewable energy							
					<table border="1"> <thead> <tr> <th>Energy Type</th> <th>Percentage Electricity</th> <th>Gigajoules (GJ)</th> </tr> </thead> <tbody> <tr> <td>Purchased electricity</td> <td>64%</td> <td>50,803</td> </tr> <tr> <td>On-site generated electricity</td> <td>36%</td> <td>28,508</td> </tr> <tr> <td>Total electricity</td> <td>100%</td> <td>79,311</td> </tr> </tbody> </table> <p>Percentage renewable energy – 64%</p> <p>Our energy consumption and percentage renewable energy figures include electricity generated on site via diesel generators and purchased through local utilities. They do not currently include other forms of energy.</p> <p>We draw the majority of our electricity from Eastern Highlands Province Power, which generates hydro-electric power.</p> <p>2020 Sustainability Report > Environmental Stewardship > Energy and Greenhouse Gas Emissions, page 24</p>	Energy Type	Percentage Electricity	Gigajoules (GJ)	Purchased electricity	64%	50,803	On-site generated electricity
Energy Type	Percentage Electricity	Gigajoules (GJ)										
Purchased electricity	64%	50,803										
On-site generated electricity	36%	28,508										
Total electricity	100%	79,311										
Water Management	(1) Total fresh water withdrawn, (2) total fresh water consumed, percentage of each in regions with high or extremely high baseline water stress	Quantitative	Thousand cubic metres (m ³), Percentage (%)	EM-MM-140a.2	(1) Total fresh water withdrawn – 106,642 m ³ (2) All water that is consumed is freshwater. Once withdrawn, water consumption is not currently measured. We do not withdraw water in a region with high or extremely high baseline water stress.							
					<p>2020 Sustainability Report > Environmental Stewardship > Water Stewardship, page 23</p>							
	Number of incidents of non-compliance associated with water quality permits, standards and regulations	Quantitative	Number	EM-MM-150a.1	There were no incidents of non-compliance associated with water quality permits, standards and regulations in 2020.							

TOPIC	ACCOUNTING/ACTIVITY METRIC	CATEGORY	UNIT OF MEASURE	CODE	DISCLOSURE RESPONSE
Waste and Hazardous Materials Management	Total weight of tailings waste, percentage recycled	Quantitative	Metric tons (t), Percentage (%)	EM-MM-150a.1	(1) Total weight of tailings waste – 222,202 t (2) Percentage of tailings waste recycled – 0%
	Total weight of mineral processing waste, percentage recycled	Quantitative	Metric tons (t), Percentage (%)	EM-MM-150a.2	Percentage of mineral processing waste recycled – 0%
	Number of tailings impoundments, broken down by MSHA hazard potential	Quantitative	Number	EM-MM-150a.3	(1) and (2) Number of tailings impoundments and tailings impoundments broken down by MSHA hazard potential – We have one tailings impoundment. The impoundment is not currently classified by MSHA hazard potential.
Biodiversity Impacts	Description of environmental management policies and practices for active sites	Discussion and Analysis	n/a	EM-MM-160a.1	K92 has a Biodiversity Offset Program which was established in 2018–2019 and was maintained in 2020. Our program incorporates the following: <ul style="list-style-type: none"> • The planting of native species on disturbed sites within the K92 operating areas • Minimizing the clearing of areas as much as practical • Donating and distributing native species (flora) to communities – in 2020, we donated many flora species to communities including Goroka, Kainantu and directly affected villages around the mine site • Sponsoring selected local students from impacted areas <p>2020 Sustainability Report > Environmental Stewardship > Biodiversity, page 24</p>

TOPIC	ACCOUNTING/ACTIVITY METRIC	CATEGORY	UNIT OF MEASURE	CODE	DISCLOSURE RESPONSE
Biodiversity Impacts	Percentage of mine sites where acid rock drainage is: (1) predicted to occur, (2) actively mitigated, and (3) under treatment or remediation	Quantitative	Percentage (%)	EM-MM-160a.2	There was no acid mine drainage at Kainantu in 2020. 2020 Sustainability Report > Environmental Stewardship > Biodiversity, page 24
	Percentage of (1) proved and (2) probable reserves in or near sites with protected conservation status or endangered species habitat	Quantitative	Percentage (%)	EM-MM-160a.3	To the best of our knowledge, we do not operate in an area with protected conservation status or endangered species habitat.
Security, Human Rights and Rights of Indigenous Peoples	Percentage of (1) proved and (2) probable reserves in or near areas of conflict	Quantitative	Percentage (%)	EM-MM-210a.1	K92 does not operate in an area with proved and/or probable reserves in or near areas of conflict or Indigenous land.
	Percentage of (1) proved and (2) probable reserves in or near Indigenous land	Quantitative	Percentage (%)	EM-MM-210a.2	
	Discussion of engagement processes and due diligence practices with respect to human rights, Indigenous rights, and operation in areas of conflict	Discussion and Analysis	n/a	EM-MM-210a.3	2020 Sustainability Report > Our People > Security, page 14 2020 Sustainability Report > Social Responsibility > Communities, page 18
Community Relations	Discussion of process to manage risks and opportunities associated with community rights and interests	Discussion and Analysis	n/a	EM-MM-210b.1	2020 Sustainability Report > Social Responsibility > Community Relations, page 18
	Number and duration of non-technical delays	Quantitative	Number, Days	EM-MM-210b.2	K92 had one non-technical delay in 2020 related to a conflict within the local communities near the Kainantu mine site. This conflict was unrelated to K92's presence in the area but it did result in a partial disruption over a seven-day period.

TOPIC	ACCOUNTING/ACTIVITY METRIC	CATEGORY	UNIT OF MEASURE	CODE	DISCLOSURE RESPONSE												
Labour Relations	Percentage of active workforce covered under collective bargaining agreements, broken down by U.S. and foreign employees	Quantitative	Percentage (%)	EM-MM-310a.1	None of K92’s active workforce in 2020 was covered under a collective bargaining agreement.												
	Number and duration of strikes and lockouts	Quantitative	Number, Days	EM-MM-310a.2	There were no strikes or lockouts in 2020.												
Workforce Safety and Health	(1) MSHA all-incidence rate, (2) fatality rate, (3) near miss frequency rate and (4) average hours of health, safety, and emergency response training for (a) full-time employees and (b) contract employees	Quantitative	Rate	EM-MM-320a.1	<p>(1) MSHA all-incidence rate</p> <table border="0"> <tr> <td>Total incidents</td> <td>147</td> </tr> <tr> <td>Total hours worked</td> <td>2,834,866</td> </tr> <tr> <td>All-incidence rate</td> <td>51.85</td> </tr> </table> <p>(2) Fatality rate – 0</p> <p>(3) Near miss frequency rate (NMFR)</p> <table border="0"> <tr> <td>Total near misses</td> <td>23</td> </tr> <tr> <td>Total hours worked</td> <td>2,834,866</td> </tr> <tr> <td>Near miss frequency rate</td> <td>8.1</td> </tr> </table> <p>(4) Average hours of health, safety, and emergency response training</p> <p>Full-time and contract employees: Total training hours – 34,832 Average hours of training – 36.6</p> <p>Notes: Our frequency rates are calculated using the Papua New Guinea standard, which is to multiply the statistic count by one million before dividing by the total hours worked. The NMFR calculation methodology was revised to align with the Papua New Guinea standard for this metric of taking the number of near misses and multiplying it by one million (as opposed to 200,000, which was used for the 2019 calculation) before dividing by the total hours worked.</p>	Total incidents	147	Total hours worked	2,834,866	All-incidence rate	51.85	Total near misses	23	Total hours worked	2,834,866	Near miss frequency rate	8.1
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TOPIC	ACCOUNTING/ACTIVITY METRIC	CATEGORY	UNIT OF MEASURE	CODE	DISCLOSURE RESPONSE
Business Ethics and Transparency	Description of the management system for prevention of corruption and bribery throughout the value chain	Discussion and Analysis	n/a	EM-MM-510a.1	2020 Sustainability Report > Our Approach > Governance, page 7
	Production in countries that have the 20 lowest rankings in Transparency International's Corruption Perception Index	Quantitative	Metric tons (t) saleable	EM-MM-510a.2	Papua New Guinea does not rank within the lowest 20 countries of Transparency International's Corruption Perception Index.
Activity Metrics	Production of (1) metal ores and (2) finished metal products	Quantitative	Metric tons (t) saleable	EM-MM-000.A	(1) Metal ore processed – 230,401 t (2) Total gold/gold equivalent – 95,109 oz Total silver/silver equivalent – 36,067 oz Total copper/copper equivalent – 1,853,078 lbs
	Total number of employees, percentage contractors	Quantitative	Number, Percentage (%)	EM-MM-000.B	(1) Total number of employees – 840 (2) Total number and percentage of contractors – 242; 22.4%



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