



**MGT Mining Ltd (Formerly Xtreme Resources Ltd)**

**EXPLORATION PERMIT FOR MINERALS (EPM) 8402  
“Yarrol”**

**ANNUAL REPORT FOR PERIOD ENDING  
13<sup>th</sup> November 2012**

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<b>Date:</b>	13 November 2012
<b>1:250 000 Sheet Area:</b>	SG 56-1 (Monto) ; SG 56-5 (Mundubbera)
<b>Commodities:</b>	Precious and base metals
<b>Distribution:</b>	Department of Mines and Energy MGT Resources Ltd

## SUMMARY

EPM 8402 “Yarrol” forms part of MGT Mining Limited’s Southern Queensland Project. The Southern Queensland Project currently consists of three separate tenements near Monto in southeast Queensland. The project also includes the Gooroolba (EPM15426) and Mount Steadman (EPM 12834) tenements.

Gold mineralisation within EPM8402 is associated mainly with a compositionally variable dioritic suite of rocks which have been intruded along major north-south trending fault or fracture systems. Historic workings can be traced intermittently over a length of 4 km within the tenement.

At the Yarrol North prospect, a disseminated style of gold mineralisation is present. Associated with the mineralisation are sheeted quartz-sulphide veins within a tabular alteration zone characterised by the presence of anomalous bismuth and tellurium. This zone has a low to moderate dip and appears to be truncated to the east by a mineralised, steeply dipping fault zone which extends to the north (Pyper 2010). Estimated resources at Yarrol North were completed in 1997 by Diatreme Resources, calculating an Indicated Resource of 877 000t @1.5g/t Au.

At the Central Ridge prospect an easterly dipping tabular zone of gold mineralisation exists and locally contains some high grade intersections (Figure 4). Estimated resources at Central Ridge were completed in 1997 by Diatreme Resources calculating an Indicated Resource of 273 000t @1.5g/t Au.

Exploration of Yarrol was begun during the current reporting period. An initial literature review of historical data was conducted, which was followed by a field trip was made to the site to assess access and locate old workings and drillholes. Comprehensive compilation of all historical data was then conducted and a follow-up plan for a further investigative field trip was made.

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## 1.0 INTRODUCTION

EPM 8402 “Yarrol” forms part of MGT Mining Limited’s Southern Queensland Project. The Southern Queensland Project currently consists of three separate tenements near Monto in southeast Queensland. The project also includes the Gooroolba (EPM15426) and Mount Steadman (EPM 12834) tenements. The tenement is considered prospective for porphyry related copper-gold mineralisation. A minor amount of gold was mined from the area in the late 1800’s and up until 1938 but there is no history of exploitation of copper mineralisation.

## 2.0 LOCATION AND ACCESS

EPM 8402 is situated approximately 30 km southeast of the rural centre of Monto, southern Queensland (Figure 1). The Permits straddle two 1:250 000 sheets, the southeast corner of Monto (SG 56-1) and the northeast corner of Mundubbera (SG 56-5).

Access to the area can be gained by turning east off the Burnett Highway approximately 37 km north of Eidsvold onto the old Mt Perry Road. After 15 km turn north onto signposted Yarrol Road which traverses the Permit area. Access can also be gained from Monto by turning east at Three Moon Siding (6 km south of Monto) onto Cannindah Road. Yarrol Road turns off to the east after 7 km, and is followed to the area. The majority of these roads are well maintained secondary gravel roads.

The western sides of the Permit are bordered by the Burnett River with a limited flood plain. This gives way to moderately steep to steep hills throughout the Permit area in the east. These hills are deeply to shallowly incised by gullies and intermittent creeks with narrow alluvial flats. Vegetation consists of moderately dense to dense dry sclerophyll eucalyptus forests other than where clearing has taken place.

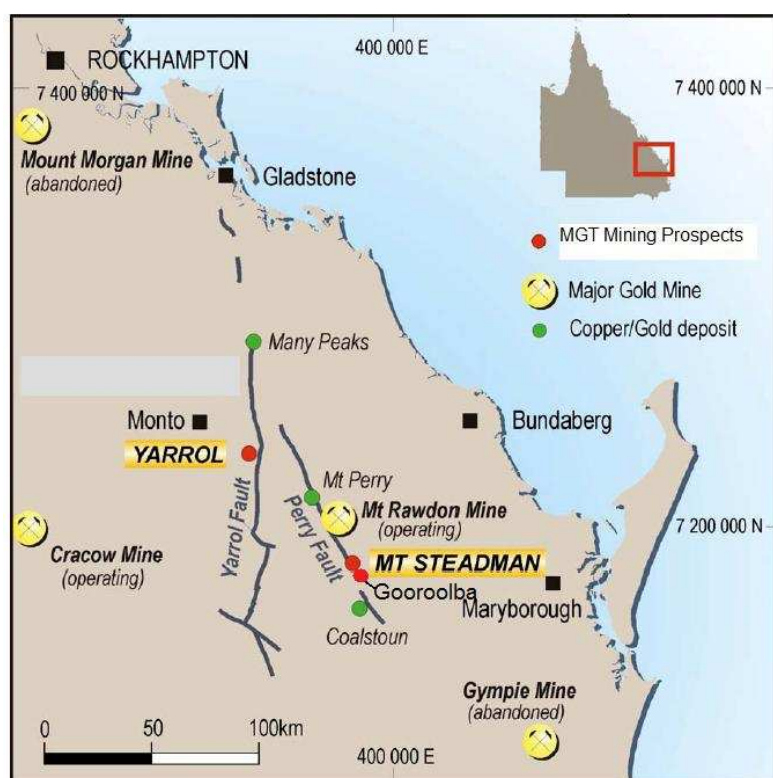
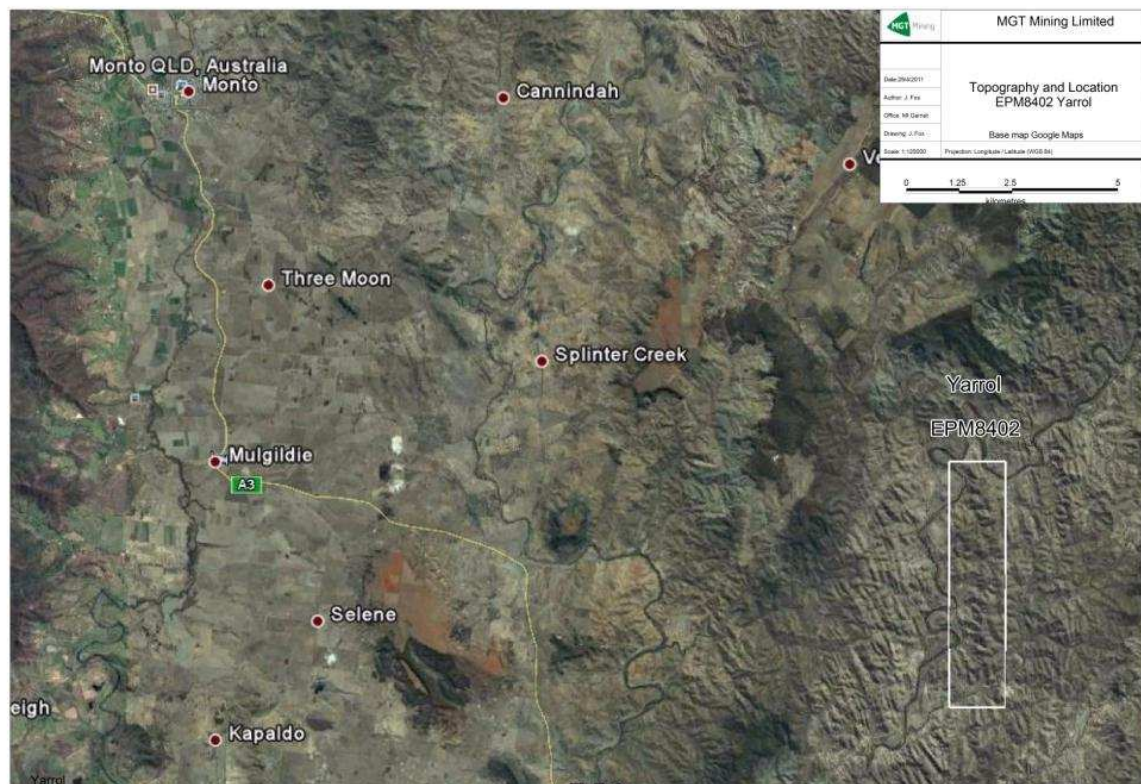


Figure 1. Locality of EPM8402 Yarrol



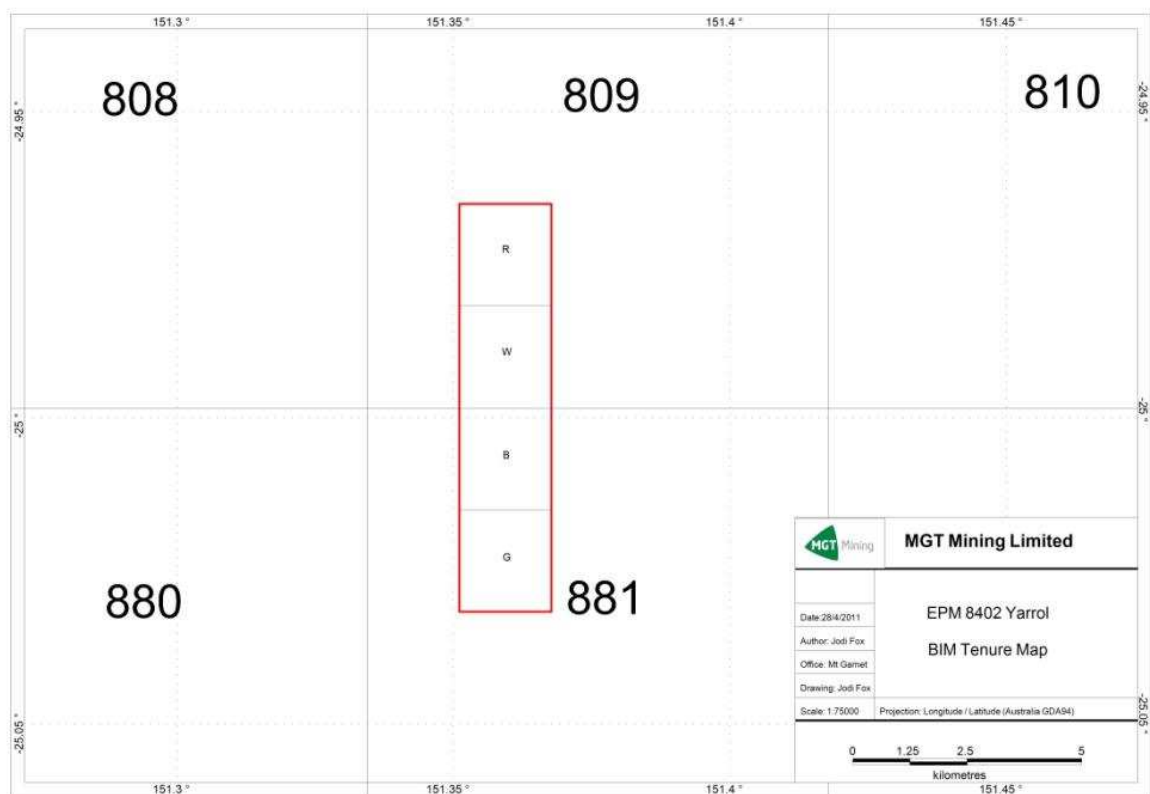
**Figure 2.** EPM8402 Yarrol Location and Topography Map

### 3.0 TENURE

EPM 8402 “Yarrol” was granted on 13 November 1991 over 4 sub-blocks. Due to specific circumstances, the permit area has remained the same size since grant. An application for renewal of all blocks was submitted during the current reporting period.

**Table 1.** EPM8402 Yarrol Tenure

BIM	Block	Sub-blocks
Brisbane	809	R W
Brisbane	881	B G



**Figure 3.** Tenure Map EPM8402 Yarrol

## **4.0 GEOLOGY**

### **4.1 Regional Geology**

EPM 8402 lies within the northern New England Fold Belt, which consists mostly of a complex volcanic arc-continental margin succession related to a Carboniferous subduction complex. Granitoid emplacement accompanied the extensional events as well as extensive Triassic volcanism. North-northwest shears, such as the Perry Fault (Figure 1) and northeast cross-cutting faults dominate the structural framework. Overprinting this regional fabric are north trending faults which exhibit a strong spatial relationship with Permian to Triassic Cu-Au mineralisation. The major 'Yarrol Fault' occurs along the eastern margin of the Yarrol Block, and is considered to be a thrust along which serpentinites have been emplaced. Large silica-pyrite bodies also lie along the fault (Pyper 2010).

The Yarrol Basin contains sediments of Carboniferous to Permian age intruded by Permian to Triassic plutonic rocks. Several Late Permian to Cretaceous age porphyries occur in relatively narrow zones roughly parallel to the Perry Fault. Host intrusives range from quartz diorite, granodiorite to granite/rhyolitic composition. Multiple intrusions, breccias and pebble dykes are common. Alteration is typically quartz-pyrite-sericite assemblages which grade outwards to chlorite-clay zones. Potassic (biotite) cores are sometimes present. Mineralisation ranges from copper, copper-gold to gold. The largest copper porphyry in the region is Coalstoun (85 Mt @ 0.3% Cu). Mount Rawdon is the most significant gold deposit in the area (Pyper 2010). It is a large breccia pipe (2006 reserve statement of 33.3 Mt @ 1.01 g/t Au and 3.14g/t Ag) and is currently being mined by Newcrest.

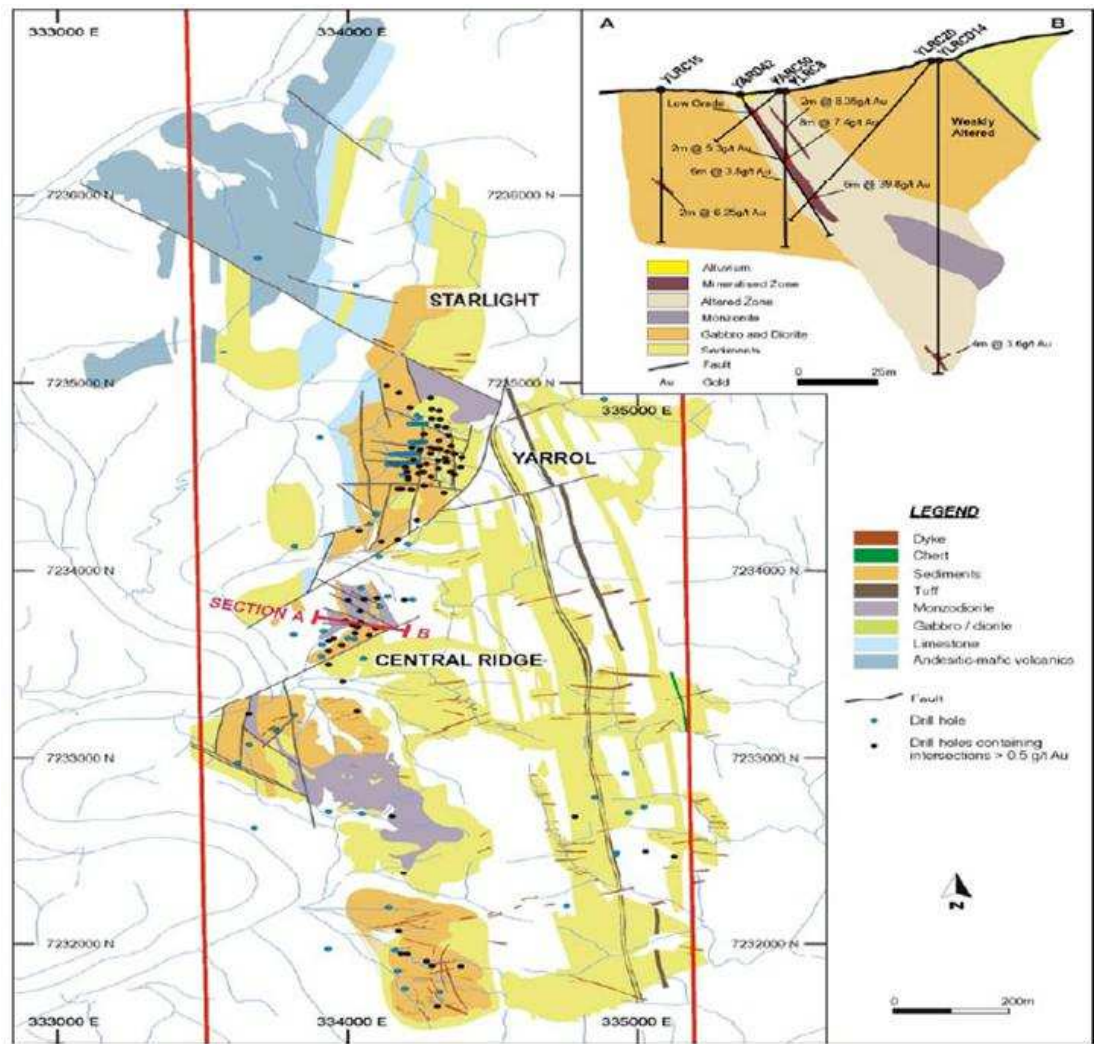
### **4.2 Local Geology**

Gold mineralisation within EPM8402 is associated mainly with a compositionally variable dioritic suite of rocks which have been intruded along major north-south trending fault or fracture systems. Historic workings can be traced intermittently over a length of 4 km within the tenement. In the southern part of the mineralised belt, the gold mineralisation is not always spatially related to north-south shearing and gabbroic country rocks are more prevalent (Pyper 2010).

The relative width of intrusive rocks mapped between east trending cross faults, interpreted from aerial photography, indicates possible significant vertical movement along the cross faults and a possible deepening of the system to the north. Copper-gold mineralisation occurs as structurally controlled gossanous zones on both the eastern and western contact of the intrusive body with the enclosing sediments.

Estimated resources at the Yarrol North and Central Ridge prospects are associated with a shallow to moderate easterly-dipping, tabular zone of sodic alteration within a diorite intrusive (possibly a separate quartz dioritic phase).





**Figure 4.** Local Geology EPM8402

At the Yarrol North prospect area, a disseminated style of gold mineralisation is present. Associated with the mineralisation are sheeted quartz-sulphide veins within a tabular alteration zone characterised by the presence of anomalous bismuth and tellurium. This zone has a low to moderate dip and appears to be truncated to the east by a mineralised, steeply dipping fault zone which extends to the north (Pyper 2010). Estimated resources at Yarrol North were completed in 1997 by Diatreme Resources, calculating an Indicated Resource of 877 000t @1.5g/t Au.

At the Central Ridge Prospect an easterly dipping tabular zone of gold mineralisation exists and locally contains some high grade intersections (Figure 4). Estimated resources at Central Ridge were completed in 1997 by Diatreme Resources calculating an Indicated Resource of 273 000t @1.5g/t Au.

Drilling at Yarrol North and Central Ridge has intersected essentially planar to sigmoidal bodies of altered and mineralised tonalite within dioritic country rocks. Petrographic studies indicate that the mineralised tonalite has evolved from the diorite through fractional crystallisation. Gold is associated with zones of sheeted quartz-sulphide veins aligned at a low angle to the sheared contacts between tonalite and diorite. The mineralised/altered tonalite is characterised by extremely low magnetic susceptibility and colour index compared to the enclosing diorite, which has helped in the modeling and



targeting of potential mineralisation using detailed ground magnetic data (Stacpoole 2007).

The apparent sigmoidal geometry of the mineralised/altered zones, indicated by structural contours to the top of the zone of alteration/mineralisation, indicates a combination of thrust and dextral relative movement within a wrench tectonic regime. Such a combination would result in NE plunges to dilatant structures. However, a contoured plot grade x thickness drillhole intersection data at pierce points along the plane of the main mineralised zone indicates a S plunge to high-grade mineralisation (Stacpoole 2007).

## **5.0 PREVIOUS EXPLORATION**

Mining at Yarrol commenced in the late 1800's and continued spasmodically until 1938. Production records are incomplete but only 300 tonnes are believed to have been produced with variable high grades and a likely average grade of about 10 g/t Au (de Havelland 1989).

The area has received the attention of several companies since 1971. Exploration has consisted of:

- Stream sediment sampling
- Grid-controlled geochemical soil sampling
- Detailed and reconnaissance geological mapping
- Trenching and channel sampling
- Ground magnetic and IP surveys
- Airborne magnetic and radiometric surveys
- Aerial photographic survey
- RAB drilling
- Reverse circulation percussion and diamond drilling
- Resource estimations

### *Amoco Minerals Australia Company 1981*

Soil sampling and geological mapping, and drilled lines of shallow (21 m) airtrac holes (39 holes for 771m).

### *AuGold NL 1984-1986*

Reverse circulation percussion (RC) drilling program completed (5 holes, 55m)

### *Geopeko-Fawdon/Skett JV 1992-1993*

21 holes RC program with some holes reaching depths of 120m.

### *Strike Exploration Pty Limited (later renamed Diatreme Resources Limited) 1994-2005*

Extensive exploration including detailed geological mapping, geochemical sampling (rock, soil and stream sediment), trenching, RC drilling with some diamond tails and data interpretation. The drilling (31 holes, 2357m) resulted in the discovery of the Yarrol North mineralisation which outcrops to the east of the historical workings.

Between 1994 and 1996, in a JV with *Cyprus Gold Corporation*, Strike completed programs of regional BCL stream sediment geochemistry, rock chip sampling, aero magnetic/radiometric surveys, regional geological mapping and drilling. Cyprus drilled 50 RC holes for 5792.5m (4 holes with diamond tails) during 1996 resulting in the discovery of the Central Ridge mineralisation.

Strike carried out further extensive exploration during 1996-1997 including surveying, gridding, detailed geological mapping, geochemical sampling, ground magnetic interpretation, trenching, RC and diamond drilling. Drilling in 1997 totaled 39 holes for 3542m.

During 1996 resource estimations were completed on Yarrol North Prospects and Central Ridge Prospects

Strike completed detailed investigations of the Starlight area in 1998 and 1999, including trenching, geological mapping, geochemical sampling, ground geophysics and RC drilling (8 holes, 834m). Trenching exposed the surface expression of the mineralised alteration zone previously tested by the 1997 drilling programme. During 1999, reverse circulation percussion drilling was conducted over the Starlight Grid area to test the northern, eastern and western extensions of the mineralised zone outlined by drilling in 1997 and the results of the 1998 field programme. Drilling was also designed to test the geometry of the known mineralised zones at the Yarrol North Grid area as indicated by modelling of the ground magnetic data. At least two new zones of mineralisation were discovered and a new model for mineralisation proposed.

Diamond core was re-examined and relogged by Strike in 2000 (Gallo 2000a) and a petrogenesis study undertaken (Gallo 2000b).

An application for a Mineral Development Licence (MDL 363) was submitted in 2005.

#### *Xtreme Resources Limited 2006-2008*

Six drillholes were completed to locate extensions at depth for known areas of gold mineralisation and to test the continuity of higher grade zones over Yarrol North. Encouraging gold zones were found to be predominately, but not always associated with, late stage leucocratic tonalite or silica replacement style veining. In these zones the higher grade gold intercepts and associated pyrite, chalcopyrite mineralisation occur in thin selvage zones, immediately adjacent to the quartz veins. Some gold zones with no obvious sulphide were weakly oxidised. Elevated gold values were accompanied by minor bismuth and variable arsenic. Best intersections included 2m @ 3.32g/t Au and 4m @ 1.87g/t Au.

During 2007 Xtreme was preparing for an IPO and across the board only minimal exploration was carried out while it focussed on raising money. Two trips to Yarrol were undertaken and the core removed to a logging shed and all the core and chips catalogued and re logged. An engineering consultant was also commissioned to review Yarrol in the light of the recent gold highs. It was concluded that a small underground operation may be possible. The main uncertainty was grade distribution.

The application for a Mineral Development Licence (MDL 363) was abandoned in February 2007.

No work was conducted by Xtreme Resources during the reporting period ending 13 November 2008.

#### *MGT Mining Limited 2008 – 2011*

Exploration activity was curtailed during the period 2008-2009 due to the Global Financial Crisis and subsequent unavailability of funding for exploration. Xtreme Resources was purchased by MGT Resources Limited during this time. MGT Resources renamed Xtreme

Resources, MGT Mining Limited and the 2009-2011 period was spent restructuring the business and recruiting new staff. No exploration activities were undertaken during this time.

## **6.0 WORK COMPLETED DURING CURRENT REPORTING PERIOD**

A consultant geology group was recruited to work on the Southern Queensland Project in early 2012 and since then a significant amount of work has been conducted on Yarrol. After a preliminary literature survey of historic work, a geology reconnaissance field trip to Yarrol in May was conducted to determine access to the site, locate old drillholes and workings and develop an understanding of historic work conducted there.

Following the field trip comprehensive data compilation has been undertaken. This involved a review of the historic data including checking, collating and presenting all available geochemical, geophysical and drilling data in a GIS application (MapInfo) with the view that it should enhance future targeting of additional gold mineralisation across the various prospect areas.

## **7.0 CONCLUSIONS AND RECOMMENDATIONS**

An exploration programme has been put together for Yarrol including:

### **Site visit to validate compiled data**

A site visit will be conducted to validate as many factors as possible, determine access and check the geology and mineralisation. An essential part of this validation will be to resample some of the higher-grade mine dumps and exposures. Subsequently a more detailed exploration programme and budget will be developed.

### **Soil sampling and ground magnetic survey**

A programme of soil sampling and limited ground magnetic surveying over selected target areas (e.g. True Blue) with concurrent check mapping and rock chip sampling with some backup petrographic studies.

### **Interpretation of data**

A review of the full set of data will be conducted and based on this a drilling programme will be planned to test new targets generated by the work. This will be followed by negotiation with land holders and preparation of access to the sites.

### **RC drilling programme**

For the second year, a programme of RC percussion drilling (200m holes) will be conducted followed by data compilation, leading to a decision on further drilling.

## 8.0 REFERENCES

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