

**METALS EXPLORATION PLC**

**RUNRUNO PRESENTATION**

**ANNUAL GENERAL MEETING  
OF SHAREHOLDERS**

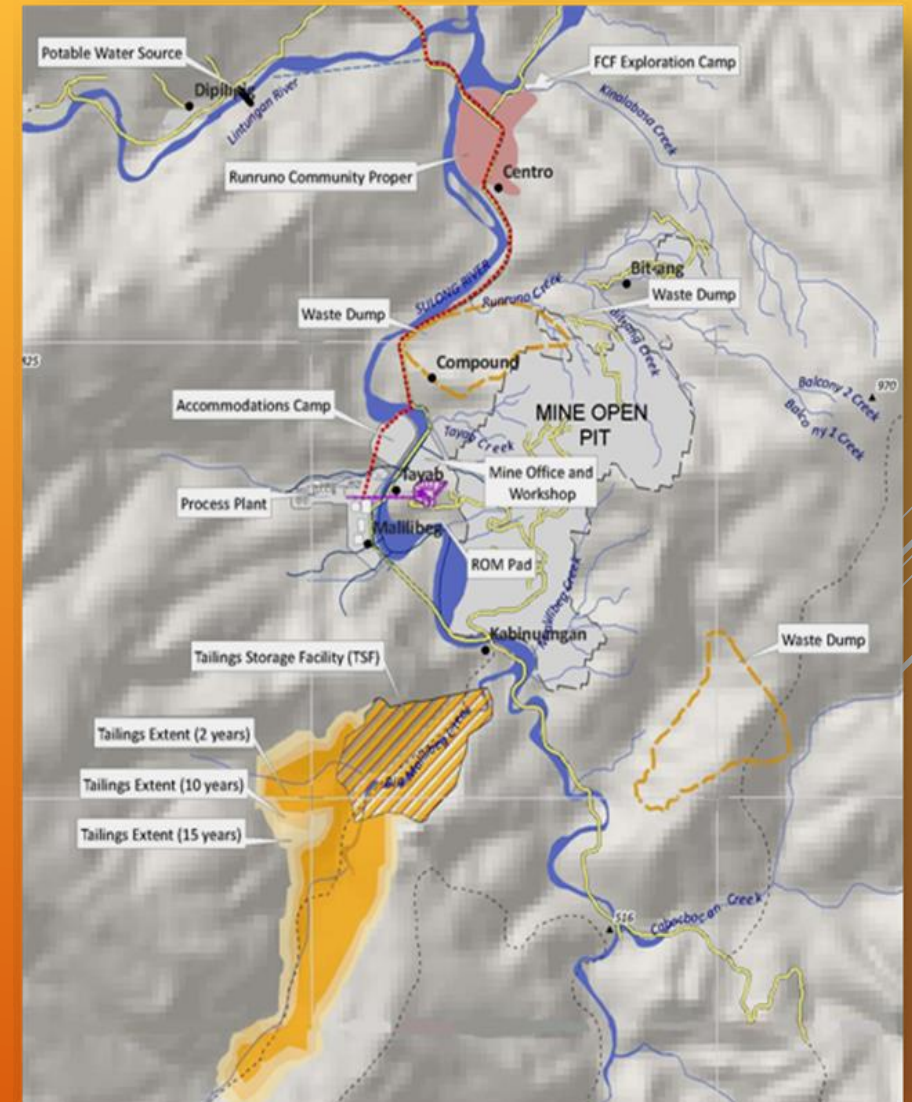
**19 JUNE 2018**

# RUNRUNO TIMELINE

2004	Project acquired
2004 - 2008	Exploration demonstrates potential of the project
2009	Concept study identifies development options and commercial viability
August 2011	FTAA issued
2009 - 2010	Feasibility study demonstrated commercial viability based on 1.1 million ounces of recoverable gold over 11 year mine life, capital estimate of USD 180m +/- 10% costing
February 2010	Environmental Compliance Certificate issued
October 2011	Declaration of Mining Project Feasibility issued
July 2012	Pre – commitment site works commenced
Q1 2013	Project committed to development on basis of “self execute” strategy
May 2014	USD 83m debt facility secured
June 2016	Ore commissioning commences
July 2017	MGB approve Commercial Production Status
Current	Approaching full production

# RUNRUNO GOLD MINE OVERVIEW

- Unique surface cut and fill mining operation,
- Capacity to deliver ore at a rate of 165,000 tonnes per month,
- Gold grade is approximately 1.8 g/tonne gold
- Operations are 24/7 throughout the year,
- Mine life is estimated at 10+ years,
- Environmental Compliance Certificate allows for maximum production of ore of 3.0 million dry metric tonnes per annum and approximately 17.7 million dry metric tonnes per annum of waste,
- It has measured resources of 1.42 million ounces of gold,
- A further 1 million ozs of gold scheduled to be mined over 10.5 years,
- Demonstrated exploration upside.



# MINING OPERATIONS

- Surface cut and fill
  - Initial pit created which is back filled as mining progresses
  - Continuous rehabilitation integrated
- Total mine area - 600m x 1,500m - rehabilitated
- 1.75 Mtpa ore - transported by conveyor to the Process Plant
- 9.1 Mtpa overburden - used for the construction of the Tailings Storage Facility and in-pit backfill
- First four years, waste material used in construction of the RSI dam wall or disposed in surface waste dumps
- Remainder of waste disposed in pit
- Conventional open cut, excavator and truck operation
- Komatsu mining fleet – 6x100 t haul trucks, 2 excavators 2 bulldozers and ancillary fleet,
- Small fleet contractor - Global

An aerial photograph of a large-scale open-pit mine. The mine is characterized by its terraced, stepped levels, which are light brown in color, contrasting with the surrounding dense green forest. A prominent, winding road or conveyor system snakes through the mine's levels. In the lower right, a large, dark, circular structure, possibly a tailings pond or a large storage tank, is visible. The overall scene depicts a significant industrial operation integrated into a natural, forested landscape.

**MINING**

# PROCESSING

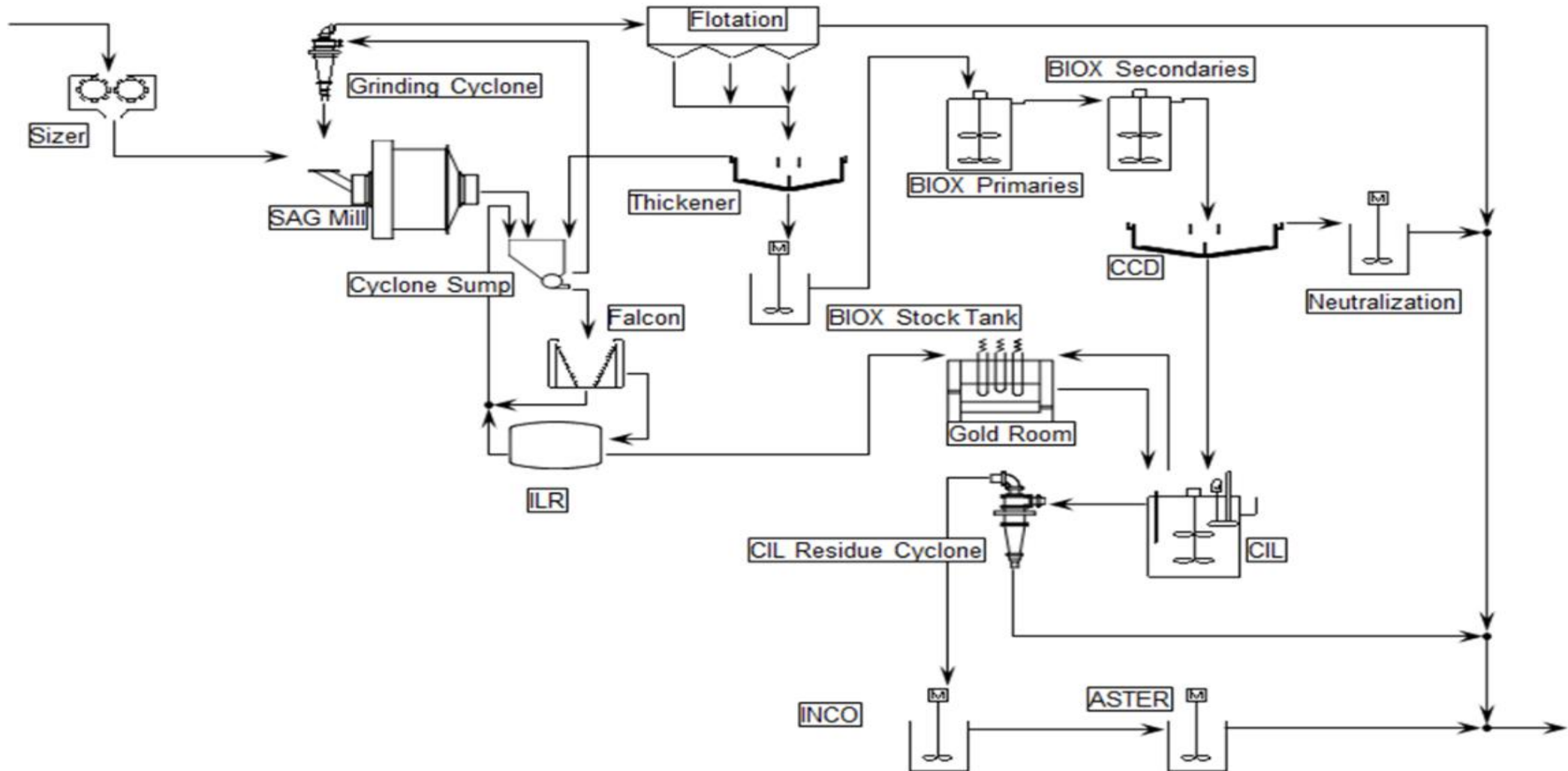
## BIOX – GENERATION III



- The Runruno BIOX<sup>®</sup> circuit is designed to treat 140,000 tonnes per annum of concentrate with a daily capacity of treating 400 tonnes
- The design sulphide sulphur grade is 15% S<sup>2-</sup>.
- Runruno ore is a refractory ore

# PROCESSING

How the process works



# PROCESSING

## BIOX GENERATION III TECHNOLOGY ADVANCES

- Previous generations used a single impeller agitation system to aerate the reactors
- Generation III uses a dual impeller system
- Dual impeller systems provide a significant reduction in both the required installed motor power and the power draw to achieve the required process parameters.
- A standard sparge ring is used to feed air into the reactors
- Internal cooling coils are employed in a closed circuit
- Evaporative cooling towers are used for heat removal.



# ***ASTER – A PROCESS OF DETOXIFICATION OF CIL RESIDUE***

- **The Aster process has been a resounding success story and the operating achievements being experienced at Runruno has even confounded the IP owners**
- **As in BIOX, naturally existing bacteria acts as a catalyst in the detoxification process**
- **All cyanide compounds destructed to below an unprecedented 0.5ppm total cyanide before disposal in the RSI**
- **Residue discharged from the processing plant is chemically compliant at the plant**



# PROCESS PLANT OPERATIONS

# RESIDUAL STORAGE IMPOUNDMENT

- Waste which has been extracted from the Stage 1 of the mine has been and continues to be used to construct the Residual Storage Impoundment (RSI),
- The RSI will be primarily constructed from waste material sourced from stage 1 and 2 of the surface mine,
- The environmental performance of the RSI is very high, it supports a range of water plants and a number of riverine and lacustrine species including frogs and a number of fish species



RESIDUAL STORAGE IMPOUNDMENT (RSI)

# LOCAL IMPACT

- The Runruno environment has improved
  - Sulong River in the Runruno area is cleaner
  - Forests re-established
- High levels of employment in a barangay which previously had no formal employment sector
  - Employment practices (including contractors, 1,068 employees)
    - 53% resident in Runruno
    - 67% resident in the Municipality
    - 70% resident in Neuva Vizcaya
    - 80% resident in R2
    - 99% Filipino
    - 32% of the workforce are women – strongly represented at operators
- Improved health outcomes
- Strengthening educational outcomes including University graduates
- Establishment of successful business servicing the Operations needs
- Infrastructure development
- Growing individual prosperity, housing, cars etc.
- Economic development from Runruno to Solano and the host province
- Taxes paid to LLGs and National government

# LOCAL IMPACT

- Runruno designed and built to best practice including the use of world leading technology
  - Process includes three pollution control devices to ensure chemical compliance within the plant
    - Neutralisation circuit – neutralised acids precipitates stable base and heavy metal compounds
    - Cyanide detox – SO<sub>2</sub> / Air removes free and majority of WAD cyanide
    - ASTER – cyanide destruct removes remnant free and WAD cyanide and breaks down thiocyanates,
    - Discharge from circuit < 0.5 ppm cyanide total
  - Environmental initiatives
  - Social and community programs
  - Compliance, ISO, Safety, employment conditions
  - Operates to world class standards

# 2017 OVERVIEW

- Operations have ramped up to or in excess of design (except for BIOX),
- The ore reserve is proving to be sound with a small positive reconciliation in contained gold for ore mined to date albeit at a lower grade due to mining dilution.
- Improved edge control is expected improve the delivered grade.
- Process plant throughput consistently exceeds design.
- Gold recoveries have been below design at around 50% due to difficulties experienced in stabilising and ramping up the BIOX circuit.
- BIOX throughput is increasing steadily and has proven its capability of achieving 100% of design – having achieved 6 weeks at 100% in 2018.

# OPERATIONS BY THE NUMBERS

Key Metric	Unit of measure	Quarter ended 31 Mar 2018	Year to date 2018	Period to 31 Dec 2017	Period to 31 Dec 2016
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## Mining activities

Ore mined	tonnes	353,960	353,960	1,815,669	490,558
Waste mined	tonnes	1,472,217	1,472,217	7,644,821	7,920,205
<b>Total material movements</b>		<b>1,826,177</b>	<b>1,826,177</b>	<b>9,460,490</b>	<b>8,410,763</b>

Strip ratio	waste/ore	4.16	4.16	4.05	15.15
Au grade mined	grams/tonne	1.60	1.60	1.62	1.42
Ctd <sup>1</sup> . ounces gold mined	ounces	18,250	18,250	92,363	22,396
S <sup>2</sup> grade	%	0.99	0.99	0.82	0.29

## Processing activities

Tonnes milled	tonnes	435,775	435,775	1,688,254	468,170
S <sup>2</sup> feed grade	%	0.96	0.96	0.82	0.53
Au feed grade	grams/tonne	1.38	1.38	1.38	1.29
Gold recovery	%	54.7%	54.7%	47.9%	51.0%
Gold poured	ounces	10,593	10,593	36,006	8,166
Gold sold	ounces	11,338	11,338	35,697	6,489