



Construir o

futuro

Projeto
Santa Quitéria

Symposium – LAS ANS

July , 2024



Galvani Institutional Video

VALORIZANDO AS RIQUEZAS
DA NOSSA TERRA



TIME LINE

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Santa Quitéria Consortium is formed by the companies Brazilian Nuclear Industries (INB) and North-Northeast Phosphates Inc (FOSNOR), Galvani brand holder.



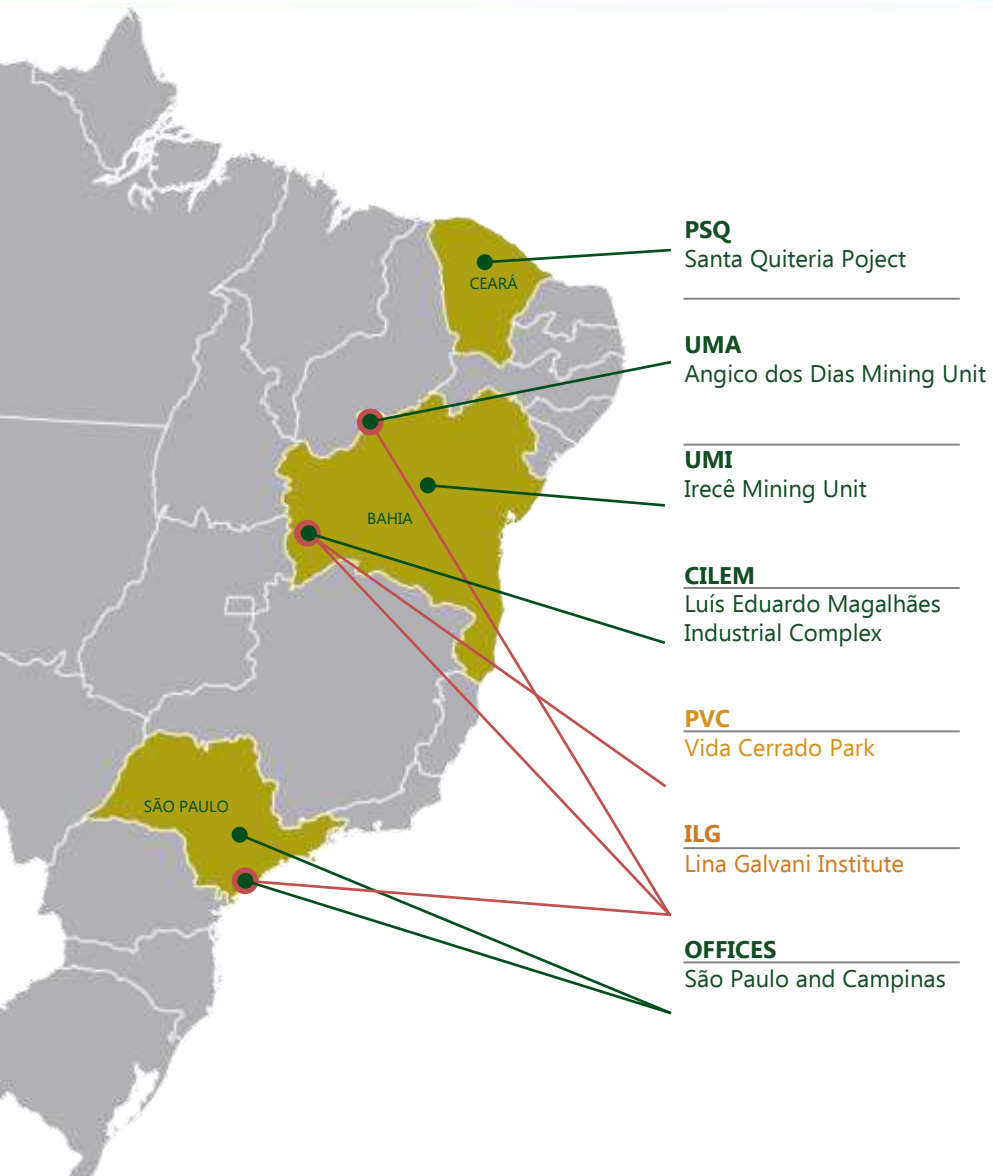
- Owner of the Project area
- Holder of the mining rights
- Responsible for the environmental and nuclear licensing process



- Responsible for the investment
- Process and studies development
- Responsible for the implementation and operation
- Institutional representative

GALVANI TODAY

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With more than 50 years of experience in Fertilizer production. Galvani designed, implemented and operated several mining units and chemical complexes for the phosphate fertilizer production in the Brazilian Southeast, Center-West, North and Northeast regions.

The Only fully verticalized producer of phosphate fertilizer Galvani is leader in the Northeast "MaToPiBa" region.



UMA
Angico dos Dias Mining Unit

235 kt/y
Concentrated Phosphate Ore



CILEM
Luís Eduardo Magalhães Industrial Complex

550 kt/y
Fertilizer Production

The Project

- **Mining Rights:** INB
- **Investment and Operation:** Galvani
- **Phosphate Products:** Production and Comercialization by Galvani
- **Uranium Concentrate:** Production destined to INB as royalties payment

Private Investments

USD 450 Millions

State Government Commitment

- **Infrestructure for water, electricity and road access,** according to a memorandum of understanding (28/09/2023)



- Santa Quitéria Mine-Industrial Complex (CMISQ)
- Mucuripe Port (MUC)

Technology

- New dry base process to concentrate the ore, **eliminating the need for tailings dam**
- The highest phosphate and uranium recovery in the market
- Phosphate products with 0% radionuclides – purest in the market
- Selfsufficient in electric energy.
- Lesser water consumption

Production

Phosphate (99,8% of total production):

- **Phosphate Fertilizers**– 1.050 kt/y
- **Dicalcium phosphate**– 220 kt/y

Uranium (0,2% of total production):

- **Uranium Concentrate**– 2,3 kt/y

Project Improvements

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-	PREVIOUS PROJECT	NEW PROJECT
Investment	USD 270 Millions	USD 450 Millions
Ore concentration	3.722 kt/y - Floatation, WITH tailings dam	3.866 kt/y - calcination ⁽¹⁾ , WITHOUT tailings dam
Phosphoric acid production (WPA)	240 kt P ₂ O ₅ /y – dihydrate process (28% P ₂ O ₅)	360 kt P ₂ O ₅ /y – hemihydrate process (38% P ₂ O ₅)
Gypsum ⁽²⁾	1.217.000 t/a – dyhadrate gypsum ⁽³⁾	1.820.000 t/a – hemihydrate gypsum ⁽⁴⁾
Phosphate fertilizers ⁽⁵⁾	810.000 t/y	1.050.000 t/y ⁽⁵⁾
Dicalcium phosphate production ⁽⁵⁾	240.000 t/y	220.000 t/y ⁽⁵⁾
Uranium concentrate production	1.600 t/y	2.300 t/y
Own generation of energy	18 MW	33 MW ⁽⁶⁾

⁽¹⁾ Unique ore concentration process by calcination

⁽²⁾ Unusable by-product

⁽³⁾ Gypsum pile that does not get stoned

⁽⁴⁾ Became stone and immobilize radionuclides in the gypsum + lime pile

⁽⁵⁾ Products with 0% radionuclides, purest on the market

⁽⁶⁾ Possibility of additional 9 MW of energy generation, with additional USD 50 millions investment

Project Improvements

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-	PREVIOUS PROJECT	NEW PROJECT
P ₂ O ₅ Global Recovery	62% ⁽¹⁾	92% ^{(2) (3) (7)}
Uranium Global Recovery	48% ⁽⁴⁾	89% ^{(5) (6) (7)}
Water consumption	1036 m³/h	855 m³/h ⁽⁸⁾
Effluents	Treatment and release	Treatment and reuse in closed circuit
Project occupied area	917 ha	379,75 ha
Vegetation suppression area	790,97 ha	360,11 ha

⁽¹⁾ 37% of P₂O₅ would go to tailings and 3% to gypsum pile

⁽²⁾ 16% of P₂O₅ would go to gypsum + lime pile

⁽³⁾ 24% metallurgic recovery increase means additional 1,8 million tons of P₂O₅ in the deposit exploration

⁽⁴⁾ 51% of U₃O₈ would go to tailings and 1% to gypsum pile

⁽⁵⁾ 18% of U₃O₈ would get stoned and immobilized in the gypsum and lime pile with 150 ppm, concentration 300% lesser than the natural concentration found in deposit (600 to 800 ppm)

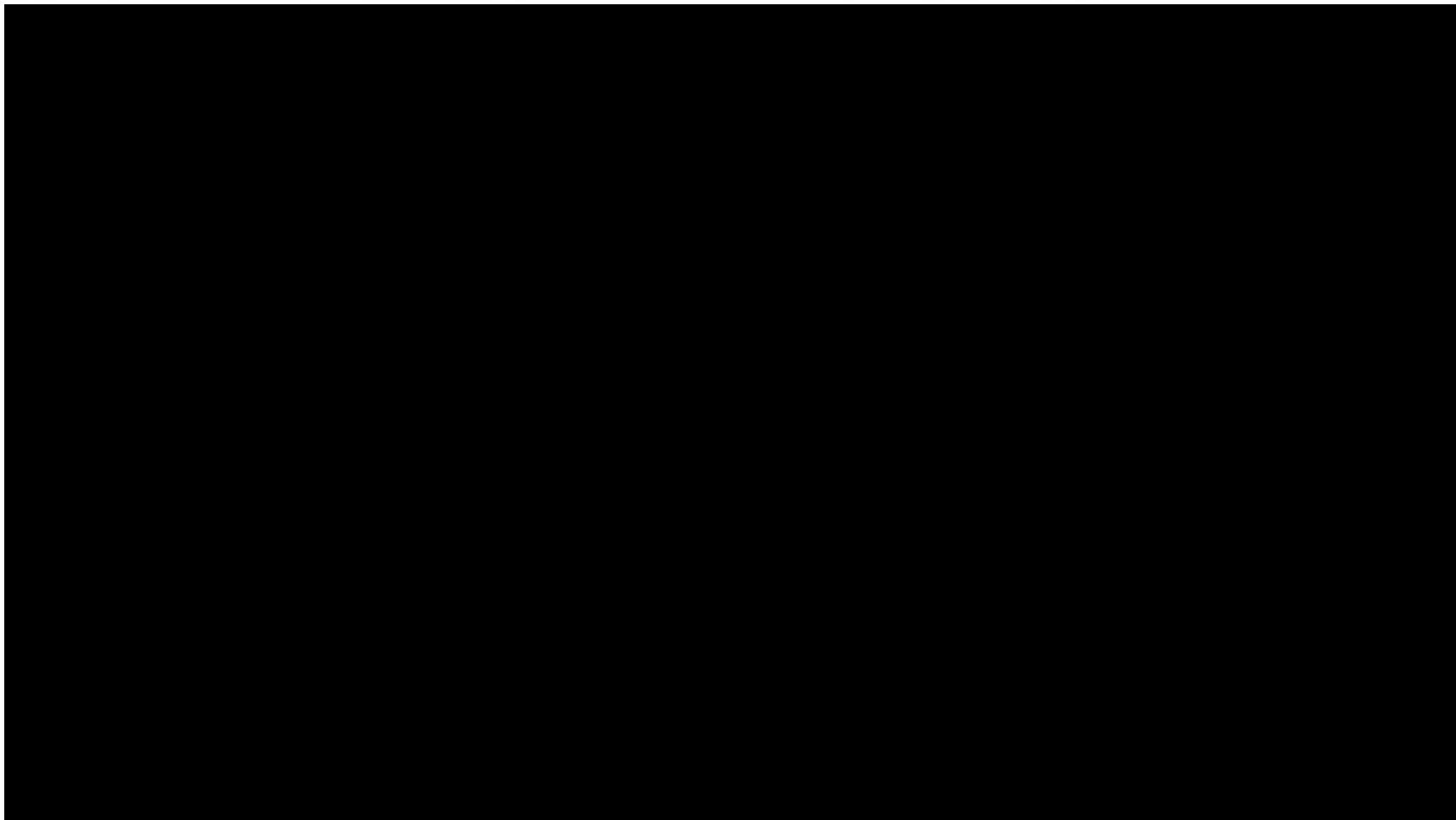
⁽⁶⁾ 34% metallurgic recovery increase means additional 18.300 t of U₃O₈ in the deposit exploration

⁽⁷⁾ Amongst the highest P₂O₅ and U₃O₈ Metallurgical Global recovery in the world

⁽⁸⁾ Possibility of 20% reduction in water consumption, with additional USD 20 millions investment

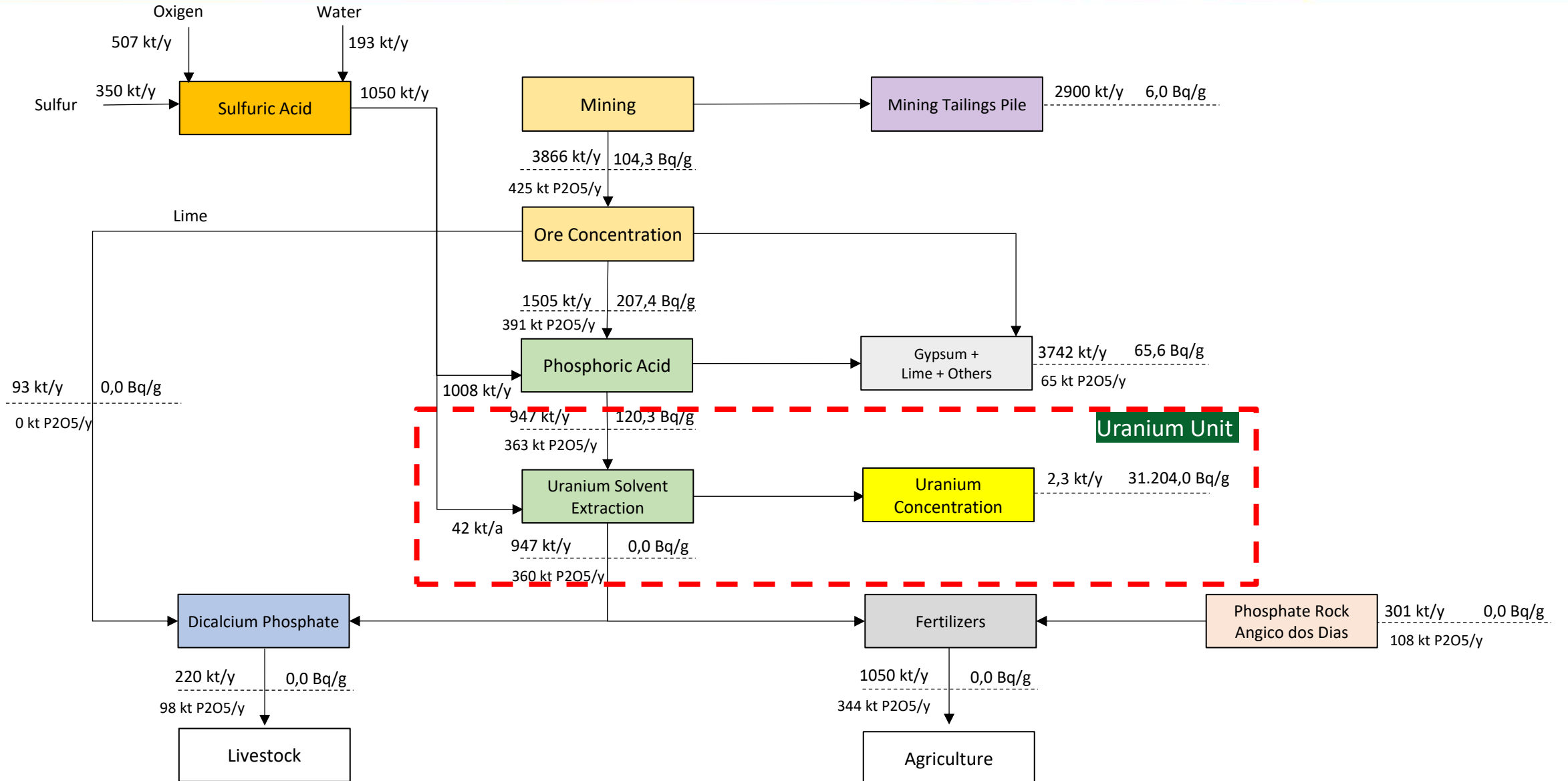
Project Structures

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Production Process

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Thank You!

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com segurança e
responsabilidade social



Obrigado