HORIZONTE MINERALS PLC
MANAGEMENT'S DISCUSSION AND ANALYSIS
SIX MONTHS ENDED 30 JUNE 2019

Background

This Management's Discussion and Analysis of the financial position and results of operations is prepared as at 13 August 2019 and should be read in conjunction with the Condensed Consolidated Financial Statements of Horizonte Minerals plc as at 30 June 2019 and which have been prepared in accordance with International Financial Reporting Standards and International Accounting Standards.

Horizonte Minerals plc (the 'Company') is a publicly listed company, the shares of which are listed on the London Stock Exchange on the AIM market ('AIM') and on the Toronto Stock Exchange (the 'TSX'), in both instances under the symbol 'HZM'.

Company Overview

Horizonte has two advanced 100% owned projects located around the Carajás mining district in northern Brazil.

Araguaia Ferro-Nickel Project ("Araguaia" or the "Project")

- Araguaia is an advanced nickel project being developed by Horizonte as the next ferronickel operation in Brazil. Araguaia has the following key characteristics:
  - 100% owned by Horizonte
  - Located south of the Carajás Mining district in northern Brazil, with good access to infrastructure
  - Transaction with Glencore completed in 2016 to acquire the adjacent Vale dos Sonhos deposit places the enlarged project among the largest high-grade undeveloped nickel saprolite projects globally
- Feasibility Study ('FS') issued Q4 2018, has demonstrated:
  - Robust economics based on a 28-year life of mine ('LOM') producing ~14,500 tonnes per annum (tpa) nickel in ferro-nickel from a single line Rotary Kiln Electric Furnace ('RKEF')
  - The Project is expected to generate over US$1.6 billion in free cash flow over LOM using a nickel price of US$14,000/t
  - NPV_8 of US$401M and IRR of 20.1% using the base case of US$14,000, increasing to US$740M and 28.1% using the consensus price of US$16,800
  - High grade ore with average nickel grade of 1.89% for the first 10 years of production

- C1 cost of US$8,193/t Ni positioning Araguaia in the lower quartile of Nickel Laterite cost curve, C1 cost of US$6,784/t Ni years 1-10
- 43-101 Proven and Probable Mineral Reserve Estimate of 27.5 Mt grading 1.69% Ni

Stage 2 expansion included as an opportunity in the FS demonstrates the following;

- Stage 2 expansion option, assumed in year 3, supports a 26-year mine life generating cash flows after taxation of US$2.6 billion;
- No increase in upfront capital cost which remains at the same level at the FS Stage 1 of US$443 million, the Stage 2 expansion is financed through operational cash flow;
- Estimated post-tax Net Present Value[1] ('NPV') of US$741 million[2] and Internal Rate of Return ('IRR') of 23.8% using the base case nickel price forecast of US$14,000/t[3];

Vermelho Nickel-Cobalt Project ("Vermelho")

The Vermelho nickel-cobalt project was acquired from Vale in late 2017. It is located in the eastern part of the Carajás Mining district and approximately 80 kilometres north west of the Company's Araguaia North ferronickel project. Vermelho has the following key characteristics:

- 100% owned by Horizonte
- Situated in the Carajás mining district with well-developed infrastructure in place, including rail, roads and hydro-electric power
- The Vermelho Nickel-Cobalt Mineral Resources, in the Measured and Indicated category, are estimated to be 167.8 million tonnes grading 1.01% Nickel and 0.06% Cobalt (at 0.9% nickel equivalent cut off[4])
- The Measured and Indicated categories of the Mineral Resource are estimated to contain 1.68 million tonnes of nickel and 94,000 tonnes of cobalt

Highlights for Q2 2019

- Construction Licence for Araguaia awarded, representing a major milestone for Horizonte, which is now construction ready (subject to finance)
- Issue of $330,000 in equity to Glencore as settlement of deferred consideration for inclusion of VdS in the FS filed in Q4 2018
- Metallurgical tests of Vermelho saprolite samples returned an average ferronickel grade of 31.8% nickel
- The ferro nickel product was of high quality, being low in trace elements and meeting the commercial requirement of stainless-steel manufacturers
- The results confirm the suitability of the conventional Rotary Kiln Electric Furnace ("RKEF") for processing Vermelho saprolite ore

[1] NPV calculated using 8% discount rate

[2] USD/BRL 1/3.5 exchange rate applied for life-of-mine

[3] Wood Mackenzie Short term forecast – see market section of NI 43 -101

[4] The basis of the nickel equivalent calculation is the equation NiEq% = Ni% + (6 x Co%), based upon the relative average cash prices for nickel and cobalt metals, as reported on the LME for the six-month period 2nd November 2017 to 3rd April 2018. The nickel equivalent calculation assumes similar nickel and cobalt recoveries as obtained by the test work carried by Vale in the FS.

Events after the Reporting Date

- In early July, Araguaia was awarded the Energy Decree which guarantees Horizonte access to the national grid with the required electrical energy demand for the commercial ferronickel operation;

- In parallel with this process Horizonte submitted the combined Preliminary Licence and Construction Licence application for the powerline to the Brazilian Pará State Environmental Agency ('SEMAS') in mid-June; and

Objectives

In the short to medium term the Company's objectives are to:

- Progress the Araguaia project through to development by securing project financing
- To continue to advance the permitting status of the Araguaia Project through on-going environmental and social evaluations
- Advance the newly acquired Vermelho project towards a Pre Feasibility Study due shortly

Review of Operations

Introduction

Horizonte recently published the results of a FS on its 100% owned Araguaia Project which it is developing as a tier-one ferronickel operation in Brazil.

Having completed a PFS in 2016 on the combined Araguaia project, the Company completed a FS for Araguaia which was published in October 2018, with a view to developing Araguaia through to production (subject to funding) around 2021.

The Company has a strong institutional shareholder structure, which includes Teck Resources Limited, Lombard Odier Asset Management, JP Morgan, Canaccord Genuity Group, City Financial and Glencore.

Araguaia Ferro-Nickel Project

Araguaia is located on the eastern margin of the State of Pará, north-eastern Brazil, to the north of the town of Conceição do Araguaia (population of 46,206), south of the main Carajás Mining District. The Project has good regional infrastructure including a network of Federal highways and roads, with access to low tariff hydro-electric power. The Carajás Mining District, situated approximately 200km northwest of the Project, is host to a number of major iron and copper mines operated by mining major Vale SA.

The Araguaia Project areas comprise 27 exploration licences totalling 123,611 ha and the landholdings which comprise the Araguaia Projects do not form part of any native reserves.

Araguaia Feasibility Study Detailed Information

Section 1 - Project Summary

The Project, as contemplated, will comprise an open pit nickel laterite mining operation that proposes to mine 27.5 million tonnes ('Mt') Mineral Reserve of a 119 Mt Mineral Resource to produce an average of 52,000 tonnes of ferronickel ('FeNi') (containing and average of 14,500 tonnes of nickel) per year, for the 28-year mine life. The metallurgical process comprises a single line Rotary Kiln Electric Furnace (RKEF) to extract FeNi from the laterite ore. The RKEF plant and project infrastructure will be constructed over a 31-month period. After an initial ramp-up period, the plant will reach full capacity of approximately 900,000 tonnes of dry ore feed per year. The FeNi product will be transported by road to the port of Vila do Conde for sale to overseas customers.

The process plant, mining, infrastructure and utilities engineering has been designed to support capital and operating cost estimates to the Association for the Advancement of Cost Engineering ('ACE') class 3 standard. This means that capital and operating costs estimates have a combined accuracy of -10%+15%. The capital and operating costs are as of Q3 2018.

The results of the FS demonstrate that Araguaia has attractive economics for the assumptions used, they key findings are highlighted in Table 1, below.

Table 1 Araguaia FS Key Outcomes

Item	Unit	Nickel price basis (US$/t Ni)		
		Base (14,000)	CIBC (16,800)	Wood Mackenzie (26,450)
Net cash flow	US$M	1,572	2,582	6,060
NPV_8	US$M	401	740	1,906
IRR	%	20.1	28.1	50.4
Breakeven (NPV_8) Ni price	US$/t	10,766	10,766	10,766
C1 Cost (Brook Hunt)	US$/t Ni	8,193	8,193	8,193
Production year payback	years	4.2	3.3	1.8
LOM Ni recovered	kt	426	426	426
LOM Fe recovered	kt	995	995	995
Average Ni production at 0.9 Mt/a ore[5]	kt/a	14.5	14.5	14.5
Average Fe production at 0.9 Mt/a ore	kt/a	32	32	32
Total revenue	US$M	5,970	7,164	11,449
Total costs	US$M	3,811	3,995	4,657
Operating cash flow	US$M	2,159	3,169	6,792
Capital intensity – Initial capex/t nickel	US$/t Ni	1,041	1,041	1,041

The results in Table 1 assumes 100% equity, providing scope for increased returns with the ability to leverage using commercial or other debt. The base case was developed using a flat nickel price of US$14,000/t Ni in line with Wood Mackenzie's ('WM') short term forecast. Two other cases were

[5] Average over initial 28 years of processing

prepared; one using a market consensus price of US$16,800/t Ni and the other used WM's long term forecast of US$26,450/t Ni. These two additional price forecasts represent upside scenarios.

As shown in Table 1(above), for the base case the project has a 4.2-year payback period with cumulative gross revenues of US$5,970 million. The economic analysis indicates a post-tax NPV of US$401 million and an IRR of 20.1% using the base case forecast of US$14,000/t Ni. This increases to US$1,906 million and 50.4% when using the long-term price forecast by WM of US$26,450/t Ni.

Section 2 – Resources / Reserves and Mining

Snowden Mining Industry Consultants completed the mining engineering along with mining capital, operating cost estimates and resource estimation for the Project. Snowden is a global mining consulting and training business with leading skills and technologies in mining engineering, mine optimisation, and resource estimation.

Mineral Resources

The Project has two principal mining centres; Araguaia Nickel South ('ANS') and Araguaia Nickel North ('ANN'). ANS hosts seven deposits: Pequizeiro, Baiao, Pequizeiro West, Jacutinga, Vila Oito East, Vila Oito West and Vila Oito, while ANN hosts the Vale do Sonhos deposit.

A number of phases of diamond drilling has been completed across the Project commencing in 2010. Drilling at ANS has been undertaken by Horizonte and Teck, with drilling at ANN by Xstrata/Glencore. The Company has been active on the ANS project since the initial discovery in 2010, when it successfully completed the acquisition and integration of the Teck and Xstrata project areas, it has been the sole project operator since 2015. A total of 75,250 metres ('m') of diamond drilling has been completed across 2,627 holes for the Project.

Mineral Resource estimates for the deposits under consideration for the FS are shown in **Error! Reference source not found.**. The Measured Mineral Resource is estimated at 18 Mt at a grade of 1.44% Ni using a cut-off grade of 0.90% Ni. The Indicated Mineral Resource is 101 Mt at a grade of 1.25% Ni. This gives a combined Mineral Resource of 119 Mt at a grade of 1.27% Ni for Measured and Indicated Mineral Resources at a cut-off grade of 0.90% Ni (inclusive of Mineral Reserves). A further 13 Mt at a grade of 1.19% Ni (at a cut-off grade of 0.90% Ni) is defined as an Inferred Mineral Resource.

Table 2: Mineral Resources for ANS and ANN as of February 2017 by material type (0.90% Ni cut-off)

Araguaia	Category	Material type	Tonnage (kt)	Bulk density (t/m^3)	Contained Ni metal (kt)	Ni (%)	Co (%)	Fe (%)	MgO (%)	SiO_2 (%)	Al_2O_3 (%)	Cr_2O_3 (%)
Subtotal	Measured	Limonite	1,232	1.39	15	1.20	0.15	37.43	2.00	17.15	11.07	2.98
		Transition	6,645	1.26	116	1.75	0.07	18.89	10.20	42.06	6.59	1.29
		Saprolite	10,291	1.40	130	1.27	0.03	12.03	24.08	41.24	3.95	0.87
Total	**Measured**	**All**	**18,168**	**1.35**	**261**	**1.44**	**0.05**	**16.26**	**17.51**	**39.91**	**5.40**	**1.17**
Subtotal	Indicated	Limonite	19,244	1.39	216	1.12	0.12	36.22	2.40	20.46	9.61	2.65
		Transition	30,917	1.20	439	1.42	0.07	21.38	11.26	38.95	5.37	1.51
		Saprolite	51,008	1.31	610	1.18	0.03	11.83	25.79	40.59	3.16	0.85
Total	**Indicated**	**All**	**101,169**	**1.30**	**1,264**	**1.25**	**0.06**	**19.39**	**16.90**	**36.26**	**5.06**	**1.39**
Total	**Measured + Indicated**	**All**	**119,337**	**1.30**	**1,525**	**1.27**	**0.06**	**18.91**	**16.99**	**36.81**	**5.11**	**1.36**
Subtotal	Inferred	Limonite	2,751	1.37	30	1.08	0.10	34.92	3.04	22.84	9.23	2.50
		Transition	4,771	1.20	62	1.30	0.07	21.23	11.04	39.09	5.62	1.40
		Saprolite	5,398	1.35	62	1.15	0.03	11.80	24.36	41.81	3.69	0.82
Total	**Inferred**	**All**	**12,920**	**1.30**	**154**	**1.19**	**0.06**	**20.21**	**14.90**	**36.77**	**5.58**	**1.39**

Notes:
1. Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability. All figures are rounded to reflect the relative accuracy of the estimate and have been used to derive subtotals, totals and weighted averages. Such rounding consequently introduces a small margin of error. Where these occur, Snowden does not consider them to be material.
2. Mineral Resources are reported inclusive of Mineral Reserves.
3. The reporting standard adopted for the reporting of the Mineral Resource estimate uses the terminology, definitions and guidelines given in the CIM Standards on Mineral Resources and Mineral Reserves (May 2014) as required by NI 43-101.
4. Snowden completed a site inspection of the deposit by Mr Andy Ross FAusIMM, an appropriate "Independent Qualified Person" as such term is defined in NI 43-101.
5. kt = thousand tonnes (metric).

Mineral Reserves

The Mineral Reserves were estimated by Snowden Using the JORC Code (2012 Edition) and quoted in accordance with CIM (2010) requirements.

All economic Indicated Mineral Resources within the pit designs were classified as Probable Mineral Reserves and all Measured Mineral Resources at Pequizeiro (ANS) were classified as Proven Mineral Reserves (this classification was tested and supported by the trial mining program completed in this pit in 2017). Measured Mineral Resources at Vale dos Sonhos (ANN) were classified as Probable Mineral Reserves. A summary is provided in **Error! Reference source not found.**3. The Mineral

Reserve of 27.2 Mt gives mine life of 28 years based on the annual ore throughput to the RKEF plant of 900,000 t/a.

Table 3: Open Pit Mineral Reserves reported at October 2018

Category	Ore (Mt)	Ni (%)	Fe (%)	SiO_2:MgO	Al_2O_3 (%)
Proven	7.33	1.72	16.01	3.01	6.00
Probable	19.96	1.68	17.57	2.36	4.56
Total	**27.29**	**1.69**	**17.15**	**2.52**	**4.94**

Notes
1.Mt – million dry metric tonnes.
2. Cut-off used was 1.4% Ni.
3. Dilution was modelled as part of re-blocking, ore losses applied are 8%.
3. The reporting standard adopted for the reporting of the Mineral Reserve estimate uses the terminology, definitions and guidelines given in the CIM Standards on Mineral Resources and Mineral Reserves (May 2014) as required by NI 43-101.
4. Snowden completed a site inspection on three occasions between March 2016 and May 2017 by Mr Frank Blanchfield FAusIMM, an appropriate "Independent Qualified Person" as such term is defined in NI 43-101.

Mining

The deposits will be mined via conventional open pit truck and shovel techniques using contractors. No blasting will be necessary. Reverse circulation ('RC') grade control drilling will be completed at a 10 m x 10 m spacing well ahead of mining. This combined with the use of visual control of the limonite and transition boundary, face sampling, stockpile sampling and ore feed sampling, supports a comprehensive mine-to-mill strategy that is designed to maintain consistent feed to the process plant.

Waste will be stored in external dumps near the pits. Ore will be transported to stockpile hubs near each deposit. Sheeting (using ferricrete won from the overburden) will be required to support trafficability in and around the mine during the wet season. Depending on plant demand, ore will be hauled from hub stockpiles or directly from the pits to the run of mine ('ROM') at the RKEF process facility. Stockpiles on the ROM will be sheeted and classified according to ore type and chemistry for blending.

The resource model was converted to a mining model to reflect the mining method and incorporated anticipated mining dilution and loss. The model was re-blocked to 6.25 m x 6.25 m x 2 m, with a 300 mm "skin" of transition (directly beneath the limonite boundary) treated as loss.

The pits were optimised to target the highest-grade material giving a mine life of approximately 28 years. This resulted in a cut-off grade of 1.4% Ni being applied. The pits were then optimised using Whittle 4X to determine a shell to use for design.

The annual mining rate peaks at 3.5 Mt/annum between production years two and seven before dropping down to 3.0 Mt/annum for the remainder of the Project.

The mine supplies high nickel grades in the early mine life, reaching 2% in production year 2. The Ni grade is above 1.8% for the majority of the first 10 years of production and reduces to average approximately 1.6% Ni for the remaining mine life.

Section 3 – Processing

The process plant design, along with capital and operating cost estimates were completed by Ausenco Engineering Canada Inc ('Ausenco'). Ausenco is a global diversified engineering, construction and project management company providing consulting, project delivery and asset management solutions to the resources, energy and infrastructure sectors.

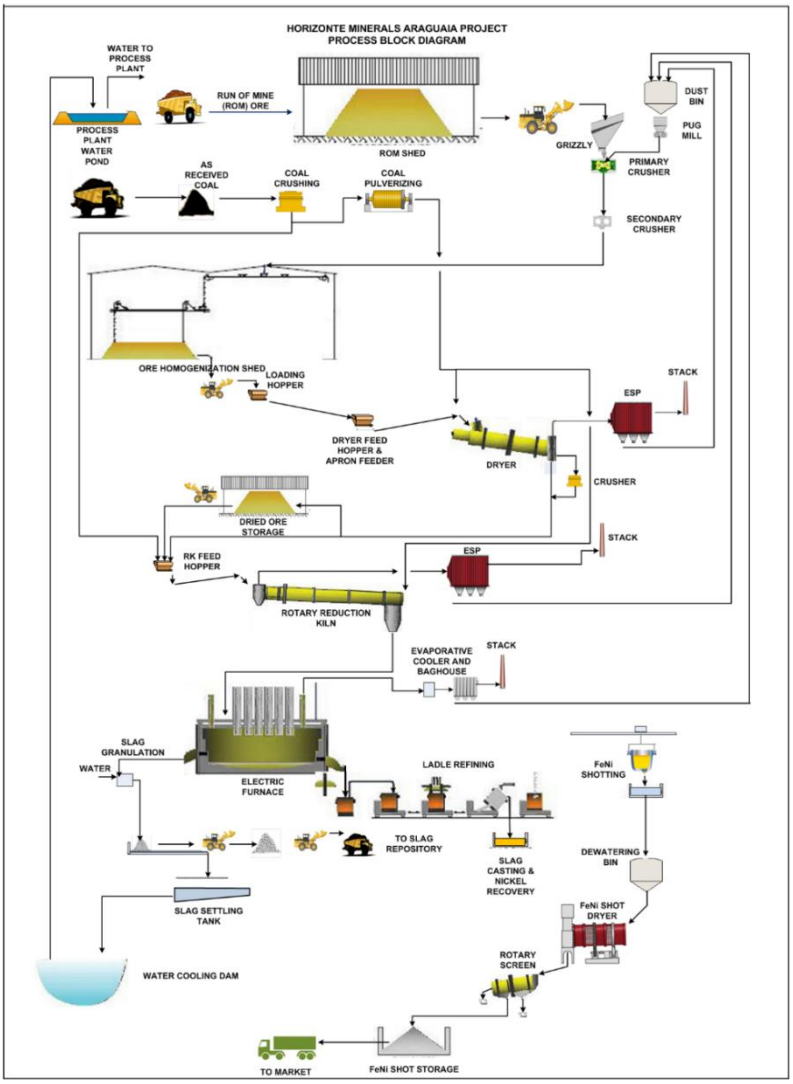
The Project will utilise a single RKEF processing line from ore receipts through to of the FeNi product, Figure 2.

The RKEF process is proven and used successfully in over 40 nickel laterite plants around the world and was deemed appropriate for the Project based on the extensive metallurgical testwork and the pilot plant campaigns completed on the ore.

The key steps in the RKEF flowsheet are (Figure 1);

- ROM ore, at an average moisture content of 34%, is first blended to meet metallurgical processing requirements, then transported to the primary crushing stage. Here the ore is sized using two stages of crushing to match the requirements of the subsequent steps. A mineral sizer with a 200 mm gap is used for primary sizing, while a mineral sizer with a 50 mm gap is used for the final stage
- The ore is then homogenised, partially dried and agglomerated to an average moisture content of 18% in a rotary dryer (4.5 m diameter x 40 m long) and fired with pulverized coal
- The dried agglomerated ore is then fed to the rotary kiln with the addition of reductant coal. In the kiln, the ore is completely dried, calcined to remove chemically-combined moisture, and the iron and nickel oxides are partially pre-reduced. Kiln dust is recycled to the process at the primary crushing stage ahead of the dryer/agglomerator
- Calcine from the kiln is then transferred to the electric furnace where further reduction of the nickel and iron occurs, melting and separation of the metal and slag occurs at high temperature. Slag is tapped at a temperature of around 1,575°C, while FeNi metal is tapped at a temperature of close to 1,500°C
- After tapping, the melt is transferred by ladle to the refining stage. The final FeNi product containing 30% Ni is shotted with water, screened, dried and stockpiled prior to dispatch to the port on trucks where it either bagged or loaded bulk into sea containers for shipping to customers
- The electric furnace slag is granulated and transferred to the slag repository by truck

Figure 1 ANP process flow diagram showing the RKEF steps



Section 4 – Financial Evaluation

Capital Cost

The estimate is based on the AACE class 3 with an accuracy range between -10% and +15% of the final project cost (excluding contingency) with a base date of October 2018. All amounts expressed are in US dollars unless otherwise stated.

The capital costs estimate ('capex') includes all the direct and indirect costs, local taxes and duties and appropriate contingencies for the facilities required to bring the Project into production, including the process plant, power line, water pipelines and associated infrastructure as defined by the FS. The estimate is based on an Engineering Procurement and Construction Management ('EPCM') implementation approach and the Project contracting strategy.

The total estimated initial (pre-production) capital cost for the project is US$443.1 million (after tax, including growth and contingency, excluding escalation). A summary of the capex is shown in **Error! Reference source not found.**4.

Table 4: Summary of capex

WBS #	Area	US$'000
1000	Mine	6,003
3000	Ore Preparation	38,731
4000	Pyrometallurgy	137,518
5000	Material Supply	21,413
6000	Utilities and Infrastructure	106,918
7000	Buildings	9,095
8000	Indirect Costs	82,409
	Contingency	40,989
Total Costs		**443,076**

The direct costs in **Error! Reference source not found.**4 include supply, shipping and site installation. The total contingency carried in the capex is US$41.0 million, which combined with the US$24.3 million growth allowance included in the direct costs provides a total provision of US$65.3 million. This combined sum represents 17.2% of the total capex (excluding growth and contingency).

Operational costs

The mining and operating cost estimate ('opex') was calculated for an operation producing 14,500 t Ni per annum and is set out as an annual total and US$/t Ni in table 5 (below), calculated as an average over the Life of Mine ('LOM'). The operating costs cover the mine, process plant, ore preparation, social and environmental, royalties and general and administrative overheads. The main contributors of the overall operating costs are power, coal, labour and mining costs, with additional consumables and other indirect costs, including G&A.

Table 5 Operating cost estimate

Description	Cost/annum (US$)	US$/t nickel
Process Plant		
Directs		
Power	32,114,355	2,410
Coal	21,591,099	1,620
Other directs	17,965,039	1,348
Labour	7,831,286	588
Subtotal – Direct costs	**79,501,779**	**5,966**
Indirect costs	**10,285,640**	**772**
Mining costs	**21,112,173**	**1,584**
Total costs	**110,889,592**	**8,322**

Summary Economics

The financial model developed assumes 100% equity. The base case was developed using a flat nickel price of US$14,000/t Ni. Two other cases were prepared; one using a market consensus price of US$16,800/t Ni and the other used the WM long term forecast of US$26,450/t Ni. These two additional price forecasts represent upside scenarios.

As shown in **Error! Reference source not found.**, the post taxation model for the base case at the ANP has a 4.2-year payback period with cumulative gross revenues of US$5,970 million. The economic analysis indicates a post-tax NPV of US$401million and an IRR of 20.1% using the base case forecast of US$14,000/t Ni which increases to US$1,906 million and 50.4% when using the long-term price forecast by WM of US$26,450/t Ni.
Error! Reference source not found.6 shows the pre-taxation results.

Table 6: Project economic performance (pre-taxation)

Item	Unit	Nickel price basis (US$/t Ni)		
		Base (14,000)	CIBC (16,800)	Wood Mackenzie (26,450)
Net cash flow	US$M	1,834	3,208	7,313
NPV_8	US$M	456	840	2,219
IRR	%	21.2	29.9	55.3
Breakeven (NPV_8) Ni price	US$/t	10,672	10,672	10,672
C1 Cost (Brook Hunt)	US$/t Ni	8,193	8,193	8,193
Production year payback	years	4.0	3.0	0.75
Total costs	US$M	4,137	4,137	4,137
Operating cash flow	US$M	2,421	3,616	7,901

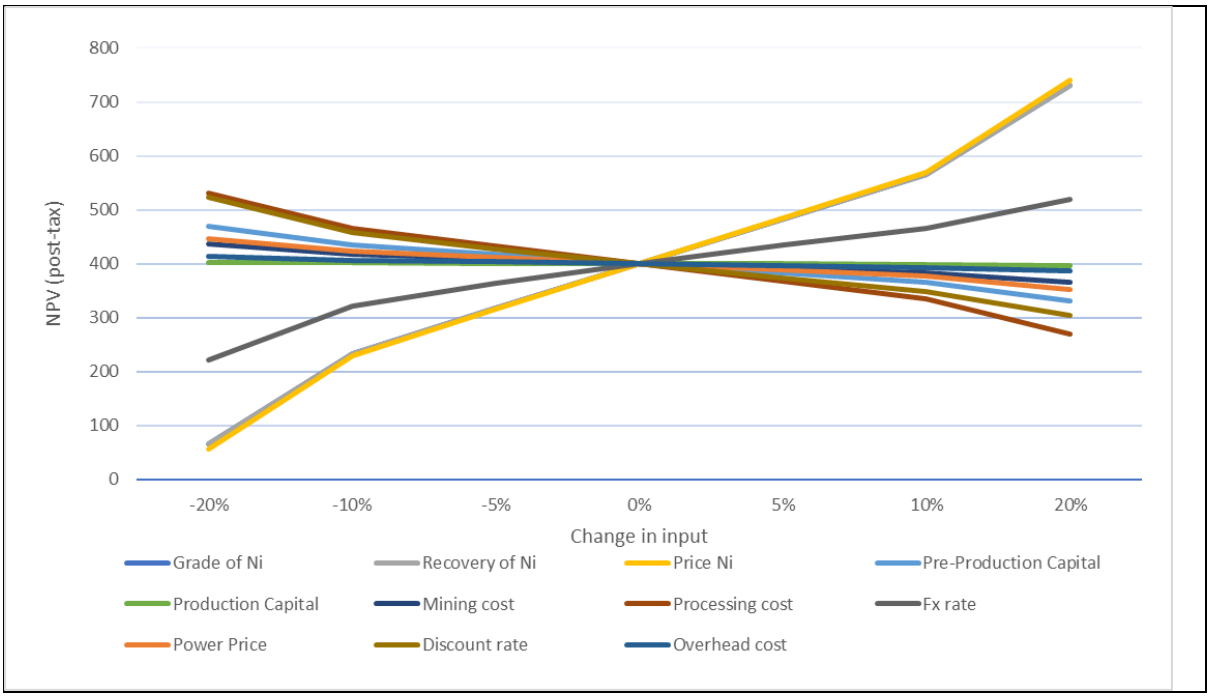
Sensitivity Analysis

The sensitivity analysis that was completed as part of the FS demonstrates how the project economics are affected by changes to one variable while holding the other variables constant. The results of the sensitivity analysis are presented in table 7 and Figure 2. The breakeven ('B/E') indicates the change in the variable that will bring the project NPV_8 to US$0.000 if all other variables remain unchanged. For example, if the grade of Ni reduces by 23.7% the Project will break even on NPV_8.

Table 7: Sensitivity table for the Base Case (US$14,000/t) NPV8, after taxation

	-20%	-10%	-5%	0%	5%	10%	20%	B/E6
Grade Ni	65	234	317	401	483	566	731	-23.7%
Recovery Ni	65	234	317	401	483	566	731	-23.7%
Price Ni	56	230	315	401	485	570	740	-23.1%
Pre-production capital	469	435	418	401	383	366	331	110.2%
Production capital	403	402	401	401	400	399	397	-
Mining cost	436	418	409	401	391	383	365	222.6%
Processing cost	531	466	433	401	367	335	269	59.8%
US$/BRL FX rate	222	321	363	401	434	465	519	-35.4%
Electricity price	447	424	412	401	389	377	353	167.2%
Discount factor	524	458	428	401	374	349	304	151.3%
Overhead cost	414	407	404	401	397	393	386	-

Figure 2*: Sensitivity to NPV8 for changes in various key inputs*



The sensitivity analysis shows that the Project is more sensitive to nickel price, nickel recovery and grade than it is to either opex or capex.

[6] The breakeven change for the variable if all other variables remain unchanged. For example, if the grade of Ni reduces by 23.7% the Project will break even on NPV_8.

Section 5 – Market Review and Nickel Pricing

A market study was provided by WM, a global natural resource research and consulting company, with speciality in the nickel industry. WM's findings are summarised below.

World nickel demand is forecast to increase by 3.6% in 2018, to 2.26 Mt before slowing to a compound annual growth rate of 2.1% a year, reaching 2.61 Mt in 2025. Growth over the long term is slightly stronger, at 2.5% a year, to 3.35 Mt in 2035, due to increasing uptake by the battery segment (for electric vehicles). Over this period, primary nickel uptake in stainless will account for 50–70% of total demand, rising from 1.54 Mt in 2018 to 1.66 Mt in 2025, and 1.77 Mt in 2035.

Thus, with an outlook for nickel of structural shortage, deepening deficits and falling stocks, nickel prices are expected to continue to increase above their recently established range of US$12,500/t to US$15,000/t (US$5.90 to US$6.80/lb). A near term forecast for the purposes of the FS is therefore, US$14,000/t (US$6.35/lb). For comparison, WM's long-term incentive price currently stands at about US$26,450/t (US$12.00/lb).

The composition of ANP FeNi30 is comparable to existing FeNi30 being produced. Consequently, there is no impediment (based on the elemental breakdown provided) to the proposed FeNi30 product being acceptable to the stainless steel market.

World stainless steel production increased by 12 Mt between 2012 and 2017, mostly in China and to a lesser extent across the rest of Asia. Forecast production in 2018 is 50.8 Mt, up 4.5% on 2017. This upward trend is likely to continue over the mid-term, before slowing after 2025. As future growth in stainless production is expected to continue, the demand for FeNi (including FeNi30) should also increase. Consequently, WM forecasts long term FeNi production to be 450,000–460,000 a year, compared with 433,000 in 2018. This suggests there could be a need for the development of new FeNi projects in the future.

Section 6 – Community and Environment

The FS sets out key environmental and social risks and impacts and how the Company plans to minimise, manage and mitigate them and then monitor performance. This will be primarily achieved through a system of Environmental Control Plans, to be implemented before, during and after construction to meet Brazilian and international standards.

The Company is working with Environmental Resource Management ('ERM'), a global leader in this field, together with local Brazilian groups: Integratio Mediação Social e Sustentabilidade (social and land) and DBO Environmental Engineering (fauna) for the FS environmental and social work streams and the project permitting work for the Construction Licence (Licença de Instalação ('LI'). All work has been undertaken to IFC Performance Standards, 1, 2 and 5 and Brazilian CONAMA (environmental) legislation.

The groups have conducted a number of new studies in 2017 and 2018 together with ongoing programs, these included:

- Environmental Control Plans - elaboration and detailing of socio-environmental programs
- Inventories of fauna and flora
- Air dispersion modelling
- Hydrogeological modelling and water balance
- Visits by physical, biological and social analysts to site
- Air, noise and water monitoring – ongoing as part of base line data build up into the construction and operational phase

ANP will generate approximately 500 direct and indirect jobs in the south-eastern rural area of Pará State, over the 28 years of operations. The majority of these workers during the operational phase will reside locally. The peak construction workforce is expected to reach over 1,000.

Social contributions are expected to total over US$700 million during the LOM, including:

- Over US$400 million in corporate taxes
- Over US$280 million in employee and contractor wages

Stage 2 - Second Line Expansion Highlights:[7]

A key part of the FS Stage 1 Project design was that the RKEF plant and associated infrastructure was designed to accommodate the addition of a second RKEF process line (Stage 2 expansion), with potential to double Araguaia's production capacity from and average of 14,500 t/a nickel up to 29,000 t/a nickel. The Project Mineral Resource inventory has the grade and scale to support the increase in plant throughput from 900 kt/pa (Stage 1) to the Stage 2 rate of 1.8 Mt/a supporting the twin line RKEF flow sheet. The Stage 2 expansion assumes operating at Stage 1 production rate of 900 kt/pa for three years, after which free cash flows would be reinvested to expand the plant to 1.8 Mt/pa by the addition of a second line. All figures below represent this combined production of stage 1 for 3 years followed by the enlarged production for the remainder of the Life of Mine.

- The Stage 2 expansion, assumed in year 3, supports a 26-year mine life generating cash flows after taxation of US$2.6 billion;
- No increase in upfront capital cost which remains at the same level at the FS Stage 1 of US$443 million, the Stage 2 expansion is financed through operational cash flow;
- Estimated post-tax Net Present Value[8] ('NPV') of US$741 million[9] and Internal Rate of Return ('IRR') of 23.8% using the base case nickel price forecast of US$14,000/t[10];
- Using a nickel price of US$11,000/t generates cash flows after taxation and payback of capital of US$1.0 billion;
- Nickel grade of 1.82% for the first 10 years of the Stage 2 operation;
- Annual nickel production of 29,000 t/a;
- C1 (Brook Hunt) cash cost year 1 to Year 10 of US$3.00 per pound ('/lb') of nickel (US$6,613/t), making Araguaia a low-cost producer. Life of mine C1 cash cost of US$3.51 per pound ('/lb') of nickel (US$7,737/t); and
- Using the consensus mid-term nickel price of US$16,800/t, the post-tax NPV_8 for the Stage 2 option increases to US$1,264 million with an IRR of 31.8%.

[7] The stage 2 expansion study was not completed to an FS level of accuracy, it was completed at scoping level and therefore should be considered speculative.

[8] NPV calculated using 8% discount rate

[9] USD/BRL 1/3.5 exchange rate applied for life-of-mine

[10] Wood Mackenzie Short term forecast – see market section of NI 43 -101

Stage 2 Second Line Expansion Details[7]:

The FS plant ore feed rate of 900kt/a is based on a single line RKEF plant (Stage 1). This size plant represents the optimal capacity for an achievable capital cost for project financing for a single project junior development company. However, the Stage 1 plant capacity underutilises the significant Mineral Resource that HZM has within the project area (~119Mt Measured and Indicated Mineral Resources at 1.27% Ni). In the FS, the cut-off grade is 1.4% Ni and represents a "high-grade" option. The marginal cut-off grade for the Project is closer to 1.0% Ni. This means that there is a significant quantity of potentially economic material that is not mined or processed in the current Stage 1 FS schedule. Accordingly, the opportunity contemplated here is that the Stage 1 production scenario (the FS Base Case) is built and produces at an initial production level 14,500 t/a of Nickel, and that the Stage 2, expansion in year 3 is implemented as the project starts generating cash flows, thereby increasing total production to 29,000 t/a Nickel.

To explore the potential value of increasing the production rate at Araguaia, a Stage 2 expansion to 1,800kt/a plant feed in Year 3 was contemplated at a scoping level. In this Stage 2 scenario, Snowden completed pit optimisations based on the FS costs and modifying factors. The pit optimisations targeted any material determined to be economic, rather than the elevated Ni cut-off grade applied in the FS. Only Measured and Indicated Mineral Resources were considered in this scenario. Overall, the target was to achieve a similar mine life to the FS schedule (~28 years). This was achieved by selecting a revenue factor pit shell equivalent to a nickel price of US$11,200/t Ni which yields 44.0Mt of ore feed.
The Stage 1 FS plant layout was designed to allow for the future construction of a second RKEF line. A significant portion of the Stage 1 RKEF plant and associated infrastructure has sufficient capacity to support the Stage 2 expansion, resulting in substantially lower capital costs to implement the second RKEF line. The Stage 1 equipment and infrastructure that does not require upgrading for Stage 2 includes;

- The main power line to the plant;
- The principle road and bridge infrastructure in-bound and outbound to the mine site;
- Overall plant site layout, plant road / offices / stores / workshops;
- Refinery facility;
- The slag storage facility; and
- Water abstraction pipeline.

As part of the preparation of the Stage 2 expansion study, HZM has completed a scoping level estimate of the costs associated with implementing a second RKEF line after Year 3 of the mine life using the FS capex as a basis and locating the additional equipment in the areas shown in figure 3 within the existing FS plant layout. A summary of the estimated direct equipment costs along with associated civil works and installation costs for the Stage 2 expansion are shown in table 8.

Figure 3 FS Plant layout with Stage 2 - Second line items shown in blue

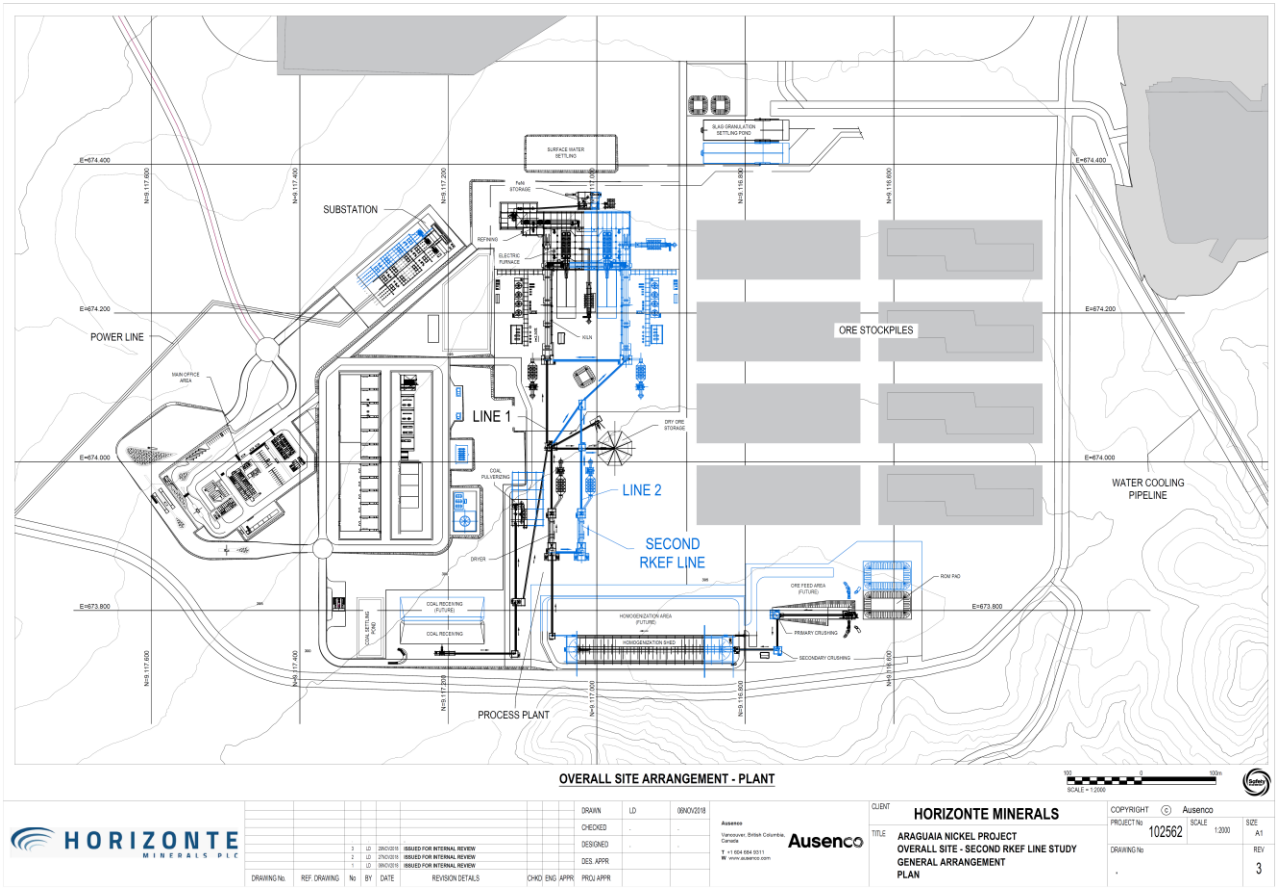


Table 8 Stage 1 and Stage 2 capex

WBS	Area	Stage 1 FS Pre-production Capex (US$ million)	Stage 2 – Second RKEF line Pre-production Capex11 (US$ million)	Equipment Additions for Stage 2
1000	Mine	6.0	-	NA
3000	Ore Preparation	39.0	25.2	Dryer
4000	Pyrometallurgy	137.5	109.2	Kiln, Furnace
5000	Material Supply	21.4	8.6	Coal pulverisation
6000	Utilities and Infrastructure	106.9	18.5	Substation, water pumping, cooling dam lift, water cooling pipe
7000	Buildings	9.1	0.6	Admin, change house, canteen
8000	Indirect Costs	82.4	22.0	EPCM, Owners, Construction Camp, engineering
	Contingency	41.0	15.6	Contingency
	Total capex	**443.1**	**199.7**	

The additional costs for the Stage 2 – Second RKEF line shown in table 8 above, represent sustaining capital expenditure which would be financed once the Stage 1 operation is cash flow positive. Therefore, the pre-production capital costs would remain the same as the FS at US$443.1 million.

Key additional items required within the plant area for Phase 2 included in table 8 are ore preparation dryer, kiln and furnace. Items outside of the plant area include additional pumping capacity for the water abstraction pipeline, a second plant cooling water pipeline and an increase in the cooling water dam capacity.

The operating costs after the Stage 2 RKEF line becomes fully operational were estimated based on the FS operating cost estimate. A comparison of the physicals and the economics of the FS and the expansion opportunity are shown table 9 below.

[11] These costs were estimated based on the FS work for stage 1, however they should be considered scoping level estimates of capital

Table 1 Comparison of physicals and financial KPI's for the FS case and the Stage 2 Expansion[12]

Item	Unit	FS Stage 1		Stage 2 – Second Line RKEF Expansion[13]	
		Base Case (US$14,00/t Ni)	Consensus case (US$16,800/t Ni)	Base Case (US$ 14,000/t Ni)	Consensus case (US$16,800/t Ni)
Physicals					
LOM plant feed[14]	Mt	27.3	27.3	44.1	44.1
Process rate	kt/a	900	900	1,800[15]	1,800[15]
Year 1- 10 Ni grade	%	1.91	1.91	1.82	1.82
LOM Ni grade	%	1.69	1.69	1.53	1.53
LOM Nickel production	kt	426	426	624	624
Strip ratio	w:o	2.1	2.1	1.9	1.9
Mine life	years	28[16]	28[16]	26[17]	26[17]
Economics					
Pre-production Capital	US$ M	443	443	443	443
LOM Sustaining Capital cost	US$ M	143	143	396	396
Capital Intensity – Initial capex/t Nickel	US$/t Ni	1,041	1,041	710	710
C1 Cost (Brook Hunt)	US$/t Ni	8,193	8,193	7,737	7,737
C1 Cost (Brook Hunt) Years 1- 10	US$/t Ni	6,794	6,794	6,613	6,613
Breakeven (NPV_8) Ni price	US$/t	10,766	10,766	10,105	10,105
Total Revenue	US$ M	5,970	7,164	8,742	10,490
Total cost	US$ M	3,811	3,995	5,351	5,617
Operating cash flow	US$ M	2,159	3,169	3,391	4,876
Net cash flow	US$ M	1,572	2,582	2,552	4,033
NPV_8	US$ M	401	740	741	1,264
IRR	%	20.1	28.1	23.8	31.8

[12] The physicals and cashflow assessment presented as Stage 2 in the table are preliminary in nature and are based on a mine schedule and an estimate of the additional plant and equipment needed to achieve the additional capacity. The capital costs for the additional plant and equipment are based on the FS costs, and the cost of installation and civil engineering are factored from the FS costs. Operating costs at the increased capacity are factored based on the FS operating cost estimate.

[13] These are based on scoping level estimates of capital and operating costs

[14] Includes low grade stockpiles processed at the end of the schedule

[15] Increased process rate commences after year 3

[16] 28 years mining following by 3 years of low grade stockpile processing

[17] 26 years mining followed by 2 years of low grade stockpile processing

Vermelho Nickel-Cobalt Project

Horizonte's 100% owned Vermelho nickel–cobalt project was acquired from Vale in late 2017, it is located in the eastern part of the Carajás mining district and approximately 80 kilometres north west of the Company's Araguaia North ferronickel project. The Carajás district is an established mining region with well-developed infrastructure in place, including rail, roads and hydro-electric power.

The Vermelho project was discovered by Vale with the objective of becoming its principal nickel-cobalt operation. Vale completed extensive work on the project, which included drilling programmes totalling 152,000 metres, full scale pilot test work and detailed engineering studies. The project was subsequently taken through a feasibility programme with Vale announcing a positive development decision in 2005. The project was designed around the construction of a high pressure acid leaching plant (HPAL) to process the nickel/cobalt laterite ore. The FS included a five-year metallurgical test work and pilot plant programme which delivered 96% and 95% average leaching extraction rates of nickel and cobalt respectively, in addition LME grade nickel – cathode was produced. The Vale 2005 FS showed production capacity of 46,000 tpa of metallic nickel, and 2,500 tpa of metallic cobalt, with an expected commercial life of 40 years.

- The Vermelho Nickel-Cobalt Mineral Resources, in the Measured and Indicated category, are estimated to be 167.8 million tonnes grading 1.01% Nickel and 0.06% Cobalt (at 0.9% nickel equivalent cut off[1])
- The Measured and Indicated categories of the Mineral Resource are estimated to contain 1.68 million tonnes of nickel and 94,000 tonnes of cobalt

Vermelho Mineral Resources

The Mineral Resources at Vermelho (Table 2) were originally prepared by Vale (CVRD) in 2004 and reviewed / amended by Snowden Mining Industry Consultants for Vale's FS in 2005. Mr. Andrew F. Ross MSc, FAusIMM, an Independent Qualified Person as defined in NI 43-101, employed by Snowden, has completed a review of this estimate and has recommended to Horizonte that this estimate is suitable for reporting by Horizonte as the current NI 43-101 Mineral Resource Estimate.

Table 2*: Vermelho Mineral Resources effective as at 9 May 2018*

Cut-off NiEq[18]%	Million Tonnes	NiEq%	Ni %	Ni metal ktonnes	Co %	Co metal ktonnes	Fe_2O_3 %	SiO_2 %	MgO %
				Measured					
0.8	185.4	1.28	0.96	1,781	0.05	99	31.53	43.14	9.58
0.9	**161.4**	**1.34**	**1.01**	**1,629**	**0.06**	**90**	**31.46**	**42.58**	**9.95**
1.0	138.5	1.41	1.06	1,469	0.06	81	31.42	42.05	10.24
1.2	92.7	1.56	1.19	1,098	0.06	59	31.33	40.86	10.92
				Indicated					
0.8	7.7	1.22	0.88	68	0.06	4	27.15	50.56	7.21
0.9	**6.4**	**1.29**	**0.93**	**59**	**0.06**	**4**	**27.52**	**50.32**	**6.85**
1.0	5.2	1.37	0.99	51	0.06	3	27.91	49.89	6.61
1.2	3.3	1.54	1.11	36	0.07	2	28.06	49.04	6.73
				Measured and Indicated					
0.8	193.1	1.28	0.96	1,848	0.05	103	31.36	43.43	9.49
0.9	**167.8**	**1.34**	**1.01**	**1,688**	**0.06**	**94**	**31.31**	**42.87**	**9.83**
1.0	143.7	1.41	1.06	1,520	0.06	84	31.29	42.33	10.11
1.2	96.0	1.56	1.18	1,135	0.06	61	31.22	41.14	10.77
				Inferred					
0.8	3.8	1.13	0.87	33	0.04	2	24.23	41.75	15.27
0.9	**2.8**	**1.23**	**0.94**	**27**	**0.05**	**1**	**25.86**	**41.83**	**13.47**
1.0	2.1	1.33	1.01	21	0.05	1	27.25	41.84	11.92
1.2	1.2	1.51	1.13	13	0.06	1	28.65	41.49	10.66

Technical Disclosure

All scientific and technical information contained in this Management's Discussion and Analysis has been prepared by or under the supervision of Mr Anthony Finch BEng(Min), B Econ, P.Eng (APEGBC), MAusIMM(CP), a ''qualified person' within the meaning of NI 43-101. For further details on the Araguaia Project, please refer to ''Feasibility Study ('FS') for the Araguaia Nickel Project Federative Republic of Brazil NI 43-101 Technical Report', dated November 2018 available on the Company's website at www.horizonteminerals.com and on SEDAR at www.sedar.com.

[18] The basis of the nickel equivalent calculation is the equation NiEq% = Ni% + (6 x Co%), based upon the relative average cash prices for nickel and cobalt metals, as reported on the LME for the six-month period 2nd November 2017 to 3rd April 2018. The nickel equivalent calculation assumes similar nickel and cobalt recoveries as obtained by the test work carried by Vale in the FS.

Summary of Financial and Operating Performance

Summary of Cashflows

>> 6 months ended	**30 June 2019**	30 June 2018
	£	£
>> Net cash flows used in operating activities	**(945,787)**	**(1,125,218)**
>> Net cash used in investing activities	**(1,255,417)**	**(1,263,465)**
>> Net cash flow generated from financing activities	**-**	**1,847,634**
>> Net increase/(decrease) in cash and cash equivalents	**(2,201,204)**	**(541,049)**

The net cash flows used in operating activities for the six months ended 30 June 2019 and 30 June 2018 are driven by activities in the management of the Araguaia project. These management activities decreased slightly in the six months to 30 June 2019 compared to the same period in 2018, due to reduction in levels of activity as a result of the FS on Araguaia being completed in Q4 2018. Activity has continued on both the Araguaia and Vermelho projects with a PFS nearing completion on Vermelho. See 'Results from Operations' for further analysis.

Cash used in investing activities has decreased slightly to £1,255,417 from £1,263,465 in 2018 as a result of a continued albeit slightly lower level of exploration expenditure undertaken on the Araguaia FS. This was higher in H1 2018 as more of the higher cost areas of work such as drilling were completed early on in the FS process.

There were no cash flows as a result of financing activities during 2019. Cashflows from financing activities in 2018 were due to the split closing of the £9.2 million of new equity that was issued during the year end. The Canadian portion of the placing closed in January 2018 for circa £2.1 million, which was offset by fees incurred as a result of both the UK and Canadian placing.

Quarterly Financial Information

Quarter Ended	30 June 2019 £	31 March 2019 £	31 Dec 2018 £	30 Sept 2018 £	30 June 2018 £	31 March 2018 £	31 Dec 2017 £	30 Sept 2017 £	30 June 2017 £
Revenue	—	—	—	—	—	—	—	—	—
Profit/(Loss) from continuing operations	(677,512)	(453,470)	(389,412)	(803,568)	(884,217)	(415,960)	(424,027)	(307,817)	(477,572)
Total comprehensive income attributable to owners of the parent	1,560,085	(1,548,032)	1,517,988	(1,683,762)	(5,355,390)	(1,107,013)	(439,779)	92,638	(2,976,934)
Basic earnings/(loss) pence per share	(0.047)	(0.031)	(0.027)	(0.056)	(0.062)	(0.029)	(0.036)	(0.026)	(0.041)

Profit/(loss) from continuing operations in each of the periods disclosed is driven on an on-going basis by administrative expenses, including exploration costs expensed, together with stock option charges, (loss)/gain on foreign exchange and finance income and costs.

The loss from continuing operations in the second quarter of 2019 of (£6,77,512) was after administrative expenses of (£450,930), and a loss on fair value of contingent consideration of £118,847 due to a weakening of Sterling against the United States Dollar, in which the contingent consideration is denominated. There was also a share-based payment charge of £107,178 and a gain on foreign exchange translation of £52,192.

Total comprehensive income attributable to equity holders of the company is driven by results from continuing operations, combined with finance income and costs and exchange differences arising on translating foreign operations.

Exchange differences arising on translating foreign operations arise as the values of the exploration assets of the Company are denominated in the currency of the country in which they are located.

During the second quarter of 2019 the total comprehensive income attributable to equity holders of the company was £882,573 after exchange differences arising on translating foreign operations of £1,560,085 as the Brazilian Real strengthened against Sterling in the quarter.

Results from Operations

	6 months ended 30 June 2019	6 months ended 30 June 2018	3 months ended 30 June 2019	3 months ended 30 June 2018
>>		£	£	£
>> **Analysis of Operating Loss:**				
>> **General and Administration Costs**				
>> Compensation	**(245,376)**	**(212,890)**	**(150,584)**	**(138,271)**
>> Travel/Expenses	**(124,715)**	**(147,991)**	**(59,671)**	**(107,223)**
>> Exploration Costs Expensed	**(329,811)**	**(190,248)**	**(140,882)**	**(75,152)**
>> Professional Fees	**(203,617)**	**(51,720)**	**(82,770)**	**(60,352)**
>> Investor Relations	**(59,986)**	**(138,585)**	**(38,446)**	**(85,822)**
>> TSX fees and associated costs	**(56,542)**	**(30,628)**	**(31,260)**	**(15,846)**
>> Overheads/Other	**(8,856)**	**(13,286)**	**(6,988)**	**(11,489)**
>> **Total General and Administration Costs**	**(968,917)**	**(785,348)**	**(450,930)**	**(494,155)**
>> Charge for share options granted (non-cash)	**(237,171)**	**(294,706)**	**(107,178)**	**(181,031)**
>> Changes in fair value of contingent consideration	**192,201**	**(194,474)**	**(118,847)**	**(294,549)**
>> Gain / (Loss) on Foreign Exchange	**(4,049)**	**92,798**	**52,192**	**137,972**
>> **Operating Loss**	**(1,017,936)**	**(1,181,730)**	**(624,763)**	**(831,763)**

General and Administration costs have increased during the six-month period to 30 June 2019 compared to the same period in the prior year. This has been driven by a reduction in the amount of costs that are capitalized to the Araguaia project as a direct result of the change on treatment due to the recent publication of the FS which demonstrates the economic viability of the project. Going forward it is expected that a larger amount of costs will be expensed due to a greater portion of resources being expended on project financing activities rather than exploration and evaluation.

Within General and Administration costs:

> Compensation of £(245,376) was higher in 2019 versus 2018, when it amounted to £(212,890) due to lower capitalisation of costs to the Araguaia project following the change in accounting treatment due to the publication of the FS as well as a general increase in head count as a result of expanding the team as Araguaia moves towards completion of project financing.

> Exploration costs expensed amounted to £(329,811) in 2019 as compared to £(190,248) in 2018. The increase in costs in this area is due to lower levels of capitalisation of costs due to the publication of the FS, therefore higher levels of costs are present in the income statement.

- The level of professional fees has increased significantly to (£203,617) for 2019 compared to £51,720 during 2018. Professional fees include legal fees and fees from technical and specialist advisors as well as corporate advisory, accounting, audit and secretarial charges. Due diligence costs and advisers as part of the project finance work have increased significantly since the completion of the FS.
- Investor relations charges were lower in 2019 at £(59,986), compared to £(138,585) in 2018. This is predominantly due to an unusually high amount of expenditure in the prior year as a result of the growing profile of the company in both Canada and the UK combined with the capital raising exercise that was undertaken in Q4 2017 and Q1 2018.
- The charge for stock options has decreased to £(237,171) during 2019, as compared to £(294,706) during 2018 as new options were issued in Q2 2018 and so are vesting for a full 6 months in 2019 but only partially for the comparative period of 2018. These are non-cash charges.

There have also been a number of non-cash cost items which impacted Profit / (Loss) from operations and which arose in the first six months of 2019 and 2018, as follows:

- The change in fair value of contingent consideration in the first six months of 2019 resulted in a gain of £192,201 primarily as a result of the movement in the USD foreign exchange rate during the period. The contingent consideration is priced in USD and so has decreased in value when denominated in GBP. In the prior year the loss of £194,474 was also due to exchange rate changes in the functional currency in which the Xstrara Contingent Consideration liability is denominated. See 'Contingent consideration' in 'Critical Accounting Policies and Estimates' for further analysis and explanation.

Additional movements:

- The (loss)/gain on foreign exchange is associated with movements arising on cash deposits held by the Company in currencies other than Sterling.

Analysis of Intangible Assets

	Goodwill	Exploration licences	Exploration and evaluation costs	Total
	£	£	£	£
Cost				
At 1 January 2018	251,063	5,165,529	28,891,686	34,308,278
Additions	-	1,144,621	1,281,761	2,426,382
Exchange rate movements	(31,501)	(442,142)	(3,613,099)	(4,086,742)
Net book amount at 30 June 2018	**219,562**	**5,868,008**	**26,560,348**	**32,647,918**
At 1 January 2019	226,757	6,130,296	29,380,849	35,737,902
Additions	-	-	1,277,722	1,277,722
Exchange rate movements	3,069	58,201	407,339	468,609
Net book amount at 30 June 2019	**229,826**	**6,188,496**	**31,065,910**	**37,484,232**

Exploration and evaluation costs comprise the Araguaia and Vermelho projects. Exploration licences comprise the Vale dos Sonhos licence acquired from a subsidiary of Glencore in November 2015 and the further licences that were acquired when the Glencore transaction completed during 2016. In 2018 the Vermelho licences were acquired. Impairment reviews for exploration and evaluation assets are carried out either on a project by project basis or by geographical area.

The accounting policies of the Group specify that intangible assets are to be denominated in the functional currency of the country in which the asset is located. The accounting policies of the Group specify that intangible assets are to be denominated in the functional currency of the country in which the asset is located. The Araguaia / Vermelho are thus denominated in Brazilian Reais.

Other Information

Outstanding Share Data

	2019	**2019**	2018	2018
>> Group and Company	**Number**	**£**	Number	£
>> **Issued and fully paid**				
>> Ordinary shares of 1p each				
>> At 1 January	**1,432,521,800**	**14,325,218**	1,371,934,300	13,719,343
>> Issue of ordinary shares	**13,855,487**	**138,555**	60,587,500	605,875
>> At 30 June 2019	**1,446,377,287**	**14,463,773**	1,432,521,800	14,325,218

Stock Options in the Company
Total options outstanding as at the date of this document amount to 134,300,000 with exercise prices ranging from 3.00 pence to 15.5 pence, which will be fully vested by 30 November 2019. There is no other share-based compensation paid by the Company.

The Company recognises as an expense the cost of stock based compensation based upon the estimated fair value of new stock options granted. The fair value of each stock option is estimated on the date of grant using the Black-Scholes option pricing model and is expensed over the vesting period.

Liquidity, Capital Reserves and Financing Activities
The Company is not in commercial production on any of its properties and accordingly it does not generate cash from operations and finances its activities by raising capital through equity or other sources.

As at 30 June 2019 the Company had £4,322,699 in cash at bank and on deposit, as at 30 June 2018 cash at bank and on deposit amounted to £8,969,672

All of the Company's cash and cash equivalents as at 31 March 2019 are held in interest bearing accounts. The Company has not invested in any short-term commercial paper, asset backed securities or other financial instruments.

The audited financial statements prepared as at 31 December 2018 include certain disclosures in note 2.4 regarding a material uncertainty of the Groups ability to continue as a going concern. These disclosures medium remain pertinent and due to the current operations on the Group not generating any revenues access to additional funding sources maybe required within the next 12 months in order to continue operations.

The Directors have a reasonable expectation that the Group has the ability to raise additional funds required in order to continue in operational existence for the foreseeable future and they therefore continue to adopt the going concern basis of accounting in preparing these Financial Statements. However, given the uncertainty surrounding the ability and likely timing of securing such investment finance the Directors are of the opinion that there exists a material uncertainty exists that may cast significant doubt on the Group and Parent Company's ability to continue as a going concern. The financial statements do not include the adjustments that would result if the Group and Parent Company were unable to continue as a going concern.

Critical Accounting Policies and Estimates
The financial information disclosed within this document was prepared on a going concern basis using accounting policies consistent with International Financial Reporting Standards (IFRS).

The preparation of financial statements requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the end of each reporting period.

Significant items subject to such estimates include:

Impairment of exploration and evaluation costs
Exploration and evaluation costs have a carrying value at 30 June 2019 of £37,254,406 (2018: £32,428,356). Management tests annually whether exploration projects have future economic value

in accordance with the accounting policy. Each exploration project is subject to an annual review by either a consultant or senior company geologist to determine if the exploration results returned to date warrant further exploration expenditure and have the potential to result in an economic discovery. This review takes into consideration long-term metal prices, anticipated resource volumes and grades, permitting and infrastructure. In the event that a project does not represent an economic exploration target and results indicate there is no additional upside, a decision will be made to discontinue exploration. The Directors have reviewed the estimated value of each project prepared by management and do not consider any impairment is necessary.

Estimated impairment of goodwill

Goodwill has a carrying value at 30 June 2019 of £229,826 (2018: £219,562). The Group tests annually whether goodwill has suffered any impairment, in accordance with the accounting policy.
Management has concluded that there is no impairment charge necessary to the carrying value of goodwill.

Contingent consideration

Contingent consideration has a carrying value of £3,106,152 at 30 June 2019 (2018: £3,844,193). There remains one contingent consideration arrangement in place as at 30 June 2019:

- A contingent consideration arrangement that requires the Group to pay Xstrata Brasil Mineração Ltda the remaining consideration of US$5,000,000 to be paid in cash, as at the date of first commercial production from any of the resource areas within the Enlarged Project area. The critical assumptions relating to the assessment of the contingent consideration of $5,000,000 are presented in further detail in the 2018 audited annual report and MD&A as at 31 December 2018.

Current and deferred taxation

The Group is subject to income taxes in numerous jurisdictions. Judgment is required in determining the worldwide provision for such taxes. The Group recognises liabilities for anticipated tax issues based on estimates of whether additional taxes will be due. Where the final tax outcome of these matters is different from the amounts that were initially recorded, such differences will affect the current and deferred income tax assets and liabilities in the period in which such determination is made.

Deferred tax liabilities have been recognised on the fair value gains in exploration assets arising on the acquisition of Lontra Empreendimentos e Participações Ltda but no longer on the acquisition of Araguaia Niquel Mineração Ltda (formerly Teck Cominco Brasil S.A). A deferred tax asset was historically recognised on acquisition of Araguaia Niquel Mineração Ltda to the extent that it could be set against the deferred tax liability arising on the fair value gains. In determining whether a deferred tax asset in excess of this amount should be recognised management must make an assessment of the probability that the tax losses will be utilized and a deferred tax asset is only recognised if it is considered probable that the tax losses will be utilised.

Forward Looking Statements

Except for statements of historical fact relating to the Company, certain information contained in this management's discussion and analysis constitutes 'forward-looking information' under Canadian securities legislation. Forward-looking information includes, but is not limited to, statements with respect to the potential of the Company's properties; the future price of minerals; grant of key permits; success of exploration activities; cost and timing of future exploration and development; the estimation of mineral resources; requirements for additional capital and other statements relating to the financial and business prospects of the Company. Generally, forward-looking information can be identified by the use of forward-looking terminology such as 'plans', 'expects' or 'does not expect', 'is expected', 'budget', 'scheduled', 'estimates', 'forecasts', 'intends', 'anticipates' or 'does not anticipate', or 'believes', or variations of such words and phrases or

statements that certain actions, events or results 'may', 'could', 'would', 'might' or 'will be taken', 'occur' or 'be achieved'. Forward-looking information is inherently subject to known and unknown risks, uncertainties and other factors that may cause the actual results, level of activity, performance or achievements of the Company to be materially different from those expressed or implied by such forward-looking information, including but not limited to risks related to:
The Company's goal of creating shareholder value by concentrating on the acquisition and development of properties that have the potential to contain economic mineral deposits;

- *future plans for the Araguaia Project and other property interests held by the Company or which may be acquired on a going forward basis, if at all;*
- *management's outlook regarding future trends;*
- *the Company's ability to meet its working capital needs at the current level in the short term; and*
- *governmental regulation and environmental liability.*

Forward-looking information is based on the reasonable assumptions, estimates, analysis and opinions of management made in light of its experience and its perception of trends, current conditions and expected developments, as well as other factors that management believes to be relevant and reasonable in the circumstances at the date that such statements are made, and are inherently subject to known and unknown risks, uncertainties and other factors that may cause the actual results, level of activity, performance or achievements of the Company to be materially different from those expressed or implied by such forward-looking information, including but not limited to risks related to: unexpected events and delays during permitting; the possibility that future exploration results will not be consistent with the Company's expectations; timing and availability of external financing on acceptable terms and in light of the current decline in global liquidity and credit availability; uncertainty of mineral resources; future prices of minerals; currency exchange rates; government regulation of mining operations; failure of equipment or processes to operate as anticipated; risks inherent in mineral exploration and development including environmental hazards, industrial accidents, unusual or unexpected geological formations; and uncertain political and economic environments. Although management of the Company has attempted to identify important factors that could cause actual results to differ materially from those contained in forward-looking information, there may be other factors that cause results not to be as anticipated, estimated or intended. There can be no assurance that such statements will prove to be accurate, as actual results and future events could differ materially from those anticipated in such statements. Accordingly, readers should not place undue reliance on forward-looking information. The Company does not undertake to update any forward-looking information, except in accordance with applicable securities laws.

Additional Information

Additional information relating to the Company, including its annual financial statements for its most recently completed fiscal year as well as its annual information form are available on the Company's website at www.horizonteminerals.com and are also available on SEDAR at www.sedar.com.