Unearthing Australia’s First Pollucite Deposit
(and other things)

David Crook, Managing Director
RIU Explorer’s Conference
Fremantle 20-23 February 2018
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“You won’t be able to afford it”

Mine Executive on buying Caesium Formate

Everyone’s talking about Lithium... and they should be “It’s the next gasoline.”

Brian Colwell
Corporate Overview

Capital Structure

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<td>Share Price</td>
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Shareholder Analysis

Top 20 Ownership: 19.6%

Board of Directors

Craig McGown          | Non-Executive Chairman |
David Crook          | Managing Director      |
Allan Trench         | Non-Executive Director |
Wayne Spilsbury      | Non-Executive Director |

12 Month Share Price chart
Key Assets Along Infrastructure Corridors in WA and Ontario

- Golden Ridge
- Mavis Lake
- Kangan
- Pioneer Dome
- Kalgoorlie
- Ontario
- Pilbara
- Norseman
Golden Ridge – Cobalt 2018

ROCKET
- GRRC34: 31m at 0.15% Co from 43m
- GRRC37: 6m at 0.57% Co from 22m

LEO’S DAM
- GRRC27: 22m at 0.18% Co from 38m
- GRRC33: 19m at 0.22% Co from 34m

ANOMALY 13
- GRRC30: 16m at 0.17% Co from 42m

ANOMALY 14
- GRRC18: 8m at 0.17% Co from 34m
- GRRC19: 17m at 0.11% Co from 34m
- GRRC24: 11m at 0.21% Co from 35m
GR/Blair Dome – Nickel Sulphide 2018

- **LEO’S DAM**
  - **GRRC38**: 22m at 1.02% Ni and 475ppm Cu from 202m
Mavis Lake – Spodumene 2018

2018 Drilling: Assays awaited
MF18-53: 68.3m Spod Pegmatite from 82.7m
MF18-57: 30m Spod Pegmatite from 117m
MF18-58: 29.8m Spod Pegmatite from 116.8m
MF18-51: 25.3m Spod Pegmatite from 76.7m

* All widths reported are drill core widths and have not been converted into true width. Appropriate rounding of Li₂O values applied.
Kangan Gold - Pilbara Wits 2 Model

- polymictic conglomerate identified in the field at this location over an 800m strike length
- Adjacent anomalous soil geochemistry and rock chips recorded in Technical Reports by previous explorers.
Sinclair Zone Caesium Deposit
Making Mines Making Money

- **Timetable – Aiming for Mid 2018 startup:**
  - ✓ Mining Lease and Miscellaneous Licence: Granted
  - ❑ Project, Safety, Community System: initialised
  - ✓ Detailed heritage surveys: Completed
  - ✓ Detailed resource drilling finished:
    - ❑ Drilling results awaited
      - ➢ Final Mine Design
      - ➢ Finalise Offtake
      - ➢ Final Approvals from DMIRS (Mines Department)
      - ➢ Commence Mining
Charting Pegmatite Evolution

- Bt – Ms granite
- decreasing isotherms, isobars
- increasing F, B, and P
- decreasing K^+
- Mavis Lake
- Pioneer Dome
- albite – lepidolite & elbaite pegmatites
- Li pegmatites
- beryl pegmatites
- muscovite – ceramic pegmatites
- Petalite/spodumene pegmatite
- Spodumene /petalite pegmatite
- Lepidolite/ petalite pegmatite
- Increasing fractionation

©2008 Mineralogical Association of Canada
Sinclair Zoned Pegmatite more akin to Tanco

- **GP2:** Wall Zone
- **GP4:** Intermediate Zone
- **GP6:**
- **GP5:**
- **GP7:**
- **GP8:**
- **GP9:** Highly Fractionated Core

**Minerals:**
- Pollucite: CsAlSi$_2$O$_6$.xH$_2$O
- Lepidolite: K$_2$(Li,Al)$_{5-6}$[Si$_{6-7}$Al$_2$O$_{20}$](OH,F)$_4$
- Microcline: (K,Na)[AlSi$_3$O$_4$]
- Petalite: Li[AlSi$_4$O$_{10}$]
- Perithite: Albite, Clevelandite
- Silica: Si$_2$O$_3$
This gives us a list of Saleable Products

- Pollucite (Cs)
- Microcline (K)
- Lepidolite (Li, Cs, Rb)
- Petalite/Spod (Li)
- HP Silica
- + Gemstones
The Gemini (and Pegmatite) Twins: Castor and Pollux

PDRCD071

SILICA

POLLCITE

PETALITE (Originally Castorite)

PDRCD071

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Pollucite – what is it

- Very rare
- forms in highly evolved LCT pegmatite core zone
- one of the last primary igneous minerals to crystallise
- range from fist-size to small pods
- co-exists with petalite, silica (and lepidolite)
- Known at approximately 110 localities worldwide
  - Two locations, Tanco Manitoba and Bikita, Zimbabwe represent ‘commercial-sized’ pollucite deposits
  - The remaining locations contain only a few grams of the mineral (Teertstra & Černý, 1997).
This is what the Sinclair Mine Could Look Like

- *Discovery in October 2016*,
- Measured Mineral Resource of 10,500t pollucite grading 17.1% Cs₂O
- The World’s 3rd largest known pollucite deposit (pre depletion of others)
Caesium Formate

- lubricant in high temperature/high pressure oil and gas drilling,
  - Ensures faster completion times and
  - higher production rates
- The two main producers of Pollucite:
  - TANCO mine, CABOT Canada, produces sufficient ore to generate approximately 8,400bbl CsFm and a lesser amount of Cs chemicals
  - Bikita Mine in Zimbabwe (sporadic, and supplies the Cs chemical market)
- CABOT Specialty Fluids:
  - 2010-2014 (5 years) EBITDA averages US$37 million, or $312 million between 2004 and 2016
  - CsFm rented to oil companies including Shell, Total, Statoil, ExxonMobil and BP, used in 30 wells per year (2008-2009)
Value Proposition

Pioneer Dome Strategy

- **Develop Sinclair Zone Pollucite (Caesium) Deposit**
- **Commercialise Co-Products i.e. Lepidolite, Microcline**
- **Drill for further discoveries**
  - Drill Lithium (Spodumene and Lepidolite) Targets
  - Watch for Caesium vectors and drill for Pollucite

- **In Addition…..**
  - Mavis Lake, Raleigh, Canada: - Spodumene Results March
  - Golden Ridge: - Bench Test for Cobalt,
  - Further Drilling for Ni Sulphides
**References**

**Projects**
- Internal documents by Brand N. W. of Geochemical Services Pty Ltd
- Plus Company quarterly reports.

**Pegmatites**

**Microcline**

The Company it is not aware of any new information or data that materially affects the information included in this Report.
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