The Browns Polymetallic Sulfide Deposit
Northern Territory Australia

Joseph Lori
Senior Exploration Geologist
Doe Run Australia NL
The Doe Run Company (DRC)
Mining, Milling and Recycling in Missouri, USA

- Only primary lead mining operations in United States
  - +300 Mt produced at 6.7% Pb equivalent
- Operates six active production mines
  - Mines approximately 6 Mt/year
- Owns and operates four mills located at the mine sites
  - Production capacity of 23,800 tpd
- Owns and Operates one of the world’s largest single-site lead recycling facilities
  - Recycles approximately 460 M lbs/year
Doe Run Exploration Projects

- Island Lake Claim Block
  - ≈ 9,000 ha

- Litchfield Tenements
  - ≈ 26,450 ha
Browns Project History

- Compass Resources & HAR
  - Permitted 2006
  - Production 2008 (5 months)
  - Care & Maintenance 2010

- DRC Investigations
  - St. Joe 1960’s
  - DRC 1998 - 2004
  - DRC 2015

- Doe Run Australia (DRA) entered into an agreement in December, 2016
Browns Geology & Pine Creek Orogen

- Rifting & Sediments $\rightarrow$ 2.5 to 1.8 Ga
- Base Metal Mineralization $\rightarrow$ 2.3 Ga
- Folding & Deformation $\rightarrow$ 1.9 to 1.7 Ga
- Uranium Mineralization $\rightarrow$ 1.6 – 1.1 Ga
- Sediment Hosted Pb-Cu-Zn-Ni-Co-Ag
- Upper Coomalie & Whites Fm. Contact
- Structurally Complex
December 17th, 2016 DRA entered into an agreement with Northern Territory Resources (NTR) to acquire Browns & Litchfield
- Permitted Browns Deposit
  - +/- 183 ha MLN's
- Litchfield Exploration Project
  - +/- 26,450 ha Tenements

March 15th, 2017 DRA initiated Due Diligence (Pre-Feasibility)
- Tenement Register Check
- +/- 2,500 meters Metallurgical Drilling
- +/- 1,500 meters Geotechnical Drilling
- Verification of block model & drill data
- Process design / metal recoveries
- Mine design & production rates
Browns Mining License
Due Diligence Focus
Browns Metal Zoning
Pb Zonation
Orange: > 1%
Purple: Trace

Cu Zonation
Orange: > 1%
Purple: Trace

Ni Zonation
Orange: > 0.1%
Purple: Trace

Zn Zonation
Orange: > 1%
Purple: Trace

Co Zonation
Orange: > 0.1%
Purple: Trace

Ag Zonation
Orange: > 25ppm
Purple: Trace
Metallurgical Drill Program

- Acquire sample for metallurgical test work
  - Drilled at acute angle to predicted orebody
  - 10 PQ diamond drill holes
  - 2,622.53 meters
  - ≈ 1,900 m of mineralized core

Pb rich Breccia in 17BD002
Core Processing and Shipping

- Metallurgical Drill Core Process
  - Geologic logging
  - Structural logging
  - Photos
  - Transferred, packed, and sealed
  - Palletized for shipping
  - ≈ 29.7 tonnes shipped to USA
## Block Model Validation

**Browns MET Drilling 2017 – Actual vs. Block Model Grades**

<table>
<thead>
<tr>
<th>BHID</th>
<th>Intercept</th>
<th>Pb %</th>
<th>Zn %</th>
<th>Cu %</th>
<th>Co %</th>
<th>Ni %</th>
<th>Ag (opt)</th>
<th>PbEq %</th>
</tr>
</thead>
<tbody>
<tr>
<td>17BD001</td>
<td>Estimated</td>
<td>90</td>
<td>3.28</td>
<td>0.54</td>
<td>0.03</td>
<td>0.050</td>
<td>0.040</td>
<td>0.308</td>
</tr>
<tr>
<td></td>
<td>Actual</td>
<td>133</td>
<td>3.46</td>
<td>0.59</td>
<td>0.02</td>
<td>0.042</td>
<td>0.042</td>
<td>0.265</td>
</tr>
<tr>
<td>17BD002</td>
<td>Estimated</td>
<td>130</td>
<td>7.54</td>
<td>0.65</td>
<td>0.07</td>
<td>0.120</td>
<td>0.090</td>
<td>0.539</td>
</tr>
<tr>
<td></td>
<td>Actual</td>
<td>129</td>
<td>7.72</td>
<td>0.64</td>
<td>0.08</td>
<td>0.107</td>
<td>0.102</td>
<td>0.538</td>
</tr>
<tr>
<td>17BD003</td>
<td>Estimated</td>
<td>71</td>
<td>4.30</td>
<td>0.22</td>
<td>0.50</td>
<td>0.120</td>
<td>0.090</td>
<td>0.397</td>
</tr>
<tr>
<td></td>
<td>Actual</td>
<td>69</td>
<td>5.35</td>
<td>0.30</td>
<td>0.19</td>
<td>0.130</td>
<td>0.110</td>
<td>0.387</td>
</tr>
</tbody>
</table>

**Copper in 17BD003**

**Pb in 17BD005**
Geologic Observations
Geotechnical Drill Program

- **Hydrological and Structural Data**
  - 6 HQ diamond drill holes
  - 2 RC drill holes
  - 1,251.92 meters
  - Point load testing
  - Packard testing
  - Air lift / submersible pump testing
  - VWP installation
  - ≈ 2.8 tonnes shipped to USA
Exploration Drill Program

- **Resource Expansion**
  - 3 HQ diamond drill holes
  - 804.97 meters
  - 17BD011 was misaligned and stopped at 21 m
  - Depth and Northeast

<table>
<thead>
<tr>
<th>BHID</th>
<th>Length</th>
<th>Pb %</th>
<th>Zn %</th>
<th>Cu %</th>
<th>Co %</th>
<th>Ni %</th>
<th>Ag (ppm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>17BD012</td>
<td>10</td>
<td>3.02</td>
<td>0.08</td>
<td>1.59</td>
<td>0.24</td>
<td>0.18</td>
<td>21.5</td>
</tr>
<tr>
<td>17BD013</td>
<td>33</td>
<td>10.77</td>
<td>0.48</td>
<td>0.30</td>
<td>0.28</td>
<td>0.23</td>
<td>26.9</td>
</tr>
<tr>
<td>17BD013</td>
<td>9</td>
<td>0.98</td>
<td>0.03</td>
<td>3.27</td>
<td>0.19</td>
<td>0.17</td>
<td>40.1</td>
</tr>
</tbody>
</table>

Copper in 17BD012
Path Forward

- Continued Due Diligence
  - Metallurgy
  - Geotechnical & Hydrological
  - Mining / Milling / Process
  - Tenement Maintenance

- Future Exploration Focus On
  - Upper Coomalie & Whites Fm. Contact
  - Near mine potential
  - 2010 AEM anomalies
  - 2012 Gravity anomalies
  - 2012 – 2015 IP anomalies
Thank You