

ASX Announcement

21st October 2022

# Summary of Research & Development Findings

Truscott is contributing to its social license to operate by providing its research findings to incoming explorers in the Tennant Creek region.



Figure One: Reginal Exploration & Development Initiatives.

# **Exploration & Commercial Outcomes**

The objective is to reduce the learning period for new explorers, and to support a collective improvement in exploration outcomes.

Inputs in theoretical physics and applied mathematics, which are outside of typical geological assessment, are required to effectively characterise the exploration setting.

The new knowledge provides the opportunity to review procedures and consider changes to operating practices that may increase the chance of commercial success.



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Explosive wealth generation becomes possible when innovative ideas and theories are applied in market circumstances that favour their development.

| RESEARCH DRIVEN WEALTH GENERATION                                                                                               |            |
|---------------------------------------------------------------------------------------------------------------------------------|------------|
| Theoretical Propositions                                                                                                        |            |
| Inflation is Always & Everywhere a Monetary Phenomena                                                                           | "Friedman" |
| Mineralisation is Always & Everywhere an Energy Phenomena<br>(in the sense that ore bodies form where transfers of energy occu) | "Truscott" |
| TRUSCOT<br>MINING CORPORATION LIMITED                                                                                           |            |

Figure Two: Establishing Theoretical Constructs

## **Development of Theoretical Frameworks**

Theoretical propositions are not absolute, or uncontested. They often however provide the basis for establishing operating practices and activities.

The new theory demonstrated in this summary will provide a context for your assessment of the potential for gold discoveries across Northern Australia.

What in time will become referred to as the "Northern Goldrush."

It should also provide insight as to why companies have struggled to achieve development outcomes in this mineral rich terrain.



Exploration work needs a context or setting within which new theories can be developed, expanded, and evaluated. A new work paradigm then becomes established.



Figure Three: Regional Linear observations on 126° (Sigma 1).

## **Establishing a New Operational Paradigm**

As a first step we have drawn observations from Government mapping (Figure 3) where alignment of physical landforms, and geological boundaries are evident.

With the older Archaean and Paleo-Proterozoic (brown) rocks evident as relative zones of uplift or crustal thinning because of large-scale tectonic forces.

The Primary stress for this orogenic activity aligns with the orange markings on the map with direction sigma one  $(126^0)$ , generating a strike-slip corridor (green).



Well documented structural publications support the work on strike-slip shear elements and the order in which they develop.

![](_page_3_Figure_2.jpeg)

Figure Four: Reference for Strike-Slip Shear Elements.

## **Descriptions of Strike-Slip Shear Systems**

Primary stresses associated with regional tectonic activity result in the development of strike- slip corridors (Figure 4) in which a series of deformation events occur.

The first response within the strike-slip corridor is typically a folding event with ductility influenced by the age and state of consolidation of the rock mass.

Subsequently resultant Riedel shearing, and dilation sets in, followed by latter cross-linking shearing and dilation.

Tensional opening associated with the driving primary stress directions influence the emplacement of later stage intrusions.

![](_page_4_Picture_0.jpeg)

Assessing the total magnetic imagery for further indications of strike – slip activity provides support for the initial observations.

![](_page_4_Figure_2.jpeg)

Figure Five: Development of Regional Strike Slip

## **Elements of large-Scale Strike – Slip Activity**

Scanning (Figure 5) across eight hundred kms from Tanami to beyond Tenant Creek in the east lines of disruption (green) consistent with the direction of the strike-shear corridors S ( $087^{0}$ ) are evident.

In the corridor, early resultant shear elements on R ( $103^{0}$ ) are visible (purple), with latter stage cross linking resultant shear elements P ( $063^{0}$ ) also clearly (Yellow) observable.

This transference of energy provides a context upon which to develop exploration models for structurally controlled gold mineralisation.

![](_page_5_Picture_0.jpeg)

Magnetic imagery covering large-scale structures provides an appreciation of the framework under which gold mineralisation has been subject to structural control.

![](_page_5_Figure_2.jpeg)

Figure Six: Structural Domains within the Strike-Slip Corridor (1VD Magnetics)

## **Identification of Primary Domains**

In a field of view 120 km's across, centered on Tennant Creek (Figure 6), repeating areas are evident as primary domains (White) within the Strike Slip Corridors.

The primary domains exhibit outer boundaries falling within structures on the R ( $103^{0}$ ) direction and the Strike Slip direction S ( $087^{0}$ )

Evident in the image is the alignment of discrete primary domains along the principal primary stress direction sigma 1  $(126^{\circ})$ .

![](_page_6_Picture_0.jpeg)

Domains provide a context within which to develop a predictive model for describing the structural controls over gold mineralisation

![](_page_6_Figure_2.jpeg)

Figure Seven: Primary and Parasitic Ductile Folding (Blue) within Domains

## **Structural Controls for Mineral Deposition**

In the same 120 km field (Figure 7) of view, early deformation as a fold sequence (blue) accords with mapped geological features and landforms.

The intersection of this ductile folding  $(070^{0})$ , with the strike-slip shear S  $(087^{0})$  direction acting as the structural control over mineralization locations.

These observations give an indication of the diagnostic potential of this basic model in confirming the location of major ore deposits (red).

![](_page_7_Picture_0.jpeg)

Fractal analysis allows for equivalent sets of structural observations to be studied and mapped at different scales.

![](_page_7_Figure_2.jpeg)

Figure Eight: Fractal Patterns of a Stress Continuum.

## **Reference Tools for Exploration– Intelligent Search Design**

A Fractal sequence (Figure 8) allows for the placement of different sized structural observations be in discrete sets.

The primary domains are the reference scale used to write fractal mathematics which links the distinct size nested sets of observations.

In application this provides for the description of folding at relative sizes, leading to the location of settings for mineralisation on a multi-level or scale basis.

![](_page_8_Picture_0.jpeg)

Working at fractal two level within the primary domains, it is possible to search for structural interactions that locate project areas containing multiple ore bodies.

![](_page_8_Figure_2.jpeg)

Figure Nine: The Structural Framework Constraining Project Locations.

## **Project Locations at Reconnaissance Scale**

Project locations (Figure 9) fit the model and occur within smaller parasitic fractal two folds nested within larger fractal one folds.

Projects incorporating major mines Chariot, Juno, Peko, & Noble's Nob (red), are associated with interactions between fractal two folds and fractal two shearing.

The Westminster Project is located, where there is interaction between the second order fold element  $(070^0)$  within a fractal two strike-slip shear S  $(087^0)$  corridor.

![](_page_9_Picture_0.jpeg)

Working at fractal three level, it is possible to search for structural interactions that define preferred locations for ore bodies within the project scale areas.

![](_page_9_Figure_2.jpeg)

Figure Ten: The Structural Framework Constraining Ore Body Locations

## **Ore Body Locations at Project Scale**

Ore bodies within project areas, are associated with fractal three folds  $(070^{\circ})$  centred within the larger fractal two-fold  $(070^{\circ})$ .

The intersection between elements of fractal three, fold elements and fractal three shear describe the location within a host environment for ore body formation.

At Westminster (Figure 10) Ore body One and Target Two are in effect located at the interaction of fractal three, fold elements and fractal three corridors shear S ( $087^{0}$ ).

![](_page_10_Picture_0.jpeg)

Working at fractal four level, it is possible to search for structural interactions that define preferred locations for Ore Pods within an Ore Body.

![](_page_10_Figure_2.jpeg)

Figure Eleven: The Structural Framework Constraining Ore Pod Locations.

## Alignment of Ore Pod Within Ore Zones

Ore pods within ore bodies, are associated with fractal four, fold elements  $(070^{\circ})$  that occurs within the larger fractal three folding  $(070^{\circ})$ .

The intersection between elements of fractal four, fold elements  $(070^{0})$  and fractal four shear S  $(087^{0})$  centres the location for zones of highly mineralised ore pods.

Within Ore Body One (Figure 11) at Westminster, ore pods align at (063<sup>0</sup>) within ore zones that have a plan length of three hundred metres.

These discrete ore zones aggregate within ore bodies, and individual zones may contain more than one million ounces of gold.

![](_page_11_Picture_0.jpeg)

Illustrations of the high-grade polymetallic mineralization within the fractal four scale shear and dilation are provided.

![](_page_11_Figure_2.jpeg)

Figure Twelve Ore Body One – Zone One - Cross Section A –A' +/- 120 Metres.

## **Establishing Controls for Targeting Mineralisation at Depth**

Sections A-A' (Figure12) is a section drawn orthogonal to strike-slip shear S (087<sup>0</sup>) activity, where drilling has frequently intersected mineralisation exceeding 10g/t Au.

At Westminster mineralised fluids flow upwards, and into dilated spaces resulting from strike slip shear action and fold openings.

larger accumulations of precipitated mineralisation repeat at vertical intervals and define the centroids for mining levels.

![](_page_12_Picture_0.jpeg)

Historical artesian workings further demonstrate the tenor of the high-grade mineralisation as supported by adjacent drilling.

![](_page_12_Figure_2.jpeg)

Figure Thirteen: Ore Body One – Zone One A - Cross Section B –B'

## Targeting - Selective High-Grade Mining @ 10-15 G/T Au

Sections B-B' (Figure 13) is a section drawn orthogonal to strike-slip shear S ( $087^{0}$ ) activity, where mine production recorded a recovered grade of 28.4 g/t Au.

The nature of the mineralisation lends itself to selective underground mining with a much lower carbon footprint than bulk mining of lower grade ores.

Mechanised underground mining at, the more recently mined, White Devil mine still achieved a recovered grade of 14.6 g/t Au.

![](_page_13_Picture_0.jpeg)

The scope of future resource extension drilling at Westminster is assessable relative to the historical White Devil Mine.

![](_page_13_Figure_2.jpeg)

Figure Fourteen: Comparative Analysis – Long Sections Aligned to (070°).

## Modelling Provides a Scope for Resource Targeting

A composite of long sections (Figure 14) aligned to the fold direction  $(070^{0})$ , covers both the White Devil Mine, and Ore Body One at Westminster.

White Devil Mine produced 760,000 ounces of gold plus other metal credits, which in today's marketplace has a value approaching Two Billion Dollars.

The mineralisation intersected in zone one at Westminster as described earlier is of the same character as that within the White Devil deposit.

The long section, drawn at fractal four scale, for Westminster provides an overview of the work completed to date and the scope for ongoing resource extension drilling.

![](_page_14_Picture_0.jpeg)

To continue frame-working the orebody an analysis of which of the existing drill holes, are extended has been completed.

![](_page_14_Figure_2.jpeg)

Figure Fifteen: Core Target Zone Definition --- Westminster--- Ore Body One

## The Structural Framework to Facilitate – Mine Design

Drilling to date, has indicated (Figure 15) that the major ore levels have centers at vertical intervals of 110 metres.

Emphasis will now focus on increasing the number of intersections within level two and establishing a series of intersections within untested level three.

Future drilling program design looks to establish an initial framework for underground mine design and plan for grade control drill platforms.

![](_page_15_Picture_0.jpeg)

Truscott is uniquely positioned to undertake resource estimation procedures that support planning for selective high-grade mining.

![](_page_15_Figure_2.jpeg)

Figure Sixteen: Modelling Mineral Deposition – Westminster Project

#### **Resource Estimation – To Scientific Standards**

The complexity of strike – slip mineralization is such that a three-dimensional model based on the drilling to date provides (Figure 16) a useful overview.

The empirical mathematics written to describe fractals provides an independent cross check of parameters estimated from statistical analysis for resource estimation.

This scientific approach to resource modelling delivers inputs to mine design that support selective mining techniques and recovery of the high-grade ore pods.

![](_page_16_Picture_0.jpeg)

Further checks on the descriptive capability of the structural fractal model have it applied at locations separated by large distances.

![](_page_16_Figure_2.jpeg)

Figure Seventeen: Cross Referencing to Back Test the Structural Model

## **Scientific Procedures - Back Testing Modelling**

The Juno Mine located sixty kilometres from White Devil Mine provides a second back test in relation to the scale of modelling for orebodies.

Again, we see a structurally constrained system (Figure 17) with the same orientation and footprint size as White Devil and the first ore zone drilled at Westminster.

The Juno Mine produced 864,000 ounces of gold plus other metal credits which in today's marketplace has a value exceeding Two Billion Dollars.

Modelling consistent with surface observations has led to the development of four equivalent targets in just a minor part of the Westminster Project.

![](_page_17_Picture_0.jpeg)

The company uses the structural model as a tool to apply strategically for selecting new exploration areas for assessment.

![](_page_17_Figure_2.jpeg)

Figure Eighteen: Exploration Initiatives referenced to Primary Domains

## **Conducting Exploration Within a Structural Context**

Truscott has selected tenements from within the central region of two primary domains for reconnaissance scale exploration.

For both the areas the internal distances from the major principal stress axis sigma one  $(126^0)$  is within that observed for all the large historical mines.

The two new tenement areas are also central to their primary domains (Figure 18) where substantial mining has occurred within the domain over Tennant Creek.

From initiation of the tenement selection process, a structural context is in place to support all exploration activities.

![](_page_18_Picture_0.jpeg)

The findings for the new area selected in the Barkly region demonstrate the application of structural controls in reconnaissance work.

![](_page_18_Figure_2.jpeg)

Figure Nineteen: Barkly Project -Utilising Structural Controls for Reconnaissance

## **Structurally Defined – New Project Areas**

At Barkly (Figure 19) traverses of two locations of intersection for fractal two folding  $(070^{\circ})$  and fractal two strike slip shear S (087°) make up the first phase of exploration.

Significant anomalous zones of Cu, Pb & As have been located a new green fields discovery as indicated (red) on the reconnaissance scale map.

The size or the extent of the anomalous indicates the potentially for this discovery to rank with Westminster.

The commercial implications of the potential for multiple other projects, with exploration proceeding across the large tenement area are significant.

![](_page_19_Picture_0.jpeg)

**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 a consultant engaged by Truscott Mining Corporation Limited and a Member of the Australasian Institute of Mining & Metallurgy. She has sufficient experience relevant to the style of mineralization 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.

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**Regulatory Information**: The Company does not suggest that economic mineralization is contained in the untested areas, the information relating to historical drilling records have been compiled, reviewed, and verified as best as the company was able. The company is planning further exploration drilling programs to confirm the geology, structure, and potential of untested areas within the company's tenements. The company cautions investors against using this announcement solely as a basis for investment decisions without regard to this disclaimer.

**Forward-Looking Statements:** This document may include forward-looking statements. Forward-looking statements include, but are not limited to, statements concerning Truscott Mining Corporations Limited's planned exploration program and other statements that are not historical facts. When used in this document, the words such as "could," "plan," "expect," "intend," "may", "potential," "should," and similar expressions are forward-looking statements. Although Truscott believes that its expectations reflected in these forward- looking statements are reasonable, such statements involve risks and uncertainties and no assurance can be given that further exploration will result in the estimation of a Mineral Resource.

Peter N Smith Executive Chairman Authorised by: By the Board