

# TRUSCONT MINING CORPORATION LIMITED

ABN 31 116 420 378

#### **Tennant Creek Goldfields – Structure & Mineralisation**

**Technical Presentation** 

STREET, STREET

**Presentation 2016** 

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#### Tennant Creek Goldfields ocation – Northern Territory

Excellent Access and Low Infrastructure Costs

#### 500 km north of Alice Springs main Stuart Highway to Darwin

- Rail Alice Springs to Darwin line
- Mining support industries (drilling, engineering & accommodation)
- Infrastructure (power, airport, and hospital)
- TRM tenements lie between 1 & 30 km of town
- Sealed road & grid power

#### A Regional Centre with a Mining Focus



## Tennant Creek Gold Projects Tenement Locations(100% Truscott)



## Tennant Creek Goldfield Historical Underground Mining – Major Gold Deposits

#### Transitions in Mining Methods and Selectivity - Underground Mining - Gold Zones - Major Deposits

Recording the change from shaft supported hand held methods (Nobles Nob) to decline supported mechanisation (White Devil)

Mine	Operations Years	Ore Mined Tonnes		Grade Au g/t	Metal Au Ounces
Nobles Nob	1947-86	1,996,000	<b>U/G Mining Gold Zones</b> Including Open Cut Mining	<b>51.6</b> 17.3	<b>829,000</b> 1,110,000
Juno	1967-77	452,000	U/G Mining Gold Zones	56.1	815,000
Warrego	1972-89	6,750,000	<b>U/G Mining Gold Zones</b> Including U/G Mining for Cu Credits	<b>16.0</b> 6.6	<b>1,000,000</b> 1,475,000
White Devil	1987-99	1,618,000	U/G Mining Gold Zones	14.6	761,000

### Tennant Creek Mineral Field Structural Elements & Location of Gold Occurrences



## Tennant Creek Goldfields Structural Controls & Mineralisation

Observations of recorded mineral occurrences across the goldfield demonstrate linear traces along which the mineralisation is distributed. The patterns that these lines support a structural evolution that has been driven by a dextral transcurrent strike-slip regime.

Truscott's field mapping and research work has defined both the primary 083 degrees (D) mineralised shear direction and the resultant subsidiary mineralised shear directions of 103 (R) and 063 degrees (P) that are components of synthetic dextral shear. Further work has also defined the presence of anti-synthetic shearing on 153 (R') and 013 (P') degrees.

Field observations of structural elements confirm that the prevailing stress regime acted as a continuum generating structural signatures at a number of scales. Observations of these patterns at different scales can be understood in terms of fractal analysis.

Indications are that the southern sector of the Goldfield where the 103 (R) degree synthetic shears manifest, are the most productive and prospective for gold mineralisation. Areas north of primary stress axis (sigma 1, slide 6) where 013 (P') degree antithetic shearing is evident, appear to have lower prospectivity.

## Westminster Structural Elements Minor Scale (1 Metre)





Major Mines & Targets At Structural Element Intersections - TMI Image



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## Tennant Creek Goldfields Prospectivity Assessment

Truscott's exploration projects are located in the prospective part of the goldfield south of the principle strain axis sigma 1. Structural elements are evident in the gravity image (slide 9), and lineaments of late stage faulting on antithetic shear at 153 (R')degrees, under strain reversal can be clearly observed.

The late stage faulting has acted to offset elements of the earlier strain regime. The accumulative effect of the offset faulting has resulted in the primary shear direction of 083 degrees (D) being effectively rotated to 085 degrees. At a local level all earlier structural elements and ore bodies are subject to offset.

The rotated primary transcurrent shears provide a set of lines along which the major gold deposits are formed. Locally the deposits are centred on the intersection of these lines and subsidiary antithetic shear at 153 (R') degrees.

Truscott's exploration and development project areas to fall over a number of key locations where the sedimentary sequence has been dilated to provided an environment for formation of ore bodies.

The structural setting which hosts the Westminster Project; includes the historical mines of Peko and Chariot, and the Hera Project; includes the historical mines of Juno and Nobles Nob (slide 11).

### Tennant Creek Goldfield Westminster & Hera Project Settings



#### Westminster Project Structural Controls



#### Westminster Project Extension & Compression Zones

At Westminster a zone of primary transcurrent shearing at 083 (D) degrees is crosscut by a set of late stage anti-synthetic shears on 153 (R') degrees. A lineation along the direction of anti-synthetic shear provides an axis which divides the Westminster project into two structural domains.

The formation of the structural domains can be understood as a consequence of the effective overall rotational action of the transcurrent shear which at a local level expresses itself as the development of extensional and compressional zones relative to the P and R directions (slide 12).

As the shear forces associated with the R direction are typically first onset under deformation, the extensional zones formed in this orientation are generally larger than those formed under P direction. This is supported by categorisation of historical operations, Warrego being an example of an extensional ore body.

The plan view for the Westminster Project demonstrates the action of late stage offset faulting for both the extensional and compressional zones. An important consideration when designing and planning drill programs.

#### Westminster Project

Structural Controls - 1stVD Ground Gravity Image



## Westminster Project Structural Controls – Ore Body One, Zone One



#### Westminster Project Resource Extension Potential

The Extension and Compression zones formed as a consequence of the transcurrent shear action provides dilation traps for Iron rich fluids to precipitate. The geometry of the interaction between the 083 (D) shear direction and 103/063 (R/P) resultant shear directions control the plunge of the resulting iron rich zones within the dilated envelopes.

The Iron rich zones consolidate and crystallise to form the host environment for later phase mineralised fluids to precipitate and concentrate gold. This process is also considered to be associated with fracturing of the Ironstone host and peak hydrothermal metamorphism within the main shear corridor to amphibolite facies level.

Drilling within Zone One of Ore body One (slide 15) at Westminster has demonstrated the post mineralisation, late stage offset faulting. To date drilling within upper levels of this zone has defined continuity of high grade mineralisation over a strike length exceeding 300 metres. In addition deeper drilling has confirmed the existence (slide 18) of further economic mineralisation at depth.

With less than 10% of the total compression zone drill tested and high grade gold mineralisation having been intersected over an extent of 600 metres, the size of the dilation trap indicates the requirement for an extensive infill drill program.

#### Westminster Project, Long Section **Ore Body One – Zone One, Depth Extension Drilling** N 6 6 ୍ଷ 1.780 0.52 4.80 1.410 1.070 Gold Assays 050 350 189 6.848 250Z 250Z DL 0.940 8.81 ð. 9a Dr 1.350 1 111 0,550 1,110 0.580 Ore Body 1, Zone 1, Planned depth extension drilling

### Westminster Project – Ore Body One Oblique Section - Across Ore Plunge – Zone One



## Westminster Project - Warrego Foot Print Model Structural Controls – 1stVD Ground Gravity Image



## Tennant Creek Goldfield Comparative Ore Body Models

The ground based gravity images at Westminster provide indications of the local transcurrent shear corridor and modelled dilation domains. Surface mapping, sampling and drilling subsequently further references the location for targeted mineralisation zones.

Early shallow drilling at the extensional end of the Westminster Project area has intersected substantial intervals of low grade gold mineralisation, the most significant intersection ended in mineralisation and returned 90 metres @ 0.25 g/t Au. A significant gravity low is located adjacent to the drilling and aligned to R (103).

The actual orientation and size of the footprint for the Warrego workings (slide 19) allows it to be placed within the extent of the gravity low, Westminster extension zone. A Magnetic high is also located along the south western flank of the gravity low in the extension zone.

Comparative analysis of the Hera Project (slide 20) area demonstrates a similar structural setting with a large local gravity low and associated magnetic high for the modelled extension zone. Further interpretation provides for a modelled compression zone similar to that of Westminster.

## Hera Project – Gravity Image Content of the IRUS



## Tennant Creek Goldfields Paragenesis Model



## Directors and Executive Management Truscott Mining Corporation Limited

#### Peter N Smith (Executive Chairman & Managing Director)

BSc (Min), PG Dip (M Tech), M Min Tech, FAusIMM, CP,

International and Australian experience in mine management and mine development. Twenty years experience in exploration project management and development of associated research and development initiatives. Major shareholder Truscott Mining Corporation Limited.

#### Rebecca Moore (Non-Executive Director)

#### B Com, GAICD

Executive experiences private enterprise, and state and local government organisations. Including banking, project management, local and international marketing, governance and audit committee undertakings. Top twenty shareholder Truscott Mining Corporation Limited.

#### Michael J Povey (Executive Director & Company Secretary)

#### B Bus, FTIA.

Experience working within major public accounting firms. Principal of an accounting practice concentrating on taxation and company reporting. Past tenure as university lecturer, business studies. Chair of audit committee. Significant shareholder Truscott Mining Corporation Limited.

#### Judith A Hanson (Principal Geologist)

#### PhD, MSc (Hons) BSc (Geology)

Experience working with government and exploration companies on geological mapping projects. A specialist structural geologist engaged in writing up the findings for the company's research and development programs. Top twenty shareholder Truscott Mining Corporation Limited.

**Competent Person's Statement:** The contents of this report, that relate to geology and exploration results, are based on information reviewed by Dr Judith Hanson, who is an employee of Truscott Mining Corporation Limited and a Member of the Australasian Institute of Mining & Metallurgy. She has sufficient experience relevant to the style of mineralisation and types of deposit under consideration and to the activity being undertaken to qualify as a "Competent Person", as defined in the 2012 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Dr Hanson consents to the inclusion in this presentation of the matters compiled by therein in the form and context in which they appear.