

Nickel Mines (NIC)

Rating: Buy | Risk: High | Price Target: \$1.33

Acquiring more nickel RKEF capacity in Indonesia – price target up 23%

Key Information

Current Price (\$ps)	0.89
12m Target Price (\$ps)	1.33
52 Week Range (\$ps)	0.26 - 0.89
Target Price Upside (%)	49.5%
TSR (%)	52.7%
Reporting Currency	USD
Market Cap (\$m)	1,482
Sector	Materials
Avg Daily Volume (m)	4.2
ASX 200 Weight (%)	0.06%

Fundamentals

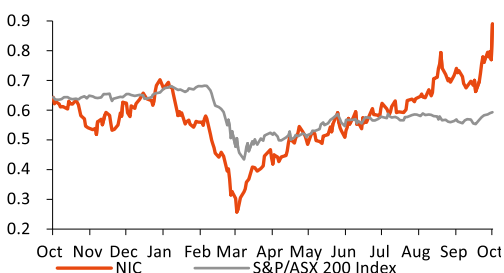
YE 31 Dec (USD)	FY19A	FY20E	FY21E	FY22E
Sales (\$m)	236	531	674	955
NPAT (\$m)	57	105	202	262
EPS (cps)	3.5	5.5	9.5	12.3
EPS Growth (%)	(42.3%)	56.3%	71.4%	29.7%
DPS (cps) (AUD)	0.0	2.9	7.1	12.7
Franking (%)	0%	0%	0%	0%

Ratios

YE 31 Dec	FY19A	FY20E	FY21E	FY22E
P/E (x)	13.0	11.4	6.6	5.1
EV/EBITDA (x)	10.3	5.6	3.3	2.3
Div Yield (%)	0.0%	3.2%	7.9%	14.3%
Payout Ratio (%)	0.0%	36.1%	52.7%	73.1%

Price Performance

YE 31 Dec	1 Mth	2 Mth	3 Mth	1 Yr
Relative (%)	15.9%	38.0%	39.5%	46.1%
Absolute (%)	20.2%	39.4%	42.8%	38.3%
Benchmark (%)	4.3%	1.4%	3.3%	(7.8%)



Price performance indexed to 100

Source:

Major Shareholders

Shanghai Decent (Tsingshan)	18.6%
PT Karunia Bara Perkasa	16.1%
BlackRock Investment Management (UK) Ltd	6.5%
Norm Seckold	5.8%
Shanghai Wanlu	5.7%

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Event

Nickel Mines has signed an MoU with Shanghai Decent (Tsingshan Steel) to acquire a 70% interest in PT Angel Nickel Industry (ANI) for US\$490m. This agreement will increase Nickel Mines attributable nickel production from ~33ktpa to ~58ktpa – a 75% increase in production for an outlay of just 42% of Nickel Mines' market capitalisation. We increase our price target from A\$1.08 to A\$1.33.

Highlights

- Nickel Mines currently has an 80% economic interest in two Rotary Kiln Electric Furnace (RKEF) projects in the Indonesia Morowali Industrial Park (IMIP). The Chinese steel company Tsingshan holds the other 20%. The Hengjaya project started in early-2019 and Ranger in mid-2019. Both projects have now reached steady state operation and are each producing ~21ktpa nickel (100% basis) at a cost of ~US\$7,500/t. Nickel Mines share totals 33-34ktpa which makes the company the largest pure play nickel exposure on the ASX.
- Earlier this year the company exercised its option to increase its stake in the two RKEFs from 60% to 80% and fully funded this via an equity raise of A\$231m. This was a surprisingly conservative approach given the strength of the balance sheet and cash flow, and we noted at the time that this positioned Nickel Mines to acquire additional assets in the IMIP over the next 1-2 years. Nickel Mines is not buying more RKEFs in the IMIP (although may do so in future), but instead is investing in a new industrial park at Weda Bay, again with Tsingshan.
- ANI is building four nickel rotary kiln electric furnace (RKEF) projects and a 380MW power station within the Indonesia Weda Bay Industrial Park (IWIP). Each RKEF will produce 9ktpa of nickel (in nickel pig iron) and so Nickel Mines' share of production will be 25.2ktpa at nameplate capacity. We note that the existing Ranger and Hengjaya RKEFs are running at 20-30% above nameplate capacity.
- The facilities are expected to be commissioned in Q3 2022.
- The US\$490m payment will be made in two stages; US\$210m in 1Q 2021 and US\$280m in Q4 2021. In our view the acquisition can be funded from internal cash flow and debt with no need for equity. In our model we assume US\$200m from internal cash and cashflow and US\$250m from debt which would push gearing up to 12%. Cash flow is strong so this debt could be paid down within a year.
- Investor concerns about the ability to repatriate funds from Indonesia were allayed in 1H20 – Nickel Mines received cash payments of US\$25m from Hengjaya and US\$11m from Ranger.
- We include earnings from IWIP in our financial model from 2H23 and we also upgrade 2020 forecasts for a stronger nickel price in 2H20 than previously expected.

	2020f			2021f			2022f			2023f		
	New	Old	Chg %	New	Old	Chg %	New	Old	Chg %	New	Old	Chg %
Revenue (US\$m)	531	484	n/a	674	674	0%	955	682	40%	1,216	676	80%
EBITDA (US\$m)	178	136	31%	303	307	-1%	428	304	41%	528	290	82%
EBIT (US\$m)	148	106	40%	273	277	-1%	398	274	45%	498	260	92%
NPAT (US\$m)	105	75	39%	202	215	-6%	262	211	24%	337	203	66%
EPS (Acps)	6	4	39%	9	10	-6%	12	10	24%	16	10	66%

Recommendation

We retain our Buy recommendation and increase our price target to A\$1.33ps. Nickel Mines is the largest pure exposure to nickel on the ASX and in our view the cheapest – trading at just 6.6x 2021 earnings – and with a clear growth path ahead. Nickel Mines is operating in Indonesia with strong support from the Indonesian government and with a Chinese partner which is also a major shareholder in Nickel Mines.

Nickel Mines

Materials Materials

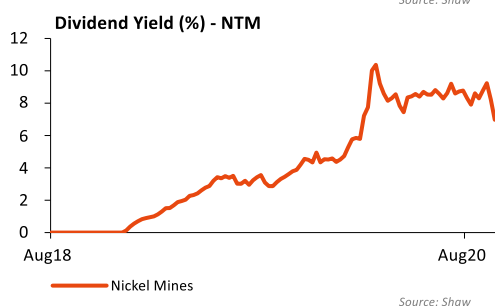
FactSet: NIC-AU / Bloomberg: NIC AU

Key Items

Key Items	Data
Recommendation	BUY
Risk	HIGH
Price (\$ps)	0.89
Target Price (\$ps)	1.33
52 Week Range (\$ps)	0.26 - 0.89
Shares on Issue (m)	1,665
Market Cap (\$m)	1,482
Enterprise Value (\$m)	1,416
TSR (%)	52.7%

Company Description

Nickel Mines Ltd. is a nickel producer with assets in Indonesia and operates in partnership with Tsingshan, the world's largest stainless steel producer. Nickel Mines produces nickel ore from the Hengjaya Mine which supplies feedstock to the Indonesia Morowali Industrial Park (IMIP). The company's main asset is an 80% stake in the Hengjaya and Ranger rotary kiln electric furnaces (RKEF) located in IMIP. The company was founded on September 12, 2007 and is headquartered in Sydney, Australia.



Financial Year End: 31 December

Investment Summary (USD)	FY19A	FY19A	FY20E	FY21E	FY22E
EPS (Reported) (cps)	6.1	3.5	5.5	9.5	12.3
EPS (Underlying) (cps)	6.1	3.5	5.5	9.5	12.3
EPS (Underlying) Growth (%)	n/a	(42.3%)	56.3%	71.4%	29.7%
PE (Underlying) (x)	4.7	13.0	11.4	6.6	5.1
EV / EBIT (x)	73.7	12.4	6.8	3.7	2.5
EV / EBITDA (x)	49.1	10.3	5.6	3.3	2.3
DPS (cps) (AUD)	0.0	0.0	2.9	7.1	12.7
Dividend Yield (%)	0.0%	0.0%	3.2%	7.9%	14.3%
Franking (%)	0%	0%	0%	0%	0%
Payout Ratio (%)	0.0%	0.0%	36.1%	52.7%	73.1%
Profit and Loss (USD) (m)	FY19A	FY19A	FY20E	FY21E	FY22E
Sales	65	236	531	674	955
Sales Growth (%)	n/a	263.5%	124.8%	27.1%	41.6%
Other Operating Income	3	1	1	1	1
EBITDA	20	97	178	303	428
EBITDA Margin (%)	31.5%	41.2%	33.6%	45.0%	44.8%
Depreciation & Amortisation	(7)	(16)	(30)	(30)	(30)
EBIT	14	81	148	273	398
EBIT Margin (%)	21.0%	34.2%	28.0%	40.5%	41.6%
Net Interest	58	11	(9)	(13)	(16)
Pretax Profit	72	91	140	260	382
Minorities	6	35	35	58	82
NPAT Underlying	66	57	105	202	262
Significant Items	0	0	0	0	0
NPAT Reported	66	57	105	202	262
Cashflow (USD) (m)	FY19A	FY19A	FY20E	FY21E	FY22E
EBIT	14	81	148	273	398
Payments to Suppliers	(28)	(170)	(353)	(372)	(528)
Receipts from Customers	33	213	532	675	956
Tax Paid	(1)	(5)	0	0	0
Net Interest	0	0	0	2	3
Depreciation & Amortisation	0	0	0	0	0
Other	0	0	(31)	13	(47)
Operating Cashflow	4	38	148	318	383
Capex	(20)	(30)	(13)	(3)	(3)
Acquisitions and Investments	(120)	(1)	(150)	(450)	0
Disposal of Fixed Assets/Investments	10	7	0	0	0
Other	(11)	0	0	0	0
Investing Cashflow	(141)	(24)	(163)	(453)	(3)
Equity Raised / Bought Back	173	(0)	150	0	0
Dividends Paid	0	0	(19)	(64)	(128)
Change in Debt	(2)	(30)	0	220	(35)
Other	15	17	(9)	(15)	(19)
Financing Cashflow	186	(13)	122	142	(182)
Exchange Rate Effect	(1)	(0)	0	0	0
Net Change in Cash	48	1	107	7	198
Balance Sheet (USD) (m)	FY19A	FY19A	FY20E	FY21E	FY22E
Cash	49	50	157	164	362
Accounts Receivable	44	97	138	129	183
Inventory	9	56	126	129	183
Other Current Assets	7	1	1	1	1
PPE	340	629	732	1,155	1,128
Total Assets	532	897	1,249	1,673	1,952
Accounts Payable	42	52	133	140	200
Short Term Debt	4	4	4	4	0
Long Term Debt	0	61	61	281	250
Income Taxes Payable	0	1	1	1	1
Other	30	57	57	58	96
Total Liabilities	77	175	256	484	547
Total Shareholder Equity	455	722	993	1,189	1,405
Ratios	FY19A	FY19A	FY20E	FY21E	FY22E
ROE (%)	n/a	15.3%	19.3%	27.6%	30.1%
Gearing (%)	(16.8%)	3.4%	(16.1%)	13.1%	(13.6%)
Net Debt / EBITDA (x)	(2.2)	0.2	(0.5)	0.4	(0.3)

Acquiring more RKEFs in Indonesia

We have included the new RKEF units in our Nickel Mines financial model with the following key assumptions;

- Acquisition price of US\$450m paid in two installments in CY21.
- First production in July 2023.
- Production in line with nameplate capacity of 36ktpa nickel (in NPI). We note this is conservative given the performance of the Ranger and Hengjaya projects which are operating 20-30% above nameplate capacity.
- Operating costs in line with the IMIP RKEFs at US\$7,750/t (real \$2020).
- Nickel prices strengthening to ~US\$7.50/lb in 2021.

On a 100% basis, the four new RKEFs will generate EBITDA of US\$240-250m at a US\$7.50/lb nickel price. In our model we assume that Nickel Mines will consolidate the operations and allow for a 30% minority interest.

We model a DCF valuation of US\$472m which equates to A\$0.32ps.

On our base case assumptions we do not believe Nickel Mines will need to raise equity for the acquisition. On our cash flow forecasts it can be funded from cash reserves, future cash flow and ~US\$250m of debt.

Figure 1: IWIP financials (100%)

IWIP RKEF operations (US\$m, 100%)	CY19	2020f	2021f	2022f	2023f	2024f	2025f	2026f	2027f	2028f	2029f	2030f
NPI Produced (kt)	0.0	0.0	0.0	130	261	261	261	261	261	261	261	261
Total contained nickel (kt)	0.0	0.0	0.0	18.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0
Revenue	0	0	0	273	540	553	555	536	548	560	573	586
Expenses	0	0	0	146	298	305	312	319	326	333	341	349
EBITDA	0	0	0	127	242	248	243	217	222	227	232	237
Nickel (USc/lb)	716	607	757	765	756	774	777	750	767	785	802	820
AUD/USD	0.69	0.69	0.72	0.74	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Revenue (US\$/t)	0	0	0	15,179	15,007	15,348	15,409	14,890	15,225	15,568	15,918	16,276
Expenses (US\$/t)	0	0	0	8,103	8,285	8,471	8,662	8,857	9,056	9,260	9,468	9,681
EBITDA (US\$/t)	0	0	0	7,076	6,722	6,876	6,747	6,033	6,169	6,308	6,450	6,595

Source: Shaw and Partners analysis.

Figure 2: Location of IMIP and IWIP in Indonesia



Source: Nickel Mines ASX release

Figure 3: Nickel Mines Valuation

Nickel Mines Valuation	US\$m	A\$m	A\$ps
Hengjaya Mine	17	24	0.01
Hengjaya RKEF	744	1,063	0.50
Ranger RKEF	743	1,062	0.50
ANI RKEF	472	674	0.32
Corporate costs	-30	-43	-0.02
Net cash	36	52	0.02
Total Valuation	1,982	2,832	1.33

Source: Shaw and Partners analysis

Nickel Mines overview

Nickel Mines has 80% economic interests in the Hengjaya Nickel and Ranger Nickel projects, both of which operate Rotary Kiln Electric Furnace (RKEF) plants producing NPI within the Indonesia Morowali Industrial Park (IMIP) in Sulawesi. Nickel Mines also holds an 80% economic interest in the nearby Hengjaya Nickel Mine.

The company listed on the ASX via an initial public offer (IPO) in August 2018 raising A\$200m at A\$0.35ps and valuing the company at A\$463m.

Nickel Mines started in 2009 as an explorer, developer and producer of DSO laterite nickel ore from the Hengjaya nickel mine to supply nickel pig iron producers in China. However, in 2014 the Indonesian government implemented a ban on unprocessed minerals and the mine was put on care and maintenance.

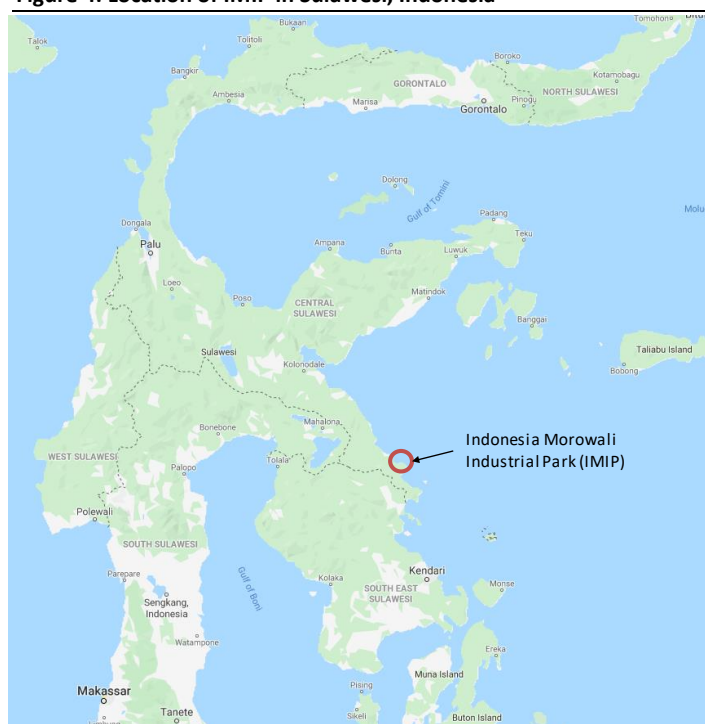
Fortunately for Nickel Mines, Tsingshan, the world's largest stainless steel producer, had moved ahead of the Indonesian export bans and begun construction of nickel pig iron (NPI) and steel making facilities at IMIP. This created a market for the Hengjaya mine, and Nickel Mines restarted operations in 2015.

The relationship between Tsingshan and Nickel Mines developed from being a raw material supplier to becoming partners in building RKEF capacity in the IMIP. Nickel Mines changed from being a relatively low value nickel miner to a higher value industrial processor of NPI. For Tsingshan the benefit was partnering with an Australian listed entity in which Tsingshan made a strategic investment and now owns 18.6%.

First production from the Hengjaya RKEF was on 31st January 2019 and from the Ranger RKEF on 31st May 2019. Both projects have now reached steady state operations and are producing above name-plate capacity at around 21kt of nickel per annum (100% basis). The cheap source of nickel ore and cheap power means that the nickel is being produced at a highly competitive cost of around US\$7,750/t. The operations are strongly cash flow positive even at current low nickel prices of around US\$13,000/t.

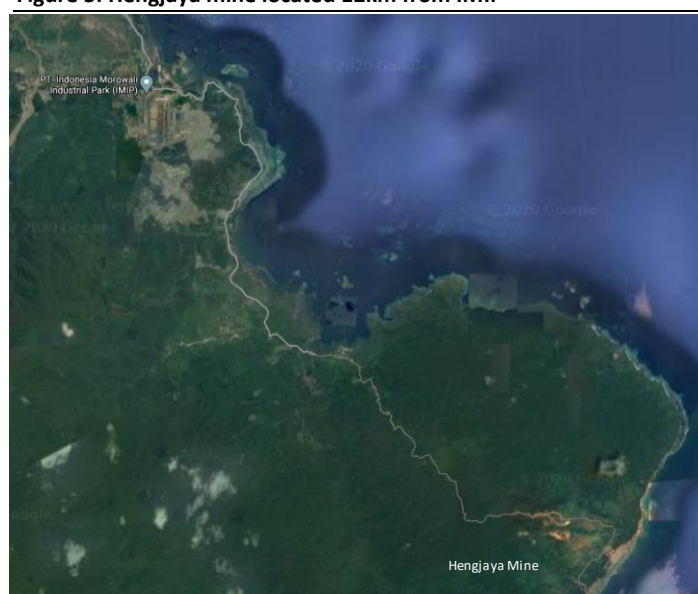
Nickel Mines recently exercised an option to acquire an additional 20% interest in the Hengjaya and Ranger RKEF projects for US\$120m (plus retained earnings). The acquisition was funded by a US\$150m (A\$231m) equity raise at A\$0.50ps.

Figure 4: Location of IMIP in Sulawesi, Indonesia



Source: Google Maps

Figure 5: Hengjaya mine located 12km from IMIP



Source: Google Maps

Tsingshan and the Indonesia Morowali Industrial Park (IMIP)

Tsingshan is the world's largest stainless steel producer. In 2019 Tsingshan produced approximately 10.6Mt of stainless steel out of a global market of 52.7Mt.

Tsingshan pioneered the large-scale use of nickel pig-iron, a semi-refined product that's a low-cost alternative to pure nickel, to make stainless steel. The major innovation was the Rotary Kiln Electric Furnace (RKEF) process which allows ore to be processed, smelted and directed into stainless steel furnaces in a continuous hot flow.

Tsingshan established a clear first mover advantage over its domestic and global peers in the stainless steel and nickel industry through its commitment to its investment as a majority owner of the IMIP.

The origin of the Indonesian unprocessed mineral export ban was actually a change made by the Indonesian Government in 2009 to focus on downstream processing. Tsingshan was early to recognise the opportunity, and with the blessing of the Chinese government made a commitment to establish the IMIP in 2013. In October 2013, China's President Xi and then Indonesian President Yudhoyono witnessed the signing of the Cooperation and Financing Agreement for the development of the IMIP.

Tsingshan's model is to partner with other companies to build, own and operate the IMIP infrastructure and one of those partnerships is with Nickel Mines.

The IMIP currently comprises:

- 3.0Mt pa stainless steel capacity,
- 30 operating RKEF lines,
- 0.5Mt carbon steel capacity,
- 0.6Mt pa high carbon ferrochrome,
- 2.9GW coal-fired power plant,
- Lime plant, coke plant, acid plant,
- Port facilities,
- Executive guest quarters and a 5-star hotel.

Figure 6: Indonesia Morowali Industrial Park (IMIP)



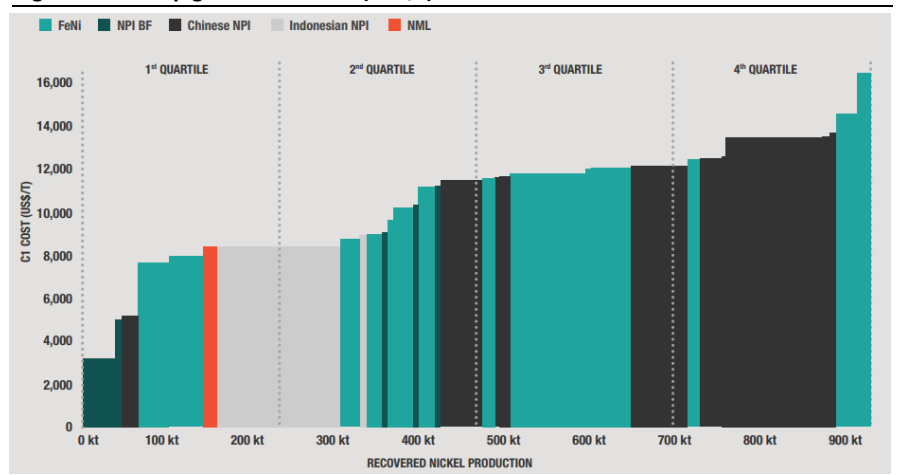
Source: Nickel Mines presentation.

Production of stainless steel at the IMIP is highly competitive due to three major factors;

- **Cheap nickel ore.** The ability to source higher grade (>1.8% nickel grade) nickel ore which is restricted from export from Indonesia as a result of the Indonesian Government’s ban on the exportation of unprocessed nickel ore under a grade of 4% nickel.
- **Cheap power.** The generation of competitive electricity costs by the IMIP’s purpose-built 2.9GW power plant which is powered by domestically sourced thermal coal. Power costs are understood to be around US 5-6c/kWh.
- **Vertical integration.** The vertically integrated nature of operations within the IMIP to produce a stainless steel end product, utilising the key raw material inputs, including nickel ore and power. This provides a significant advantage as molten pig iron can be directly charged to the stainless steel plant.

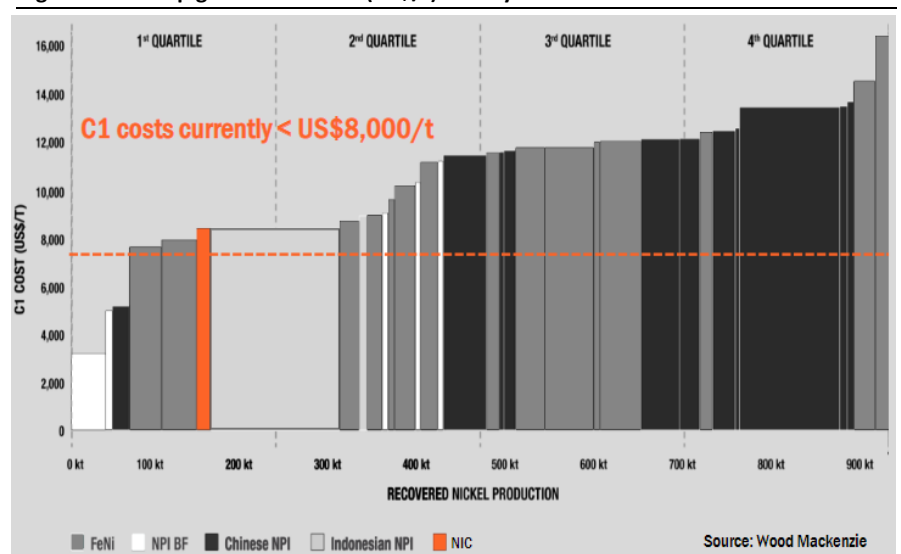
In the Nickel Mines prospectus, the company was estimating a cost of around US\$8,300/t. However, now that the operations have reached steady state the costs are ~8% lower than expected at around US\$7,750/t.

Figure 7: Nickel pig iron cost curve (US\$/t) - 2018



Source: Nickel Mines prospectus, Wood Mackenzie

Figure 8: Nickel pig iron cost curve (US\$/t) - today



Source: Nickel Mines presentation March 2020, Wood Mackenzie

Rotary Kiln Electric Furnace (RKEF)

Laterite nickel ores are formed from intense tropical weathering of olivine rich ultramafic rocks. Laterites are split into two types;

- **Limonite** (or oxide types) are the surface layer where oxidation and weathering leach out magnesium and silica and leave an iron rich deposit.
- **Saprolite** ore forms beneath the limonite layer and typically consists of 1.2-2.5% nickel.

Both types of ore can be processed via heap leaching, high pressure acid leach (HPAL) or rotary kiln electric furnace (RKEF).

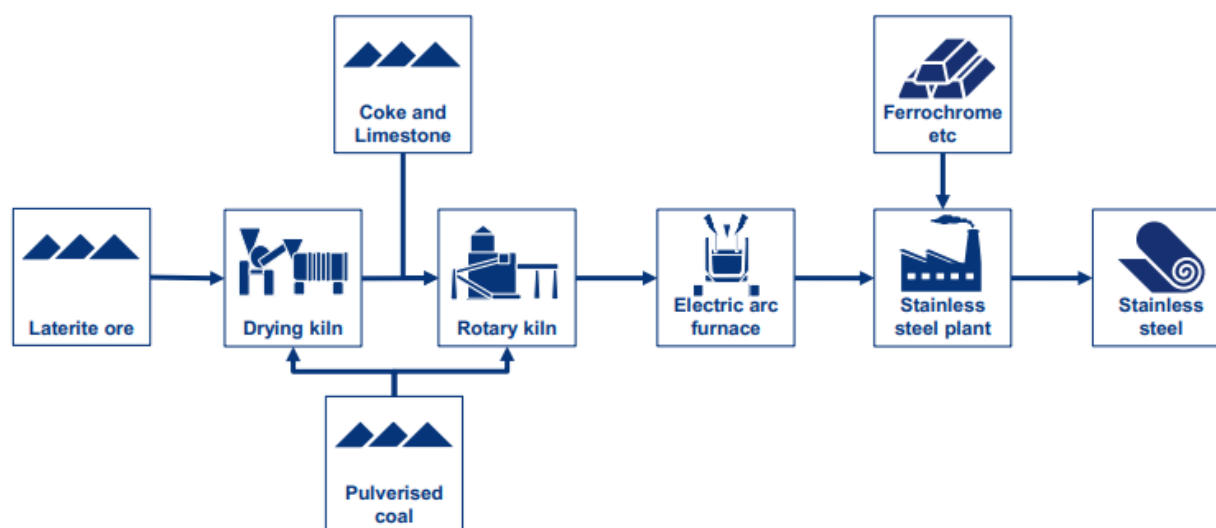
Heap leaching is the cheapest method but is only suitable for a limited type of ores with low clay content. HPAL is technically more challenging, but efficient when operating well and can treat a wide variety of ores. A drawback is the corrosive nature of the process and the difficulty in achieving stable operations.

The RKEF process consists of three main steps;

- **Calcination** – heating the ore in a drying kiln to remove water and volatile impurities.
- **Prereduction** – further heating of the ore in a rotary kiln in the presence of coke and limestone to reduce the ore (the reverse of oxidation).
- **Smelting** – in an electric arc furnace to produce molten nickel pig iron which can then be either direct charged to the stainless steel production process or formed into NPI bricks for export.

A disadvantage of the RKEF process is its high energy usage, which can make it uncompetitive in regions with high energy prices. At the IMIP this not an issue due to the abundance of cheap coal. It is possible to improve the thermal efficiency by using the waste heat from the rotary kiln to heat the drying kiln, and to use the electric arc furnace gas as a fuel for the rotary kiln.

Figure 9: RKEF and downstream NPI usage process flow diagram



Source: Nickel Mines prospectus, Zhejiang Provincial Industry Design and Research Institute.

Key risks

- The nickel price is volatile and is often driven by arbitrary policy changes such as the Indonesian export ban. As such, the price of nickel is relatively difficult to forecast and the actual price may differ substantially from our forecasts.
- Some investors may be concerned that the company operates in Indonesia, in partnership with a Chinese company and with Indonesian and Chinese strategic shareholders. However, Nickel Mines is 'inside the fence' and not an outsider. The relationship with Tsingshan is strong, and Tsingshan has a strong relationship with Indonesian authorities.
- Smaller companies carry more significant 'key personnel' risk than larger organisations. If senior management depart the company, then it could delay projects or exacerbate operational risks.

Core drivers and catalyst

- Nickel is predominantly used in the production of stainless steel (69% of consumption) but is finding growing use as a cathode in lithium ion batteries. The electrification of light vehicles is likely to see increased demand for nickel. Consensus forecasts expect the nickel price to increase ~30% from today's spot price at US\$5.90/lb to an incentive price of ~US\$7.50/lb once the COVID-19 demand shocks abate. We agree.
- Nickel Mines has an 80% economic interest in two RKEF projects in the IMIP. Even at current low nickel prices of ~US\$5.90/lb the projects are strongly free cash flow positive (US\$160mpa, 100% basis combined). At a mid-cycle nickel price of US\$6.50/lb, the two projects will generate combined free cash flow of about US\$210mpa (100% basis).
- We value each RKEF project at US\$947m (100%, NPV @ 11%) and Nickel Mines recently exercised an option to increase its economic interest from 60% to 80% in both projects for US\$120m.

Rating Classification

Buy	Expected to outperform the overall market
Hold	Expected to perform in line with the overall market
Sell	Expected to underperform the overall market
Not Rated	Shaw has issued a factual note on the company but does not have a recommendation

Risk Rating

High	Higher risk than the overall market – investors should be aware this stock may be speculative
Medium	Risk broadly in line with the overall market
Low	Lower risk than the overall market

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