

**ASX** Announcement

29th October, 2014

# **ACTIVITIES REPORT – SEPTEMBER QUARTER 2014**

#### **Summary**

During the first quarter Truscott continued its focused research program in the high grade Tennant Creek gold field with the view to achieving the following objectives

Commercial leverage from research and development knowledge

Definition of multiple exploration projects & mining options

Establishment of medium term mine life (+10 years) production models

To limit the issuance of new shares the Directors made provision to increase their unsecured loan contribution to the Company to a total of \$258,000. The monies to be applied to cover working capital requirements and funding research work.

Work continues, with an awareness of the market conditions, with the objective of establishing a commercially acceptable Westminster Earn-In and Joint Venture Agreement.

#### **Research & Development Program**

#### **Project Background**

Academically driven work programs covering the Tennant Creek Mineral Field were undertaken by the Northern Territory Government and other national government agencies during the last century.

Historically, company exploration has relied heavily on traditional methods of exploration related to geophysical and geochemical techniques. These tools, whilst still relevant, appear in recent history to be insufficient to generate new discoveries of significance.

It appears that the context within which the academic knowledge base has been provided and the operational practices of the particular mining companies that have exploited the initial resources has not worked to mature the understanding of the mineral field and support effective discovery of replacement resources.

Truscott understands that this failure is related in part to the focus of the available academic knowledge, the current intellectual framework within which exploration techniques are continuing to be applied, and the operational practices of the past mining companies. The nature of the mineralisation and the complex geological setting has driven operators to focus on localised exploitation and short term objectives.

This research signals a required change of emphasis for exploration strategies in Australia in general. Against a more restrictive set of economic conditions, the change is a move away from exploring for massive lower grade deposits, to that of targeting relatively smaller high grade deposits within well defined structural systems and controls.



Website: www.truscottmining.com.au

Email: admin@truscottmining.com.au



#### **Objectives – Field Scale**

The primary research objective is to enhance the knowledge base supporting specialised applied technical research in structural analysis. This data has lead to a description of the structural architecture that influences and constrains mineralisation and thereby providing a basis for a major period of rejuvenation for the Tennant Creek Mineral Field.

Associated prerequisite work to support these new descriptions of the emplacement of mineralisation includes modifying the historical descriptions of regional structural settings for the mineral field, reclassifying some rock types, plus evaluating and updating the sequence of geological events as they occurred 1.8 to 1.7 million years ago using research and field observations.

## Methodology - Field Scale

The methodology includes a review of the existing historical technical knowledge base, followed by the incorporation of new results and observations. The new observations have been made across an area 150 km in extent, and in part the data collection has been designed and informed by the framework provided by Truscott's earlier observations on the influence of principal stresses during mineralisation. The more comprehensive data is now being applied to test and support the hypothesis development to describe the structural settings for mineralisation.

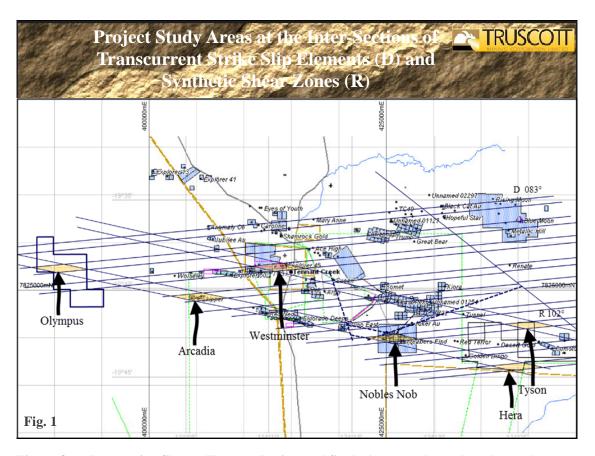


Figure One: Intersecting Shears (Truscott Project and Study Areas are located on the northern and southern resultant shear corridors)



#### **Observations – Field Scale**

The test for this structural hypothesis is observed where the mineral occurrences and distribution can be defined within a dextral structural framework. Observations throughout the mineral field shows that a stress continuum has generated similar resultant shearing and deformation patterns at a number of scales. In analysis terms these sets of observations that make up this continuum, at different scales, can be described in a fractal context.

New sets of observations have provided the description of transcurrent shearing, and the resultant synthetic and antithetic shearing directions for the mineral field. The definition of these components of the structural setting provides key inputs for developing predictive analysis describing the probable location of host environments for mineralisation.

The distribution of the project areas (Figure 1) is defined by the intersection of 083° (D) transcurrent and the more dominant 103° (R) synthetic shearing. In the exploration region of interest this generates obvious northern and southern corridors containing major deposits.

The rotational interaction that results where a change in shear/fault orientation is occurring from a D (083°) to R (103°) is thought to provide the host environment for significant mineralisation.

Previous miners have exploited mineralisation on the basis of surface outcrop or drilling for blind geophysical targets. With little knowledge of the structural setting of these deposits they have not been able to classify the mineralisation as being hosted in either dilation or compression and have therefore been limited in their ability to predict the location of additional proximal mineralisation.

### **Exploration Practices – Field Scale**

In recent years a number of explorers have incurred significant expenditure in the Tennant Creek Mineral Field with limited success. These explorers appear to have utilised contemporary technologies to generate new geophysical information but they appear to have largely worked within existing historical conceptual frameworks. It was apparent to Truscott that a new intellectual paradigm should be trialled to determine whether more informed descriptions of mineralisation can facilitate better results.

The resetting of experimental exploration methodology to utilise this structural analysis as the primary exploration tool for the mineral field first required the assessment of the likely principal stress directions during the evolution of the sedimentary basin and the expected surface and depth expression of these stresses.

On a mineral field scale the understanding of the interaction between structural elements has defined nodes or project locations with potential for major accumulations of economic mineralisation.

#### **Objectives – Project Scale**

The technical objective is to develop tools obtained from structural analysis to identify zones of dilation created as a consequence of shearing as places to trap potential mineralising fluids. Truscott has established projects to cover the experimental targets identified as having the potential to host significant gold and copper mineralisation.



Initial interpretation and assessment on a regional scale determined that the Westminster Project Site is considered to be one of the nodes within the mineral field and was therefore expected to exhibit significant accumulations of mineralisation. Westminster is effectively the parent site for research and development investigations. It is here that detailed investigations are being compiled to more fully describe the character of mineralisation.

### Methodology - Project Scale

Detailed mapping, gravity geophysical data and drilling results indicate the trends and structures present at the Westminster Project as predicted by the proposed structural model.

The traces of the transcurrent shear zone (Figure 2) crossing the Westminster Project Area are illustrated on the aerial photograph.

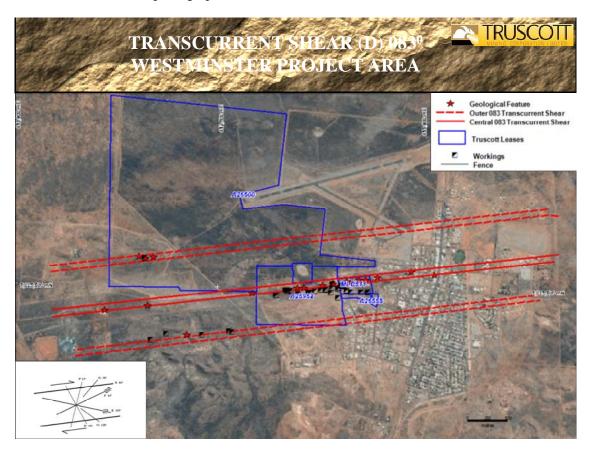


Figure Two: Transcurrent Shear Elements - Westminster Project

### **Observations – Project Scale**

Surface features and geology clearly demarcate a seventy metres wide transcurrent shear zone with concentrations of copper minerals (malachite, chalcocite, native copper) evident at the margins of the zone.

The copper minerals, both as consolidated forms and coatings on joint surfaces have lead artisan miners to dig pits at the boundaries along the shears (bleeds) with limited success, as the best gold is commonly located in the core of the shear zones.



Two subsidiary zones of shearing are located 500 metres to the north and south respectively of the central transcurrent shear zone but are observed as being less rotated and hence are considered as second order target zones.

Drilling to date at the Westminster Project indicates that highly mineralised zones of compression and extension (Figure 3) are located proximal to the interaction of two major components of transcurrent and synthetic shear.

The rotational environment associated with the interaction can be divided into two different structural domains. Within these domains the mineralised lenses that aggregate into ore bodies have characteristic orientations and plunges.

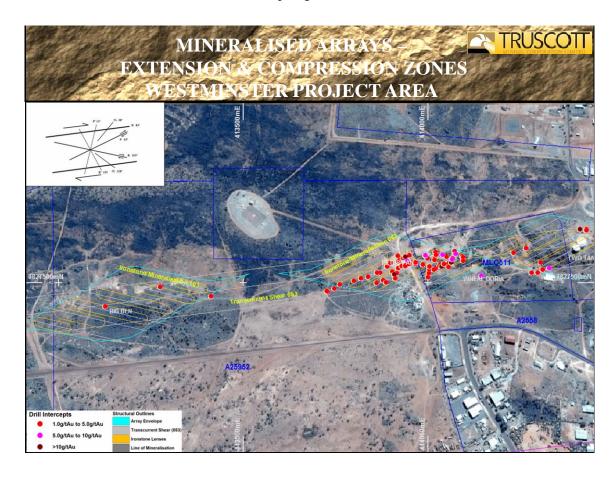


Figure Three: Westminster Project - Interpreted Extension and Compression Zones

At Westminster, primary mineralising shear sympathetic to the synthetic shear direction D (083°) crosses both the extension and the compression zone (Figure 3). The intersection of R (103°) shearing and the ironstone lenses define the drop out zones for high grade mineralisation.

The definition of the shear corridors and the orientation of the host ironstone pods within the extension and compression zones provide critical information for planning effective drilling and sampling programs for structurally controlled mineralised deposits.



### **Exploration Practices – Project Scale**

The R&D project continues to deliver findings that will allow for a better description of the likely orientation of mineralisation and thereby lead to more effective orientations for future drilling and sampling programs on other underexplored Truscott tenements.

As feedback occurs, the findings will lead to future changes in drilling and sampling practices, to ensure an effective application of capital when defining new ore systems.

The Orthographic depiction of the model for the Number One ore body (Figure 4) describes the core alignment of the ironstone lenses which host the gold mineralisation within a compression zone.

Following the 063° (P) direction of the regional structural model, individual lenses plunge at thirty-three degrees. These host ironstone lenses have been subsequently mineralised in association with shear at 083° (D) at a true dip of approximately 60 degrees.

The sub-vertical distance between the ironstone lenses, within dilated packages at 063<sup>0</sup> ("slices"), is approximately 90 metres as annotated with markers A, B, C.

The modelling to date has been limited in depth to 350 metres, the same level as the current base of a smaller target zone and historical workings of the Chariot gold mine, located directly along the 083<sup>o</sup> (D) direction of shear.

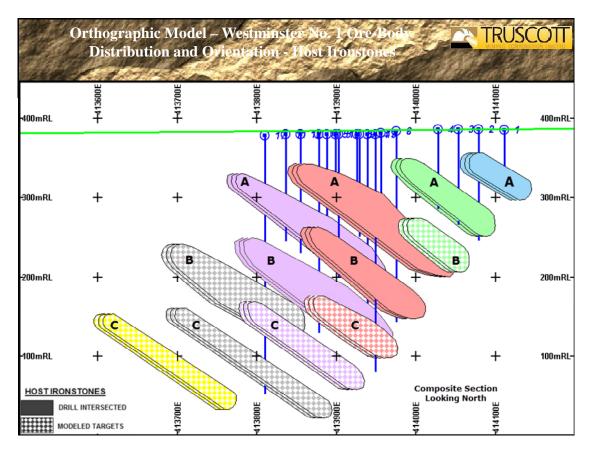


Figure Four: Westminster No.1 Ore-body Orthographic View - North





Figure Five: Westminster No.1 Ore-body Model - Plan View

Historical drilling was sufficient to provide an inferred resource for mineralisation included in the top level (A) green and pink lenses. The blue lens has been artisan mined at 38g/t Au.

Subsequent drilling has intersected the next level (B) of the purple and pink lenses but not with sufficient density to generate additional resource estimates.

A plan view (Figure 5) illustrates the orientation of the host ironstones in compression setting of ore body one.

The objectives of the next drilling program includes increasing the sampling density within the more recently drilled intersected zones to support renewed resource estimates, and also to intersect the next lower level (C).

### **Applied Research (Comparative Analysis)**

Over the past twelve months Truscott's exploration activities on its Westminster Project (figure 5) had reached a stage of maturity where a high level of understanding into the structural controls for mineralization was being achieved.

During this time research findings and observations began to be applied to Truscott's other Project Areas, including Hera. At first the procedure required undertaking a series of comparative observations to support and test the research.



The research takes the concepts of the actions of principal stresses, which are defined following observations of structural elements that are evident in the geology, to the next level of understanding. The objective is to use the understanding to assist in the description and prediction of locations for economic mineralization.

To provide a useful tool it is necessary to provide a description of shearing and dilation that has occurred as a consequence of the applied stresses. These shear zones provide the key to describing both the host environment for the mineralization and the distribution of the mineralization.

Early work therefore has concentrated on the expression of the 103° and 83° shear zones that can be observed at field and local scales and are evident on geophysics images and arial photographs.. It has become evident that the structural modelling has geneneral applicability across the mineral field.

### **Project Scheduling**

The Hera Prospect lies along a southern shear zone (Figure 1) adjacent to the High Grade Nobles Nob Project. (1,996,000 tonnes @17.3g/t Au; 1,110,000 Ounces – historical mining)

Research work has now been progressed to stage where compative images are being generated for a number of project areas. Structural modelling is being referenced to field mapping, aerial photographs, ground based gravity surveys and historical drill results.

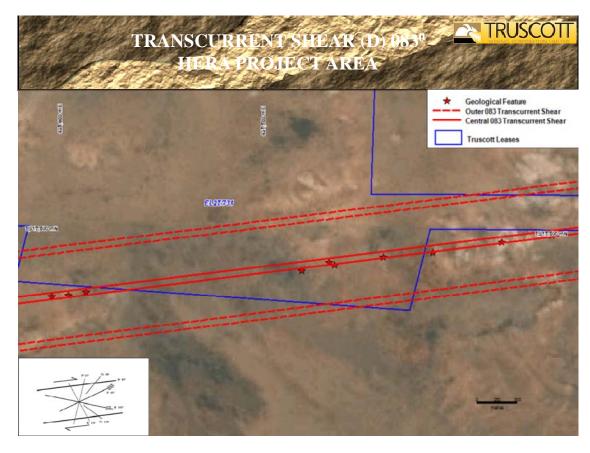


Figure Six: Transcurrent Shear Elements - Hera Project



On-ground mapping (Figure 6) was undertaken to confirm the location of the transcurrent shear elements as illustrated in the aerial phtograph of the Hera Project area.

The difficulty of identifying and catagorising the fundmental transcurrent shear traces is the reason that they often go unrecognised. At Hera and Westminster they manifest at surface as discordant subvertical elements cross cutting the other stratigraphy.

At the Hera prospect no historical drilling has been located within the target area, but historical drilling has provided information that has acted to constrain the target area. Both the dilation and compression target zones have therefore not been directly drill tested to date.

Where outcrop occurs, field observations support the interpreation based on the gravity and magnetic images. For the next stage of activity, drilling is targeting both the dilation and compression target zones at Hera.

#### **Core Business**

Westminster Project Area (Truscott: MLC511, MA25952, MA26500, MA26588 all 100%)

Project Status: Work on finalising an earn-in arrangement and JV agreement in

progress.

Planning to target the high grade gold zones within ore-body one, with new drilling and by extending existing drill holes completed.

Planning completed for further drilling of the gold mineralisation at target two with the objective of defining sufficient high grade gold to achieve ore body status.

Drilling of the potential ore bodies within the larger Westminster extension/compression system scheduled to follow the finalisation of the earn-in agreement.

#### **New Business**

**Hera Project Area** (Truscott: EL27731, 100%)

**Project Status:** Clearance Certificates issued by AAPA for exploration and mining

activities

Acquisition of geophysical information completed.

Comparative analysis of the structural setting of the Hera Project

Area is ongoing.

Field mapping undertaken & scout drill planning finalised.

Discussions with a new party, interested in forming a second earn-in and Joint Venture agreement, initiated and confidentiality

agreements exchanged.



### **Exploration, Research & Development Projects**

Tyson Project Area (Truscott: EL26221 100%)

Project Status: Clearance Certificates issued by AAPA for exploration and mining

activities

Acquisition of geophysical information planned

Field recognisance & mapping program planned

A large circular feature of indurated material, exhibiting a strong total radiometric signature and specific magnetic targets within a structurally defined target zone

Olympus Project Area (Truscott: EL29883, 100%)

**Project Status:** Tenement granted during December 2013

Clearance Certificates issued by AAPA for exploration and mining

activities

Field recognisance & mapping program planned

This study area has recently been re-established under a newly granted tenement EL29883.

Arcadia Project Area (Truscott: ML29999 100%)

**Project Status:** Tenements MLC621 & MLC622 consolidated

Under new tenement ML29999

Westminster Project Logistics (Truscott: MLC511, MA25952, MA26500, MA26588 all 100%)

Truscott's Westminster Project (Figure 7) is located just west of the Tennant Creek Township in the centre of the Tennant Creek Mineral Field. The project covers an area of 5.96 km² which includes some of the earliest workings and discoveries in the field that date from the mid 1930's.

The area is traversed by a sealed road and is ideally located close to service connections of power, natural gas and potable water, and within 500m of the local airport and rail line.

The mineralisation at Westminster is now well enough understood to provisionally define an application for a proposed mining lease area ML 26902 to accommodate development requirements.



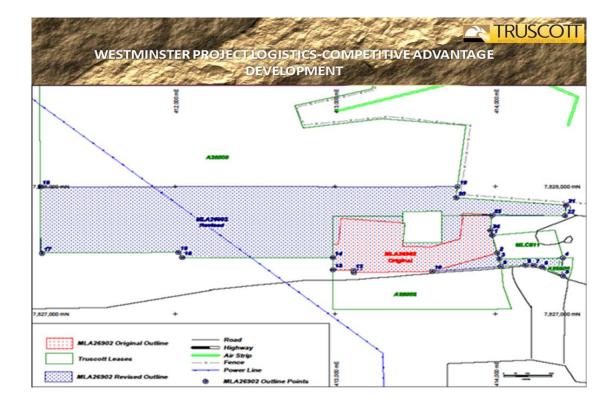


Figure Seven: Westminster Mining Leases MLC511 & MA26902

The larger operational area of approximately 3.0 by 0.5 kilometres is expected to be sufficient to provide for the facilities necessary to support significant mining operations.

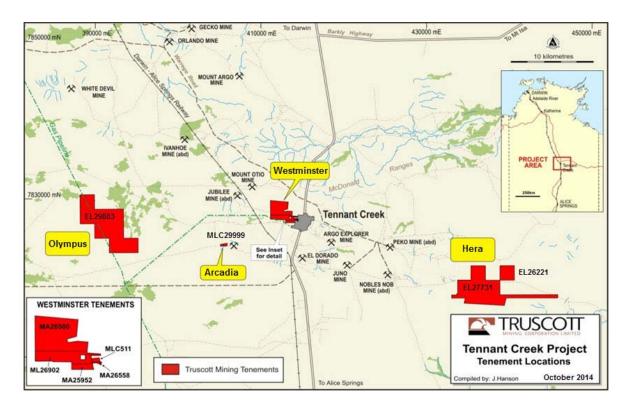
Due to its proximity to Tennant Creek and infrastructure access, Truscott Mining has created a unique project which will have significantly reduced establishment costs.

### Peter N Smith Executive Chairman

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.



# Appendix



**Figure Eight: Truscott Exploration Tenure** 

# Mining Tenements Held at 30 September 2014 (figure 8)

<u>Holdings</u>	<u>Location</u>	Quarterly Registers			
Project		Interest at	Interest at	Acquired	Disposed
Tenement		Beginning	End		
Westminster	Northern Territory				
MLC 511		100%	100%		
MA25952		100%	100%		
MA26500		100%	100%		
MA26558		100%	100%		
Arcadia	Northern Territory				
MLC29999		100%	100%		
Hera	Northern Territory				
EL27731		100%	100%		
Tyson	Northern Territory				
EL26221		100%	100%		
Olympus	Northern Territory				
EL29883		100%	100%		