# SeedSof Sustainability

JAGUAR MINING 2016



# JAGUAR

MINING INC.



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# Message from the President



We are very pleased to prepare this "Seeds of Sustainability" report. Its content is directed to our shareholders, employees, communities, public authorities and other stakeholders. It comprises a clear and ethical compilation of 2016 results and information on how we are managing our business and relationships, regarding people, safety and environment as our core values.

With this first publication, we intend to establish a culture of accountability towards society, which is our goal to improve upon on an annual basis. It is important to note that this sustainability report was not prepared in the format required by the GRI (Global Reporting Initiative). However, its structuring is part of a new moment for the company, which is working to improve its processes to manage dialogue with society, communicating the impact of our business

on critical sustainability issues. We hope that this report can open doors to new opportunities, improve our perception towards global society and help us attain new investors.

This is an important step for Jaguar as a company committed to transparency and dialogue at all levels, reflecting that we are on the right track. Many are the challenges for a junior gold mining company that is focused on growing sustainable production and strives to be recognized for socially responsible practices. This motivates us to work more and more to enhance our dialogue processes, in order to keep fostering a collaborative work environment with constructive relationships based on mutual growth.

We understand that it takes time to build trust. Therefore, we have made significant improvements by recently establishing our Mission, Vision and Values and the Corporate Health and Safety Policy, major cultural changes that can only be successful if started at the top, and led by example.

We are proud to be an economic partner of the regions where we operate and we know that success both today and in the future depends directly on the sustainability of our business. Our strategic vision includes sustainable production of 200,000 ounces per year, over the next five years. This profile of growth not only will benefit our shareholders and employees, but it will also allow us to implement social programs in favor of the communities where we operate.

All information compiled in this report was collected and validated by managers of all areas of the company, without the involvement of third parties and external auditors. This report is divided into five blocks, covering the company, operations, people, environment, dialogue and relationship. I would like to invite you to learn a little more about our history, which we will continue writing together, seeking to sow truly sustainable development.

"Transparency means building trust."

Rodney Lamond

## **Timeline**

Creation of Jaguar and incorporation of Mineração Serras do Oeste Ltda. - MSOL. Listing of shares on the Toronto Stock Exchange (Canada)

Beginning of operations at Sabará

Beginning of operations at the MTL Unit

Beginning of operations at the CPA Unit

Acquisition of MCT and Gurupi Project kick off; interruption of Sabará operations

Beginning of operations at the CCA Unit

Interruption of operations at the CPA Unit

**2013** Financial restructuring of Jaguar

Application for new areas in the Gurupi and Pedra Branca Projects

Establishment of a joint venture with Avanco Resources to manage the Gurupi Project, currently called Centro Gold Project; Launch of the new Jaguar Mining brand and redesigning of our Mission, Vision and Values.

# About Us

# A junior mining company seeking ongoing development while sowing sustainable values.

Jaguar is a Canadian gold mining, development, and exploration company. We started our investments and operations in Brazil in 2002 with the acquisition of MSOL - Mineração Serras do Oeste Ltda., and held our IPO in the Toronto Stock Exchange in the same year. In 2005, we started our activities in the city of Sabará, Minas Gerais, subsequently acquiring mining rights that allowed us expand our operations across the state.

Jaguar's main operating assets include the CCA Unit – comprising the Pilar and Roça Grande mines – and the MTL Unit, with the Turmalina mine, which combined produced 96,608 ounces of gold last year.

In addition, the Company owns the CPA Unit, also located in Minas Gerais, currently conducting feasibility studies on the site to resume production over the next few years. Jaguar also runs projects with significant potential for mineral exploration in the northeast of the country, such as the Pedra Branca project in Ceará and the Centro Gold Project in Maranhão, which will be developed through a Joint Venture formed with the Avanco Resources.

All these operations and projects are aligned with our commitment to ongoing development, creating sustainable value for our stakeholders, employees and the communities where we work.



ABOUT US OUR OPERATIONS PEOPLE ENVIRONMENT DIALOGUE AND RELATIONSHIP

### Governance

Jaguar's Board of Directors and the Executive Board are two major instruments to ensure good governance practices at the company. The Board of Directors is the highest governance body and comprises six senior directors.

who undertake roles, responsibilities and activities according to Internal Rules. Other supporting committees established to assist the Board of Directors in fulfilling its activities include: Governance Committee, Nomination and Compensation Committee, Safety and Environment Committee, Technical and Reserves Committee and the Audit and Risk Committee. The latter consists of four independent directors, which analyze the financial statements, ensure managers will develop reliable internal controls, and provide support for implementation of the Internal Audit. Internal Auditors are independent and responsible for monitoring and assessing the adequacy between internal controls and the procedures established by managers. They must also work proactively to recommend improvement of controls,

in line with best market practices. Other tasks comprise investigating complaints and enforcing the Code of Ethics.

The Executive Board is focused on providing guidance about the procedures and principles governing all Jaguar processes. This board also implements and monitors the strategic guidelines defined by the Board of Directors and establishes guidelines to support the development of our business activities. It is composed of the CEO, CFO, VP of Geology, and VP of Investors Relations.

In 2016, the Board started to work on Risk Assessments, in order to identify and prevent the main risks to which the organization is exposed.

Jaguar's Corporate Management team works together with Managers from all Operational Units towards attaining our goals, applying all company values and guidelines provided by the Executive Board.

#### Board of Directors

**Chairman**: Richard Falconer

**Directors**: Rodney Lamond, John Ellis, Robert Getz, Luiz Carlos Miraglia, Edward Reeser.

Thomas S. Weng

#### Executive Board

**CEO**: Rodney Lamond

**CFO**: Hashim Ahmed

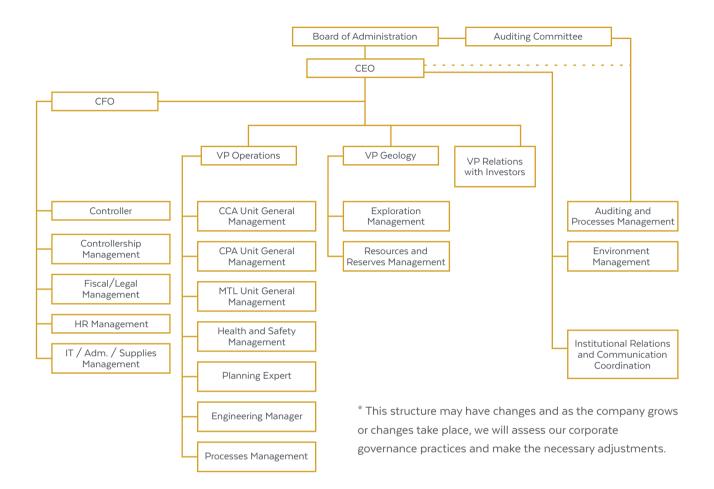
Vice-President of Operations: Robert (Bob) Gill

Vice-President of Investor Relations: Joanne C.

**Jobin** 

Vice-President for Geology: Jean-Marc Lopez

### Jaguar Mining Organization Chart



### Charters and Guidelines of the Board of Directors\*

- Corporate Governance Guidelines
- Charter of the Corporate Governance Committee
- Charter of the Compensation Committee
- Charter of the Audit & Risk Committee
- Charter of the Internal Audit Committee
- Charter of the Health, Safety & Environment Committee

#### Policies

- Code of Ethics and Conduct
- Insider Trading Policy
- Anti-corruption Policy
- Information Disclosure Policy
- Donation and Sponsorship Policy
- Corporate Policy for Health, Environment
- · Communities, Employment and Ethics
- Whistleblower Channel

<sup>\*</sup>The full versions of these documents are available on our website at www.jaguarmining.com, About Us/Corporate Governance section

ABOUT US OUR OPERATIONS PEOPLE ENVIRONMENT DIALOGUE AND RELATIONSHIP

### Code of Ethics and Conduct

Jaguar's Code of Conduct and Ethics was developed by the Executive Board of the company and is an expression of its corporate principles and policies. It describes the social and environmental commitments expected from all employees, suppliers and other stakeholders. It is also an instrument that reflects Jaguar's organizational identity, providing guidelines for reporting violations or addressing ethical dilemmas with transparency.

The full versions of these documents are available on our website www.jaguarmining.com, About us / Corporate Governance section.

### Whistleblower Channel

Jaguar has a specific tool in place for communication of complaints and irregularities. The Whistleblower Channel is available to all employees, contractors, communities, shareholders and suppliers of the company. Some of the issues that can and should be reported include tampering or forging documents and reports, removal of company equipment and other objects without permission or using company resources for personal benefit, among others.

Contact can be made by phone 0800-891-1667, on the website www.jaguar-mining.com.br/denuncia, or via Intranet, clicking on "Whistleblower Channel" in the "About Us" section. The information recorded can be anonymous and the situation described will be investigated

### Investor Relations

Jaguar's financial reports comprise information about the company's financial situation, performance and prospects. They are prepared on a quarterly and annual basis and published on SEDAR website (www.sedar.com) and on our website. The company ensures that all information contained in these documents is fair and standardized, and disclosed throughpress releases, published on our website, or distributed internally to all employees.

Jaguar Mining is listed on the Toronto Stock Exchange as TSX: JAG, complying with all regulatory policies of TSX and the Ontario Securities Commission. This includes solid corporate governance commitments towards the ethical behavior of its employees.

Jaguar Mining's Investor Relations Department can be contacted via email: ir@jaguarmining.com.br or, for more information, ourwebsitewww.jaguarmining.com, Investors section.

# Corporate Policy for Health, Environment, Communities, Employment And Ethics

- We think and we act according to our values to fulfill all of the company's commitments, complying with all technical requirements, laws, standards and regulations applicable to the company.
- We strive to protect the health and safety of our employees, the environment and the communities where we operate.
- We are engaged in promoting a working environment free from discrimination and harassment, where all employees can explore their full potential and be recognized on the basis of merit and ability.
- We seek to be fair and transparent in all of our negotiations.
- We deal with problems rightfully and within the law, in order to mitigate them and support the affected parties.

- We are committed to creating sustainable value for our stakeholders, while continuously improving our corporate social responsibility practices.
- We value our reputation and the trust placed in our company.
- We take these commitments seriously and our Board of Directors and Executive Board will make every effort to build a culture to support and honorthem

This policy is signed by Jaguar's Board of Directors and Executive Board, and reflects the company's commitment to a responsible management, providing all workers with guidelines to perform their activities.



# Mission, Vision, Values

### Mission

To create and grow sustainable value for our stakeholders by adopting best practices in mining and through our commitment to protecting the health and well-being of our employees, the environment and the communities where we operate.

### Vision

To be a recognized gold mining company focused on growing sustainable production, delivering on our commitments for excellence and valuing and developing our employees.

### Values

Zero Harm - "Zero harm" to our employees, the environment and communities where we operate.

**Dignity and Respect** – Equal treatment and opportunity for all employees with transparent processes founded on dignity and respect and encouraging a sense of ownership.

**Sustainability** - Sustainable growth supported by a safe, profitable and socially responsible business while developing long-term assets and resources.

**Collaboration** – Productive and ethical working relationships, transparent and responsive dialogue with surrounding communities and public agencies for the benefit of all stakeholders.

Excellence - Focus on a culture of best business practices

CCA Unit Metallurgic Plant - Roça Grande, in Caeté / Jaguar Mining File



# 2016 key figures

Employees	Direct: <b>1,171</b> Third-party: <b>368</b>
Operating Performance	96,608 Oz  Ounce (abbreviation: Oz) is an English unit of measurement for mass. According to "Troy Ounce", the system used to weigh precious metals, gems and medicines, one ounce is equal to 31.1 grams
Revenue	Gross revenue: <b>BRL 423,233,261.62</b> Net revenue: <b>BRL 422,251,845.75</b>
Funds invested in Environment	BRL 5,063,258  The funds invested in the environment include monitoring water quality, environmental compensation, acid drainage, mine closure and waste management.
Taxes	ISS [Service Tax]: BRL 2,028,880,00  CFEM: BRL 4,146,389.60  The CFEM tax - Financial Compensation for the Exploitation of Mineral Resources - is calculated according to the net revenue and distributed between states, cities and the federal government
Purchases	BRL 292,231,394,00
Social Investment	BRL 543,852,00  Sponsorship and support to social, cultural, educational, environmental, employment and income generation, and infrastructure projects, as well as public-private partnerships.



# Operations

### We strive to protect the health and safety of our employees and the environment, acknowledging the importance and characteristics of the cities where we operate.

Jaguar's Operating Units are located in regions that historically refer to the gold cycle and the early days of mining in the State of Minas Gerais. The CCA Unit is located in the Iron Quadrangle region - home to the country's largest production of iron - also comprising operations in the district of Brumal, in Santa Barbara and in Caeté. Its area of influence also covers the city of Barão de Cocais.

Jaguar has also established the MTL Unit, in Conceição do Pará, in the central west region of the state. Its area of influence covers the historical city of Pitangui.

We dedicate this section to introduce the characteristics and other information about these mining Units and other projects of the company. After all, we are laying the groundwork through our everyday operations to foster, disseminate and practice Jaguar's values, while fulfilling the legal requirements for our activities and helping develop the communities where we operate.



Processing Plant - MTL Unit / Jaguar Mining File

### **CCA Unit**

This project comprises a metallurgical plant and two operating mines: Pilar, in Brumal - district of Santa Barbara - and Roça Grande, in the city of Caeté, both in the Iron Quadrangle. The CCA Unit also includes four deactivated mines: Camará, Catita, Sabará and Serra Paraíso

### Pilar Gold Mine - Santa Bárbara - Brumal

The company started operations at the Pilar Mine in 2010, breaking ore underground by using a combination of mechanized cut and fill mining methods. In 2016, this mine produced 27,846 ounces of gold, representing 28.8% of the company's total production. The entire mineral mass extracted from this ore deposit is transported by land to be processed in the metallurgical plant at Caeté. By the end of 2016, the Pilar Mine had 310 direct employees, 90% of which live in the region of Santa Bárbara and Barão de Cocais. This year, the Unit also outsourced an average of 160 workers.



### Roça Grande Mine - Caeté

The Roça Grande Mine is located in Caeté and the Operating Unit comprises a metallurgical plant, which processes both the ore extracted in Roça Grande and the Pillar Mine production. In 2016, this mine produced 5,503 ounces of gold, representing 5.7% of the Jaguar's total production that year. It is the second largest employer in the city, accounting for 297 direct employees, 79% of which reside in Caeté. The Unit also outsourced an average of 52 workers.



## **MTL Unit**

### ▶ Turmalina Mine - Conceição Do Pará

Operating since 2006, the unit accounts for Jaguar's highest mining yield, ending 2016 with 63,259 ounces of gold extracted, representing 65.4% of the company's mining volume. The ore extracted at the Turmalina Mine is processed in the metallurgical plant located in the Unit.

It is the largest employer of the region, with 482 direct employees and 128 contractors. The Unit is established in the city of Conceição do Pará, where the company collects its taxes, but most of its employees – 74% – live in the nearby town of Pitangui.



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### **Other assets**

### **CPA Unit**

The CPA Unit is located in the district of Acuruí, in the city of Itabirito, 90 km from Belo Horizonte. It comprises five mines: Marzagão, Ouro Fino, Palmital, Rio de Peixe and Santa Isabel, which has been deactivated since 2012.

The Unit is currently undergoing a care and maintenance program as well as reassessment of feasibility, with completion planned for 2017.

### Gurupi Project

Jaguar acquired the Gurupi Project in 2009, and manages its assets through its subsidiary MCT. The project is located in the city of Centro Novo, in the state of Maranhão. Last year, the company established a joint venture with Avanco Resources, a company with solid mineral explo-

ration experience in the North and northeast regions of the country, and which will be responsible for implementing this project, currently called Centro Gold Project, with reserves estimated at 3.7 million ounces.

### Pedra Branca Project

The Pedra Branca Project, owned by Jaguar, is located in the state of Ceará, in northeastern Brazil, and its mining rights encompass 20 exploration licenses.

This project's activities have come to a halt, as

the Company is currently converging its efforts into operations in Minas Gerais, for strategic purposes. License and rights fees related to the project are being paid in due accordance with applicable laws.

### **Dams**

The Company owns five tailings dams, spread around the cities of Caeté, Conceição do Pará and Itabirito, three of which are currently active. They are treated by the inspection bodies as low-risk undertakings, based on technical, conservation and safety criteria. Annual audits are carried out by an external agent tasked with the preparation of a report stating each dam's geotechnical, hydrological and hydraulic stability conditions.

According to the 2016 report, the dams are in proper operating conditions.



Barragem do Moita - Unidade CCA - Roça Grande / Arquivo Jaguar Mining

### Turmalina Dam - MTL Unit - Conceição do Pará Minas Gerais

The Turmalina Mine Tailings Dam was designed to be built in successive phases. Therefore, reservoir capacity is increased according to operational demand. The undertaking is currently in the construction phase, with no embankments deployed thus far. The dis-

posal area is fully coated with a polyethylene blanket (HDPE), which ensures legal compliance and maintains its waterproofing capacity, preventing soil and groundwater contamination.

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### Moita Dam - CCA Unit

The Moita Tailings Dam reservoir has 268,411 cubic meters of solid deposition capacity – the maximum limit allowed for the region –, thus ensuring 3.0 free-board meters. Its disposal area is completely waterproofed by a polyethylene blanket (HDPE). The dam is currently filled with 204,219 m<sup>3</sup> of solid waste.

Through an internally developed system, the surplus water from the dam is pumped to a treatment plant, undergoing a gold recovery system and then reused in the production process at the metallurgical plant, decreasing the need to collect clean water.

### RG 2-W and RG 2-E DAMS - CCA Unit

Both use old pits, enabling reuse of the relief for the construction of dams, with safe deposition of non-hazardous waste generated during the flotation process.

Surplus water is reused and sediment is withdrawn and disposed in a sterile/waste pile, avoiding future embankments and increasing its operating life. Additionally, it is important to note that the RG2-E pit is not treated by the National Department of Mineral Production [DNPM] as a dam, since it is an exhausted pit and no damming is required. However, for the State Environmental Foundation [FEAM] and for the Regional Environmental Superintendence [SUPRAM], this pit is considered a dam and Jaguar treats it as such, complying with all the safety standards required by the applicable legislation.

### CPA Dam - CPA Unit

CPA Unit's industrial waste disposal system is also waterproofed by a polyethylene blanket (HDPE) and has been deactivated since March 2012, as filed with the environmental agencies.

The existing material is undergoing an inerting

process, showing low contaminant levels. Even though it is out of service, the dam is daily monitored by a team of professionals who are based at the Unit, ensuring its stability and permanent maintenance. ABOUT US OUR OPERATIONS PEOPLE ENVIRONMENT DIALOGUE AND RELATIONSHIP

# People

Building productive and ethical relationships is part of our daily struggle to enhance individual responsibilities and develop a sense of teamwork, based on the belief that the success of our business lies on people.



Professionals who share our values and goals are the ones we seek to be part of our most important resource: people. We foster a work environment conducive to continuous improvement in order to attract, develop and retain people. The safety and well-being of our employees are absolute priorities for Jaguar, as well as providing equal treatment, respect for differences and opportunities for personal improvement and growth.

With a focus on health and safety, we are pursuing a "Zero Harm" environment for our employees through effective tools such as the Loss Prevention Program. As a result, our accident rates have been reduced in all Operating Units over the last few years and we continue to work to improve our records in each operation.

Throughout 2016, 12 mobilization campaigns were carried out with our employees, drawing attention to issues related to the prevention of diseases, family appreciation, care for the environment and natural resources. It is worth highlighting that, in addition to the employees in each Unit, their families and local communities have also participated actively in these campaigns and are fundamental in building our success.

# **Employee Profile**

Number of employees		Gender (Direct emp	oloyees)	Employees with disabilities (PWD)			
Direct	Outsourced*	Men	Women	25			
1,171	368	1,090	81	23			

<sup>\*</sup>O número de empregados terceirizados é estimado pela média anual de contratações desta natureza.

### Direct Employees by City

City	Residents			
Belo Horizonte	60			
Santa Bárbara	171			
Caeté	245			
Conceição do Pará	44			
Pitangui	362			
Barão de Cocais	145			
Outras cidades	144			

Compared to previous years, we had an approximately 50% reduction in staff turnover. In relation to 2014 and 2015, there were 34.5% and 47.2% drops, respectively. In 2016, there were 108 dismissals and 147 new hires.

The mining sector has a significant multiplier effect when it comes to job creation. It is estimated that for every direct employment generated by the mining industry, 14 other indirect jobs are also created in different economic sectors.

Source: Mining.com

http://noticiosmineracao.mining.com/2014/II/I0/mineracao-a-geracao-de-empregos-e-muito-maior-do-que-se-imagina/



# **Health and Safety**

Jaguar develops regular programs, campaigns and actions aimed at the health and safety of our employees. Teams work across all Units to raise awareness and protect workers in their work environment, seeking to avoid accidents and occupational diseases. Everything is done through risk exposure control, medical and biological monitoring mechanisms. This safety culture, which targets our "Zero Harm" policy, is increasingly reinforced across our operations and also taken beyond the company, whit an emphasis on the need to adopt safe behaviors outside the company as well. In 2016, we dedicated ourselves to strengthening our programs and mechanisms for managing the health and safety of workers:

### Loss Prevention Program - LPP

Program based on 13 prevention and awareness tools, for the promotion of safe behaviors and reinforcement of the concept of "Security as Value". Discover some of them:

DDS - Diálogo Diário de Segurança [Daily Dialogue on Safety]: Daily talk on safety between the Supervisor and his or her team before the start of each shift to alert and make employees aware of the risks concerning their activities.

Fale Fácil [Easy Talk]: Communication channel between the company and its employees, a tool used to report near-accidents, inadequate conditions and acts, environmental impacts and other uncomfortable situations for the worker.

**Operational Checklist**: Tool to evaluate the minimum safety conditions, to be completed before the start of any activity, either underground or surface.

Formal Periodic Planned and Appropriate Inspection (IPPFA): Frequent inspection of all areas within the company following a checklist and a preestablished schedule, to evaluate the fulfillment of

security, organization, cleanliness and comfort requirements.

**Loss Analysis:** Investigation and evaluation of the causes that led to an accident, proposing measures to restrain its recurrence.

"The commitment of employees to their own safety and their

colleagues' is noticeable. The company spares no effort to promote training and lectures, both in-house and outside the company, and, thus, increase its employees' knowledge, ultimately developing its most important resource, people."





### Internal Commission for Accident Prevention in Mining - CIPAMIN

CIPAMIN is composed of members elected by employees and referred by the company. Its primary goal is to prevent accidents and diseases arising from industrial activities, aimed at preserving life and the health of workers. Key attributions include identifying possible threats in the work process and drawing up a risk map in collaboration with the largest number of workers possible, also supported from the Health & Safety department. CIPAMIN is responsible for organizing SIPATMIN – the Internal Week for Accident Prevention in Mining, held in all Units on an annual basis.

"Full awareness about safety is not completely crystallized yet, but I've already noticed many changes" Jaguar is going through a transition, with changes in many management and senior management positions, which brought about lots of new things. I believe we are on a path towards growth, with many positive changes ahead"

Vivian Geralda Garcia Silva CIPA Secretary and Nursing Technician CCA Unit - Pilar



### Safety Performance

Rating	CCA Unit		it Pilar CCA Unit Roça Grande		MTL Unit		CPA Unit		Corporate Belo Horizonte	
	2015	2016	2015	2016	2015	2016	2015	2016	2015	2016
Lost-time incidents	1	0	10	1	1	2	0	0	0	0
No lost-time incidents	4	3	3	6	28	20	0	0	0	0
Lost time injury frequency rate <sup>1</sup>	1,68	0	15,87	1,55	0,94	1,88	0	0	0	0
No lost-time injury frequency rate <sup>2</sup>	6,72	4,61	4,76	9,29	26,37	18,84	0	0	0	0

<sup>&</sup>lt;sup>1</sup> Lost time injury frequency rate (LTIFR) is calculated by the product of one million hours divided by the total hours worked during the period, and includes lost time injury incidents (it does not include First Aid Care and Medical Treatment Cases).

<sup>&</sup>lt;sup>2</sup> No-lost time injury frequency rate (LTIFR) is calculated by the product of one million hours divided by the total hours worked during the period, including both in injury and no-lost time injury incidents.

### **Benefits**

The company seeks to offer benefits to enhance the quality of life and health of its employees and their families, according to the best market practices, wherever possible.

### Profit Sharing Program - PSP

The Profit Sharing Program (PSP) aims to encourage and promote greater alignment between the employees' key job tasks and the strategic goals of the company, helping optimize resources, maximize results and performances, as in addition to ensuring sustainable business growth.

Jaguar's initiative demonstrates that valuing human

capital and providing development opportunities for employees is paramount to the company. It also attests to Jaguar's commitment to being open about its strategies and earnings, and to rewarding the staff based on engagement and productivity.

### Medical and Dental Care

All employees and their dependents are entitled to register with the health insurance and dental care plan offered by the company.

### Education Bonus

The Company offers an annual allowance for the purchase of school supplies to employees and their dependents, according to criteria set out in its Human Resources policy, as an effort to support the families in the education and professional development of young people.

### **Life Insurance**

As a way to protect the lives and well-being of families, Jaguar provides every employee with group life insurance, covering 99% of its costs.



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### Meals

Jaguar is concerned about its employees' nutritional state and ensures the supply of food to every worker, according to specific parameters in each Unit.

Every Operational Unit features a dining room where several meals are served daily. In addition distributing

snacks on all shifts, the company counts on nutritionists to develop balanced menus. Monthly food vouchers are also provided to employees receiving entry-level salaries. Employees working outside the Units receive meal vouchers.

# **Training and Development**

Training and Development guidelines are intended to establish criteria for the development and qualification of Jaguar employees, in line with the company's strategic goals.

Jaguar established its learning methodology according to concepts of Andragogy – which is especially dedicated to adult education – and to the 70/20/10 concept, applied to development and learning in organizations. Through these methods, the personnel development strategy shall be distributed as follows:

- 70% of learning must come from real life experiences and interactions in the workplace, including completion of tasks and problem solving.
- 20% is based on formal interactions focused on learning.
- 10% of learning must be provided through training, courses, seminars, workshops and formal readings.

The Human Resources department must be involved in all training and development actions.



### Leaders Development Program

Jaguar implemented the Leadership Development Program in 2016, ta rget ing managers, coordinators, and supervisors. The purpose of this program is to develop the employees in charge of team leadership management activities, enabling them to act consistently with the company's mission, vision and values. A total of 177 leaders received training, both in the corporate and operational environments.

"Jaguar has been the entryway to my professional development, enabling me to work in the area I like today, which is operations,

because I like dealing with people. It takes work, it's not simple, but that's what drives me – motivating and being motivated. More than salary, seeking the personal fulfillment of each employee is what really gets the operational wheels turning."



Diego Gonçalves Cardozo Ribeiro Mining Engineer CCA Unit - Roça Grande

### Onboarding and Integration Training

Jaguar Mining's Onboarding Program is the gateway to the company and part of the process for admission of all workers in the Operational Units. It informs new employees of all internal regulations and safety standards, in addition to providing the best onboarding experience. The period of adaptation to Jaguar is enabled by the Sponsorship Program, where new employees receive introductory and specific training, with support from experienced professionals that act as "mentors" and are familiar with the concerned job routines. Such monitoring takes place within the first 45 days, and helps reinforce the employee's onboarding process as well as the tasks learned.

### Golden Talents

It is an internal recruitment program aimed at validating, motivating and retaining our talent through career progressions and promotions. Job positions are posted in the Golden Talents section on Jaguar Mining's website, as well as on notice boards in each Unit.

"The Company has been investing in career development. I am one such example; I started as a Chemical Technician working in the lab. I was already in the second year of college, and after I

graduated, they gave me an opportunity to take an engineering position in the plant operations department."

Istelamares Alvarenga de Barros Chemical Engineer CCA Unit - Roça Grande



### Campaigns

All training offered by Jaguar is intended to guide, empower and develop employees towards optimizing results and creating value.

It is also important for the company to raise its team's social and environmental awareness, by sharing content through experiences that can also be disseminated in the family environment and in the community. Learn about some of the topics covered in 2016:

- Environment Week
- International Women's Day

- SIPATMIN Internal Week for Accident Prevention in Mining
- Pink October
- Dengue prevention campaign and action for eradication of the Aedes Aegypti
- Blue November
- Christmas at the Units
- Solidarity Christmas
- Father's day
- Mother's day
- Water Day
- [Dia de Brincar] Play Day



### [Dia de Brincar] Play Day

Play Day is an initiative aimed at creating opportunities for leisure, culture and strengthening positive connections among employees, their families and the surrounding communities. The first edition was held on October 22, 2016, at Praça de Santo Amaro, in the district of Brumal, Santa Barbara, in partnership with Cecilia Alvarez Duarte city school.

The event brought together over 200 adults and children to experience a special programming, playing games such as a wooden leg, juggling, bag, scavenger hunts, build toys and many other recreational activities.

Through the Play Day, the company disseminated important values such as creativity, collaboration and sharing, which not only are key elements in playing but also a positive expression of our day-to-day. The event also created a good opportunity to promote local products and services, in addition to strength-

ening the relationship and bringing families closer to the company, through direct interaction of our workers with the neighborhood.

"Playful activities certainly help create greater integration in the company; it was a good opportunity for us to change our view about some of our colleagues as we watched them interact with their families. It was worth the initiative. This was the first time it's happened in 12 years, but it's nevertoo late to start. The event was well organized with a great structure, various activities and several contests."

Jaqueline Sebastiana Morais Ferreira da Silva Personnel Department Analyst CCA Unit - Pilar Mine





Dia de Brincar - Brumal - Santa Bárbara / Arquivo Jaguar Mining



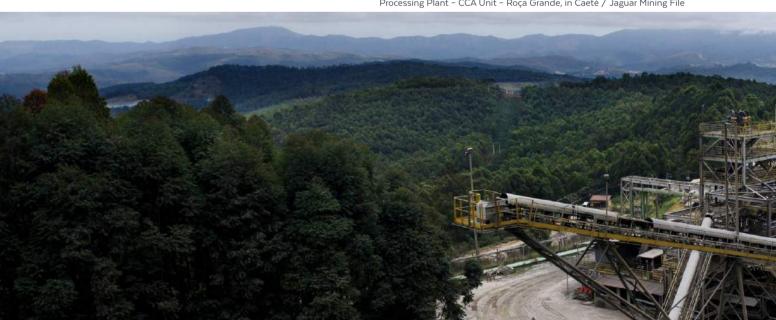
# Environment

### Our values reflect the way we relate with the environment.

Mindful of the effects of our operations, we seek to control, prevent and mitigate damages to the environment and to human safety. Respect is a key word for Jaguar and the core element of environmental awareness. We are aligned with the dynamics and critical local and global discussions and about future and sustainability, taking part in ongoing debates and fostering the reflection on global topics of interest, such as rational and efficient use of water, raw materials and energy, with the aim to reduce our polluting potential and protect the environment and the communities where we operate.

Jaguar has implemented environmental control systems in all units, to continuously assess the relationship between their activities and the environment, inputting data and information into a responsive system that identifies and evaluates potential impacts. We are always attentive and open to improve our environmental management process.

Topics addressed in this section include water quality, solid waste management, hydrogeological monitoring, fauna, acid mine drainage, earthquake control and management of deactivated areas, among others.



Processing Plant - CCA Unit - Roça Grande, in Caeté / Jaguar Mining File

# **Environmental Control Systems**

Jaguar's environmental control systems comprise structures, procedures and monitoring tools that provide environmental agencies, employees and the communities surrounding its units with information that attest to the company's emission and disposal control efficiency

### Water Quality Monitoring

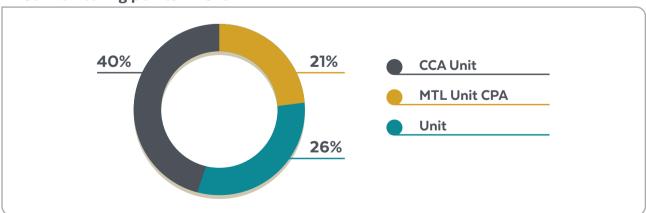
We monitor the quality of water in 87 fixed points distributed in all Operational Units. Basically, the definition and maintenance of this network takes into account the potential impact each Jaguar structure can have on the quality of water. The company also monitors areas currently undergoing maintenance or that have been deactivated. In 2016, 859 water quality assessment reports were generated, 347 of which were related to surface waters; 279 to effluents; 62 to groundwater; 100 reports concerned potability and 12 related to hydrobiological monitoring. Sampling and analysis are carried out by certified external laboratories.

Elements and limits are defined according to national and

state regulations. Every three months, the environment team submits to the environmental agency a report containing the analysis reports, highlighting elements with concentrations above the legal limits.

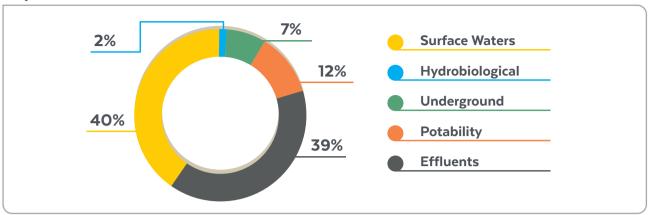
Concentrations above the limits established in the regulations are more often found in elements such as iron and manganese. To address such cases, Jaguar is preparing a "background" study or, in other words, an assessment of the local natural conditions to prove the presence of these substances in places outside the influence of mining or other activities. These studies are underway and scheduled to be completed the end of 2017.

#### Fixed monitoring points - 2016



The frequency of analysis is determined by the environmental agency. In most points, collections are held on a monthly basis. Deactivated areas are also considered in the water quality monitoring network: 29 points are evaluated every month.

### Inspections carried out - 2016



The points assessed are established in accordance with the licensing process and legal requirements.

### Hydrogeological Monitoring

The company maintains a network to monitor underground water levels, consisting of piezometers, flowmeters and weather station, defined by experts hired to develop the hydrogeological studies.

Analyzes of water level measurements in piezometers enable identifying whether the variations in aquifers are

being influenced by our mines. The monitoring also indicates water flows on the surface and helps planning operations at the mines.

Measurements are performed on a biweekly or monthly basis, depending on guidelines of each study. In 2016, no changes in groundwater levels were identified.

Lab - CCA Unit - Roça Grande, in Caeté / Jaguar Mining File

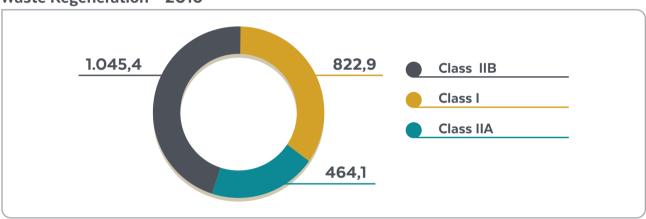


### Solid Waste Management

Our management plan provides operational guidelines for temporary storage and final disposal of the solid waste generated in our production process. Aligned with global trends and guidelines, the plan focuses on minimizing waste generation, on process traceability and valuation of materials, and prioritizing its destination for more sustainable practices, such as recycling and composting.

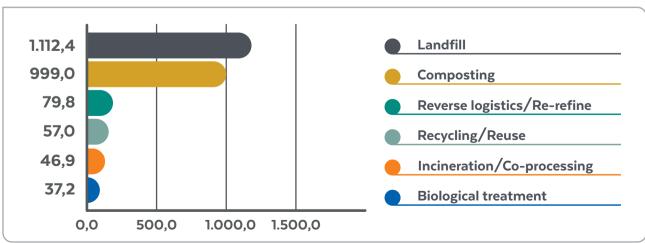
In 2016, the company separated, collected and allocated 2,332 tons of waste. According to NBR Standard 10. 004/2004 of ABNT [Brazilian Association of Technical Standards], 64.7% of the generated waste belong to class II (non-hazardous, non-inert - A, or inert - B) and 35.3% belong to class I (hazardous waste). Jaguar gives special attention to hazardous waste, by separating it at the source and avoiding mixing with other materials in order to prevent contamination of the reusable waste.

#### **Waste Regeneration - 2016**



Jaguar reviews all production processes on a regular basis, according to the guidelines of the 4R Program (Reduce, Recycle, Reuse and Rethink). Approval of final recipients includes a thorough assessment on compliance with all legal requirements. Our solid waste management also encourages the development of partnerships with associations and companies involved in recycling and treatment of hazardous waste.

### Final destination of waste (t) - 2016



In 2016, Jaguar also established the "Zero Scrap" target, motivating its employees to evaluate which parts, vehicles and equipment should be kept in the courtyards of the Units. Overall, Jaguar sent 760.3 tons of scrap to recycling companies, revamping its courtyards and warehouses to add more quality to the work environment.

The Zero Scrap target was part of the company's Profit Sharing Program and has been fully attained.

### Seismic Monitoring

Seismic monitoring is aimed at identifying the vibrations caused by the blasting of rocks using explosives and evaluating possible reflections on the surface, thus ensuring safety to all stakeholders.

The Jaguar has three seismographs, which are calibrated by a specialized company on an annual basis, as per the technical standards. One device is located in the Brumal community; another is in Roca Grande, at the inner courtyard next to the administrative office; the third seismograph was installed in MTL, at the Unit's parking lot. These are all strategic points for the company.

### Fauna Monitoring

Jaguar prepares the Terrestrial Fauna Monitoring Report during the rainy and dry periods each year, with the aim of assessing potential impacts on local wildlife. Using specific methods, the company is constantly evaluating criteria such as frequency, diversity and resilience of species and groups of fauna.

Two campaigns were carried out in Roça Grande, covering 30 sampling points focused on mammal, herpetofauna and avifauna groups. No variations resulting from Jaguar's operations have been detected in 2016 or in previous years.



### Acid Mine Drainage (AMD)

To put it simple, acid mine drainage (AMD) is the acidification of waters in a mine. It occurs when rocks with high levels of sulfides are exposed and oxidize in the presence of water and air. In nature, it is common to find gold associated with sulfide rocks, which are exposed during the mining process. Acidic waters react with elements in the environment, such as iron, manganese and arsenic, contributing to their dissolution in the water. DAM is more common in deactivated mines, as these reactions need time to occur.

Jaguar identified acidic waters in the Palmital and Ouro Fino mines at the CPA Unit. Both are deactivated and received specific treatment. In Palmital, the company has installed a system to treat the water that naturally springs from the mine, composed of a series of tanks filled with alkaline material, through which the water passes. The method deployed in Palmital is simple but innovative, resulting in clear water with pH levels within the legal limits, with tests indicating positive results.

The Ouro Fino mine went through surveys and adjustments in 2016, which resulted in dewatering. With the support from expert advice, Jaguar set up a system to treat the water before disposing it into the environment. The company adopted pH correction methods to treat 21,919 cubic meters of acid waters pumped from the mines.

Jaguar is also developing studies to identify the AMD generation potential of its operating Units, by sampling specific points of the mines – both underground and on the surface – to evaluate the behavior of each material. Samples are submitted to an external laboratory and undergo static and kinetic tests. In 2016, Jaguar collected five samples for kinetic tests and expects to obtain the results in 2017. Other 22 points were mapped to receive static testing, which also will be held this year.



Análise de PH para controle de drenagem ácida - Unidade CPA / Arquivo Jaguar Mining

# Geochemical Background

Background studies aim to meet the unique characteristics of geology, the quality of surface and groundwater and the soil in a particular location.

In 2016, Jaguar developed an inventory of points featuring characteristics that reflect the same natural

conditions prior to the project implementation. The purpose was to define locations to compose the reference values of each region. Analyzes on these points are also planned for 2017.

# Management of Deactivated Areas

Currently, the company has nine areas whose activities have been temporarily interrupted. However, a team is allocated to manage and perform ongoing inspections in these locations, assessing and controlling any erosion processes that may occur. This team also monitors the quality of waters through proper analysis and treatment.

Jaguar demobilized the physical structures of these mines in 2016, in order avoid risks to society and prevent vandalism. All the waste generated from the buildings and power grids were separated and allocated according to each category.

### PAFEM - Environmental Plan for Mine Closure

Glimpsing the future possibility of permanently closing the deactivated areas, we are developing Environmental Plans for Mine Closure (PAFEMs) in conjunction with PRADS - Degraded Area Recovery Plans, which provide for medium-and long-term actions.

## Dust Control

Although all Jaguar mines are currently underground, the transit of trucks and some equipment involved in its activities generate dust. To avoid any inconvenience to our employees and neighbors, Jaguar sprays the surrounding roads on a daily basis.

It is important to mention that the water used in the trucks to humidify the roads comes from water recirculation systems, which also undergo monitoring and meet all legal quality standards for this purpose.

ABOUT US OUR OPERATIONS PEOPLE ENVIRONMENT DIALOGUE AND RELATIONSHIP

# Environmental Licensing Process Management

Jaguar has a team dedicated to guide and monitor all licensing processes, providing environmental agencies with all information required for compre-

hension and analysis. Last year, Jaguar prepared 337 documents relating to environmental management.

## Environmental Licenses and Constraints

Jaguar's activities are authorized through 28 environmental licenses, intended for various activities that integrated the business, which range from research to ore processing.

To learn more about the licensing process, check out the distribution of our licenses by categories below:

Category	Quantity
Operation License (LO)	11
Temporary Operating Permits (APO)	02
Granting of rights to use	10
Environmental Operating Licenses (AAF)	01
Preliminary Permits concurrent with Installation Licenses (LP+LI)	03
Harvest and Trade Statement (DCC)	145

The company is also subject to a total of 120 environmental constraints on all of its current licenses. 60 constraints require ongoing compliance and monitoring, such as water monitoring, acid drainage potential, waste management, drainage control,

erosion processes, among others. Another 55 restrictions have already been met and five are outstanding, awaiting decisions from the environmental agency in order to be addressed.

## Environmental Investments

In 2106, Jaguar invested BRL 5.063.25 in environmental-related matters. Compliance with environmental obligations such as water quality monitoring, environmental compensation and solid waste management accounted for 67% of the amount. Investments in care and maintenance of deactivated

areas amounted to BRL 1,173.56 (23% of the total). We also allocated BRL 323,000.00 to studies and improvements. Moreover, it is worth highlighting that the payment for water use and other fees collected from environmental agencies totaled BRL 151,847.00.

#### **Environmental Investments - 2016**





Chica Dona Waterfall - Community around CPA Unit / Jaguar Mining File

# **Energy**

Regarding "energy", the highlights are three core points for which gains were obtained during 2016. The improvements were made in some Operating Units, but generated impacts across Jaguar Group. They are:

Pilar Mine: In 2016, diesel-powered generators were replaced, after the deployment of the new electricity distribution network. The initiative generated environmental gains, reducing emission of polluting gases, as well as financial gains. The investment for the substation installation amounted to BRL 1.3 million. Such technical improvement promoted monthly savings of approximately 40% on energy expenses, allowing the return of the investment in 3 months. Emission reduction was also due to the shift in the energy supply model, from the captive to the free energy market.

**Turmalina Mine**: Last year, Jaguar hired a specialized consultancy firm to trace energy loss zones generating direct consumption increase. After studies were

carried out, reduction opportunities were set and implemented and after a few months, the company observed an average 5 kWh/t gain. In 2016, energy cost reductions reached BRL 500,000.00 across the full production process.

The Project follows the PDCA methodology: an excellence team is gathered to trace and treat the main causes of energy wastage in the MTL Unit. This project has no beginning or end; it is a continuous improvement plan. It poses a great challenge, but the team is capable enough to turn the goals into reality. I participated actively. The initiative proved to all of us that there are no limits when it comes to improving.

Sávio Lopes Cançado Mendonça Maintenance Manager MTL Unit



Processing Plant - MTL / Jaguar Mining File



# **Environmental Education**



The Company invests in environmental education actions to engage internal stakeholders and the communities surrounding the Operational Units. We are dealing with a context in which schools are key partners in promoting environment-related values.

In July 2016, we held the 6th Environment Week to demonstrate the benefits of waste reuse. One of the most important environmental education initiatives was the "Reciclar é nota 10" ["Recyclers Rock"] handicraft contest. Students from the city school Escola Municipal Cecília Álvarez Duarte, in the district of Brumal, in Santa Bárbara, and city school Escola Municipal Aurora Júlia da Fonseca, in the village of Casquilho, city of Conceição do Pará, took part in the initiative. The goal was to find creative ways to raise awareness among participants and their families to topics such as consumption, pollution, reuse and

waste recycling. To sign up for the contest, children were required to build a toy or a game, made with recyclable materials such as cardboard, pet bottles, tissue flaps, among others. 177 elementary students let their imagination fly and engaged in the activity.

Also internally, topics such as garbage selective collection and the correct disposal of solid waste have been debated through playful activities, such as the "Jogando Limpo" [Playing Clean] action, a campaign carried out across all Jaguar Units. Employees produced art pieces from materials intended for disposal, fostering the reflection on the environment and reinforcing the role of each individual within the company.

In both school and unit campaigns, the top three performers in each category were awarded.



# Dialogue and Relationship

# We believe that collaboration between companies, governments and the civil society is the way to build a truly sustainable future.

In 2016, we invested in counseling and team building to improve the services offered to the Company's various stakeholders. We implemented new internal and external communication channels, which allowed upgrading the mechanisms for event logging and monitoring, among other aspects.

Based on the company's new Sustainability Guideline, we also expanded our participation in local projects, establishing more effective procedures for receiving, evaluating and monitoring proposals. We believe that collaboration between companies, governments and the civil society is the way to build a truly sustainable future. Therefore, we created the "Seeds of Sustainability" program, aiming at local development, strengthening initiatives in the cultural, social, environmental and financial dimensions, and promoting creativity and innovation. A pilot study of the program was carried out in the cities of Pitangui and Conceição do Pará, and the first results are a noticeable reality, already.

Within our efforts to review our strategic planning, we realigned the Mission, Vision and Values, guidelines that govern the new Jaguar way of operating.

We also redesign our brand into a lighter and more assertive layout, in order to streamline the communication with our stakeholders.

Although we have clearly progressed in 2016, we are aware of the many challenges ahead. After all, organizations and individuals are increasingly questioning companies about their social and environmental performance. We seek to consolidate procedures and dialogue channels in a shared and creative fashion, to improve listening processes and meet the needs of our employees, communities, governments and civil society.

We invite you to learn about the work carried out this past year, aimed at improving the way we manage our dialogue with society, ultimately being recognized as a socially responsible company



Ana Thereza Balbi - Institutional Relations Coordinator

# **Community Profile**

CCA Unit		MTL Unit	CCA Unit	
	Pilar Gold Mine	Roça Grande Mine	Turmalina Mine	Paciência Mine
	Santa Bárbara/MG	Caeté/MG	Conceição do Pará/MG	Itabirito/MG
	City Profile	City Profile	City Profile	City Profile
	Area 685,11Km² Population 27.876 inhab. IDHM 0,707 (high) Per capita income R\$ 535,84  Barão de Cocais/ MG City Profile	Area 540Km² Population 40.750 inhab. IDHM 0,728 (high) Per capita income R\$ 586,16	Area 250.38 Km² Population 5.158 inhab. IDHM 0,700 (high) Per capita income R\$ 576,00  Pitangui/MG City Profile	Area 544,99 Km² Population 45.449 inhab. Faixa do IDHM 0,730 (high) Per capita income R\$ 784,55
	Area 342.45 Km² Population 28.442 inhab. IDHM 0,722 (high) Per capita income R\$ 546.85		Area 570.01 Km² Population 25.311 inhab. IDHM 0,725 (high) Per capita income R\$ 535,84	

 $Local demographic data found in the 2010 census data collection carried out by the Brazilian Institute of Geography and Statistics [IBGE]. \\ Source: Atlas of Human Development in Brazil, 2013. Available at: http://atlasbrasil.org.br/2013/$ 



# Dialogue and Relationship Systems

## Communication Channels

To maintain and improve our relationship channels and consultation and dialogue with our stakeholders, the company provides the following communication tools:

Shareholder	Employees	Community	Public Power	Press
Events	Telephone	Community Relations Team	Government Relations Team	Telephone
White Papers	Email	Telephon	Telephon	Email
Technical visits	Jaguar em Foco	Email	Email	Newsletters
Whistleblowing Channel	Fale Fácil [Easy Talk]	Local Newsletters	Whistleblower Channel	Whistleblowing Channel
	Whistleblowing Channel	Events		Press Releases
		Campaigns		
		Open meetings		
		Whistleblowing Channel		
		Jaguar em Foco [Jaguar in Focus]		

São Francisco Church - Historical Center of Pintangui / Jaguar Mining File



ABOUT US OUR OPERATIONS PEOPLE ENVIRONMENT DIALOGUE AND RELATIONSHIP

# Open meetings

Our dialogue with surrounding communities is a practice we seek to continually improve. A sound dialogue process implies creating a healthy and open environment that allows us to build positive and lasting legacies for the populations in the communities where we operate. Bearing such belief in mind, in 2016, we began a series of open meetings aimed at broadening our engagement with the communities. Topics for these meetings are chosen by local residents, including explosions, water management, dams, among other issues. Meetings are attended by community members and specialists seeking to understand and mitigate the impact of our activities. The initiative also fosters collaboration in other aspects of local development, by raising awareness to local cultural potentials and promoting new forms of economy.

"We are building dialogue between both stakeholders. For local residents, it is time to deal with the company as a partner, to recover the fundamental life supporting elements, with quality and balance. For the company, it is time to understand the geography of the area where it is established, not only as a piece of land that is rich in mineral resources, but as the birthplace of many who were here long before. There is no dialogue without an open contact and willingness to listen from both parties. It requires a relationship based on trust and respect among interlocutors and mutual knowledge, as well.

The open meetings proposed by Jaguar allow the population to learn about the company's mission and the new production paradigms, while enabling Jaguar to understand the real needs of

the community. It is not an easy process, but it can be beneficial to both parties."

Dilce Mendes - Resident in the district of Brumal and member of the Movimento Pingo



# Internal Dialogue Groups

As a means to expand internal dialogue processes and engage other areas of the Company in the relationship actions, reference groups were set up, comprising 36 employees from different departments and levels in the Operational and Corporate Units. Last year, a total of 30 face-to-face hours was spent on the project, which allowed for greater listening and exchange between departments, based on the analysis of topics such as internal and external communication, health and safety, human resources, suppliers, trade unions and land owners.

"Internal dialogue is a way of bringing the areas across the company closer together, in a joint effort to foster improvements and the common interest. Even without being familiar with the routines of a particular department, one can contribute with a different point of view by raising questions that often go unnoticed in the day-to-day."

Ronaldo de Souza Viana Administrative Supervisor MTL Unit - Turmalina Mine



# Supplier Relations

We always seek to do business with suppliers who operate according to the same ethical standards as adopted by Jaguar. In line with strict principles of equity and transparency, integrity and safeguarding human rights – including of children and adolescents – must prevail when fulfilling legal obligations. The choice of our suppliers occurs through competition and is based on transparency and technical, professional and financial criteria.

Being located close to our operational areas is also a criterion of analysis when choosing a supplier. After all, we prioritize the development of the communities where we operate. In addition, those involved in the procurement or contracting processes must ensure that Jaguar's suppliers or service providers comply with all applicable laws.

## Union Relations

Jaguar employees are represented by the Labor Unions of the Gold and Precious Metal Extraction Industry in Nova Lima and Santa Bárbara.

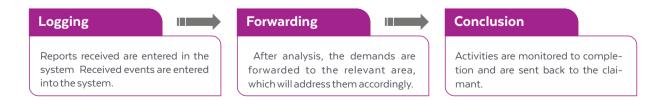
The Company maintains an open dialogue and constant interaction with such union entities, working in partnership with both of them to continuously improve the work relations and conditions in our

Units.

This relationship has been consolidating, based on mutual respect and always taking into account the current labor legislation, as proven by the substantial reduction of labor claims – from 300 in 2015 to 90 in 2016.

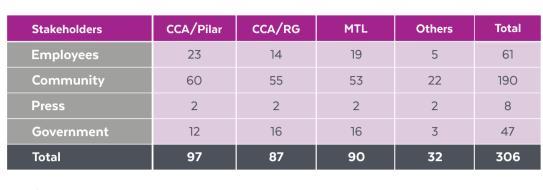
# Event Log and Monitoring Flow:

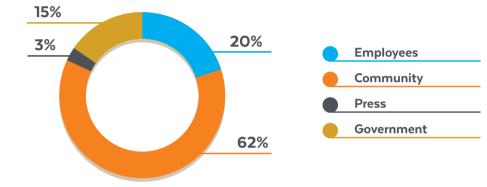
Events received in person, by telephone or email are entered into a registration system and forwarded to the areas in charge of the relevant analysis and treatment. The Communication and Institutional Relations team monitors the demands, from receipt to completion.



92% of the events registered in 2016 were treated to completion, the remainder, only 8%, were treated and are currently in progress.

### **Stakeholder Registration**

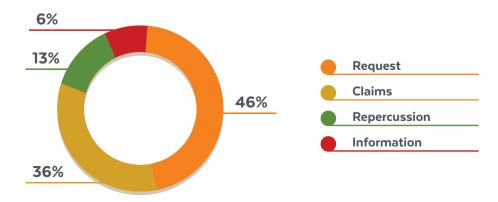




#### **Events**

In 2016, 166 events coming from various stakeholders were logged:

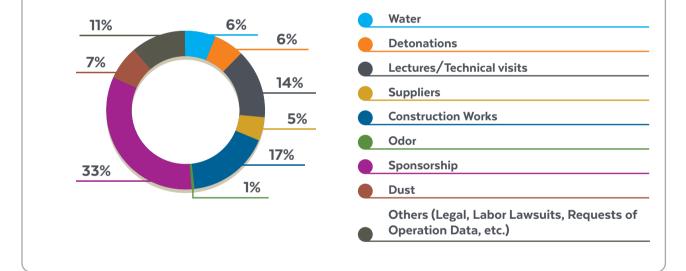
Report	CCA/Pilar	CCA/RG	MTL	Other locations	Total
Requests	21	17	29	11	61
Claims	26	15	18	4	48
Repercussion	8	0	6	3	17
Information	2	3	3	0	8
Total	57	35	56	18	134



ABOUT US OUR OPERATIONS PEOPLE ENVIRONMENT DIALOGUE AND RELATIONSHIP

#### Events covered the following topics:

Event	CCA/Pilar	CCA/RG	MTL	Other places	Total
Water	9	0	1	0	10
Detonations	3	2	5	0	10
Lectures/Technical visits	6	3	8	7	24
Suppliers	3	5	0	0	8
Construction Works	8	8	10	2	28
Odor	1	0	0	0	1
Sponsorship	13	11	25	6	55
Dust	7	1	4	0	12
Others (Legal, Labor Claims,Operational Data Requests, etc.)	7	5	3	3	18
Total	57	35	56	18	166



# Sponsorships Policy

Jaguar designed the Social Responsibility Policy for Donations and Sponsorship to guide and drive decisions about the company's investments in own and third-party initiatives. According to the policy, all decisions shall be based on our commitment to sustainable development and the legacy we wish to leave to

the regions where we operate. The company also improved the processes related to receiving, approval, monitoring and accountability of these demands, and plans to enhance its purpose every year.

### Engagement in local initiatives:

In 2016, Jaguar invested BRL 543,852.00 in direct resources, allocated to partnerships with local initiatives.

Location	Project/Initiative	Beneficiary	Area
Caeté	Feast of the Patron Saint in Caeté	Nossa Senhora do Bom Sucesso Parish Church	Culture
Caeté	Cavalhada Festivities	Paróquia Nossa Senhora de Nazareth	Culture
Caeté	Female Cavalhada Festivities in André do Mato Dentro	Neighborhood Association in André do Mato Dentro	Culture
Pitangui	Pitangui Street Lighting	Municipal Government of Pitangui	Infrastructure
Conceição do Pará	Gabinete Dentário [Dental Office]	Conceição do Pará Local Government	Health
Conceição do Pará	June Festival	Aurora Júlia da Fonseca City School	Culture
Conceição do Pará	June Festival	Dr. Isauro Epifânio State School	Culture
Conceição do Pará	Intern Maintenance	Pará River Basin User Committee	Environment
Conceição do Pará	Drinking Fountain Donation	Dr. Isauro Epifânio State School	Infrastructure
Itabirito	Financing of the project for sustainable use of water resources in Engenho D' Água, Ouro Preto - MG.	Subcommittee on Springing Watersheds	Environment
Maranhão	Carnaval	Centro Novo do Maranhão	Culture
Maranhão	Motocross Event	Centro Novo do Maranhão	Sports
Santa Bárbara - Brumal	Brumal Encanta Choir	Community Association in Brumal	Culture
Santa Bárbara - Brumal	Minas D'águas Project	Movimento Pingo D'água Project	Environment
Santa Bárbara - Brumal	Brumal Costura e Arte Project	Economic and Social Development Agency in Santa Bárbara [ADESB]	Geração de renda
Santa Bárbara - Brumal	Cozinha Brasil Project	Economic and Social Development Agency in Santa Bárbara [ADESB]	Geração de renda
Santa Bárbara - Brumal	Entrepreneurship at the City Council of Public Administration [COMAP]	Afonso Pena City School	Education
Santa Bárbara - Brumal	79 <sup>th</sup> Cavalhada Festivity in Brumal	Community Association in Brumal	Culture
Santa Bárbara - Brumal	Work at Floresta Street	Santa Bárbara Local Government	Infrastructure
Santa Bárbara - Brumal	Works in Rancho Novo	Caeté Local Government	Infrastructure
Santa Bárbara - Brumal	Weavers in Brumal	Brumal Weavers Association	Culture and Income generation

# Seeds of Sustainability Award CCA Unit - Pilar Mine

Based on the significant safety results at Pilar Mine, Jaguar's Board of Directors created the Seeds of Sustainability Award and invited the employees of this Unit to suggest the areas deserving priority treatment in their region and which would be targeted for investments from the Company. For three days, workers gathered in the Unit's dining area to vote and choose the sectors considered most relevant, which also allowed Jaguar's management to learn more deeply its employees' points of view. Social and Cultural, Environment and Income Generation were

the segments selected.

Environment hit first place, with 70% of the votes, followed by Culture, with 16% of the votes, and, in third place, the area of Income Generation got 14% of the votes. A total investment of BRL 100,000.00 was distributed as follows:

The winner received 50% of the prize; second place got a 40% share and third place received the final 10%.

#### **Brumal Weavers Association**

Brumal Weavers Association is comprised by a group of local women for whom weaving is a source of income and also a citizenship instrument.

Currently, the Association includes nine women who meet daily at the Centro Cultural de Brumal [Brumal Cultural Center] to produce art pieces and interact. Rugs, cushions, quilts, bags and many other creations are marketed at the cultural center and also at regional fairs and festivals.

Besides the additional income, it is helping us take better care of

our health and treat diseases like depression. It is good to be here and enjoy ourselves. We start to weave and forget about all the rest".

Maria Geralda Pereira
President at the Brumal Weavers
Association

With the Sustainability Seeds Award, the Association invested in the purchase of materials to increase production.





ABOUT US OUR OPERATIONS PEOPLE ENVIRONMENT DIALOGUE AND RELATIONSHIP

#### **Brumal Encanta Choir**

One of the projects maintained by the Brumal Community Association includes the Ars Fascinium Choir and music and instrument classes for local children, teenagers and adults. Under the perspective of valuing the local culture, one of the goals is to reestablish a former community music corporation – the Corporação Santo Amaro. The group is already benefiting from the project: some of the students from the Brumal Encanta Choir participate effectively in the Santa Cecília Music Band, in Barão de Cocais. The group meets weekly at the Centro Cultural de Brumal [Brumal Cultural Center] and also at the Cecília Álvares Duarte city school, partner of the Project.

"This prize was of extreme relevance in benefiting both the choir and the musical training initiatives. In addition to the prize, the company also encouraged the sense of entrepreneurship among the cultural groups in Brumal".

Veralúcia Pereira da Silva
Principal at Cecília Álvares Duarte
City School and President at the
Brumal Community Association ACB





#### **Spring Recovery Project**

Created by dwellers in the community of Brumal, in Santa Bárbara, the initiative portrays the population's concern with the region's water resources. In line with Company guidelines, the project is aimed at recovering 13 springs within the district perimeter and has gained exposure and support.

The community and Jaguar are working closely to find effective solutions to protect, recover and prevent degradation of the waterholes. The project is laid out in two stages and in full execution.

#### Phase one

In 2016, after several meetings with local residents, Jaguar hired a specialized firm to carry out the project's first phase. Located in a Permanent Preservation Area (PPA), the 13 water springs were tracked, georeferenced and diagnosed, also considering the recharge areas. Concrete proposals for environmental recovery were drawn up.

Learn about the legislation applicable to PPAs:

Law No. 12.651/2012 - New Forestry Code, Art. 3

Water Spring PPAs – In the springs and waterholes, the minimum preserved forest should be 50 meters wide and mangroves should have their full extent preserved. Wetlands require a minimum vegetation strip preservation width of 50 meters, from the permanently swampy and waterlogged area.

#### Phase two

For 2017, recovery of 1,761 hectares is expected, with the planting of native forest in the PPAs of the springs foreseen in the project. Approximately 3,770 meters of fences will be installed – and the existing ones renovated – to protect the areas, since there is a noticeable intervention of horses and cattle in several of the evaluated locations.

In order for the project to be successful, in addition to all planned actions, a continuous partnership with land owners where the springs are located will be required, aiming at the necessary maintenance of the preservation areas.



Plantation of native seedlings - Brumal - Santa Bárbara / Jaguar Mining File



# Seeds of Sustainability Program



The mining sector accounts for a significant part of the economy of the cities in which we operate. However, stakeholders must be aware that the mining activity deals with finite resources, fundamentally requiring the establishment of partnerships. We believe that the best way forward is to gather companies, governments and civil society in the task of rethinking development paradigms, considering the future beyond this activity.

Thinking ahead, we developed the Seeds of Sustainability Program, which aims to contribute to local initiatives based on content, training and fostering partnerships to generate results for society. As a junior mining company, we want to do our best with the available resources and, therefore, we understand that building partnerships in other spheres of the local development is an utmost strategic attitude.

A first module of the program was carried out in the cities of Pitangui and Conceição do Pará. We mobilized and registered local cultural, social and sports initiatives, to discover and identify potential assets. We then promoted counseling services to foster the local projects registered in the 2016 edition of the State Fund for Culture. Within this scenario, we included three projects: Música nas Escolas [Music in Schools], Fórum e Encontro Regional de Bandas Civis [Forum and Regional Meeting of Civil Bands] and Sabores de Pitangui – Griôs da Culinária Tradicional [Flavors of Pitangui – Traditional Cooking Grios], the latter being approved and receiving BRL 35,000.00 in financial resources.

# ▶ Flavors of Pitangui - Traditional Cooking Grios

Learn why this project falls within the concept of the Seeds of sustainability Program.

Having the City of Pitangui as proponent, through the Tourism and Culture Department, it was perceived as an initiative capable of producing results in the most diverse fields:

Maria Aparecida César de Resende Rural producer, participant in the Seeds of Sustainability Program - Sacramento Community - Pitangui





It allows identifying, registering and promoting cultural potentials from Pitangui, articulating traditional knowledge from the city's rural and urban areas. By highlighting heritage aspects, the city is also enabled to access public funds focused on culture and heritage.



It allows for multiple social articulations between different sectors, including stakeholders for the development of culture, tourism or the environment, linking different types of resources.



Natural heritage is one of the project's strong assets and uses existing physical structures to appeal to residents and visitors, who start to appreciate and care for the legacy.



It stands out, both for the ability to generate income for the participants, through sales of crafted products, as well as for the occupation of hotels, restaurants and commerce in general, deriving from the activity of the various services locally offered.

"I believe this is the right path to sustainability, because we have a wide range of professionals in the city, as well as in culture, tourism and entertainment, who need to make a living. This requires studies, logistics, and planning from the local government and, at times, these activities are far beyond the Department's capability, since we have a very lean staff establishment plan. Therefore, once we have joined efforts with empowered institutions that are able to support ideas, culture projects and people will be trained and consequently engaged in the program. They will have access to proper knowledge, training, improvement or encouragement opportunities. So I believe that this productive chain tends to grow, to show the best Pitangui has to offer, and also turn the company into a citizen enterprise, participating actively in the community, motivated by social responsibility".

Antônio Marcos Lemos Head of the Tourism and Culture Department in Pitangui



# Expedient

#### Responsible Area:

Institutional Relations Coordination department - Jaguar Mining Inc.

#### **Technical Support:**

Planeta Cultura & Sustentabilidade

#### Texts:

Ana Thereza Balbi, Antonio Carlos de Freitas, Lidiane Andrade

#### Graphic design and layout:

Dinho Bento

#### Photos:

Léo Lopes

Jaguar Mining Inc.'s image bank

#### Persons collaborating with technical information:

Ana Thereza Balbi - Institutional Relations Coordinator

Carolina Sampaio Batista - Legal and Fiscal Manager

Cassiana Machado de Freitas Oliveira - Human Resources Manager

Edson Cassemiro - Metallurgical Plant Manager

Élcio de Queirós - Community Relations Analyst

Fabrício Nociolini - Community Relations Analyst

Gustavo Pereira de Aguiar - Comptroller

Joanne Jobim - Vice-President of Investor Relations

Marco Antonio Fernandes Silva - Environment Manager

Marcus Vinícius de Vasconcelos Júnior - Communication Analyst.

Marina Fagundes - Audit and Process Manager

Roberta Cristina Oliveira - Metallurgical Plant Manager

Roberto Piragibe Toledo Carvalho Filho - Administrative, Supplies and Information Technology Manager.

Rodney Lamond - CEO

Wagner Cançado - Engineer Manager

Comments, suggestions or any clarification on this document should be sent by email to relacionamento@jaguarmining.com.br or to the following address: Rua Levindo Lopes, 323 - Funcionários. CEP [ZIP Code]: 30140-170 - Belo Horizonte - Minas Gerais (C/o: Institutional Relations Coordination department).

# Our Addresses

#### **BRAZIL**

#### Headquarters

Rua Levindo Lopes, 323 - Funcionários

Belo Horizonte - MG

CEP [ZIP Code]: 30140-170

Phone: + 55 31 3232-7101

#### CCA Unit - Pilar Mine

Brumado, S/N - Zona Rural

Santa Barbara - MG

CEP [ZIP Code]: 35.960-000

Phone: + 55 31 3232-8700

#### CCA Unit - Roça Grande Mine

Fazenda Serra Luiz Soares, S/N - Zona Rural

Caeté - MG

CEP [ZIP Code]: 34.800-00

Phone: + 55 31 3232-8200

#### MTL Unit - Turmalina Mine

Faz. Sá Tinoco - Povoado de Casquilho S/N

Conceição do Pará, Minas Gerais 35668

Phone: + 55 31 3232-9100

#### **CPA Unit**

Paciência

Fazenda Morro de São Vicente, S/N

Distrito de Acuruí - Itabirito - MG

CEP [ZIP Code]: 35.450-000

Phone: + 55 31 3232-7500

#### Gurupi Project

MCT Mineração Ltda

Rua do Comércio, 480

Centro Novo do Maranhão - MA

CEP [ZIP Code]: 65.299-000

#### **CANADA**

#### Jaguar Mining

100 King Street West, 56th floor

Toronto, Ontario M5X 1C9

Phone: 416 847-1854

Email: IR@jaguarmining.com

#### **Investor Relations**

Joanne C. Jobin

Vice-President of Investor Relations

First Canadian Place

100 King Street West, 56th Flr.

Toronto, Ontario M5X 1C9

Office: +1 416.847.1854

Email: ir@jaguarmining.com.br

#### Stock trader

TSX Trust

200 University Ave Suite 300

Toronto, ON

M5H 4H1

TSX EXCHANGE LIST: JA



# Sustainability Seeds

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