



# Mt Cattlin Analyst Site Visit

Production & Technical Update

March 2021

 ASX: GXY  
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# Disclaimer

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This release was authorised by Mr Simon Hay, Chief Executive Officer of Galaxy Resources Limited

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### Clear Growth Strategy

Galaxy is steadily advancing its world class growth assets towards production



### Proven Operator

Mt Cattlin is a stable and mature operation producing high quality spodumene concentrate



### Sal de Vida a Tier 1 asset

Steadily advancing with project update in April  
Potentially one of the lowest cost lithium producers globally



### James Bay strategically located

James Bay is well positioned to supply into the emerging European and North American EV growth surge



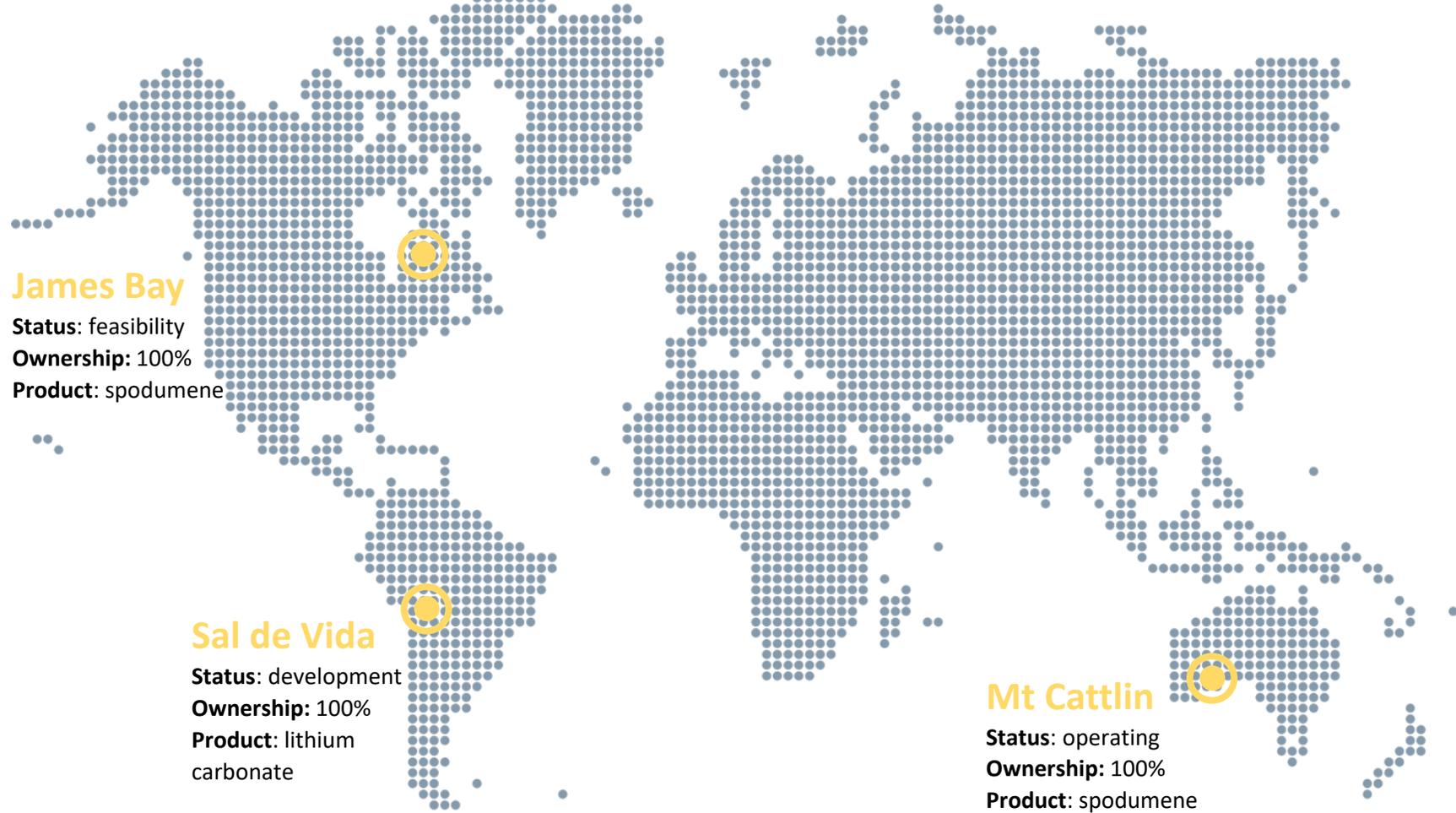
### Strong Balance Sheet

Provides flexibility to invest in growth at the cycle trough



### Successful board and management

Proven track record in developing and operating minerals assets



Creating a sustainable, large scale, global lithium chemicals business to power the future

# Mt Cattlin

## *A mature and stable operation*

- High quality spodumene producer
- Offtake contracted for life of mine
- Product accepted in supply chains globally
- Reliably producing to target since restart in late 2016

## **2020 production targets & record quarterly sales achieved**

- Annual production settings moderated to 50-55% of nameplate capacity
- Successfully operated in campaign mode
- Ore sorter circuit enabled consumption of low-grade stockpiled ore

	Units	FY2020
<b>Mining</b>		
<b>Total material mined</b>	bcm	1,767,210
<b>Ore mined</b>	bcm	352,077
<b>Processing</b>		
<b>Ore processed</b>	wmt	1,086,364
<b>Grade of ore processed</b>	% Li <sub>2</sub> O	1.11
<b>Mass yield</b>	%	10.2
<b>Recovery</b>	%	54
<b>Concentrate produced</b>	dmt	108,658
<b>Grade of concentrate produced</b>	% Li <sub>2</sub> O	5.95
<b>Sales</b>		
<b>Concentrate shipped</b>	dmt	150,630
<b>Grade of concentrate shipped</b>	% Li <sub>2</sub> O	5.8
<b>Production Costs</b>		
<b>Cash cost per tonne produced</b>	US\$/t FOB	447 <sup>1</sup>

1. Largely driven by a 41% quarterly increase in material mined Q4, plus shipping costs as sales volumes were greater than production.

# Mt Cattlin – Sustainability



Prioritising health and safety, hiring and sourcing locally and supporting the community



## Health and Safety

- TRIFR for 2020 was 10.75, a 31% improvement from 2019
- Enhanced safety measures implemented including positive lead indicators
- 1 Lost Time injury since restart in late 2016



## People Focus

- Hire Local - over 76% employees live locally
- Source Local - 22% of suppliers are local & 19% of procurement spend is local



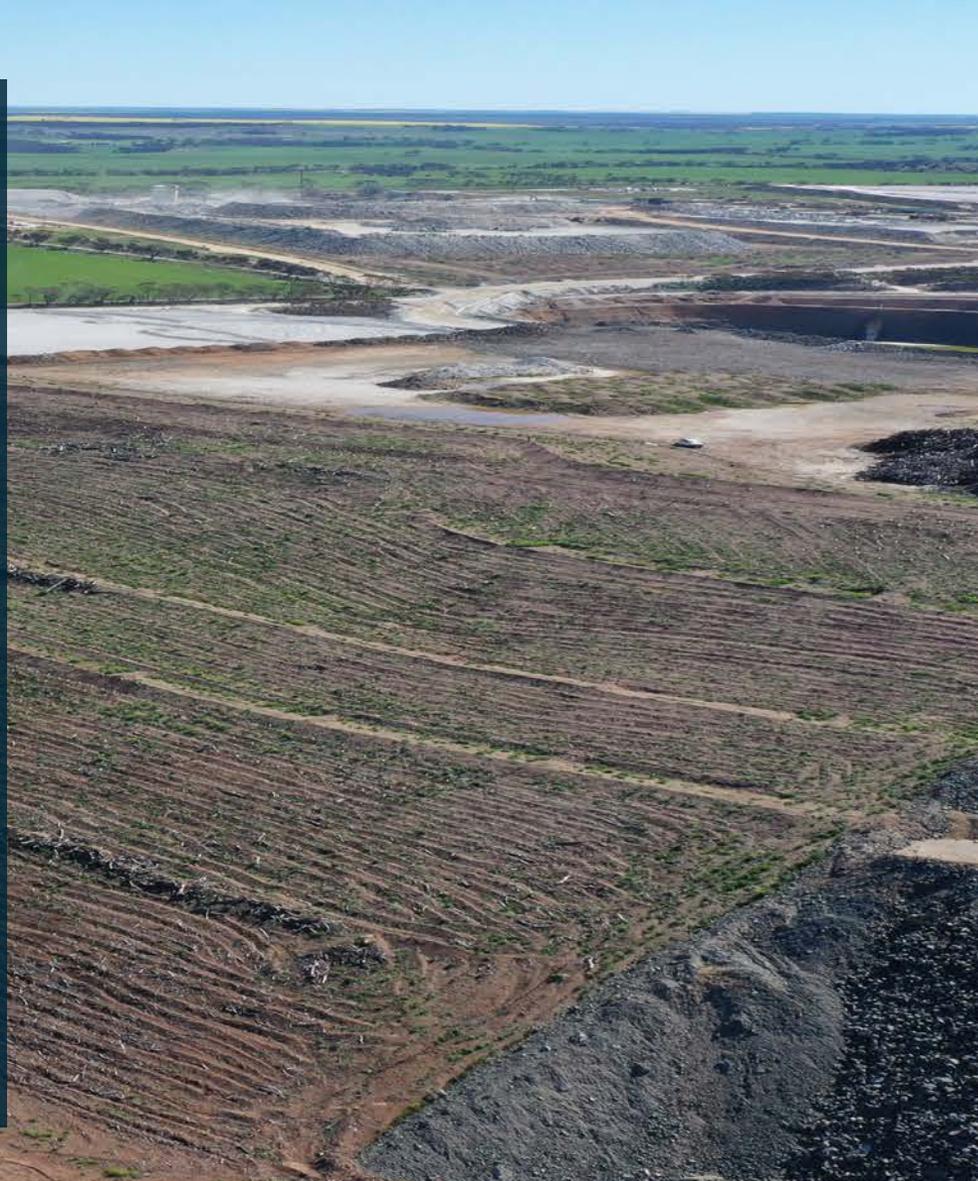
## Community Engagement

- Community Consultation Group – quarterly meetings
- Community Investment – “Pitch your Project”, over last 3 years has supported over 40 community projects with a total contribution of over \$250,000
- Afternoon with Galaxy – community event with site tours and entertainment



## Environment

- Partnered with local District High School to grow tube stock for the waste stockpile rehabilitation program



# Mt Cattlin – 2021 Outlook



Ramp up activities on track & annual guidance upgraded to meet customer demand and preference

## Ramp up and production update

- Mining rates have increased, 324k BCM /month moved in February
- Plant switched to continuous operation in late January smoothly with no issues
- Product grade target now 5.6-5.8% Li<sub>2</sub>O in line with customer requirements
- Predicted increase in recovery is apparent with Feb-Mar at >60%
- Mining a high grade ore zone also assisting production
- Estimated production for Q1 is 45-48 kt

## Market outlook

- Demand indications remain very strong and pricing momentum continues
- All long-term, contracted and spot customers have requested shipments in Q2
- Pricing to continue on spot basis throughout 2021
- Q2 shipments to be contracted in April
- Clear customer preference for lithium units over grade evident
- Customers have agreed to lower concentrate grade of 5.6-5.8% Li<sub>2</sub>O as they will receive more volume
- Significant benefits for Galaxy as price discount is minor and volume & recovery uplifts more than compensate

	Units	2021 Previous Forecast <sup>1</sup>	2021 Forecast Production Metrics
<b>Mining</b>			
<b>Total material mined</b>	bcm	2.3m – 2.6m	2.3m – 2.6m
<b>Processing</b>			
<b>Ore processed</b>	wmt	1.5m – 1.75m	1.5m – 1.75m
<b>Grade of ore processed</b>	% Li <sub>2</sub> O	1.08 – 1.2	1.08 – 1.2
<b>Mass yield</b>	%		-
<b>Recovery</b>	%	55-58	<b>58-62</b>
<b>Concentrate produced</b>	dmt	162,000 – 175,000	<b>185,000- 200,000</b>
<b>Grade of concentrate produced</b>	% Li <sub>2</sub> O	6.0	<b>5.6-5.8</b>
<b>Production Costs</b>			
<b>Cash cost per tonne produced</b>	US\$/t FOB	360-390	360-390

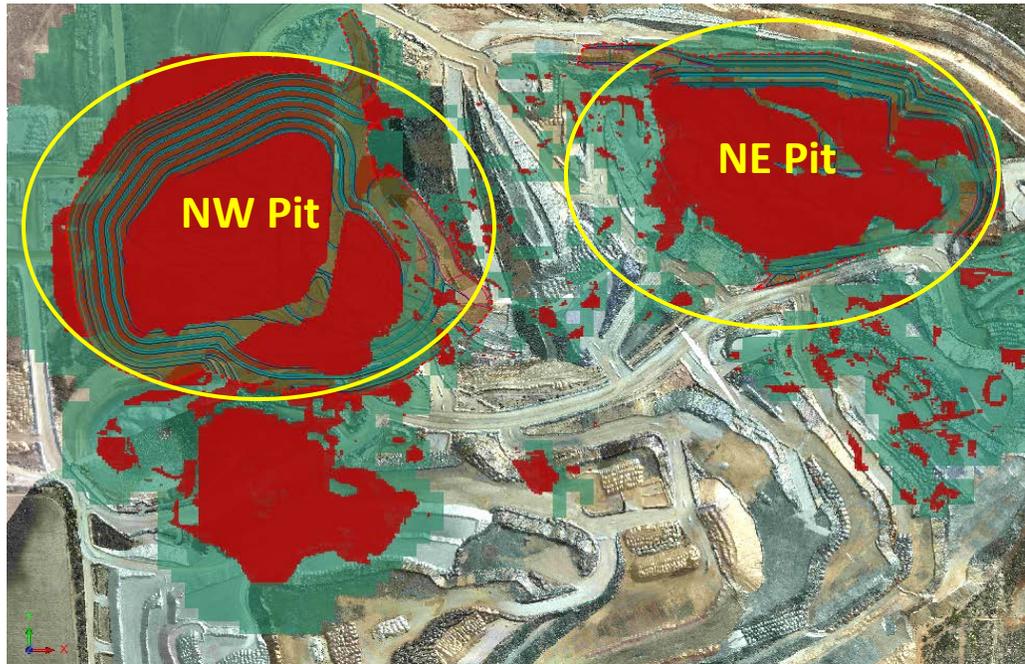
1. Announced in the December Quarterly Activities Report

# Mt Cattlin – Resource and Reserves



At 31 December 2020

- The 2SE Pit was depleted on plan at the end of 2020
- Mt Cattlin Resource based on clean profile of NE and NW Pit
- Mining has commenced at 2NE and will continue for 15 months
- Optimisation work undertaken to ensure best outcome for 2NW
- 2NW development drilling underway and concludes in early Q2



## Mt Cattlin Mineral Resource (0.4% reporting cut-off)<sup>1</sup>

Category		Tonnage Mt	Grade % Li <sub>2</sub> O	Grade ppm Ta <sub>2</sub> O <sub>5</sub>	Contained Metal ('000) t Li <sub>2</sub> O	Contained metal lbs Ta <sub>2</sub> O <sub>5</sub>
Measured	In-situ	0.5	1.5	232	7.5	256,000
Indicated	In-situ	4.4	1.5	157	67.3	1,523,000
	Stockpiles	3.0	0.8	123	23.7	814,000
Inferred	In-situ	4.1	1.3	147	53.3	1,329,000
<b>Total</b>		<b>12.0</b>	<b>1.3</b>	<b>149</b>	<b>152.4</b>	<b>3,942,000</b>

## Mt Cattlin Ore Reserve (0.4 reporting cut-off)<sup>1</sup>

Category		Tonnage Mt	Grade % Li <sub>2</sub> O	Grade ppm Ta <sub>2</sub> O <sub>5</sub>	Contained metal ('000) t Li <sub>2</sub> O	Contained metal lbs Ta <sub>2</sub> O <sub>5</sub>
Proven	In-situ	0.6	1.3	201	7.6	258,000
Probable	In-situ	4.4	1.3	142	58.6	1,367,000
	Stockpiles	3.0	0.8	123	23.7	814,000
<b>Total</b>		<b>8.0</b>	<b>1.1</b>	<b>139</b>	<b>89.9</b>	<b>2,433,000</b>

1. Refer to Appendix for Resource & Reserves Table

# Mt Cattlin – Mining

## 2NE ramp-up to full rate by Q2 2021

- Mining volume increased from 200k BCM/month in 2020 to 324kBCM/month in Feb 2021
  - No additional equipment deployed to ramp up mining volume
  - Night shift load, haul drill and blast
- Unit mining costs declined from \$14.64 /BCM over 2020 to \$10.42/BCM in February 2021
  - Cost savings from short haul distances and improved drill & blast parameters



## Mining Operations



*Johnex - down the hole explosive service*



*Dynamic drill and blast - drill and blasting service*



*Lucas - load and haul service*



*Galaxy - management, mining planning and engineering services*

## Main Mining Fleet

	No.
120t Excavator	1
200t Excavator	2
Cat 777 Dump Truck	7
D10 Dozer	2
D9 Dozer	1
Grader (16H)	1
Watercart	1
Front End Loader	1

## Main Drill Fleet

	No.
D65	1
T45	2

# Mt Cattlin – Processing



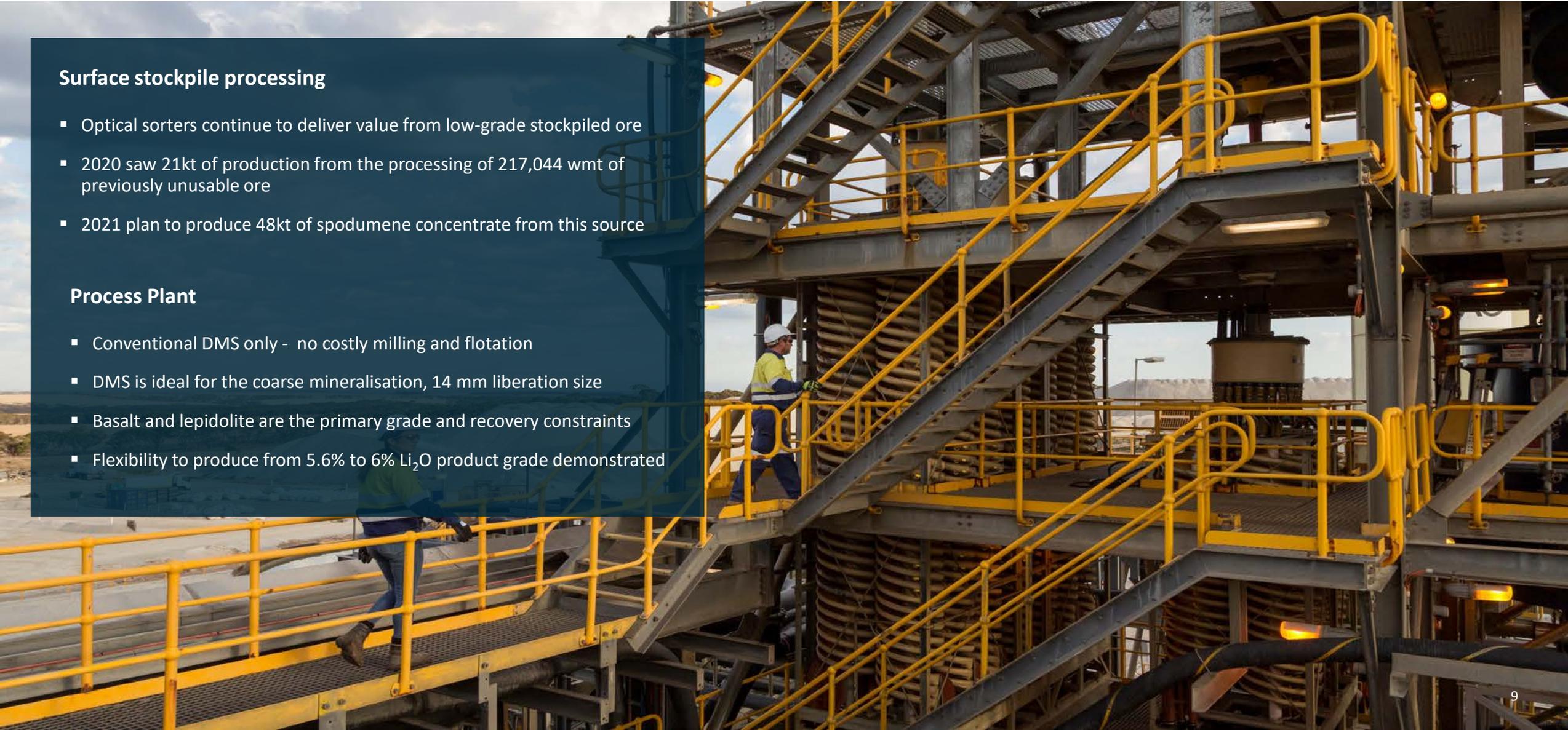
Product quality achieved since restart and continued focus on treating surface stockpiles

## Surface stockpile processing

- Optical sorters continue to deliver value from low-grade stockpiled ore
- 2020 saw 21kt of production from the processing of 217,044 wmt of previously unusable ore
- 2021 plan to produce 48kt of spodumene concentrate from this source

## Process Plant

- Conventional DMS only - no costly milling and flotation
- DMS is ideal for the coarse mineralisation, 14 mm liberation size
- Basalt and lepidolite are the primary grade and recovery constraints
- Flexibility to produce from 5.6% to 6% Li<sub>2</sub>O product grade demonstrated



# Mt Cattlin – 2NW optimisation plan

Work is underway to optimise the mine plan

## Characteristics

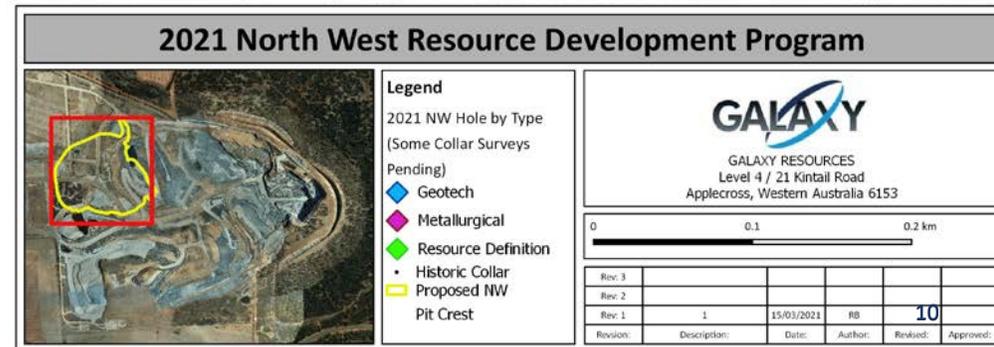
- Relatively deeper and higher-grade mineralisation with low-contaminate pegmatite
- Reduced mining dilution expected due to thicker pegmatite seams
- 2NW provides remaining ore and is on the mine plan after 2NE

## Optimisation work

- Resource definition infill drilling completed in Q1, awaiting assay results
- Geological modelling in progress and awaiting final geochemical results
- Metallurgical diamond core drilling completed and test-work in progress
- Geotechnical diamond core drilling is underway
- Results to date are positive and will lead to an optimised mine plan

## Mining Activities

- Flexibility to commence pre-strip in late 2021 or early 2022
- 2NW LoM at full capacity is ~ 4 years including blending with surface stockpiles



# Mt Cattlin – Future opportunities



## Monetise surface stockpiles of tailings and other materials

- 1.3Mt of unprocessed tailings and a further 900kt of future tailings
- Average grade of tailings approximately 1% Li<sub>2</sub>O
- Strong demand in China has prompted activities to examine sales of tailings and low-grade stockpiles and/or reprocess
- DSO demand and process capability is apparent in China

### Option 1 - Low grade DSO

- Investigating shipping mineralised tailings to customers in China

### Option 2 - Conversion of DSO to a low-grade Concentrate

- Partially process tailings to produce a 2- 4% Li<sub>2</sub>O concentrate
- Project scoping underway - simple flowsheet and processing units
- 6-9 months to design and construct is current high-level view
- Production could start in early 2022 pending full project analysis



- Other byproducts, such as basalt and primary floats, have potential as aggregates for civil construction, earthworks and landscaping
- Discussions and small-scale sales with various parties is underway



# James Bay PEA Results

## Key Physicals (LOM)

**330ktpa**  
Spodumene production

**5.6% Li<sub>2</sub>O**  
Product grade

**~18 year**  
Mine Life

**71%**  
Recovery

**3.7 : 1**  
Strip ratio

**1.4% Li<sub>2</sub>O**  
Resource grade

## Financial Summary

**US\$244 million**  
Development capital

**US\$ 290/ tonne**  
FOB Montreal cash operating costs

**US\$560 million**  
Pre-tax NPV (8% discount rate)

**39.6%**  
Pre-tax IRR

**2.2 years**  
Pre-tax pay back period

## Galaxy's spodumene expertise to be applied at James Bay

- ✓ Galaxy is in a unique position as James Bay is its second spodumene asset
- ✓ Applying internal knowhow from Mt Cattlin to James Bay development
- ✓ Key technical personnel overseeing design works in mine and plant
- ✓ Successful optimisations at Mt Cattlin to be built into James Bay design from the start
  - ✓ Drill & blast planning and powder factor optimisation
  - ✓ Mine planning, resource to reserve conversion for pegmatite
  - ✓ DMS-centric processing and the potential for ultra-fines DMS
  - ✓ Concentrate grade/recovery tradeoffs and determining economic sweet spot
  - ✓ Ability to commission, ramp up and operate in campaign mode if necessary
  - ✓ Mine planning, drill & blast design, metallurgical accounting and maintenance systems
  - ✓ In depth knowledge of spodumene conversion industry and downstream sectors

# Direct Synergies between Mt Cattlin and James Bay



Galaxy provides deep knowledge of design and operability to James Bay, differentiating it from its peers

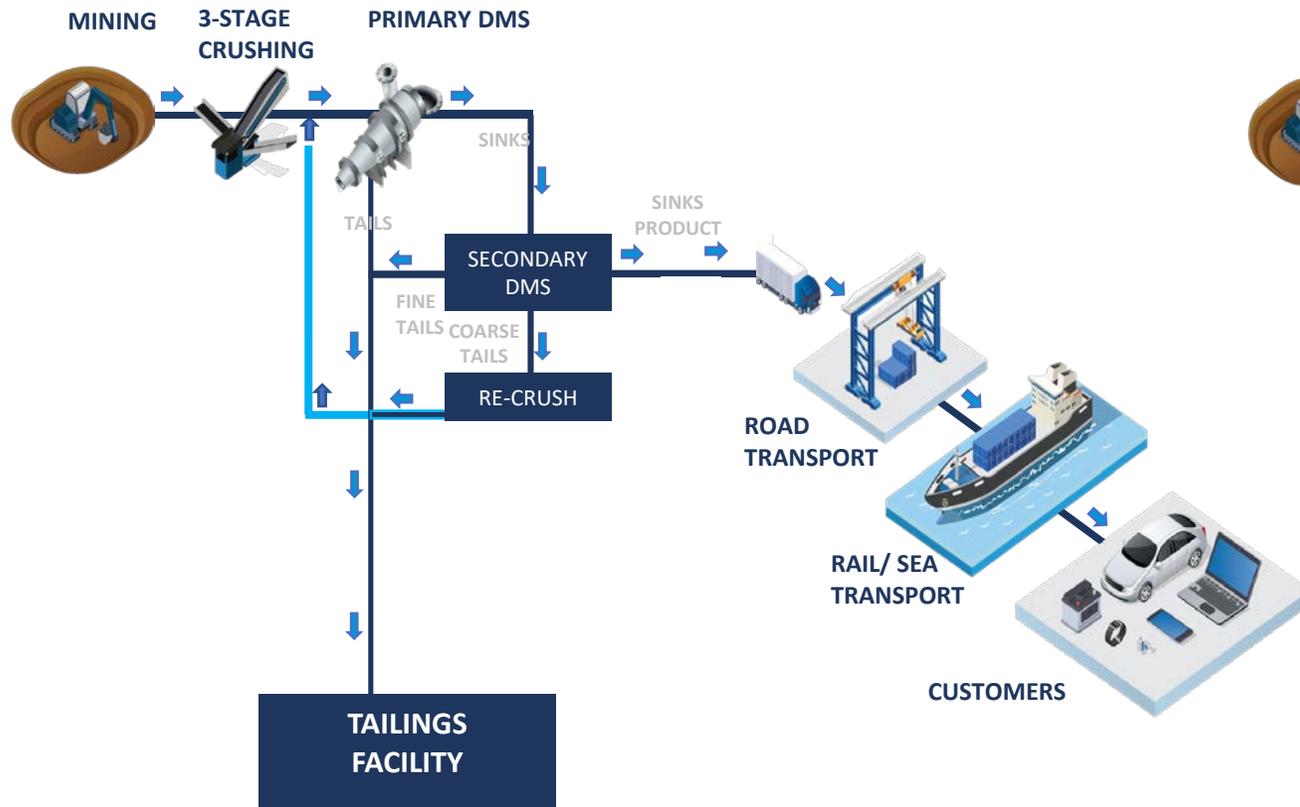
	Mt Cattlin	James Bay	Comparison
<b>Ownership Galaxy</b>	100%	100%	—
<b>Resource grade (% Li<sub>2</sub>O)</b>	1.2	1.4	✓
<b>Resource volume (Mt)</b>	14.6	40.3	✓
<b>Ore body orientation</b>	Lenses	Subvertical dykes	—
<b>Initial Life of Mine (yrs)</b>	8	18	✓
<b>Ore contaminants (density)</b>	Basalt (2.9)	Metasediments (2.6)	✓
<b>Strip ratio (x:1)</b>	6.5	3.7	✓
<b>Mining approach</b>	Drill & blast, open cut	Drill & blast, open cut	—
<b>Plant recovery at 5.6% Li<sub>2</sub>O product grade</b>	58-62%	71%	✓
<b>Separation</b>	Crush, DMS	Crush, DMS	—
<b>Product description</b>	inhomogeneous coarse	Homogeneous Coarse	✓
<b>Development capital</b>	Standard	Winterisation	✗
<b>Offtake (Potential)</b>	Asian market	North America & Europe	—

# Processing

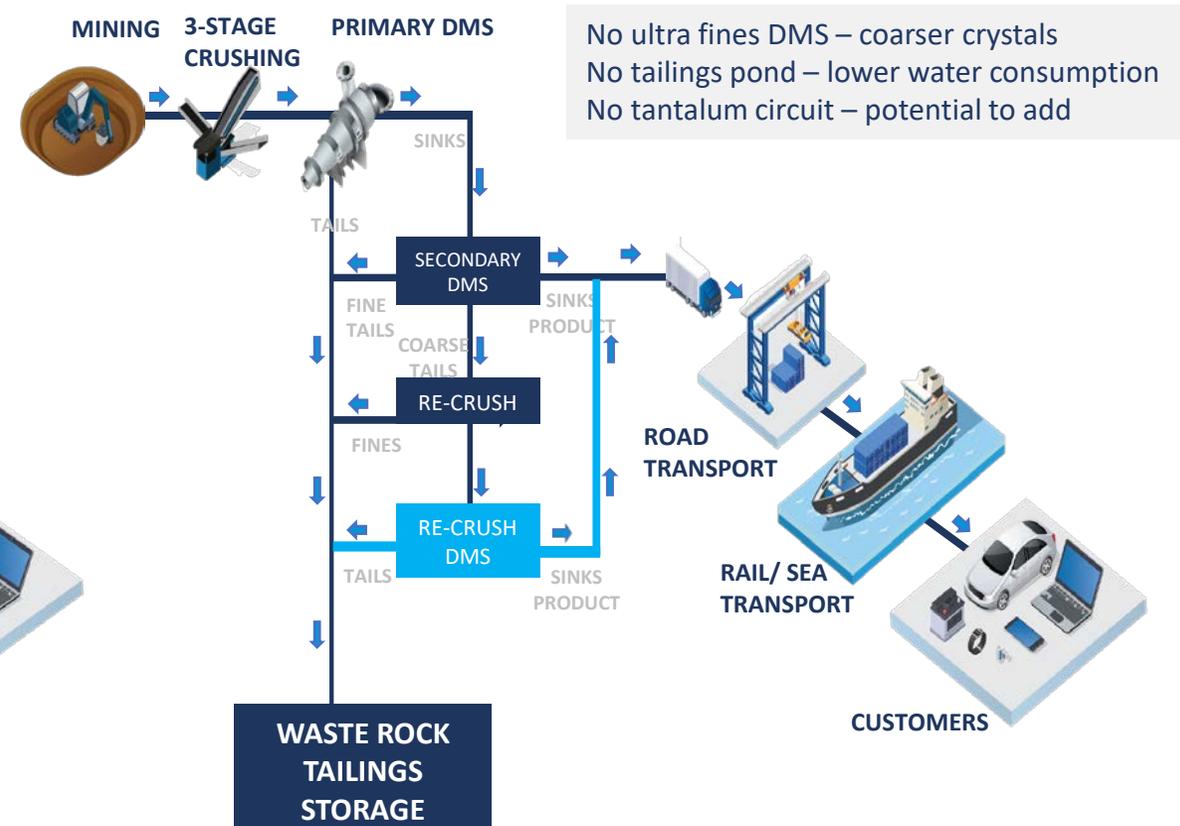


Mt Cattlin provides a design basis for James Bay, both flowsheets are similar due to the coarse mineralisation

## Mt Cattlin



## James Bay



# Mt Cattlin: Mineral Resource & Reserve



Table 1: Mt Cattlin Mineral Resource as at 31 December 2020

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Notes: Depleted Mineral Resource – December 2020. Fresh unaltered rock reported at cut-off grade of 0.4% Li<sub>2</sub>O. Transitional partly weathered rock reported at cut-off grade of 0.6% Li<sub>2</sub>O. The preceding statements of Mineral Resources conforms to the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code) 2012 edition. All tonnages reported are dry metric tonnes. Excludes mineralisation classified as oxide. Minor discrepancies may occur due to rounding to appropriate significant figures.

Table 2: Mt Cattlin Ore Reserve as at 31 December 2020

Category		Tonnage Mt	Grade % Li <sub>2</sub> O	Grade ppm Ta <sub>2</sub> O <sub>5</sub>	Contained metal ('000) t Li <sub>2</sub> O	Contained metal lbs Ta <sub>2</sub> O <sub>5</sub>
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Notes: Reported at cut-off grade of 0.4 % Li<sub>2</sub>O. The preceding statements of Ore Reserves conforms to the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code) 2012 edition. All tonnages reported are dry metric tonnes. Excludes oxide. Transitional mineralisation included at cut-off grade 0.6 % Li<sub>2</sub>O. Reported with 17% dilution and 97% mining recovery. Revenue factor US\$650/tonne applied. Minor discrepancies may occur due to rounding to appropriate significant figures.

# James Bay: Mineral Resource



Table 3: James Bay Mineral Resource

Category	Tonnage Mt	Grade % Li <sub>2</sub> O	Contained Metal ('000) t Li <sub>2</sub> O
Indicated	40.30	1.40	564.2
<b>Total</b>	<b>40.30</b>	<b>1.40</b>	<b>564.2</b>

Notes to Table 1: Reported at a cut-off grade of 0.62 percent Li<sub>2</sub>O inside conceptual pit shells optimised using spodumene concentrate price of US\$905 per tonne containing 6.0% Li<sub>2</sub>O, metallurgical and process recovery of 70%, overall mining and processing costs of US\$55 per tonne milled and overall pit slope of 50 degrees. All figures rounded to reflect the relative accuracy of the estimates.

## Competent Persons Statement

Any information in this release that relates to Mt Cattlin Mineral Resources and Ore Reserves is extracted from the report entitled “2020 Resource and Reserve Update” created on 17 March 2021 which is available to view on [www.gxy.com](http://www.gxy.com) and [www.asx.com.au](http://www.asx.com.au). The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and that all material assumptions and technical parameters underpinning the Mineral Resources and Ore Reserves estimates in the relevant market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person’s findings are presented have not been materially modified from the original market announcement.

Any information in this release that relates to James Bay Mineral Resources is extracted from the ASX announcement, entitled “James Bay Resource Update” dated 4 December 2017 which is available to view on [www.gxy.com](http://www.gxy.com) and [www.asx.com.au](http://www.asx.com.au). The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and that all material assumptions and technical parameters underpinning the Mineral Resources in the relevant market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person’s findings are presented have not been materially modified from the original market announcement.

Any information in this release relating to a James Bay production target, or forecast financial information derived from a production target, is extracted from the ASX Announcement entitled “James Bay Development Plan” dated 9 March 2021 which is available to view on [www.gxy.com](http://www.gxy.com) and [www.asx.com.au](http://www.asx.com.au). The Company confirms that all the material assumptions underpinning the production target, and the forecast financial information derived from a production target, in the original market announcement continue to apply and have not materially changed.

Technical information relating to the Company’s James Bay project contained in this release is derived from, and in some instances is an extract from, the technical report entitled “Preliminary Economic Assessment - James Bay Lithium Project” prepared in accordance with National Instrument 43-101 Technical Report. The Technical Report will be filed within 45 days of this release and will be available for review under the Company’s profile on SEDAR at [www.sedar.com](http://www.sedar.com) and on the Company’s website at [www.gxy.com](http://www.gxy.com).