

## Savannah Feasibility Study Ten year life with minimal restart capital requirements

### Highlights

- Life-of-mine production - 8.25Mt @ 1.38% Ni, 0.65% Cu and 0.09% Co for:
  - 114,000t nickel in ore
  - 53,700t copper in ore
  - 7,700t cobalt in ore
- Annual concentrate production:
  - 9,700t nickel in concentrate
  - 5,000t copper in concentrate
  - 670t cobalt in concentrate
- Higher production rates in the first five years:
  - Averaging 10,900t nickel in concentrate, peaking at 12,300t nickel in concentrate
- Mine life - approximately ten years
- Pre-production capital - only A\$20M
- Life-of-mine cash costs:
  - C1 cash costs - US\$2.00/lb or A\$2.70/lb (nickel in concentrate basis)
  - Operating cash costs - US\$3.30/lb or A\$4.50/lb (payable nickel basis)
  - Sustaining cash costs - US\$4.40/lb or A\$6.00/lb (payable nickel basis)
- Ore Reserves:
  - Maiden Savannah North Ore Reserve - 6.65Mt @ 1.42% Ni, 0.61% Cu and 0.10% Co for 94,500t nickel, 40,900t copper and 6,700t cobalt
  - Total Savannah Ore Reserve - 8.21Mt @ 1.37% Ni, 0.64% Cu and 0.09% Co for 112,600t nickel, 52,400t copper and 7,600t cobalt
- Substantial existing site infrastructure and immediately accessible ore from Savannah
- Twelve years of continuous operating experience at Savannah provides a sound base for the production and cost estimates used in the Feasibility Study

The production target includes approximately 1.1% of material on a contained nickel basis classified as Inferred Resource. The maximum annual proportion of contained nickel derived from Inferred Resources is 2.3%, in Year 10 of the mining plan.

#### Cautionary Statement

There is a low level of geological confidence associated with Inferred Mineral Resources and there is no certainty that further exploration work will result in the determination of Indicated Mineral Resources or that the production target itself will be realised.

## Summary

Panoramic Resources Limited (“Panoramic”, **ASX Code: PAN**) is pleased to provide the results of the Savannah Feasibility Study (“Savannah FS”). The Savannah FS demonstrates that mining of Savannah North significantly extends the mine life at the Savannah Operation with globally competitive cash costs and minimal pre-production capital requirements. The key physicals from the Savannah FS are summarised in Table 1.

**Table 1 – Resource and Production Summary**

Operating Metric	Result
<b>Mineral Resource</b>	13.9Mt @ 1.63% Ni, 0.75% Cu and 0.11% Co for 226,400t nickel, 104,700t copper and 15,300t cobalt
<b>Mine Production</b>	8.25Mt @ 1.38% Ni, 0.65% Cu and 0.09% Co for 114,000t nickel, 53,700t copper and 7,700t cobalt
<b>Mine Life</b>	10.25 years
<b>Life-of-mine metal in concentrate production</b>	99,200t Ni, 51,500t Cu and 6,900t Co
<b>Average annual metal in concentrate production</b>	9,700tpa Ni, 5,000tpa Cu and 670t Co

The Mineral Resources quoted in Table 1 are for the entire Savannah Project (Savannah, Savannah North and Copernicus), and have been previously reported by Panoramic (*refer to the Company’s ASX announcement of 24 August 2016*).

The Savannah FS is based on mining the remaining Ore Reserve at Savannah, whilst developing across to the Savannah North deposit. Access to Savannah North will be via decline from the existing Savannah decline at the 1440 Level to the Savannah North 1380-1360 level. Access development from Savannah to first ore at Savannah North is scheduled to take approximately nine months, with full production from Savannah North reached 15 months after commencement of development. Mining of Savannah North is proposed to be via conventional long-hole open stoping with paste fill, at mining rates between 0.7–0.9 Mtpa ore (average 0.8Mtpa over life of mine). At the scheduled rates, production can be maintained for 10 years based on the proposed mine plan.

Processing is through the existing Savannah plant to produce a bulk Ni-Cu-Co concentrate targeting a concentrate grade of 8% Ni. Processing recoveries over life of mine are expected to average 87% Ni, 96% Cu and 90% Co, based on historic Savannah plant performance. **Metal in concentrate production is forecast to average 9,700t Ni, 5,000t Cu and 670t Co per year with 99,200t Ni, 51,500t Cu and 6,900t Co in concentrate produced over life of mine.**

**The Savannah FS forecasts a low up-front capital investment of only \$20 million to resume production.** The low restart cost is due to the mine development already in place to access existing Savannah ore and the existing mobile equipment fleet, processing plant and supporting infrastructure at Savannah being kept in good condition under care and maintenance since the suspension of mining operations in May 2016.

**Forecast average operating cash costs of US\$3.30/lb Ni (payable nickel basis after by-product credits) over the life of the project are in the second quartile of the industry cost curve.** Table 2 summarises the financial outcomes of the Savannah FS at various US\$ nickel prices and a flat US\$:A\$ 0.736 exchange rate.

**Table 2 - Financial summary for a range of US\$ nickel prices (US\$:A\$ = 0.736) (rounding to two significant figures)**

Financial Metrics	Units	US\$5.00/lb	US\$6.00/lb	US\$7.00/lb	US\$8.00/lb
Revenue	A\$M	1,300	1,500	1,700	1,900
Up-front Capital ( <i>pre-production</i> )	A\$M	20	20	20	20
LOM Capital ( <i>inclusive of up-front capital</i> )	A\$M	230	230	230	230
Operating costs plus royalties	A\$M	950	960	970	980
Pre-tax cash flow	A\$M	110	300	490	670
Pre-tax NPV (8% discount rate)	A\$M	60	190	320	440
IRR	%	44	115	203	316
C1 cash costs ( <i>Ni in concentrate basis</i> )	A\$/lb Ni	2.70	2.70	2.70	2.70
	US\$/lb	2.00	2.00	2.00	2.00
Operating cash costs ( <i>payable Ni basis</i> )	A\$/lb Ni	4.50	4.50	4.60	4.70
	US\$/lb	3.30	3.30	3.40	3.40
Sustaining cash costs ( <i>operating cash costs plus sustaining capital, payable Ni basis</i> )	A\$/lb Ni	6.00	6.00	6.10	6.10
	US\$/lb	4.40	4.40	4.50	4.50

As part of the Savannah FS, Panoramic has identified a number of opportunities which could add significant additional value to the Project, including:

- **Future Resource growth** – less than 35% of the potential 2km mineralisation footprint has been tested by Resource drilling. Priority areas for potential resource additions include east and west extensions to the Upper Zone in close proximity to proposed development;
- **Mine planning and scheduling** – detailed review of alternative stope shapes, cut-off grade, and scheduling to lower unit costs, increase production rates and/or improve mined grades;
- **Mining productivity** – information management utilising latest technical innovations, waste backfill and haulage, shaft versus decline haulage, driverless trucks, hybrid electric/diesel vehicles;
- **Product optimisation** – improved Ni concentrate grade and recovery through fine grinding and circuit reconfiguration. Opportunity to produce split Ni/Co and Cu concentrates;
- **In-country smelting** - assess the amenability of Savannah North concentrate for matte production via mini-smelting technology (e.g. top submerged lance);
- **Power** – the Savannah FS is based on utilising the existing diesel fired power station. Alternative power options may include solar, gas or a hybrid, which may offer more favourable power costs;
- **Contractor services** – rationalise the number of services currently provided by contractors (e.g. camp services, power generation, concentrate haulage, inbound freight, underground mining services, core drilling); and
- **Employment and procurement** – utilise local employment and service providers where possible.

These opportunities will be assessed as part of the next phase of optimisation work.

Panoramic's Managing Director, Peter Harold said "The release of the Savannah Feasibility Study confirms the potential to extend the mine life of Savannah by at least ten years. The Company's decision to place Savannah onto care and maintenance in May 2016, thereby preserving the remaining Ore Reserve during this current cycle of weak nickel prices, will allow us to resume operations with a short lead time and minimal capital investment. The forecast annual metal production rates, combined with the forecast low cash costs, are capable of driving strong cash flows when the nickel price recovers to a level consistent with long-run industry forecasts.

Savannah North has shown itself to be one of the more significant medium-grade nickel discoveries in Australia. In addition to the existing Resource of 175,100t of contained nickel, 74,400t copper and 12,700t cobalt, the Savannah North system remains open in the Upper Zone to the east and west, and the Lower Zone to the northwest. Recent downhole EM surveys continue to generate exciting targets which offer wonderful opportunities to increase the Resource base."

## Details

### Project Background

The Savannah Nickel Project is located 240km south of Kununurra in the East Kimberley region of Western Australia, and consists of a nickel sulphide orebody, underground mine, process plant and associated infrastructure. Panoramic was formed in 2001 for the purpose of developing Savannah. Panoramic successfully commissioned the Savannah Project in late 2004, and over a twelve year period, Savannah milled 8.5 million tonnes at an average grade of 1.29% nickel, 0.65% copper and 0.06% cobalt to produce 1.22 million tonnes of concentrate containing 94,600 tonnes nickel, 53,000 tonnes copper and 5,000 tonnes cobalt. In FY2016, Savannah achieved a record year with 9,845 tonnes nickel, 6,011 tonnes copper and 476 tonnes cobalt in concentrate produced. The Savannah Project was placed on care and maintenance in May 2016 pending a sustained recovery in the US\$ nickel price.

Savannah North was discovered in February 2014, when drill-hole KUD1525, targeting the interpreted fault offset of the main Savannah orebody, intersected 89.3m @ 1.60% Ni, 0.76% Cu and 0.12% Co (*refer to the Company's ASX announcement of 18 February 2014*). Resource drilling commenced in early 2015, and in October 2015 the Company released the maiden Savannah North Mineral Resource estimate of 6.88 million tonnes at 1.59% Ni for 109,600t Ni (*refer to the Company's ASX announcement of 1 October 2015*).

In January 2016 the Company released the results of a Scoping Study on the maiden Savannah North Mineral Resource estimate, which indicated a positive economic outcome given the production, revenue and cost assumptions modelled (*refer to the Company's ASX announcement of 27 January 2016*).

In February 2016, the Company resumed underground drilling at Savannah North with the purpose of infilling and converting areas of Inferred Resource to Indicated category, while also testing for extensions to the Resource both up dip to the east and down dip to the west and north. The program was completed in July 2016 and culminated in the release of an upgraded Savannah North Mineral Resource estimate of 10.27 million tonnes at 1.70% Ni for 175,100t Ni, 74,400t copper and 12,700t cobalt in August 2016 (*refer to the Company's ASX announcement of 24 August 2016*).

### Study Scope

The Savannah FS commenced in July 2016. The scope of the Study was to evaluate the technical and financial viability of recommencing operations at Savannah, based on mining the remaining Savannah orebody plus the Savannah North deposit. The Base Case for the Study assumes no material changes to recent Savannah mining and processing practices and that the operation continues to produce a bulk Ni-Cu-Co concentrate sold under similar terms as the current contract with Sino/Jinchuan, which expires in April 2020.

### Geology and Mineralisation

This Study is primarily based on the mining and processing of the magmatic Ni-Cu-Co sulphide Resources hosted by the Savannah North Intrusion (SNI) located to the north of the Savannah Mine. The mineralised character of the SNI was identified by Panoramic in February 2014 when underground exploration drilling from the mine intersected broad zones of Ni-Cu-Co rich massive sulphide mineralisation 600m north of the mine beneath the surface expression of the SNI.

Exploration diamond drilling continued throughout most of 2014, with 16 surface drill holes and nine underground holes completed for a total of 27,700 drill metres. Resource diamond drilling at Savannah North commenced in April 2015, following completion of the 1570 Savannah North Access Drive, with a further 38 underground resource drill holes totalling 15,300 drill metres completed at Savannah North to September 2015.

Between February and July 2016, the Company completed a further program of Resource drilling at Savannah North to build on the 2015 programs. The 2016 drill program was undertaken from the 1570 Drill Drive and involved the completion of 27 new drill holes (KUD1573 to KUD1598) and the extension of two 2015 drill holes (KUD1550A and KUD1546), for a total of 13,407 drill metres.

The Savannah North deposit is predominantly composed of two discrete zones of mineralisation, the Upper Zone and Lower Zone. The **Upper Zone** relates to mineralisation developed on or about the basal contact of the SNI. The Upper Zone mineralisation strikes east-west and dips moderately to the north.

To the east of Section 5750mE, the Upper Zone mineralisation is dominated by massive sulphide mineralisation developed at the base of the SNI in contact with the underlying Tickalara Metamorphics (*Figure 1*). The massive sulphide mineralisation is typically 5-8m thick and dips between five and 40 degrees to the north. Post-mineralisation dykes frequently cut and dilate the Upper Zone mineralisation between 5800mE and 6100mE.

To the west of Section 5750mE, the Upper Zone mineralisation appears to be developed within the SNI and is typically underlain by a 20-30m thick contaminated chilled contact zone of noritic composition. Here the Upper Zone mineralisation is typically 15-20m thick and is dominated by strong matrix mineralisation (20-40% sulphides). The matrix mineralisation frequently contains thin zones of higher grade semi-massive to massive sulphide mineralisation.

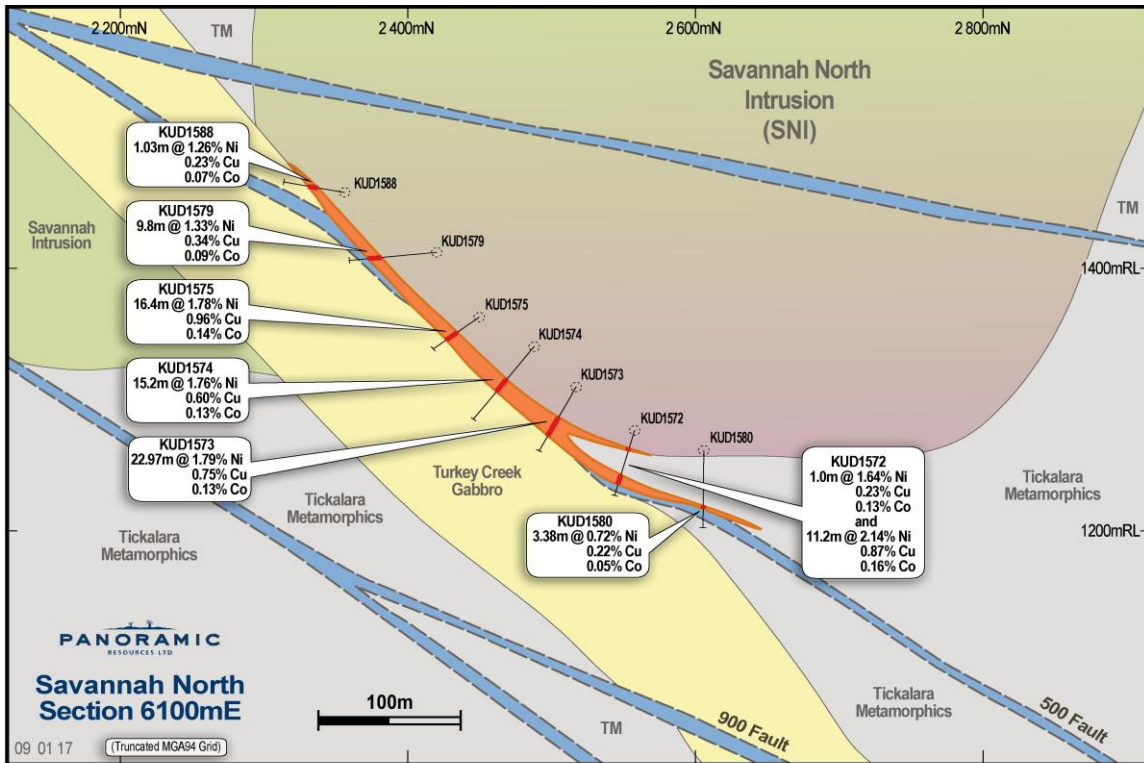
The Savannah North **Lower Zone** relates to a consistent zone of higher grade, off-contact massive sulphide mineralisation (*Figure 2*). The Lower Zone mineralisation is predominantly developed within the Tickalara Metamorphics underlying the SNI and is interpreted to originate from the Upper Zone mineralisation. It is up to 15m thick and dips 50-60 degrees towards the northwest. In places, the Lower Zone mineralisation appears to coincide with dykes related to a possible link structure between the 500 and 900 Faults.

The Upper Zone mineralisation remains open to the east and west (*Figure 3*). The western extent of the Upper Zone is currently defined by surface drill hole SMD164 (**5.05m @ 2.62% Ni**) on Section 5400mE. This intersection is coincident with a very large, highly conductive down-hole electromagnetic response (DHEM), which previous geophysical modelling indicated may extend a further 1km to the west from SMD164 (*refer to the Company's ASX announcement of 25 August 2015*). The latest surface drilling in this area on Section 5100mE (drill holes SMD167 and SMD167A) supports this interpretation, but also indicates that the orientation of the Upper Zone has adopted a more north-westerly trend in this area. To the east, recent drilling indicates the Upper Zone may extend to within 50m of surface drill-hole SMD170 (*refer to the Company's ASX announcement of 31 January 2017*). The Lower Zone mineralisation is open down dip to the northwest.

Panoramic considers the Savannah North system to have significant upside, and notes the following:

- **The 2016 Resource drilling program has not closed off the mineralisation;**
- **The potential strike length of the Upper Zone is currently understood to be approximately 2km based on the large, highly conductive on-hole EM responses identified in surface drill holes SMD164 on Section 5400mE and SMD167 and SMD167A on Section 5100mE and therefore less than 35% of the potential Upper Zone mineralisation has been tested by resource drilling;** and
- **The Lower Zone Resource remains open down dip to the northwest.**

**Figure 1 - Savannah North Cross Section 6100mE, showing Upper Zone mineralisation. Note: drill-hole intersections are downhole thicknesses, not true width.**



**Figure 2 - Savannah North Cross Section 5800mE, showing Upper Zone and Lower Zone mineralisation. Note: drill-hole intersections are downhole thicknesses, not true width.**

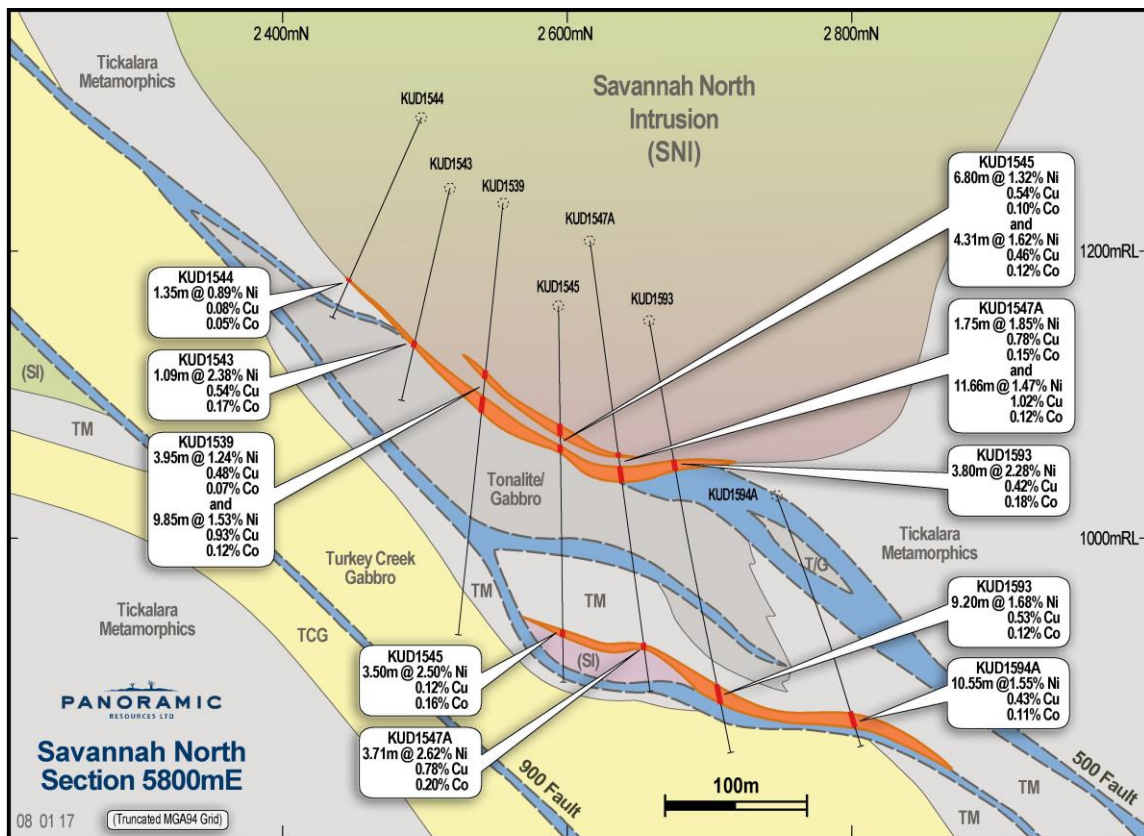
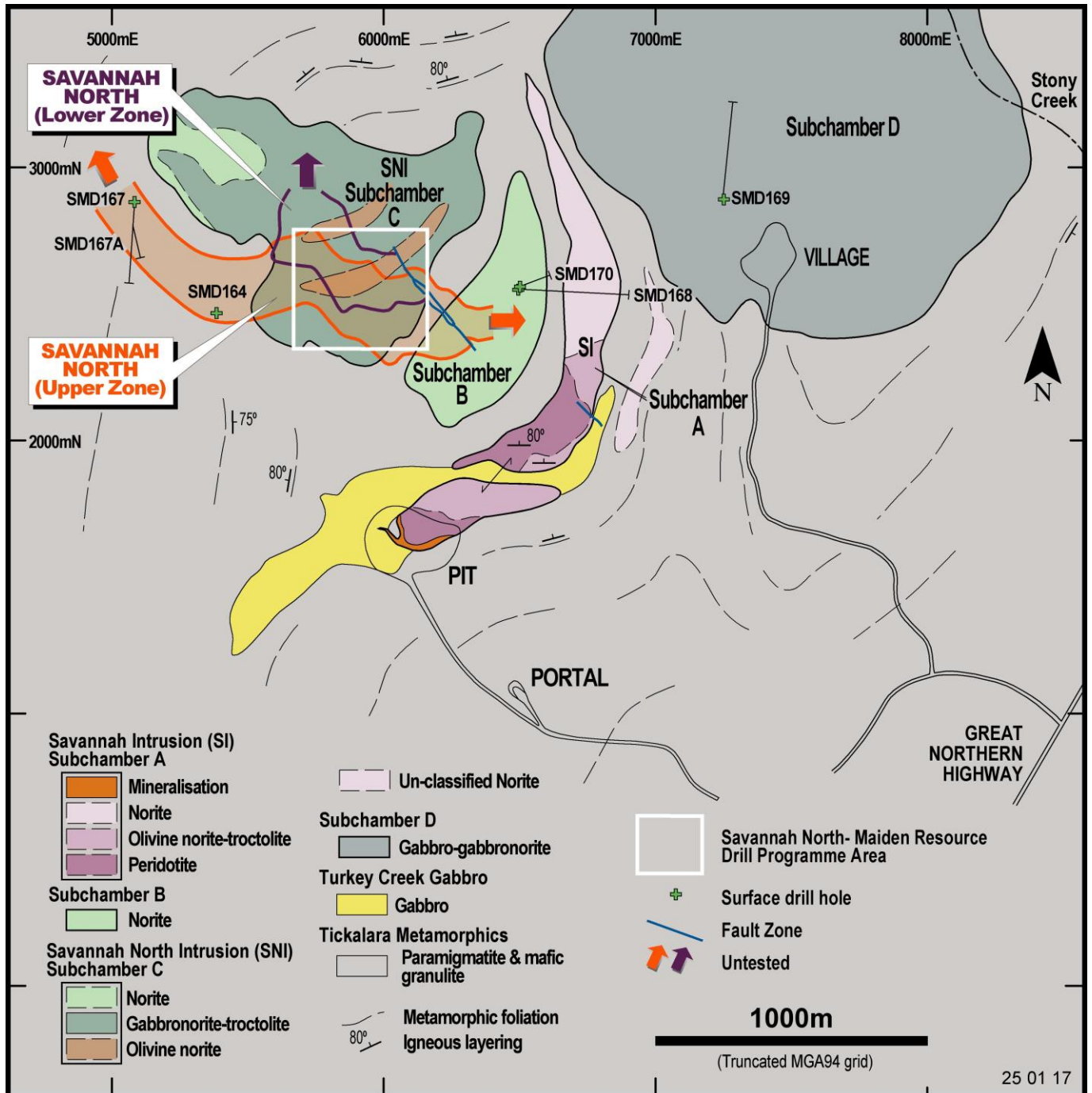


Figure 3 - Plan view showing location of the Savannah and Savannah North Intrusions, Upper and Lower Zones, and possible extensions.



## Mineral Resources

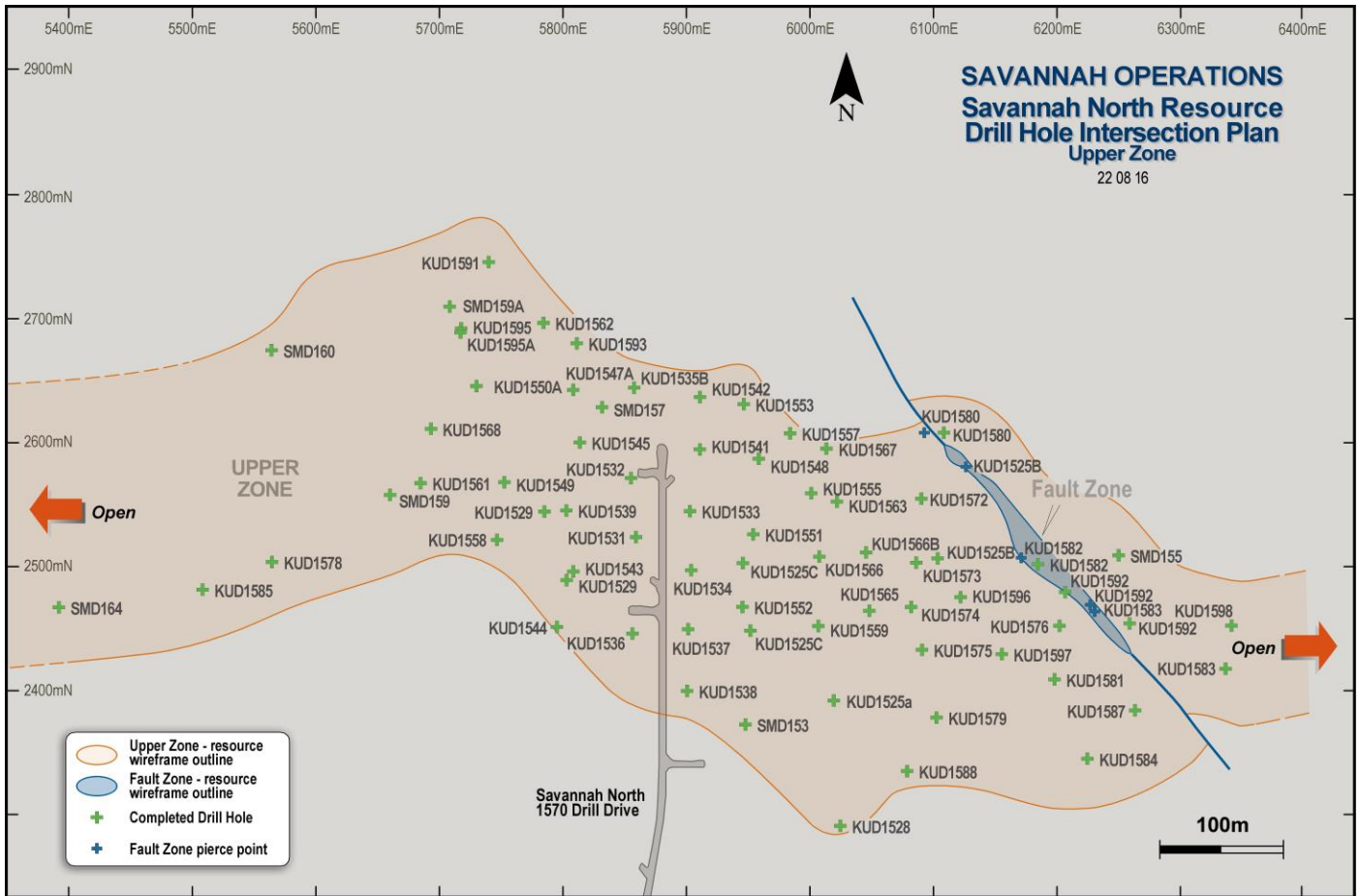
Total Mineral Resources for the Savannah Project, as reported by the Company on 24 August 2016, **comprise 226,400t Ni, 104,700t Cu and 15,300t Co metal contained** (Table 3) (refer to the Company's ASX announcement of 24 August 2016). Mineral Resources are inclusive of Ore Reserves. All Resources are reported at a nickel cut-off grade of 0.50% Ni. The Mineral Resources used in the Savannah FS comprise Savannah Above 900F and Savannah North. The Resource outlines and drill-hole pierce points within the Savannah North Upper and Lower Zones are shown in Figures 4 and 5.

**Table 3 - Savannah Project Mineral Resource Estimate as at 24 August 2016**

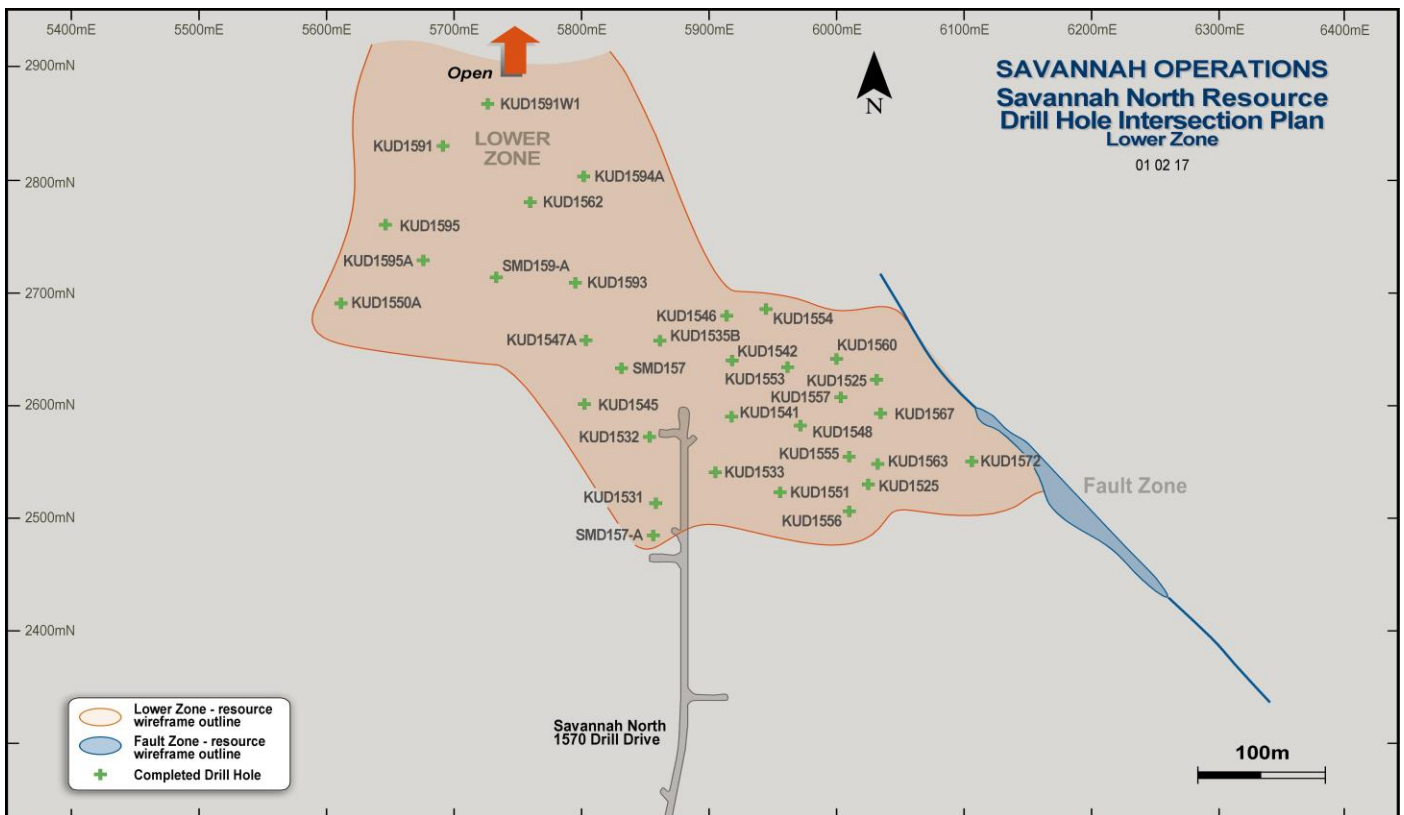
Resource	Metal	Resource Date	JORC	Measured		Indicated		Inferred		Total		Metal Tonnes
				Tonnes	(%)	Tonnes	(%)	Tonnes	(%)	Tonnes	(%)	
<b>Savannah</b>												
Above 900F	Nickel	Jun-16	2012	1,275,000	1.51	759,000	1.20			2,034,000	1.39	28,300
	Copper				0.87		0.90				0.88	17,900
	Cobalt				0.07		0.07				0.07	1,400
Below 900F	Nickel	Jun-15	2012			780,000	1.64	125,000	1.72	905,000	1.65	14,900
	Copper				0.76		0.75				0.76	6,900
	Cobalt				0.10		0.09				0.10	900
<b>Savannah North</b>												
Upper	Nickel	Aug-16	2012			4,229,000	1.64	1,759,000	1.25	5,988,000	1.53	91,300
	Copper						0.65		0.49		0.60	36,100
	Cobalt						0.12		0.10		0.11	6,800
Lower	Nickel	Aug-16	2012			2,697,000	1.96	853,000	2.02	3,550,000	1.97	70,100
	Copper						0.98		0.93		0.97	34,400
	Cobalt						0.14		0.13		0.14	4,900
Other	Nickel	Aug-16	2012			242,000	2.22	493,000	1.67	735,000	1.85	13,600
	Copper						0.50		0.53		0.52	3,800
	Cobalt						0.14		0.11		0.12	900
<b>Copernicus</b>												
Open Pit	Nickel	Jun-16	2004	132,000	0.97					132,000	0.97	1,300
	Copper				0.52						0.52	700
	Cobalt				0.03						0.03	-
Underground	Nickel	Jul-10	2004			508,000	1.30	25,000	0.98	532,000	1.29	6,800
	Copper						0.91		0.69		0.90	4,800
	Cobalt						0.05		0.02		0.05	300
<b>Total Savannah Project</b>	<b>Nickel</b>											<b>226,400</b>
	<b>Copper</b>											<b>104,700</b>
	<b>Cobalt</b>											<b>15,300</b>



**Figure 4 - Plan view showing drill-hole pierce points within the Savannah North Upper Zone Resource.**



**Figure 5 - Plan view showing drill-hole pierce points within the Savannah North Lower Zone Resource.**



## Mine Design and Scheduling

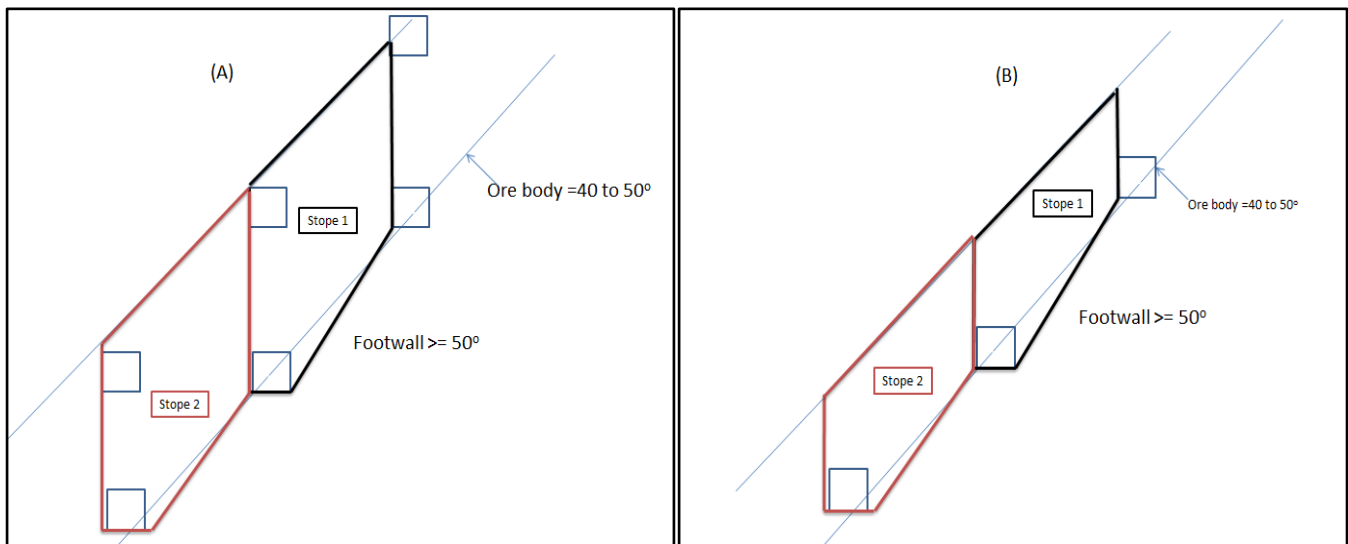
The Block Model derived from the updated Resource estimate was used for the Savannah FS. Modelling was undertaken by Panoramic staff using Datamine™ Studio 5D Planner and Enhanced Production Scheduler (EPS) software. Design parameters are shown in Table 4.

**Table 4 - Savannah North mine design parameters**

<b>Mining Method</b>	Long hole open stoping (LHOS)
<b>Sub-level interval</b>	20m
<b>Minimum footwall angle</b>	50 degrees
<b>Minimum stope width</b>	3m
<b>Stope dilution</b>	10-20%
<b>Stope mining recovery</b>	80-90%
<b>Development dilution</b>	10%
<b>Development mining recovery</b>	95%

Historically, Savannah paste filled stopes that have been undercut by stoping below have experienced excessive paste dilution (crown failures) impacting metallurgical performance. Therefore, the Savannah North stope shapes have been designed so that the paste filled stopes are not undercut. Typical stope and development designs for wide (>15m) and narrow (<15m) zones are shown in Figure 6.

**Figure 6 - Stope shapes for wide (>15m) ore zones (A) and narrow (<15m) ore zones (B).**



A range of different sequencing and mine design options were considered for Savannah North, including accessing the deposit at either the 1380-1360 level or top-down, and “centre out” versus “east to west” stope retreat sequences. Amongst the models, the “centre out” option with the 1380-1360 level access was superior, and was selected as the preferred option.

Once the preferred design for Savannah North was selected, the impact of varying a number of rate parameters was tested, including paste curing time, paste fill rate, bogging rate, production drilling rate and jumbo development rate. An overall constraint of 85,000t ore per month was applied, to reflect current mill capacity. Rate parameters adopted for the Savannah FS are shown in Table 5.

**Table 5 - Savannah North mining rate parameters**

<b>Ore mining</b>	85,000t per month
<b>Paste curing time</b>	7 days
<b>Paste fill rate</b>	1,000m <sup>3</sup> per day, with a monthly cap of 23,000m <sup>3</sup>
<b>Bogging rate</b>	1,000t per day per stope
<b>Jumbo development rate</b>	500m per month, with a limit of 100m per heading per month
<b>Production drilling</b>	300m per day

Scenarios for the relative timing of the start-ups for Savannah and Savannah North were considered, including recommencing mining at Savannah concurrently with commencing access development to Savannah North, and delaying recommencement of mining at Savannah until access development to Savannah North is complete. The concurrent development option results in a slightly lower milling profile in the initial quarters, however has the clear advantage of being cash-generating almost immediately. Accordingly this option was selected as the most appropriate schedule for the Savannah FS.

Beck Engineering Pty Ltd was engaged to undertake a geotechnical study to forecast mine scale stability and deformation for Savannah North. The method of analysis used was Discontinuum Finite Element modelling using geological structures on a mine scale. This method has previously been used by Beck Engineering (August 2015) to accurately model rock damage and seismic activity at Savannah. Two mining sequences were modelled; “centre out” and “east to west” stope retreat sequences. There was no definitive geotechnical difference between mining sequences as both maintain an inclined continuous mining front and avoid retreating to pillars.

The Upper Zone is expected to have generally good mining conditions. Some local areas of potentially significant rock mass damage are forecast at fault intersections or areas of convex hanging wall geometry. At 1300m below surface there is an increase in footwall and hanging wall damage, due to increasing stress with depth. These geotechnical risks will be mitigated by detailed stope design taking into account geological structures, hangingwall shape, hangingwall ground support and consideration for leaving rib pillars, if necessary.

The Lower Zone has more challenging mining conditions due to the magnitude of the stress forecast with depth and the current understanding of the rock mass strength. To account for this, stoping dilution was increased from 10 to 20% and stope mining recovery reduced from 90 to 80%.

The “centre out” stoping sequence was confirmed as the preferred option as it maximises the stoping areas per level, reduces pressure on decline development and allows more time to assess geotechnical risks and mitigation strategies before developing the Lower Zone.

Ozvent Consulting Pty Ltd was engaged to undertake a ventilation study of the preferred combined Savannah and Savannah North mine design and schedule. The scope of the study included:

- Primary airflow requirements based on the estimated mining fleet;
- Review previous ventilation methods for initial access/production and permanent primary ventilation for Savannah North;
- Review optimum airway sizes;
- Model LOM primary fan duties;
- Review heat loads and model LOM cooling requirements based on climate data; and
- Provide budget capital costs and specifications for primary fans and cooling plant.

Historically, Savannah has utilised a series primary ventilation circuit with chilled air delivered to lower working headings via fresh air raises (FARs). This style of primary ventilation circuit will not be suitable for Savannah North due to heat loads from the additional mining fleet and the depth of mining. The recommended airflow strategy for the combined mining schedule involves establishing air-change locations along the decline where hot air is replaced with fresh chilled airflow from FARs.

A new Savannah North surface FAR and the conversion of Savannah FAR2 to a return air raise (RAR), with a new primary ventilation fan are required to achieve sufficient air-change locations along the decline.

A combination of parallel and series ventilation has been assumed with production bogging activities exhausted on the level. Airflow estimates are based on the minimum regulatory airflow requirements with allowance for leakage and air compression with depth.

The maximum airflow rate of 530m<sup>3</sup>/s is required by Year 5. Establishment of the Savannah North FAR and conversion of Savannah FAR2 to an RAR is required for full production from Savannah North (450m<sup>3</sup>/s). A number of options were reviewed with raiseboring contractors for the Savannah North surface FAR. The preferred option is a 900m long, 5m diameter shaft to the 1570 exploration drive with a separate 100m extension to the initial stoping level. The maximum modelled exhaust rate through Savannah's existing exhaust fan is 367m<sup>3</sup>/s. As such the construction of the Savannah North surface FAR and new surface fan to convert FAR2 to an RAR will be prioritised upon the decision to re-start operations.

Exhaust airflow transfer from Savannah North to Savannah is via an exhaust drive. This exhaust drive will be mined parallel to and concurrently with the Savannah North decline.

To determine the Savannah North cooling requirements, a detailed analysis of site climate data was completed. Ventsim™ was used to model heat loads based on the proposed mining fleet. Cooling requirements, based on site weather station data and heat load modelling to achieve target decline temperatures, are initially 6.0MW and increase up to 11MW at full LOM depth.

## Mining Development and Production

Access development from Savannah to first ore at Savannah North is approximately nine months, and full production from Savannah North is reached 15 months after commencement of development. Full production from Savannah and Savannah North can be maintained for 10 years based on the current mine plan.

Ore and waste haulage to surface is via the existing Savannah decline from the 1440 Level. A single decline development at Savannah North is assumed, with advance averaging 300m per quarter, equivalent to approximately 170m vertical development per year from 1340 Sublevel to 740 Sublevel. Jumbo development is capped at 500m per month, with a limit of 100m per heading per month. This development rate provides sufficient access to stoping areas without restricting production for the centre-out stoping sequence. Total lateral development rates reach a yearly maximum of 5.4km and are above 4.5km for four years. Three twin boom jumbos for decline and access development are initially required once sufficient work areas are established.

The mining schedule targets zones of higher nickel metal tonnes in early production years. The mining rate averages 0.8Mtpa over life of mine and averages 870ktpa in early years (maximum 900ktpa) to 750ktpa in later years of production. Production in later years may be supplemented from future resource growth. Three or more stopes are required to be in production simultaneously to achieve scheduled tonnes. Up to three loaders and seven 60t trucks are required to achieve the scheduled production rates.

Approximately 88% of production is derived via conventional long-hole open stoping and the balance from jumbo mining of development headings (*Table 6*).

**Table 6 - Savannah FS – Mineralised material in the mining plan by mining method**

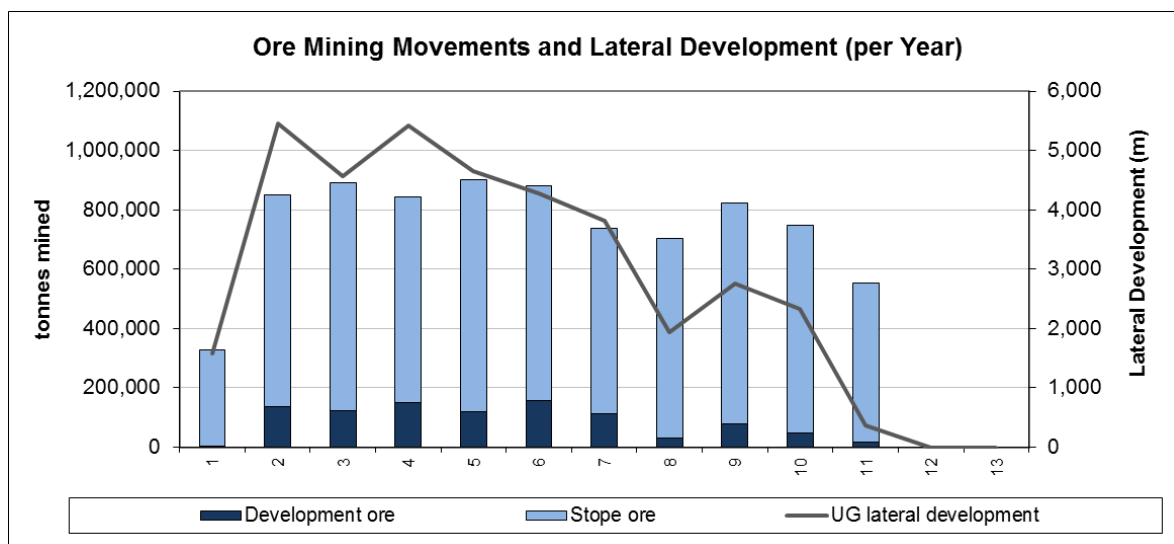
	Mineralised Material Tonnes	Grade Ni%	Grade Cu%	Grade Co%	Contained Ni Tonnes	Contained Cu Tonnes	Contained Co Tonnes
<b>Stope ore</b>	7.27	1.38	0.66	0.09	100,500	48,000	6,800
<b>Development ore</b>	0.98	1.34	0.58	0.09	13,200	5,700	900
<b>Total</b>	<b>8.25</b>	<b>1.38</b>	<b>0.65</b>	<b>0.09</b>	<b>113,700</b>	<b>53,700</b>	<b>7,700</b>

The physicals schedule adopted in the model, consolidated into years, is presented in Table 7. Total ore tonnes mined and development rates are shown in Figure 7.

**Table 7 - Savannah FS – Mining schedule by year**

		LOM	1	2	3	4	5	6	7	8	9	10	11	12
Lateral dev't	km	37.2	1.6	5.4	4.6	5.4	4.7	4.3	3.8	1.9	2.8	2.3	0.4	-
Waste	kt	2,009	124	330	224	271	240	183	190	117	153	163	15	-
Dev't Ore	kt	982	4	138	124	149	121	156	114	31	77	50	17	-
Stoping Ore	kt	7,272	324	713	766	694	779	723	622	673	744	697	536	-
Total ore mined	kt	8,255	328	851	890	843	900	880	736	704	822	747	553	-
Ni Head Grade	%	1.38	1.21	1.36	1.56	1.49	1.30	1.41	1.38	1.48	1.36	1.21	1.26	-
Cu Head Grade	%	0.65	0.77	0.67	0.66	0.64	0.80	0.77	0.55	0.62	0.53	0.56	0.59	-
Co Head Grade	%	0.09	0.06	0.08	0.11	0.10	0.09	0.10	0.10	0.10	0.10	0.08	0.08	-

**Figure 7 - Annual mining development and production**



The mining plan includes approximately 1.1% of material on a contained nickel basis classified as Inferred Resource, as shown in Table 8. The maximum annual contribution of contained nickel derived from Inferred Resources is 2.3%, in Year 10 of the mining plan (Figure 8).

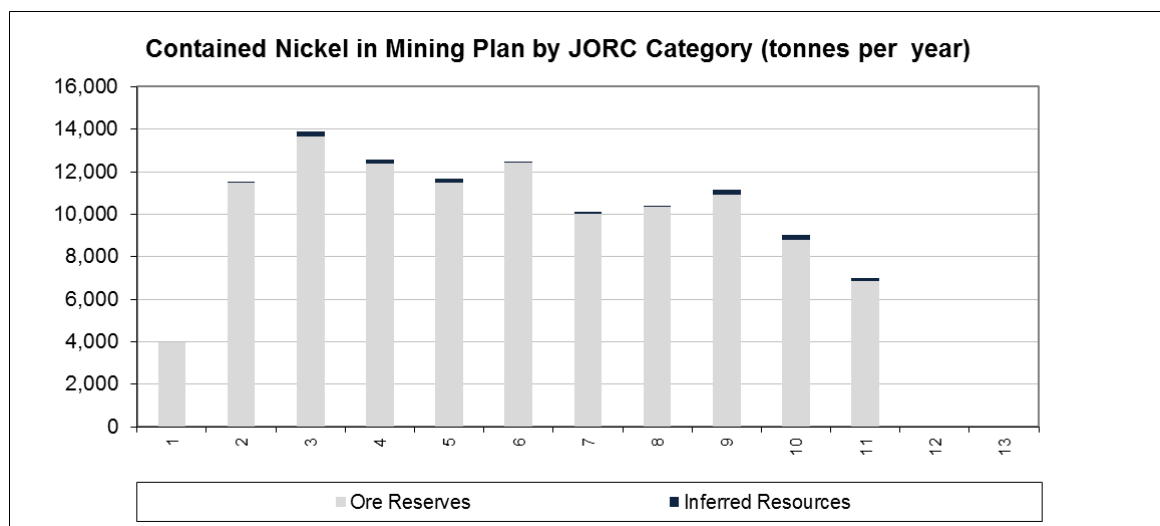
### Cautionary Statement

There is a low level of geological confidence associated with Inferred Mineral Resources and there is no certainty that further exploration work will result in the determination of Indicated Mineral Resources or that the production target itself will be realised.

**Table 8 - Savannah FS – Mineralised material in the mining plan by JORC category**

	Mineralised Material Tonnes	Grade Ni%	Grade Cu%	Grade Co%	Contained Ni Tonnes	Contained Cu Tonnes	Contained Co Tonnes
Ore Reserves	8.18	1.37	0.65	0.09	112,400	53,200	7,600
Inferred Resource	0.07	1.85	0.67	0.13	1,300	500	100
<b>Total</b>	<b>8.25</b>	<b>1.38</b>	<b>0.65</b>	<b>0.09</b>	<b>113,700</b>	<b>53,700</b>	<b>7,700</b>

**Figure 8 - Savannah FS – Annual nickel in material mined by JORC category**



## Ore Reserves

The maiden Ore Reserve for Savannah North, based on the results of the Savannah FS, is estimated to be **6.65Mt @ 1.42% Ni, 0.61% Cu and 0.10% Co for contained metal of 94,500t nickel, 40,900t copper and 6,700t cobalt**. The Reserve is classified as Probable under JORC 2012. JORC Table 1 Section 4 in relation to the Savannah North Ore Reserve is included in Appendix 1.

Total Ore Reserves for the Savannah Project, including the remaining Ore Reserve at Savannah as at 30 June 2016 (refer to the Company's ASX announcement of 30 September 2016) are shown in Table 9.

## Competent Person Statement

Information in this announcement relating to Ore Reserves has been compiled by or reviewed by Lilong Chen (MAusIMM). The aforementioned is a full-time employee of Panoramic Resources Limited. The aforementioned has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the Australian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. The aforementioned consents to the inclusion in the announcement of the matters based on his information in the form and context in which it appears.

**Table 9 - Savannah Project – Ore Reserves as at 2 February 2017**

Reserve	Metal	Date of Reserve	JORC Compliance	Proven		Probable		Total		Metal Tonnes
				Tonnes	(%)	Tonnes	(%)	Tonnes	(%)	
Above 900 Fault	Nickel	Jun-16	2012	1,365,000	1.15	194,000	1.24	1,558,000	1.16	18,100
	Copper				0.66		1.28		0.74	11,500
	Cobalt				0.06		0.07		0.06	900
Savannah North	Nickel	Jan-17	2012			6,650,000	1.42	6,650,000	1.42	94,500
	Copper						0.61		0.61	40,900
	Cobalt						0.10		0.10	6,700
<b>Total</b>	<b>Nickel</b>							<b>8,208,000</b>	<b>1.37</b>	<b>112,600</b>
	<b>Copper</b>								<b>0.64</b>	<b>52,400</b>
	<b>Cobalt</b>								<b>0.09</b>	<b>7,600</b>

**Notes:**

- Figures have been rounded and therefore may not add up exactly to the reported totals
- Savannah Project Reserve cutoff grade is 0.80% Ni

## Metallurgy

Mineralogically, the Savannah North mineralisation is observed to be similar to the Savannah ore, i.e. pyrrhotite-dominant sulphides with sub-ordinate pentlandite and chalcopyrite.

Flotation testwork was conducted by site-based metallurgists using composite samples from the Savannah North Upper and Lower Zones. Standard Savannah sample preparation, grinding, flotation and reagent test procedures were conducted to provide a direct comparison of the metallurgical performance between Savannah and Savannah North mineralisation. These tests were conducted across three grind sizes being 100um, 110um and 120um, which are typically achieved at Savannah. Results of the flotation tests showed both the Savannah North Upper and Lower Zones performed within the range of typical Savannah ore performance.

Processing records per shift for the twelve year period from commencement of the Savannah Project in 2004 up to placing the operation on care and maintenance in May 2016, were reviewed as part of the Savannah FS. These records demonstrate a consistent relationship between nickel recovery, head grade and concentrate grade. A best-fit recovery equation was developed from the data for the range of expected nickel head grades and targeted concentrate grade of 8% Ni.

## Processing

The existing Savannah processing plant consists of conventional crushing, grinding, flotation and concentrate handling (Figure 9). The Savannah plant operated continuously from August 2004 to May 2016, with continuous improvements in recoveries and throughput achieved from changes in operating practices and minor circuit modifications. The nominal throughput capacity of the Savannah plant is approximately 1.0Mtpa.

Modelling assumes all ore is milled as it is mined, with little or no ROM stockpiling. Life-of-mine mill throughput averages 0.8Mtpa, with higher throughput, averaging 870ktpa, in the first five years of full production before decreasing to average 750ktpa in later years. Life-of-mine nickel head grade averages 1.38% Ni, with quarterly averages varying from 1.2% Ni to 1.6% Ni. Lower grades are processed in the first year of production, associated with the remnant Ore Reserves at Savannah. The annual milling profile is shown in Figure 10.

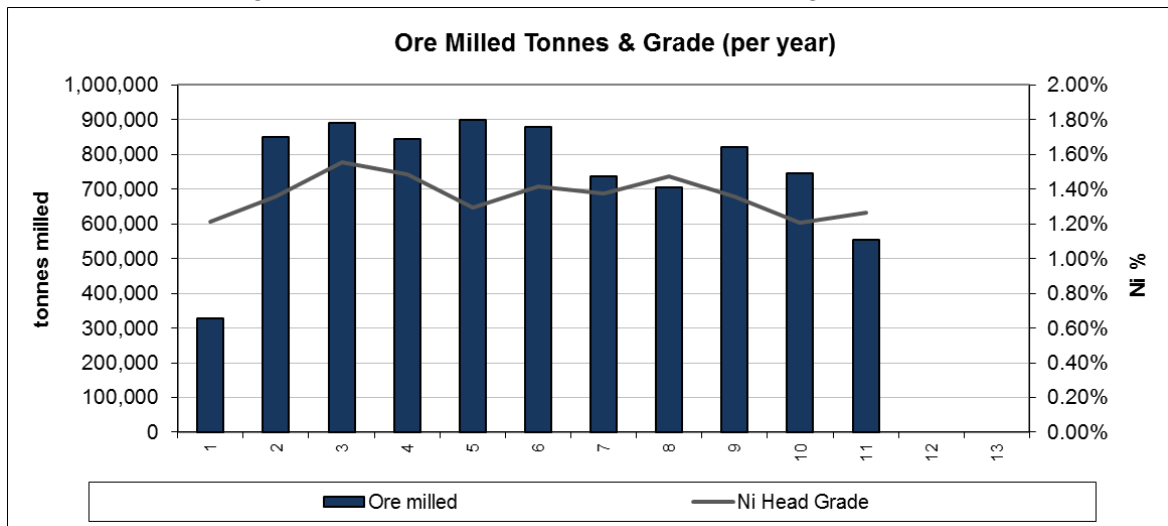
The product will be a bulk Ni-Cu-Co concentrate targeting a concentrate grade of 8% Ni. **The Company notes that for the month of May 2016, prior to going into care and maintenance, the Savannah plant averaged 9.0% Ni in concentrate.** Processing recoveries at the target concentrate grade over life of mine are expected to average 87% Ni, 96% Cu and 90% Co, based on historic Savannah plant performance.

Metal in concentrate production is anticipated to average 9,700t Ni, 5,000t Cu and 670t Co per year, with **nickel in concentrate production in the first five years averaging 10,900t Ni and peaking at 12,300t Ni.** Over life of mine, approximately **99,200t Ni, 51,500t Cu and 6,900t Co in concentrate** is expected to be produced. Annual metal in concentrate production is shown in Figure 11.

**Figure 9 – Savannah Processing Plant**

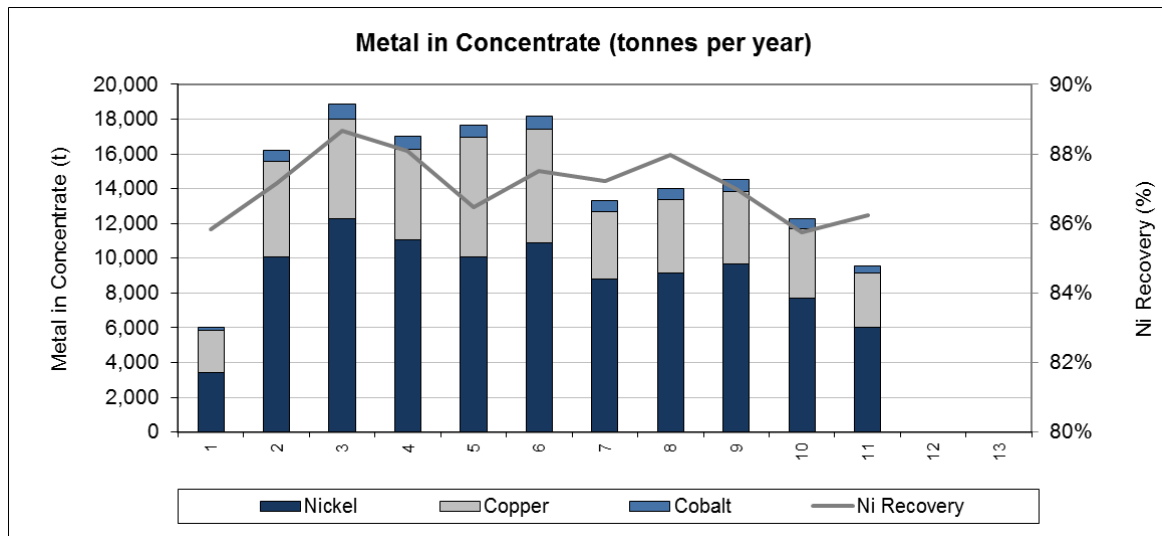


**Figure 10 - Savannah FS – Annual production and grade profile**





**Figure 11 - Annual nickel processing recovery and metal in concentrate production**



## Infrastructure

The existing processing plant and accommodation camp are sufficient for the proposed future operations.

All of the infrastructure required for a re-start of operations remains on site and is being maintained by the care and maintenance crews. Major fixed plant and mobile equipment is either ready to be recommissioned or can be at short notice, with refurbishments fully costed in the financial model. Underground decline and pumping systems have been maintained and operated so that minimal rehabilitation will be required to recommence underground operations.

The major infrastructure works required on a re-start of operations include: Savannah North decline access development, Savannah North FAR and TSF1 tailings dam lift. A new tailing storage facility (TSF2) will be required within three years of commencing production. In October 2014, Coffey Mining Pty Ltd undertook an options study for a new tailings storage facility (TSF2) and a preferred option has been selected, designed and costed. The capital cost estimate for TSF2 was updated by Coffey in January 2017.

## Approvals and Permitting

The Savannah North Ore Reserve is located on the existing granted Savannah mining leases. The site groundwater licence issued by the Department of Water and the Licence to Operate issued by the Department of Environment Regulation remain current.

Before mining operations can recommence, the standard notifications and approvals under the Mines Safety and Inspection Act 1994 (WA) will be sought. Panoramic does not anticipate any issues with Department of Mines and Petroleum approvals upon a restart of operations as the Savannah operation ran successfully for 12 years, and the restart will be based on the existing systems and processes.

No environmental permitting issues are expected upon a re-start of operations as all environmental reporting, monitoring and licence conditions are being complied with during care and maintenance. A works approval for the TSF1 tailings dam lift has been granted and an extension is being sought to ensure this approval remains in place. Shortly after a recommencement of operations, permits will be sought for an increase in tailings storage capacity (TSF2).

## Social and Heritage

The Savannah operation has maintained strong social and heritage relationships with the traditional owners, pastoralists and other local business and community groups over the last twelve years. The Kimberley Nickel Co-existence Agreement outlines the processes for acknowledgement and engagement with traditional owners and has given rise to employment and business opportunities, heritage and cultural awareness training and other support and services in health, education, sports and arts for local communities. This agreement remains in place and applies to the recommencement of operations and life of mine production.

## Marketing

The current offtake agreement with Sino/Jinchuan expires in April 2020. Terms under the existing agreement are confidential.

Panoramic has held discussions with a number of potential offtake parties including Sino/Jinchuan regarding concentrate purchases beyond April 2020. Indicative terms for bulk concentrate sales post-April 2020 have been received from various interested parties.

For the Savannah FS, similar terms to the current offtake agreement have been assumed.

## Capital Costs

Pre-production capital costs are approximately \$18M, and include \$8.4M of capitalised operating costs prior to commencement of production, \$7.3M for plant and equipment refurbishment, and \$2.0M for initial store inventory. The capitalised operating costs are estimated as a percentage of costs once in operation and assume a three-month build-up prior to recommencing full mining and milling operations.

Life-of-mine capital expenditure, inclusive of pre-production costs, mining capital development and sustaining property, plant and equipment (PP&E) capital needs, but excluding closure costs, is estimated to be \$234M (*Table 10*).

Capital costs for major mobile items such as haul trucks, underground loaders, development jumbos and production drills are based on recent supplier quotes or actual delivered costs for the same equipment already at Savannah. Timing of the acquisition of new equipment is based on the modelled production schedule and standard Savannah equipment replacement practices. It is assumed that major mobile equipment items will be acquired using finance leases, as has been the recent practice at Savannah.

Refurbishment costs required prior to, or within the first year after recommencement of production, are detailed estimates built up by Panoramic management based on actual or expected condition of plant and equipment at restart.

Costs for major capital works, including primary ventilation for Savannah North and tailings storage facilities are based on one or more recent contractor quotes.

General sustaining PP&E capital after the first two years is estimated to be in line with recent Savannah PP&E expenditure.

Capital costs are exclusive of GST. The cost estimates exclude contingencies.

Capitalised mining costs are forecast to average \$2M per month for the initial 18 months of operation, due largely to the costs associated with raiseboring of the Savannah North primary ventilation (approximately \$11M, excluding site preparation, mobilisation and demobilisation), and eight months of lateral development to the commencement of Savannah North production (\$12M). Thereafter, mine capital development expenditure averages \$10M per annum.

General sustaining PP&E capital expenditure is estimated to average \$10M per annum and \$98M over life of mine. Leasing and major refurbishment costs on underground mobile equipment comprise the majority of this expenditure totalling \$42M over life of mine. Major one-off capital items include:

- the primary ventilation fan and associated works for Savannah North (\$6.3M);
- construction of future tailings storage facilities (\$9.2M); and
- capping of TSF 1 and reshaping the North Waste Dump (\$7.0M).

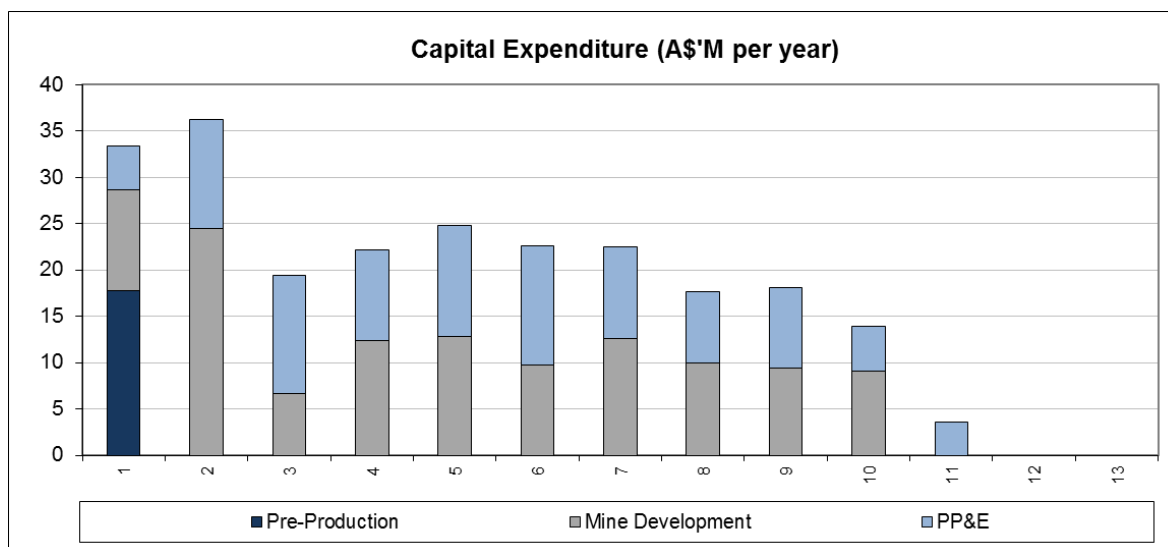
The life of mine capital estimate does not include any allowance for closure costs apart from capping of TSF 1 and reshaping the North Waste Dump. Any outstanding lease payments on mobile equipment at end of mine life are assumed to be offset by receipts from salvage of this equipment.

The estimated annual capital expenditure profile is shown in Figure 12.

**Table 10 - Savannah FS – pre-production, sustaining and LOM capital cost estimates (\$'M).**

Description	Pre-production	Sustaining	Life of Mine
<b>Pre-Production</b>	<b>17.8</b>	<b>-</b>	<b>17.8</b>
Refurbishment Capex	7.3	-	7.3
Initial Store Inventory	2.0	-	2.0
Capitalised Pre-Production Opex	8.4	-	8.4
<b>Mining Development</b>	<b>-</b>	<b>118.2</b>	<b>118.2</b>
Capitalised Development	-	118.2	118.2
<b>Property, plant and equipment</b>	<b>-</b>	<b>98.5</b>	<b>98.5</b>
Mining - Mobile Equipment	-	42.1	42.1
Savannah North primary ventilation	-	6.3	6.3
Tailings facilities construction	-	9.2	9.2
TSF 1 capping	-	7.0	7.0
Other sustaining capital	-	33.9	33.9
<b>TOTAL</b>	<b>17.8</b>	<b>216.7</b>	<b>234.5</b>

**Figure 12 - Savannah FS – Annual capital expenditure profile**



## Operating Costs

Operating costs for the major consumable items (e.g. diesel, explosives, cement, ground support, processing reagents) were estimated from a detailed build up using historic Savannah unit consumption rates from July 2013 to December 2015 prior to the decision in January 2016 to transition the operation to care and maintenance, combined with the most recent supplier invoice prices. Fuel cost is the estimated landed price at Savannah based on a long-term oil price of US\$50/bbl, and includes the diesel fuel rebate, where applicable.

Manning levels, salaries and rosters are derived from detailed activity modelling, and benchmarked back to recent Savannah manning schedules for the same activities. Manning costs include estimated redundancy provisions at the end of mine life.

Forecast maintenance requirements are based on detailed equipment performance records achieved for the same or equivalent equipment at Savannah.

Costs for contractor services are based either on the most recent contract terms or recent tender quotes for these services at Savannah, prior to the mine being placed on care and maintenance.

Costs for items of a general nature were factored either on a per tonne or per month basis, as appropriate, from recent Savannah costs for the same cost categories.

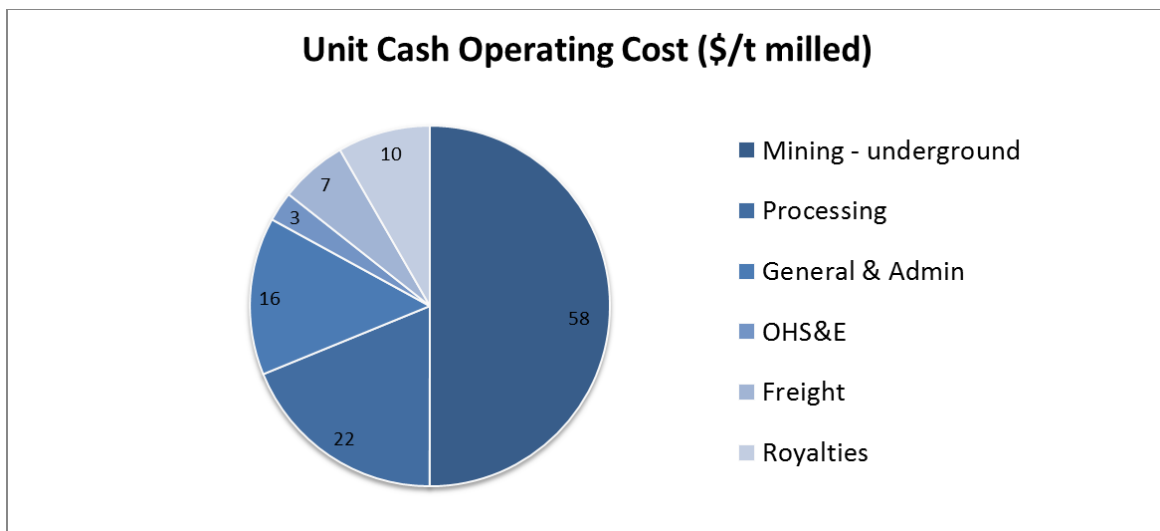
Royalties to the WA state government and traditional owners are included in the model.

Average cash operating costs on a per tonne milled basis over life of mine are estimated to be \$116/t, comprising \$58/t for mining, \$22/t for processing, and \$36/t for other cash operating costs (*Table 11, Figure 13*).

**Table 11 - Savannah FS – Life of Mine Unit Cash Operating Cost (\$/t milled)**

Description	LOM cost per tonne milled (A\$/t)
Mining (including Geology)	58
Processing	22
General & Administration	16
OHS&E	3
Concentrate Transport	7
Royalties	10
<b>Total</b>	<b>116</b>

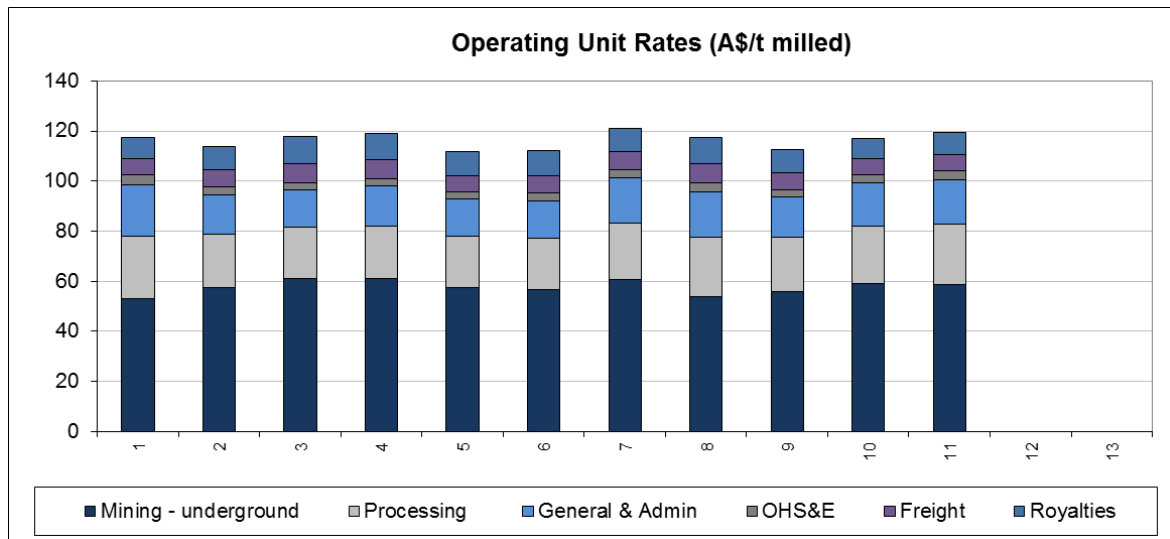
**Figure 13 - Savannah FS – Unit Cash Operating Cost Summary**



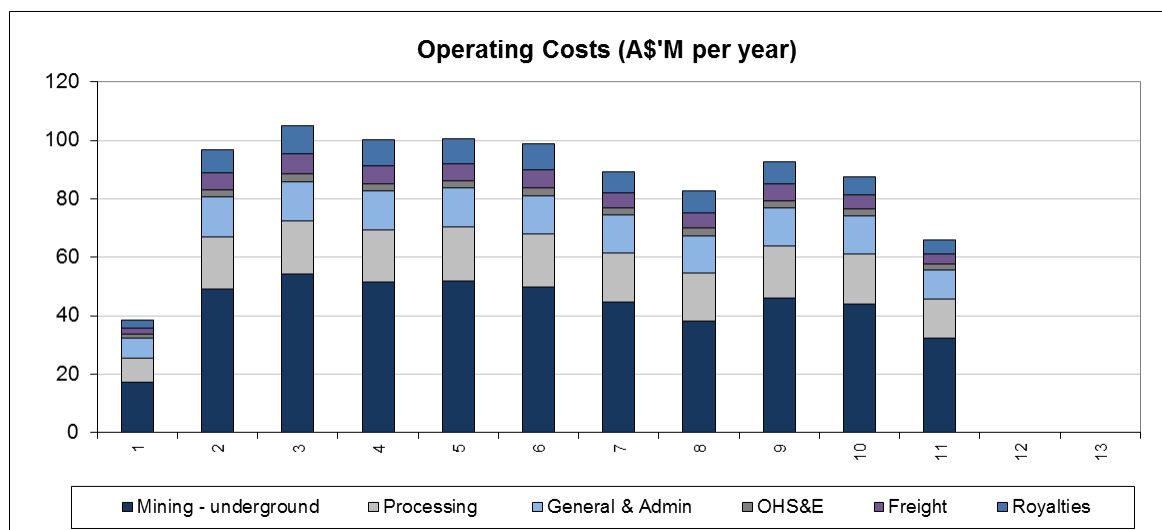
Employment-related costs comprise the largest single item at over 25% of total operating costs. When flights and contractor costs relating to camp services are included, labour and associated employment costs comprise over 30% of total cash operating costs. Power and fuel expenditure, largely due to diesel consumption for on-site power generation, together comprise 16% of costs. Maintenance costs average 8% of total cash operating costs.

Annual unit operating costs per tonne ore milled and total operating costs are shown in Figures 14 and 15.

**Figure 14 - Savannah FS - Annual unit operating costs per tonne milled**



**Figure 15 - Savannah FS - Annual operating costs**



## Financial Modelling

### Key assumptions

Modelling was undertaken using monthly physicals and cash flows. For the Base Case financial analysis, flat commodity price lines and US\$:A\$ exchange rates were used. A nickel price of US\$6.00/lb has been adopted as the Base Case to reflect an appropriately conservative view of the long-term nickel price. Copper and cobalt prices, and US\$:A\$ exchange rates are December 2016 average spot prices. Modelling has been undertaken on a pre-tax, ungeared, real-dollars basis using a discount rate of 8% (Table 12). All amounts are expressed in A\$ unless noted otherwise.

**Table 12 - Commodity price lines and US\$:A\$ exchange rates used for the Savannah FS**

Commodity	Value
Nickel	US\$6.00/lb
Copper	US\$2.57/lb
Cobalt	US\$14.42/lb
US\$:A\$	0.736
Discount rate	8%

The model includes working capital movements. Cash receipts on sales are recognised in the month following shipment. Concentrate inventories are assumed to average 10 days inventory at month end. An initial allowance of \$2M for restocking of warehouse inventories is included in pre-production capital expenditure, however movements in warehouse inventories are not modelled. Trade payables are assumed to average 30 days terms and include all external operating and capital expenditure (i.e. excluding salaries).

Australian corporate tax of 30% is excluded. Any tax benefits available to Panoramic through prior tax losses or intercompany transfers have not been modelled. As at 31 December 2016, the Company had accumulated Group tax losses of approximately \$65M. As the Base Case financial analysis has been prepared on a pre-tax basis, capital tax depreciation has not been taken into account.

Modelling is undertaken on an ungeared basis, therefore funding sources and associated costs are not included in the model.

## Standardised Reportable Costs

Three unit cost measures estimated by Panoramic in the Savannah FS are C1 cash costs (nickel in concentrate basis), operating cash cost (including royalties and by-product credits, payable nickel basis), and sustaining cash costs (payable nickel cash cost plus stay-in-business capital expenditure). These measures of cash costs for the Savannah FS Base Case, averaged over LOM, are:

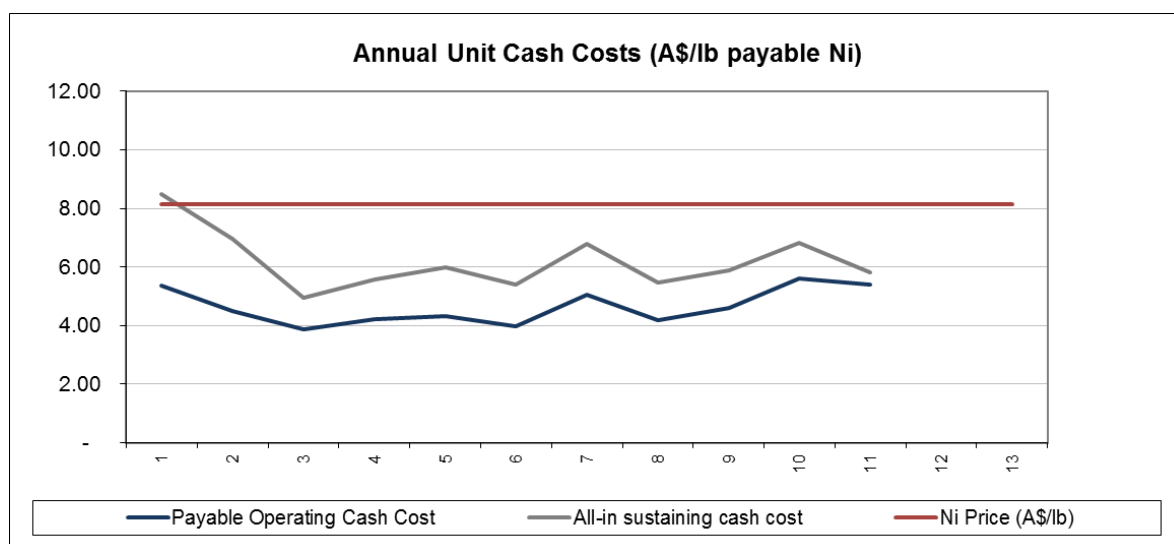
- **C1 cash cost** **A\$2.70/lb (US\$2.00/lb) Ni in concentrate**
- **Operating cash cost** **A\$4.50/lb (US\$3.30/lb) payable Ni**
- **Sustaining cash cost** **A\$6.00/lb (US\$4.40/lb) payable Ni**

### Definitions:

<i>C1 cash cost:</i>	<i>Operating cash costs including mining, processing, geology, OHS&amp;E, general and administrative, and concentrate transport costs, less by-product credits, divided by nickel in concentrate produced.</i>
<i>Operating cash cost:</i>	<i>Operating cash costs including mining, processing, geology, OHS&amp;E, general and administrative, and concentrate transport costs, plus royalties, less by-product credits, divided by payable nickel produced.</i>
<i>Sustaining cash cost:</i>	<i>Operating cash costs including mining, processing, geology, OHS&amp;E, general and administrative, and concentrate transport costs, plus royalties, plus stay-in-business capital expenditure, less by-product credits, divided by payable nickel produced.</i>

Annual unit operating and sustaining cash costs per pound of payable nickel are shown in Figure 16.

**Figure 16 - Annual unit operating and sustaining cash costs (A\$ per pound payable nickel)**



## Cash Flow

At the Base Case pricelines, revenue is estimated at \$1,490M over life of mine, or ~\$145M on an annual basis over the 10.25 year period of production. EBITDA is \$530M over life of mine, or ~\$50M per annum. **Undiscounted pre-tax free cash flow over life of mine is \$300M.**

At the Base Case pricelines, **maximum cash draw down is approximately \$30M (US\$22M)**, which occurs 12 months after commencement of production. The project becomes cash flow positive 13 months after recommencement of production and **project payback is achieved less than two years after the commencement of production.**

**Pre-tax NPV at 8% discount rate is \$190M**, and due to the low up-front capital requirements and rapid restart timeframe, the IRR is 115%.

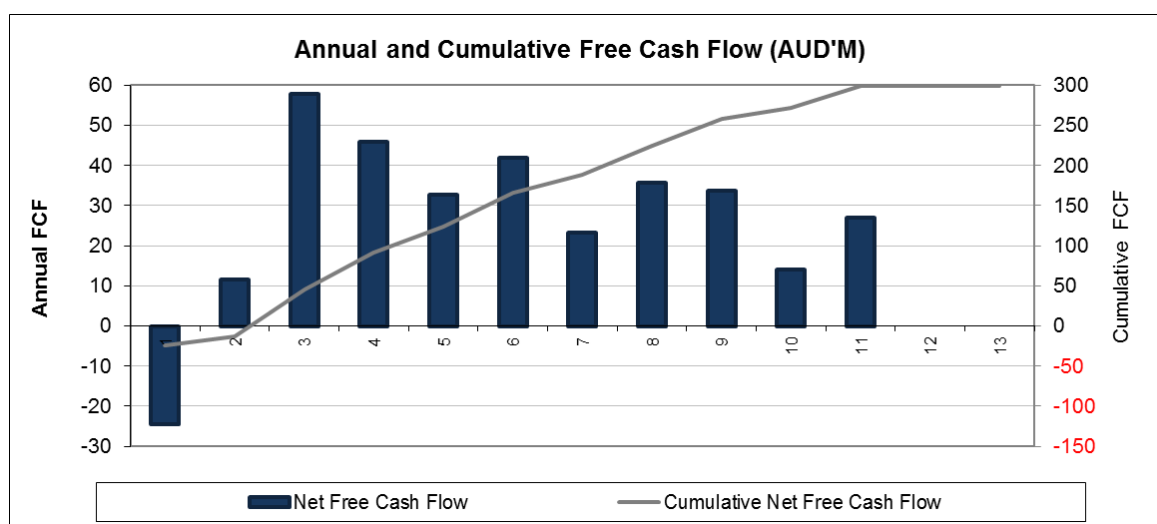
At the assumed US\$:A\$ exchange rate of 0.736, the **nickel price required to achieve cash break-even is US\$4.40/lb**, and for NPV break-even is US\$4.50/lb. An AISC margin of 20% is achieved at US\$5.50/lb.

Key financial metrics are shown in Table 13. Annual and cumulative cash flow is shown in Figure 17.

**Table 13 - Key Financial Metrics**

Parameter	Savannah FS Base Case
Revenue	\$1,490M over LOM
EBITDA	\$530M over LOM
Pre-tax cash flow	\$300M over LOM
Pre-tax NPV (8%)	\$190M
IRR	115%
Payback	Less than 2 years
Maximum funding drawdown	\$30M
Cash break-even Ni price	US\$4.40/lb Ni (at US\$:A\$ = 0.736)

**Figure 17 - Annual and cumulative cash flow at the Base Case price lines**



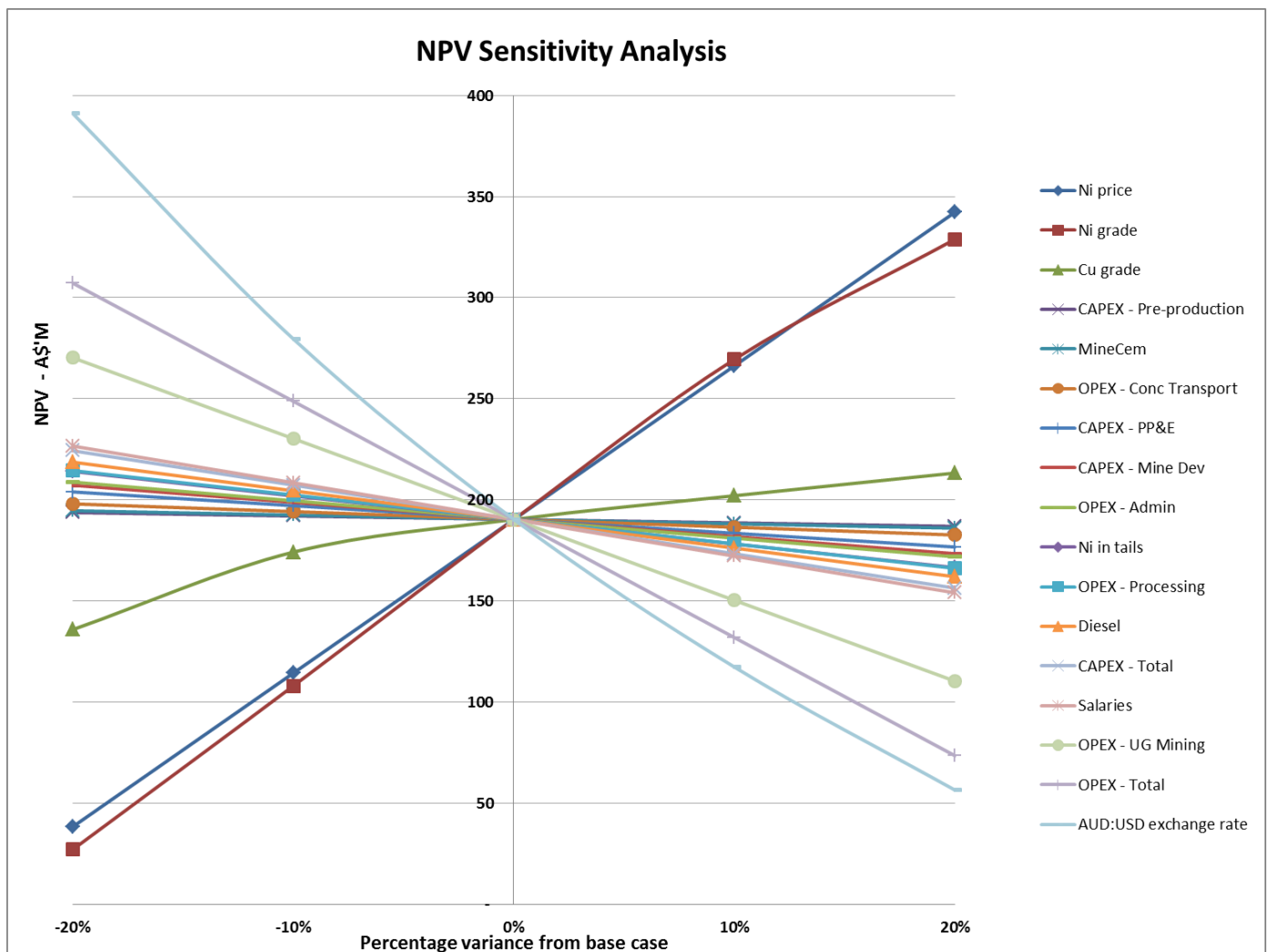
## Sensitivity Analysis

The Project is strongly leveraged to the US\$ nickel price and US\$:A\$ exchange rate. Project NPV sensitivities at a range of US\$ nickel price and US\$:A\$ foreign exchange rates are shown in Table 14. Sensitivities to a range of internal and external factors for a +/- 20% movement from the Base Case parameters are shown in Figure 18.

**Table 14 - NPV sensitivity table for a range of US\$ nickel prices and US\$:A\$ foreign exchange rates**

Pre-tax NPV <sub>3</sub> (\$'M)		Nickel Price US\$/lb)				
		4.00	5.00	6.00	7.00	8.00
US\$:A\$ FX Rate	0.60	62	217	372	528	683
	0.65	10	153	297	440	583
	0.70	-35	98	232	365	498
	0.75	-73	51	175	300	424
	0.80	-107	10	126	243	359

**Figure 18 - Sensitivity of NPV to a range of internal and external factors.**



### Funding Requirement

A funding requirement (i.e. maximum negative cash draw down) of approximately \$30M inclusive of working capital is estimated for the price lines modelled, peaking during the first 12 months after commencement of production. Due to the robust economics demonstrated by the Savannah FS, Panoramic expects that a range of financing options at competitive pricing will be available to meet up-front pre-production capital requirements. The Company has received indicative financing proposals from potential offtake partners.



## Value Enhancement Opportunities

As part of the Savannah FS, Panoramic has identified a number of additional enhancement opportunities which could add significant additional value to the Project, including:

- **Future Resource growth** – less than 35% of the potential 2km mineralisation footprint has been tested by Resource drilling. Priority areas for potential additions include east and west extensions to the Upper Zone in close proximity to proposed development;
- **Mine planning and scheduling** – detailed review of alternative stope shapes, cut-off grade, and scheduling to lower unit costs, increase production rates and/or improve mined grades;
- **Mining productivity** – information management utilising latest technical innovations, waste backfill and haulage, shaft versus decline haulage, driverless trucks, hybrid electric/diesel vehicles;
- **Product optimisation** – fine grinding and circuit reconfiguration to improve Ni concentrate grade and recovery. Opportunity to produce split Ni/Co and Cu concentrates;
- **In-country smelting** - assess the amenability of Savannah North concentrate for matte production via mini-smelting technology (e.g. top submerged lance);
- **Power** – the Savannah FS is based on utilising the existing diesel fired power station. Alternative power options may include solar, gas and hydro-electric, which may provide more favourable power costs;
- **Contractor services** – rationalise the number of services currently provided by contractors (e.g. camp services, power generation, concentrate haulage, inbound freight, underground mining services, core drilling); and
- **Employment and procurement** – utilise local employment and service providers where possible.

These opportunities will be assessed as part of the next phase of optimisation work.

## Identified Risks

A number of key risks have been identified as part of the Savannah FS. These risks include, but are not limited to:

- Confidence in geological model, particularly around interpretation of the number and location of major structures;
- Confidence in Resource estimate due to the wider hole spacing in the Lower Zone;
- Establishment of Savannah North FAR and its impact on the transition from Savannah to Savannah North production;
- Geotechnical risks associated with mining Savannah North, particularly the Lower Zone;
- Metallurgical risks associated with processing of Savannah North mineralisation;
- Risks associated with re-establishment of underground workings and recommissioning of major plant and equipment;
- Amount and timing of pre-production costs, production and development rates, and working capital movements in the initial 18 months and their impact on maximum cash drawdown;
- Unit costs used in the model, which are based on historical or recent actual Savannah costs, may not be reflective of the costs of mining at Savannah North;
- Current Savannah concentrate offtake agreement expires in April 2020, and future renewals with Sino/Jinchuan or another customer(s) and applicable terms are subject to negotiation;
- Commodity prices and US\$:A\$ exchange rate.

Based on the 12 years of continuous operating experience at Savannah, the Company believes it has a sound base for the production assumptions and cost estimates used in the Feasibility Study, and that the risks identified can be effectively managed.

## Optimisation

Panoramic is now proceeding with optimisation studies, focusing on the risks and opportunities identified in the Savannah FS as outlined above.

## Nickel Market

RBC's research report titled "Metal Prospects Nickel Market Outlook – First Quarter 2017", dated 30 January 2017, provides a summary of the current nickel market and short to medium term outlook. A summary of the key points from this report is provided below.

### Demand

- After almost no growth in 2015, RBC estimates that global nickel demand rebounded 6.6% in 2016. Chinese stainless steel production fell 0.6% in 2015 pulling global stainless production down 0.3% along with it. In 2016, stainless production both inside and outside of China rebounded, with global growth of over 5%.

### Supply

- Global refined nickel production declined by 0.7% in 2015 due to a sharp drop in Chinese NPI production, and RBC estimates that production declined another 0.8% in 2016, as a further fall in Chinese NPI production offset growth in NPI production in Indonesia. RBC forecasts a resumption of growth in 2017 as NPI capacity in Indonesia continues to increase. However, changes in the supply of nickel ore from both the Philippines and Indonesia could change their outlook dramatically.

### Market Balance and Inventories

- Total reported inventories declined by 13,800 tonnes in 2016 pointing to a market finally in deficit after four years of surplus. The significant rebound in demand for nickel in stainless steel drove the shift from surplus to deficit, helped along by a continuing decline in Chinese NPI production and modest price related production curtailments, partially offset by increased NPI production in Indonesia. RBC forecasts continuing deficits in 2017 and beyond. However, as noted above potential changes in supply from the Philippines and Indonesia present heightened risks to their outlook.

### Price Forecasts

- With the price below historical cost support at the 75th percentile of the cash cost curve RBC do not believe the current price is sustainable longer term and RBC expects their forecast deficits to lead to rising prices. However, in the near-term, RBC expects the price to remain under pressure until there is clarity on the outcome of the situations in both Indonesia and the Philippines. **RBC forecasts an average nickel price of US\$5.00/lb in 2017, US\$6.00/lb in 2018, US\$7.00/lb in 2019, and US\$10.00/lb in 2020. RBC's long-term price forecast is US\$8.00/lb in 2016 US\$.**

### Risks to Forecast

- Supply – The relaxation of the Indonesian ore export ban could significantly increase mine supply and Chinese NPI production, reducing or eliminating RBC's forecast deficits. Any increase in supply could be mitigated by lower Indonesian NPI production and/or Philippine mine suspensions. In the near-term, RBC believe prices will remain under pressure until the net effect on supply becomes clear.

- Economic growth – A risk to RBC's forecast is the strength of the global economy and China's economy in particular. A decline in 2017 Chinese industrial production (IP) growth from 5.6% to 4.6% would decrease RBC's forecast global growth rate to 3.6% from 4.1% and decrease their forecast deficit by 11,000 tonnes. At the same time, higher growth than RBC are assuming could lead to larger deficits and higher prices.

Panoramic is ready to recommence operations as soon as the US\$ nickel price returns to more sustainable levels.

## About the Company

Panoramic Resources Limited (**ASX code: PAN**) is a Western Australian mining company formed in 2001 for the purpose of developing the Savannah Nickel Project in the East Kimberley. Panoramic successfully commissioned the \$65 million Savannah Project in late 2004 and then in 2005 purchased and restarted the Lanfranchi Nickel Project, near Kambalda. In FY2014, the Company produced a record 22,256t contained nickel and produced 19,301t contained nickel in FY2015. The Lanfranchi and Savannah Projects were placed on care and maintenance in November 2015 and May 2016 respectively.

Following the successful development of the nickel projects, the Company diversified its resource base to include platinum group metals (PGM) and gold. The PGM Division consists of the Panton Project, located 60km south of the Savannah Project and the Thunder Bay North Project in Northern Ontario, Canada, in which Rio Tinto is earning 70% by spending up to C\$20 million over five years. Following the ASX listing of Horizon Gold Limited (ASX Code: HRN) in December 2016, the Company's interest in gold consists of an indirect investment in the Gum Creek Gold Project located near Wiluna through its 51% majority shareholding in Horizon.

Panoramic has been a consistent dividend payer and has paid out a total of \$114.3 million in fully franked dividends between 2008 and 2016. At 31 December 2016, Panoramic had \$15.3 million in cash and no bank debt.

The Company's vision is to broaden its exploration and production base, with the aim of becoming a major, diversified mining company in the S&P/ASX 100 Index. The growth path will include developing existing resources, discovering new ore bodies, acquiring additional projects and is being led by an experienced exploration-to-production team with a proven track record.

**For further information contact:  
Peter Harold, Managing Director  
+61 8 6266 8600**

## No New Information or Data

This announcement contains references to exploration results and Mineral Resource estimates, all of which have been cross referenced to previous market announcements made by the Company. The Company confirms that it is not aware of any new information or data that materially affects the information included in the relevant market announcements and, in the case of estimates of Mineral Resources, that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed.

## Forward Looking Statements

This announcement may contain certain "forward-looking statements" which may not have been based solely on historical facts, but rather may be based on the Company's current expectations about future events and results. Where the Company expresses or implies an expectation or belief as to future events or results, such expectation or belief is expressed in good faith and believed to have a reasonable basis. However, forward looking statements are subject to risks, uncertainties, assumptions and other factors, which could cause actual results to differ materially from future results expressed, projected or implied by such forward-looking statements. Such risks include, but are not limited to metals price volatility, currency fluctuations, increased production costs and variances in ore grade or recovery rates from those assumed in mining plans, as well as political and operational risks in the Countries and States in which we operate or sell product to, and governmental regulation and judicial outcomes. For a more detailed discussion of such risks and other factors, see the Company's Annual Reports, as well as the Company's other filings. The Company does not undertake any obligation to release publicly any revisions to any "forward-looking statement" to reflect events or circumstances after the date of this announcement, or to reflect the occurrence of unanticipated events, except as may be required under applicable securities laws.

## Appendix 1 JORC Code 2012 Edition - Compliance Tables

**Table 1 - Savannah North**  
**Section 4 - Estimation and Reporting of Ore Reserves**

(Table 1, sections 1 and 3 have been reported previously (refer to the Company's ASX announcement of 24 August 2016))

Criteria	JORC Code explanation	Commentary												
<b>Mineral Resource estimate for conversion to Ore Reserves</b>	<ul style="list-style-type: none"> <li>Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.</li> <li>Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.</li> </ul>	<ul style="list-style-type: none"> <li>The Savannah North August 2016 Resource model (sav_nth_ok_aug16.mdl) developed by Cube Consulting Pty Ltd was used as the basis for conversion to an Ore Reserve (refer to the Company's ASX announcement of 24 August 2016).</li> <li>Mineral Resources are inclusive of Ore Reserves.</li> </ul>												
<b>Site visits</b>	<ul style="list-style-type: none"> <li>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> <li>If no site visits have been undertaken indicate why this is the case.</li> </ul>	<ul style="list-style-type: none"> <li>The competent person is a full time Panoramic Resources employee who conducts routine site visits as part of normal working duties.</li> </ul>												
<b>Study status</b>	<ul style="list-style-type: none"> <li>The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.</li> <li>The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.</li> </ul>	<ul style="list-style-type: none"> <li>The Savannah Feasibility Study has been undertaken to convert Resources to Ore Reserves at Savannah North.</li> <li>Underground mining commenced at Savannah in January 2005 and has continued for over 10 years until being placed in care and maintenance in May 2016.</li> <li>The mine design, mining method, operating parameters, modifying factors, actual costs and knowledge gained from over 10 years of production at Savannah are used in the Savannah North Ore Reserve estimate.</li> </ul>												
<b>Cut-off parameters</b>	<ul style="list-style-type: none"> <li>The basis of the cut-off grade(s) or quality parameters applied.</li> </ul>	<ul style="list-style-type: none"> <li>An initial cut-off grade of 0.8% nickel is used based on an economic assessment and current operating and market parameters.</li> </ul>												
<b>Mining factors or assumptions</b>	<ul style="list-style-type: none"> <li>The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).</li> <li>The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.</li> <li>The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and pre-production drilling.</li> <li>The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).</li> <li>The mining dilution factors used.</li> <li>The mining recovery factors used.</li> <li>Any minimum mining widths used.</li> <li>The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.</li> <li>The infrastructure requirements of the selected mining methods.</li> </ul>	<ul style="list-style-type: none"> <li>Mining at Savannah North will utilise long-hole open stoping with paste fill.</li> <li>Preliminary stope designs were used.</li> <li>Beck Engineering Pty Ltd was engaged to undertake a geotechnical study to forecast mine-scale stability and deformation. The method of analysis was Discontinuum Finite Modelling using geological structures on a mine scale. This method has previously been used by Beck Engineering (August 2015) to accurately model rock damage and seismic activity at Savannah.</li> <li>Stress and structural models have been developed and are used to identify appropriate mining sequences, stope spans and ground support requirements.</li> <li>A centre out extraction sequence has been adopted to maintain an inclined continuous mining front and avoid retreating to pillars.</li> <li>Routine site visits and inspections have been conducted by consultant geotechnical engineers.</li> <li>A seismic monitoring and management system has been in place at Savannah for over 10 years.</li> <li>Mining dilution at zero grade is applied to stopes and ore development.</li> <li>Minimum underground development width is 4.8m and minimum stoping width is 3m.</li> <li>Stope shapes have been designed with a footwall angle of not less than 50 degrees.</li> <li>Mining dilution and recovery factors are applied to development and preliminary stope designs as per below:</li> </ul> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Type</th> <th>Dilution</th> <th>Mining recovery</th> </tr> </thead> <tbody> <tr> <td>Development</td> <td>10%</td> <td>95%</td> </tr> <tr> <td>Upper Zone</td> <td>10%</td> <td>90%</td> </tr> <tr> <td>Lower Zone</td> <td>20%</td> <td>80%</td> </tr> </tbody> </table>	Type	Dilution	Mining recovery	Development	10%	95%	Upper Zone	10%	90%	Lower Zone	20%	80%
Type	Dilution	Mining recovery												
Development	10%	95%												
Upper Zone	10%	90%												
Lower Zone	20%	80%												

Criteria	JORC Code explanation	Commentary
		<ul style="list-style-type: none"> <li>No Inferred Resources are included in the Ore Reserve estimate. The Savannah Feasibility Study mine plan includes 1.1% of material on a contained nickel basis classified as Inferred Resource.</li> <li>The majority of infrastructure requirements (other than future capital development) for the selected mining method are established. A new ventilation raise, primary surface fan and additional tailing storage facility will be required during the life-of- mine plan.</li> </ul>
<b>Metallurgical factors or assumptions</b>	<ul style="list-style-type: none"> <li>The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.</li> <li>Whether the metallurgical process is well-tested technology or novel in nature.</li> <li>The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.</li> <li>Any assumptions or allowances made for deleterious elements.</li> <li>The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole.</li> <li>For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?</li> </ul>	<ul style="list-style-type: none"> <li>The metallurgical process is a conventional nickel sulphide flotation technique involving crushing, grinding and flotation to produce a bulk nickel, copper and cobalt concentrate.</li> <li>Savannah ore has been successfully treated through a 1Mtpa SAG mill and flotation circuit since commissioning in 2004.</li> <li>The Savannah North mineralisation is observed to be mineralogically similar to the current Savannah Ore, i.e. pyrrhotite-dominant sulphides with sub-ordinate pentlandite and chalcopyrite.</li> <li>A flotation testwork program was conducted by site metallurgist using composite samples from Savannah North Upper and Lower Zones. Standard Savannah sample preparation, grinding, flotation and reagent test procedures were carried out over a range of typical Savannah grind sizes. These flotation tests showed both the Savannah North Upper and Lower Zones performed within the range of Savannah ore performance.</li> <li>No metallurgical domaining has been applied.</li> <li>Metallurgical recoveries are calculated from plant feed grades in the LOM plan and are based on over 10 years of historical plant performance. Metallurgical recoveries approximate 87% for Nickel, 96% for Copper and 90% for Cobalt.</li> <li>Savannah historically produced a clean bulk nickel, copper and cobalt concentrate and since commissioning in 2004 there have been no penalties for deleterious material. As such no allowance has been made for deleterious material in the Feasibility Study.</li> <li>The Ore Reserve estimate has been based on appropriate mineralogy and metallurgical factors to meet the existing concentrate off-take specifications.</li> </ul>
<b>Environmental</b>	<ul style="list-style-type: none"> <li>The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.</li> </ul>	<ul style="list-style-type: none"> <li>Savannah operates under the conditions set out by an environmental license to operate.</li> <li>Waste is placed on approved waste dumps or used as backfill in mined voids.</li> <li>The existing tailings storage facility (TSF1) has an estimated three years of capacity to the final approved height at the modelled production rates.</li> <li>An additional tailing storage facility (TSF2) will be required from Year 3 of Savannah North production. Coffey Mining Pty Ltd undertook an options study, and a preferred option has been selected, designed and costed for a life-of-mine tailings facility.</li> <li>Discussions have been held with relevant regulatory bodies, and the Company expects no issues with the approvals process for TSF2.</li> </ul>
<b>Infrastructure</b>	<ul style="list-style-type: none"> <li>The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.</li> </ul>	<ul style="list-style-type: none"> <li>The Savannah mine has substantial infrastructure in place including a paste fill plant, major electrical and pumping networks, a 1Mtpa processing plant, a fully equipped laboratory, extensive workshop, administration facilities, 215 person camp and tailings storage facility.</li> </ul>
<b>Costs</b>	<ul style="list-style-type: none"> <li>The derivation of, or assumptions made, regarding projected capital costs in the study.</li> <li>The methodology used to estimate operating costs.</li> <li>Allowances made for the content of deleterious elements.</li> </ul>	<ul style="list-style-type: none"> <li>Costs are based on actual costs incurred in mining, processing and transportation over the period July 2013 to December 2015, prior to the decision to transition to care and maintenance.</li> <li>Capital underground development costs are derived from the LOM plan and actual costs as per above.</li> </ul>

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> <li>The derivation of assumptions made of metal or commodity price(s), for the principal minerals and co-products.</li> <li>The source of exchange rates used in the study.</li> <li>Derivation of transportation charges.</li> <li>The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.</li> <li>The allowances made for royalties payable, both Government and private.</li> </ul>	<ul style="list-style-type: none"> <li>Capital costs related to equipment and infrastructure costs are based on quotes or historical actual costs.</li> <li>Closure costs have not been included, other than the capping of TSF1, reshaping of the North Waste Dump and redundancy payments.</li> <li>WA government and Traditional Owner royalties are included.</li> <li>Nickel price assumptions are based on the median of a range of external market analysts' medium term forecasts.</li> <li>Cobalt and Copper prices based on the average LME prices in December 2016 were used in the Feasibility Study.</li> <li>A flat exchange rate based on the average US\$:A\$ rate in December 2016 of 0.736 was used in the Feasibility Study.</li> </ul>
<b>Revenue factors</b>	<ul style="list-style-type: none"> <li>The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.</li> <li>The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.</li> </ul>	<ul style="list-style-type: none"> <li>Revenue factors are based on forecast production rates, head grades and predicted metallurgical recoveries from the LOM mine plan.</li> <li>Net Smelter Return (NSR) factors were sourced from the existing concentrate off-take contract.</li> <li>Nickel price assumptions are based on the median of a range of external market analysts' medium term forecasts.</li> <li>Cobalt and Copper prices based on the average LME prices in December 2016 were used in the Feasibility Study.</li> <li>Flat rate metal prices for nickel of US\$6.00/lb, copper of US\$2.57/lb and cobalt of US\$14.42/lb were used.</li> </ul>
<b>Market assessment</b>	<ul style="list-style-type: none"> <li>The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.</li> <li>A customer and competitor analysis along with the identification of likely market windows for the product.</li> <li>Price and volume forecasts and the basis for these forecasts.</li> <li>For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.</li> </ul>	<ul style="list-style-type: none"> <li>The concentrate is contracted for sale to Sino/Jinchuan until April 2020. The Savannah concentrate will be trucked to Wyndham Port and then shipped to Jinchuan's smelter/refinery in the Gansu province, northwest China upon a re-commencement of operations.</li> <li>Panoramic has held discussions with a number of potential offtake parties including Sino/Jinchuan (existing offtake partner) regarding concentrate purchases beyond 2020. Indicative terms for bulk concentrate sales post April 2020 have been received from various interested parties.</li> <li>For the Savannah FS similar terms to those under the current offtake agreement have been assumed.</li> </ul>
<b>Economic</b>	<ul style="list-style-type: none"> <li>The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.</li> <li>NPV ranges and sensitivity to variations in the significant assumptions and inputs.</li> </ul>	<ul style="list-style-type: none"> <li>DCF modelling has been undertaken on a pre-tax, ungeared, real-dollars basis using a discount rate of 8%.</li> <li>Sensitivity analysis of key financial and physical parameters has been undertaken on the financial model.</li> </ul>
<b>Social</b>	<ul style="list-style-type: none"> <li>The status of agreements with key stakeholders and matters leading to social licence to operate.</li> </ul>	<ul style="list-style-type: none"> <li>The Savannah mine is fully permitted and has a co-existence agreement in place with Traditional Owners.</li> </ul>
<b>Other</b>	<ul style="list-style-type: none"> <li>To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:                             <ul style="list-style-type: none"> <li>Any identified material naturally occurring risks.</li> <li>The status of material legal agreements and marketing arrangements.</li> <li>The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>No significant unresolved material matters relating to naturally occurring risks, third party agreements or governmental/statutory approvals currently exist.</li> </ul>
<b>Classification</b>	<ul style="list-style-type: none"> <li>The basis for the classification of the Ore Reserves into varying confidence categories.</li> </ul>	<ul style="list-style-type: none"> <li>The classification adopted is based on the level of confidence as set out in the 2012 JORC guidelines</li> </ul>

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> <li>• Whether the result appropriately reflects the Competent Person's view of the deposit.</li> <li>• The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).</li> </ul>	<ul style="list-style-type: none"> <li>• Proven Ore Reserves are based on Measured Resources subject to economic viability.</li> <li>• Probable Ore Reserves are based on Indicated Resources subject to the economic viability.</li> <li>• The estimate appropriately reflects the view of the competent person.</li> <li>• No Inferred Resources are included in the Ore Reserve estimate.</li> </ul>
<b>Audits or reviews</b>	<ul style="list-style-type: none"> <li>• The results of any audits or reviews of Ore Reserve estimates.</li> </ul>	<ul style="list-style-type: none"> <li>• The Ore Reserve estimate, parent data and economic evaluation was reviewed by Panoramic Resources senior management.</li> </ul>
<b>Discussion of relative accuracy/ confidence</b>	<ul style="list-style-type: none"> <li>• Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate.</li> <li>• The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.</li> <li>• Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage.</li> <li>• It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</li> </ul>	<ul style="list-style-type: none"> <li>• The relative accuracy of the Ore Reserve estimate is considered robust as it is based on the knowledge gained from extensive operational history of the mine.</li> <li>• All currently reported Ore Reserve estimations are considered representative on a global scale.</li> <li>• Mine to mill reconciliation records throughout the life of the Savannah Mine provide confidence in the accuracy of the Ore Reserve estimate.</li> </ul>