INDIANA PROJECT

ELs 24194, 24427, 24739
ANNUAL TECHNICAL REPORT
FOR PERIOD
1st February 2009 to 30th January 2010

Compiled by
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February 2010

MAP REFERENCE:
Illogwa Creek 250K Sheet SG53/15
Huckitta 250K Sheet SF53/11
SUMMARY

This report summarises work completed on Mithril Resources Indiana Project Exploration Licences (ELs 24194, 24427 and 24739) for the year ending the 30th January 2010.

The project area is located approximately 220km northeast of Alice Springs, south of the Plenty Highway.

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

- Rehabilitation
- Rockchip sampling

Results from the 2008 VTEM survey indicate multiple high quality targets. Two were drill tested in 2008. Although drilling failed to intersect economic mineralisation, significant sulphides (with considerable copper) were intersected in both drillholes. This confirmed the effectiveness of the electromagnetic surveying techniques – particularly VTEM in screening the area. Modelling of the ground EM completed over a number of the remaining VTEM targets suggests basement conductors are present and are worthy of drill testing.

These targets plan to be drill tested in 2010.
1.0 Introduction

This report summarises work completed on Mithril Resources Indiana Exploration Licences (ELs 24194, 24427, 24739) for the year ending 1st February 2010. Joint reporting status for the project was granted in June 2008.

The Indiana Project is located approximately 300 km northeast of Alice Springs. Access to the area is via the Plenty Highway, which passes east-west north of the project area (Figure 1).

The area under licence was targeted for magmatic Ni/Cu/PGE sulphides associated with mafic and ultramafic rock types, which have previously been identified in the western portion of the licence area and further west including the Hammer Hill Prospect. Tectonically the project is located on the interpreted southern edge of the North Australian Craton within the Irindina Province of the Arunta Region between the Georgina and Amadeus Basins.

![Figure 1. Location of the Indiana Project relative to Alice Springs, major roads and railway.](image)

2.0 Tenure

Leasing details for the project are detailed in Table 1 below. All tenements were granted for a period of six years.
<table>
<thead>
<tr>
<th>EL</th>
<th>Original Area (sqkm)</th>
<th>Date Granted</th>
<th>Current Covenant</th>
<th>Current Area (sqkm)</th>
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</thead>
<tbody>
<tr>
<td>24194</td>
<td>809</td>
<td>24/1/2005</td>
<td>$75,000</td>
<td>404</td>
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<tr>
<td>24427</td>
<td>578</td>
<td>26/5/2005</td>
<td>$100,000</td>
<td>398</td>
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<td>24739</td>
<td>50</td>
<td>2/2/2006</td>
<td>$40,000</td>
<td>50</td>
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</tbody>
</table>

Table 1: Tenement Status

EL 24427 required a partial reduction during the reporting period and now covers an area approximately equal to 398 square km. In addition to this EL24739 has subsequently been reduced from 50 sqkm to ~25 sqkm.

3.0 Geology

3.1 Regional Geology

The Arunta Block has been divided into 3 tectonic areas: Central, Southern and Northern (Shaw and Freeman 1985). The Central Tectonic Zone consists of an accumulation of sedimentary and volcanogenic rocks deposited in an east–west trough. With time the trough broadened to include the Northern and Southern Tectonic Zones and the composition of the sediments being supplied to the basin matured.

An early tectonic event during the mid-Proterozoic metamorphosed and dislocated the rocks into numerous fault-bounded blocks. A later orogenic event, the Carboniferous Alice Springs Orogeny, reactivated many of these faults.

Sedimentation in the Georgina Basin began during the Neoproterozoic (i.e. Adelaidean equivalent) with deposition of argillites, arenites glacigene sediments and carbonates along the southern margin of the basin. Sediments deposited after the Neoproterozoic sequence consist primarily of carbonates and arenites (Shaw et al, 1982).

3.2 Project Geology

The Arunta Region within the project consists of biotite gneiss, garnet-biotite gneiss, calcareous rocks, amphibolite and quartzofeldspathic gneiss. The tenements fall within a poorly understood region of the Arunta known as the Irindina Province consisting of highly metamorphosed Cambrian aged rocks. Much of the tenement is under a thin veneer of Quaternary alluvial and aeolian sands and gravels. Significantly there are multiple outcrops of Tertiary laterite, which may be indicating the weathering product of the targeted mafic and ultramafic rocks.
4.0 Exploration Work Completed

4.1 Historical Exploration

Reviews of historical exploration found that the majority of exploration was conducted by BHP Minerals and Poseidon Gold Ltd and are the only two companies to have completed any exploration of significance. Summaries of their exploration are described below:

**BHP Minerals (1992)**

BHP explored the area for base metals (Cu, Pb, Zn) using broad spaced stream sediment sampling, rockchip sampling, ground geophysics (EM and magnetics) focussing on magnetic anomalies within major north-west trending structures interpreted from the magnetics. Limited RC percussion drilling was completed over a few of these magnetic targets which identified anomalous levels of Au, Pt, Pd, Ni, and Cu. These anomalous results were not followed up by BHP Minerals.

Anomalous rockchip samples (up to 0.33% Cu) were recorded from “a Tertiary and siliceous ferruginous cap rock of limited extent.” These samples were not followed up.

**Poseidon Gold Ltd (1995)**

Although Poseidon Gold acquired the lease targeting epigenetic gold mineralisation they attempted to replicate the anomalous Ni/Cu/Pt/Pd results obtained by BHP Minerals by drilling 29 RAB holes on four traverses. No significant results were returned and the licence was relinquished.

4.2 Mithril Resources Historical Exploration Activities

4.2.1 Interpretation and Evaluation of Historical Exploration

A review of the historical exploration found that no systematic exploration had been completed over the project area. The few explorers that have been in the area previously focussed their exploration on base metals and gold. Although they identified anomalous geochemistry associated with siliceous and iron-rich cap rocks they seem to have failed to make the connection that this could be related to magmatic sulphides associated with mafic / ultramafic rocks.

4.2.2 Mithril 2005 Work

The bulk of Mithril's work in 2005 consisted of stream sediment sampling. Results from this survey showed a coherent NW trending Ni/Cu/Cr anomaly southwest of the main drainage area and is coincident with the anomalous areas defined by historical work. This anomaly is also coincident with a NW trending magnetic anomaly.
4.2.3 Mithril 2006 Work

Mithril completed a magnetic lag sampling and Ground EM program in 2006. This program identified significant Ni-Cu anomalous samples and a ground EM conductor. This work confirmed the prospectivity of the area and it was recommended that an airborne EM program be flown to help identify multiple drill targets.

4.2.4 Mithril 2007 Work

During 2007 a number of exploration activities were completed over the project area. These included an extensive VTEM survey, ground verification of targets generated followed by ground EM surveys over multiple targets. From this a number of high quality drill targets were identified for drill testing over targets IVT040, IVT017 and IVT020.

Many of these targets were followed up on the ground to determine if the source of the anomaly could be located. Due to the extensive sand cover in the area many of the anomalies are unexplained. Rockchip samples were taken at a number of locations with a number of them returning elevated nickel and/or copper and/or chrome values.

4.2.5 Mithril 2008 Work

During 2008 exploration activities completed included ground electromagnetics, heritage surveys and diamond drilling.

An extension to the ground EM surveys conducted in November and December of 2007 and January of 2008 was completed during the reporting period to follow-up some of the remaining high priority VTEM targets.

Two heritage surveys were completed during the reporting period over the project. Although the priority areas were cleared for drilling a very large Exclusion Zone was determined by the traditional owners, largely within EL24427. This has limited exploration within this licence area.

Two diamond drillholes were completed for a total of 360.3m over anomaly IVT040 targeting two of three ground electromagnetic anomalies identified during the last reporting period. Both drillholes intersected significant intervals of up to 50% pyrrhotite > pyrite > chalcopyrite mineralisation associated with amphibolites and calc-silicate rocktypes with grades averaging 0.2%Cu. These sulphide abundances adequately explain the anomalies.

5.0 Exploration Work Completed 2009

5.1 Rehabilitation

All drillholes have been capped below ground level and all drill sumps have been filled in and drill pads levelled.

81 trays of drillcore that were being stored at the drill sites were removed and transported to Alice Springs. Surplus PVC and drill pipe was removed and disposed of offsite. All surplus drilling supplies/rubbish was removed from site.
At one collar location a stuck steel HQ pipe that was left sticking out of the ground after drilling was cut ~30cm below ground level and then capped and covered with soil.

The drill sites were scarified while the access track was back ripped and scarified (figure 2). The turnoff from the main station track to the drill site has been disguised as to limit the chance of the track being reused.

![Figure 2](image-url)  
**Figure 2** Location diamond drill collars rehabilitated during 2009 on the Indiana project.
Photo 1  Stuck steel HQ pipe that was left sticking out of the ground after drilling prior to cutting.

Photo 2  Steel HQ pipe after cutting and prior to capping and covering with soil.
5.2 Rockchip Sampling

Four rock chips were collected over the project area (Figure 2) and were assayed during the reporting period (Appendix 1) at ALS Chemex Laboratories in Perth for 33 elements using the ME/ICP61 suite and for Pt,Pd,Au using the PGM-ICP-23 method. The assay results, although indicative of ultramafic rocks in four of the samples, were not considered encouraging.
Figure 3. Rockchips and stream sediment sample taken over the project area.
6.0 Planned Work and Proposed Budget 2010

Although drilling failed to intersect economic mineralisation, significant sulphides (with considerable copper) have been intersected on the project during the previous reporting period. This confirmed the effectiveness of the electromagnetic surveying techniques – particularly VTEM in screening the area. Mithril believes that this substantiates the conductors identified at anomalies IVT017 and IVT020 warrant drill testing as they may yet represent sulphides associated with more copper rich skarn mineralisation.

<table>
<thead>
<tr>
<th>Item</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drilling (RC/Diamond)</td>
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<tr>
<td>Analytical costs</td>
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<tr>
<td>Heritage surveys</td>
<td>10,000</td>
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<tr>
<td>Downhole and Ground EM</td>
<td>20,000</td>
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<tr>
<td>Geological mapping / geochemical sampling</td>
<td>15,000</td>
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<tr>
<td>Administration</td>
<td>20,000</td>
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<tr>
<td><strong>TOTAL</strong></td>
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</table>

Table 2: Proposed budget for Indiana Project Year 6

7.0 References