



BLYTHE PROJECT, NORTHERN TASMANIA
ANNUAL REPORT FOR EL6/2005 (“CUPRONA”)

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ABSTRACT

Work carried out in the first permit year has included a detailed evaluation of the geology and mineral occurrences of the area allied to evaluation of geophysical data, especially aeromagnetics. The styles of known mineralisation in the permit include the following:

- magnetite/pyrrhotite/fluorite (chalcopyrite) mineralisation at the Natone Skarn proximal to the Husetop Granite.
- hematite/quartz mineralisation flanking the Natone Skarn and also occurring within the Blythe River valley and at Cuprona.
- copper (gold) mineralisation flanking hematite/quartz as well as in small showings away from any iron ores.

Comparison of the mineral occurrences with aeromagnetic data of the area shows that the above mineralisation types are spatially distributed around aeromagnetic highs. For instance, magnetite mineralisation at the Natone Skarn is associated with a distinct aeromagnetic high and this mineralisation is in turn flanked by hematite/quartz and then by copper (gold) mineralisation. The hematite/quartz occurrences in the Blythe River valley and at Cuprona flank a “bullseye” type aeromagnetic high. Field investigation of the hematite/quartz bodies shows that this style of mineralisation displays clear replacement textures. It is likely that this style of mineralisation was formed as a result of hot fluid movements associated with emplacement of the Late Devonian Husetop Granite.

Evaluation of the data thus has led to a synthesis whereby the area is inferred to contain strong prospectivity for IOCG (iron oxide-copper-gold) or “Olympic Dam” style mineralisation. The aeromagnetic highs will be explored for copper/gold and magnetite mineralisation. A gravity survey over the Natone Skarn and other nearby aeromagnetic highs is being planned for late August and the results of this survey will determine further exploration. A magnetite evaluation corehole at the southern end of the Natone Skarn is planned for mid-September 2006. Drilling into hematite/quartz mineralisation at Natone is also planned for the coming permit year.

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Figure 5. Drill Hole NT3, Natone Skarn, Geology and Magnetite Mineralisation.

Figure 6: Blythe Project, Location of Exploration Targets.

Figure 7: Blythe Project, Proposed Gravity Survey on Magnetics.

All coordinates are AMG in AGD66 Zone 55

1. INTRODUCTION

1.1 Tenement Details.

The “Cuprona” Exploration Licence EL6/2005 covers an area of 22 sq km and is centred 7 km southeast of Burnie in northern Tasmania (see Figure 1). This, the first Annual Report on the tenement covers the period to 8 September 2006. The permit applicant was Iron Mountain Mining Limited and the permit is now held in Joint Venture by Red River Resources Limited in conjunction with Iron Mountain under the terms of an Agreement executed on 10 July 2006.

1.2 Exploration Rationale

The tenement was originally taken up with a view to evaluation of the mining potential of hematite/quartz bodies in the Blythe River valley and at Cuprona, with subsidiary potential inferred for hematite/limonite near Natone and for copper mineralisation within the permit area. Red River Resources commenced its evaluation of the permit during February 2006 and soon identified additional potential for magnetite iron ore as well as for “Olympic Dam” IOCG (iron oxide-copper-gold) style mineralisation associated with aeromagnetic highs.

1.3 Regional Geology

Figure 1 shows the regional geology of the tenement.

The oldest rocks in the district lie within the Proterozoic Burnie Formation, a quartzwacke turbidite sequence of sandstone, siltstone and well bedded black slaty mudstone which is in turn overlain by the Late Proterozoic Oonah Formation, a 100m thick sequence of conglomerates, hematitic and micaceous siltstones, quartzites, dolomites and phyllites that broadly outcrop along the long axis of the EL and host all the mineralised targets including the iron deposits. Unconformably overlying these sediments are Ordovician breccia conglomerates with minor thinly banded cherts and quartzites dipping towards the east at 30° to 60°. During the Tertiary the region was almost completely covered by extensive basalt flows forming a plateau that was subsequently eroded by rivers including the Blythe River partly re-exposing the Precambrian and Ordovician sediments and iron deposits and producing the current topography.

The Upper Devonian Housatonic Granite outcrops south-west of the EL. This granite is generally a medium to coarse grained pink adamellite that has at times been speculated as being responsible for much of the mineralisation in the intruded sediments including the Blythe Iron deposits. Contact metamorphism is common in the older sediments intruded by the granite with the Natone Skarn at the western end of EL6/2005 composed of zoned magnetite, pyrrhotite and calc-silicate minerals with occasional small lenses of copper sulphide mineralisation forming in the original dolomitic sediments within the Oona Formation.

1.4 Local Geology

A little over one third of the EL is composed of the Precambrian sediments along which a number of low phosphorus hematite-quartz pods outcrop along a 6 km long north easterly trending fault zone. This fault zone can be easily traced in outcrop and is distinguished by a distinctive aeromagnetic anomaly. Regionally the EL sits over a deep regional aeromagnetic high suggestive of a magnetised granite pluton at depth.

At Blythe River these iron rich outcrops occur over a strike length of 2.2 km as two separate groups called Northern Quarries and Blythe River Deposits,(see Figure 2). The Precambrian sediments hosting the iron rich outcrops are truncated at each end and bisected by a veneer of Tertiary basalt. Additional iron ore pods are likely to be found along strike beneath this basalt cover. The Northern Quarries deposit is the most readily accessible being located only 800m west of the village of Cuprona. The deposit has a mapped strike length of over 225m with potential to extend to the south beneath the basalt cover. The drill indicated width of the deposit is 17-25m and drilling shows that the mineralisation extends to at least 65m depth.

Further hematite/quartz mineralisation with minor manganese occurs at Natone (see Figure 4) where it flanks an aeromagnetic high which is indicative of magnetite/pyrrhotite/fluorite mineralisation.

Copper mineralisation veins parallel the fault trend with small high grade pockets of copper ore mined during the early 1900's.

2 REVIEW OF PREVIOUS WORK

The Blythe River and Cuprona Iron deposits were discovered during the 1890's by private explorers. Their leases were eventually transferred to Blythe River Iron Mines Limited in about 1900 and an extensive sampling program including surface trenching and aditing was carried out with a 1,000 tons bulk sample quarried for metallurgical testing(see Figure 2). A 6.5 mile (10.5 kms) spur line was also surveyed to meet the main government railway at the mouth of the Blythe River to carry the ore to Burnie for shipment to proposed smelters NSW but it was never built.

In 1919 the project was offered to the Commonwealth Government who had an independent investigation carried out by Boyd, Gibson and Young to determine the viability of the deposits. These investigators reported that the deposits contained "9 million tons of iron bearing material..." however ".....the bulk of the deposit is far too siliceous to be considered as an iron ore at the present day and the quantity of good ore is too small to be considered of any economic importance".

Another geological and economic study of the deposits was carried out by Nye in 1937 on behalf of J. D. Patterson, the new owner of the leases, as part of a submission to the Tasmanian government for assistance to construct the rail spur up the Blythe River valley. This report effectively confirmed the Boyd, Gibson and Young conclusions.

In 1940-1941, the Australian Commonwealth Carbide Company quarried 2,555 tons from the Northern Quarries area for use in ferro-silicon manufacture.

As part of a general appraisal of iron ore deposits in Tasmania Blake in 1957 mapped and reported on the Blythe River and Cuprona iron deposits. No new resource estimates were calculated although he stated that it was "proved" that only 12,000 tons of high grade iron ore was located at Purple Crag.

In 1958 Atkinson reported for CRA that the Blythe River iron deposit had a potential for 10 million tons of siliceous iron ore with good potential for extensions below the Tertiary basalts to both the north and south. No grades were quoted.

In 1962 beneficiation tests on two 9 cwt. (approx. 450kg) bulk samples collected from the Blythe River deposits were carried out by the Tasmanian Mines Department to determine if beneficiation of the siliceous hematite could produce a +60% Fe concentrate suitable for export. The results of these tests are described in the Metallurgy section below.

Further Tasmanian government mapping was carried out by Gee in the early 1960's that culminated in a three hole diamond drilling program at Northern Quarries reported by Noldart in 1966(see Figure 2). The drilling was described as confirming the theory put forward by Gee that the iron deposits are localised in an interformational breccia located on the unconformity between the Precambrian quartzites and the overlying Ordovician sediments. The iron ore intersected was of variable grade having a true width of approximately 80 feet (24m) for 45.3% Fe and 36.6% SiO₂ in BR1 from a depth of 124.25 feet (38m) (see Figure 3), 65 feet (20m) in BR2 from 79.8 feet (24m) and 88 feet (27m) for 26.6% Fe and 57.6% SiO₂ in BR3 from 57 feet (17m). Hole BR2 was not sampled and assayed due to poor core recovery. Noldart recommended that any further exploration should be concentrated to the south of BR1 up to and below the Tertiary basalt cover.

During the late 1960's through to the mid 1990's most exploration in the area switched from iron ore to base metals that may have formed within the Oona Formation where potentially mineralised fluids generated by the emplacement of the Housetop Granite may be deposited in favourable lithologies.

During 1968-1972 Minops investigated EL's 13/68 and 14/68 in the Blythe River and Natone area. Their work included magnetics, IP, auger drilling and 4 diamond drill holes, totalling 506m at Natone (see Figure 4 for locations of drill holes NDDH 1-3). The holes intersected skarn mineralisation with minor Cu.

During 1969-1974, within EL 1/69, the Tasminex/ANZECO J/V investigated the Natone ironstone and Rutherford's copper prospect, to the north, with soil and rock geochemistry, mapping, magnetics, costeaning and shallow percussion drilling of 5 holes, totalling 106m. The percussion hole locations are shown in Figure 4. The best mineralisation was returned from the 21.2-30.5m interval in PNa3 which assayed 9.2m of 0.40% Cu. A nearby costean encountered 1.5m of 6.0% Cu.

During 1977-1985, EL 8/77 was investigated by the Comalco-Shell-CRA J/V. Extensive exploration included mapping, stream, rock and soil geochemistry: aeromagnetic and INPUT EM surveys, SP.IP max-min EM, SIROTEM, gravity and the drilling of two diamond drill holes at Natone (see Figure 4 for location of drill holes NT1 and NT3.) The work by Shell Minerals was focussed towards the discovery of tin-tungsten deposits. Drill hole NT3 encountered significant magnetite mineralisation which is detailed in Figure 5.

During 1986-1989, within EL30/86, CW Davis undertook stream geochemistry, mapping, rock chip sampling and at the Cuprona ironstone drilled 28 airtrack holes totalling 252m.

During the 1993-1995 period, within EL 9/92, Pasmenco reviewed the regional geological setting, flew airborne magnetics/radiometrics, and collected and analysed rock chip samples.

3. WORK CARRIED OUT DURING THE FIRST PERMIT YEAR.

Work carried out during the first permit year included:

- literature review
- field investigation of the hematite/quartz outcrops
- modelling of potential magnetite targets
- review of aeromagnetic data
- planning for Year 2 exploration.

3.1 Results and Conclusions

The field investigations of the Natone, Blythe Valley and Cuprona hematite/quartz ironstones encountered replacive textures, particularly at Eastern Crag in the Blythe River valley. The writer noted hematite was emplaced preferentially along fractures and that, at least, two generations of hematite emplacement have occurred. Another significant field observation is that the quartz/hematite mineralisation at Natone is essentially the same as at Cuprona and in the Blythe Valley and not formed as a capping over magnetite mineralisation as mentioned by previous writers. The upshot of these two separate observations is that hematite occurrences within the permit area have a common, replacive, origin which can be related to the one hydrothermal event.

Secondly, the close spatial arrangement of hematite/quartz flanking known magnetite mineralisation at Natone, or magnetic highs strongly indicative of magnetite, suggests that magnetic highs elsewhere in the district have similar spatial magnetite/hematite geometry. For instance, an aeromagnetic high southwest of Cuprona is flanked by the Northern Quarries to the north and by the Blythe River valley ironstones to the south (see Figure 1).

A good guide to the style of magnetite mineralisation that can be found within the permit is provided by drill hole NT3 (see Figure 5) which encountered 42m of 40-45% magnetite (visually-estimated) between 65-140m and 14m of 30-35% magnetite between 190-250m. Utilising these intersections, and by interpreting the data on the aeromagnetic highs within the southern part of the permit, Red River has arrived at magnetite exploration targets as follows:

Target	Natone	NatoneEast	Cuprona	Cuprona SE	Loonah
Length (m)	1200	1000	600	500	1300
Breadth (m)	500	400	400	400	400
Thickness (m)	40	40	100	100	40
Bulk Density	3.5	3.5	3.5	3.5	3.5
Min Mag Factor*	25%	25%	40%	40%	5%
Max Mag Factor+	50%	50%	80%	80%	10%
Grade (%magnetite)	40-45	40-45	40-45	40-45	40-45
Min Tonnes (Mt)	21	13	34	28	4
Max Tonnes (Mt)	42	26	67	56	7

*Min Mag Factor = minimum proportion of skarn containing economic magnetite.

+Max Mag Factor=maximum proportion of skarn containing economic magnetite

Red River proposes to initially evaluate this potential by twinning NT3, proposed spud date of mid-September 2006, and then carrying out Davis Tube determinations of recoverable magnetite content. This will be followed by assays for potentially deleterious contaminants such as P and S, accompanied by grindability test work.

The spatial association of copper mineralisation to the iron ore occurrences at Natone as well as the Copper King mineralisation to the iron mineralisation at Cuprona (see Figure 1) suggest a strong likelihood for the discovery of IOCG deposits in the district. Figure 7 shows the aeromagnetic highs in the southern part of the permit as well as in adjacent EL 15/2006 (“Camena”) which are interpreted as having prime prospectivity for the discovery of significant tonnages of this style of mineralisation. Initial exploration for this style of mineralisation is planned as a gravity survey over these aeromagnetic highs and the proposed gravity layout is shown on Figure 7.

With regard to the gold potential of the area, local knowledge points to significant association of gold with copper mineralisation. Local residents at Natone report that substantial tails of gold were obtained by dollying and panning copper mineralisation.

4. EXPENDITURE

Expenditure during the Permit year was as follows:

Geological	\$21,054.01
Drafting	\$3,780.50
Field Supplies	\$372.04
Travel and accommodation	\$4,832.45
Administration	\$5,000.00
TOTAL	\$35,039.00

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KEYWORDS

Aeromagnetic highs

Copper

Cuprona

Gold

Hematite

Housetop Granite

Iron oxide-copper-gold (IOCG)

Magnetite

Natone









