Proposed Work on the Winnecke Project

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Introduction

At the request of John Fabray from Western Desert Resources (WDR) a 4-day review was made of the Winnecke Project in the NT. The Winnecke Project consists of two tenements: EL 23630 Golden Goose and EL 25469 Sliding Rock Well. The tenements are located approximately 65km NE of Alice Springs and cover a NW–SE trending structural zone where the Neoproterozoic sedimentary rocks of the Amadeus Basin have been thrust over the Palaeoproterozoic metamorphic rocks of the Arunta Block (figure 1). The unconformable contact between the two units runs through the tenements as well.

There has been significant exploration conducted by various companies over the land covered by the two tenements without any significant discoveries. WDR has, however, in the past year conducted airborne magnetic and radiometric surveys (conducted by UTS geophysics) and an EM (Geoforce) survey over EL23630 and the south-eastern part of EL25469. A ground magnetic survey over the Sliding Rock Well prospect in EL 25469 was also completed. AsIs International completed an interpretation of the ground magnetic survey and proposed six holes to test the magnetic high anomaly. Geoforce completed an interpretation of the EM and aeromagnetic surveys

I was given a dataset that included open reports, WDR’s prospectus and Annual Report 2007, an Access database for EL23630 and the ground magnetic processed images. I was not provided with the MapInfo files for the regional surveys.

It is recommended that the following work be completed:

1. Compile and check the historical geochemical and drilling data for EL25469.
2. Interpret and field check the project wide radiometric, magnetic and EM surveys in MapInfo in conjunction with government mapping and Landsat TM 742 (if available) to generate more detailed geological map.
3. Field check the ground magnetic anomaly at Sliding Rock Well Prospect and evaluate the proposed holes.
4. Field check and map the EM anomalies identified by Geoforce
5. Investigate the Sloan’s Gully area and relog the diamond holes drilled by CRAE in 1987. There are NE trending faults that run through the Arunta rocks that change orientation in this area. There is also the intersection of these faults and the NW trending retrograde schist that is associated with Au mineralization.

The interpretation of the geophysical data would take 3-4 days and the field assessment would take 17 days. The data compilation would depend on the availability of digital data.
Gold Mineralization in the Winnecke Area

The gold in the project area (Winnecke Gold Fields) appears strongly associated with NW trending faults that separate the amphibolite facies gneissic rocks from the Heavitree quartzite. The retrograde schist appears to have developed in response to shearing along these structures. This structural trend would appear to continue to the SE to the Arltunga Gold fields. The thrusts and nappes in this area are associated with the Alice Springs Orogeny and the mineralization is likely to be from this period (320 Ma) (Skwarnecki, 2004).

The gold is associated with milky quartz blows, stringers and zones of kaolinite – sericite altered schist. The quartz veins commonly contain Fe boxwork textures or haematite/goethite staining. In the Golden Goose Area and the Sloan’s Gully area the mineralization encountered is quite shallow; there is nothing much below 30 m. The shallow depth of the mineralization and its association with ferruginous and friable material suggests that there may have been upgrading of the veins by oxidation. It is significant that the schist zones, kaolinite and sericite alteration are noted at depth in the CRAE holes.

Regional Interpretation

The geophysical images attached to Geoforce’s interpretation of the EM survey show a great deal of structural and lithological information. It does not appear that this information has been converted into a detailed structural and geological model for use with GIS.

I suggest that the images be interpreted in MapInfo and TAB files for structure and geology be generated. The Au mineralization is known to be associated with NW trending faults of Carboniferous age, but there are also numerous NE structures within the Arunta rocks and these may be long lived structures. Long lived structures are typically good feeder zones for mineralizing fluids. The work by Geoforce has outlined a large number of these NE faults (see figure 11, Reed, 2008). The intersections of these NE structures with NW may form dilatational zones that focused mineral bearing fluids. These should be compiled into a complete
model to assist in the generation of drill targets.

This would take 3-4 days.

**Sliding Well Prospect**

AsIs International completed an interpretation of the ground magnetic survey and proposed six holes to test the magnetic high anomaly. The ground magnetic survey consisted of 14 NS lines approximately 2km in length with 100m line spacing. The magnetic high is within the mapped retrograde schist zone (Pzr) and corresponds with the topographic high on the 1:250,000 government mapping. This suggests that the geomorphology is controlled by the magnetic rock type. The modeling of AsIs suggests that the correlation between the magnetic anomaly and the topography is not perfect and suggests that the magnetic unit may have been weathered. There should be some indication of the unit at surface; in the form of goethite or haematite staining. While the magnetic model is similar to the magnetite bearing schist at Johnny Reward the source may alternatively be a mafic intrusive.

2 days field work

**EM Targets**

Geoforce has identified 13 conductors from the EM survey. I believe all of these should be field checked.

8 days field work

**Sloan’s Gully**

The Sloan’s Gully area has an interesting structural setting. It appears to lie at the intersection of NE trending structures within the Arunta rocks with the NW oriented thrusts and faults associated with the Alice Springs orogeny.

1 day field work

**Field Preparation/Orientation**

Field work could commence once the ground has dried out after the large amount of rain that has fallen in November. John has indicated that it will take most of a day to get in to the field area. Thus I would allow 1 day for preparation of maps, 1 day for organizing equipment (car, water food sample bags, safety equipment) and 2 days for setting up camp and returning to Alice Springs.

I would like to examine the Golden Goose and other well known gold fields prior to examining the rest of the project area as an orientation. This would take about 2 days.

6 days preparation/setup/orientation

**Total Field Work**

The break down of the field component is as follows:

- Map Preparation: 1 day
- Preparation for field work: 1 day
- Setup and Decamp: 2 days
- Sliding Well Prospect: 2 days
- EM targets: 8 days
- Sloan’s Gully: 1 day
- Golden Goose etc: 2 days

**Total Field Work: 17 days**

**References**

- **AsIs International**, 2008, Sliding Rock Well Magnetic Interpretation, unpublished report to WDR.
- **Skwarnecki, M. S.**, 2004 Winnecke GoldField, Northern Territory, CRC LEME
Appendix 1: Project Area Map

Winnecke Project Area, with government 1:250K mapping. Note the area circled (north of Sloan’s Gully prospect) appears to lie at the intersection of NE trending structures within the Arunta metamorphics and the WNW thrusts and faults of the Nappe sequence. AMG 1994, zone 53