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HARTS RANGE 2 PROJECT

EL 25453 ANNUAL TECHNICAL REPORT FOR PERIOD 12th March 2009 to 11th March 2010

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

SUMMARY

This report summarises work completed on Mithril Resources Harts Range 2 Project Exploration Licence (EL25453) for the year ending the 11th March 2010.

The project area is located approximately 180 km northeast of Alice Springs, south of the Plenty Highway and straddles the Huckitta and Illogwa Creek 250,000-scale map sheets.

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

- Geological mapping
- Rock chip sampling
- Airborne EM (VTEM)
- Ground EM
- Downhole EM
- Drilling (Aircore, RC and Diamond)

During 2010 Mithril plan to continue geological mapping and rock chip sampling as we follow up yet to be ground checked VTEM anomalies. A ground EM survey program is also planned as well as further VTEM surveys. Any high priority conductors identified from these programs will be drill tested.

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1.0 Introduction

This report summarises work completed on Mithril Resources Harts Range 2 Exploration Licence (EL25453) for the year ending 11th March 2010. This tenement is one of two that comprises the Oklo Joint Venture.

The Harts Range 2 Project is located approximately 180 km northeast of Alice Springs. Access to the area is via the Plenty Highway, which passes east-west north of the project area (Figure 1.1). The tenement is contiguous with Mithril's Huckitta Project.

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



Figure 1Location of Harts Range 2 Project EL25453

2.0 Tenure

Leasing details for the project are detailed in Table 1 below. Mithril Resources entered a Heads-of-Agreement with Oklo Uranium to farm-in to the Harts Range Project. The agreement covers all minerals other than uranium and Mithril may earn an initial 60% interest in the Oklo Tenements by completing expenditure of AUD\$1M within the first 3 years of the commencement date. Mithril may then elect to earn a further 20% interest (for total of 80%) by incurring additional expenditures of AUD\$1M within an additional 2 years. Prior to reaching this agreement Oklo have held the tenement in their own right.

Tenement	Grant date	Original size (blocks)
EL25453	12/03/2007	303

Table 1:Tenement Status

3.0 Geology

3.1 Regional Geology

The Project lies within the Irindina Province (also known as the Harts Range Metamorphic Complex) of the south-eastern Arunta Inlier. The Irindina Province comprises the Harts Range Group, a volcanosedimentary succession that was metamorphosed to granulite facies during the Ordovician Larapinta Event (475-460 Ma). Lithostratigraphical and geochronological data indicate that the Harts Range Group correlates with Neoproterozoic to Cambrian sediments of the adjacent Amadeus and Georgina Basins. Therefore, the Harts Range Group was probably deposited in a basin contiguous with, and possibly linking, the Amadeus and Georgina Basins.

While the Harts Range Group was metamorphosed to granulite-facies, however, sedimentation continued in the Amadeus and Georgina Basins. Structural and lithological evidence suggest that the Larapinta Event was extensional, with very deep burial required for the measured metamorphic conditions (30-35 km). Such an event was probably associated with mantle melting. The numerous mafic and ultramafic units found throughout the Irindina Province, although their timing is poorly constrained, may have intruded during the Larapinta Event. These intrusions are considered prospective for Ni-Cu-PGE sulphide deposits.

The Harts Range Group and Amadeus and Georgina Basins were structurally inverted and brought to the surface during the mid-Palaeozoic Alice Springs Orogeny (450-300 Ma).

3.2 Project Geology

The Harts Range Project area is predominantly covered by a veneer of aeolian and colluvial sand and gravel. Strongly weathered biotite, garnet-biotite and quartzofeldspathic gneiss, calcsilicate rocks and amphibolite are sporadically exposed. 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. Vein-style REE-Th-U mineralisation has also been identified in the area as well as multiple occurrences of mica.

4.0 Exploration Work Completed

4.1 Historical Exploration

Numerous companies and individuals have explored in the general area covered by EL 25453 and EL25451. Exploration has focussed on the uranium potential of this area with little consideration given to the base metal prospectivity. Oklo Uranium have completed a review of the REE and uranium potential of the licences and have identified several different model styles of uranium mineralisation, these are summarised below:

- Vein and disseminated hard rock uranium mineralisation located within and around Paleo-Proterozoic peralkaline to alkali granites perhaps associated with their differentiated zones alkali pegmatites. Preservation of the upper zones in such intrusive systems in rocks of this great age does pose some significant problems. The most significant vein type uranium deposits are located in Western and Central Europe. These are invariably hosted within Variscan age (280 – 310 mybp) alkali two mica granites and their contact metamorphic aureoles. Examples include Margnac, Boir Noirs – Limouzat, Mille Vache, Pribram, Jachymov (Joachimstal) and Erzberg to name but a few significant deposits. Lower grade "episyenite" styles of mineralisation present small exploration targets having complex structural and geometric controls. Hence, given these geologic features, such systems may not have been recognized hitherto;
- Marginal uraniferous vein and stockwork vein styles of mineralisation developed at the margins or contact aureoles of tin – tungsten, "S type", peralkaline, tourmaline bearing, granites of the Paleo to Middle Proterozoic. There is the possibility of disseminated uranium mineralisation occurring within tourmaline bearing greisen systems;
- Finally, there is scope within the Tertiary Pleistocene drainage system to locate valley calcrete hosted carnotite uranium mineralization.
 However, to date no economic deposit of this type has been discovered in the Northern Territory.

4.2 Mithril Resources Work Completed 2008

During the 2008 reporting period Mithril undertook field work which included reconnaissance geological mapping, rock chip sampling and minor 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.

Forty rock chip samples were collected and sent to the lab for assay. One rock chip sample was sent for petrological analysis. Two stream sediment samples were collected and sent to the lab for size fraction.

Geological mapping was focussed in the southwest of the tenement where mafic rocks had been previously identified by the NTGS (Figure 2).

Field checking in the southwest of the tenement, west of Indiana Station, confirmed large tracts of mafic rock defined by many, variably sized pod shaped outcrops of gabbro and amphibolite. Outcrop distribution in places appeared to have some linear control. The gabbro was deformed and metamorphosed to variable extents suggesting multiple intrusive events may be present. Visible sulphides were noted in rock chips at only one locality. Field checking highlighted unmapped areas of mafic outcrop and there is potential for further groundwork to delineate additional mafics.

Field checking in the southwest of the tenement, south of Indiana Station, revealed many small pods of mafic rock. Outcrop distribution appeared largely sporadic. Outcropping pods of both amphibolite and gabbro were deformed and metamorphosed to variable extents suggesting two or more intrusive events may be present. No visible sulphides were noted in rock chips. Field checking showed the outcropping of mafic rocks to be more extensive than previously mapped and there is potential for further groundwork to delineate additional mafics.

Field checking in the southwest of the tenement, north of Indiana Station, confirmed a mafic intrusive body outcrops in contact with a felsic gneiss rocks which is presumably a member of the Harts Range Group. The mafic is a relatively fresh medium grained olivine bearing norite. On the south western side of hill at its contact with the felsic gneiss small occurrences of gossanous malachite stained rock outcrop sporadically and returned assays of up to 3.8%Ni, 9%Cu and elevated PGEs. This prospect was named Blackadder.

A heritage survey was carried out across Mithril Huckitta Project which included the Blackadder Prospect.



Figure 2 Mithril season 2008 field locations, NTGS mapped mafics, interpreted potential outcropping mafic and the EL25453 tenement boundary on the ALOS satellite image.

4.3 Mithril Resources Work Completed 2009

During the 2009 reporting period Mithril undertook field work which included reconnaissance geological mapping, rock chip sampling, airborne EM (VTEM), ground and downhole EM and RC and diamond drilling (Figures 3 and 4).









Mithril season 2009 rockchip locations, drillhole collars, VTEM area (blue), ground EM lines and the EL25453 tenement boundary around the Blackadder Prospect on Satellite (ALOS) image.

4.3.1 Geological mapping and Rockchip 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. Twenty two rock chip samples were collected and submitted to ALS laboratories in Alice Springs for multielement analysis (33 elements using ICP-MS61) and for Pt, Pd, Au (PGM-ICP23). Four stream sediment samples were collected and submitted for multielement analysis (33 elements using ICP-MS61). A number of the rockchip samples returned anomalous values of copper, cobalt, nickel and silver and will be part of the focus of exploration activities going forward. Analytical results and locations for the rockchip samples and for the stream sediment samples can be found in Appendix 1 and 2 respectively.

4.3.2 Airborne EM (VTEM)

An Airborne EM survey (VTEM) was completed over the southern portion of the tenement as part of a larger survey. This was flown on north south lines, 200m apart over an area covering 121sqkm. On this tenement this survey was focused on the Blackadder Ni-Cu sulphide Prospect and the possible western and eastern strike extent of the prospective stratigraphy. Over 14 anomalies were detected and a number of these have been followed up on the ground. Most of these anomalies are in areas of cover so further ground electromagnetics is required to better characterise these targets. One significant anomaly ~1km to the west of Blackadder occurs in an area of subcrop and rock samples assayed returned anomalous copper and silver values. Ground EM confirmed this target to be a basement conductor and drilling intersected largely barren, non-magmatic sulphides (as detailed below) A report detailing all the parameters of the VTEM survey can be found in Appendix 3 and all data in Appendix 4. A mid-time conductive anomaly was detected over the Blackadder Prospect.

4.3.3 Ground EM

A series of fixed loop ground EM surveys were conducted at the Blackadder Prospect in May 2009 (figure 4). The purpose of the survey was to identify potential massive sulphide mineralisation in the vicinity of mineralised gossans at Blackadder. In all a total of 675 fixed loop EM soundings were conducted along 13 north-south lines from three transmitting loops (figure 5). 51 moving loop EM stations were also collected along 3 north-south lines over the Blackadder Gossan (figure 6).

In summary, the fixed loop ground EM was not effective in resolving any late time features typical of massive sulphide mineralisation. The moving loop EM data was successful in detecting a mid to late time EM response associated with the Blackadder gossan on all three lines of the inloop data. No corresponding response was observed in the associated slingram data. Modelling of this response indicates a highly conductive but depth limited target at a depth of 80 metres. A full report on the ground EM is attached as Appendix 5 and the data in Appendix 6.

Following the VTEM survey a further moving loop ground EM survey was completed in August 2009 focussing on a VTEM anomaly detected ~1km west of Blackadder (Figure 4). Parameters for this survey are contained in Table 2 and data is in Appendix 7. This survey confirmed the presence of a basement

conductor on multiple lines with a conductivity thickness of ~400siemens. This target was drill tested and was found to be barren sulphides in a calcsilicate unit.

Survey Type	Moving loop
Loop Size	100m – 2 turns
Station spacing	50m
Line orientation	NE-SW 45 degrees
Sensor	Fluxgate (slingram) and coil (inloop)
Sensor location	Slingram 200m south of loop centre
transmitter	ZT-30
Receiver	Smartem

Table 2:Moving loop ground EM parameters.



Figure 5. Plan map of fixed loop EM lines.



Figure 6: Plan map of moving loop EM lines.

4.3.4 Drilling

Two short drilling programs were completed on the tenement during the reporting period. Four shallow vertical aircore drillholes were completed approximately 1km NE of Blackadder with no anomalous base metals reported (Figure 4). The drillholes were sampled at 1-4m intervals and samples sent to ALS laboratories in Alice Springs for multielement analysis (33 elements using ICP-MS61) and for Pt, Pd, Au (PGM-ICP23).

Six drillholes were completed at the Blackadder and Blackadder West Prospects for a total of 791.5m (Figure 4). Five of these drillholes were solely RC percussion and BARC-008 included an NQ diamond tail of 39.5m. Four of these drillholes were cased with 50mm PVC to enable downhole electromagnetic (EM) surveying. A geological summary of each of the drillholes is outlined below.

Drillhole BARC-001 targeted a VTEM and ground EM anomaly approximately 800m west of the Blackadder gossan. The hole was drilled to a depth of 139m and intersected a sequence of metasedimentary rocktypes (quartzites and calcsilicates) commonly containing 1-2% disseminated pyrhotite, pyrite and minor chalcopyrite. Between 79m to 84m the sulphide content in a calsilicate unit increased to 5% with meter intervals containing up to 10-15% sulphides as stringers which may explain the targeted conductor. No anomalous metal values were returned. This drillhole was cased to bottom with 50mm PVC.

Drillhole BARC-002 targeted an EM anomaly and the downdip extension of the gossanous zone at Blackadder. The hole was collared in quartz – sericite schist and intersected the Blackadder gabbro at 22m downhole depth to 52m. The hole was continued to 115m and cased with 50mm for DHEM. Blebby and disseminated magmatic sulphides were intersected toward the lower contact of the gabbro from 42m increasing from trace-1% disseminated and blebby sulphides to up to 2-3% stringer sulphides in the last 2m (50-52m) which graded ~0.12%Ni. Sulphides identified are pyrrhotite and chalcopyrite. The abundance of sulphides intersected is thought not enough to explain the surface conductor. From 52m the hole intersected a sequence of quartz sericite schists (metasediments) containing traces of sulphides, dominantly pyrite.

Drillhole BARC-003 was collared approximately 80m along strike to the east of BARC-002. This drillhole was also targeting a conductor and the down-dip mineralised contact at Blackadder. It intersected rocktypes mirrored BARC-002 with the gabbro found between 21m - 54m. Traces of sulphides are present throughout the gabbro increasing to ~2-3% blebby sulphides to 5mm in size on the basal contact between 51-54m, again grading ~0.12%Ni. Metasediments were intersected to the final depth of the drillhole. Again this is not enough sulphide to explain the surface EM conductors.

Drillhole BARC-004 was drilled 20m north on section from BARC-003. It was drilled at 75 degrees to intersect the basal contact of the Blackadder intrusion 50m downdip of where it was intersected in BARC-003. This hole was drilled to a depth of 121m and remained in metasediments for the entire way. As the gabbro was not intersected it is interpreted that this hole has passed underneath the gabbro body which is thought to be plunging to the WNW. This hole was cased for downhole EM.

Drillhole BARC-008 was designed to test a different surface EM conductor at Blackadder west. The drillhole intersected a sequence of weakly mineralised calc-silicates and quartzites to approximately 120m. From 120m to 137m a fine grained dark, deformed and possibly mafic unit was intersected containing 2-5% sulphides. From 137m to 170m rocktypes are again calcsilicates and quartzites and from 170m to 180.5m a fault was encountered with clasts up to 30cm. Minor sulphides are also present in this fault. Due to RC difficulties this hole was cored (NQ2) from 140.5m. It appears the targeted conductor was not intersected and as a result the drillhole was cased for downhole EM. No significant metal values were returned in the assays.

Drillhole BARC-009 was drilled beneath BARC-002 to intersect the possible westerly plunge of the Blackadder intrusive body. No mafic was intersected in the drillhole and it has either been drilled beneath the body or the body it has pinched out. This drillhole was cased for downhole EM.

Collar locations, geology logs and assay results of the drillholes can be found in Appendices 8-10.

4.3.5 Downhole EM

The four drillholes cased with 50mm PVC were read with DHEM. This survey confirmed the conductor had been intersected in drillholes BARC-1 and BARC-8 and no further work is recommended at the Blackadder West area. The DHEM on BARC-4 and BARC-9 suggested there is a conductor present up dip of the drilling. This conductor is at present untested. All DHEM data can be found in Appendix 11.

5.0 Planned Work and Proposed Budget 2010

Mithril's field work including geological mapping, rock chip sampling and drilling garnered considerable success in 2008-09 and the company plans to continue this work in 2010 in conjunction with the ground checking of yet to be accessed VTEM anomalies. In addition further VTEM and ground EM surveys are planned.

Item	Cost
Analytical costs	10,000
VTEM / Ground EM	40,000
Geological mapping / geochemical sampling	15,000
Administration	20,000
TOTAL	\$85,000

Table 3. Planned Work and Proposed Budget 2010
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6.0 Appendix

- Appendix 1: **Rockchip Assay Results** Appendix 2: Stream Sediment Assay Results Appendix 3: **VTEM Logistics Report** Appendix 4: **VTEM Data** Appendix 5: May 2009 Ground EM Report Appendix 6: May 2009 Ground EM Data Appendix 7: August 2009 Ground EM Data Appendix 8: **Drill Collars** Appendix 9: Drill Logs Appendix 10: **Drill Assays**
- Appendix 11: DHEM Data