PCF Resources Thermometer
July 2020
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PCF Capital Group

PCF Corporate Advisory

- 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

Liam Twigger
Managing Director

Graeme Testar
Director

Mike Sperinck
Technical Director
We are pleased to present the July 2020 edition of the PCF Resources Thermometer

Capital has finally arrived at the small end of town with PCF observing a marked increase in equity funding for the junior sector in recent months. The “trickle down” flow of capital into the Australian junior resources sector in particular has been a result of investors seeking more attractive valuations and especially those juniors that have a JORC Resource. As such, the junior resources sector has experienced a relatively sharper recovery than its larger counterpart from the March affected coronavirus lows.

The graph below depicts the relative performance of two resource indices for the year to date: S&P/ASX Small Resources Index – a proxy for explorer/developers – and the S&P/ASX Resources Index – a proxy for producers.

As represented in the graph above, prior to the bottoming of the market in mid-March, the two indices were tracking closely. However, since then, the junior resources sector has diverged from its historical trend and has outperformed its larger counterparts in the S&P/ASX 200 Resources Index, with brownfields explorers/developers including De Grey Mining (+320%), Ausgold (+300%), Rox Resources (+260%) and Bellevue Gold (+200%) leading the way.

A possible reason could be attributed to elevated commodity prices, particularly in gold and iron ore, which has led to large increases in the valuations of Australia’s producers, also from mid-March – BHP (+46%), Rio Tinto (+28%), FMG (+60%), Northern Star (+57%), Saracen (+111%) and Evolution (+77%).

As a result, investors have switched focus from the larger capitalised producers to the smaller capitalised developers and explorers who are more attractively valued. This is particularly evident in junior resource companies who have experienced management, a JORC compliant Ore Reserve and/or Mineral Resource and are strategically located to benefit from heightened M&A activity. As such, recent capital raisings in the junior resources sector have been well supported with several significant transactions completing since January including Bellevue Gold (~$120m), Ora Banda (~$55m), De Grey Mining (~$31m), Genesis (~$20m), Rox Resources (~$13m) and Kin Mining (~$6m).

It would seem that investors remain cautious in light of the uncertainty with coronavirus, preferring brownfield explorers/developers with proven Mineral Resources. Nonetheless, PCF believes capital will eventually flow into starved explorers with little to no Mineral Resources and the Initial Public Offering market as long as commodity prices remain strong.

SNAPSHOT

PCF Group 150
- The market value of the PCF Group 150 as at 31 May 2020 was A$476B (~3% increase from last months value).
- The market value of the PCF Group 150C as at 31 May 2020 was C$328B (~6% from last months value).

Price Performance
- On average for the month, gold producers were up ~4%, whilst explorers and developers were up ~26%.
- Nickel and Zinc companies were both up ~5% and ~35% respectively, while Copper companies were also up ~18% month on month.
- Iron ore companies were up ~8% month on month.

Liquidity & Short Positions
- Gold stock liquidity was up for the month at ~11%. Gold stock short positions were flat for the month, with ~1% of stock shorted.
- Copper stock liquidity was up for the month at ~6%. Short positions were flat the month, with ~1% of stock shorted.
- Nickel and Zinc stock liquidity were up for the month at ~8% and ~21% respectively. Short positions for Nickel and flat for the month, while Zinc short positions were up at ~2%, for the month.
- Iron ore stock liquidity was up for the month at ~3%. Short positions were flat the month, with ~1% of stock shorted.

Notable Transactions
- On 9 June 2020 Aeris Resources Limited (ASX: AIS) announced that it had entered into a binding agreement (the Transaction) with Evolution Mining Limited (ASX: EVN) to acquire 100% of the Cracow Gold Mine for an effective consideration of US$50.5M (A$73M).
## Top 150 ASX Listed Resource Companies - 30 June 2020

**By Market Capitalisation.**

<table>
<thead>
<tr>
<th>Rank</th>
<th>Jun</th>
<th>May</th>
<th>Company</th>
<th>Mkt Cap (AS$)</th>
<th>30-Jun-20</th>
<th>31-May-20</th>
<th>Change</th>
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Source: S&P Global Market Intelligence
<table>
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<tr>
<th>Rank</th>
<th>Jun</th>
<th>May</th>
<th>Company</th>
<th>Mkt Cap (A$M)</th>
<th>%</th>
<th>30-Jun-20</th>
<th>31-May-20</th>
<th>Change</th>
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<td>(2.9%)</td>
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<td>$51.7</td>
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<td>$28.6</td>
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<td>34.7%</td>
<td>$34.6</td>
<td>$34.6</td>
<td>34.7%</td>
</tr>
<tr>
<td>120</td>
<td>112</td>
<td>46.5</td>
<td>Ausgold Ltd</td>
<td>$46.5</td>
<td>223.1%</td>
<td>$14.4</td>
<td>$14.4</td>
<td>223.1%</td>
</tr>
<tr>
<td>121</td>
<td>129</td>
<td>45.7</td>
<td>Orion Minerals Ltd</td>
<td>$45.7</td>
<td>(6.3%)</td>
<td>$48.7</td>
<td>$48.7</td>
<td>(6.3%)</td>
</tr>
<tr>
<td>122</td>
<td>87</td>
<td>44.6</td>
<td>Emerson Resources Ltd</td>
<td>$44.6</td>
<td>(12.5%)</td>
<td>$51.0</td>
<td>$51.0</td>
<td>(12.5%)</td>
</tr>
<tr>
<td>123</td>
<td>140</td>
<td>44.6</td>
<td>Prairie Mining Ltd</td>
<td>$44.6</td>
<td>50.0%</td>
<td>$29.7</td>
<td>$29.7</td>
<td>50.0%</td>
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<tr>
<td>124</td>
<td>124</td>
<td>44.3</td>
<td>Element 25 Ltd</td>
<td>$44.3</td>
<td>15.4%</td>
<td>$38.4</td>
<td>$38.4</td>
<td>15.4%</td>
</tr>
<tr>
<td>125</td>
<td>130</td>
<td>44.1</td>
<td>Gold Mountain Ltd</td>
<td>$44.1</td>
<td>35.5%</td>
<td>$32.5</td>
<td>$32.5</td>
<td>35.5%</td>
</tr>
</tbody>
</table>

**New Entrants**
- 115 Horizon Minerals Ltd (ASX:HRZ)
- 117 Hawthorn Resources Ltd (ASX:HWL)
- 118 Coziron Resources Ltd (ASX:CZR)
- 129 Aspire Mining Ltd (ASX:AKM)
- 135 DGR Global Ltd (ASX:DGR)
- 137 Hot Chili Ltd (ASX:HCH)

**New Exits**
- 153 Bassari Resources Ltd (ASX:BSR)
- 156 European Cobalt Ltd (ASX:EUC)
- 160 Anova Metals Ltd (ASX:AVV)
- 161 Kogi Iron Ltd (ASX:KFE)
- 165 Australian Potash Ltd (ASX:APC)
- 168 Prodigy Gold NL (ASX:PRX)

---

![PCF Resources Thermometer](PCF_Thermometer.png)
### Top 150 TSX & TSX-V Listed Resource Companies - 30 June 2020

*By Market Capitalisation.*

<table>
<thead>
<tr>
<th>Rank</th>
<th>May</th>
<th>Company</th>
<th>Mkt Cap (C$M)</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>Barrick Gold Corp.</td>
<td>$64,952.0</td>
<td>10.9%</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>Franco-Nevada Corp.</td>
<td>$36,023.2</td>
<td>(1.9%)</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>Whetstone Precious Metals Corp.</td>
<td>$26,771.1</td>
<td>0.7%</td>
</tr>
<tr>
<td>4</td>
<td>3</td>
<td>Nutrien Ltd.</td>
<td>$24,826.1</td>
<td>(7.2%)</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>Kirkland Lake Gold Ltd.</td>
<td>$15,498.0</td>
<td>5.4%</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>Kinessa Gold Corp.</td>
<td>$12,435.6</td>
<td>10.5%</td>
</tr>
<tr>
<td>7</td>
<td>7</td>
<td>Pan American Silver Corp.</td>
<td>$8,658.4</td>
<td>1.8%</td>
</tr>
<tr>
<td>8</td>
<td>8</td>
<td>B2Gold Mining Corp.</td>
<td>$8,041.1</td>
<td>1.9%</td>
</tr>
<tr>
<td>9</td>
<td>10</td>
<td>Teck Resources Ltd.</td>
<td>$7,565.3</td>
<td>8.7%</td>
</tr>
<tr>
<td>10</td>
<td>12</td>
<td>First Quantum Minerals Ltd.</td>
<td>$7,433.8</td>
<td>34.1%</td>
</tr>
<tr>
<td>11</td>
<td>9</td>
<td>Yamana Gold Inc.</td>
<td>$7,023.2</td>
<td>(0.9%)</td>
</tr>
<tr>
<td>12</td>
<td>11</td>
<td>Cameco Corp.</td>
<td>$5,509.9</td>
<td>9.3%</td>
</tr>
<tr>
<td>13</td>
<td>13</td>
<td>Lundin Mining Corp.</td>
<td>$5,341.7</td>
<td>14.8%</td>
</tr>
<tr>
<td>14</td>
<td>14</td>
<td>Alamos Gold Inc.</td>
<td>$4,954.2</td>
<td>13.6%</td>
</tr>
<tr>
<td>15</td>
<td>18</td>
<td>Ivanhoe Mines Ltd.</td>
<td>$4,619.4</td>
<td>26.3%</td>
</tr>
<tr>
<td>16</td>
<td>16</td>
<td>Centerra Gold Inc.</td>
<td>$4,408.5</td>
<td>7.4%</td>
</tr>
<tr>
<td>17</td>
<td>15</td>
<td>Novagold Resources Inc.</td>
<td>$4,103.5</td>
<td>(5.3%)</td>
</tr>
<tr>
<td>18</td>
<td>17</td>
<td>Endeavour Mining Corp.</td>
<td>$3,646.1</td>
<td>(1.0%)</td>
</tr>
<tr>
<td>19</td>
<td>19</td>
<td>SSR Mining Ltd.</td>
<td>$3,567.7</td>
<td>9.3%</td>
</tr>
<tr>
<td>20</td>
<td>21</td>
<td>Lundin Gold Inc.</td>
<td>$2,934.4</td>
<td>4.7%</td>
</tr>
<tr>
<td>21</td>
<td>20</td>
<td>First Majestic Silver Corp.</td>
<td>$2,831.3</td>
<td>(1.9%)</td>
</tr>
<tr>
<td>22</td>
<td>22</td>
<td>Alacer Gold Corp.</td>
<td>$2,750.7</td>
<td>8.8%</td>
</tr>
<tr>
<td>23</td>
<td>23</td>
<td>IAMGOLD Corp.</td>
<td>$2,550.2</td>
<td>5.3%</td>
</tr>
<tr>
<td>24</td>
<td>26</td>
<td>Sandstorm Gold Ltd.</td>
<td>$2,476.4</td>
<td>13.5%</td>
</tr>
<tr>
<td>25</td>
<td>24</td>
<td>Osisko Gold Royalties Ltd.</td>
<td>$2,238.6</td>
<td>(0.7%)</td>
</tr>
<tr>
<td>26</td>
<td>28</td>
<td>Eldorado Gold Corp.</td>
<td>$2,190.7</td>
<td>13.2%</td>
</tr>
<tr>
<td>27</td>
<td>25</td>
<td>Pretium Resources Incorporated</td>
<td>$2,120.2</td>
<td>(5.2%)</td>
</tr>
<tr>
<td>28</td>
<td>29</td>
<td>Teranga Gold Corp.</td>
<td>$2,060.9</td>
<td>13.7%</td>
</tr>
<tr>
<td>29</td>
<td>27</td>
<td>Turquoise Hill Resources Ltd.</td>
<td>$2,012.3</td>
<td>(2.9%)</td>
</tr>
<tr>
<td>30</td>
<td>30</td>
<td>OceanaGold Corp.</td>
<td>$1,966.5</td>
<td>12.9%</td>
</tr>
<tr>
<td>31</td>
<td>31</td>
<td>Torex Gold Resources Inc.</td>
<td>$1,829.2</td>
<td>12.6%</td>
</tr>
<tr>
<td>32</td>
<td>33</td>
<td>MAG Silver Corp.</td>
<td>$1,747.3</td>
<td>12.0%</td>
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<tr>
<td>33</td>
<td>36</td>
<td>Ero Copper Corp.</td>
<td>$1,687.7</td>
<td>22.7%</td>
</tr>
<tr>
<td>34</td>
<td>32</td>
<td>Wesgold Gold Mines Ltd.</td>
<td>$1,625.1</td>
<td>1.9%</td>
</tr>
<tr>
<td>35</td>
<td>37</td>
<td>Dundee Precious Metals Inc.</td>
<td>$1,617.3</td>
<td>19.4%</td>
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<tr>
<td>36</td>
<td>35</td>
<td>Seabridge Gold Inc.</td>
<td>$1,577.5</td>
<td>12.0%</td>
</tr>
<tr>
<td>37</td>
<td>34</td>
<td>Labrador Iron Ore Royalty Corp.</td>
<td>$1,533.3</td>
<td>8.3%</td>
</tr>
<tr>
<td>38</td>
<td>38</td>
<td>Osisko Mining Inc.</td>
<td>$1,305.0</td>
<td>14.8%</td>
</tr>
<tr>
<td>39</td>
<td>39</td>
<td>Fortuna Silver Mines Inc.</td>
<td>$1,268.1</td>
<td>11.7%</td>
</tr>
<tr>
<td>40</td>
<td>41</td>
<td>Silvercorp Metals Inc.</td>
<td>$1,262.4</td>
<td>19.2%</td>
</tr>
<tr>
<td>41</td>
<td>40</td>
<td>New Gold Inc.</td>
<td>$1,243.9</td>
<td>12.2%</td>
</tr>
<tr>
<td>42</td>
<td>42</td>
<td>Hudbay Minerals Inc.</td>
<td>$1,073.8</td>
<td>9.9%</td>
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<tr>
<td>43</td>
<td>46</td>
<td>Northern Dynasty Minerals Ltd.</td>
<td>$899.7</td>
<td>9.1%</td>
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<tr>
<td>44</td>
<td>44</td>
<td>K92 Mining Inc.</td>
<td>$865.1</td>
<td>(1.7%)</td>
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<tr>
<td>45</td>
<td>73</td>
<td>Aura Minerals Inc.</td>
<td>$844.8</td>
<td>203.1%</td>
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<tr>
<td>46</td>
<td>45</td>
<td>New Pacific Metals Corp.</td>
<td>$841.2</td>
<td>857.7%</td>
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<tr>
<td>47</td>
<td>43</td>
<td>Wallbridge Mining Co. Ltd.</td>
<td>$802.0</td>
<td>(17.7%)</td>
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<tr>
<td>48</td>
<td>47</td>
<td>NexGen Energy Ltd.</td>
<td>$661.1</td>
<td>725.8%</td>
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<tr>
<td>49</td>
<td>51</td>
<td>Pure Gold Mining Inc.</td>
<td>$562.1</td>
<td>37.2%</td>
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<tr>
<td>50</td>
<td>48</td>
<td>Sabina Gold &amp; Silver Corp.</td>
<td>$535.0</td>
<td>9.1%</td>
</tr>
</tbody>
</table>

Source: S&P Global Market Intelligence
### Winners and Losers - Market Capitalisation Performance

#### New Entrants
- 111 Galway Metals Inc. (GWM-TVX)
- 120 Teuton Resources Corp. (TUO-TVX)
- 132 American Creek Resources Ltd. (AMK-TVX)
- 145 Falco Resources Ltd. (FPC-TVX)
- 150 Silver One Resources Inc. (SVE-TVX)

#### New Exits
- 151 Regulus Resources Inc. (REG-TVX)
- 153 Millenium Lithium Corp. (ML-TVX)
- 155 Avino Silver & Gold Mines Ltd. (ASM-TSX)
- 162 Almaden Minerals Ltd. (AMM-TSX)
- 166 Osisko Metals Inc. (OM-TVX)

---

### Market Capitalisation Performance

<table>
<thead>
<tr>
<th>Rank</th>
<th>Jun 30</th>
<th>May 31</th>
<th>Change %</th>
</tr>
</thead>
<tbody>
<tr>
<td>101</td>
<td>$194.6</td>
<td>$139.9</td>
<td>39.1%</td>
</tr>
<tr>
<td>102</td>
<td>$190.3</td>
<td>$166.8</td>
<td>14.1%</td>
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<tr>
<td>103</td>
<td>$188.2</td>
<td>$187.8</td>
<td>0.2%</td>
</tr>
<tr>
<td>104</td>
<td>$177.2</td>
<td>$156.2</td>
<td>13.5%</td>
</tr>
<tr>
<td>105</td>
<td>$173.3</td>
<td>$182.3</td>
<td>(5.0%)</td>
</tr>
<tr>
<td>106</td>
<td>$172.9</td>
<td>$169.4</td>
<td>2.1%</td>
</tr>
<tr>
<td>107</td>
<td>$171.2</td>
<td>$146.1</td>
<td>20.8%</td>
</tr>
<tr>
<td>108</td>
<td>$165.3</td>
<td>$156.9</td>
<td>5.4%</td>
</tr>
<tr>
<td>109</td>
<td>$160.0</td>
<td>$135.4</td>
<td>21.8%</td>
</tr>
<tr>
<td>110</td>
<td>$164.3</td>
<td>$221.8</td>
<td>(25.9%)</td>
</tr>
<tr>
<td>111</td>
<td>$161.5</td>
<td>$51.5</td>
<td>213.5%</td>
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<tr>
<td>112</td>
<td>$158.2</td>
<td>$148.6</td>
<td>6.5%</td>
</tr>
<tr>
<td>113</td>
<td>$155.7</td>
<td>$131.2</td>
<td>18.8%</td>
</tr>
<tr>
<td>114</td>
<td>$152.2</td>
<td>$157.2</td>
<td>(3.2%)</td>
</tr>
<tr>
<td>115</td>
<td>$143.3</td>
<td>$119.8</td>
<td>19.6%</td>
</tr>
<tr>
<td>116</td>
<td>$139.8</td>
<td>$87.5</td>
<td>59.8%</td>
</tr>
<tr>
<td>117</td>
<td>$135.3</td>
<td>$121.7</td>
<td>11.2%</td>
</tr>
<tr>
<td>118</td>
<td>$129.9</td>
<td>$124.5</td>
<td>4.3%</td>
</tr>
<tr>
<td>119</td>
<td>$128.4</td>
<td>$129.7</td>
<td>0.0%</td>
</tr>
<tr>
<td>120</td>
<td>$123.8</td>
<td>$29.5</td>
<td>319.3%</td>
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<tr>
<td>121</td>
<td>$122.0</td>
<td>$78.4</td>
<td>55.6%</td>
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<tr>
<td>122</td>
<td>$120.5</td>
<td>$89.5</td>
<td>34.6%</td>
</tr>
<tr>
<td>123</td>
<td>$116.9</td>
<td>$120.8</td>
<td>(3.2%)</td>
</tr>
<tr>
<td>124</td>
<td>$116.9</td>
<td>$160.7</td>
<td>(27.3%)</td>
</tr>
<tr>
<td>125</td>
<td>$116.0</td>
<td>$99.3</td>
<td>16.8%</td>
</tr>
</tbody>
</table>

---

### PCF Resources Thermometer

#### Western Pacific Resources Corp. (WRP-TVX)
- 847%

#### Teuton Resources Corp. (TUO-TVX)
- 319%

#### American Creek Resources Ltd. (AMK-TVX)
- 244%

#### Unigold Inc. (UGD-TVX)
- 214%

#### Galway Metals Inc. (GWM-TVX)
- 213%

---

### PCF Resources Thermometer

#### Rokmaster Resources Corp. (RMR-TVX)
- 43%

#### Rathdowney Resources Ltd. (RTH-TVX)
- 40%

#### AXMIN Inc. (AXM-TVX)
- 40%

#### Orefinders Resources Inc. (ORX-TVX)
- 35%

#### Maya Gold and Silver Inc. (MYA-TVX)
- 32%
Consensus Commodity Price Forecasts

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 June 2020
GOLD
Thermometer
Gold Producers
- Relative Performance

1 Month Share Price Performance - Average 4%

3 Month Share Price Performance - Average 48%

12 Month Share Price Performance - Average 40%

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

1 Month Share Price Performance - Average 26%

3 Month Share Price Performance - Average 140%

12 Month Share Price Performance - Average 190%

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

PCF Resources Thermometer
Gold Peer Company Valuations

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

June Resource Metric
June Average $258/oz
May Average $228/oz

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

June Reserve Metric
June Average $706/oz
May Average $652/oz

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

June Resource Metric
June Average $78/oz
May Average $69/oz
Gold Sector Liquidity / Shorts

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). Comparative data from 31/05/2020 to 30/06/2020.
Gold Transaction Metrics
- Resource and Reserve Multiples

Transaction multiples based on gold price of US$1,784 oz - 30 June 2020

Exploration (US$/oz AuEq)

Development (US$/oz AuEq)

Operation (US$/oz AuEq)

Care & Maintenance (US$/oz AuEq)

1. Transaction metrics are derived from transactions normalised to account for movements in commodity prices.
2. Completed transactions only
3. Denotes metric is derived from four transaction results or less
COPPER Thermometer
Copper Stocks Relative Performance

1 Month Share Price Performance - Average 1%

3 Month Share Price Performance - Average -11%

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.
Copper Peer Company Valuations

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

- **June Resource Metric**
  - Stavely: $0.373
  - Engel Mountain: $0.197
  - Oz Minerals: $0.168
  - Aeris: $0.120
  - Sandfire: $0.110
  - ActivEX Ltd: $0.101
  - Consolidated Tin Mines: $0.043
  - KGL: $0.042
  - PolarX: $0.042
  - Hillgrove: $0.038
  - Aeon Metals Ltd: $0.026
  - Castile Copper Ltd: $0.019
  - Hillgrove: $0.017
  - Hot Chili: $0.019
  - Venturex: $0.009
  - Red Metal: $0.009
  - AC Mines: $0.007
  - Havilah: $0.007
  - Xanadu Mines Ltd: $0.005
  - Castile Resources: $0.005
  - Coppermoly Ltd: $0.003

- **June Average $0.045/lb**
  - Sandfire: $0.20
  - Consolidated Tin Mines: $0.15
  - Oz Minerals: $0.10
  - Aeris: $0.05
  - Hillgrove: $0.05
  - Hot Chili: $0.05
  - Venturex: $0.05
  - Red Metal: $0.05
  - AC Mines: $0.05
  - Havilah: $0.05
  - Xanadu Mines Ltd: $0.05
  - Castile Resources: $0.05
  - Coppermoly Ltd: $0.05

- **May Average $0.063/lb**
  - Sandfire: $0.30
  - Consolidated Tin Mines: $0.25
  - Oz Minerals: $0.20
  - Aeris: $0.15
  - Hillgrove: $0.15
  - Hot Chili: $0.15
  - Venturex: $0.15
  - Red Metal: $0.15
  - AC Mines: $0.15
  - Havilah: $0.15
  - Xanadu Mines Ltd: $0.15
  - Castile Resources: $0.15
  - Coppermoly Ltd: $0.15

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

- **June Reserve Metric**
  - Sandfire: $1.297
  - Consolidated Tin Mines: $0.872
  - Oz Minerals: $0.526
  - Aeris: $0.370
  - Hillgrove: $0.222
  - AIC Mines: $0.058
  - Hot Chili: $0.052
  - Venturex: $0.034
  - Rex: $0.023
  - Havilah: $0.011

- **June Average $0.346/lb**
  - Sandfire: $0.30
  - Consolidated Tin Mines: $0.25
  - Oz Minerals: $0.20
  - Aeris: $0.15
  - Hillgrove: $0.15
  - Hot Chili: $0.15
  - Venturex: $0.15
  - Red Metal: $0.15
  - AC Mines: $0.15
  - Havilah: $0.15
  - Xanadu Mines Ltd: $0.15
  - Castile Resources: $0.15
  - Coppermoly Ltd: $0.15

- **May Average $0.241/lb**
  - Sandfire: $0.20
  - Consolidated Tin Mines: $0.15
  - Oz Minerals: $0.10
  - Aeris: $0.05
  - Hillgrove: $0.05
  - Hot Chili: $0.05
  - Venturex: $0.05
  - Red Metal: $0.05
  - AC Mines: $0.05
  - Havilah: $0.05
  - Xanadu Mines Ltd: $0.05
  - Castile Resources: $0.05
  - Coppermoly Ltd: $0.05
Copper Peer Company Valuations

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

- June Resource Metric
- June Average C$.058/lb
- May Average C$.072/lb

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

- June Reserve Metric
- June Average C$.083/lb
- May Average C$.09/lb
Copper Sector Liquidity / Shorts

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 31/05/2020 to 30/06/2020.
Copper Transaction Metrics
- Resource and Reserve Multiples

Transaction multiples based on copper price of US$2.72/lb - 30 June 2020

**Exploration (US$/lb CuEq)**

![Exploration Chart](chart1)

- 1 yr average: $0.008
- 3 yr average: $0.016
- 5 yr average: $0.084

**Development (US$/lb CuEq)**

![Development Chart](chart2)

- 1 yr average: $0.025
- 3 yr average: $0.100
- 5 yr average: $0.075

**Operation (US$/lb CuEq)**

![Operation Chart](chart3)

- 1 yr average: $0.080
- 3 yr average: $0.105
- 5 yr average: $0.203

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

![Care & Maintenance Chart](chart4)

- 1 yr average: $0.000
- 3 yr average: N/A
- 5 yr average: N/A

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

Thermometer
Nickel Stocks Relative Performance

1 Month Share Price Performance - Average 6%

3 Month Share Price Performance - Average 14%

12 Month Share Price Performance - Average 25%

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

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

- Independence: $1.961
- Western Areas: $0.709
- Mincor: $0.444
- Rox: $0.394
- Nickel Mines: $0.243
- Panoramic: $0.134
- Cassini: $0.093
- Pioneer: $0.079
- Galileo: $0.076
- Centaurus: $0.054
- Poseidon: $0.054
- Duketon: $0.013
- Metals X Ltd: $0.012
- GME: $0.008
- Ardea Resources: $0.002
- Jervois: $0.002

**June Resource Metric**

- Independence: $0.267/lb
- Western Areas: $0.409/lb

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

- Independence: $3.287
- Mincor: $1.532
- Western Areas: $1.012
- Poseidon: $0.849
- Centaurus: $0.558
- Panoramic: $0.522
- Ardea Resources: $0.027
- Metals X Ltd: $0.019
- GME: $0.012

**June Reserve Metric**

- Independence: $0.851/lb
- Western Areas: $1.944/lb
Nickel Sector Liquidity / Shorts

**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 31/05/2020 to 30/06/2020.
Nickel Transaction Metrics
- Resource and Reserve Multiples

Transaction multiples based on nickel price of US$5.79/lb - 30 June 2020

**Exploration (US$/lb NiEq)**

- Development (US$/lb NiEq)

- Operation (US$/lb NiEq)

- Care & Maintenance (US$/lb NiEq)

---

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

---

PCF Resources Thermometer

PCF Resources Thermometer
ZINC

Thermometer
Zinc Stocks Relative Performance

1 Month Share Price Performance - Average 33%

3 Month Share Price Performance - Average 83%

12 Month Share Price Performance - Average -18%

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

**Ev / Resource (A$/lb ZnEq)**

<table>
<thead>
<tr>
<th>Company</th>
<th>June Resource Metric</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adriatic Metals Australia</td>
<td>$0.065</td>
</tr>
<tr>
<td>New Century</td>
<td>$0.044</td>
</tr>
<tr>
<td>Celadon Holdings Ltd</td>
<td>$0.033</td>
</tr>
<tr>
<td>Peel Mining</td>
<td>$0.028</td>
</tr>
<tr>
<td>Superior Lake</td>
<td>$0.020</td>
</tr>
<tr>
<td>Heron</td>
<td>$0.019</td>
</tr>
<tr>
<td>Red River</td>
<td>$0.014</td>
</tr>
<tr>
<td>Orion Minerals Ltd.</td>
<td>$0.012</td>
</tr>
<tr>
<td>PNX Metals</td>
<td>$0.010</td>
</tr>
<tr>
<td>Azure</td>
<td>$0.008</td>
</tr>
<tr>
<td>Ventixy Resources</td>
<td>$0.006</td>
</tr>
<tr>
<td>Zinc of Ireland</td>
<td>$0.002</td>
</tr>
<tr>
<td>Metalicity</td>
<td>$0.001</td>
</tr>
<tr>
<td>Ironbark</td>
<td>$0.001</td>
</tr>
</tbody>
</table>

**Ev / Reserve (A$/lb ZnEq)**

<table>
<thead>
<tr>
<th>Company</th>
<th>June Reserve Metric</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red River</td>
<td>$0.079</td>
</tr>
<tr>
<td>New Century</td>
<td>$0.048</td>
</tr>
<tr>
<td>Heron</td>
<td>$0.035</td>
</tr>
<tr>
<td>Superior Lake</td>
<td>$0.032</td>
</tr>
<tr>
<td>Orion Minerals Ltd.</td>
<td>$0.028</td>
</tr>
</tbody>
</table>
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 31/05/2020 to 30/06/2020.
Zinc Transaction Metrics
- Resource and Reserve Multiples

Transaction multiples based on zinc price of US$0.92/lb - 30 June 2020

Exploration (US$/lb ZnEq)  Development (US$/lb ZnEq)

<table>
<thead>
<tr>
<th></th>
<th>Resource</th>
<th>Reserve</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 yr average</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>3 yr average</td>
<td>N/A</td>
<td>$0.000</td>
</tr>
<tr>
<td>5 yr average</td>
<td>$0.004</td>
<td>$0.004</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Resource</th>
<th>Reserve</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 yr average</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>3 yr average</td>
<td>$0.002</td>
<td>$0.001</td>
</tr>
<tr>
<td>5 yr average</td>
<td>$0.002</td>
<td>$0.001</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th></th>
<th>Resource</th>
<th>Reserve</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 yr average</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>3 yr average</td>
<td>$0.023</td>
<td>$0.023</td>
</tr>
<tr>
<td>5 yr average</td>
<td>$0.044</td>
<td>$0.044</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Resource</th>
<th>Reserve</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 yr average</td>
<td>$0.000</td>
<td>$0.000</td>
</tr>
<tr>
<td>3 yr average</td>
<td>$0.100</td>
<td>$0.100</td>
</tr>
<tr>
<td>5 yr average</td>
<td>$0.200</td>
<td>$0.200</td>
</tr>
</tbody>
</table>

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
IRON ORE

Thermometer
Iron Ore Stocks Relative Performance

1 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.

3 Month Share Price Performance - Average 13%

12 Month Share Price Performance - Average -3%
Iron Ore Peer Company Valuations

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

- **June Average**: $1.850/t
- **May Average**: $3.231/t

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

- **June Reserve Metric**:
  - Mt Gibson: $26.48
  - Fortescue: $23.70
  - Freehill: $15.21
  - Jupiter Mines: $8.65
  - Champion Iron: $4.39
  - Fenix Resources: $4.26
  - Mineral Resource Limited: $3.20
  - Grange: $0.54
  - BCI Minerals: $0.25
  - Iron Road: $0.10

- **May Average**: $9.564/t
- **Average**: $21.232/t
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). Companies data from 31/05/2020 to 30/06/2020.
Iron Ore Transaction Metrics
- Resource and Reserve Multiples

Transaction multiples based on iron ore price of US$103/t - 30 June 2020

<table>
<thead>
<tr>
<th></th>
<th>Exploration (US$/dmt Fe)</th>
<th>Development (US$/dmt Fe)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resource</td>
<td>Reserve</td>
<td>Resource</td>
</tr>
<tr>
<td>1 yr average</td>
<td>$0.445</td>
<td>$0.55</td>
</tr>
<tr>
<td>3 yr average</td>
<td>$0.299</td>
<td>$0.247</td>
</tr>
<tr>
<td>5 yr average</td>
<td>$0.000</td>
<td>$0.247</td>
</tr>
</tbody>
</table>

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

---

1. Resource
2. Reserve

---

PCF Resources Thermometer
### Market Analysis

<table>
<thead>
<tr>
<th><strong>Price Performance</strong></th>
<th>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</th>
</tr>
</thead>
</table>
| **Peer Company Valuations** | Market-based valuation metrics (or ‘peer’ metrics) are calculated based upon:  
|  | • end-of-month market capitalisation (MC) data;  
|  | • most recent balance date net debt (cash) figures to determine enterprise value (EV); and  
|  | • 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  
|  | 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  
|  | 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  
|  | 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  
|  | 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
- Aurelia Metals Ltd
- Alacer Gold Corporation
- Blackham Resources Ltd
- Centennial Mining Ltd
- Dacian Gold Ltd
- Evolution Mining Ltd
- Gascoyne Resources Ltd
- Gold Road Resources Ltd
- Medusa Mining Ltd
- Millenium Minerals Ltd
- Newcrest Mining Ltd
- Northern Star Resources Ltd
- Oceanagold Corporation
- Pantoro Ltd
- Perseus Mining Ltd
- Red 5 Ltd
- Ramelius Resources Ltd
- Rand Mining Ltd
- Regis Resources Ltd
- Resolute Mining Ltd
- Saracen Mineral Holdings Ltd
- St Barbara Ltd
- Silver Lake Resources Ltd
- Tribune Resources Ltd
- Troy Resources Ltd
- Westgold Resources Ltd
- West Wits Mining Ltd

## Gold Explorers/Developers
- Amani Gold Ltd
- Ausgold Ltd
- Anova Metals Ltd
- Azumah Resources Ltd
- Antipa Minerals Ltd
- Bardoc Gold Ltd
- Bligh Resources Ltd
- Bellevue Gold Ltd
- Breaker Resources NL
- Bassari Resources Ltd
- Cadiz Resources Ltd
- Crusader Resources Ltd
- Cardinal Resources Ltd
- Capricorn Metals Ltd
- Carbine Resources Ltd
- Citigold Corporation Ltd
- De Grey Mining Ltd
- Echo Resources Limited
- Egan Street Resources Ltd
- Emerlad Resources NL
- Focus Minerals Ltd
- Genesis Minerals Ltd
- Golden Rim Resources Ltd
- Geopacific Resources Ltd
- Horizon Gold Ltd
- Kainos Minerals Ltd
- Kin Mining Ltd
- Korab Resources Ltd
- Kingston Resources Ltd
- Middle Island Resources Ltd
- Metminco Ltd
- Matador Mining Ltd
- NTM Gold Ltd
- Nusantara Resources Ltd
- OreCorp Ltd
- Orminex Ltd
- Prodigy Gold NL
- Stone Resources Australia Ltd
- Sihayo Gold Ltd
- Strategic Minerals Corporation NL
- Saturn Metals Ltd
- Tanami Gold NL
- Theta Gold Mines Ltd
- Tietto Minerals Ltd
- Vector Resources Ltd
- West African Resources Ltd

## Copper
- Aeris Resources Ltd
- Altona Mining Ltd
- Avanco Resources Ltd
- Caravel Minerals Ltd
- Havilah Resources Ltd
- Hillgrove Resources Ltd
- Hot Chili Ltd
- Intrepid Mines NL
- KGL Resources Ltd
- Oz Minerals Ltd
- Nzuri Copper Ltd
- Rex Minerals Ltd
- Sandfire Resources NL
- Stavely Minerals Ltd
- Syndicated Metals Ltd
- Venturex Resources Ltd

## Nickel
- Cassini Resources Ltd
- Centaurus Metals Ltd
- Duketon Mining Ltd
- Independence Group NL
- Nickel Mines Ltd
- Mincor Resources NL
- Panoramic Resources Ltd
- Poseidon Nickel Ltd
- Rox Resources Ltd
- St George Mining Ltd
- Talisman Mining Ltd
- Western Areas Ltd

## Zinc
- Azure Minerals Ltd
- Metallicy Ltd
- Heron Resources Ltd
- Arnex Resources Ltd
- BCI Minerals Ltd
- Costron Resources Ltd
- Metals Australia Ltd
- New Century Resources Ltd
- Red River Resources Ltd
- Crusader Resources Ltd
- Flinders Mines Ltd
- Fortescue Metals Group Ltd
- Gindalbie Metals Ltd
- Grange Resources Ltd
- Iron Road Ltd
- Mt Gibson-Iron Ltd
- Sundance Resources Ltd

## Iron Ore
- Amex Resources Ltd
- BCI Minerals Ltd
- Costron Resources Ltd
- Gindalbie Metals Ltd
- Grange Resources Ltd
- Iron Road Ltd
- Mt Gibson-Iron Ltd
- Sundance Resources Ltd

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