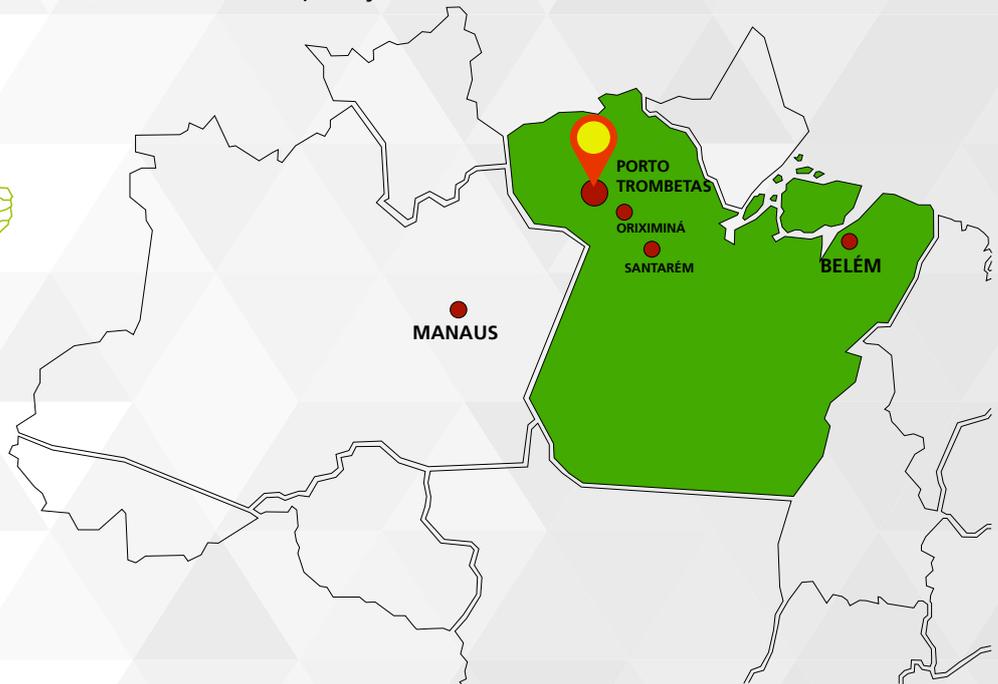


MRN is the largest bauxite operation in Brazil and the third largest in the world

One of the oldest mineral companies in the state of Pará, with 40 years of operation, Mineração Rio do Norte (MRN) is consolidated in the market as the largest bauxite producer in Brazil and the third largest in the world, with a production capacity of 18 million tons of beneficiated bauxite.

Performing a sustainable mining operation in the region is a daily challenge for the company, which is located in the heart of the Saracá-Taquera National Forest, and is headquartered in the town of Porto Trombetas, in the municipality of Oriximiná, in western Pará State.



40 years
of operation

14,4 million
tons of bauxite
in 2018

Jobs

1.371 employees
85% from Pará State
17% from Oriximiná
1.709 outsourced employees

Taxes

R\$ 237,3 million in taxes
collected in 2018
R\$ 46,3 million in CFEM

Suppliers

R\$ 793,65 million in purchases
R\$ 494,76 million in Pará State

Environment

14 million seedlings
planted (since 1979)
368 hectares of planted
areas in 2018

Social investment

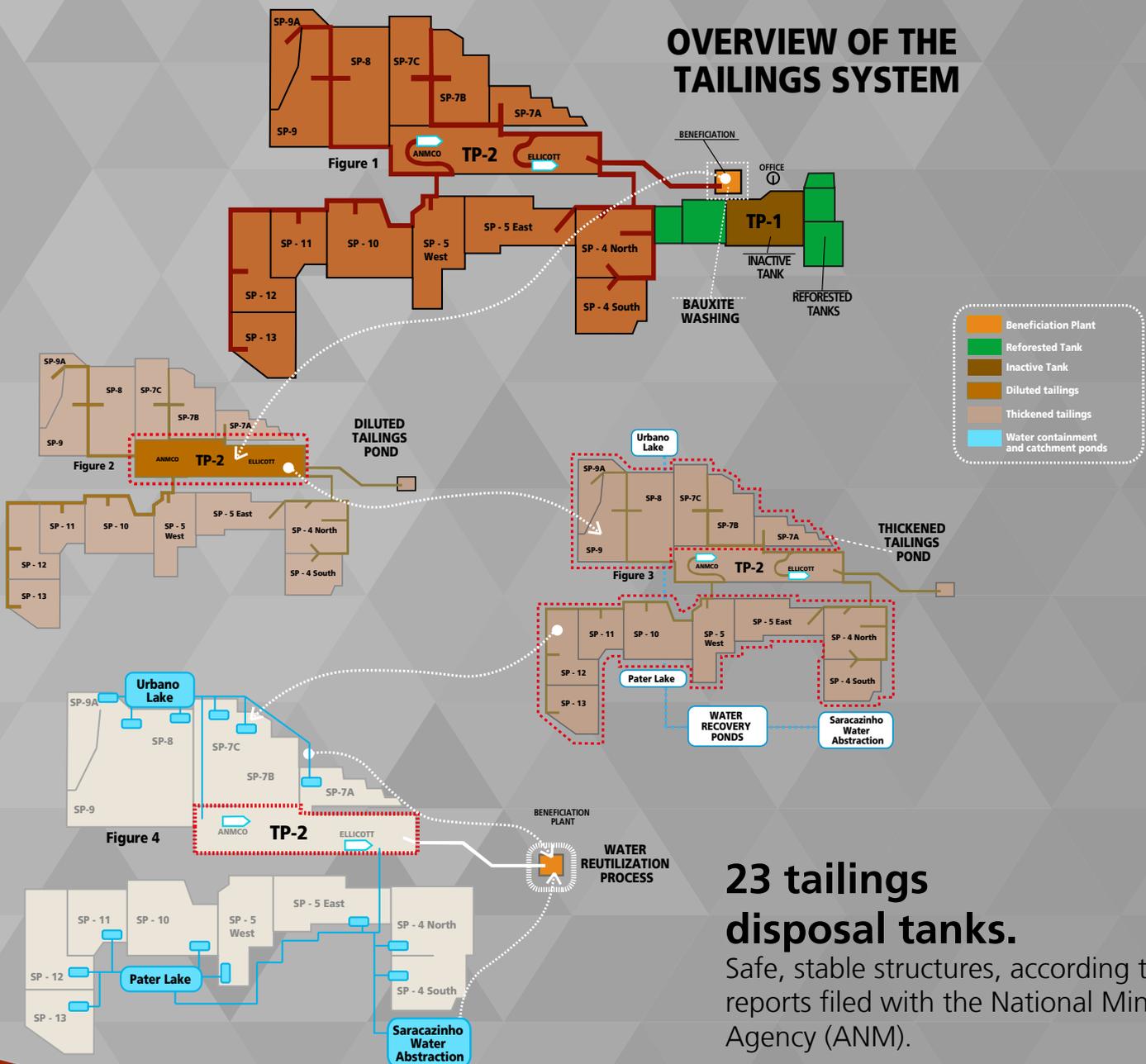
18,520 million in 2017/2018
63 socio-environmental projects
100 thousand people benefitted

Management of bauxite tailings

MRN focuses its activities on environmental care, dialog with neighboring communities and, above all, safety in its operations. Regarding management of tailings, for example, the company invested roughly R\$ 80 million in 2018.

Approximately 25% of tailings from bauxite mining goes through two stages of disposal. First, the material is temporarily deposited in two reservoirs and is diluted in water, without any added chemical, reutilizing about 80% of the water used in the bauxite washing process. Then, the material is dredged and discharged in 50-cm thick layers every 30/60 days in tanks where the residual water evaporates gradually turning the tailings over a solid dry-looking material.

OVERVIEW OF THE TAILINGS SYSTEM



23 tailings disposal tanks.

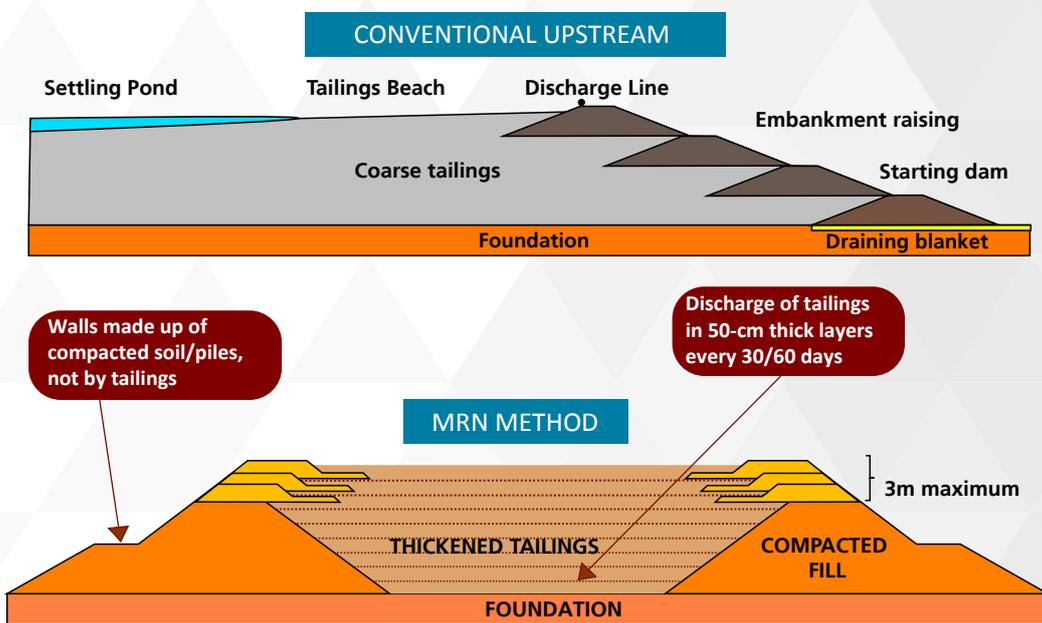
Safe, stable structures, according to reports filed with the National Mining Agency (ANM).

The structures are different from the Minas Gerais dams

The tanks are built over a flat area and without any resemblance to the existing Minas Gerais structures. While the Mariana and Brumadinho dams used the traditional upstream construction method, with only one wall and structures built on top of the tailings, on a mountainous region, with damming of water courses and rainwater accumulation, MRN uses the upstream center line method, with tanks formed by four walls that are erected with compacted soil and not with tailings. Moreover, there is no accumulation of water inside the tanks, since they are located on a plateau.

important differential is the height of the structures. The company's tanks are 17 meters in height on average, while there are dams in Minas Gerais with 175 meters in height, the equivalent to almost five statues of Christ the Redeemer, which is 38 meters tall. The Feijão dam, in Brumadinho, for example, had 80 meters in height, and the dam of Fundão (in Mariana) was about 100 meters in height.

MRN's mining tailings storage system currently in operation does not use the conventional upstream wall raising method. When the tailings reservoirs reach their storage capacity, they are deactivated and then prepared for reforestation.



The company monitors its mining tailings tanks on a permanent basis, with regular inspections conducted by an in-house team of experts and other inspections by an independent, specialized company. All the controls adopted by the company for the safety of its tailings dams are audited by an independent consultancy. MRN shareholders periodically review all technical information on mining tailings tanks reported by the company. In addition, all the structures that make up this system were designed to withstand periods of heavy rains.

WATER DAMS

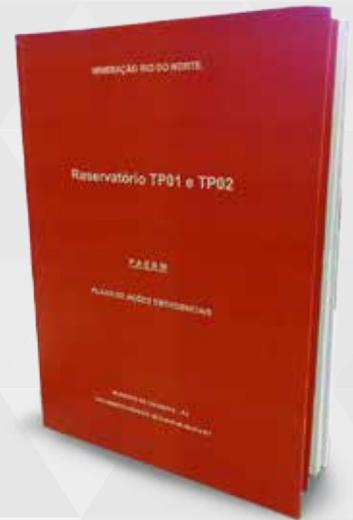
The company also operates with two water dams, A1 and Água Fria - not raised - in the industrial area of the port, with the objective of containing sediments carried from the yards, with 8 and 11 meters in height, respectively. The dams are permanently monitored by MRN, with periodic analyses of the physical and chemical parameters of the water by an independent laboratory certified by INMETRO for this type of activity. The results indicate that all parameters are below the limits established by the Conama (National Environment Council). The dams are listed by environmental agencies in the low risk category and with associated low potential damage.



Extra safety in tailings management

Following the Brumadinho (Minas Gerais State) tragedy, Mineração Rio do Norte has been strengthening its procedures by seeking an independent evaluation to review its entire tailings management system. The company is also completing the Mining Dams Emergency Action Plan (PAEBM) to introduce it to communities and other stakeholders. Once complete, the company will start training and emergency simulations with the support of a specialized company.

This year the company has completed moving the administrative facilities of the Saracá plateau, where the tailings tanks are located, and is carrying out complementary studies for the Contingency and Recovery Plans. Still within the planned actions, it will provide technical support to strengthen the Civil Defense of Oriximiná and will conclude the PAEBM Communication Plan.



Reforestation

Over the past 39 years, MRN has rehabilitated 6,769.70 hectares with 14,190,146.00 seedlings of 450 native tree species being planted in the reclamation areas.

2018

22,5 hectares reforested

in right-of-way areas (railroad)

345,49 hectares reclaimed

in operating mines (Bela Cruz and Monte Branco)

Total: 368 hectares reforested

941.889 native seedlings

produced in the tree nursery

74 species

from the Amazon biome

Environmental monitoring

The company develops a series of activities for nature conservation in the areas impacted by the project. On a monthly basis, water is collected from rivers, streams and lakes in the region to be analyzed by in-house experts and by independent laboratories. The company also manages solid waste, which is sent to the control and collection points located in the mine and in the port. After being segregated, the solid waste proceeds for end disposal process. Waste that can be reutilized is recycled, the rest is incinerated.

MRN also conducts air quality monitoring (11 stations) in the area of the project on a weekly basis. The company also has professionals duly qualified to carry out the activities of chase away and rescue of the fauna within the Integrated Fauna Management Program in the area of influence of the project.

Community Relations

Since 2015, MRN has supported the Sustainable Territories Program (PTS), as a way of establishing a new model of relationship and social action in the municipalities of Oriximiná, Terra Santa and Faro. The objective is to implement sustainable development actions and improve the quality of life of the residents of these municipalities, with a view to increasing some indicators, such as the Gross Domestic Product (GDP), Human Development Index (HDI) growth and advances in education, health and income distribution. The PTS is managed by the Public Agenda, the Institute of Man and the Environment of the Amazon (Imazon) and the Amazon Conservation Team (Ecam). Over the past two years, the program has received resources from MRN adding up to R\$ 6,440,074.58.

The program will last 15 years, with initiatives within five axes: social capital (community projects, workshops, training, project drafting, revision of by-laws, internal regulations, amongst others); public management (consulting on municipal strategic planning and Tax Code and sanitation plans); economic development (business plan, diagnostics, plans for the use of royalties, promotion of local tourism, among other actions); Quilombola (life plans, training, assistance and structuring), and environmental management (urban sanitation plans, training, rural environmental registers, diagnostics, amongst others).



Reunião do eixo capital social em Terra Santa



Reunião do eixo gestão pública em Oriximiná

2018

- ◆ **2 municipal sanitation plans** under construction
- ◆ **112 entities** received accounting, administrative and legal support
- ◆ **48% increase** in the formalization index of these institutions
- ◆ **61% female presence** in the discussion forums
- ◆ **6 Quilombola territories** with their drafted life plans

Social and Environmental Education Program

As part of the constraints for the existing mines, MRN develops the Social and Environmental Education Program (PES), which is made up of 10 projects covering health, education, environment and income generation. The initiatives are carried out in the municipalities of Oriximiná and Terra Santa, western Pará. Check out the main results:

ENVIRONMENTAL AND PROPERTY

EDUCATION PROGRAM - PEAP: promotes the rescue and cultural valorization of the region and the communities. In 2018, workshops were held for the improvement of ceramic production, handicrafts with forest products, environmental multipliers, entrepreneurship, besides environmental education lectures, a meeting to include new beneficiaries and cultural diagnosis of the Quilombolas. In total, seven communities have been benefited, receiving investments worth R\$ 150,000.00.



ENVIRONMENTAL EDUCATION PROGRAM -

PEA: develops awareness in children, adolescents and adults on the importance and necessity of environmental preservation and sustainability, focusing on solid waste and the rational use of water. Based on an investment worth R\$100 thousand, environmental multipliers workshops, environmental education lectures and a mobilization meetings were held to set up collection points for recyclables such as aluminum cans and PET bottles. Ten communities were included in the program.



BEEKEEPING SUPPORT PROGRAM: producers who work with the management of stingless bees for honey production had an average annual income of R\$1,600.00. The initiative is carried out in partnership with the Secretary of Agriculture of Terra Santa and relies on investments adding up to R\$ 90 thousand.



MALARIA CONTROL PROGRAM: it acting preventively with spraying in households, educational activities, diagnosis and treatment in 20 riverside communities, as well as indigenous villages. The program received investments worth R\$115 thousand, to the benefit of more than 4 thousand people.



AGROFORESTRY SYSTEMS - SAFS: focus on the conservation of the forest with rational and sustainable use of soil and natural resources in the neighboring communities to MRN. One of the objectives is the generation of income through the planting of vegetables and fruits and forest essences, for the community members of Sapucaá Lake, who grow the seedlings donated by MRN. Five of them sell their annual production with an average income of approximately R\$ 8 thousand for each family. The investment added up to R\$ 80 thousand.



MANAGEMENT OF COPAÍBA TREES: does the inventory and management of natural populations and copaiba (*Copaifera* sp.) planting on the Monte Branco plateau (Saracá-Taquera National Forest) and communities involved, so as to ensure the conservation of species and the production of oil-resin to existing and future populations. In total, 34 residents from two communities (Curuçá and Jamari) benefited and R\$750 thousand were invested.



QUILOMBO - PREVENTIVE MEDICINE: offers support for care at the Hospital of Porto Trombetas and conducts monthly campaigns at community centers. The following has been provided: 810 medical appointments; 805 nursing appointments; 481 childcare services; 1002 laboratory tests and a total of 37,087 medicines provided to patients at no cost. The investment was more than R\$ 3,325,678.00.



FISH FARMING SUPPORT PROGRAM:

promotes the technical training of riverside families for the farming of tambaqui in floating tanks. The families engaged have an average income of R\$15,000 per year. The investment added up to R\$160 thousand.



MICROSYSTEMS AND ARTESIAN WELLS PROGRAM:

MRN has strengthened the educational nature of the activities planned for 2018, without losing focus on improving community infrastructure for the abstraction and distribution of water through the construction, renovation and maintenance of artesian wells and microsystems in neighboring communities. The investment totaled R\$2,190,000.00, benefiting about 160 families with treated water



FAMILY AGRICULTURE SUPPORT PROGRAM:

provides technical training to local producers to grow cassava and to produce flour without using fires; the program aims at food security, income generation and the environmental sustainability of productive units. It currently assists 18 families, who sell the annual production with an average income of approximately R\$12 thousand for each family. The investment totaled R\$ 82,819.00.



CHELONIAN PROJECT: one of the most important conservation projects developed in the State, celebrating 15 years from the beginning of the partnership with the communities. The action has already returned to nature, to date, another five million hatchlings of Amazonian turtles, according to a report by the Chico Mendes Institute for Biodiversity Conservation (ICMbio). MRN finances part of the actions involving the engagement of 27 community families.



Beyond the constraints

In areas of influence, MRN goes beyond compliance with socio-environmental constraints. The company has made significant investments in the area of education, culture and infrastructure works for the community. Check it out:



FORMAL EDUCATION PROGRAM: In 2018, 59 community residents were supported in elementary and high school with learning material, daily transportation, uniforms and school meals. An investment adding up to R\$160 thousand.



SCHOLARSHIPS FOR HIGHER EDUCATION: Twenty-one students from the Jonathas Pontes Athias School, approved at public universities in the region, were supported by the scholarship worth R\$500.00 per month. They also had allowances for travel tickets in their vacations. More than R\$120 thousand were invested.



LEME PROJECT: in 2018, the project gained a training bias and, in partnership with the Brazilian Navy, trained 60 river sailors in the Alto Trombetas I and Alto Trombetas II communities. R\$ 60 thousand was invested.



CIVIL WORKS: once again, the road linking Porto Trombetas to Terra Santa was rebuilt in the Saracá-Taquera national Forest section, with special attention to the repair of bridges and flooding points. R\$ 350 thousand was invested.



CULTURAL SUPPORT: the cultural and religious events held annually in 52 communities in the area of influence of the project received support from MRN amounting to R\$110 thousand.

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