

## The Next Tier 1 Nickel Developer

Horizonte is a Nickel development company moving at pace (over 70% complete) through the Bankable Feasibility Study for its Araguaia Nickel Laterite project in the northern state of Para in Brazil.

### Points of Note

1. The significant value gap between market capitalisation & inherent project value (see below)
2. Potential for acquisition due to Tier 1 nature of its Ferro Nickel project
3. Potential to benefit from Significant increase in Nickel demand from
  - a. Steel market 8% growth YoY
  - b. Increase of approx +57% demand forecast from EV Market by 2030
  - c. +250% increase in demand forecast by 2050 to combat climate change
  - d. Global infrastructure initiatives e.g. China's New Silk Road
4. The company is currently sitting at the sweet-spot of the value creation curve just ahead of Bankable feasibility delivery - fully funded with cash balances of £5.6m at June 30th 2017
5. An additional Nickel & Cobalt Tailings Project highlighted as having the potential to add significant upside to the economics (see below)

### Project 1 - Araguaia Ferro Nickel

- Pre Feasibility Study shows robust post tax Net Present Value for the project based on only ~28% (436,000t) of the measured and indicated Nickel resource (1,533,000t) at various Nickel prices:
  - NPV<sub>8</sub> = \$328m at Nickel \$12,000 (base case)
  - NPV<sub>8</sub> = \$581m at Nickel \$14,000
  - **NPV<sub>8</sub> = ~\$622m at Nickel \$14,330 (UBS 2018 forecast)**
  - NPV<sub>8</sub> = \$831m at Nickel \$16,000
  - NPV<sub>8</sub> = \$1.08 billion at Nickel \$18,000
  - **NPV<sub>8</sub> = ~\$1.29 billion at Nickel \$19,621 (UBS 2020 forecast)**
- PFS Project NPV very sensitive to small changes in key variables. For instance
  - +5% Grade adds \$73m to base case at \$12,000/t Nickel
  - +5% Recovery adds \$73m to base case at \$12,000/t Nickel
  - -5% Mining costs adds \$12m
  - -5% Processing costs adds \$26m
  - **Sum total effect of the above may result in the \$328m NPV at \$12,000/t Ni increasing to ~\$512m**
- Tier 1 Asset. 28+ years mine life. \$1.3bn free cash at base case. **\$1.9bn @ \$14,000/t Ni**
- Potential to double reserves / mine life

- Higher grade in years 1-5 of 2% should yield higher initial cash generation. Years 1-10 gives 1.96% and 11-28 gives 1.7% Ni
- Strong institutional / strategic investor support
  - Teck Resources
  - JP Morgan
  - Glencore
  - Richard Griffiths
  - Hargreave Hale
  - Lombard Odier
- Small free float ~27%
- Project break even at Nickel \$9,426/t
- Aiming to be construction ready H2 2018
- Production scheduled 2020
- The High grade portion of Araguaia (GAP Project) was bought from Glencore for \$8m with in the region of \$70m sunk costs. ~2% Nickel.
- Entering a news rich period on run up to BFS completion which may include:
  - Further insights into trial mining / metal recoveries
  - Further insights into grade profile
  - Contractor tendering / Opex costs / Capex costs fine tuning
  - Construction Permitting
  - Environmental / Sustainability updates
  - Further exploration / increase in reserves

## Project 2 - Limonite Nickel Cobalt

- Potentially low cost project to create **substantial upside** to overall economics
  - Effectively a tailings operation
  - Mining costs already paid for in Project 1, Ferro-Nickel, BFS above
  - Economic value of this metal is NOT included in project 1 PFS or BFS
- Estimated to contain significant new metal
  - 233,200t Nickel
    - Assuming a 90% discount for all associated cost of processing and sale... at Nickel \$12,000/t = **residual value of ~\$279m**
    - Assuming a 90% discount for all associated cost of processing and sale... at Nickel \$19,621/t = **residual value of ~\$457m**
  - 25,580t Cobalt
    - Assuming a 90% discount for all associated cost of processing and sale... at Cobalt \$59,499/t (11.10.2017 price) = **residual value of ~\$152m**
- Possibility to create processing plant on site which could take advantage of existing infrastructure
- Possible partnering with processing route domain expert

## Nickel Outlook

- Current price ~\$11,000/t & has been over \$12,000/t twice in the last 12 months
- UBS 2018 forecast Nickel at \$14,330/t
- UBS 2020 forecast Nickel at \$19,621/t
- Market currently forecast for ~50kt supply deficit 2017
- Currently only ~22 weeks of above ground Nickel stocks
- Steel demand, the biggest consumer of Nickel, is increasing year on year ~8%
- China recently announced shutdown of aging mining operations to curtail environmental issues, increasing import demand
- Mr Glasenberg of Glencore suggests “EV demand may account for additional 1.2m tonnes Nickel supply by 2030 if EVs take up 30% of vehicle fleet. To put that into context the current Demand for Nickel is 2.1m tonnes” Approx 57% increase in demand
- Other estimations suggest the Nickel market will need to double in size to meet demand resulting in a market in the region of \$44 billion
- Nickel peaked in 2007 at \$54,000/t. This was based on China’s expansionism. Now we have China’s New Silk Road global trade infrastructure initiative. India have the potential to be the next China. US has Trump’s \$1 trillion infrastructure plan. Global adoption of Renewable energy and the Global Electric Vehicle revolution are all set to drive Nickel demand. In light of these factors.. Where will Nickel be priced in future?
- The Nickel Institute suggest a **250% increase in Nickel demand by 2050** will be generated just through the need to combat climate change<sup>(1)</sup>

## Price Comparisons & Value drivers

Berkley Energia had an NPV of \$532m & might therefore be comparable to some of Horizonte’s lower price scenarios. In the 4 months before its BFS was announced Berkley walked up from ~25p to ~39p. In a few sessions after the BFS was announced the price moved to ~52p and onto 57p. In the months after a strong run up to ~69p



## Acquisition Potential

With Teck Resources and Glencore on the register it is possible that given the Tier 1 nature of the defined project in the PFS, soon to be BFS, that a buyout offer may come. Especially given the backdrop of increasing Nickel demand in market that is already in supply deficit as mentioned above.

Vale also operate in the same jurisdiction and have set a precedent for buying Tier 1 projects to consolidate their interests in the region

November 2005 - A neighboring project to Horizonte's Araguaia in the state of Para was bought for \$865m after accepting an increased bid<sup>(2)</sup>



## Project Photos

More can be found here <http://horizonteminerals.com/uk/en/gallery/>



2017 Drone picture of Araguaia - Clear, temperate & accessible



2016 Araguaia Project

## References

1. Nickel Institute Climate change infographic,  
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