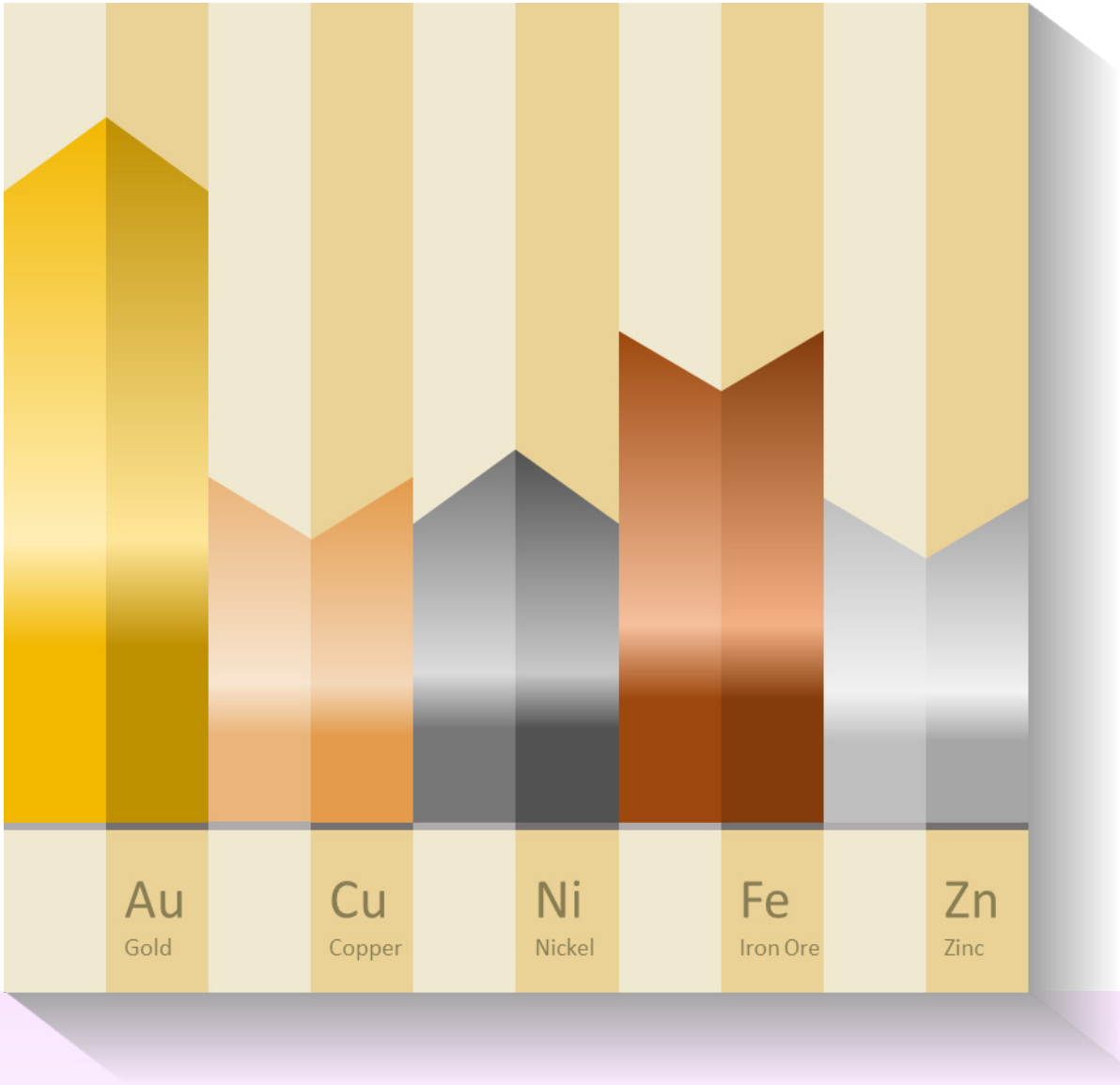
PCF Capital Group




# PCF Resources Thermometer

December 2019

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PCF Capital Group


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## PCF Capital Group

### PCF Corporate Advisory

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*Managing Director*

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*Director*

**Mike Sperinck**
*Technical Director*

**Garth Ziegler**
*Manager*

- Public market takeovers
- Corporate mergers and acquisitions
- General corporate advice
- Asset acquisitions and divestment
- Equity capital raising
- Corporate restructuring
- Strategic and technical reviews
- Indicative valuations
- Structured debt and hybrid funding
- Mezzanine, convertible and commodity loans
- Access to non bank funding network
- Development project finance
- Debt sizing
- Cash and short term investment solutions
- Financial models

### MinesOnline.com

- Web-based platform connecting buyers and sellers of mining projects
- ~ 4,500 users from over 100 countries
- Unique E-Newsletter promoting new projects
- Unparalleled global distribution capacity
- 40% + successful sales ratio

### FutureGold

- Gold royalty and streaming business that will seek to dominate the Australian emerging producer market by providing attractive funding packages to the best opportunities in the junior gold sector
- Providing dynamic funding to advance gold projects towards production

# Executive Summary

PCF Capital Group

We are pleased to present the December 2019 edition of the PCF Resources Thermometer; Buy and Renovate vs. Buy and Retrofit.

Evolution Mining's recent US$375M (A$555M) acquisition of Newmont Goldcorp's Red Lake asset in Canada is the latest in a series of transactions made by Australian producers seeking to grow their businesses via overseas acquisitions. Noting the exception of the St Barbara US$530M (A$768M) Atlantic corporate acquisition, Evolution's deal follows Newcrest's acquisition of Red Chris and Northern Star's acquisition of Pogo, which reflects the adoption of a buy to renovate strategy to move up the global producer rankings and seek value accretion.

Evolution, Newcrest and Northern Star have all acquired challenged assets that will require significant investment, exploration success and patience for them to reach or return to their true potential and transform their "ugly ducklings" into "beautiful swans".

Evolution's Red Lake currently produces at an AISC of US$1,600 per ounce (A$2,353), which implies a negative all-in margin of US$140 per ounce (A$201), and requires significant capital spending by Evolution of US$100M to improve fleet, mining and processing assets, not including a further US$50M to be spent on exploration. Evolution's executive chairman Jake Klein strongly believes Evolution can turn it around, affirming that even though investors will need to endure three years of "cash negative or cash neutral" operations, the turnaround plan will bear fruit in the form of a ~200,000 ounce per annum operation at an AISC of less than US$1,000 per ounce (US$1,474).

Newcrest's US$825M (A$1.186B) acquisition of a 70% interest in Red Chris which is currently producing at staggering A$4,317 per ounce AISC is possibly the ugliest of the ducklings based on AISC alone and Northern Star's US$260M (A$347M) acquisition of Pogo at a A$1,705 per ounce AISC is the cheapest of the three transactions and at least has a small positive margin.

The alternative strategy undertaken by St Barbara is to pay a premium to buy a performing asset and back yourself to find ways to increase production and lower operating costs.

Set out in the table below are transactions completed by ASX listed producers for the acquisition of North American assets, with three out of the four of the transactions involving the acquisition of a challenged asset; Only time will tell if these challenged assets can be transformed and return significant value for what needs to be patient shareholders.

**ASX listed gold miner overseas acquisitions**

| Buyer | Announcement date | Mkt Cap. (A$b) | Project | Location | Acquisition price (A$m) | Attributable Reserves (Moz) | Attributable Resource (Moz) | *Norm. Reserve* Price/oz (A$/oz) | *Norm. Resource* Price/oz (A$/oz) | AISC, 2019 (A$/oz) | Margin (A$/oz) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Northern Star | 30/08/2018 | 6.2 | Pogo | Alaska | 347 | 0.8 | 3.3 | 595 | 135 | 1,705 | 447 |
| Newcrest | 11/03/2019 | 23.6 | Red Chris | Canada | 1,186 | NA | 14.0 | NA | 100 | 4,317 | (2,165) |
| St Barbara | 15/05/2019 | 1.8 | Atlantic | Canada | 768 | 1.9 | 2.4 | 465 | 372 | 862 | 1,290 |
| Evolution | 26/11/2019 | 6.7 | Red Lake | Canada | 553 | 2.1 | 7.0 | 270 | 79 | 2,353 | (201) |
| ***Average*** | | ***9.6*** | | | ***714*** | ***1.6*** | ***6.7*** | ***443*** | ***172*** | ***2,309*** | ***(157)*** |

1. Operating margins are calculated based on a gold price of US$1,460/oz as at 27 November, 2019.
2. Exchange rate conversions calculated using a US$:A$ rate of 0.69.

Source: Company reports, PCF analysis

## SNAPSHOT

| | |
|---|---|
| ***PCF Group 150*** | • The market value of the PCF Group 150 at 30 November 2019 was A$479billion, an increase of ~4% from last month's value of A$459billion.<br>• The market value of the PCF Group 150C at 30 November 2019 was C$258 billion, flat from last month's value of C$258 billion. |
| **Price Performance** | • On average, gold producers were down ~5% for the month, whilst explorers and developers were down ~8% for the month.<br>• Nickel and Zinc companies were down ~6% and ~14% month on month respectively, while Copper companies were down ~10% month on month.<br>• Iron ore companies were up ~3% month on month. |
| **Liquidity & Short Positions** | • Gold stock liquidity was down for the month at ~5%. Gold stock short positions were flat for the month, with ~2% of stock shorted.<br>• Copper stock liquidity was down month on month at ~4%. Copper stock short positions were flat for the month, with ~2% of stock shorted.<br>• Nickel stock liquidity was down for the month at ~10%. Nickel stock short positions were flat month on month, with ~1% of stock shorted.<br>• Zinc stock liquidity was down for the month at ~8%. Zinc stock short positions were flat for the month, with ~4% of stock shorted.<br>• Iron ore stock liquidity was down for the month at ~3%. Short positions were up for the month, with ~2% of stock shorted. |
| **Notable Transactions** | • On 29 November 2019, Saracen Mineral Holdings Limited (ASX:SAR)(Saracen) announced that it had successfully completed the acquisition of a 50% interest in the Kalgoorlie Consolidated Gold Mines Joint Venture (KCGM JV) from Barrick Gold Corporation (Barrick) through the purchase of 100% of the shares in Barrick (Australia Pacific) Pty Limited for a price of US$750 million (A$1,100M). The KCGM JV owns and operates the Super Pit gold mine in Kalgoorlie-Boulder, Western Australia. |

# Top 150 ASX Listed Resource Companies - 30 November 2019

*By Market Capitalisation.*

| Rank | | | Mkt Cap (A$M) | | % |
|---|---|---|---|---|---|
| Nov | Oct | Company | 30-Nov-19 | 31-Oct-19 | Change |
| 1 | 1 | BHP Billiton Group (ASX:BHP) | $181,724.0 | $170,680.7 | 6.5% |
| 2 | 2 | Rio Tinto Ltd. (ASX:RIO) | $136,319.5 | $127,859.2 | 6.6% |
| 3 | 3 | Fortescue Metals Group Limited (ASX:FMG) | $29,943.6 | $27,420.1 | 9.2% |
| 4 | 4 | Newcrest Mining Limited (ASX:NCM) | $23,592.4 | $24,006.5 | (1.7%) |
| 5 | 5 | South32 Limited (ASX:S32) | $13,309.6 | $12,815.8 | 3.9% |
| 6 | 6 | Evolution Mining Limited (ASX:EVN) | $6,652.6 | $7,026.6 | (5.3%) |
| 7 | 7 | Alumina Limited (ASX:AWC) | $6,650.7 | $6,535.5 | 1.8% |
| 8 | 8 | Northern Star Resources Limited (ASX:NST) | $6,223.3 | $6,353.1 | (2.0%) |
| 9 | 10 | WHSP and Company Limited (ASX:SOL) | $5,343.3 | $5,199.7 | 2.8% |
| 10 | 9 | Incitec Pivot Limited (ASX:IPL) | $5,186.7 | $5,540.0 | (6.4%) |
| 11 | 12 | Iluka Resources Limited (ASX:ILU) | $4,021.6 | $3,970.9 | 1.3% |
| 12 | 11 | Yancoal Australia Limited (ASX:YAL) | $3,882.1 | $3,974.5 | (2.3%) |
| 13 | 13 | Independence Group NL (ASX:IGO) | $3,456.2 | $3,763.4 | (8.2%) |
| 14 | 14 | OZ Minerals Limited (ASX:OZL) | $3,416.9 | $3,287.3 | 3.9% |
| 15 | 16 | Saracen Mineral Holdings Limited (ASX:SAR) | $3,298.0 | $3,063.9 | 7.6% |
| 16 | 15 | Whitehaven Coal Limited (ASX:WHC) | $3,124.9 | $3,283.6 | (4.8%) |
| 17 | 17 | Mineral Resources Limited (ASX:MIN) | $2,908.8 | $2,678.4 | 8.6% |
| 18 | 18 | Regis Resources Limited (ASX:RRL) | $2,413.9 | $2,490.1 | (3.1%) |
| 19 | 19 | Coronado Global Resources Inc. (ASX:CRN) | $1,913.7 | $2,319.6 | (17.5%) |
| 20 | 20 | St Barbara Limited (ASX:SBM) | $1,831.8 | $1,950.7 | (6.1%) |
| 21 | 21 | New Hope Corporation Limited (ASX:NHC) | $1,804.8 | $1,771.5 | 1.9% |
| 22 | 22 | Lynas Corporation Limited (ASX:LYC) | $1,509.0 | $1,724.5 | (12.5%) |
| 23 | 34 | AuStar Gold Limited | $1,356.1 | $847.6 | 60.0% |
| 24 | 23 | Zimplats Holdings Limited (ASX:ZIM) | $1,205.5 | $1,162.5 | 3.7% |
| 25 | 24 | Resolute Mining Limited (ASX:RSG) | $1,043.1 | $1,092.8 | (4.5%) |
| 26 | 25 | Nickel Mines Limited (ASX:NIC) | $1,032.6 | $1,065.9 | (3.1%) |
| 27 | 27 | Perseus Mining Limited (ASX:PRU) | $1,016.1 | $998.6 | 1.8% |
| 28 | 26 | Sandfire Resources NL (ASX:SFR) | $995.2 | $1,034.2 | (3.8%) |
| 29 | 28 | Gold Road Resources Limited (ASX:GOR) | $993.1 | $997.5 | (0.4%) |
| 30 | 31 | Champion Iron Limited (ASX:CIA) | $980.3 | $928.0 | 5.6% |
| 31 | 29 | Silver Lake Resources Limited (ASX:SLR) | $966.6 | $951.0 | 1.6% |
| 32 | 32 | Mount Gibson Iron Limited (ASX:MGX) | $931.9 | $879.8 | 5.9% |
| 33 | 30 | Westgold Resources Limited (ASX:WGX) | $798.9 | $938.8 | (14.9%) |
| 34 | 33 | Western Areas Limited (ASX:WSA) | $760.5 | $878.1 | (13.4%) |
| 35 | 35 | Ramelius Resources Limited (ASX:RMS) | $668.3 | $822.8 | (18.8%) |
| 36 | 36 | Pilbara Minerals Limited (ASX:PLS) | $667.1 | $722.7 | (7.7%) |
| 37 | 37 | Orocobre Limited (ASX:ORE) | $659.4 | $688.2 | (4.2%) |
| 38 | 38 | Jupiter Mines Limited (ASX:JMS) | $489.7 | $656.3 | (25.4%) |
| 39 | 42 | Galaxy Resources Limited (ASX:GXY) | $378.8 | $382.9 | (1.1%) |
| 40 | 40 | Aurelia Metals Limited (ASX:AMI) | $375.6 | $410.5 | (8.5%) |
| 41 | 45 | OM Holdings Limited (ASX:OMH) | $368.3 | $361.0 | 2.0% |
| 42 | 39 | Tribune Resources Limited (ASX:TBR) | $350.2 | $471.8 | (25.8%) |
| 43 | 47 | Red 5 Limited (ASX:RED) | $348.4 | $342.2 | 1.8% |
| 44 | 41 | West African Resources Limited (ASX:WAF) | $339.5 | $400.4 | (15.2%) |
| 45 | 43 | ioneer Limited (ASX:INR) | $335.7 | $376.8 | (10.9%) |
| 46 | 46 | Capricorn Metals Ltd (ASX:CMM) | $326.4 | $357.2 | (8.6%) |
| 47 | 48 | Dacian Gold Limited (ASX:DCN) | $314.3 | $332.6 | (5.5%) |
| 48 | 49 | Bellevue Gold Limited (ASX:BGL) | $282.1 | $313.5 | (10.0%) |
| 49 | 44 | Alkane Resources Limited (ASX:ALK) | $280.9 | $361.9 | (22.4%) |
| 50 | 51 | Base Resources Limited (ASX:BSE) | $275.3 | $281.2 | (2.1%) |

| Rank | | | Mkt Cap (A$M) | | % |
|---|---|---|---|---|---|
| Nov | Oct | Company | 30-Nov-19 | 31-Oct-19 | Change |
| 51 | 55 | Grange Resources Limited (ASX:GRR) | $260.4 | $243.0 | 7.1% |
| 52 | 61 | Catalyst Metals Limited (ASX:CYL) | $250.5 | $189.3 | 32.3% |
| 53 | 54 | Stanmore Coal Limited (ASX:SMR) | $249.7 | $261.2 | (4.4%) |
| 54 | 58 | Panoramic Resources Limited (ASX:PAN) | $245.3 | $212.6 | 15.4% |
| 55 | 52 | Image Resources NL (ASX:IMA) | $245.2 | $264.9 | (7.4%) |
| 56 | 53 | Flinders Mines Limited (ASX:FMS) | $244.0 | $261.4 | (6.7%) |
| 57 | 70 | Adriatic Metals PLC (ASX:ADT) | $233.6 | $172.5 | 35.4% |
| 58 | 57 | Highfield Resources Limited (ASX:HFR) | $214.2 | $219.1 | (2.3%) |
| 59 | 50 | Stavely Minerals Limited (ASX:SVY) | $211.7 | $284.4 | (25.6%) |
| 60 | 69 | Metro Mining Limited (ASX:MMI) | $207.7 | $173.1 | 20.0% |
| 61 | 67 | Mincor Resources NL (ASX:MCR) | $205.4 | $177.8 | 15.5% |
| 62 | 59 | Salt Lake Potash Limited (ASX:SO4) | $200.3 | $209.9 | (4.6%) |
| 63 | 76 | Bathurst Resources Limited (ASX:BRL) | $187.8 | $157.0 | 19.6% |
| 64 | 68 | Kalium Lakes Limited (ASX:KLL) | $185.2 | $177.3 | 4.5% |
| 65 | 56 | New Century Resources Limited (ASX:NCZ) | $181.8 | $239.0 | (23.9%) |
| 66 | 73 | Paladin Energy Limited (ASX:PDN) | $176.4 | $168.3 | 4.8% |
| 67 | 60 | Pantoro Limited (ASX:PNR) | $176.4 | $194.0 | (9.1%) |
| 68 | 66 | Clean TeQ Holdings Limited (ASX:CLQ) | $171.7 | $179.2 | (4.2%) |
| 69 | 64 | TerraCom Limited (ASX:TER) | $170.6 | $182.2 | (6.4%) |
| 70 | 72 | Danakali Limited (ASX:DNK) | $170.0 | $168.6 | 0.8% |
| 71 | 71 | Hastings Technology Metals Ltd (ASX:HAS) | $159.4 | $168.8 | (5.6%) |
| 72 | 62 | Liontown Resources Limited | $158.8 | $185.8 | (14.5%) |
| 73 | 83 | Northern Minerals Limited (ASX:NTU) | $155.9 | $130.3 | 19.6% |
| 74 | 63 | Cardinal Resources Limited (ASX:CDV) | $154.1 | $182.8 | (15.7%) |
| 75 | 65 | Rand Mining Limited (ASX:RND) | $150.4 | $180.4 | (16.7%) |
| 76 | 82 | Altura Mining Limited (ASX:AJM) | $148.7 | $132.6 | 12.2% |
| 77 | 74 | Syrah Resources Limited (ASX:SYR) | $144.7 | $165.3 | (12.5%) |
| 78 | 77 | Medusa Mining Limited (ASX:MML) | $142.3 | $156.9 | (9.3%) |
| 79 | 75 | Atrum Coal Limited (ASX:ATU) | $135.8 | $164.2 | (17.3%) |
| 80 | 79 | CI Resources Limited (ASX:CII) | $132.9 | $150.3 | (11.5%) |
| 81 | 80 | Tungsten Mining NL (ASX:TGN) | $131.3 | $142.2 | (7.7%) |
| 82 | 85 | Emerald Resources NL (ASX:EMR) | $131.1 | $128.0 | 2.4% |
| 83 | 88 | Universal Coal Plc (ASX:UNV) | $130.6 | $125.4 | 4.2% |
| 84 | 81 | Poseidon Nickel Limited (ASX:POS) | $129.5 | $137.4 | (5.8%) |
| 85 | 106 | Alpha HPA (ASX:A4N) | $126.4 | $94.8 | 33.3% |
| 86 | 89 | Greenland Minerals & Energy Ltd (ASX:GGG) | $125.1 | $119.1 | 5.0% |
| 87 | 84 | Jervois Mining Limited (ASX:JRV) | $121.4 | $128.3 | (5.4%) |
| 88 | 86 | Bardoc Gold Limited (ASX:BDC) | $109.8 | $126.8 | (13.4%) |
| 89 | 90 | Sheffield Resources Limited (ASX:SFX) | $109.7 | $115.9 | (5.3%) |
| 90 | 87 | Galena Mining Limited (ASX:G1A) | $109.4 | $126.1 | (13.3%) |
| 91 | 93 | Neometals Limited (ASX:NMT) | $108.9 | $108.9 | 0.0% |
| 92 | 102 | TNG Limited (ASX:TNG) | $108.0 | $96.7 | 11.6% |
| 93 | 107 | Mineral Commodities Limited (ASX:MRC) | $105.3 | $94.8 | 11.1% |
| 94 | 91 | Talga Resources Limited (ASX:TLG) | $103.3 | $114.4 | (9.7%) |
| 95 | 98 | Magnetic Resources NL | $103.0 | $102.0 | 1.0% |
| 96 | 94 | OreCorp Limited (ASX:ORR) | $103.0 | $108.2 | (4.8%) |
| 97 | 100 | Spectrum Rare Earths Limited | $101.1 | $99.8 | 1.4% |
| 98 | 78 | Metals X Limited (ASX:MLX) | $99.8 | $154.2 | (35.3%) |
| 99 | 105 | Legend Mining Limited (ASX:LEG) | $99.6 | $94.9 | 5.0% |
| 100 | 97 | AVZ Minerals Limited (ASX:AVZ) | $99.1 | $103.7 | (4.4%) |

Source: S&P Global Market Intelligence

| Rank | | | Mkt Cap (A$M) | | % |
|---|---|---|---|---|---|
| Nov | Oct | Company | 30-Nov-19 | 31-Oct-19 | Change |
| 101 | 103 | Zeta Resources Limited (ASX:ZER) | $96.4 | $96.4 | 0.0% |
| 102 | 95 | Dart Mining NL | $96.3 | $107.0 | (10.0%) |
| 103 | 104 | Newfield Resources Limited (ASX:NWF) | $95.9 | $95.9 | 0.0% |
| 104 | 114 | Walkabout Resources Limited | $94.7 | $90.3 | 4.9% |
| 105 | 96 | Beacon Minerals Limited | $94.3 | $105.8 | (10.8%) |
| 106 | 101 | Arafura Resources Limited (ASX:ARU) | $93.9 | $98.1 | (4.3%) |
| 107 | 113 | Boss Resources Limited | $92.1 | $91.9 | 0.2% |
| 108 | 92 | Vango Mining Limited (ASX:VAN) | $92.1 | $112.4 | (18.1%) |
| 109 | 109 | Kingsgate Consolidated Limited (ASX:KCN) | $90.9 | $94.6 | (4.0%) |
| 110 | 108 | Nzuri Copper Limited (ASX:NZC) | $88.8 | $94.7 | (6.3%) |
| 111 | 130 | Canyon Resources Limited (ASX:CAY) | $86.4 | $75.4 | 14.7% |
| 112 | 99 | Agrimin Limited (ASX:AMN) | $86.2 | $101.0 | (14.7%) |
| 113 | 112 | Altech Chemicals Limited (ASX:ATC) | $85.7 | $92.9 | (7.8%) |
| 114 | 110 | Piedmont Lithium Limited (ASX:PLL) | $85.6 | $93.8 | (8.7%) |
| 115 | 115 | Mayur Resources Limited (ASX:MRL) | $84.9 | $90.3 | (5.9%) |
| 116 | 151 | Ardea Resources Limited (ASX:ARL) | $84.5 | $58.7 | 44.0% |
| 117 | 132 | Argosy Minerals Limited (ASX:AGY) | $83.4 | $74.1 | 12.5% |
| 118 | 120 | Geopacific Resources Limited (ASX:GPR) | $82.8 | $82.8 | 0.1% |
| 119 | 116 | Energy Resources of Australia Ltd (ASX:ERA) | $80.2 | $88.4 | (9.2%) |
| 120 | 164 | ASF Group Limited (ASX:AFA) | $79.3 | $51.5 | 53.8% |
| 121 | 155 | Orion Minerals NL (ASX:ORN) | $79.2 | $56.9 | 39.3% |
| 122 | 134 | Allegiance Coal Limited | $77.3 | $71.6 | 8.0% |
| 123 | 131 | Wollongong Coal Limited (ASX:WLC) | $74.9 | $74.9 | 0.0% |
| 124 | 127 | Red River Resources Limited (ASX:RVR) | $74.9 | $77.4 | (3.3%) |
| 125 | 121 | BBX Minerals Limited (ASX:BBX) | $74.4 | $82.6 | (9.9%) |

| Rank | | | Mkt Cap (A$M) | | % |
|---|---|---|---|---|---|
| Nov | Oct | Company | 30-Nov-19 | 31-Oct-19 | Change |
| 126 | 122 | Silver Mines Limited | $72.0 | $82.4 | (12.6%) |
| 127 | 137 | Breaker Resources NL (ASX:BRB) | $71.7 | $69.8 | 2.8% |
| 128 | 123 | Aeon Metals Limited (ASX:AML) | $70.8 | $80.9 | (12.5%) |
| 129 | 139 | KGL Resources Limited (ASX:KGL) | $68.6 | $66.5 | 3.3% |
| 130 | 135 | Peel Mining Limited (ASX:PEX) | $68.2 | $70.5 | (3.2%) |
| 131 | 136 | BCI Minerals Limited (ASX:BCI) | $67.8 | $69.8 | (2.9%) |
| 132 | 119 | First Graphene Limited (ASX:FGR) | $67.6 | $83.1 | (18.6%) |
| 133 | 150 | Andromeda Metals Limited | $67.4 | $60.2 | 11.9% |
| 134 | 118 | Terramin Australia Limited (ASX:TZN) | $67.3 | $83.7 | (19.6%) |
| 135 | 133 | Lithium Power International Ltd (ASX:LPI) | $66.9 | $72.2 | (7.3%) |
| 136 | 181 | Egan Street Resources Limited | $66.3 | $43.3 | 53.2% |
| 137 | 124 | Lepidico Limited (ASX:LPD) | $66.1 | $79.2 | (16.6%) |
| 138 | 117 | Magnis Resources Limited (ASX:MNS) | $65.4 | $86.2 | (24.1%) |
| 139 | 140 | Troy Resources Limited (ASX:TRY) | $65.1 | $65.1 | 0.0% |
| 140 | 141 | Deep Yellow Limited (ASX:DYL) | $64.2 | $64.2 | 0.0% |
| 141 | 126 | MC Mining Limited (ASX:MCM) | $64.1 | $77.5 | (17.3%) |
| 142 | 129 | NOVONIX Limited (ASX:NVX) | $64.1 | $75.6 | (15.3%) |
| 143 | 125 | Berkeley Energia Limited (ASX:BKY) | $63.3 | $78.8 | (19.7%) |
| 144 | 128 | Myanmar Metals Limited (ASX:MYL) | $63.1 | $77.1 | (18.1%) |
| 145 | 147 | Rey Resources Limited (ASX:REY) | $61.5 | $61.5 | 0.0% |
| 146 | 193 | Peak Resources Limited | $61.3 | $37.7 | 62.8% |
| 147 | 173 | Nusantara Resources Limited | $59.9 | $48.7 | 23.0% |
| 148 | 159 | Dome Gold Mines Limited (ASX:DME) | $59.2 | $54.3 | 8.9% |
| 149 | 449 | GBM Resources Limited | $59.1 | $3.5 | 1566.7% |
| 150 | 138 | Lucapa Diamond Company Ltd (ASX:LOM) | $57.4 | $67.4 | (14.8%) |

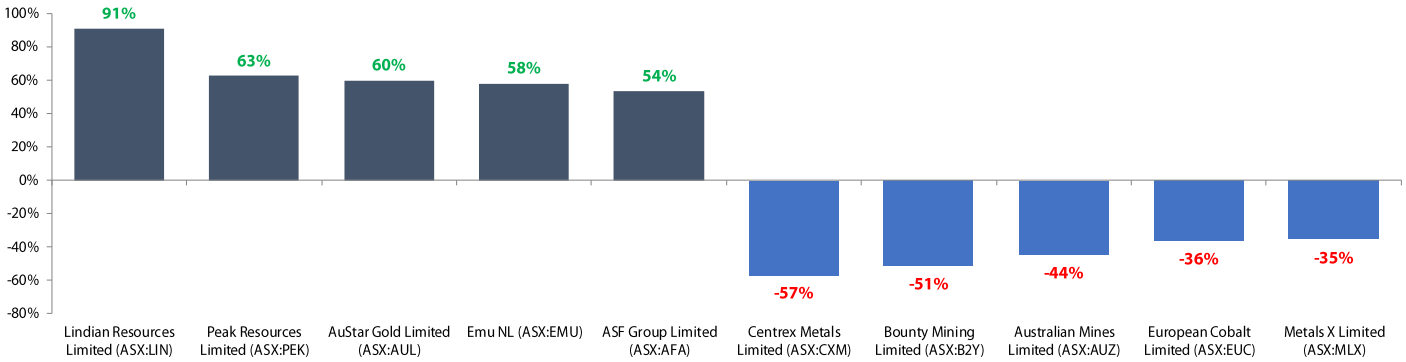
## New Entrants

- 116 Ardea Resources Limited (ASX:ARL)
- 120 ASF Group Limited (ASX:AFA)
- 121 Orion Minerals NL (ASX:ORN)
- 136 Egan Street Resources Limited (ASX:EGA)
- 146 Peak Resources Limited (ASX:PEK)
- 147 Nusantara Resources Limited (ASX:NUS)

## New Exits

- 151 Meteoric Resources NL (ASX:MEI)
- 152 Hot Chili Limited (ASX:HCH)
- 153 Blackham Resources Limited (ASX:BLK)
- 154 St George Mining Limited (ASX:SGQ)
- 156 American Pacific Borate and Lithium Limited (ASX:ABR)
- 161 Australian Mines Limited (ASX:AUZ)

## Winners and Losers - Market Capitalisation Performance



# Top 150 TSX & TSX-V Listed Resource Companies - 30 November 2019

*By Market Capitalisation.*

| Rank | | | Mkt Cap (C$M) | | % |
|---|---|---|---|---|---|
| Nov | Oct | Company | 30-Nov-19 | 31-Oct-19 | Change |
| 1 | 1 | Barrick Gold Corporation (TSX:ABX) | $39,929.0 | $40,675.6 | (1.8%) |
| 2 | 2 | Nutrien Ltd. (TSX:NTR) | $35,422.4 | $36,098.4 | (1.9%) |
| 3 | 3 | Franco-Nevada Corporation (TSX:FNV) | $24,794.6 | $24,100.7 | 2.9% |
| 4 | 4 | Wheaton Precious Metals Corp. (TSX:WPM) | $16,631.7 | $16,510.6 | 0.7% |
| 5 | 5 | Kirkland Lake Gold Ltd. (TSX:KL) | $11,739.1 | $13,000.3 | (9.7%) |
| 6 | 6 | Teck Resources Limited (TSX:TECK.B) | $11,412.1 | $11,538.2 | (1.1%) |
| 7 | 8 | First Quantum Minerals Limited (TSX:FM) | $8,366.8 | $7,626.7 | 9.7% |
| 8 | 7 | Kinross Gold Corporation (TSX:K) | $7,257.9 | $8,022.5 | (9.5%) |
| 9 | 11 | Pan American Silver Corp. (TSX:PAAS) | $5,533.7 | $4,689.0 | 18.0% |
| 10 | 9 | Lundin Mining Corporation (TSX:LUN) | $5,340.6 | $4,887.4 | 9.3% |
| 11 | 10 | B2Gold Corporation (TSX:BTO) | $5,068.6 | $4,692.7 | 8.0% |
| 12 | 12 | Cameco Corporation (TSX:CCO) | $4,808.9 | $4,654.6 | 3.3% |
| 13 | 13 | Yamana Gold Inc. (TSX:YRI) | $4,628.6 | $4,571.6 | 1.2% |
| 14 | 15 | Detour Gold Corporation (TSX:DGC) | $4,376.5 | $3,879.7 | 12.8% |
| 15 | 14 | Ivanhoe Mines Limited (TSX:IVN) | $4,099.9 | $3,897.0 | 5.2% |
| 16 | 17 | Novagold Resources Inc. (TSX:NG) | $2,975.0 | $3,131.9 | (5.0%) |
| 17 | 18 | First Majestic Silver Corporation (TSX:FR) | $2,969.5 | $2,876.7 | 3.2% |
| 18 | 16 | Centerra Gold Inc. (TSX:CG) | $2,954.1 | $3,297.7 | (10.4%) |
| 19 | 19 | Alamos Gold Inc. (TSX:AGI) | $2,953.5 | $2,804.8 | 5.3% |
| 20 | 20 | Endeavour Mining Corporation (TSX:EDV) | $2,835.0 | $2,621.8 | 8.1% |
| 21 | 22 | SSR Mining Inc. (TSX:SSRM) | $2,596.4 | $2,397.0 | 8.3% |
| 22 | 21 | Pretium Resources Incorporated (TSX:PVG) | $2,476.2 | $2,459.5 | 0.7% |
| 23 | 23 | IAMGOLD Corporation (TSX:IMG) | $2,232.3 | $2,316.5 | (3.6%) |
| 24 | 25 | Alacer Gold Corp. (TSX:ASR) | $2,157.1 | $1,921.3 | 12.3% |
| 25 | 33 | Ero Copper Corp. (TSX:ERO) | $1,754.3 | $1,408.5 | 24.5% |
| 26 | 29 | Torex Gold Resources Inc. (TSX:TXG) | $1,692.4 | $1,645.4 | 2.9% |
| 27 | 26 | Osisko Gold Royalties Ltd. (TSX:OR) | $1,677.9 | $1,866.3 | (10.1%) |
| 28 | 28 | Eldorado Gold Corporation (TSX:ELD) | $1,662.3 | $1,757.3 | (5.4%) |
| 29 | 27 | Lundin Gold Inc. (TSX:LUG) | $1,655.0 | $1,763.5 | (6.2%) |
| 30 | 24 | OceanaGold Corporation (TSX:OGC) | $1,642.9 | $1,966.4 | (16.5%) |
| 31 | 31 | Labrador Iron Ore Royalty Co. (TSX:LIF) | $1,610.9 | $1,427.8 | 12.8% |
| 32 | 30 | Sandstorm Gold Ltd. (TSX:SSL) | $1,560.9 | $1,643.0 | (5.0%) |
| 33 | 36 | Wesdome Gold Mines Limited (TSX:WDO) | $1,229.1 | $1,104.6 | 11.3% |
| 34 | 35 | MAG Silver Corporation (TSX:MAG) | $1,228.7 | $1,124.7 | 9.2% |
| 35 | 37 | Turquoise Hill Resources Limited (TSX:TRQ) | $1,227.5 | $1,086.6 | 13.0% |
| 36 | 34 | North American Palladium Ltd (TSX:PDL) | $1,160.9 | $1,160.3 | 0.1% |
| 37 | 40 | Continental Gold Inc. (TSX:CNL) | $1,095.1 | $853.1 | 28.4% |
| 38 | 38 | Seabridge Gold Inc. (TSX:SEA) | $1,070.1 | $1,073.9 | (0.4%) |
| 39 | 41 | Dundee Precious Metals Inc. (TSX:DPM) | $1,023.2 | $822.7 | 24.4% |
| 40 | 32 | SEMAFO Inc. (TSX:SMF) | $936.5 | $1,421.4 | (34.1%) |
| 41 | 42 | Osisko Mining Inc. (TSX:OSK) | $796.3 | $765.9 | 4.0% |
| 42 | 39 | New Gold Inc. (TSX:NGD) | $753.6 | $921.8 | (18.2%) |
| 43 | 45 | Fortuna Silver Mines Inc. (TSX:FVI) | $705.3 | $673.2 | 4.8% |
| 44 | 43 | LeaGold Mining Corporation (TSX:LMC) | $601.2 | $740.8 | (18.8%) |
| 45 | 46 | NexGen Energy Ltd. (TSX:NXE) | $580.0 | $604.9 | (4.1%) |
| 46 | 47 | Sabina Gold & Silver Corp. (TSX:SBB) | $526.6 | $520.6 | 1.2% |
| 47 | 49 | K92 Mining Inc. (TVX:KNT) | $515.0 | $478.5 | 7.6% |
| 48 | 48 | Golden Star Resources Limited (TSX:GSC) | $487.2 | $485.0 | 0.5% |
| 49 | 52 | Altius Minerals Corporation (TSX:ALS) | $468.0 | $449.0 | 4.2% |
| 50 | 54 | China Gold Int. Res. Corp. Ltd. (TSX:CGG) | $428.1 | $416.2 | 2.9% |

| Rank | | | Mkt Cap (C$M) | | % |
|---|---|---|---|---|---|
| Nov | Oct | Company | 30-Nov-19 | 31-Oct-19 | Change |
| 51 | 50 | Premier Gold Mines Limited (TSX:PG) | $423.0 | $475.6 | (11.1%) |
| 52 | 55 | PolyMet Mining, Corp. (TSX:POM) | $422.2 | $402.1 | 5.0% |
| 53 | 51 | TMAC Resources Inc. (TSX:TMR) | $394.3 | $467.9 | (15.7%) |
| 54 | 65 | Wallbridge Mining Company Ltd (TSX:WM) | $391.4 | $301.4 | 29.8% |
| 55 | 56 | Victoria Gold Corp. (TVX:VIT) | $388.6 | $399.2 | (2.7%) |
| 56 | 58 | Cobalt 27 Capital Corp. (TVX:KBLT) | $376.0 | $372.7 | 0.9% |
| 57 | 57 | Argonaut Gold Inc. (TSX:AR) | $344.6 | $385.9 | (10.7%) |
| 58 | 61 | Lithium Americas Corp. (TSX:LAC) | $341.9 | $346.4 | (1.3%) |
| 59 | 59 | Roxgold Inc. (TSX:ROXG) | $333.6 | $360.4 | (7.4%) |
| 60 | 60 | Denison Mines Corp. (TSX:DML) | $330.5 | $360.0 | (8.2%) |
| 61 | 53 | Lucara Diamond Corporation (TSX:LUC) | $325.4 | $428.6 | (24.1%) |
| 62 | 63 | Great Bear Resources Limited (TVX:GBR) | $296.8 | $306.8 | (3.2%) |
| 63 | 62 | Americas Silver Corporation (TSX:USA) | $292.5 | $340.4 | (14.1%) |
| 64 | 64 | Sierra Metals Inc. (TSX:SMT) | $290.5 | $305.8 | (5.0%) |
| 65 | 67 | Marathon Gold Corporation (TSX:MOZ) | $283.0 | $291.6 | (3.0%) |
| 66 | 71 | Bear Creek Mining Corporation (TVX:BCM) | $273.4 | $255.7 | 6.9% |
| 67 | 68 | Asanko Gold Inc. (TSX:AKG) | $271.4 | $266.9 | 1.7% |
| 68 | 66 | Northern Dynasty Minerals Ltd. (TSX:NDM) | $266.7 | $293.3 | (9.1%) |
| 69 | 72 | Energy Fuels Inc. (TSX:EFR) | $250.8 | $254.4 | (1.4%) |
| 70 | 75 | RNC Minerals (TSX:RNX) | $248.7 | $233.5 | 6.5% |
| 71 | 44 | Katanga Mining Limited (TSX:KAT) | $248.0 | $686.7 | (63.9%) |
| 72 | 78 | Pure Gold Mining Inc. (TVX:PGM) | $247.3 | $211.5 | 16.9% |
| 73 | 69 | Mountain Prov. Diamonds Inc. (TSX:MPVD) | $237.5 | $266.9 | (11.0%) |
| 74 | 70 | Barkerville Gold Mines Ltd. (TVX:BGM) | $227.9 | $256.0 | (11.0%) |
| 75 | 80 | Capstone Mining Corporation (TSX:CS) | $223.8 | $199.8 | 12.0% |
| 76 | 73 | Corvus Gold Inc. (TSX:KOR) | $221.9 | $241.7 | (8.2%) |
| 77 | 98 | Nevada Copper Corporation (TSX:NCU) | $213.3 | $148.6 | 43.6% |
| 78 | 74 | Imperial Metals Corporation (TSX:III) | $210.1 | $233.9 | (10.2%) |
| 79 | 77 | Liberty Gold Corp. (TSX:LGD) | $197.5 | $215.7 | (8.4%) |
| 80 | 96 | NioCorp Developments Ltd. (TSX:NB) | $192.6 | $152.3 | 26.4% |
| 81 | 86 | Filo Mining Corporation (TVX:FIL) | $185.3 | $175.0 | 5.9% |
| 82 | 82 | Metalla Royalty & Streaming Ltd (TVX:MTA) | $180.9 | $194.4 | (6.9%) |
| 83 | 79 | Belo Sun Mining Corporation (TSX:BSX) | $180.7 | $210.8 | (14.3%) |
| 84 | 84 | Abitibi Royalties Inc. (TVX:RZZ) | $180.7 | $184.9 | (2.3%) |
| 85 | 83 | Sandfire Resources America Inc. (TVX:SFR) | $180.4 | $192.7 | (6.4%) |
| 86 | 103 | Midas Gold Corporation (TSX:MAX) | $178.6 | $140.7 | 27.0% |
| 87 | 76 | Great Panther Silver Limited (TSX:GPR) | $177.5 | $224.2 | (20.8%) |
| 88 | 88 | Nemaska Lithium Inc. (TSX:NMX) | $169.5 | $169.5 | 0.0% |
| 89 | 85 | Auryn Resources Inc. (TSX:AUG) | $166.7 | $180.8 | (7.8%) |
| 90 | 94 | Lumina Gold Corp. (TVX:LUM) | $166.0 | $154.8 | 7.3% |
| 91 | 97 | EMX Royalty Corporation (TVX:EMX) | $162.8 | $150.0 | 8.5% |
| 92 | 93 | GoldMining Inc. (TSX:GOLD) | $158.0 | $155.2 | 1.8% |
| 93 | 91 | Trevali Mining Corporation (TSX:TV) | $152.5 | $166.3 | (8.3%) |
| 94 | 90 | Chesapeake Gold Corp. (TVX:CKG) | $144.5 | $168.6 | (14.3%) |
| 95 | 101 | Aurion Resources Limited (TVX:AU) | $141.0 | $142.4 | (1.0%) |
| 96 | 120 | White Gold Corp. (TVX:WGO) | $138.1 | $103.1 | 34.0% |
| 97 | 111 | Integra Resources Corp. (TVX:ITR) | $137.7 | $119.3 | 15.4% |
| 98 | 104 | Avesoro Resources Inc. (TSX:ASO) | $137.0 | $133.8 | 2.4% |
| 99 | 92 | Alphamin Resources Corporation (TVX:AFM) | $134.2 | $155.9 | (13.9%) |
| 100 | 99 | Maya Gold and Silver Inc. (TSX:MYA) | $132.2 | $145.7 | (9.3%) |

Source: S&P Global Market Intelligence

| Rank | | | Mkt Cap (C$M) | | % |
|---|---|---|---|---|---|
| Nov | Oct | Company | 30-Nov-19 | 31-Oct-19 | Change |
| 101 | 102 | Fission Uranium Corporation (TSX:FCU) | $131.3 | $141.0 | (6.9%) |
| 102 | 108 | Taseko Mines Limited (TSX:TKO) | $130.5 | $128.0 | 1.9% |
| 103 | 106 | First Mining Gold Corp. (TSX:FF) | $125.6 | $131.4 | (4.4%) |
| 104 | 124 | Aurania Resources Ltd. (TVX:ARU) | $125.2 | $93.0 | 34.6% |
| 105 | 116 | GoGold Resources Inc. (TSX:GGD) | $122.8 | $111.5 | 10.1% |
| 106 | 100 | Coro Mining Corporation (TSX:COP) | $120.6 | $144.7 | (16.7%) |
| 107 | 95 | Harte Gold Corporation (TSX:HRT) | $118.5 | $152.3 | (22.2%) |
| 108 | 112 | Ur-Energy Inc. (TSX:URE) | $118.4 | $118.4 | 0.1% |
| 109 | 110 | Caledonia Mining Corporation Plc (TSX:CAL) | $114.1 | $119.5 | (4.5%) |
| 110 | 89 | Garibaldi Resources Corporation (TVX:GGI) | $113.6 | $169.2 | (32.9%) |
| 111 | 132 | GT Gold Corp. (TVX:GTT) | $111.7 | $84.7 | 31.9% |
| 112 | 109 | Probe Metals Inc. (TVX:PRB) | $109.5 | $122.8 | (10.8%) |
| 113 | 107 | Copper Mountain Mining Co. (TSX:CMMC) | $109.1 | $128.2 | (14.9%) |
| 114 | 113 | Regulus Resources Inc. (TVX:REG) | $105.6 | $118.3 | (10.8%) |
| 115 | 114 | Platinum Group Metals Limited (TSX:PTM) | $104.9 | $116.0 | (9.6%) |
| 116 | 131 | Aura Minerals Inc. (TSX:ORA) | $100.1 | $86.3 | 16.0% |
| 117 | 121 | Lion One Metals Limited (TVX:LIO) | $99.0 | $95.9 | 3.2% |
| 118 | 118 | Rupert Resources Limited (TVX:RUP) | $98.0 | $104.9 | (6.7%) |
| 119 | 125 | Guyana Goldfields Inc. (TSX:GUY) | $97.8 | $92.5 | 5.7% |
| 120 | 117 | Silver Bear Resources Plc (TSX:SBR) | $97.5 | $107.5 | (9.4%) |
| 121 | 126 | Los Andes Copper Ltd. (TVX:LA) | $96.4 | $92.4 | 4.4% |
| 122 | 119 | Adventus Zinc Corporation (TVX:ADZN) | $95.5 | $104.5 | (8.6%) |
| 123 | 127 | Bluestone Resources Inc. (TVX:BSR) | $94.2 | $91.7 | 2.7% |
| 124 | 123 | Millennial Lithium Corp. (TVX:ML) | $93.2 | $94.9 | (1.7%) |
| 125 | 105 | Amerigo Resources Ltd. (TSX:ARG) | $91.9 | $133.3 | (31.1%) |

| Rank | | | Mkt Cap (C$M) | | % |
|---|---|---|---|---|---|
| Nov | Oct | Company | 30-Nov-19 | 31-Oct-19 | Change |
| 126 | 129 | Karmin Exploration Inc. (TVX:KAR) | $90.8 | $86.8 | 4.7% |
| 127 | 115 | Jaguar Mining Inc. (TSX:JAG) | $90.5 | $115.8 | (21.9%) |
| 128 | 128 | Nighthawk Gold Corp. (TSX:NHK) | $85.7 | $91.2 | (6.1%) |
| 129 | 143 | Critical Elements Corporation (TVX:CRE) | $81.0 | $63.5 | 27.5% |
| 130 | 133 | Rubicon Minerals Corporation (TSX:RMX) | $80.4 | $83.0 | (3.2%) |
| 131 | 139 | Mandalay Resources Corporation (TSX:MND) | $80.1 | $72.8 | 10.0% |
| 132 | 134 | Westhaven Ventures Inc. (TVX:WHN) | $75.5 | $81.5 | (7.4%) |
| 133 | 147 | Robex Resources Inc. (TVX:RBX) | $75.4 | $60.8 | 24.0% |
| 134 | 122 | Sherritt International Corporation (TSX:S) | $74.7 | $95.3 | (21.7%) |
| 135 | 141 | Cornerstone Capital Res. Inc. (TVX:CGP) | $74.6 | $67.2 | 11.0% |
| 136 | 153 | Amex Exploration Inc. (TVX:AMX) | $74.0 | $57.8 | 28.0% |
| 137 | 130 | Talon Metals Corporation (TSX:TLO) | $71.7 | $86.5 | (17.1%) |
| 138 | 140 | Almaden Minerals Limited (TSX:AMM) | $71.5 | $71.5 | 0.0% |
| 139 | 145 | Skeena Resources Limited (TVX:SKE) | $71.5 | $63.4 | 12.7% |
| 140 | 135 | Orca Gold Inc. (TVX:ORG) | $70.7 | $80.2 | (11.8%) |
| 141 | 81 | Itafos (TVX:IFOS) | $70.2 | $196.6 | (64.3%) |
| 142 | 155 | Lydian International Limited (TSX:LYD) | $68.4 | $57.0 | 20.0% |
| 143 | 144 | Dynacor Gold Mines Inc. (TSX:DNG) | $66.0 | $63.4 | 4.0% |
| 144 | 204 | Colonial Coal International Co. (TVX:CAD) | $65.0 | $33.3 | 95.3% |
| 145 | 137 | Noront Resources Ltd. (TVX:NOT) | $64.4 | $77.6 | (17.0%) |
| 146 | 138 | Osisko Metals Incorporated (TVX:OM) | $60.7 | $74.9 | (19.0%) |
| 147 | 146 | Northern Vertex Mining Corp. (TVX:NEE) | $60.4 | $61.6 | (2.0%) |
| 148 | 142 | Barsele Minerals Corp. (TVX:BME) | $60.2 | $64.9 | (7.2%) |
| 149 | 166 | AXMIN Inc. (TVX:AXM) | $59.2 | $49.7 | 19.3% |
| 150 | 202 | Balmoral Resources Ltd. (TSX:BAR) | $59.1 | $33.5 | 76.4% |

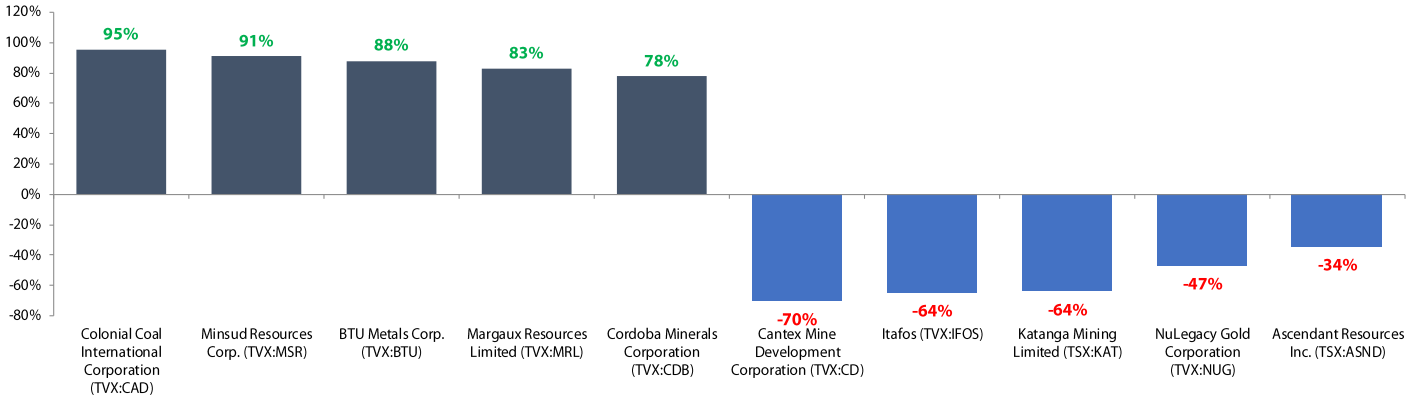
## New Entrants

- 136 Amex Exploration Inc. (TVX:AMX)
- 142 Lydian International Limited (TSX:LYD)
- 144 Colonial Coal International Corporation (TVX:CAD)
- 149 AXMIN Inc. (TVX:AXM)
- 150 Balmoral Resources Ltd. (TSX:BAR)

## New Exits

- GoviEx Uranium Inc. (TVX:GXU)
- Reunion Gold Corporation (TVX:RGD)
- Neo Lithium Corporation (TVX:NLC)
- Cantex Mine Development Corporation (TVX:CD)
- Golden Valley Mines Limited (TVX:GZZ)

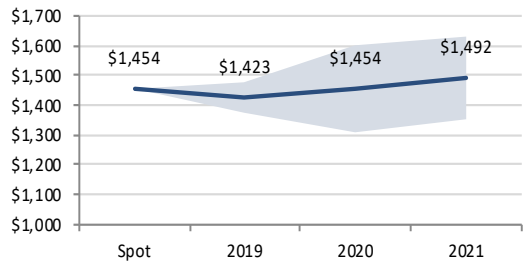
## Winners and Losers - Market Capitalisation Performance



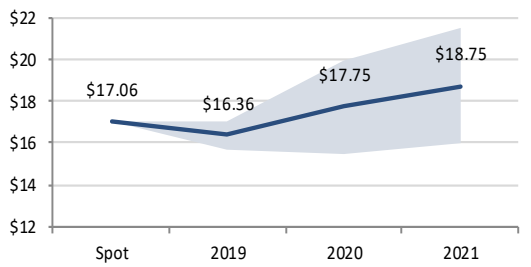
# Consensus Commodity Price Forecasts

PCF Capital Group

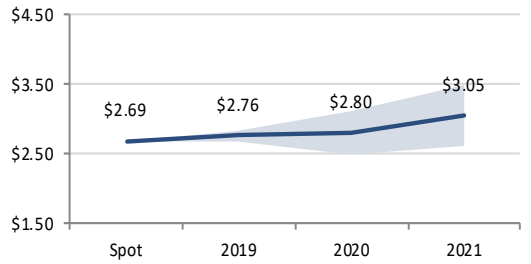
## Gold (US$/oz)



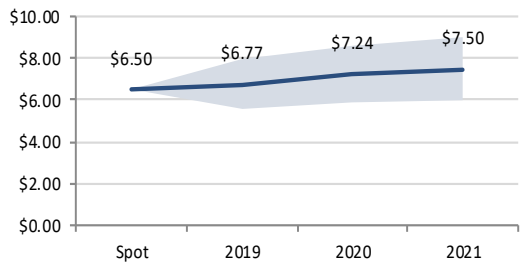

## Silver (US$/oz)



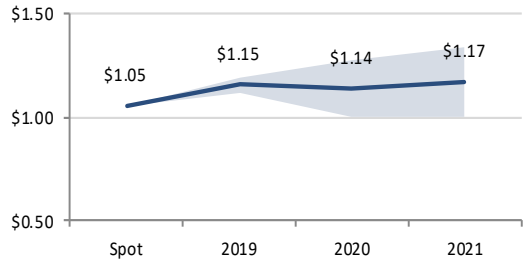

## Copper (US$/lb)



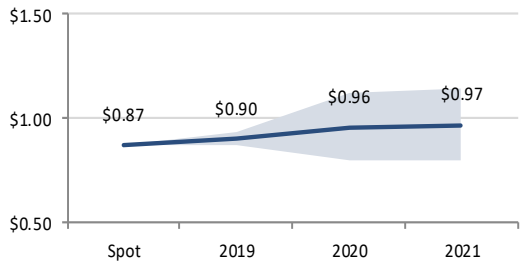

## Nickel (US$/lb)



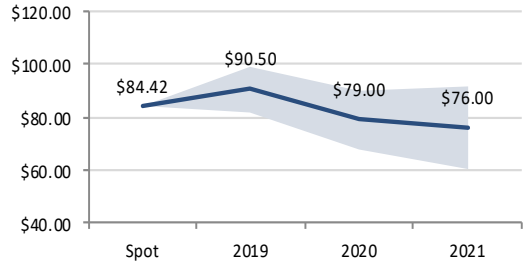

## Zinc (US$/lb)



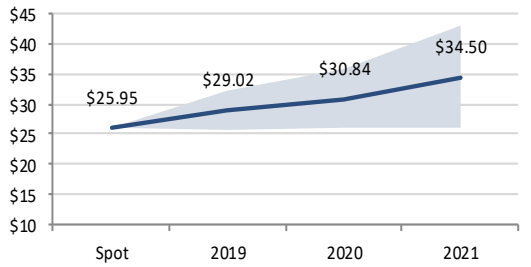

## Lead (US$/lb)



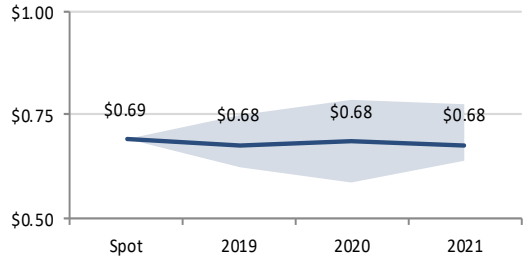

## Iron Ore Fines 62% (US$/MT)



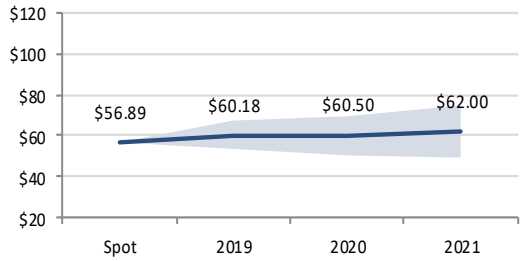

## Uranium (US$/lb)




## AUD:USD




## WTI - NYMEX (US$/bbl)




Source: Consensus Estimates - Median / High / Low as at 30 November 2019.

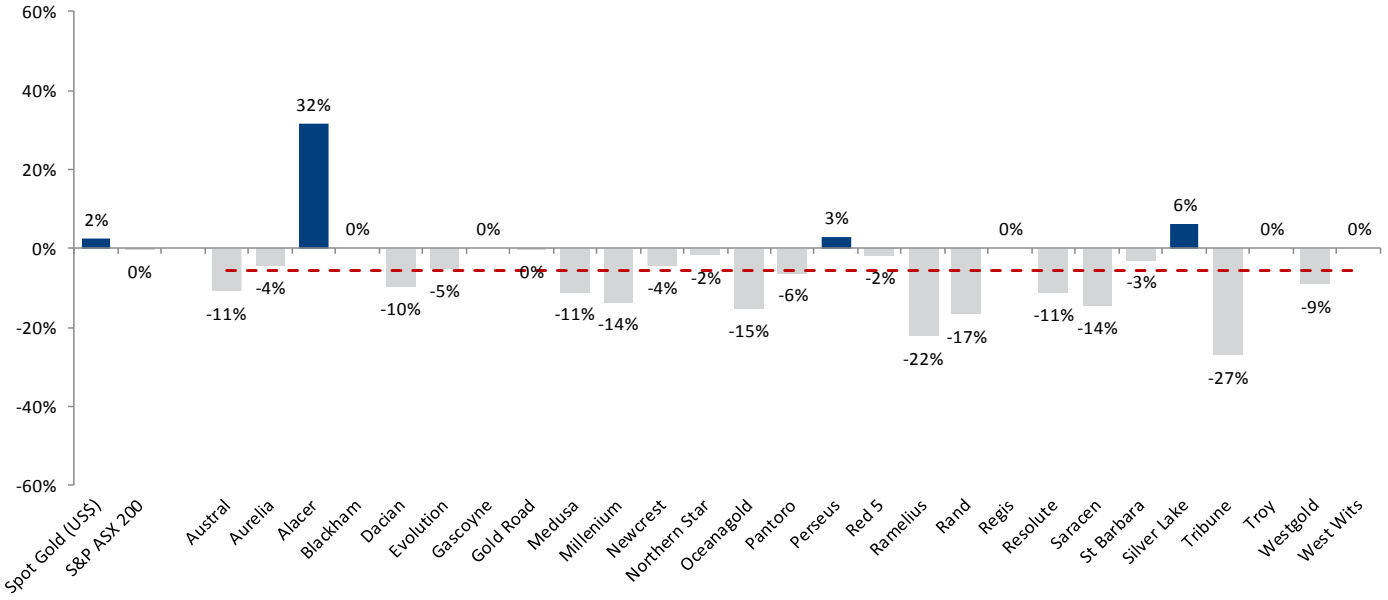
# GOLD

## *Thermometer*

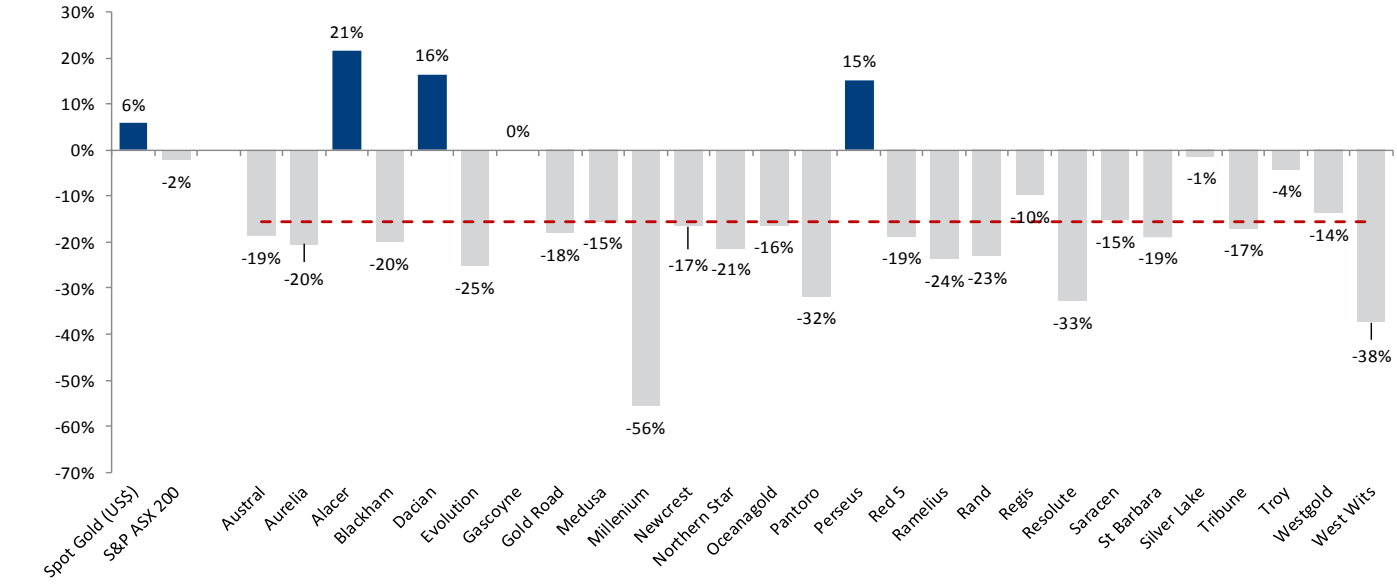
# Gold Producers
## - Relative Performance

PCF Capital Group

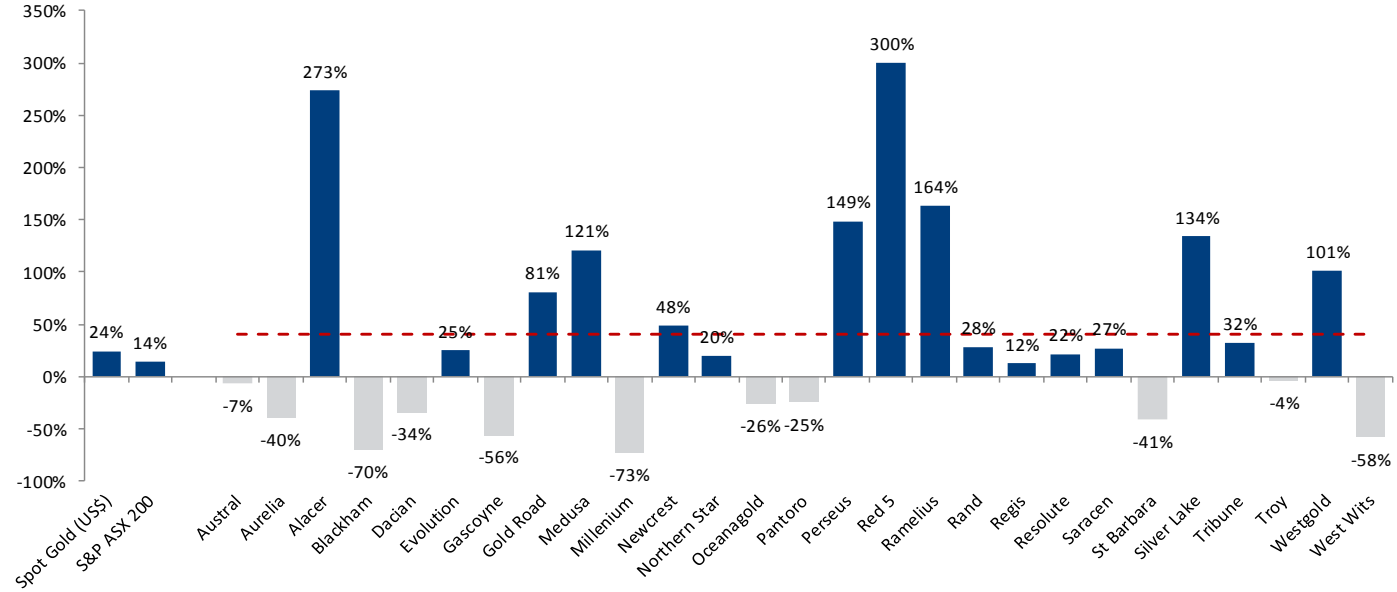
### 1 Month Share Price Performance - Average -5%




### 3 Month Share Price Performance - Average -16%




### 12 Month Share Price Performance - Average 41%

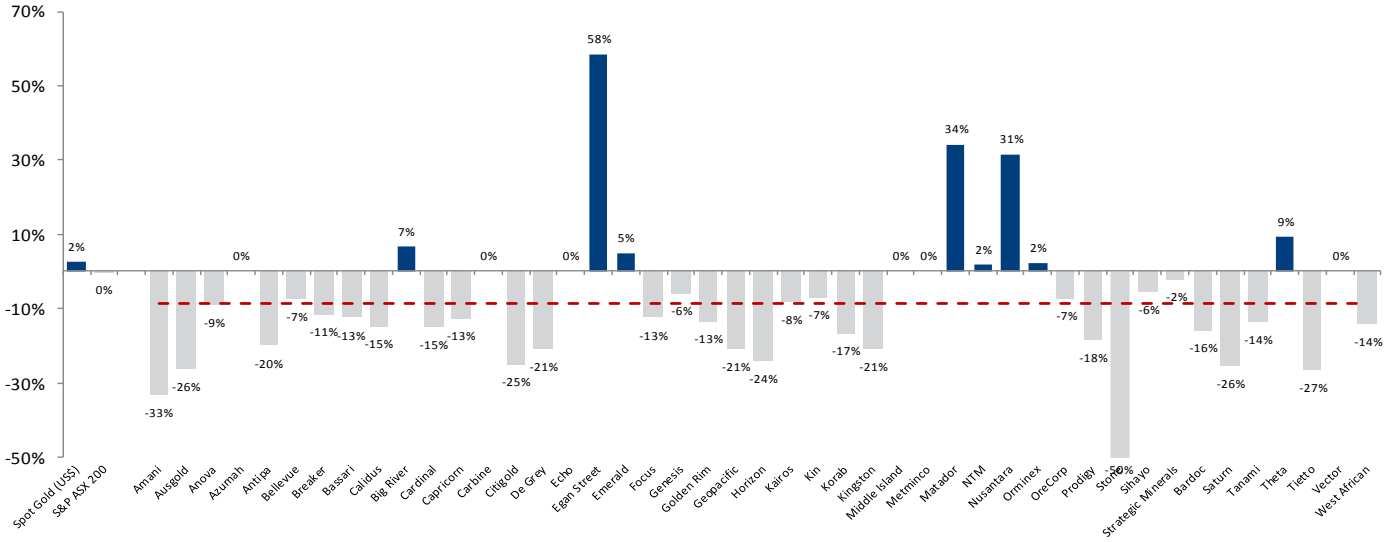



N.B. Where no % is shown, there is no reportable performance for that period i.e. due to delisting or not yet being listed.

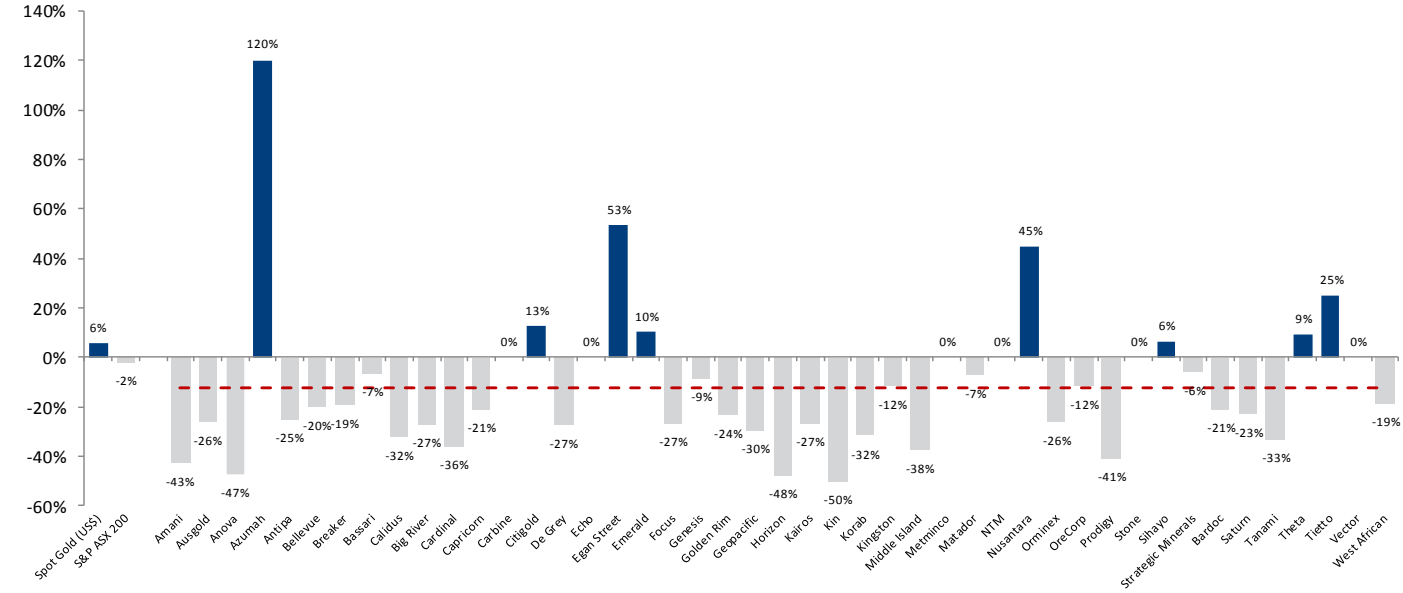
# Gold Developers & Explorers
## - Relative Performance

PCF Capital Group

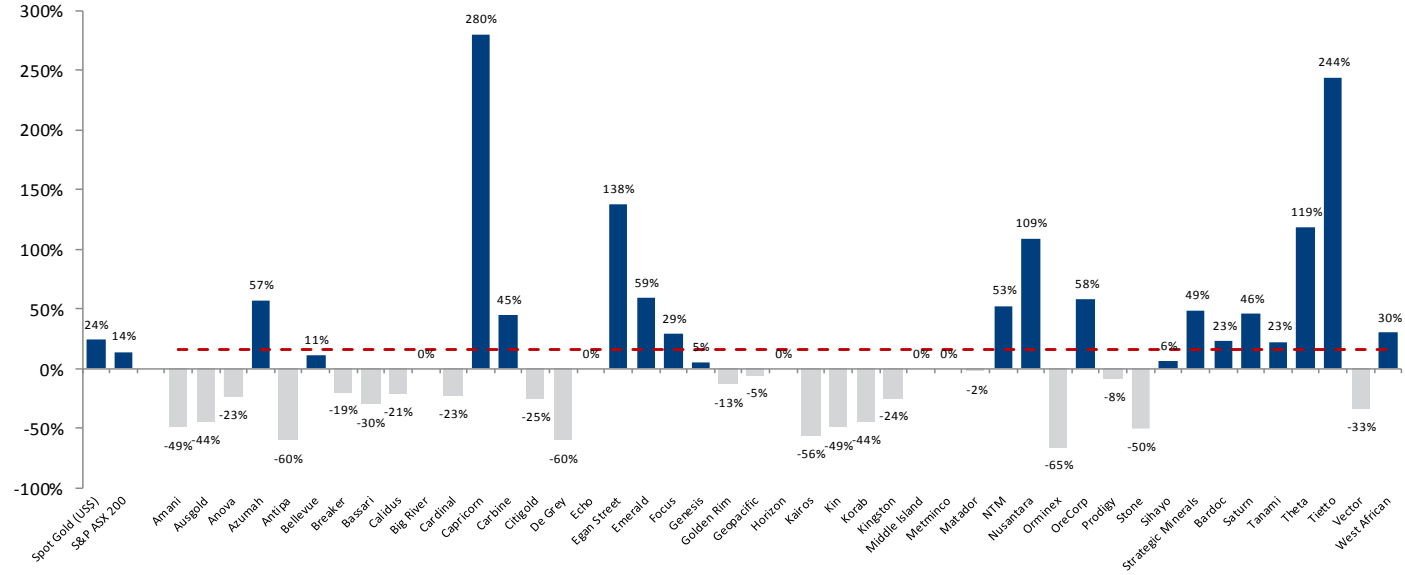
### 1 Month Share Price Performance - Average -9%




### 3 Month Share Price Performance - Average -12%




### 12 Month Share Price Performance - Average 16%

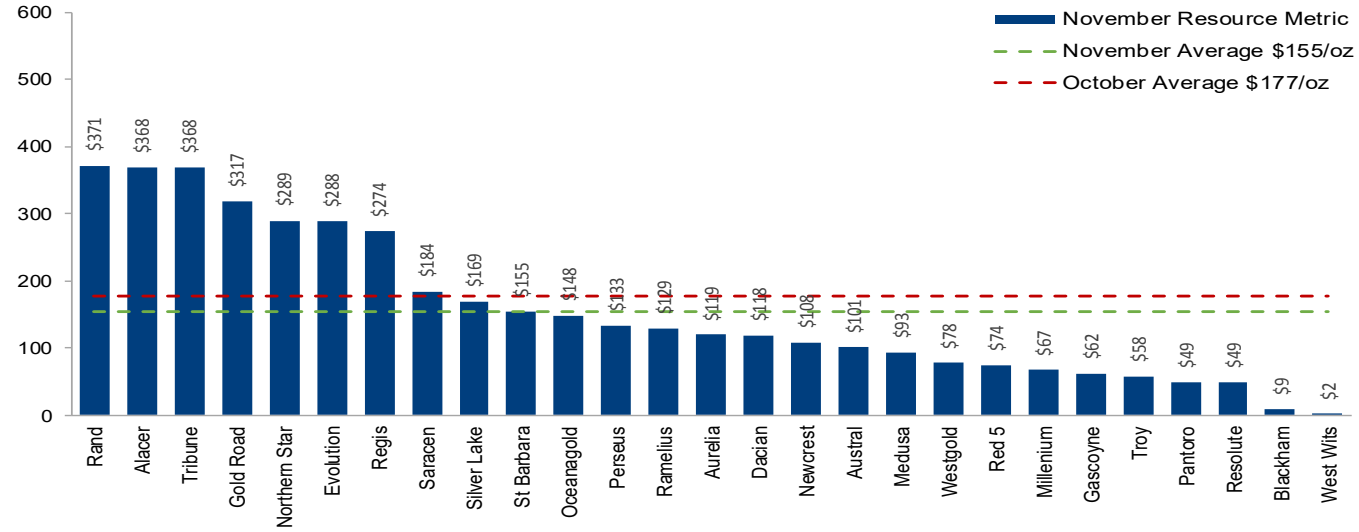



N.B. Where no % is shown, there is no reportable performance for that period i.e. due to delisting or not yet being listed.

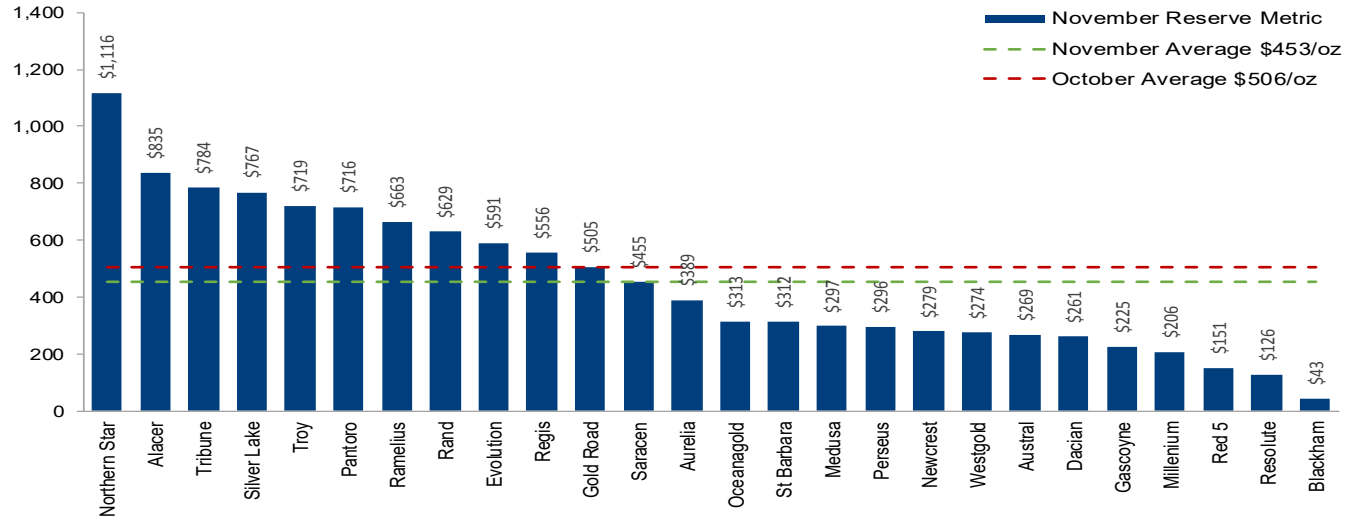
# Gold Peer Company Valuations

PCF Capital Group

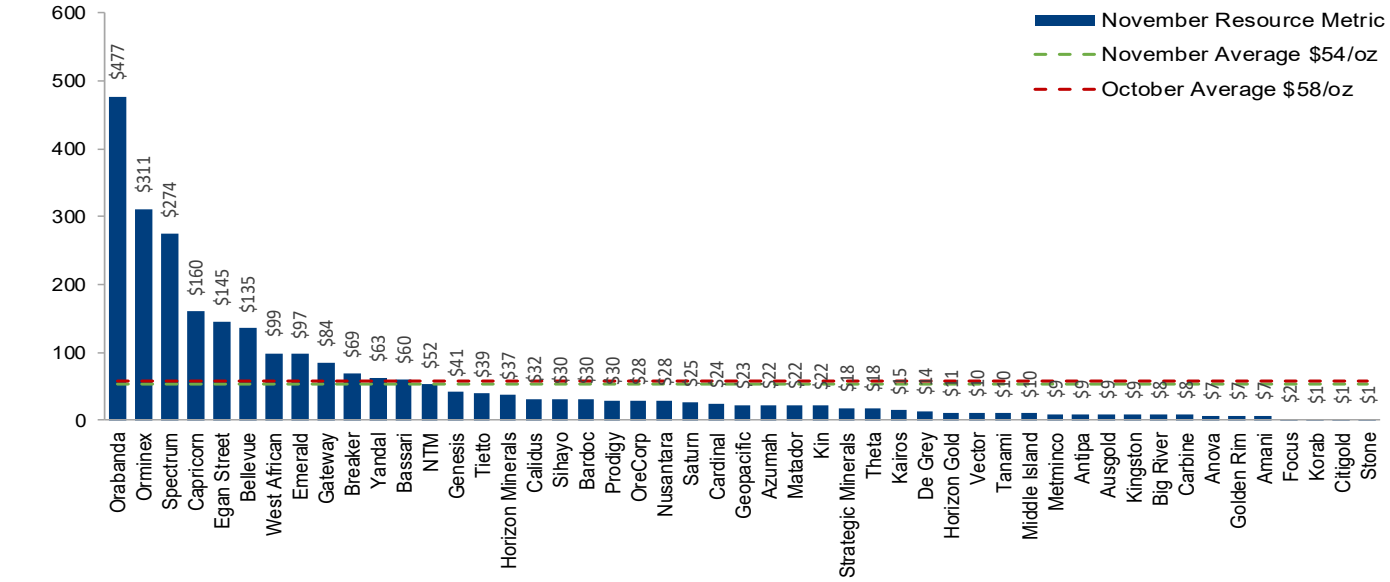
## ASX Producers - EV / Resource (A$/oz AuEq)




## ASX Producers - EV / Reserve (A$/oz AuEq)



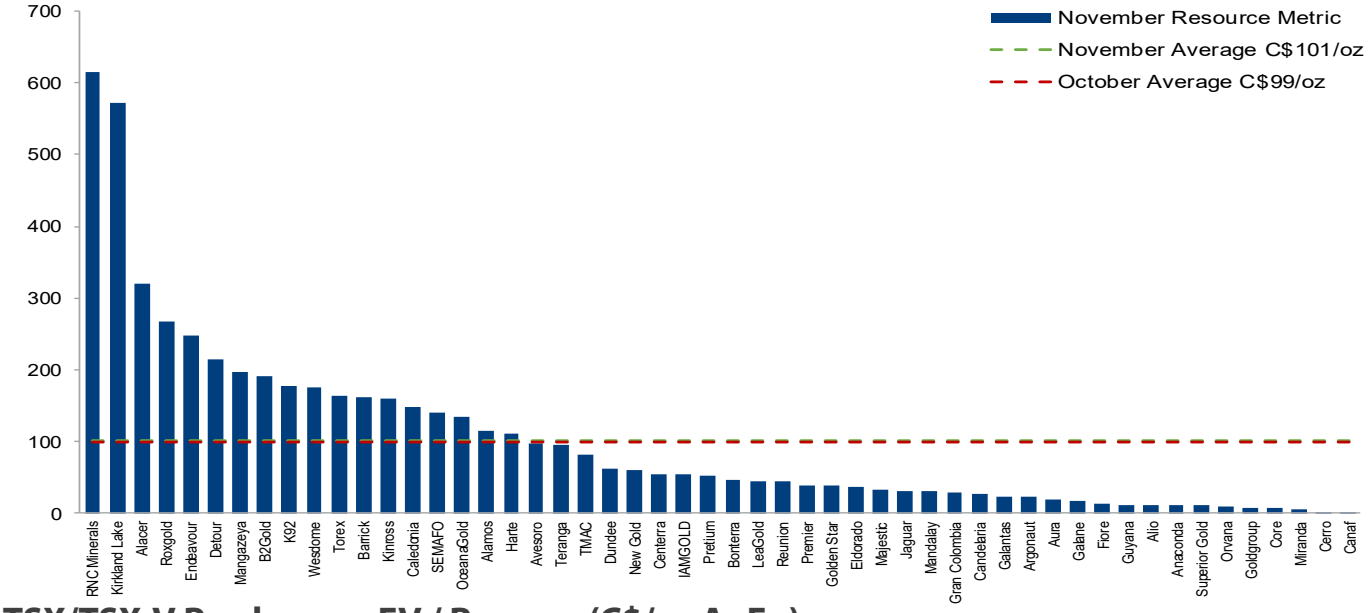

## ASX Explorers & Developers - EV / Resources (A$/oz AuEq)



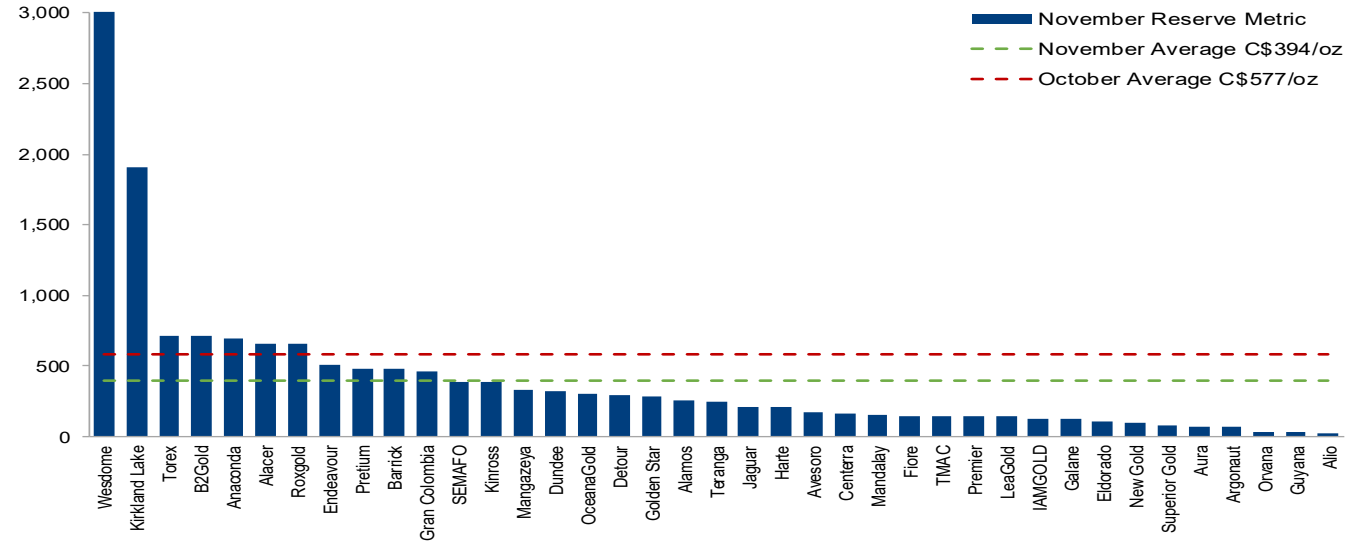
# Gold Peer Company Valuations

PCF Capital Group

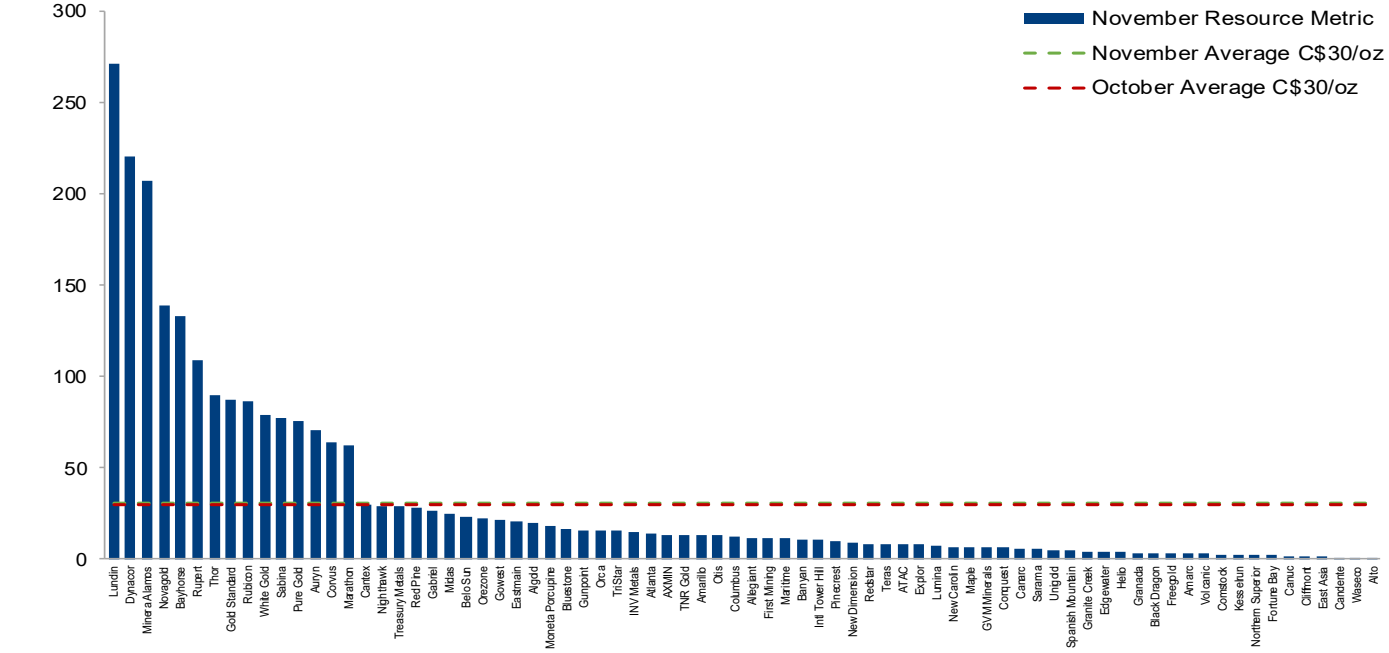
## TSX/TSX-V Producers - EV / Resource (C$/oz AuEq)



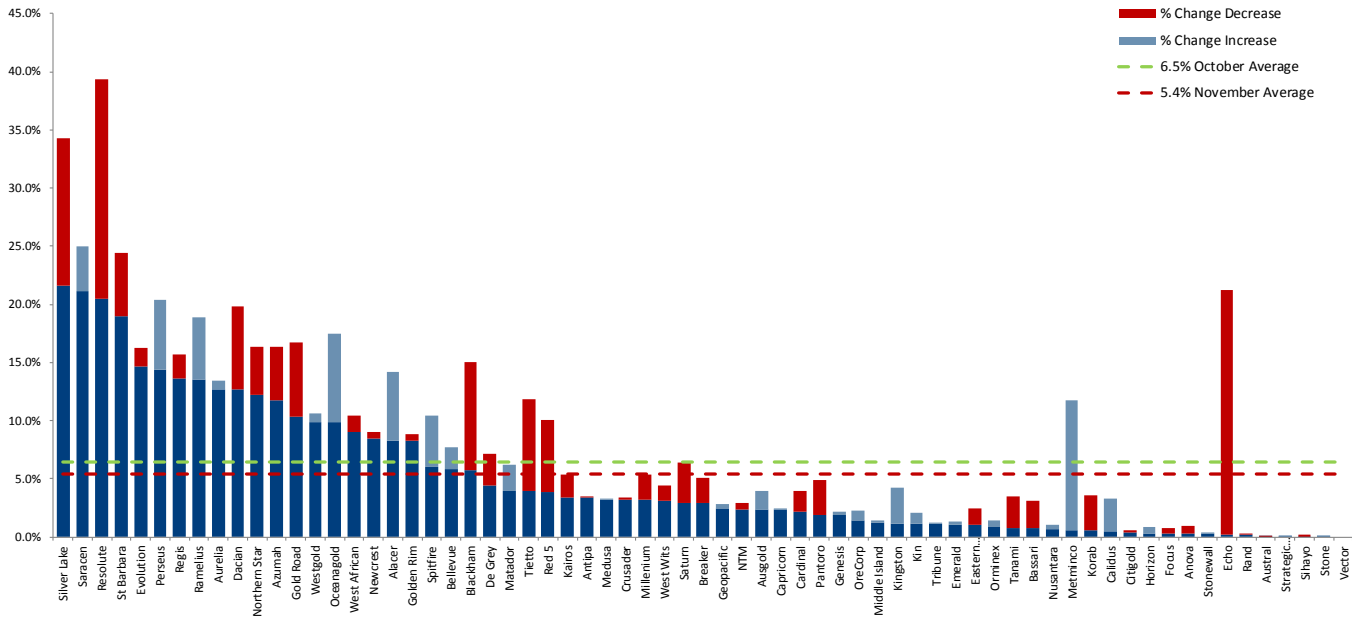

## TSX/TSX-V Producers - EV / Reserve (C$/oz AuEq)




## TSX/TSX-V Explorers & Developers - EV / Resources (C$/oz AuEq)

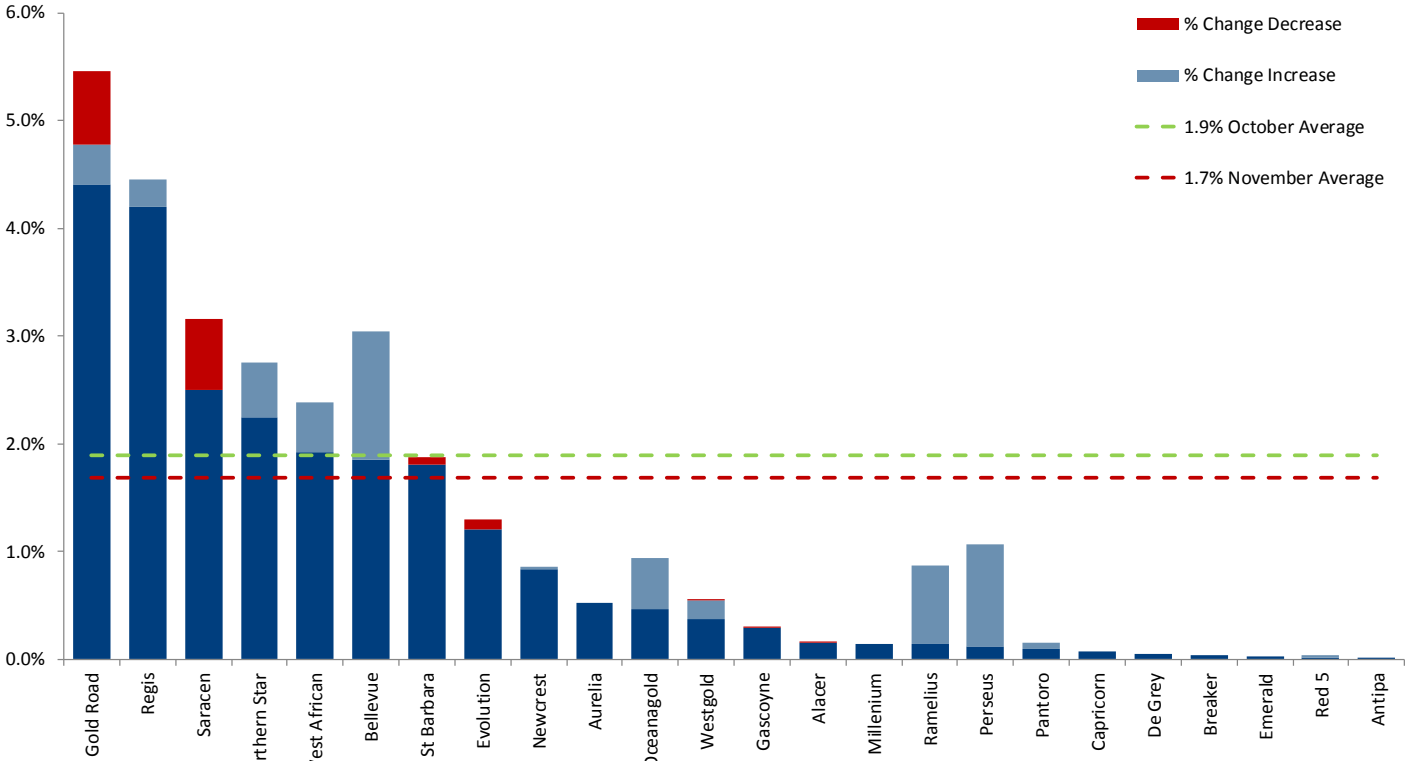


## Gold Sector Liquidity




Note: Bar chart illustrates monthly share turnover as a percentage of total shares on issue, from largest to smallest. An increase in share turnover (month-on-month) is represented by a light blue bar on top of the prior month's share turnover (being the dark blue bar). A decrease in share liquidity (month-on-month) is represented by the red bar (representing the prior month's share turnover) falling to the dark blue bar component (being the current month's turnover).

## Gold Sector Short Positions



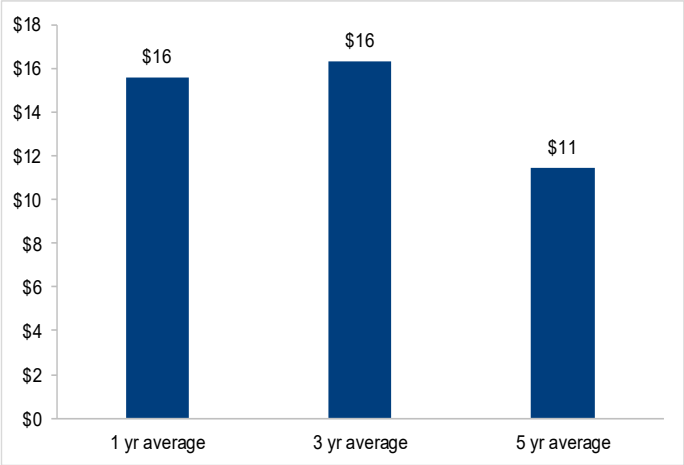

Note: Bar chart illustrates reported short positions as a percentage of total shares on issue, from largest to smallest result. An increase in short positions (month-on-month) is represented by a light blue bar on top of the prior month's short positions (being the dark blue bar). A decrease in short positions (month-on-month) is represented by the red bar (representing the prior month's short positions) falling to the dark blue bar component (being the current month's short positions). Compares data from 31/10/2019 to 30/11/2019.

# Gold Transaction Metrics
## - Resource and Reserve Multiples

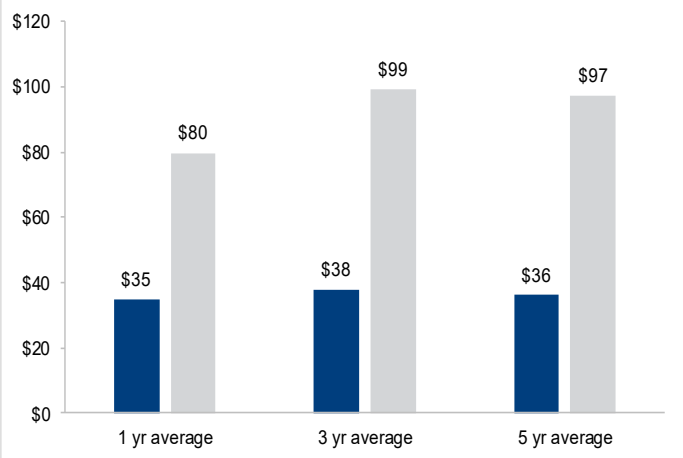
PCF Capital Group

Transaction multiples based on gold price of US$1,454/oz - 30 November 2019

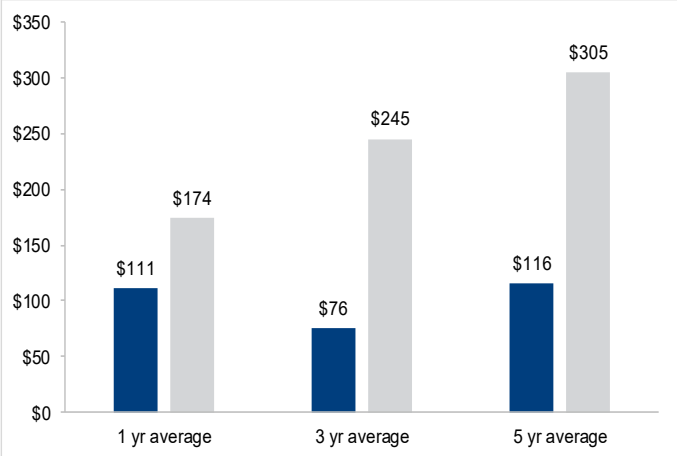
### Exploration (US$/oz AuEq)



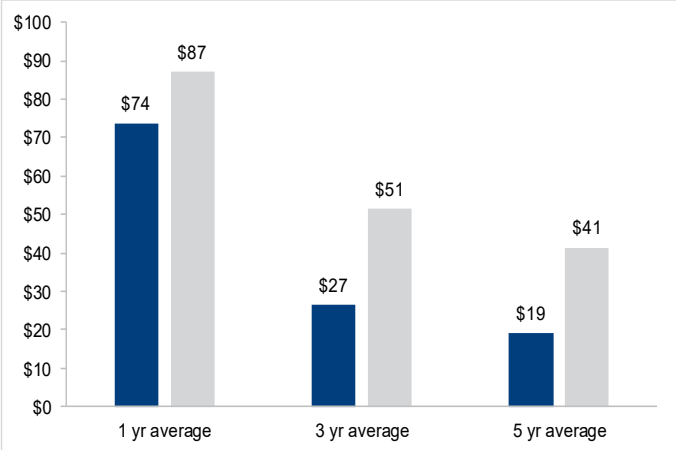

### Development (US$/oz AuEq)




### Operation (US$/oz AuEq)




### Care & Maintenance (US$/oz AuEq)




Resource Reserve

1. Transaction metrics are derived from transactions normalised to account for movements in commodity prices.
2. Completed transactions only
*Denotes metric is derived from four transaction results or less

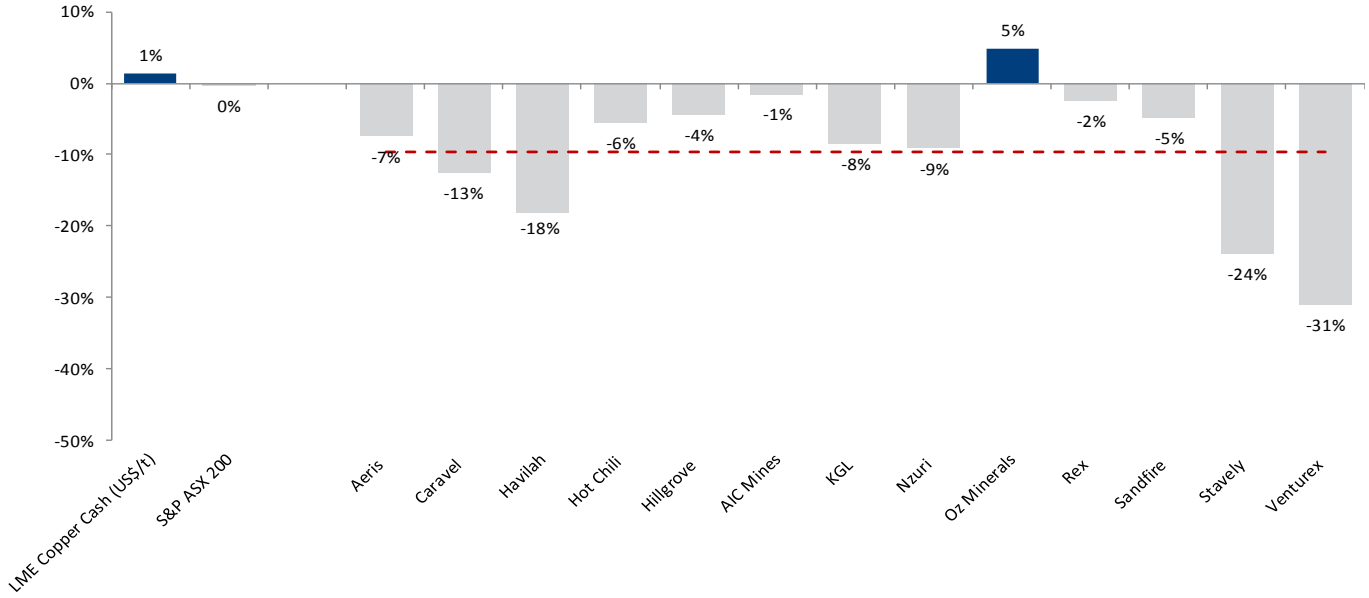
# COPPER

## *Thermometer*

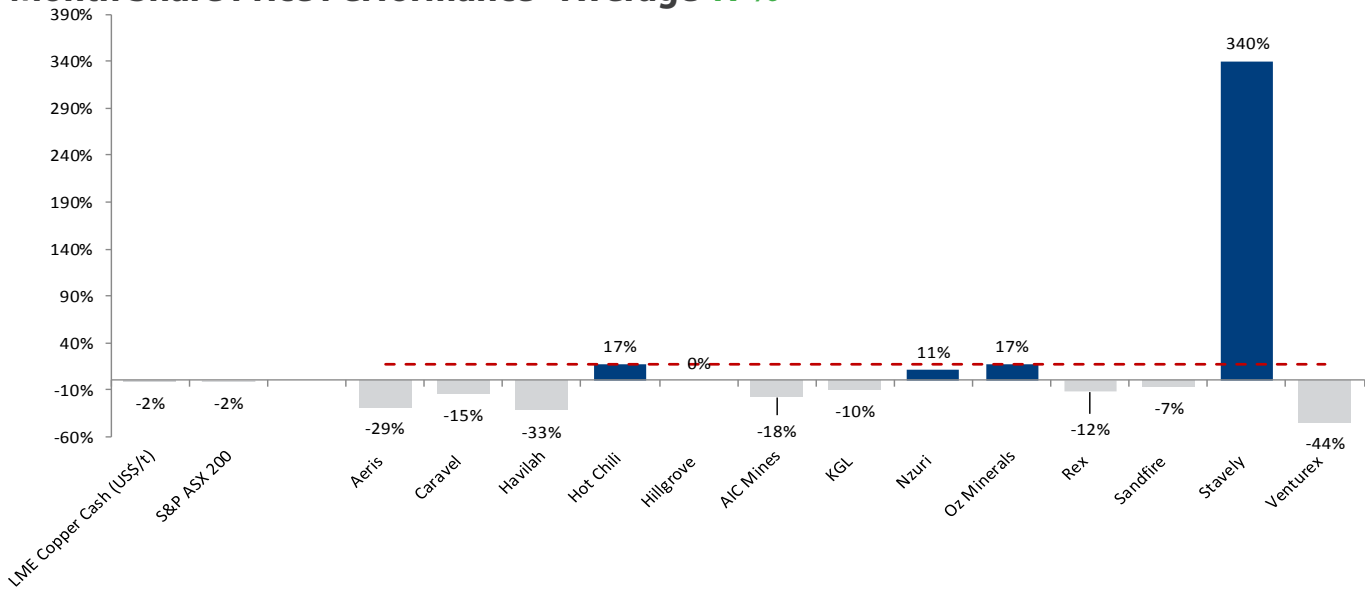
# Copper Stocks Relative Performance

PCF Capital Group

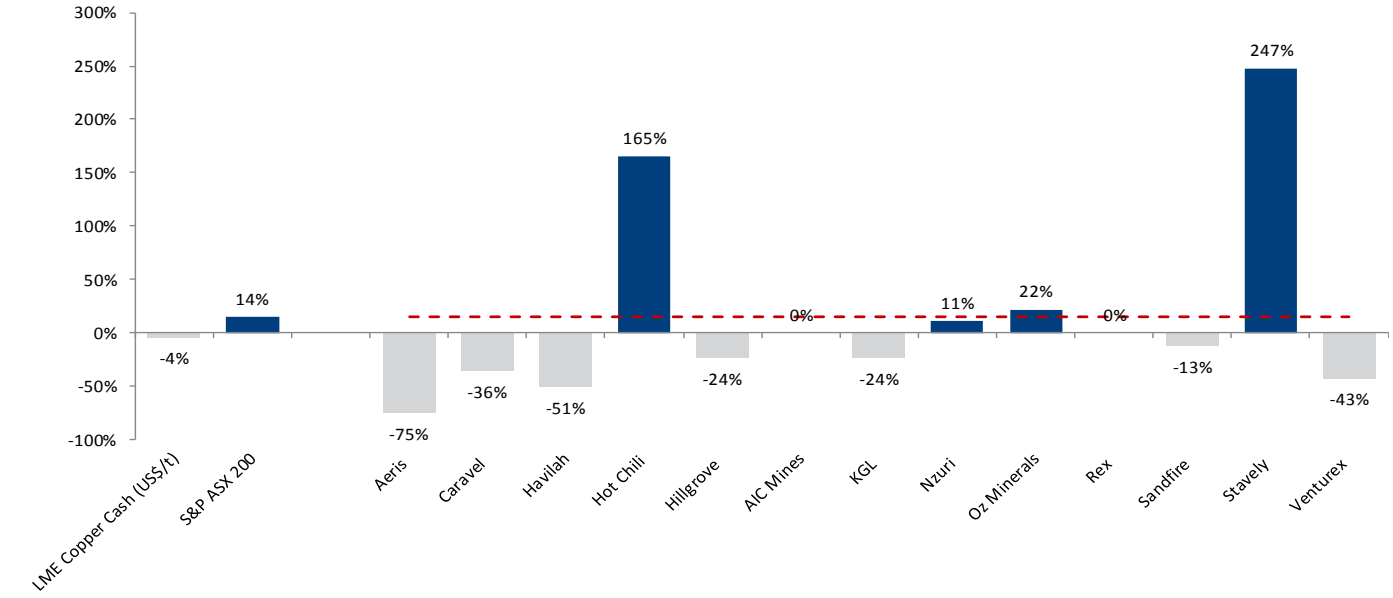
## 1 Month Share Price Performance - Average -10%




## 3 Month Share Price Performance - Average 17%

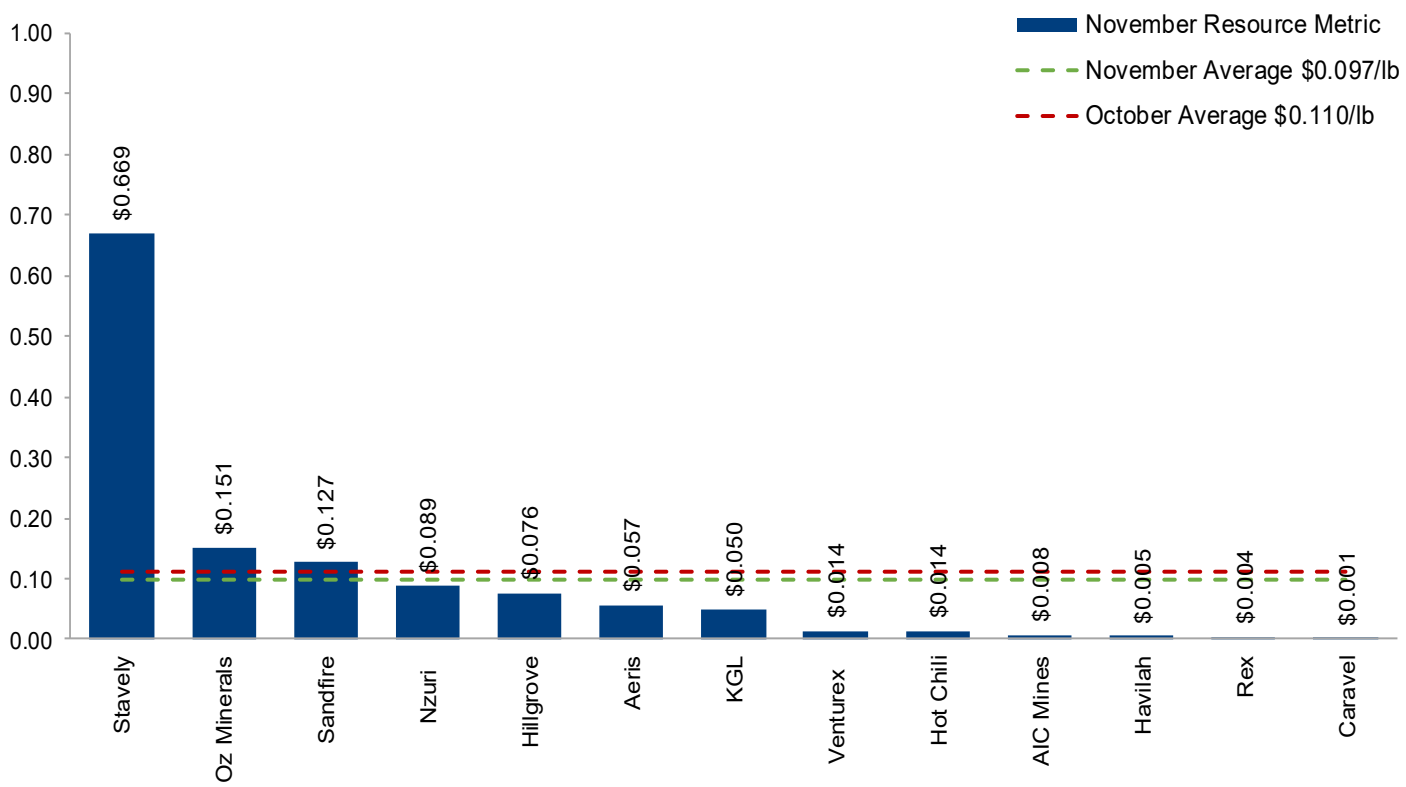



## 12 Month Share Price Performance - Average 15%

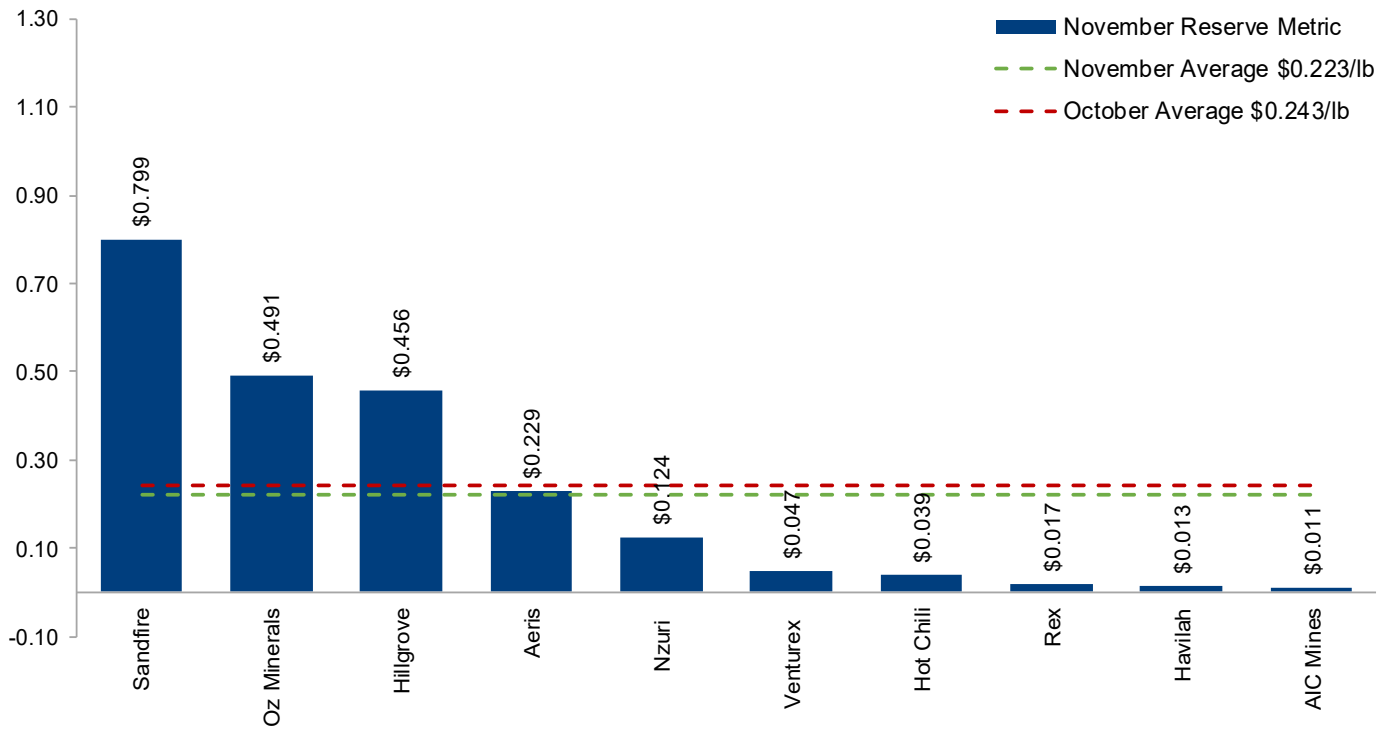



N.B. Where no % is shown, there is no reportable performance for that period i.e. due to delisting or not yet being listed.

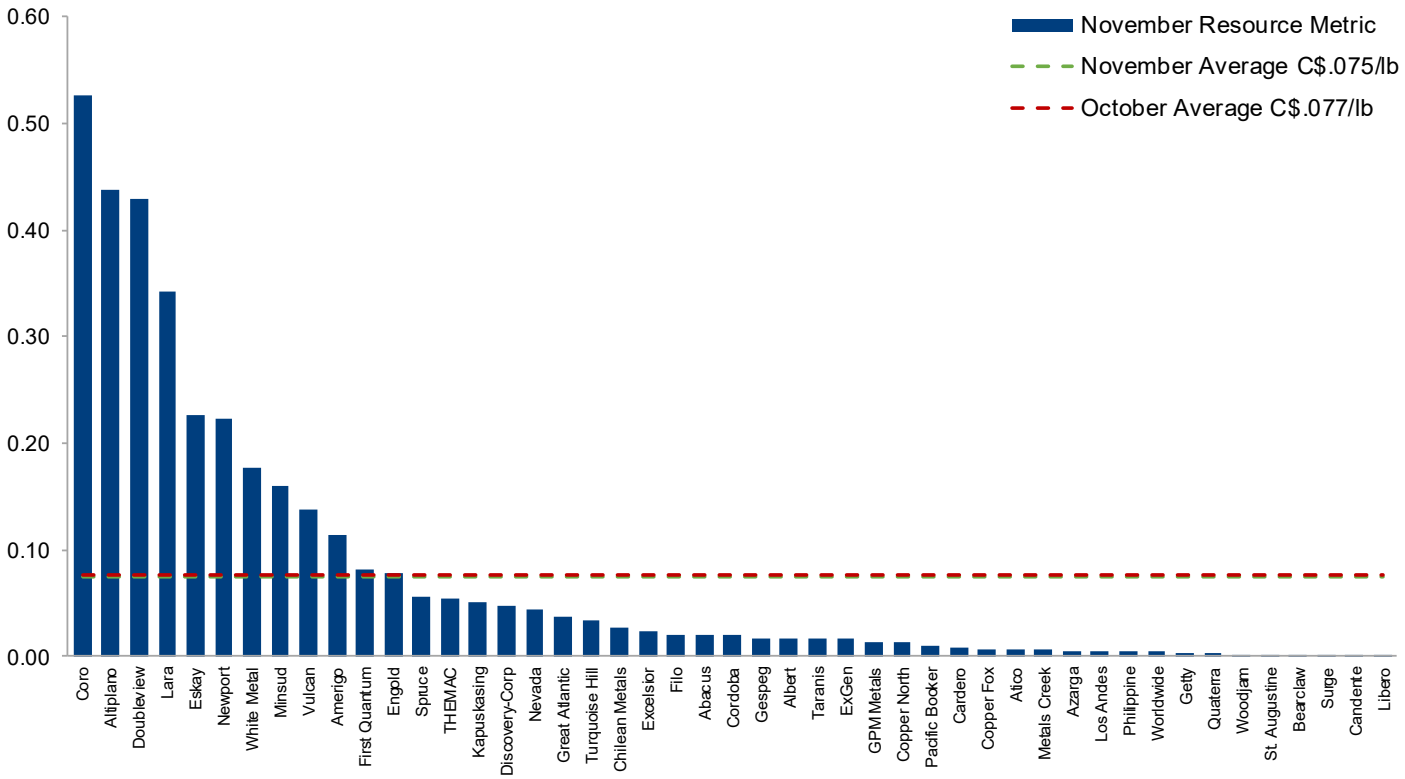
## ASX EV / Resource (A$/lb CuEq)



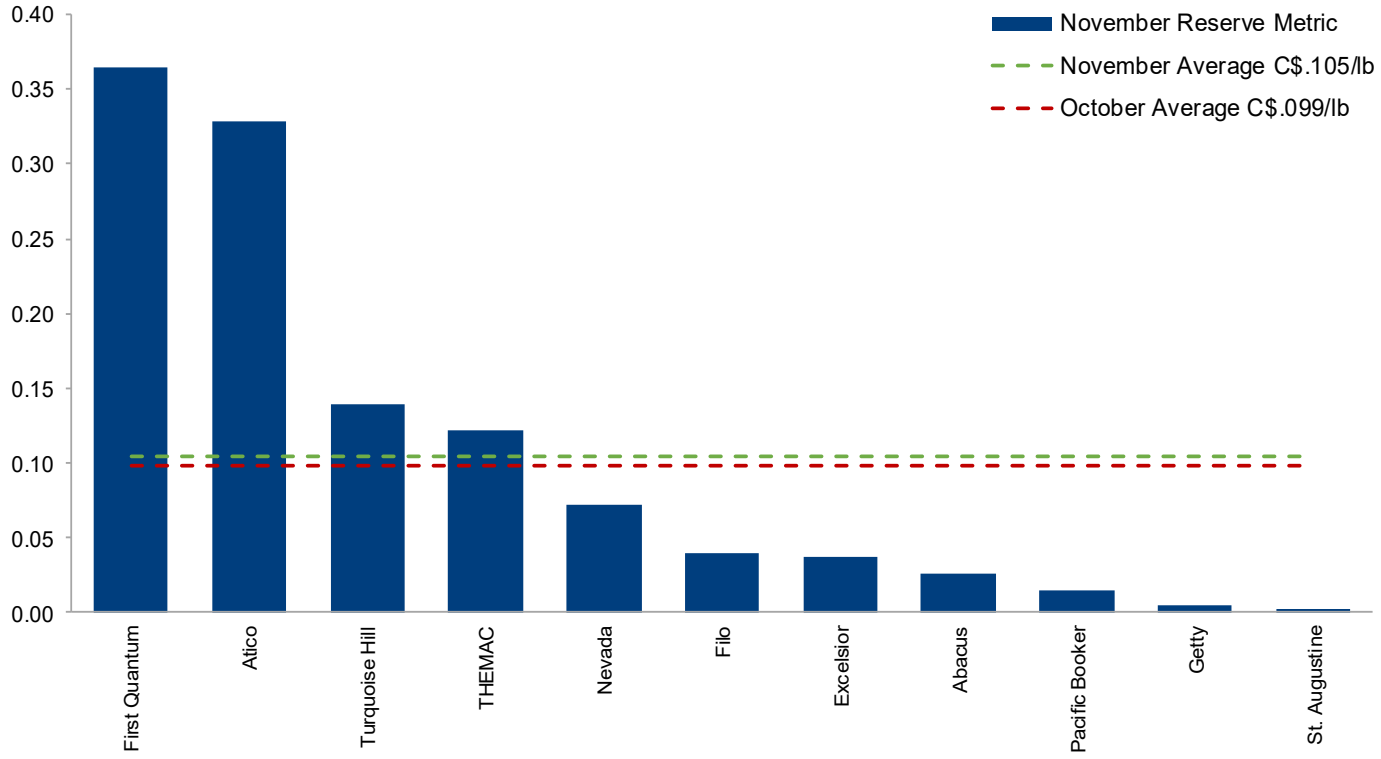

## ASX EV / Reserve (A$/lb CuEq)



## TSX/TSX-V EV / Resource (C$/lb CuEq)

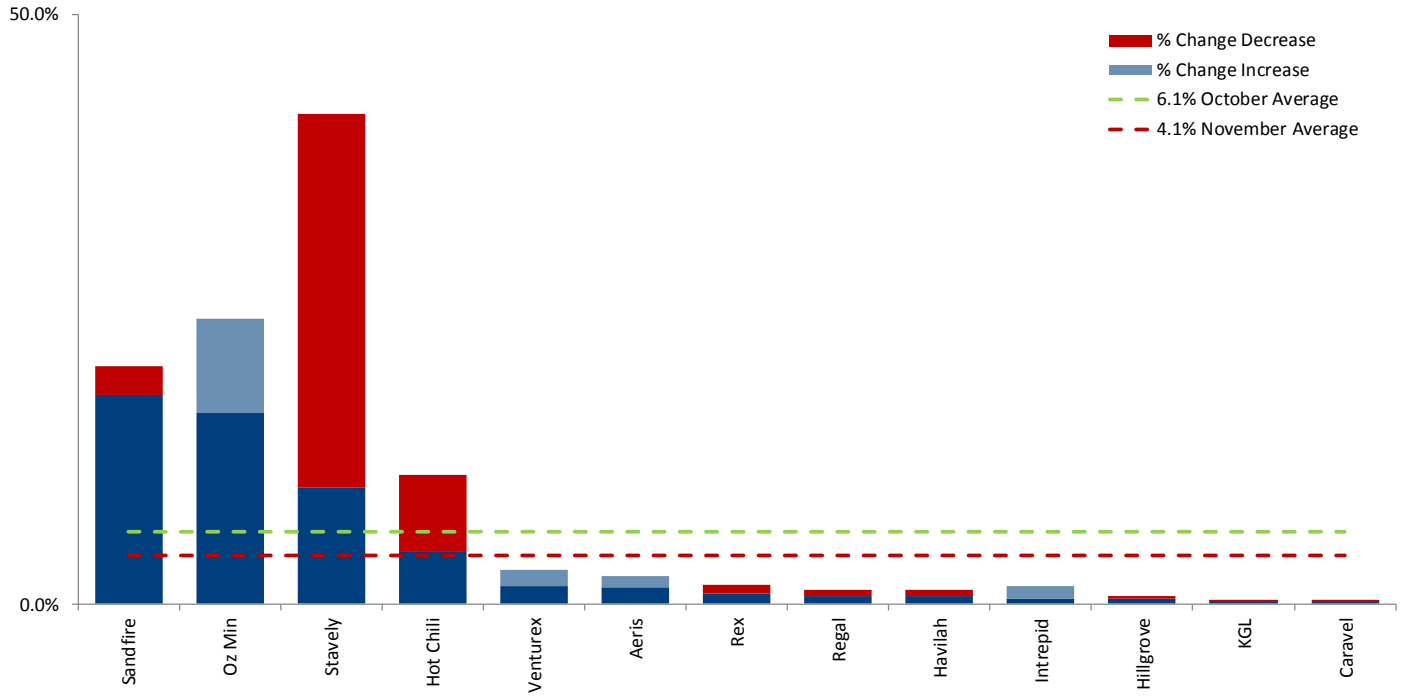



## TSX/TSX-V EV / Reserve (C$/lb CuEq)



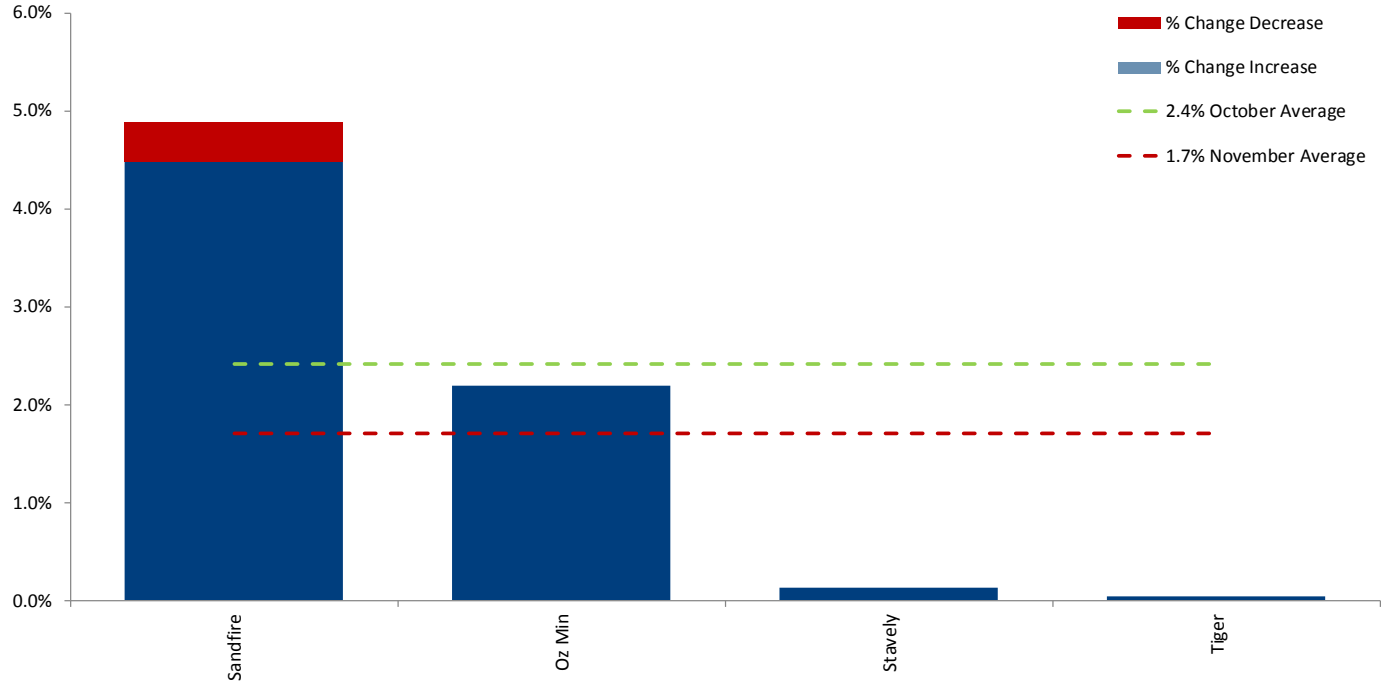
PCF Capital Group

## Copper Sector Liquidity




Note: Bar chart illustrates monthly share turnover as a percentage of total shares on issue, from largest to smallest. An increase in share turnover (month-on-month) is represented by a light blue bar on top of the prior month's share turnover (being the dark blue bar). A decrease in share liquidity (month-on-month) is represented by the red bar (representing the prior month's share turnover) falling to the dark blue bar component (being the current month's turnover).

## Copper Sector Short Positions



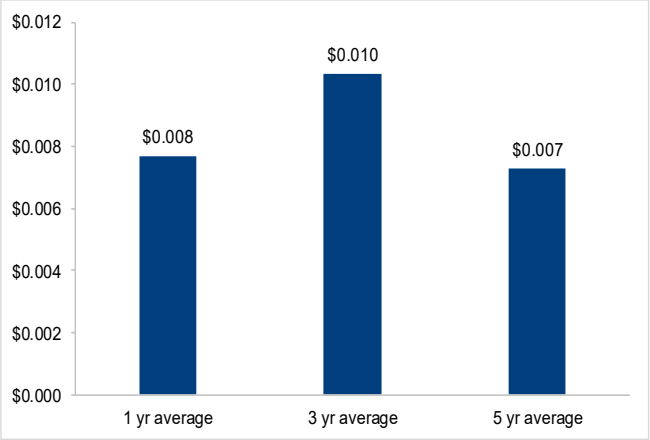

Note: Bar chart illustrates reported short positions as a percentage of total shares on issue, from largest to smallest result. An increase in short positions (month-on-month) is represented by a light blue bar on top of the prior month's short positions (being the dark blue bar). A decrease in short positions (month-on-month) is represented by the red bar (representing the prior month's short positions) falling to the dark blue bar component (being the current month's short positions). Compares data from 31/10/2019 to 30/11/2019.

# Copper Transaction Metrics
## - Resource and Reserve Multiples

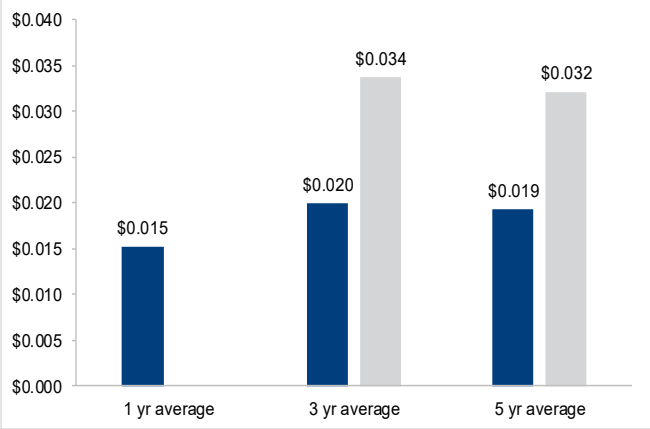
PCF Capital Group

Transaction multiples based on copper price of US$2.69/lb - 30 November 2019

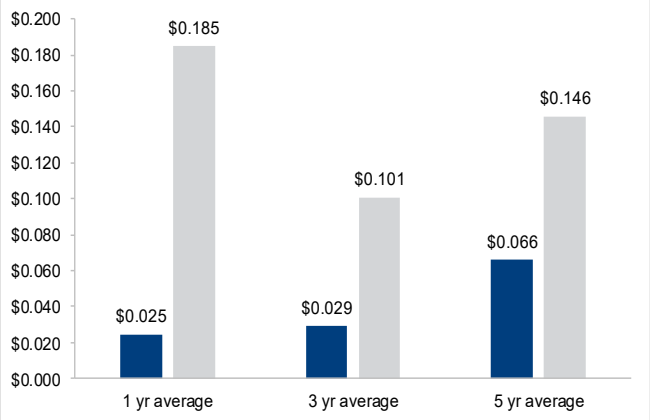
### Exploration (US$/lb CuEq)



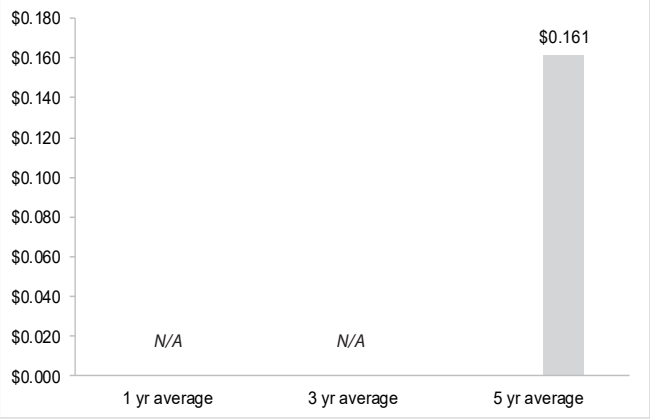

### Development (US$/lb CuEq)




### Operation (US$/lb CuEq)




### Care & Maintenance (US$/lb CuEq)




Resource Reserve

1. Transaction metrics are derived from transactions normailised to account for movements in commodity prices.
2. Completed transactions only
*Denotes metric is derived from four transaction results or less

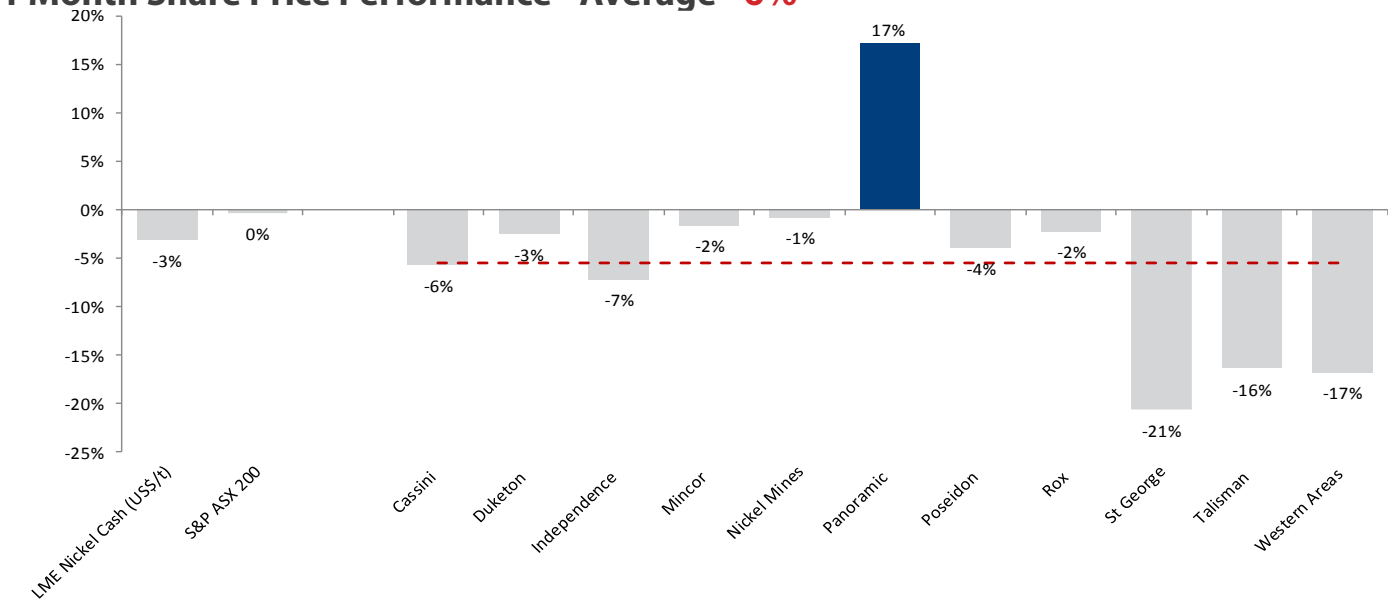
# NICKEL

## *Thermometer*

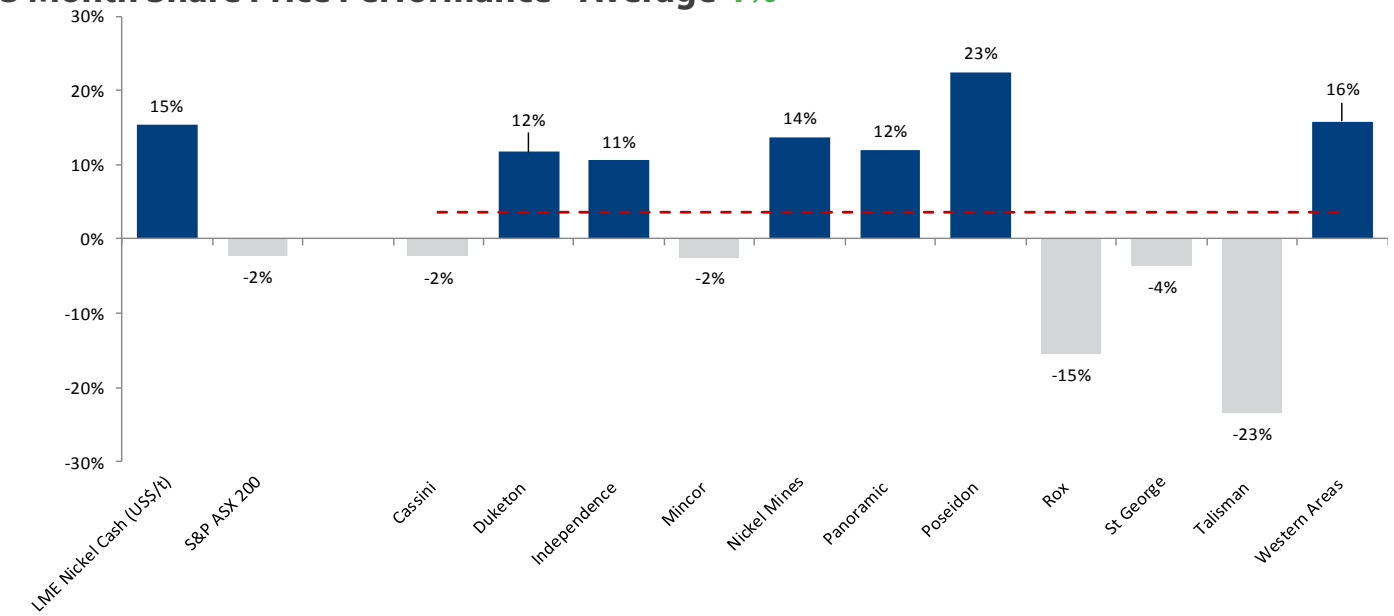
# Nickel Stocks Relative Performance

PCF Capital Group

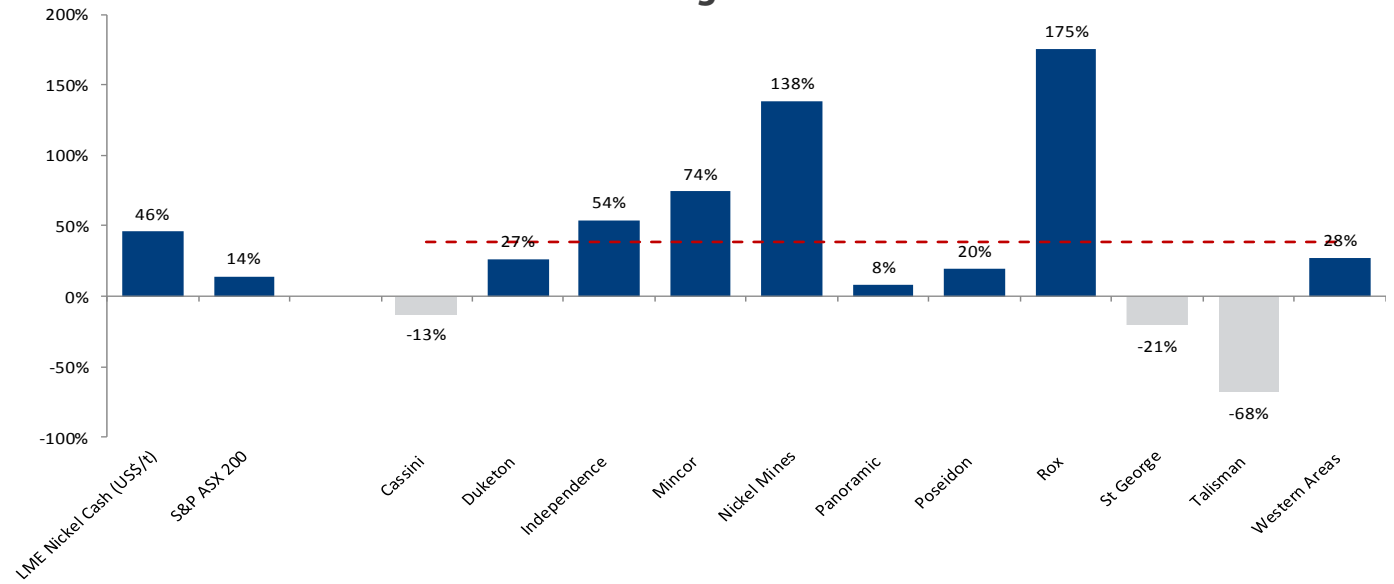
## 1 Month Share Price Performance - Average -6%




## 3 Month Share Price Performance - Average 4%




## 12 Month Share Price Performance - Average 38%

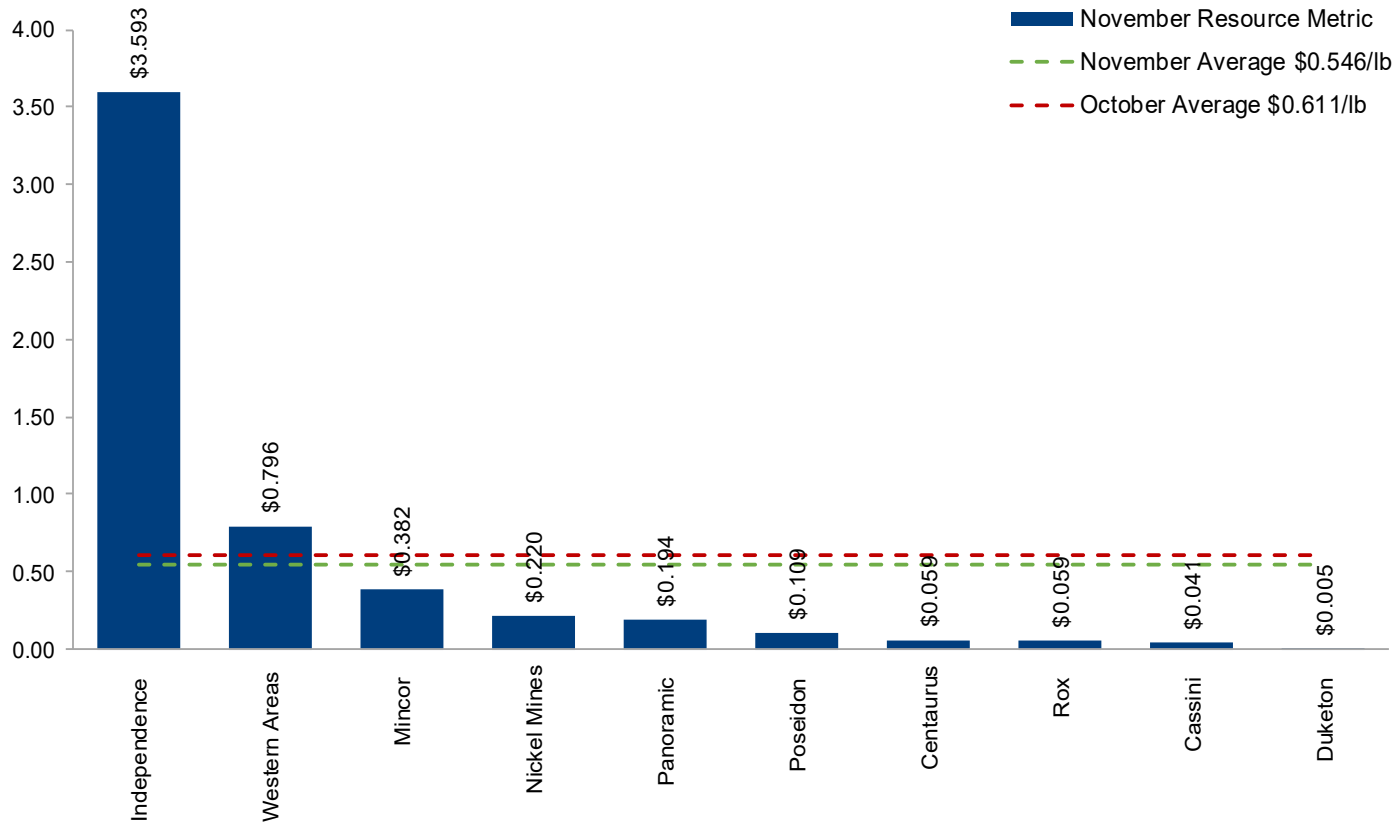



N.B. Where no % is shown, there is no reportable performance for that period i.e. due to delisting or not yet being listed.

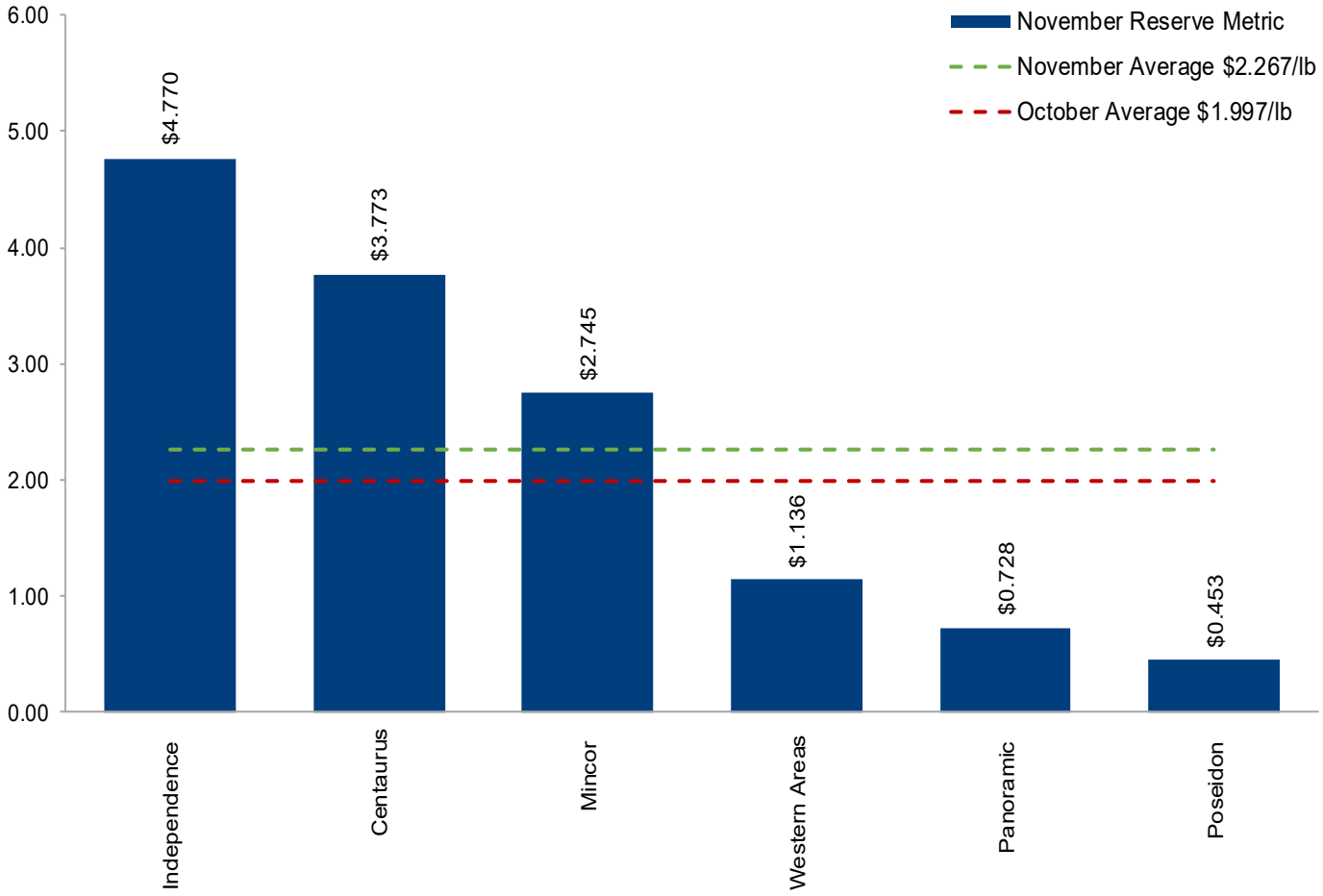
# Nickel Peer Company Valuations

PCF Capital Group

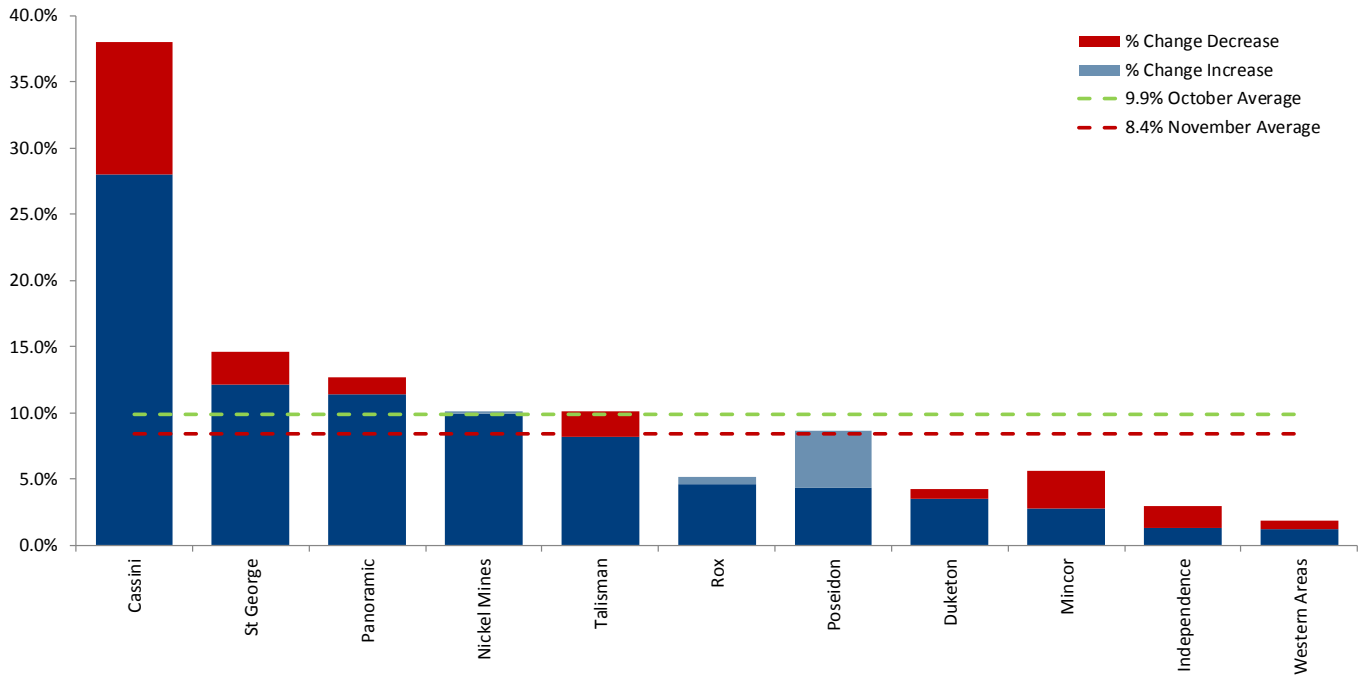
## EV / Resource (A$/lb NiEq)




## EV / Reserve (A$/lb NiEq)

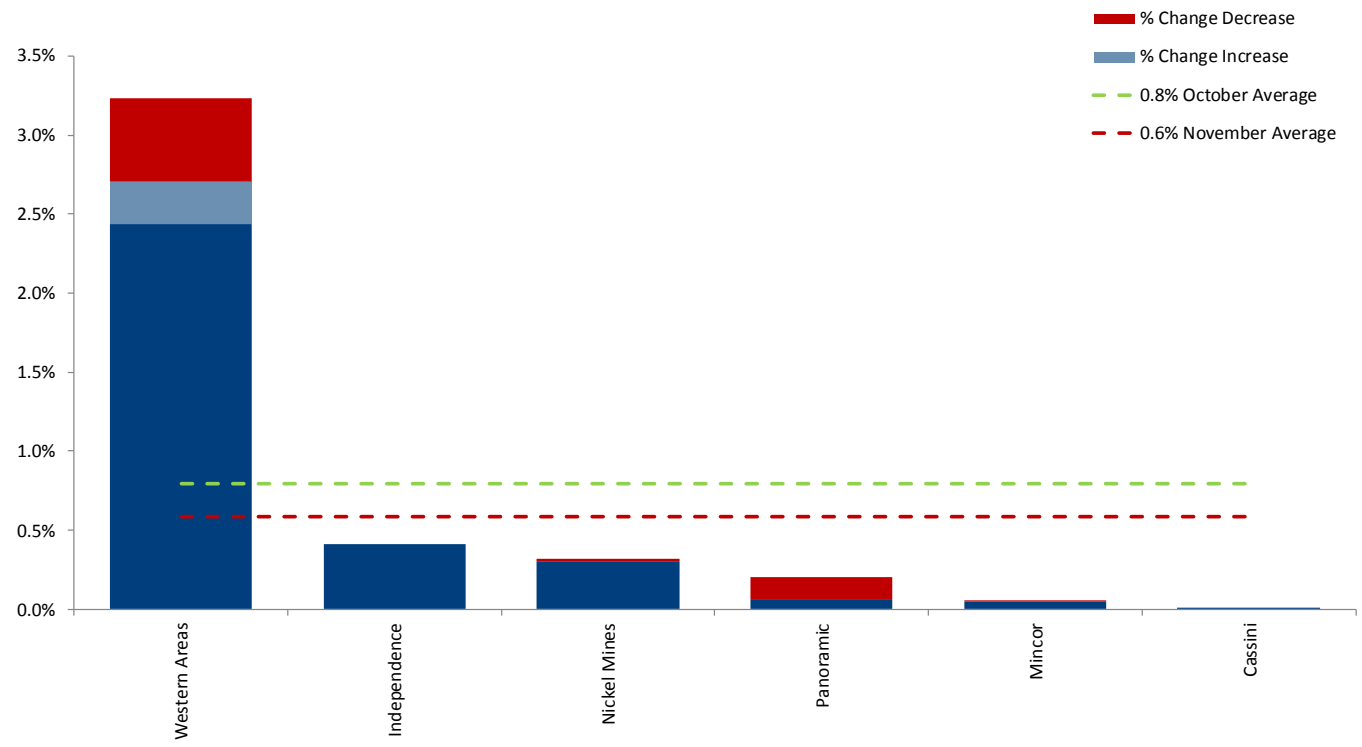


## Nickel Sector Liquidity




Note: Bar chart illustrates monthly share turnover as a percentage of total shares on issue, from largest to smallest. An increase in share turnover (month-on-month) is represented by a light blue bar on top of the prior month's share turnover (being the dark blue bar). A decrease in share liquidity (month-on-month) is represented by the red bar (representing the prior month's share turnover) falling to the dark blue bar component (being the current month's turnover).

## Nickel Sector Short Positions



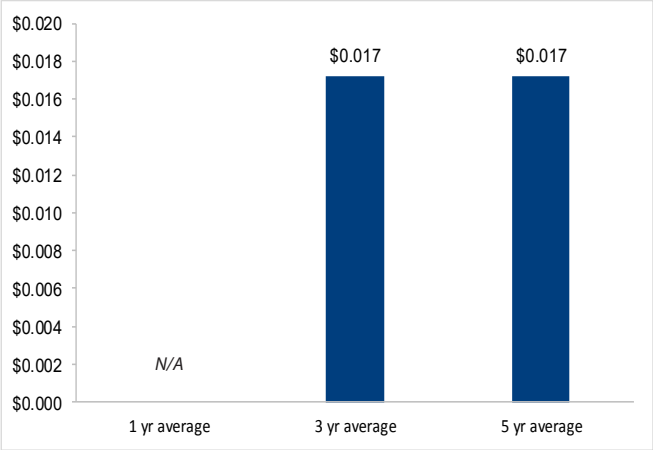

Note: Bar chart illustrates reported short positions as a percentage of total shares on issue, from largest to smallest result. An increase in short positions (month-on-month) is represented by a light blue bar on top of the prior month's short positions (being the dark blue bar). A decrease in short positions (month-on-month) is represented by the red bar (representing the prior month's short positions) falling to the dark blue bar component (being the current month's short positions). Compares data from 31/10/2019 to 30/11/2019.

# Nickel Transaction Metrics
## - Resource and Reserve Multiples

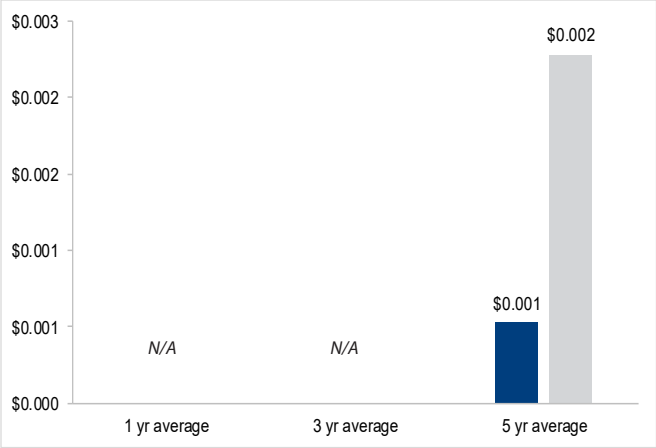
PCF Capital Group

Transaction multiples based on nickel price of US$6.50/lb - 30 November 2019

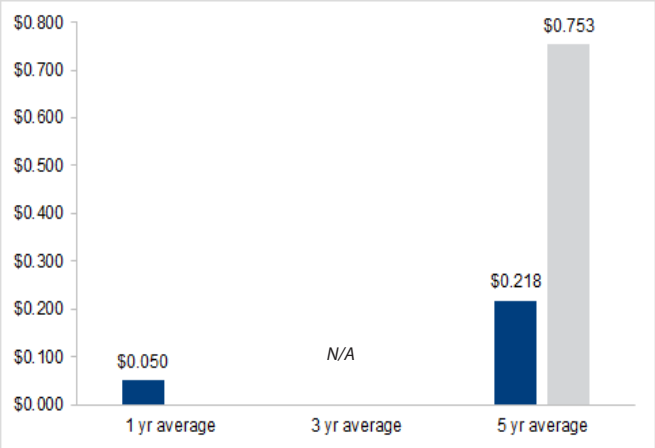
### Exploration (US$/lb NiEq)



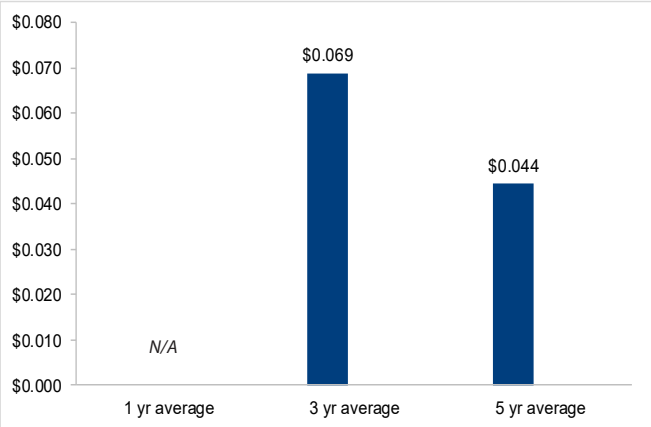

### Development (US$/lb NiEq)




### Operation (US$/lb NiEq)




### Care & Maintenance (US$/lb NiEq)




Resource Reserve

1. Transaction metrics are derived from transactions normailised to account for movements in commodity prices.
2. Completed transactions only
*Denotes metric is derived from four transaction results or less

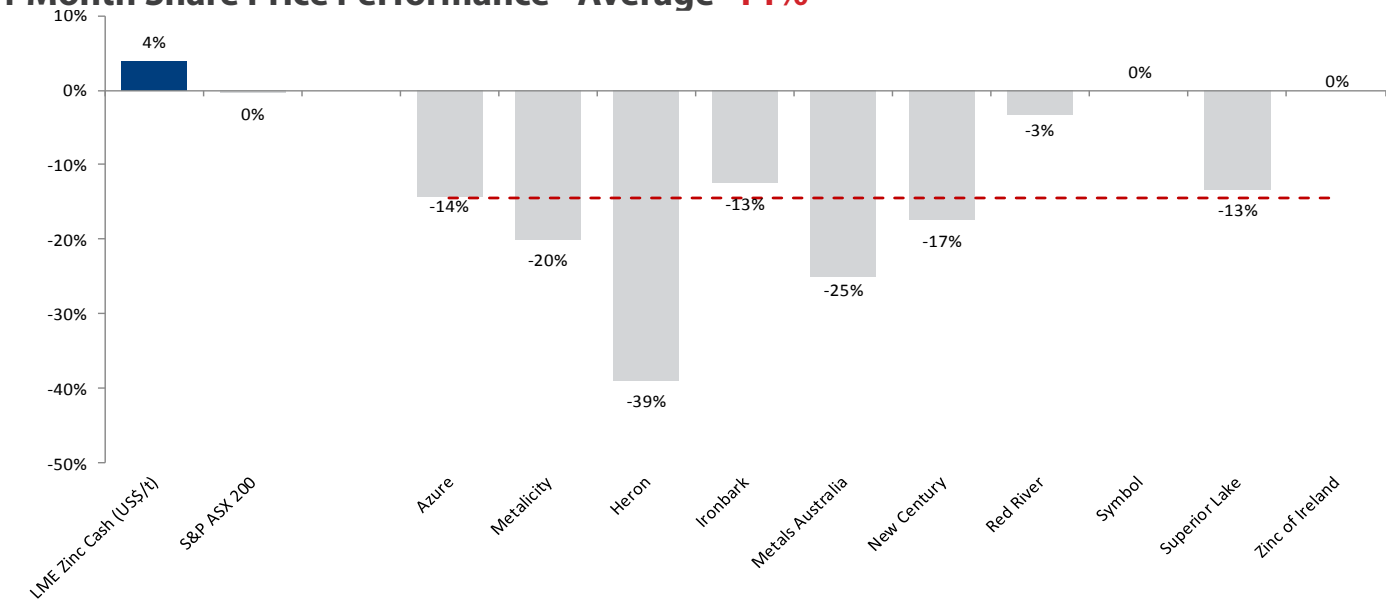
# ZINC

## *Thermometer*

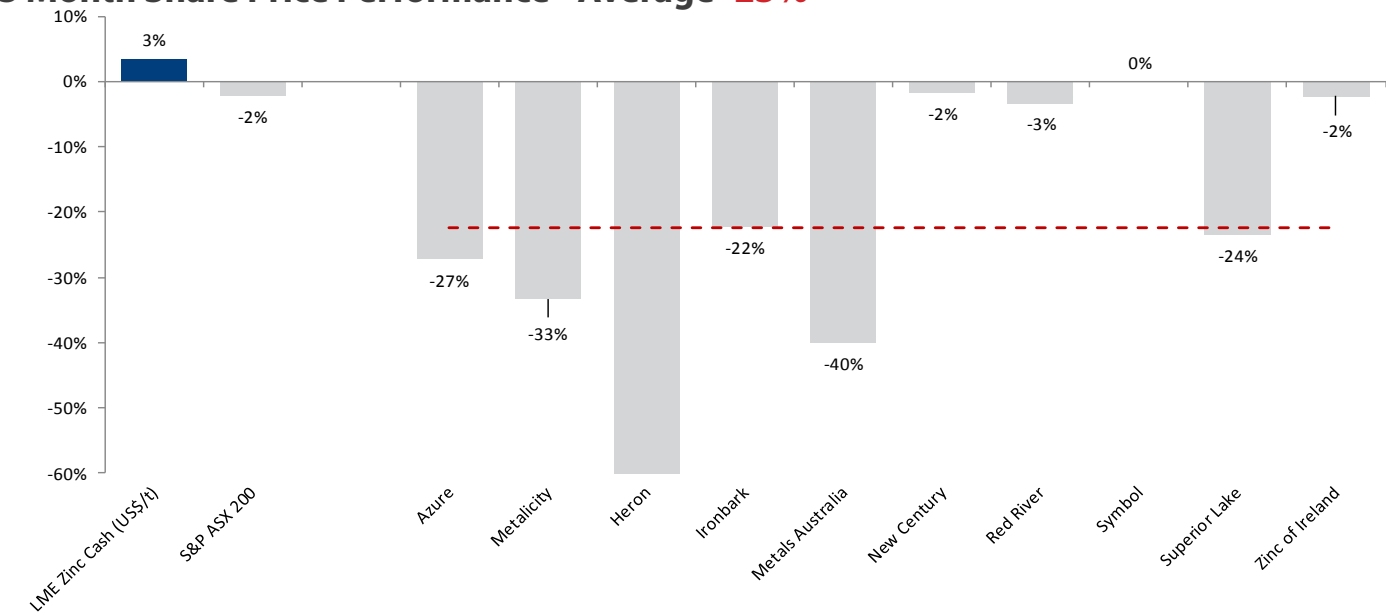
# Zinc Stocks Relative Performance

PCF Capital Group

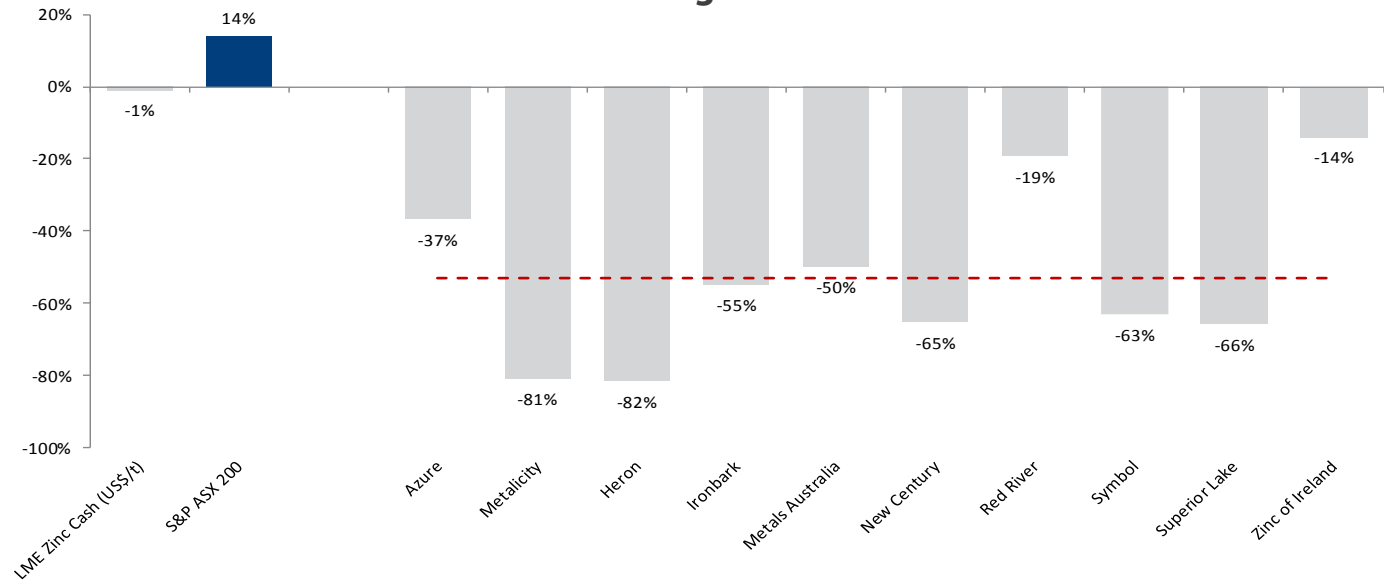
## 1 Month Share Price Performance - Average -14%




## 3 Month Share Price Performance - Average -23%




## 12 Month Share Price Performance - Average -53%

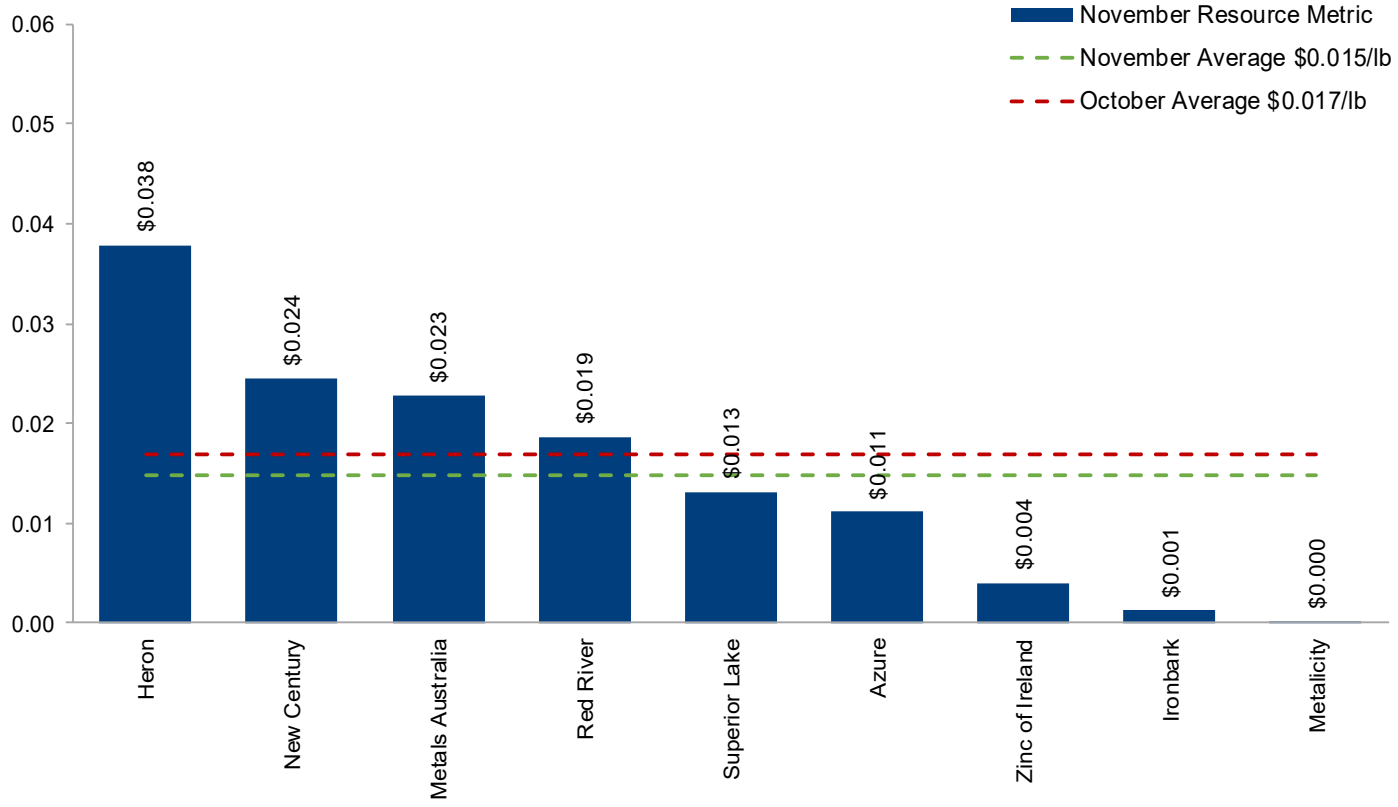



N.B. Where no % is shown, there is no reportable performance for that period i.e. due to delisting or not yet being listed.

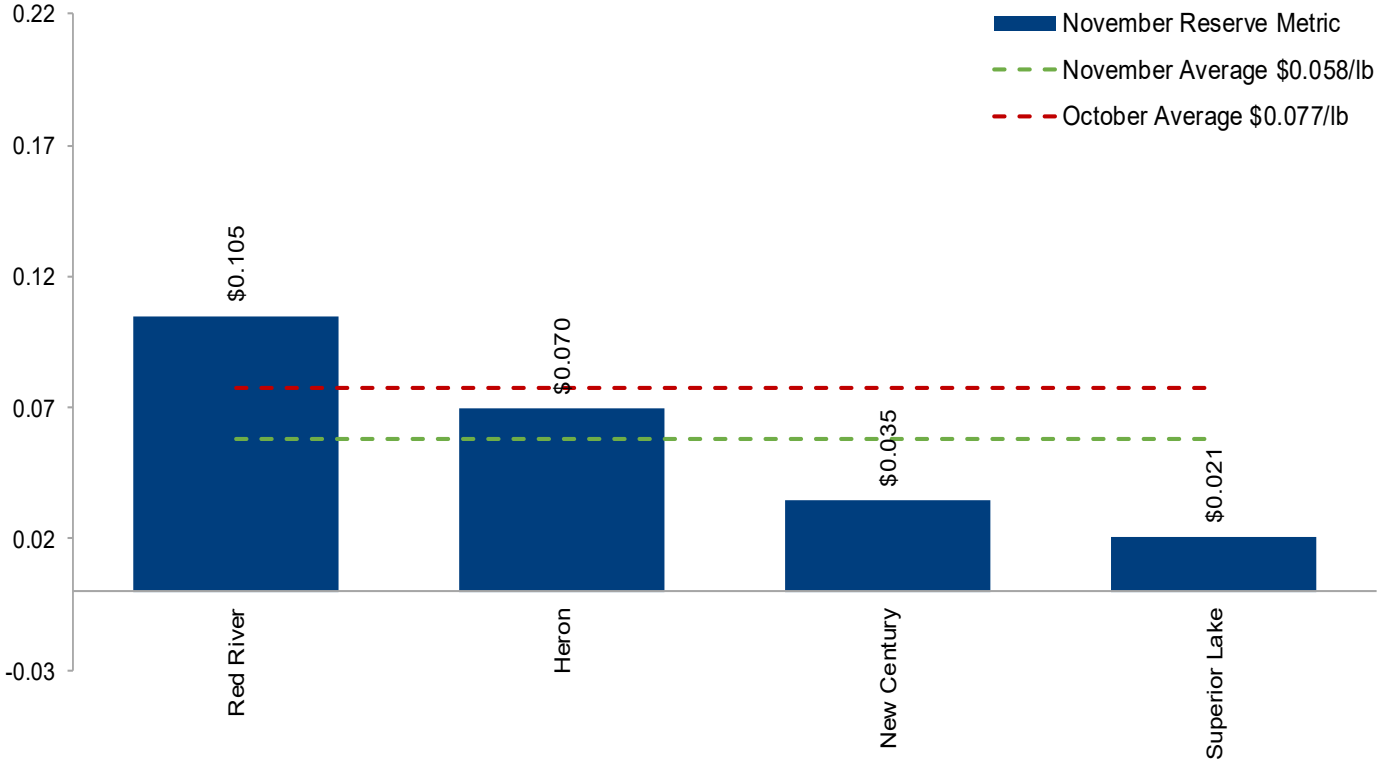
# Zinc Peer Company Valuations

PCF Capital Group

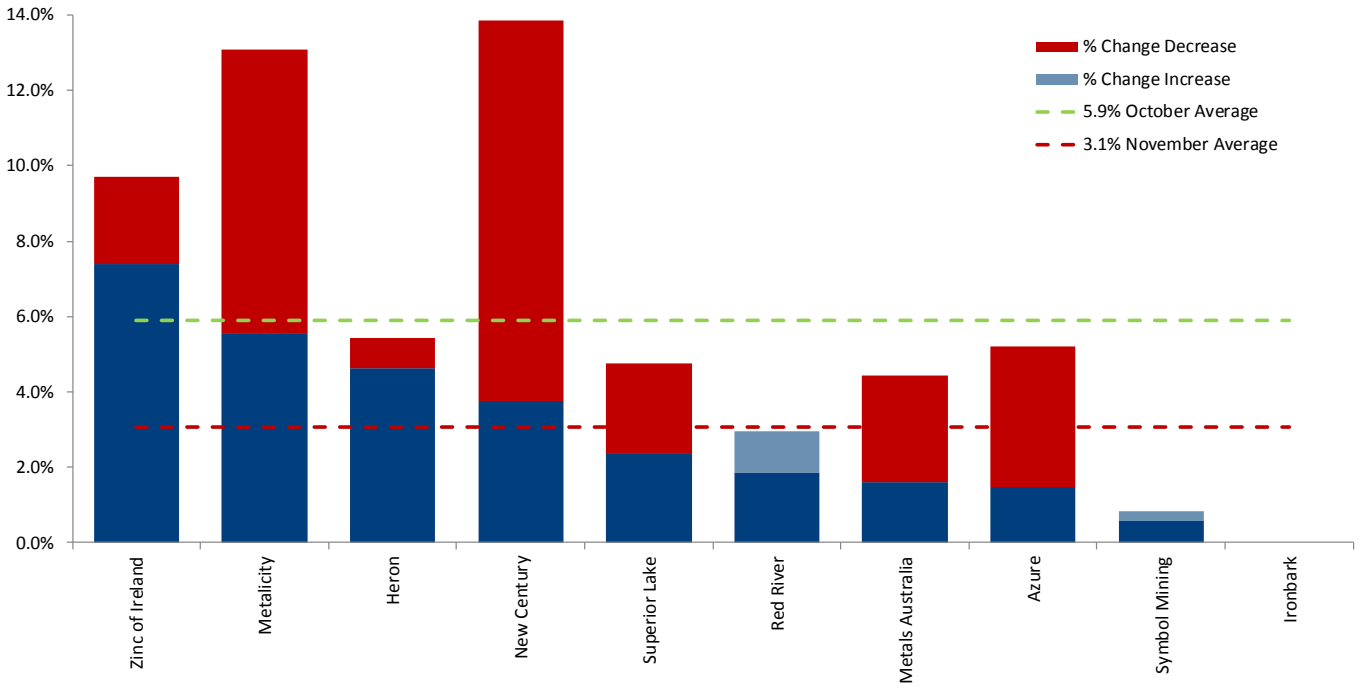
## EV / Resource (A$/lb ZnEq)




## EV / Reserve (A$/lb ZnEq)

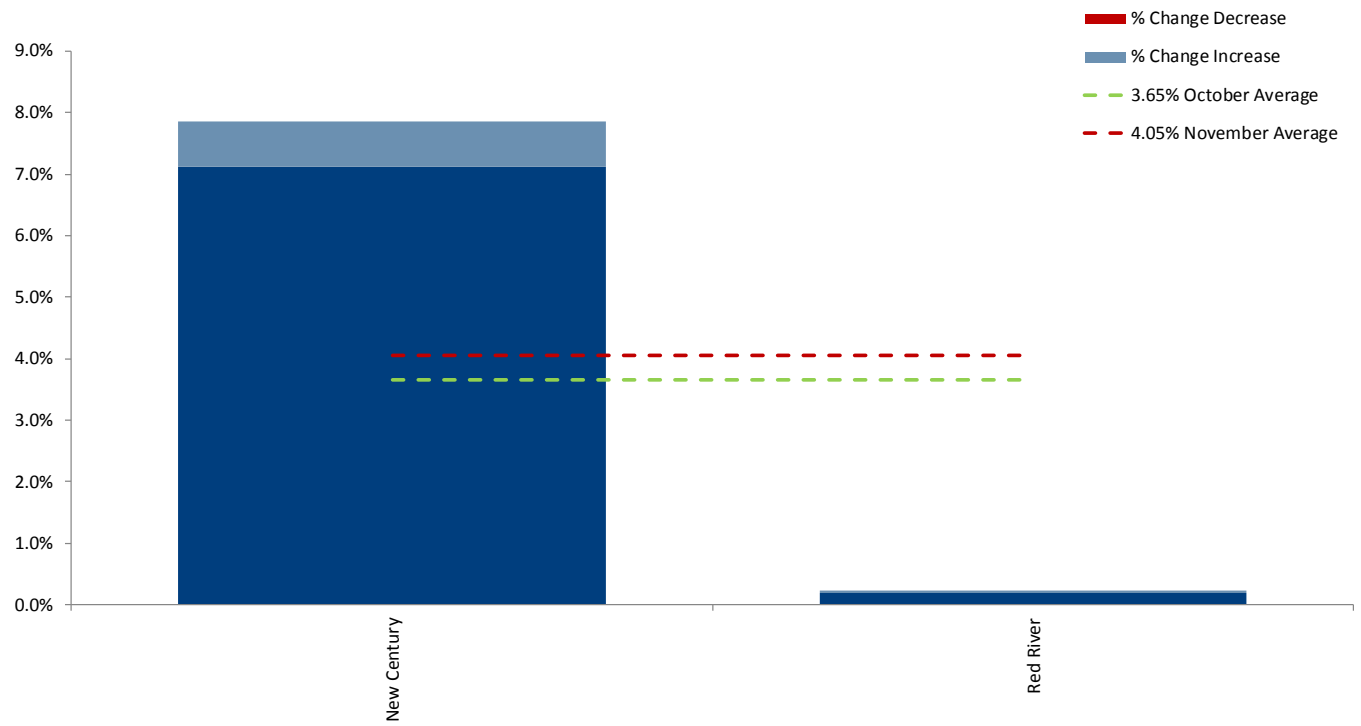


## Zinc Sector Liquidity




Note: Bar chart illustrates monthly share turnover as a percentage of total shares on issue, from largest to smallest. An increase in share turnover (month-on-month) is represented by a light blue bar on top of the prior month's share turnover (being the dark blue bar). A decrease in share liquidity (month-on-month) is represented by the red bar (representing the prior month's share turnover) falling to the dark blue bar component (being the current month's turnover).

## Zinc Sector Short Positions



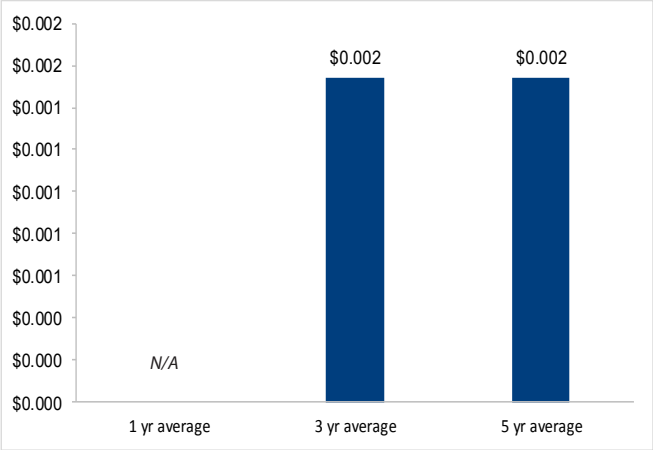

Note: Bar chart illustrates reported short positions as a percentage of total shares on issue, from largest to smallest result. An increase in short positions (month-on-month) is represented by a light blue bar on top of the prior month's short positions (being the dark blue bar). A decrease in short positions (month-on-month) is represented by the red bar (representing the prior month's short positions) falling to the dark blue bar component (being the current month's short positions). Compares data from 31/10/2019 to 30/11/2019.

# Zinc Transaction Metrics
## - Resource and Reserve Multiples

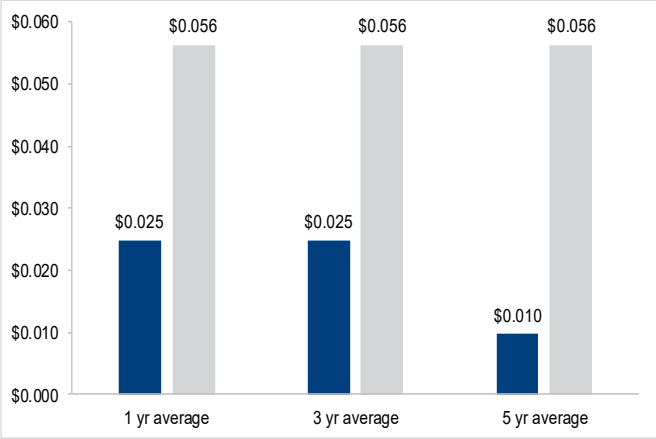
PCF Capital Group

Transaction multiples based on zinc price of US$1.05/lb - 30 November 2019

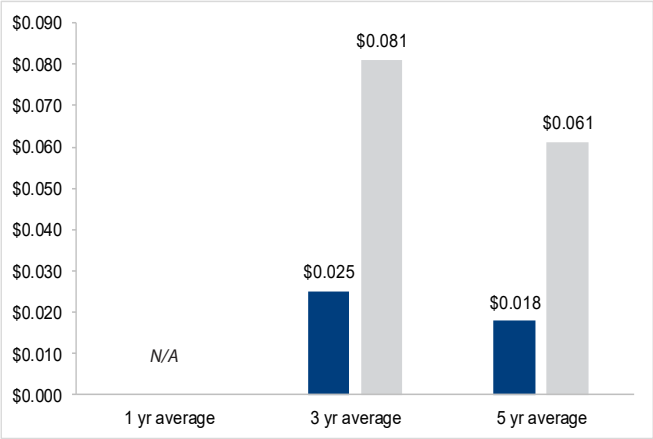
### Exploration (US$/lb ZnEq)



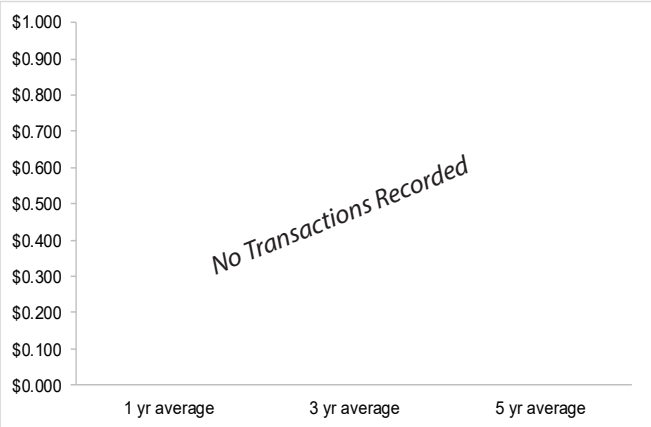

### Development (US$/lb ZnEq)




### Operation (US$/lb ZnEq)




### Care & Maintenance (US$/lb ZnEq)




Resource Reserve

1. Transaction metrics are derived from transactions normailised to account for movements in commodity prices.
2. Completed transactions only
*Denotes metric is derived from four transaction results or less

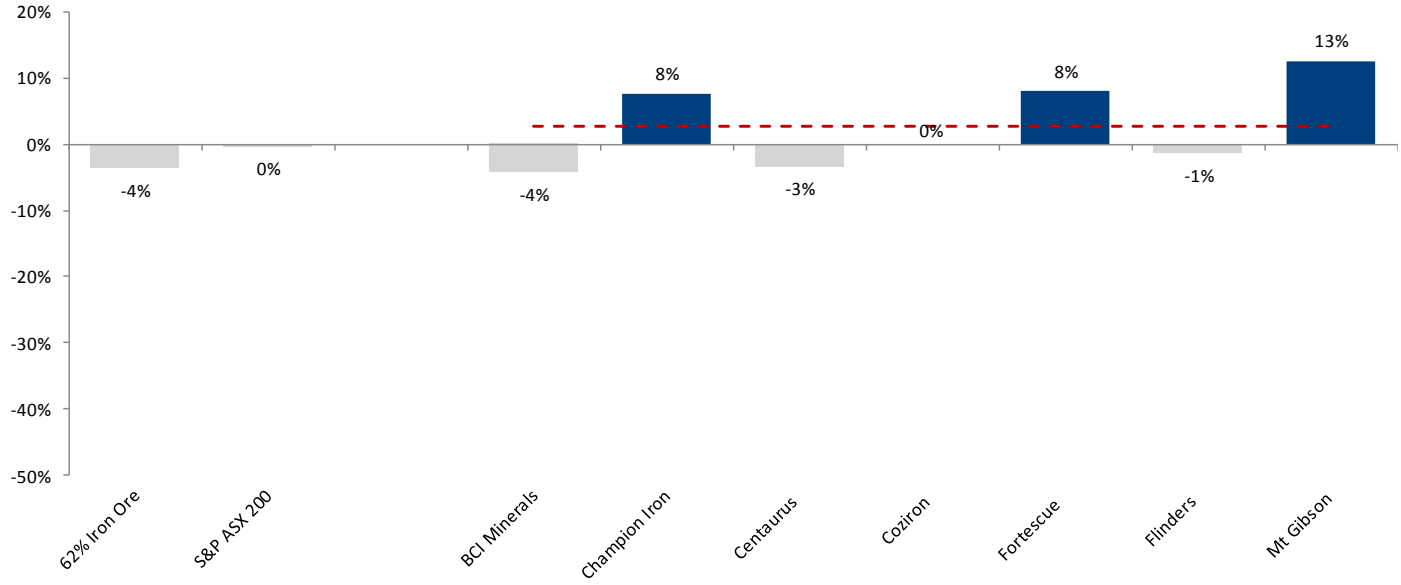
# IRON ORE

## *Thermometer*

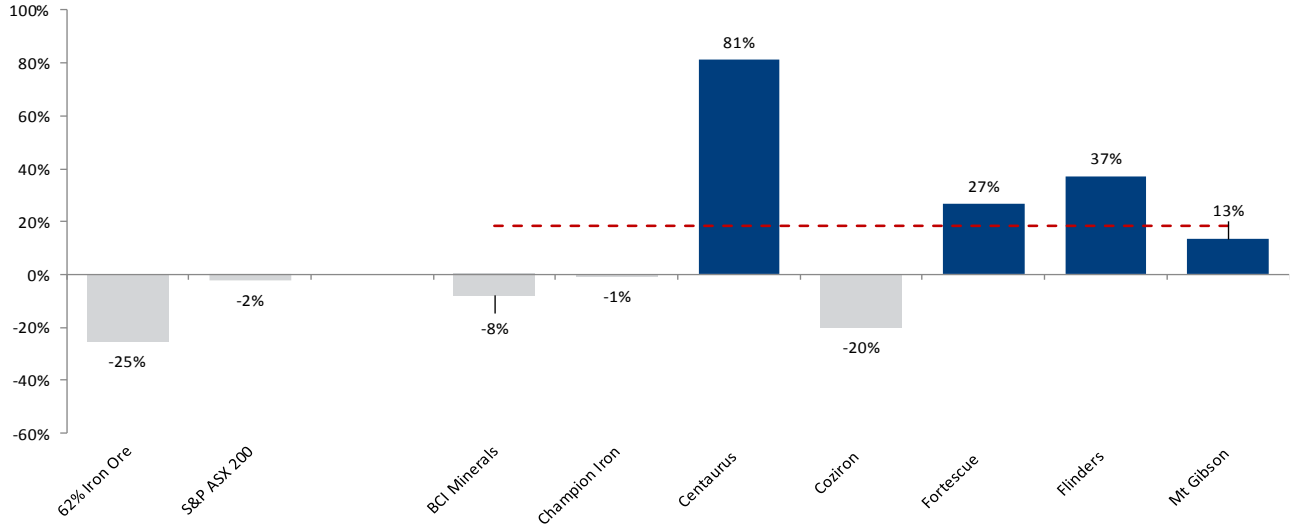
# Iron Ore Stocks Relative Performance

PCF Capital Group

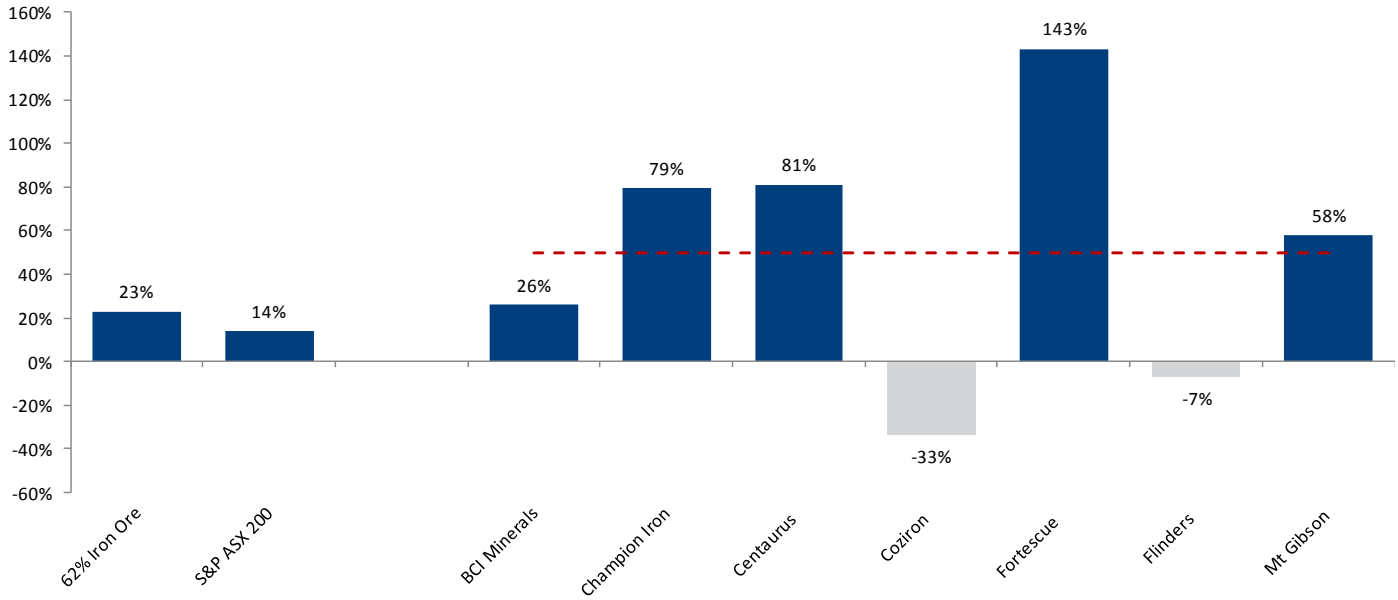
## 1 Month Share Price Performance - Average 3%




## 3 Month Share Price Performance - Average 19%

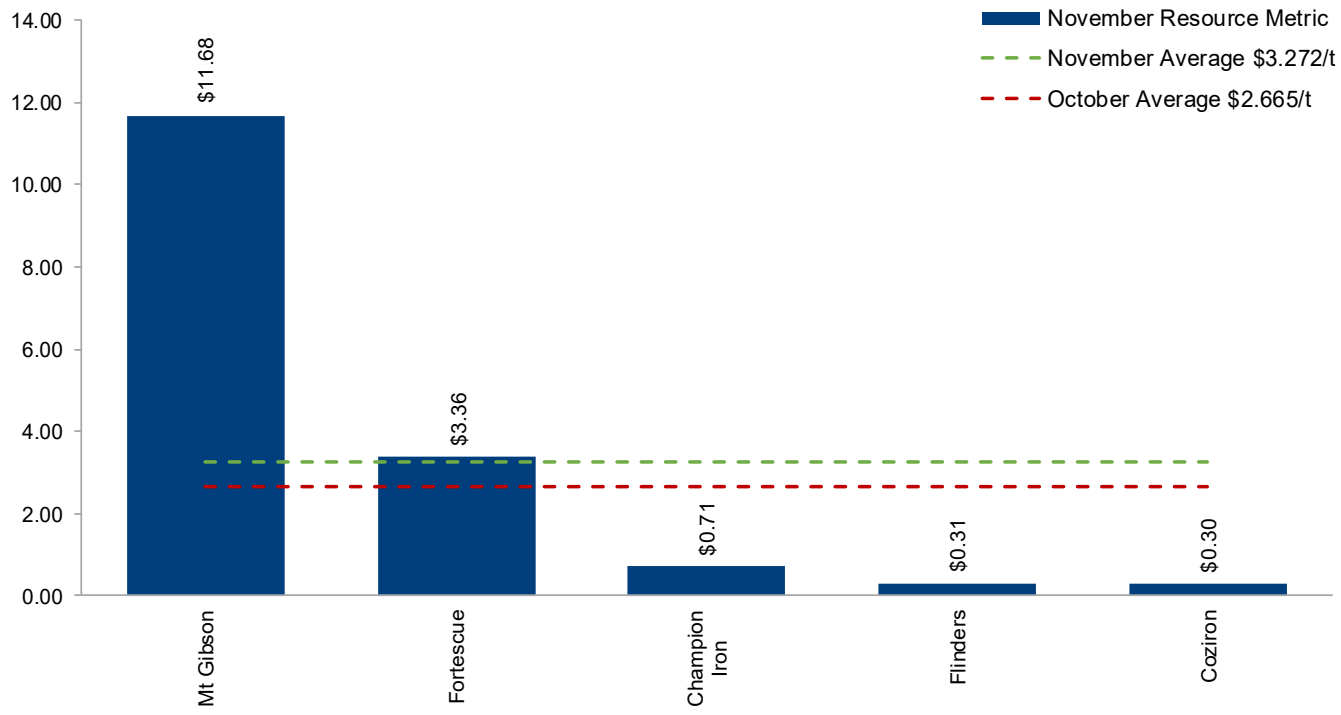



## 12 Month Share Price Performance - Average 50%

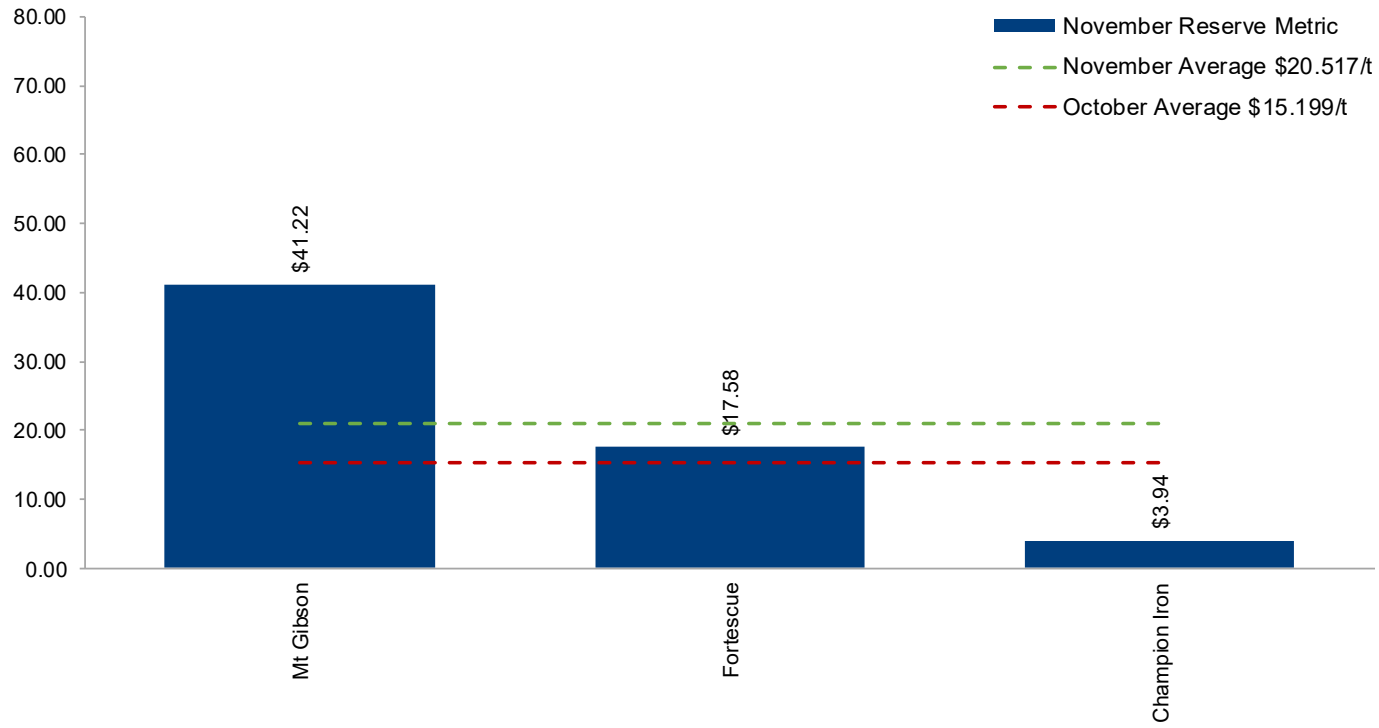



N.B. Where no % is shown, there is no reportable performance for that period i.e. due to delisting or not yet being listed.

## EV / Resource (A$/dmt 100Fe)




## EV / Reserve (A$/dmt 100Fe)



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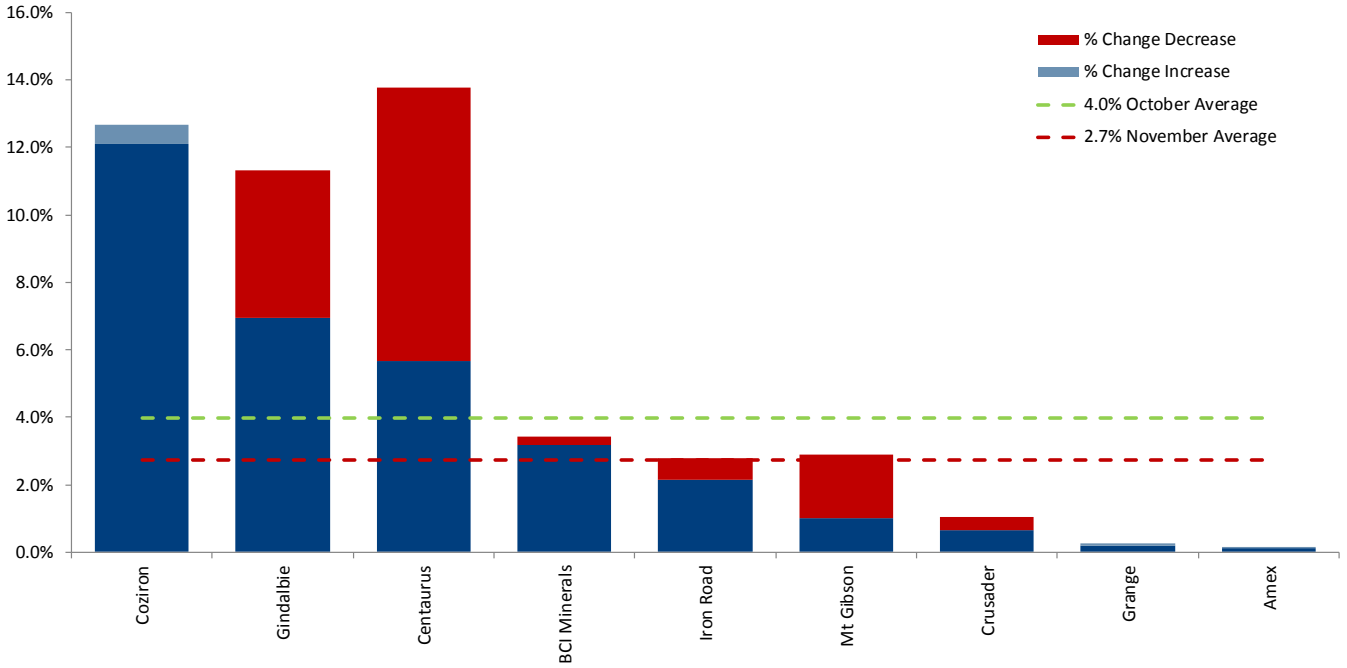
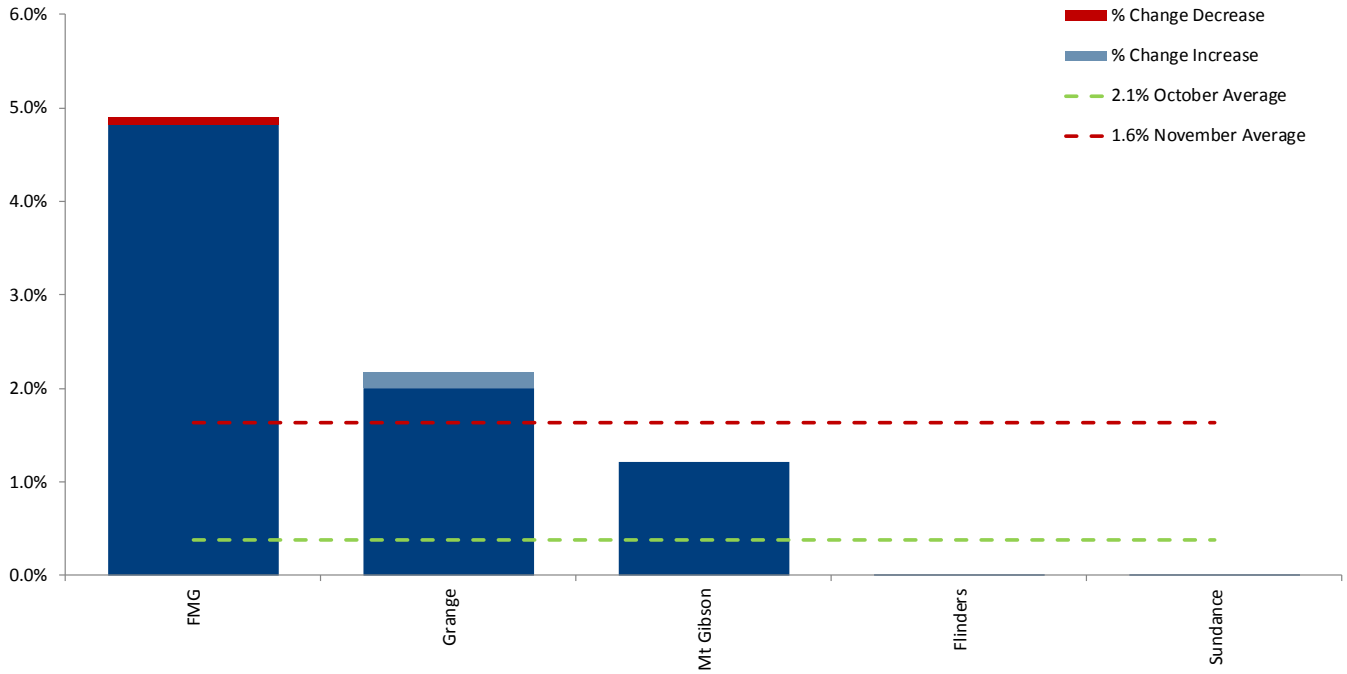
## Iron Ore Sector Liquidity




Note: Bar chart illustrates monthly share turnover as a percentage of total shares on issue, from largest to smallest. An increase in share turnover (month-on-month) is represented by a light blue bar on top of the prior month's share turnover (being the dark blue bar). A decrease in share liquidity (month-on-month) is represented by the red bar (representing the prior month's share turnover) falling to the dark blue bar component (being the current month's turnover).

## Iron Ore Sector Short Positions



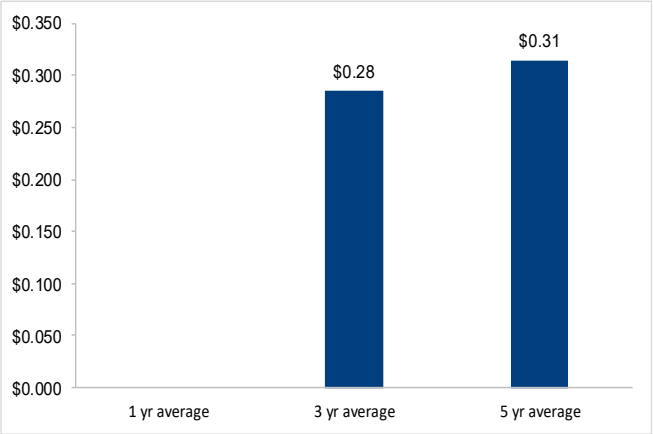

Note: Bar chart illustrates reported short positions as a percentage of total shares on issue, from largest to smallest result. An increase in short positions (month-on-month) is represented by a light blue bar on top of the prior month's short positions (being the dark blue bar). A decrease in short positions (month-on-month) is represented by the red bar (representing the prior month's short positions) falling to the dark blue bar component (being the current month's short positions). Compares data from 31/10/2019 to 30/11/2019.

# Iron Ore Transaction Metrics
## - Resource and Reserve Multiples

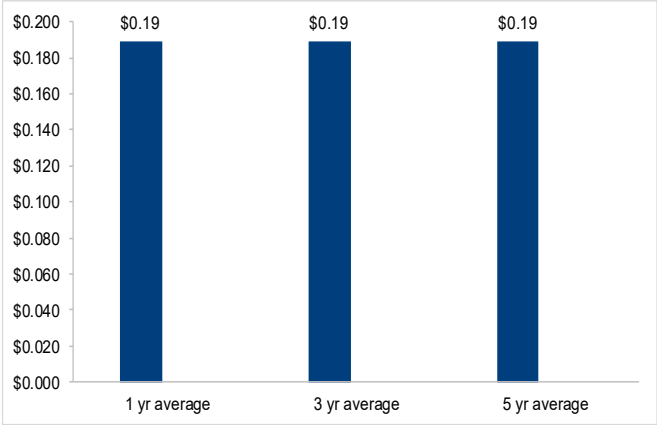
PCF Capital Group

Transaction multiples based on iron ore price of US$84/t - 30 November 2019

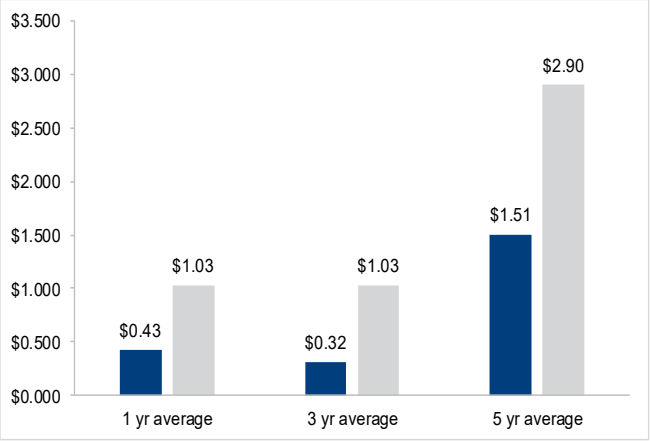
### Exploration (US$/dmt Fe)



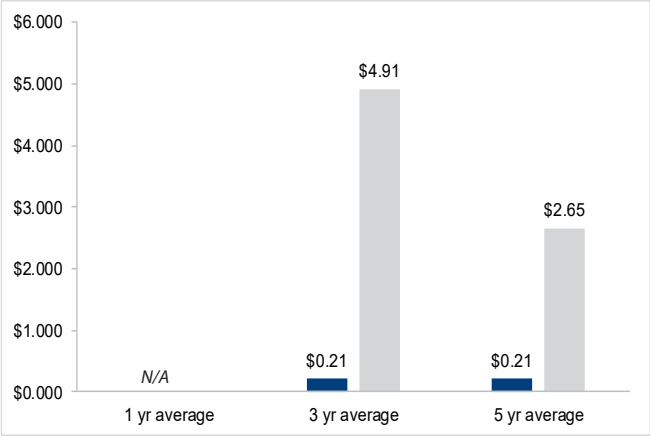

### Development (US$/dmt Fe)




### Operation (US$/dmt Fe)




### Care & Maintenance (US$/dmt Fe)




Resource Reserve

1. Transaction metrics are derived from transactions normailised to account for movements in commodity prices.
2. Completed transactions only
*Denotes metric is derived from four transaction results or less

Information presented in this pack references data to 30 November 2019. The following notes may be of assistance when interpreting information contained throughout this pack.

## Market Analysis

| | |
|---|---|
| **Price Performance** | • 1, 3 and 12 month share price performance in percentage terms is illustrated for each sector along with relevant commodity price and index performance for comparison purposes |
| **Peer Company Valuations** | • Market-based valuation metrics (or 'peer' metrics) are calculated based upon:<br>  • end-of-month market capitalisation (MC) data;<br>  • most recent balance date net debt (cash) figures to determine enterprise value (EV); and<br>  • most recent published Mineral Resources or Ore Reserves (where appropriate) |
| **Liquidity** | • Liquidity is calculated as the number of shares traded in the month as a percentage of total shares on issue. Liquidity bar charts illustrate the change in liquidity from the previous to the current month<br>• Companies are presented in order with the most liquid company in the current month on the LHS of the bar chart |
| **Short Positions** | • 'Short' data is sourced from the ASIC published short position data<br>• Short Positions are calculated as the number of shares traded and reported as a 'short sale' in the month, as a percentage of total shares on issue. Short Position bar charts illustrate the change in Short Positions from the previous to the current month<br>• Companies are presented in order with the most 'shorted' company in the current month on the left hand side of the bar chart |
| **Transaction Metrics** | • Transaction Metrics relate to completed asset (or project) transactions. Corporate-level transactions (such as 'change of control' transactions), as well as Options and JV/Farm-In style transactions do not form part of this analysis<br>• Announced transactions still in progress and yet to complete do not form part of this analysis |

PCF notes that reference to metal equivalents (AuEq, CuEq, NiEq, ZnEq) does not comply with JORC (2012) Guidelines. Metal equivalents are used throughout this pack to provide a level of comparative analysis between companies with assets of varying commodity types.

PCF notes that historical PCF150, PCF150C and peer company metric values may be recalculated based on updated data by S&P Global to ensure accurate measurement of market and company movements.

## Company List

| | | | |
|---|---|---|---|
| **Gold Producers** | • Austral Gold Ltd<br>• Aurelia Metals Ltd<br>• Alacer Gold Corporation<br>• Blackham Resources Ltd<br>• Centennial Mining Ltd<br>• Dacian Gold Ltd<br>• Evolution Mining Ltd<br>• Gascoyne Resources Ltd<br>• Gold Road Resources Ltd<br>• Medusa Mining Ltd | • Millenium Minerals Ltd<br>• Newcrest Mining Ltd<br>• Northern Star Resources Ltd<br>• Oceanagold Corporation<br>• Pantoro Ltd<br>• Perseus Mining Ltd<br>• Red 5 Ltd<br>• Ramelius Resources Ltd<br>• Rand Mining Ltd | • Regis Resources Ltd<br>• Resolute Mining Ltd<br>• Saracen Mineral Holdings Ltd<br>• St Barbara Ltd<br>• Silver Lake Resources Ltd<br>• Tribune Resources Ltd<br>• Troy Resources Ltd<br>• Westgold Resources Ltd<br>• West Wits Mining Ltd |
| **Gold Explorers/ Developers** | • Amani Gold Ltd<br>• Ausgold Ltd<br>• Anova Metals Ltd<br>• Azumah Resources Ltd<br>• Antipa Minerals Ltd<br>• Bardoc Gold Ltd<br>• Bligh Resources Ltd<br>• Bellevue Gold Ltd<br>• Breaker Resources NL<br>• Bassari Resources Ltd<br>• Calidus Resources Ltd<br>• Crusader Resources Ltd<br>• Cardinal Resources Ltd<br>• Capricorn Metals Ltd<br>• Carbine Resources Ltd<br>• Citigold Corporation Ltd | • De Grey Mining Ltd<br>• Echo Resources Limited<br>• Egan Street Resources Ltd<br>• Emerald Resources NL<br>• Focus Minerals Ltd<br>• Genesis Minerals Ltd<br>• Golden Rim Resources Ltd<br>• Geopacific Resources Ltd<br>• Horizon Gold Ltd<br>• Kairos Minerals Ltd<br>• Kin Mining Ltd<br>• Korab Resources Ltd<br>• Kingston Resources Ltd<br>• Middle Island Resources Ltd<br>• Metminco Ltd | • Matador Mining Ltd<br>• NTM Gold Ltd<br>• Nusantara Resources Ltd<br>• OreCorp Ltd<br>• Orminex Ltd<br>• Prodigy Gold NL<br>• Stone Resources Australia Ltd<br>• Sihayo Gold Ltd<br>• Strategic Minerals Corporation NL<br>• Saturn Metals Ltd<br>• Tanami Gold NL<br>• Theta Gold Mines Ltd<br>• Tietto Minerals Ltd<br>• Vector Resources Ltd<br>• West African Resources Ltd |
| **Copper** | • Aeris Resources Ltd<br>• Altona Mining Ltd<br>• Avanco Resources Ltd<br>• Caravel Minerals Ltd<br>• Havilah Resources Ltd<br>• Hillgrove Resources Ltd | • Hot Chili Ltd<br>• Intrepid Mines NL<br>• KGL Resources Ltd<br>• Oz Minerals Ltd<br>• Nzuri Copper Ltd | • Rex Minerals Ltd<br>• Sandfire Resources NL<br>• Stavely Minerals Ltd<br>• Syndicated Metals Ltd<br>• Venturex Resources Ltd |
| **Nickel** | • Cassini Resources Ltd<br>• Duketon Mining Ltd<br>• Independence Group NL<br>• Nickel Mines Ltd | • Mincor Resources NL<br>• Panoramic Resources Ltd<br>• Poseidon Nickel Ltd<br>• Rox Resources Ltd | • St George Mining Ltd<br>• Talisman Mining Ltd<br>• Western Areas Ltd |
| **Zinc** | • Azure Minerals Ltd<br>• Metalicity Ltd<br>• Heron Resources Ltd | • Metals Australia Ltd<br>• New Century Resources Ltd<br>• Red River Resources Ltd | • Superior Lake Resources Ltd<br>• Zinc of Ireland NL |
| **Iron Ore** | • Amex Resources Ltd<br>• BCI Minerals Ltd<br>• Centaurus Metals Ltd<br>• Coziron Resources Ltd | • Crusader Resources Ltd<br>• Flinders Mines Ltd<br>• Fortescue Metals Group Ltd<br>• Gindalbie Metals Ltd | • Grange Resources Ltd<br>• Iron Road Ltd<br>• Mt Gibson Iron Ltd<br>• Sundance Resources Ltd |

1. Abbreviated company names have been used throughout this presentation in the interest of visual reference.

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