



IAMGOLD
ROSEBEL GOLD MINES N.V.

ZERO HARM Report 2015



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ZERO 

HARM | DAÑO | INCIDENT | SCHADE | KGOBALO

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1. Foreword

The **Zero Harm vision** of Rosebel Gold Mines N.V. (Rosebel) expresses the commitment of the company to achieve the highest standards in human health and safety, to minimize its impact on the environment, and to work cooperatively with its host communities.

Among the many stakeholders of Rosebel are its employees, the members of the communities immediately surrounding its activities and the people of Suriname in general. The focus of Rosebel in terms of social responsibility is to maintain effective lines of communication between itself and its stakeholders, to support the growth of surrounding communities and to contribute to advancements in various sectors, such as health care and education.

Rosebel has established numerous programs and practices in the areas of health & safety, community development and environment that support the vision and our ultimate objective of Zero Harm. Our approach to Zero Harm has garnered recognition from credible institutions that work with and monitor the activities of mining companies. Locally, the results of our efforts in all areas of sustainability have proven the success of the programs.

This report gives an overview of the progress we have made in 2015 in reaching our Zero Harm objective, but, moreover, serves as a tool to engage into dialogue with all our stakeholders on our Zero Harm practices.



2. Our Company

Establishment:

May 8, 2002

Shareholders:

- Republic of Suriname - 5%
- IAMGOLD Corporation - 95%

Rosebel concession:

17,000 hectares
District Brokopondo

Rosebel Gold Mines N.V. The first large-scale gold mining company of Suriname



Rosebel's investment is reflected in **social, infrastructural and economic benefits** to Suriname as Rosebel contributes significantly to the economic development of the country and the sustainable development of communities, introduces new technology which brings innovation into the country and creates huge business opportunities for local suppliers.

As one of the largest private companies in Suriname the company provides a **sustainable income to over 1,700 employees and contractors and their families.**

The Rosebel operation and all activities undertaken by the company are guided by its **Zero Harm vision:** the commitment to achieving the highest standards in human health and safety, to minimize the impact on the environment, and to work cooperatively with our host communities. There are numerous programs and practices established in the areas of health & safety, community relations and environment that support the vision and our ultimate objective of Zero Harm.



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3. Zero Harm: People, Environment, Communities



People



Highest standards in Health & Safety



Environment



Minimizing Environmental Impact



Communities



Partnering with Host Communities



Rosebel has adopted the Zero Harm vision which captures the commitment to continually strive to:

- Reach the highest standards in human health and safety,
- Minimize our impact on the environment and
- Work co-operatively with our host communities.

Several policies and standards are in place to reach the Zero Harm commitment.



Sustainability Policy

Rosebel believes a commitment to sustainability and social responsibility from all its employees and contractors is fundamental to the success of its business. Community engagement and protection of the environment are of paramount importance.



Integrated Environment, Health and Safety (EHS) policy

Rosebel is committed to sustainable development and achieving and maintaining a Zero Harm culture. Environmental protection, community awareness, a commitment by all employees and contractors to a workplace free of injury and illness, protection against workplace hazards and profitability are integrated into the exploration, construction, mining, ore processing, transport, support and reclamation activities undertaken by our operation.





4. Zero Harm - People



Our People

Workforce

Rosebel is one of the largest private employers in Suriname. As of September 2016, over 1700 employees and contractors were employed at Rosebel. The majority of these - around 1650- were Surinamese employees, including employees from Brokopondo.

Ten percent of our workforce are women and thirty one percent are from the communities in Brokopondo.

The gold mining industry is dynamic and knows many challenges. **It is the people in the company that make the difference and it depends on those people whether or not the company objectives are realized.**





Empowering people is one of the most important company principles of Rosebel. Empowering people means that employees are stimulated and given the opportunities to successfully perform their duties. Only then can they make an optimal contribution to the realization of the production objectives and objectives in the field of health, safety and environment.

Training and development

Empowering people also means investing in employees. The training and development of a workforce and the pursuit of excellence in an operation the size of Rosebel is a never ending process. Leaders in the various areas advance and others move up and new concepts, technologies and standards are introduced. Since Rosebel started production in 2004, thousands of hours have been spent training people in fields ranging from equipment operators to technicians, accountants and engineers. There are also training sessions on international standards for environment, health & safety; ISO 14001 and OHSAS 18001.



In 2015, a total of 72,329 man hours and more than USD 1.5 million were invested in specific training and development of employees.

The training and development program of Rosebel gives substance to the policy of Rosebel to have leadership positions within the company filled in by Surinamese nationals by investing in the development of these employees.

Rosebel also provides the opportunity to students for research and internships. In 2015, Rosebel enrolled eighteen apprentices from the Institute for Natural Resource and Engineering Studies (NATIN) in various department within the company to gain practical experience. Students from the Anton de Kom University, the University of Applied Science and Technology Suriname (UNASAT) and the FHR School of Business were also accommodated to complete their research projects.



Workforce right sizing

A sharp fall in international gold prices, higher production costs and a declining gold production forced Rosebel in October 2015 to start the process of adjusting its workforce accordingly. Despite having already implemented other drastic cost reduction measures, this measure was necessary to enable further continuity of the mine. An attractive severance package was offered to the listed group of employees, totaling 10% of the workforce. The majority of these employees accepted the severance package and terminated their employment agreement by mutual consent.



Camp life

Rosebel is a 24- hour operation, requiring three shifts to keep the operation running. Each day, about 1,000 employees are present at the Rosebel site in Brokopondo. These employees work and live on the Rosebel site during the period they are scheduled. This can be on 5/2, 10/4, 9/5, 14/7 or 21/14 day rotations.

The living facilities at Rosebel are such to make the life of our employees at site as convenient as possible. We have a fully modernized kitchen, which prepares 4,500 nutritious meals daily. Our Laundry room ensures that our employees have access to clean clothing every day.

Rosebel provides a variety of recreational facilities: sporting facilities including a fully equipped and high standard gym, a soccer field, a basketball field; a billiards room. Sports and social events, such as sports competitions and cultural events on national holidays, are organized regularly,

All these facilities and activities are intended to make our employees feel at home during their work and stay at the Rosebel site.



► *Monitoring of occupational health hazards*

An important preventive tool is the medical monitoring of occupational health hazards – such as dust, lead and noise. This includes, among others, spiro metric testing (lung function test), audiometric testing (hearing test) and noise measurements at several areas on site.

Standard Personal Protective Equipment (PPE), such as protective clothing, helmets and goggles, is very important to minimize exposure to hazards that cause serious workplace injuries and illnesses. All employees and contractors working at Rosebel are provided PPE and are required to use PPE according to company standards.



A safe workplace



“Our main focus will always be safety and ensuring all our employees go home safe.”

With employee health and safety being top priority within Rosebel, we have made good progress in 2015. We believe that health and safety skills development, workforce engagement and improving our management system have had a significant impact on this. **Training and continuously engaging with our people to work in a safe and responsible manner remain an ongoing process.**

Rosebel is OHSAS 18001:2007 certified

OHSAS 18001 is an international standard for occupational health & safety management systems and promotes a safe and healthy working environment by providing a framework that helps organizations to identify and control health and safety risks, reduce the potential for accidents, aid legal compliance, and improve overall performance. The standard helps organizations achieve better occupational health and safety performance and economic objectives.





2015 Key activities:

▶ *Health and safety skills development*

Safety is everyone's responsibility. We look after each other's safety on the work floor.

One of our aims is to continuously provide safety training to our employees and motivate our people to work in a safe and responsible manner. Training and awareness sessions provided to the workforce throughout the year expanded the knowledge of employees to recognize safe and unsafe acts and to take the necessary corrective actions. Subjects included, among others: safety management, health and safety inspections and incident investigations, Personal Protective Equipment (PPE), working at height and fire safety.

Safety information is continuously shared through various means: safety talks during every shift change, television screens, located at different venues at the Rosebel Plant, displaying safety information.

▶ *Employee engagement*

Throughout the year several events were organized to increase safety engagement with the workforce. During a safety week Senior Management, supported by superintendents and safety officers, visited various departments to emphasize the importance to work safe and return home safe. This created an opportunity for employees at all levels to discuss safety issues. During a Sustainability Fair management and employees participated in various interactive events, such as a safety debate that was organized to discuss safety issues.

▶ *Strengthening of the Environmental, Health & Safety (EHS) Management System*

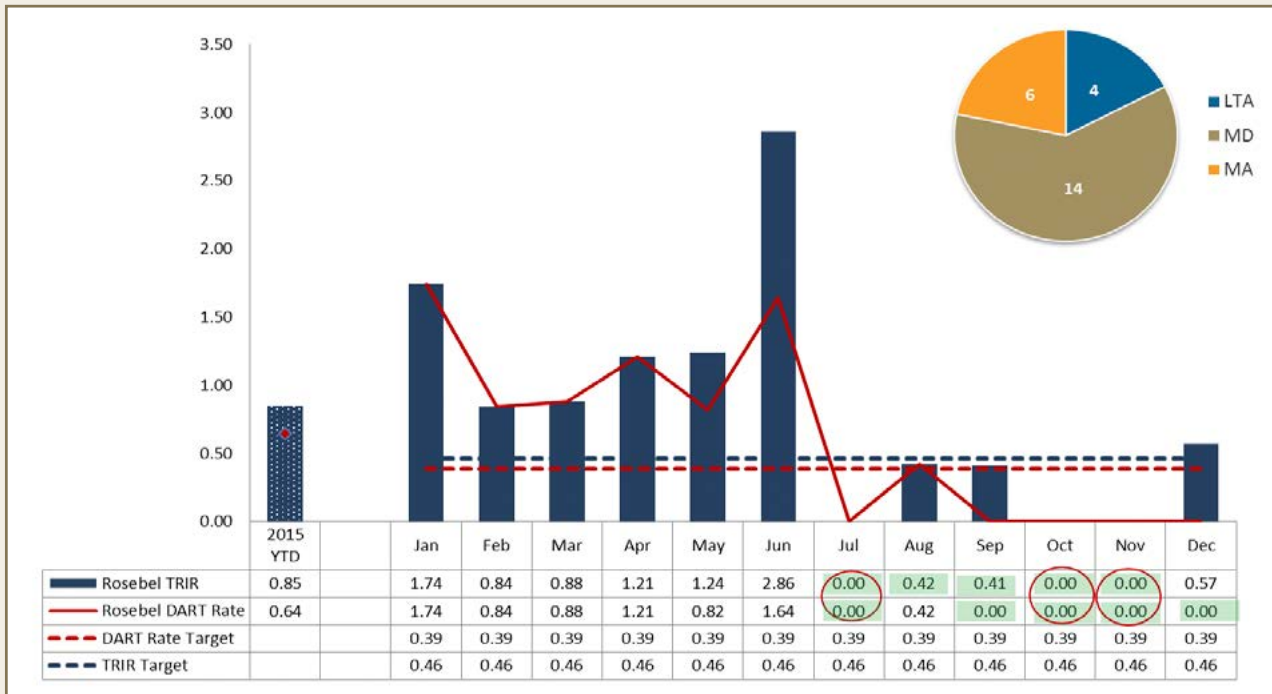
In order to control safety risks and to prevent and minimize injuries and illnesses Rosebel has standardized risk assessment tools. In 2015 all departmental risk registers were re-assessed and updated.



Safety Performance

A strong management system, supported by engaged and involved employees, led to good safety performance in 2015. The year 2015 was concluded with a 26% reduction from 2014 in the rate of incidents resulting in Days Away, Restricted or Transferred Duty (DART) and a 17% reduction in the rate of Total recordable Incidents –TRIR– from 2014.

- Triple Zero months: July, October, November
- DART = 0.64 (26% reduction from 2014A)
- TRIR = 0.85 (17% reduction from 2014A)





5. Zero Harm - Environment

Conducting Business...

... in an environmentally responsible manner.

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Rosebel's Environmental Management Program aims at avoiding or minimizing the impacts of the mining activities of Rosebel on the environment.

Environmental Management System

The Environmental Management System of Rosebel meets the requirements of ISO 14001: 2004; an internationally accepted standard on a good Environmental Management System. Rosebel aims to improve and maintain this Standard.

The main aspects of Rosebel's Environmental Management System include:

- Commitment to prevent pollution, work towards continuous improvement and be in compliance with applicable rules and regulations.
- Efficient use of natural resources.
- Ensure employees and contractors take environmental responsibility.
- Manage risks and incidents.
- Conduct research on reducing environmental impact.
- Mine Closure Plan.



2015 Key activities:

▶ Waste Management:

- In 2015, Rosebel continued with a responsible management of its solid waste. All waste produced are separately collected and disposed or treated in an environmentally responsible manner. Scrap metal, waste oil, paper & cardboard waste, equipment batteries and small batteries are collected and picked up by a contractor for recycling outside the mine site.
- PET (Polyethylene terephthalate) bottles are collected and delivered to an external company for recycling purposes. In 2015, water filling stations were installed at several main points on the Rosebel site to gradually reduce the purchase and use of PET bottles.

▶ Community awareness raising

Each year efforts are dedicated towards raising community awareness on the importance of a responsible use of our natural resources. The focus in 2015 was on “Efficient use of drinking water”. An awareness campaign was executed on 14 elementary schools of Brokopondo to emphasize the importance of efficient use of drinking water.

▶ Employee environmental training and awareness

Providing environmental information and training to the workforce is an ongoing effort:

- During the Sustainability Fair in March 2015, the workforce was informed on various environmental topics, including recycling, use of water and waste management.



- On World Ozone Day, September 16, an exhibit was organized to raise awareness on the importance of protection of the ozone layer, greenhouse gas emission and initiatives that Rosebel is implementing with regard to sustainable energy use, including, among others, the use of solar panels for power generation and the use of environmental friendly gasses in air-conditioning.
- Employees and long term contractors were trained in Environmental Awareness and Spill & Leak Management and received refresher training in Environmental Awareness.

▶ Taking care of own water supply

Rosebel produces the majority of water used at the Plant in Brokopondo. The production process started simultaneously with the mine construction in 2002 and in 2015 water filling stations were installed to enable employees to tap water at these filling stations with re-usable water bot-



tles and limit the use of PET bottles. The official commissioning of these water filling stations took place in 2016.

Rosebel produces approx. 200,000 m³ water annually. After drilling the water from the wells the water goes through an advanced treatment process to make it suitable for household use (laundrette, bath and toilet, kitchen) and for drinking.

The water quality is strictly monitored and tested by the Rosebel internal laboratory and external organizations, including the Public Health Department and the SGS- a leading testing company in Canada.

► *Rosebel's Solar Energy Plant – Embracing renewable energy*

Solar energy: an **innovative and environmentally friendly technology** to generate clean and sustainable energy.

Rosebel's Solar Energy Plant, with an installed capacity of 5 megawatts, was commissioned in 2014 and is the first large scale solar energy Plant in Suriname. Rosebel uses the generated energy for its company activities in Brokopondo. This Plant contributes to the reduction of the impact of Rosebel's activities on the environment by reducing CO₂ (Green House Gas) emissions.

- In 2015 the reduction of CO₂ emissions was 5,400 tons.
- An additional advantage is an annual saving of 2 million liters of water. This is the amount of water which a diesel generator would have needed to generate the same amount of energy as the solar power plant.
- The 2015 savings on power costs were US\$ 1.5 million.



Tailings and Water Management





► *Water and tailings management and reuse of water*

On a daily basis Rosebel processes an average of 36,000 tonnes of ore, which requires approx. 40,000 m³ of water. Most of this water is treated at Rosebel's water treatment facility and reused in the production process. Waste water from the gold extraction process consists of ore, water and small amounts of chemicals used in the ore processing. This waste water is discharged to the "tailings pond" – a natural lake with built-in dams to prevent leakages. The tailings pond with a total area of 1000 hectares allows the solid substances occurring in the water to settle and cyanide to break down as a result of exposure to sunlight.

More than 80% of the water in the tailings pond is reused in the ore processing. After sedimentation of the solids and degradation of the cyanide, this water is pumped to the ore processing plant –Mill- for reuse. The remainder of the water goes to the Effluent Treatment Plant and the Aerated Lagoon for further treatment of the other substances that are present in the water. The treated water is stored at the Treatment Water Storage Pond (TWSP). The water in the TWSP is maintained at a depth of between 2.3 m and 4.9 m, with a storage capacity of 450,000 m³. The water quality of the TWSP meets the World Bank standards for surface water..

About 10-12% of the water of the TWSP is reused in the gold production process, for watering of roads to prevent dust and for fire prevention.

The overflow of the TWSP is discharged into the Mindrineti river, under strict monitoring of the water quality. Only water of which the quality meets international standards are discharged into the Mindrineti river. In 2015, under stringent monitoring of the water quality, 1,999,600 m³ of water was discharged.

Rosebel monitors the water quality continuously by taking and analyzing daily samples from different parts of the treatment system and the Mindrineti river when water is discharged. These water samples are analyzed in the laboratory of Rosebel on pH, total dissolved solids and the occurrences of certain chemicals and metals. Samples are also sent monthly to an external laboratory for testing.





6. Zero Harm - Community



Rosebel's community investment strategy is an extension of the company's core purpose to enhance the lives of its stakeholders. Our investments in communities surrounding our mine in Brokopondo are defined by stakeholder engagement and reflect the priorities of the communities themselves. The community development program has been formulated in consultation with the local communities and include the following investment themes: health care, education, income and employment generating projects and infrastructural development.

Our community investment program in Brokopondo targets the seven communities in the vicinity of our exploitation concession: Marschallkreek, Klaaskreek, Nieuw Lombe, Nieuw Koffiekamp, Brownsweg, Balingsoela and Kwakoepron. Apart from these seven villages Rosebel also supports other communities throughout Brokopondo, mostly on the area of education.

Engagement with the communities in Brokopondo includes

year-round scheduled and on an "as needed" basis meetings with primary stakeholders. The communities of interest are represented by their Consultation Committee (CC), the traditional authority and the community members as a collective.

Investment in youth education

► Scholarship Program

Rosebel provides fully-funded scholarships to the best graduates of the MULO-school in Brokopondo to attend the high school and the University in Paramaribo. This program started in 2009. In 2015, four students were added to the Program. By December 2015, a total of 16 students were studying at the Polytechnic College (PTC), Institute for Natural Resource and Engineering Studies (NATIN), Anton de Kom University of Suriname, Institute for training of teachers (IOL) and high schools. The first students of this program are expected to graduate in 2016.



► **Youth Talent Development Program**

Each year, several other projects and programs are implemented in the field of education, including the Youth Talent Development (YTD) Program – launched in 2012- consisting of a School Quiz and a Speech contest.

• **School Quiz**

The school quiz is held a few days before the primary schools’ final exams and helps sixth graders to prepare for the exams in a fun and competitive way. Quiz questions focus on the exam subjects. All the participating schools come from Brokopondo and compete for the “Challenge Trophy” and the honor

to call themselves the winner of the school quiz. Seventeen (17) schools took part in the 2015 quiz. The winner the Pater van de Pluim school of Brownsweg.

• **Speech Contest**

The goal of the speech contest is to improve the youth of Brokopondo’s fluency in Dutch - since these students are accustomed to speaking other local languages at home - and to take away their fear of public speaking. For two months, the students were trained and coached intensively to participate in the competition. The 2015 winner of the Speech contest was Muersa Mawie. After her crowning, she featured in several other public events in Paramaribo as an ambassador of the youth in Brokopondo.





Suresh Kalathil
General Manager Rosebel

“We believe that providing the youth good education will drive Brokoondo onto the path towards sustainable economic development. Therefore, Rosebel invested heavily in enhancing education opportunities for students. And it is certainly good to learn that our investments in education contributed to the success rate of the secondary schools in Brokoondo being improved significantly in 2015.”

Sports

► Brokoondo youth match

In September Rosebel organized a sports day for the youth of Brokoondo at the Bigi Wey sports field. The youth participated in 12 different team games in which cooperation and sportsmanship were key. Young people from the different communities of Brokoondo have participated and had a physically active and fun day.





Social investment outside Brokopondo



Rosebel remains socially involved in other parts of Suriname by contributing to the implementation of sustainable projects and by supporting charitable organizations.

► *(Education)
Start Cohort II of Master's Program in Mineral Geosciences*

In Oct. 2015, Cohort II of the Master's Program in Mineral Geosciences commenced. In 2012, Rosebel committed itself to sustainable promotion of scientific education in Suriname in the field of geology and mining. In this context, Rosebel, in partnership with the Anton de Kom University of Suriname, has established the Master's Program in Mineral Geosciences. Geologists with an MSc degree provide in the need of specialized and qualified staff, which is important for the further development of the mineral resources of Suriname. In total 35 students are attending this program.

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ANTON DE KOM
UNIVERSITEIT VAN SURINAME

proud sponsors of

**Master of Science
Program in
Mineral Geosciences**



▶ *(Music education)*
SISME Music Holiday Program 2015

Rosebel was the proud sponsor of this activity, which is organized yearly by the Foundation Suriname International School for Music Education- SISME. During two weeks of the summer holidays children learn to sing and play music instruments. Over 200 children participated in the program. The activities were concluded with spectacular shows in Thalia Theater, allowing parents, family and friends to enjoy the talents of the children.

▶ *(Environment/ Education)*
Opening Aquarep Paramaribo Zoo

In keeping with its dedication to increasing understanding of the environment, Rosebel donated funds to found the Aquarep at the Paramaribo Zoo. The Aquarep - a contraction of the words “aquarium” and “reptiles” - houses small species from the tropical rainforests of Suriname, including fish, spiders, frogs and snakes, which are placed in aquariums and terrariums. The Aquarep was officially opened on May 5, 2015 by the patroness of the Zoo, First Lady Ingrid Bouterse-Waldring.



Saka sneki

7. Zero Harm - Leadership

In 2015, Rosebel was awarded the prestigious Towards Sustainable Mining (TSM) Leadership Award by the Mining Association of Canada (MAC) for its 2014 achievements in the field of health & safety, environmental management and local community engagement.

The main objective of the TSM program is to enable mining companies to meet society's needs for minerals, metals and energy products in the most socially, economically and environmentally responsible way.

Rosebel meets or exceeds a level A ranking or higher in results across all the six performance protocols of TSM:

- Safety and health: (AA),
- Aboriginal and community outreach: (AAA),
- Crisis management: (AAA),
- Tailings management: (AAA),
- Biodiversity conservation management: (AA),
- Energy use and greenhouse gas emissions management: (A).

This is a great achievement, all the more because it is the first mine in South America and one of the few outside of Canada achieving such a recognition.

With this award Rosebel has demonstrated leadership in environmental management, community engagement and commitment to the safety and health of employees and surrounding communities.





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