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Honbridge Holdings Ltd.

(HKEx Stock Code: 8137)
www.8137.hk

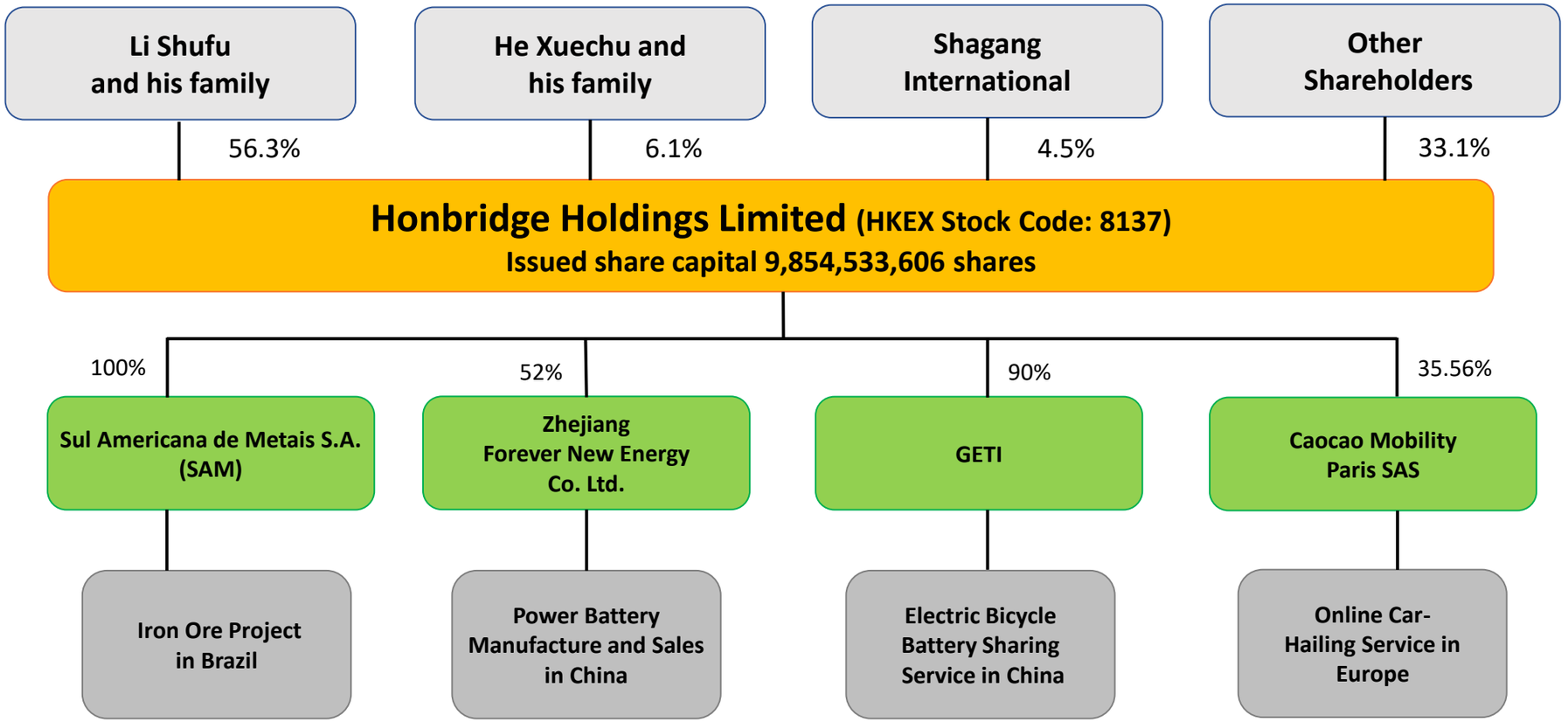
RESOURCE – IRON ORE PROJECT

SUL AMERICANA DE METAIS S.A. (SAM)

2023

Shareholder's Background

- Two-line development of new energy resources
- Strong shareholder background



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SAM
SUL AMERICANA DE METAIS

ACQUISITION HISTORY

SAM	Founded in 2006 and headquartered in Minas, Brazil.
Signing SPA	5 March 2010 - Honbridge acquired 100% equity of SAM from Brazil's Votorantim Group for US$390 million in five installments.
Acquisition Completed	28 March 2013 - Acquisition was completed. In addition to 1 golden share, Honbridge obtained 99.99% equity in SAM.
Arbitration	10 June 2015 - Honbridge submitted an arbitration request for the termination of the SPA against the seller and requested Votorantim to transfer the golden share.
Settlement Agreement	12 May 2016 - Two parties reached a settlement agreement to release the remaining US$315 million payment liability under Honbridge SPA. Honbridge got SAM's golden share and obtained 100% equity in SAM. SAM officially became a wholly-owned subsidiary of Honbridge.

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STATUS OF MINERAL RIGHTS

- **SAM is currently holding approximately 27 mining rights and 21 prospecting right applications in Minas Gerais and Bahia, Brazil**
  - Mining area which holds the exploration right + exploration claim covers a total area of about 357 km^2 (equivalent to about 35,700 hectares) and is divided into 9 blocks.
  - Block 8 covers an area of 26.24 km^2 with a cut-off grade of Fe 14%, the “measured + indicated” ore resources in the exploration area are approximately 3 billion tons with an average grade of Fe 20.5% (JORC compliant).
  - Block 8 covers an area of 86.76 km^2, and the prospective ore resources in the northern part exceed 3 billion tons.
  - Block 8 covers an area of 86.76 square kilometers, and the prospective ore resources in the north exceed 3 billion tons.
  - Block 7 covers an area of 16.1 km^2 and its three main exploration rights cover an area of 60 km^2 with a cut-off grade of Fe 14%, the “measured + indicated” ore resources are approximately 1,450 million tons with an average grade of Fe 20.3% (Brazilian Mining Code). “Measured + Indicated + Inferred” ore resources are approximately 5,255 million tons with an average grade of Fe 19.7%.
  - Block 13 covers an area of 28.56 km^2 with a cut-off grade of Fe 14%, the measured, indicated, inferred and prospective ore resources are approximately 116 million tons with an average grade of Fe 19.7% (Brazilian Mining Code).
  - Block 5 covers an area of 23.8 km^2 with a cut-off grade of Fe 25%, the “measured + indicated” ore resources are approximately 20.4 million tons with an average grade of Fe 33.15% (Brazilian Mining Code).
  - Only preliminary explorations such as geological mapping, outcrop sampling, and exploration drilling etc., have been conducted in the remaining area, totaling 175.5 km^2.
- **Stage 1 Development Plan – Block 8**
  - A large scale integrated iron ore project will be developed to produce 27.5 million tons of concentrate with average 66.2% Fe in the first 18 years operation.

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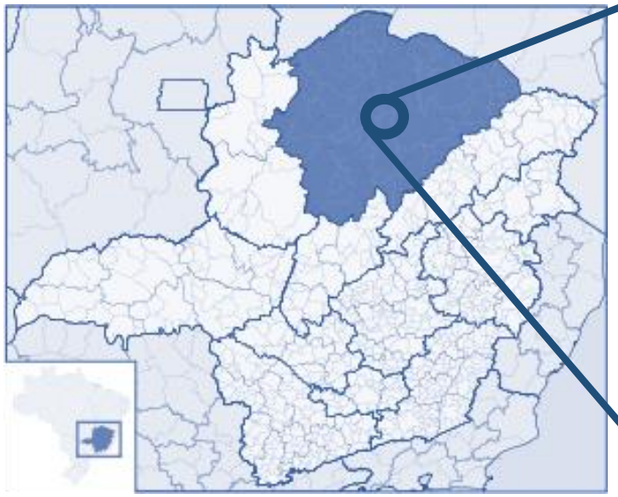
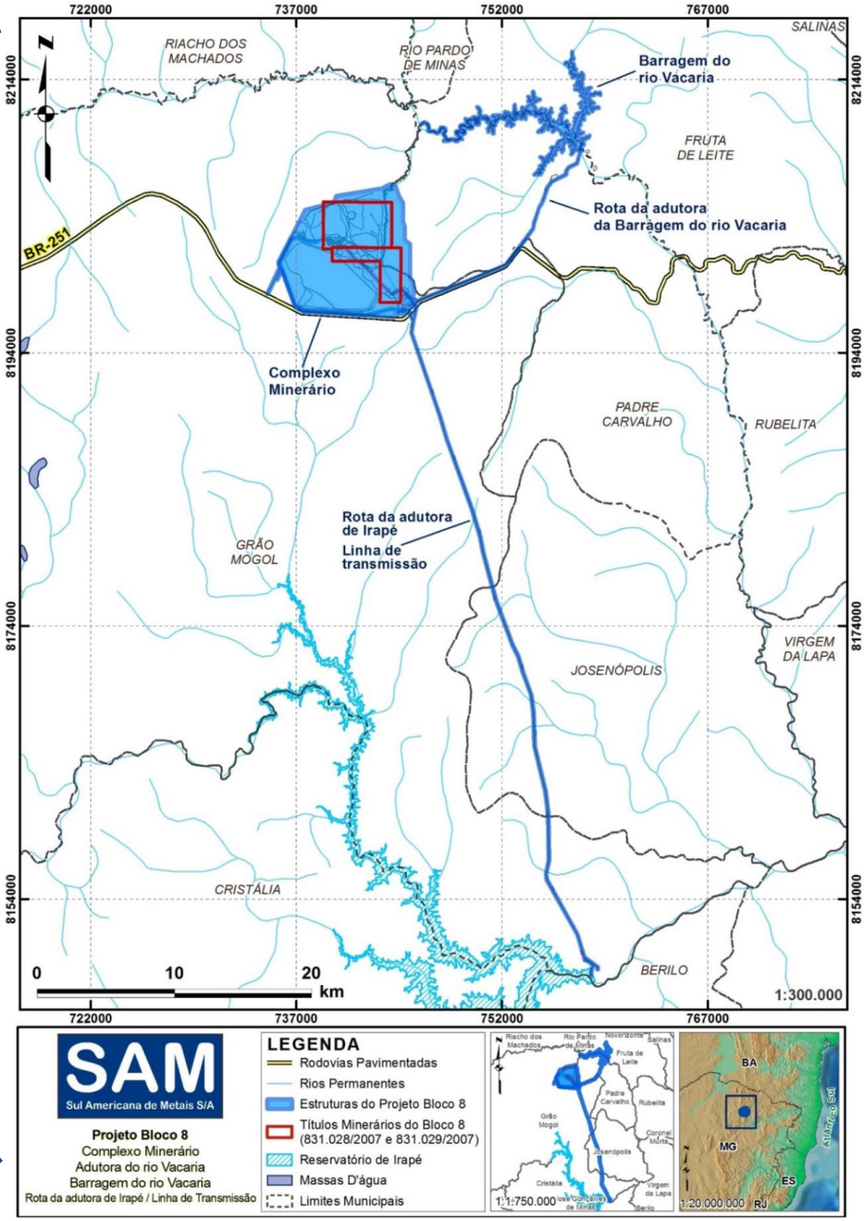
LOCATION OF THE BLOCK 8 PROJECT



Located in the northern part of Minas,

involving 4 municipalities :

- Grão Mogol
- Padre Carvalho
- Fruta de Leite
- Josenópolis



The project does not involve any environmental conservation zone

5G SMART MINE

To ensure the personnel safety at the open pit, the open pit mining of the Block 8 project will apply unmanned mining technology.

- A 5G smart mine cooperation agreement has been signed with Huawei in 2020
- Driverless 320t mining truck to transport ore
- Driverless 50t mining truck to transport wasted rock
- Autonomous drilling machine - drill rigs
- Remote operation excavator (bucket capacity 42m^3)
- Beidou satellite or GPS truck dispatch system
- Real-time monitoring of slope displacement
- Cluster management and scheduling system

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BENEFICIATION

- Low grade iron ore with nearly absence of Sulphur and low phosphorus

	Fe (%)	SiO_2 (%)	Al_2O_3 (%)	Mn (%)	P (%)	LOI (%)
Block 8	20.6	60.1	4.3	0.097	0.2	2.1

- Ores with low abrasivity, Bond Abrasion Index < 0.1:

	Friable Ore	Semi-Compact Ore	Compact Ore
Block 8	9.27%	15.83%	74.9%

Even the ore which classified as compact shows **extremely low resistance to crushing and grinding.**

- Very low work index (WI) in the range of 4.5 kWh/st ROM, when compared to most of the iron ores (8 - 13 kWh/st);
  Average energy consumption (including HPRG + primary ball mills) is 4kWh/t ROM.

- Grades of the concentrate are as follow:
  Fe > 66.5; S < 0.2%; P < 0.055%
  $SiO_2 + Al_2O_3 < 2.5\%$
  $Na_2O + K_2O < 0.1\%$
  $TiO_2 < 0.9\%$

- Annual production capacity target: 27.5 million tons concentrate
  CAPEX: approximately USD1.38 billion (USD1.0 : BRL4.0)

- 1 ton of concentrate produced from approximately 3.9 tons of ROM (depends on actual grade and recovery rate of iron)

- Mine Life: around 31 years (based on the updated mining plan)

- Due to the expansion of continuous test results from beneficiation, the mineral processing flowsheet has been finalized

- Tailings dam and community reservoir are built from wasted rocks to reduce the store up of wasted rocks. Due to the open pit is large and the dip angle of the ore body is small, part of the tailings and wasted rock can be used to fill the pit.

Concentrate Samples

Source: SAM

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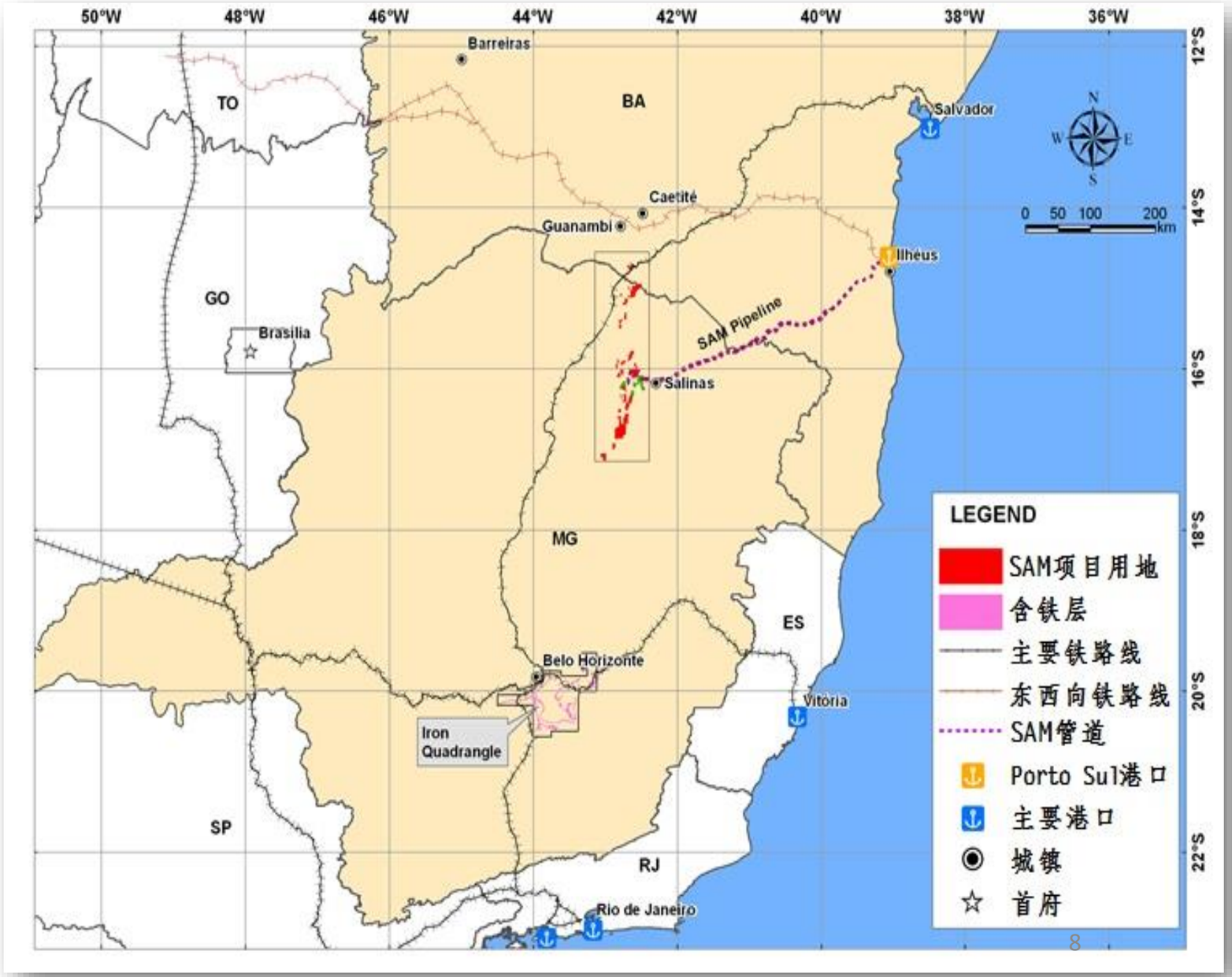
LOGISTICS - LONG TRANSPORTATION VIA PIPELINE

- The iron ore concentrate is transported to Porto Sul in Bahia via a 480 km long pipeline. It is stored and shipped out after filtering and dewatering at the dehydration station in Porto Sul.
- The 480-kilometers pipeline spans the states of Minas Gerais and Bahia and passes through 21 municipalities.
- The pipeline project is managed by Lotus Brazil, an independent third-party company, in charge of environmental assessment, financing, construction and operation. SAM holds 5% of the shares. The pipeline is designed by Brass, a world-renowned pipeline company, the investment is about US$1.4 billion.
- SAM will pay Lotus Brazil for services and dehydration services in the future.
- Due to the monitoring needs of the pipeline itself, optical fiber and cable need to be laid along the pipeline. The optical fiber and cable has been included in the environmental permit for the pipeline project, therefore no additional environmental permit is required. It can cooperate with telecommunications operators, telecommunications operators can provide mobile communications and network services for cities along the pipeline through the optical fiber and cable. Lotus Brazil has signed a cooperation agreement with HengTong Group on the construction of the optical cable in 2020.



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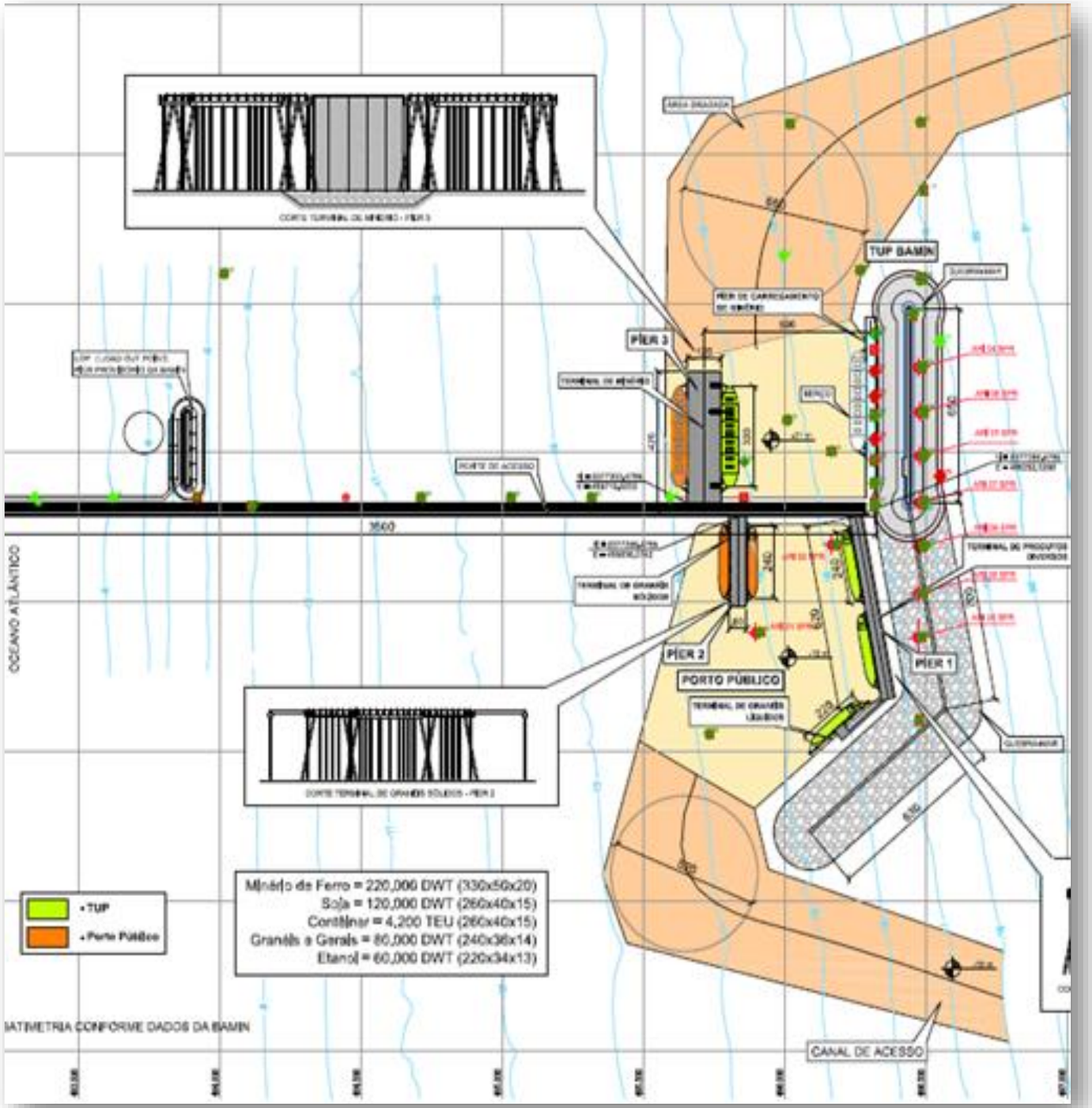
LOGISTICS - PORT

- The annual cargo volume of SAM is 30 million t/a (wet basis), which will greatly promote the economic benefits of the Nangang project.
- Southport has renewed its Building and Installation Permit (LI) for 2021.



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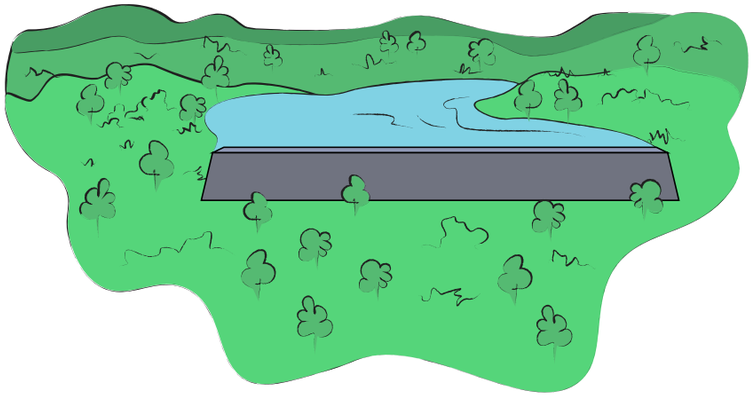
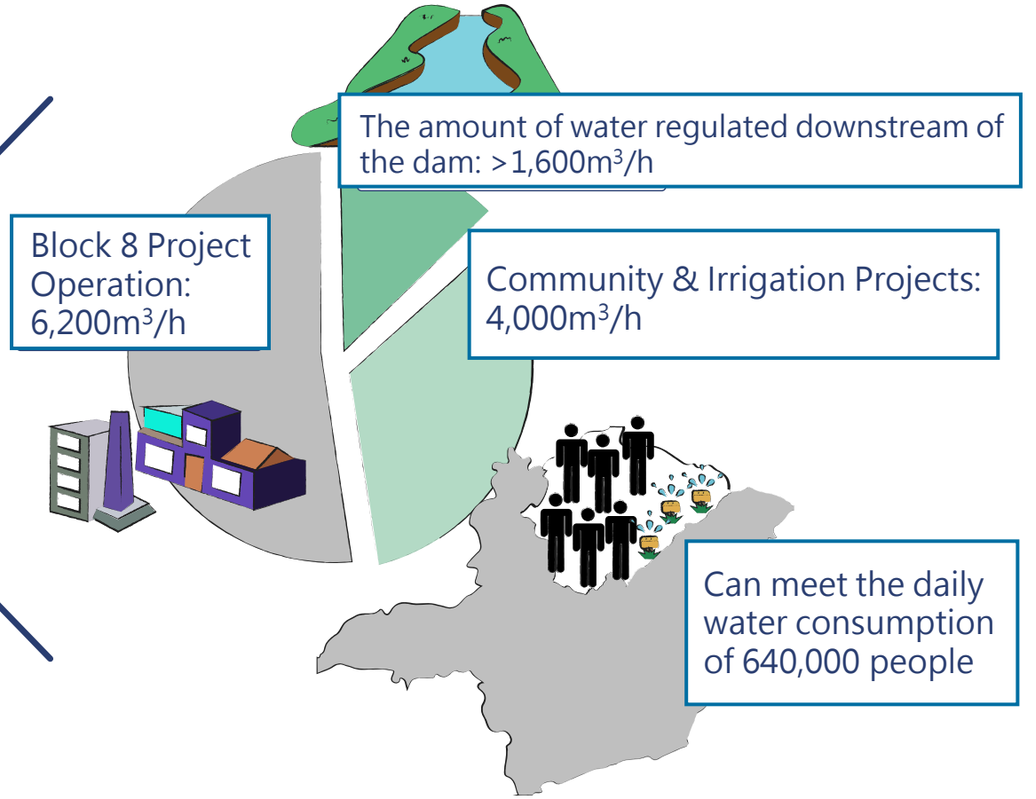
WATER SUPPLY

- The Brazilian Water Authority approved a water right of 51 million m^3 of water from Irape Reservoir every year for 20 consecutive years;
- SAM signed an agreement with the state of Minas, committing to the construction of the Vacaria Reservoir. The reservoir was a 1950s project of Brazil's National Department of Works Against Droughts (DNOCS). In addition in supplying water to the project, the Vacaria Reservoir will also solve the water problem of the community near the project.

Vacaria Reservoir



Community Reservoir



In addition to construction of the Vacaria Reservoir,
SAM will also build the Córrego do Vale Community Reservoir,
which will meet the water needs of approximately 10,000 people in the Vale das Cancelas community.

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POWER SUPPLY

- In 2014, the Brazilian Ministry of Mines and Energy (MME) published a decree in the Official Gazette, agreeing to the minimum total cost scheme for the power connection made by SAM, authorizing SAM connecting to the national grid via 67km of 345kV power lines from Irapé, the authorization includes: electrical installation from Irapé, 345kV high voltage lines, and a substation at the SAM project site.

Target:
100% Renewable Energy Supply After 5 Years of Production

- The annual electricity consumption of the project is about 1.5 billion kWh, and the self-generated electricity can save about 39% of the electricity cost due to tax relief.
- Northern Minas and southern Bahia are the best solar energy producing regions in Brazil.
- The project is about 40km away from the strongest wind belt (wind speed 8-11m/s) in Minas State, and has huge potential for wind power.
- The project area is covered with endless eucalyptus forest and has huge potential for biomass power generation.

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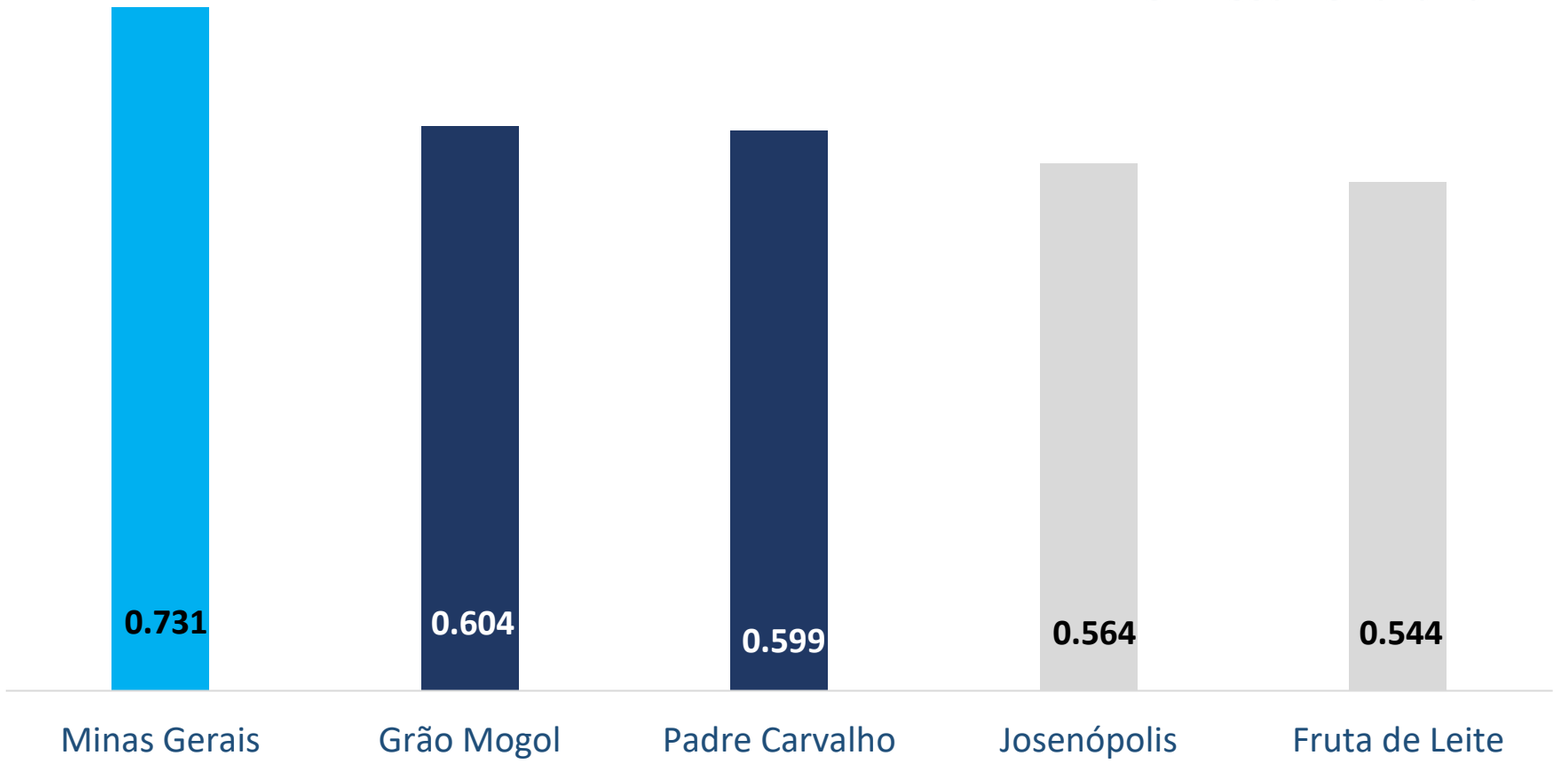
HUMAN DEVELOPMENT INDEX (HDI)

Northern Minas

The project is located in an area with a very low HDI, it is an area encouraged by SUDENE tax policy

- **75% of tax reduction for the first 10 years of operation.**
- **Accelerated depreciation within one year at the earliest.**
- **30% of profits can be retained as a reinvestment fund**



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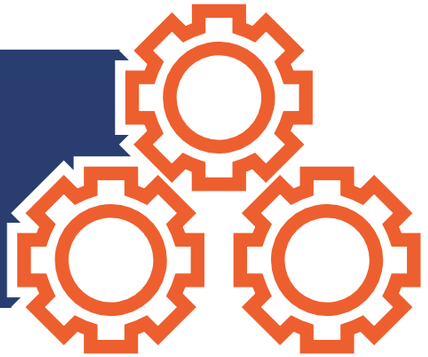
MAIN DATA OF THE BLOCK 8 PROJECT

The annual output of high-grade iron ore concentrate is 27.5 million tons (dry basis), at an average product grade of 66.2% Fe.



CAPEX: US$3.01 billion*

OPEX: US$32.2/ton**

*Updated in December 2022, the investment does not include the investment in pipeline logistics facilities under the responsibility of Lotus Brasil, which is about US$1.4 billion;

**Updated in December 2022, OPEX includes logistics services and port charges paid to Lotus Brasil, which are the FOB costs.

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JOB GENERATION

CONSTRUCTION:
~ 6,200 DIRECT POSTS

OPERATION:
~1,100 DIRECT POSTS
5,600 INDIRECT POSTS

*Excludes jobs created by the 480km pipeline project undertaken by Lotus Brazil

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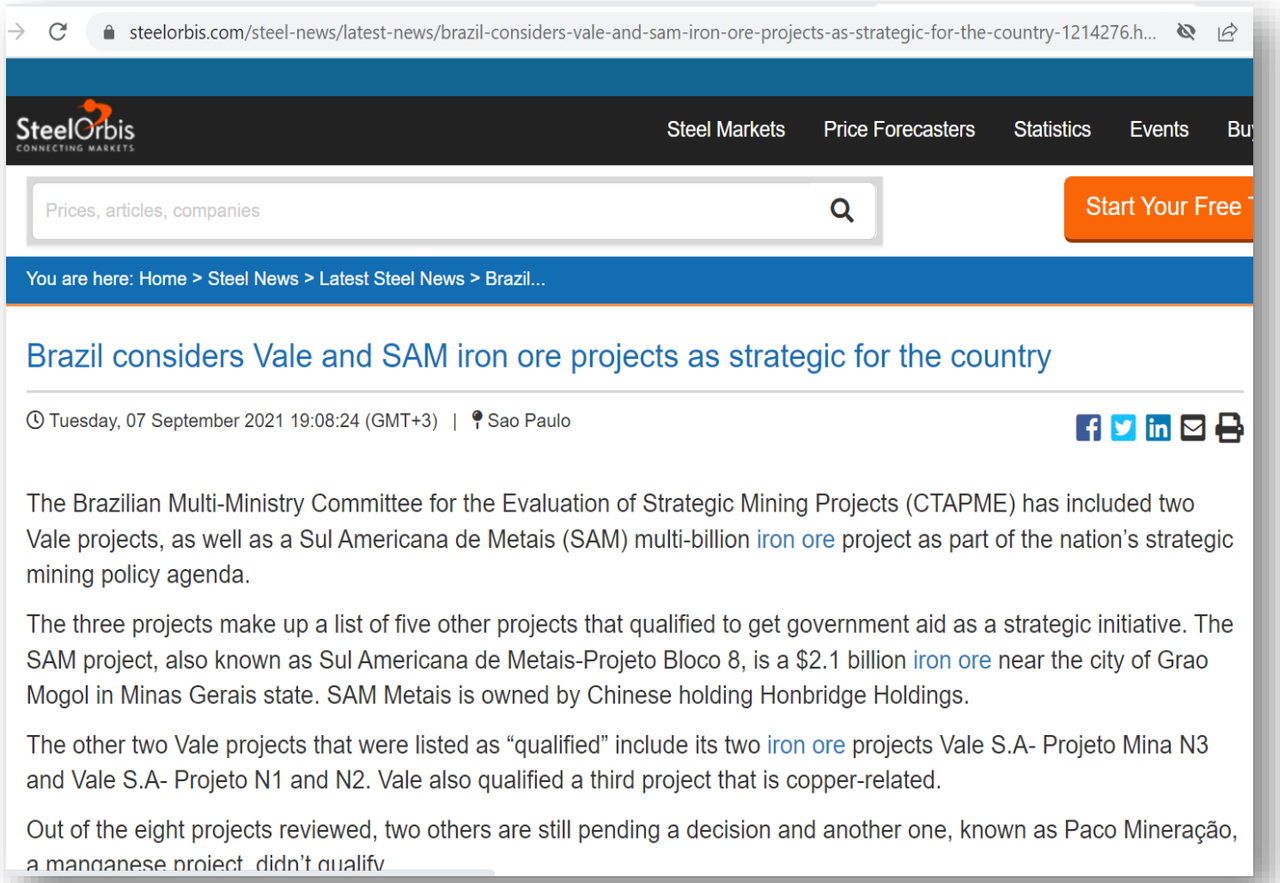
BRAZILIAN FEDERAL GOVERNMENT STRATEGIC MINERAL PROJECT

In August 2021, the Block 8 project was listed by the Brazilian federal government as a strategic mineral project in Brazil, and was one of the first four projects to be included in the "Support for Strategic Mineral Policy".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Brazil considers Vale and SAM iron ore projects as strategic for the country

Tuesday, 07 September 2021 19:08:24 (GMT+3) | Sao Paulo

The Brazilian Multi-Ministry Committee for the Evaluation of Strategic Mining Projects (CTAPME) has included two Vale projects, as well as a Sul Americana de Metais (SAM) multi-billion iron ore project as part of the nation's strategic mining policy agenda.

The three projects make up a list of five other projects that qualified to get government aid as a strategic initiative. The SAM project, also known as Sul Americana de Metais-Projeto Bloco 8, is a $2.1 billion iron ore near the city of Grao Mogol in Minas Gerais state. SAM Metais is owned by Chinese holding Honbridge Holdings.

The other two Vale projects that were listed as "qualified" include its two iron ore projects Vale S.A- Projeto Mina N3 and Vale S.A- Projeto N1 and N2. Vale also qualified a third project that is copper-related.

Out of the eight projects reviewed, two others are still pending a decision and another one, known as Paco Mineração, a manganese project, didn't qualify

The Inter-ministerial Committee on Strategic Mineral Projects (CTAPME) is composed of the Brazilian Ministry of Mines and Energy, the Brazilian Ministry of Science, Technology and Innovation, the Office of Institutional Security of the Presidency of the Republic of Brazil, the Special Secretariat of the Investment Partnership Program of the Brazilian Ministry of Economy, and the Special Secretariat of Strategic Affairs of the Presidency of the Republic of Brazil. Projects included in the "Support for Strategic Minerals Policy" will receive direct support from the Special Secretariat of the Brazilian Ministry of Economy's Investment Partnership Program (PPI) in terms of environmental licensing.

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PROGRESS IN ENVIRONMENTAL IMPACT ASSESSMENT (EIA)

- Two public hearings have been held in May 2022 in the cities of Grão Mogol and Fruta de Leite.
- About 1,150 people signed up for the two public hearings, and the project received 100% support from attendees at the public hearings.
- In July 2022, the technical experts of the EIA agency SUPPRI have completed the on-site technical inspection.

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MINING LICENSE

- In May 2022, the Brazilian Mining Agency (ANM) approved SAM's updated submission of the Integrated Plan for Economic Exploitation (PIAE), and the mining license will be issued after SAM submits the Installation License (LI) to the Mining Agency. SAM only needs to update the Bureau of Mines every 6 months on the progress of the environmental permit prior to the submission of the LI.

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CHINA-BRAZIL INTERNATIONAL SERVICE TRADE INNOVATION SEMINAR

- In June 2022, the China-Brazil International Service Trade Innovation Seminar was held in Belo Horizonte, the capital of Minas Gerais. More than 90 people including representatives of governments, enterprises, business associations and media from China and Brazil attended the meeting.
- The seminar was co-organized by the Consulate General of China in Rio de Janeiro and the Minas State Government, participants had in-depth discussions on three topics: sustainable development of mining projects, intelligent transformation of infrastructure, and technological innovation to promote industrial development.
- The SAM project received great attention and expectation from the participants at the seminar, SAM's CEO Mr. Jin Yong Shi was invited to speak at the seminar and introduced the company's innovation and sustainability in the mine in northern Minas, including the company's application of 5G technology to mine operations; plans to promote renewable energy to power the project after commissioning; promote the construction of dam facilities in the region; and to provide water solutions for surrounding communities, etc.

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Thank You!

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