SAMMY PROJECT

GROUP TECHNICAL REPORTING STATUS
EL 25643 AND EL 25653
ANNUAL TECHNICAL REPORT FOR
PERIOD 20th August 2008 to 19th August 2009

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August 2009

MAP REFERENCE:
Illogwa Creek 250K Sheet SG53/15
Hale River 250K Sheet SG53/03
SUMMARY

This report summarises work completed on Mithril Resources Sammy Project Exploration Licences (EL25643 and 25653) for the year ending the 19th August 2009.

The project area is located approximately 160km east of Alice Springs, south of the Plenty Highway and straddles the Hale River and Illogwa Creek 250,000-scale map sheets.

Work completed over the tenement area during the reporting period includes the following:

- Geophysical surveying
- Geological mapping
- Rock chip Sampling

Results from the geophysical surveying, geological mapping and rock chip sampling were very encouraging. Preliminary interpretation of the survey data has identified high priority targets within the Sammy project area along with several lower priority targets. Field checking confirmed prospective mafic intrusives outcrop within the tenement. Additionally elevated nickel, copper and cobalt assays were returned from a number of rock chip samples.

During the 2010 reporting year Mithril plans a ground EM survey program, heritage surveys and drilling of anomalies. Continued geological mapping and rock chip sampling is also planned.
1.0 Introduction

This report summarises work completed on Mithril Resources Sammy Project Exploration Licences (EL25643 and 25653) for the year ending 19th August 2009. These two tenements comprise the Sammy Joint Venture.

The Sammy Project is located approximately 160km east of Alice Springs. Access to the area is via the Plenty Highway, which passes east-west north of the project area (Figure 1.1). The tenement is contiguous with Mithril’s Huckitta Project.

Mithril interpret that mafic and ultramafic rock may extend onto the Sammy Project and that these rocks are prospective for magmatic Ni/Cu/PGE sulphides.

![Figure 1.1 Location of Sammy Project EL25643 and 25653](image)

2.0 Tenure

Leasing details for the project are detailed in Table 1 below. Mithril Resources entered a Heads-of-Agreement with Sammy Resources to farm-in to EL 25643 and 25653. The agreement covers all minerals and Mithril may earn an 80% interest in the tenements by completing expenditure of AUD$2M within 5 years of the commencement date. Prior to reaching this agreement Sammy Resources have held the tenement in their own right.
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<td>EL25643</td>
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Table 1: Tenement Status

EL 25643 was reduced by the required 50% at the end of Year 2 to 218 sub blocks.

3.0 Geology

3.1 Regional Geology

The tenement lies within Illogwa Creek 250k Sheet. The Project area is located along the north-eastern margin of the Amadeus Basin in a zone of complex deformation and interaction between basement structures and the sedimentary sequence.

The Amadeus Basin sediments overlie the metamorphic rocks of the Arunta Block and postdate the intrusion of the Harts Range pegmatites and dolerites inferred to be part of the Stewart Dyke Swarm. The stratigraphy and geological evolution of the basin is well documented in Korsch and Kennard (1991).

The Amadeus Basin in the Illogwa Creek area has a number of important geological differences to the northern margin of the Amadeus Basin south and west of Alice Springs:
- It is characterized by a thin-skinned tectonic style (thrusts and nappes) with intense folding and thrusting that contrasts with a thick-skinned tectonic style further to the west.
- Only the lower stratigraphic section is preserved (up to the Arumbera Sandstone) and lithological facies are markedly different to those further east.
- There is a wide zone of interaction between the sedimentary sequence and basement structures that verge to the south and southwest.
- Alice Springs age shear zones deforming the basin sequence are associated with widespread greenschist facies retrogression or alteration and these zones are similar to those associated with gold mineralisation at Winnecke and Arltunga (Mackie, 1986; Dirks and Wilson, 1991).

The margin of the basin is structurally complex. In the Oolera Fault Zone, the Heavitree Quartzite, Gillen Member of the Bitter Springs Formation and rocks of the underlying Arunta block are inter-sliced in numerous thrust blocks. Basement cored folds may represent the cores of thrust nappes. A second major zone of overthrusting coincides with the Illogwa Schist Zone and is inferred to represent the lowest thrust-nappe of the Arltunga Nappe Complex (Shaw and Freeman, 1985; Mackie, 1986). Slivers of Heavitree Quartzite have been overridden by retrogressed schists in this zone and the alteration (retrogression) and deformation is similar to that spatially associated with mineralisation at Arltunga (Mackie, 1986; Dirks and Wilson, 1991) and is coeval.
with that at the base of the White Range Nappe on the Alice Springs 1:250K sheet. Quartz veins with associated sulphides are common in these zones and a single gold bearing copper occurrence in quartz veins in the basement is reported in the vicinity of the Hale River (Shaw and Freeman, 1985). Associated deformation in the cover sequence is complex and appears to be thin skinned in character.

The Arunta Province has been subjected to several regional orogenic events. Significant gold mineralization occurs in extensively deformed zones of faulting, shearing and greenschist metamorphism marking the boundary between the Arunta Province and Amadeus Basin.

3.2 Project Geology

The Sammy Project area is predominantly covered by a veneer of aeolian and colluvial sand and gravel. Strongly weathered biotite, garnet-biotite and quartzofeldspathic gneiss, calcisilicate rocks and amphibolite are sporadically exposed, particularly in the northern portions of the project area. In addition Mithril has located a number of Ni-Cu-PGE rich mafic intrusions in this northern area which have been the focus of exploration to date. There are numerous ferricrete, calcrete and silcrete rises, some of which may be indicative of the targeted mafic and ultramafic rocks. No detailed mapping has been undertaken in the area with the best regional maps compiled prior to detailed aeromagnetics and the current understanding of the geological history.

The area is considered prospective for Ni-Cu-PGE mineralisation associated with mafic and ultramafic intrusions.

4.0 Exploration Work Completed

4.1 Historical Exploration

There have been several explorers in the region previously, exploring a range of commodities including gold, uranium, base metals and diamonds. Some of the more significant exploration efforts are summarised below. Gutnick Resources took a total of 27 stream sediment samples in the main regional program covering EL10269 which partially overlaps EL 25653. Only the top 5cm of sand from across the active stream channel was sampled. A sample density of 1 sample per 5 sq km was used. The best result was 0.25ppb Au. Rio Tinto explored the Casey Bore area in 1998 covering the eastern Amadeus Basin, an intracratonic basin which began to form about 900Ma, and the Palaeoproterozoic Arunta Block. The contact between the Arunta Block and the Amadeus Basin in the north of the tenement area is marked by a series of E-W trending thrust zones. The southern end of the Woolang Lineament, a NW-SE trending structural zone, marked in the area by a basement high, the Casey Inlier, also occurs within the tenement area. Rio conducted detailed geophysical surveys, stream sediment sampling, RAB and RC drilling. Anomalous Cu, Pb, Zn was returned from several phases of drilling.
4.2 Mithril Resources Work Completed 2009

Field Work

During the 2008 reporting period Mithril undertook field work which included reconnaissance geological mapping, rock chip sampling and minor soil and stream sediment sampling. Geological mapping was undertaken to field check mafic units previously identified by the NTGS and the surrounding areas were explored to potentially identify unrecorded mafic rock outcropping localities. Sixty-one rock chip samples were collected and sent to ALS in Alice Springs for preparation and then pulps were sent to Perth for analysis using ME-ICP61 for 33 elements and PGM-ICP23 for Pt+Pd+Au for assay (Rockchip Assay Results - Appendix 1). Two rock chip samples were sent for petrological analysis (Petrographic Report - Appendix 2). One stream sediment sample was collected and sent to the lab for size fraction analysis and assay (Stream Sediment Assay Results - Appendix 3). Four soil samples were collected and sent to the lab for assay (Soils Assay Results - Appendix 4).

Geological mapping was focussed in the north of tenement EL 25653 where mafic rocks had been previously identified by the NTGS (Figure 4.1).

Field checking confirmed the existence of secondary copper mineralisation at the contact of an intrusive mafic rock and the host felsic gneiss. This area has been named Mithril’s Edmund prospect. The prospect occurs on a WNW-ESE magnetic trend and is anomalous is Cu-Ag-Cr-Pt-Pd-Au and Ni.

Field checking west of Edmund has confirmed additional outcropping mafic rock. Secondary copper mineralisation was again sampled at the contact of an intrusive mafic rock and the host felsic gneiss. Field checking highlighted unmapped areas of mafic outcrop and there is potential for further groundwork to delineate additional mafics.

Field checking 8km southwest of Edmund, still in the north of the tenement, revealed multiple sub-crops of mafic rock. Disseminated sulphides were visible within medium grained gabbroic rock and assays return anomalous values for Ni, Cu Pt+Pd. Minor visible sulphides were noted on fractures at one locality. This area has been named Mithril’s Percy prospect.
Figure 4.1 Mithril 2009 prospects, sample locations and the EL25653 tenement boundary on the ALOS satellite image.

Geophysics

Late in the 2008-9 reporting period Mithril completed a helicopter-borne geophysical survey utilizing the Geotech Versatile Time-domain Electromagnetic (VTEM) system to assist in the evaluation of the regional prospectivity of the project (Figure 4.2). The VTEM system has the ability to map anomalous conductivity that may represent significant accumulations of metal rich sulphide mineralisation at shallow depths. Preliminary interpretation of the survey data has identified high priority targets within the Sammy tenements along with several lower priority targets. Field verification of these targets has commenced and they are being systematically evaluated.

No final VTEM data was available at the time of writing and this will be reported in the 2010 annual report.
5.0 Planned Work and Proposed Budget 2010

Mithril’s field work including geological mapping and rock chip sampling garnered considerable success in 2009 and the company plans to continue this work into 2010. Additionally a ground EM survey program is planned in the north of the tenement as is heritage surveys and drilling of any compelling targets.

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Table 2. Planned Work and Proposed Budget 2010
6.0 Appendix

Appendix 1: Rockchip Assay Results Sammy_samples.xls_sheet 1
Appendix 2: Petrographic Report Petrology 9562 Mithril.doc
Appendix 3: Stream Sediment Assay Results Sammy_samples.xls_sheet 2
Appendix 4: Soils Assay Results Sammy_samples.xls_sheet 3

7.0 References


