

## UN Responses

### **1. Please provide any additional information and any comment that you may have on the above-mentioned allegations.**

From the first moment, along with the Civil Defense, Fire Department, Military Police and other competent authorities, Samarco executed all actions foreseen in its Emergency Action Plan of Dams – validated by the competent bodies.

Samarco has also hired Golder Associates, world class consultancy with expertise in engineering, environment and environmental emergencies, dedicated to the elaboration of plans, management and supervision of actions that will be implemented in all areas impacted along the Doce River. To reestablish the impacted communities, Samarco hired Environment Resource Management (ERM) – international consultancy with experience in environment, health, social services and safety, that recently acquired replan.

The investigations of the causes of the accident are performed by competent authorities, and Samarco is providing all necessary information to accelerate the process. In parallel, the company counts on the support of international companies that work in the investigations and work on collecting as much data as possible. There is no predefined date for the end of the investigations, but, due to the complexity of the accident, the expectation is for the lauds to be concluded within six months to one year.

### **Dams**

As to the Samarco dams, it is important to reinforce that all of them possess Operating Licenses authorized by the Regional Superintendence of Environmental Regularization (Supram.) The last inspection – performed by a consultancy Geotechnics company hired by Samarco – occurred in July 2015 and, in September; the lauds were delivered to the competent bodies, showing that the dams were safe for operation. The company also performs inspections according to the Federal Law of Dam Safety, and counts on the 24-hour team of operations for maintenance and monitoring.

As to the questions regarding the possible impact that rupture or failure of Vale's sterile tailing pile could cause to the Dam of Fundão, Samarco informs that the sterile tailing pile did not burst and, according to the inspection report of the company mentioned above, the pile is stable.

Samarco stresses that it has always prioritized hiring specialized and renowned companies in the market to elaborate its projects and technical documentation, such as, Emergency Action Plans, Stability Lauds, etc.

As to the license re-validation process of the Dam in Santarém, Samarco reinforces that it has complied with the terms established by law for environmental license renewals, thus, guaranteeing the continuous validation of the current operating license during the process of issuance of the new authorization, which is underway at the environmental body.

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## Water

The lauds of the companies responsible for supplying the cities affected along the Doce River confirm that the water that reaches the houses of the entire population is proper for human consumption and follows the parameters established by the Health Surveillance Agency (Anvisa) – Ordinance 2914/2011.

The water and the sediments located along the Doce River are being monitored daily by Samarco. Along 637 km – which goes from the location of the accident in Mariana to the sea, in Regência, there are tens of monitoring points with over 200 quality parameters.

Ecotoxicity studies show that the water of the Doce River is not toxic for the environment. In regards to the sediments, no abnormalities were identified, even after the passage of the plume. In other words, the sediments of the river do not present hazards to the environment. The report highlights that there was no increase in the presence of heavy metals in the water and in the sediments regarding the data of 2010, also collected by the CPRM.

**2. Please provide further information on the environmental contamination types and levels in the wake of the tailings pond breach in the flood path and in the Doce River. Please indicate if specific tests and risk assessments have been carried out by your company after the 5 November incident and explain methodologies used and results obtained.**

Since the accident, Samarco has been permanently informing the society, authorities and press that the material from the dams does not present hazard to the human health, as shown in official certificates before the occurrence. This material from the iron ore beneficiation process is basically composed of water, iron oxide particles and silica (or quartz.)

Results of analyses solicited by Samarco, to SGS Geosol Laboratórios, a company specialized in environmental and geochemical analyses, after the accident, confirm that the tailing from the dam in Fundão is not harmful to people. The samples were collected on November 8, at locations near Bento Rodrigues, Monsenhor Horta, Pedras, Barretos and Barra Longa in Minas Gerais, and analyzed according to the Brazilian ABNT NBR 10004:2004 standard. These locations were defined for collection since they are near the accident and, therefore, its samples represent the material deposited at the dam.

These tests simulate diverse situations, such as the handling tailings by anyone without special caution, exposition to rain for many years and contact with water currents, such as mudslides. The material was also analyzed to measure its level of acidity, neutrality or alkalinity (pH,) corrosiveness and the possibility to

generate a violent reaction, such as an explosion. Moreover, the presence of the following substances was verified: aluminum, arsenic, barium, cadmium, lead, cyanate, chloride, copper, chrome, iron, fluorides, manganese, mercury, nitrate, silver, selenium, sodium, sulfate, zinc, phenols, coagulants and flocculants.

After the analyses of all these parameters, the tailings present in Bento Rodrigues, Monsenhor Horta, Pedras, Barretos and Barra Longa were classified as non-hazardous. This means that the material analyzed is not dangerous to the human health, since it has no contaminants in the water, even when exposed to rain.

**3. Please provide further information on the chemicals in the tailings pond, including industrial chemicals and heavy-metals.**

The results of the analyses performed by SGS Geosol Laboratórios also show that the tailings collected in Bento Rodrigues contains levels of iron and manganese that are higher than the amounts established by the standard, but lower than the levels considered to be dangerous. However, since the soil in the region of Mariana and Ouro Preto is rich in these two elements, these results were already expected. It is important to stress that the ABNT 10004:2004 standard utilizes values of reference based on the reality throughout Brazil, including regions with soils that are poor in iron and manganese.

To monitor the quality of the water, Samarco installed points of monitoring and diagnostics along the Doce River and the sea. Besides the company, five independent organizations are performing the diagnostics and monitoring of the water, including the Brazilian Marine.

**4. Please describe what steps your company took to protect and cause no harm to human life and the environment from the damage following the release of mining tailings.**

Samarco has applied all efforts in the execution of emergency actions to minimize the impact to the burst of the dam in Fundão. From the first moment, we have mobilized all resources available, human and financial, to assist in emergencies and find solutions coordinately with the competent bodies and society interlocutors.

Immediately after the accident, we executed emergency actions to guarantee the safety of our employees and the communities impacted – we inform to the residents and competent authorities about the accident, we supported rescues and we searched for emergency solutions to accommodate homeless families.

The accident had a great impact to the region near the dam and along the Doce River until the sea - we are in the front of all these locations to do the right thing.

We increased the monitoring of the dams with the acquisition of new equipment integrated to the center of control of the dams and a visual monitoring point that operates around the clock. To increase the safety factor of the dams, the company commenced projects of retention and reinforcement.

In the region between Bento Rodrigues and Barra Longa, we have provided continuous support to the residents, including shelter in hotels and rented homes, cleaning of houses and public places, reestablishment of classes, water distribution, financial and psychosocial assistance – our commitment is to provide quick answers, with increased efforts, doing the right thing.

We have searched for solutions to normalize water supply to the communities impacted, including emergency actions to complement the supply, such as water trucks, distribution of mineral water and support in the construction of atesian wells.

In Baixo Guandu (ES), for example, the supply has been performed with the water captured in the Guandu River. This was possible with the installation of three adductors for the Water Treatment Plant of the Guandu River, a project of SAAE and the City Hall of Baixo Guandu, with Samarco's support in the supply of material and technical follow up.

In Governador Valadares (MG), the water captured in the Doce River by the Water Treatment Plant is receiving an organic coagulant extracted from the acacia decurrens. This material stimulates the formation of small flakes with the solids that are dissolved in the water, accelerating its decantation. The use of the coagulant accelerates the classification of the water and allows it to follow the conventional treatment process performed by the Autonomous Water and Sewage Service (SAAE.) The solution was defined with team work between the technical teams of Samarco, SAAE, Sanitation Company of Minas Gerais (Copasa) and companies supplying products to treat water.

Moreover, we search for viable alternatives to minimize the environmental impacts along the Doce River and in the sea, such as the retrieval of materials carried from the accident, removal of fish and animals, installation of protective buoys at lakes, mangroves and areas with higher environmental risks.

All these actions are being executed in coordination with the competent bodies.

To reestablish the impacted communities, Samarco hired ERM international consultancy company, which has experience in environment, health, social services and safety. The company will help to verify the social damage and the elaboration of an action plan to recover the entire basin of the Doce River. Samarco proposed measures of support to indigenous and riparians communities, even before ERM's work for example.

The indigenous population, Krenak, which lives in the region of Resplendor, at the Vale do Rio Doce, received 14 thousand liters of mineral water and 30 thousand of drinking water. The contact and the agreement were conducted by Vale. Samarco also

participated in a meeting with the National Indian Foundation (Funai), in Brasília, to discuss the possible impacts to the Tupiniquim and Guarani communities, which live in the region of the Comboios Reservoir in Espírito Santo. If any impact is detected, Samarco will be informed and is available to establish a transparent and open discussion.

As to the riparian communities, the studies of the impacts and the plans of action are being conducted by the world class consultancy company Golder Associates. An action already underway is the financial assistance to the riparian families of Minas Gerais and Espírito Santo who had their income compromised with the activities related to the Doce River – fishing and extraction of sand and stone. Samarco offers assistance as Golder sends the registrations of the families.

**5. Please describe any company measures that have been taken to respond to the incident and, in particular, to identify, prevent and mitigate against continued harm to human health, access to water and sanitation, property and the environment.**

We are drawing a plan for environmental and socio-institutional recovery, which has the support of companies with global reference in the type of planning, besides the support of national partners in different fields of work.

Golder Associates is our main partner in the diagnostics and development of the environmental and social recovery plan of the areas impacted along the Doce River. The company is a leading global consultant in environmental engineering and emergencies, which is present in six continents and has relevant experience, such as environmental reconstruction of a region after the burst of a gold tailing dam in Mount Polley, Canada.

ERM is our main partner to lead the socio-institutional recovery of the communities impacted in Mariana and Barra Longa. The company is a leader in social and environmental services, and has active projects in approximately 50% of the largest global companies listed in the Global Fortune 500.

**6. Please describe how and when your company plans to ensure that the victims and affected communities receive an effective remedy.**

We have always searched to work together with governmental bodies, communities, social and environmental protection organizations, technical experts and the general public.

We believe that we will find the best ways to correct the impacts, and we are mobilizing all efforts in this regard, but we know that some actions take time to be applied and we have the comprehension of those involved and the confidence that we will do the right thing.

Since the accident, we conducted a series of actions focused on the safety of people in affected areas: support to the Fire Department and Civil Defense in search and rescue operations, forwarding all people rescued with injuries to emergency care, preparation of a gymnasium in Mariana to accommodate homeless people in emergency situations, mobilizing teams to provide assistance to homeless people (medical and psychosocial care, provision of mattresses, clothes, groceries, hygiene and basic needs). On the second day, all homeless people were allocated at lodges and hotels in Mariana.

Since then we have applied all efforts and resources to minimize the impact of the accident in a short term. Most families are already in furnished houses rented by the company. The financial support is being delivered to the registered families, homes and public streets are being cleaned, besides water, which is being distributed to all municipalities that had their supply affected.

The resettlement of the families of Bento Rodrigues and Paracatu - at a location being analyzed by the company - and the reconstruction of other communities is being planned in partnership with ERM. All decisions will be made along with the community, through collective and individual meetings. The plan also includes the recovery of the regional economic development. The work is divided into four phases and the scope of all work fronts is currently being elaborated. The activities will follow international criterion and standards.

**7. Please describe how your company plans to respond to this incident to prevent recurrence of such disasters in the future. Please elaborate upon the human rights due diligence mechanisms your company has in place to prevent, identify and remedy the adverse human rights impacts of such disasters in general.**

The respect for people and the integrity are part of our values, side by side with the results:

**Respect for people** – We value life more than any results and material goods. We respect the right to individuality, without discrimination of any kind, and honor, with our responsibility, the well-being of people and the society, as well as the care with the environment, using correctly the necessary resources for our activities. We believe in our influence and contribution to the social and economic development of the country, aiming at the future of future generations.

**Integrity** – We act seriously in compliance with the law and respect for moral principles, striving for dignified and ethical relationships. We adopted an honest and transparent approach with all parties involved in our business.

**Mobilization for results** – We like to overcome the objectives and goals established and persevere to do better every day, with creativity, cooperation and simplicity, constantly seeking knowledge and generating innovative ideas to achieve differentiated and lasting results.

**Corporate governance**

Samarco has a modern corporate governance structure, consisting of BHP Billiton and Vale shareholders, Board of Trustees, Advisory Committees, Executive Board and Internal and Independent Audits. Our governance follows the best market practices and is guided by four central pillars: corporate responsibility, transparency, equality and accountability.

For 14 years, Samarco has made their projects and social, environmental and economic indicators public with an Annual Sustainability Report. This report follows the Global Reporting Initiative (GRI) guidelines of transparency in sustainability reports.

### **Speaking to society**

We believe in the open and trustful discussions we have with various agents at the locations where we operate.

We keep channels and relationship forums open for the engagement of our stakeholders, who participate in setting strategies and priorities, and orient socio-institutional investments.

Among the structured discussion forums, there are the meetings with the community, the Forum for Monitoring Environmental Licenses of Samarco (Speeches), the Local Development Committee, the meetings of Leaders and Visitation program. We are transparent in the forums. We deal with negative and positive impacts, qualify and develop the communities, we bring information regarding the Company and listen to people.

### **Human Rights Committee**

Samarco started developing its work for Human Rights in 2012, when it hired the international consulting firm ERM to Evaluate the Impacts on Human Rights. In the same year, the company joined the Work Group on Human Rights of the Brazil Global Pact.

In 2013 Samarco finished the Evaluation of the Impacts on Human Rights and Action Plan to strengthen management and minimize Violation risks. In 2013, the company also created the Committee for Human Rights Management, in line with the compliance work, which accounts for due diligence that the company has been working on in relation to its suppliers and prospective suppliers regarding possible violations of Human Rights.

The company now intends to continue the 26 action plans of the Committee's and also create their own Human Rights policy. Many of the principles and planning assumptions are already part of the everyday life of the company, but it will become formalized and disseminated among all employees.

**Part of our strategy is to invest in sustainability management and have goals that express our social and environmental commitments.**

**Example Leadership** - Refers to actions that we must apply internally to engage our workforce, making it the driver and guardian of sustainable development in company and out of the company.

**Collaborative networks** - They approach the mutual relationship development, in partnership with the civil society, governments, customers and others with whom we interact, positively impacting the reputation of Samarco and the sector, and generating shared value.

**Innovation and technology** - Along with the Strategic Map, it proposes the search for technological and environmental excellence of operations in a more efficient and lean model of production, adding value to the business and therefore to society.

**Responsible entrepreneurship** - It repeats our commitment to the three pillars of sustainability, internally and in the value chain, with ethics as the base of our conduct.

## **8. Please describe how your company is working with the Government and all affected stakeholders in any investigations concerning this incident.**

We have always aimed to work together with government agencies, communities, social and environmental protection organizations, technical experts and the general public.

### **Public Bodies**

**Example activities:** Dialog with the Ministry of Public Affairs, Mayors of the cities affected and other legislative authorities, Navy and environmental bodies.

### **Communities**

**Example activities:** Opening dialog with community residents and leaders to relocate families, supply water and reestablish their work and occupational routines.

### **Social and environmental protection entities**

**Example activities:** Hiring of companies for the development of socio-institutional recovery plans (ERM) and environmental (Golder) to identify the damage and establish an action plan.

### **Technical experts**

**Example activities:** Hiring of technical experts in various areas (dams and the environment, among others) to identify the causes of the accident and mitigate any additional risks.

### **General public**

**Example activities:** Interviews, meetings, seminars, visits to communities and other forms of contact with the public to listen to opinions / criticisms in order to provide the best solutions for the society.