

**EPM 15289**

**HAWKWOOD PROJECT  
ANNUAL REPORT**

**REPORTING PERIOD:**

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## 1. Summary

The Hawkwood Project is located approximately 50km southwest of Mundubbera, in southeast Queensland. Mundubbera is a small agricultural centre servicing the region. Rugby Mining's' EPM 15289 covers an area of approximately 80 square kilometres, which is prospective for intrusive related gold deposits and porphyry copper type mineralization.

Hawkwood is situated within the Rawbelle Batholith in the northern New England Fold Belt. Lithologies of major interest include the Delubra gabbro and the Hawkwood gabbro. Both are characterised by a primary magmatic mineralogical layering and geochemical studies have shown a relationship between magnetite content, Cu and PGE mineralisation and sulphidation.

The mineral deposit type to be explored for at Hawkwood is a copper-rich variant of a Skaergaard-type layered mafic complex. Past exploration has shown that copper mineralisation is associated with layered magnetite rich cumulates within an olivine ferri-gabbro. Chalcopyrite and haematite are the principal copper sulphide and oxide minerals which appear to occur in association with elevated Pt, Pd and Au values and possibly spatially related to acid dykes.

Historical exploration at Hawkwood has also identified iron (+/- titanium and vanadium) mineralisation within the magnetite rich cumulates with several historical estimates providing an indication of the potential. These estimates range in size up to 500 million tonnes at grades between 19% Fe and 25% Fe, however the mineral resource categories applied to these historical estimates remains unclear and do not comply with JORC.

Work during the period included:

- A review of previous exploration
- Interpretation of Government and open file airborne geophysical data
- Bedrock sampling on the Hawkwood Grid, where a total of 119 bedrock auger holes were drilled on 200m x 200m spaced intervals. This program defined a >500ppm copper geochemical anomaly over an area of 200m x 1,200m, with a maximum assay of 1,850ppm copper.
- A reconnaissance program along existing roads and tracks was also conducted to locate outcropping iron mineralization within highly magnetic aeromagnetic anomalies identified by previous aeromagnetic surveys. A total of 9 rockchip samples were collected of iron mineralization and assays ranged from 26.0% to 52.1% iron.

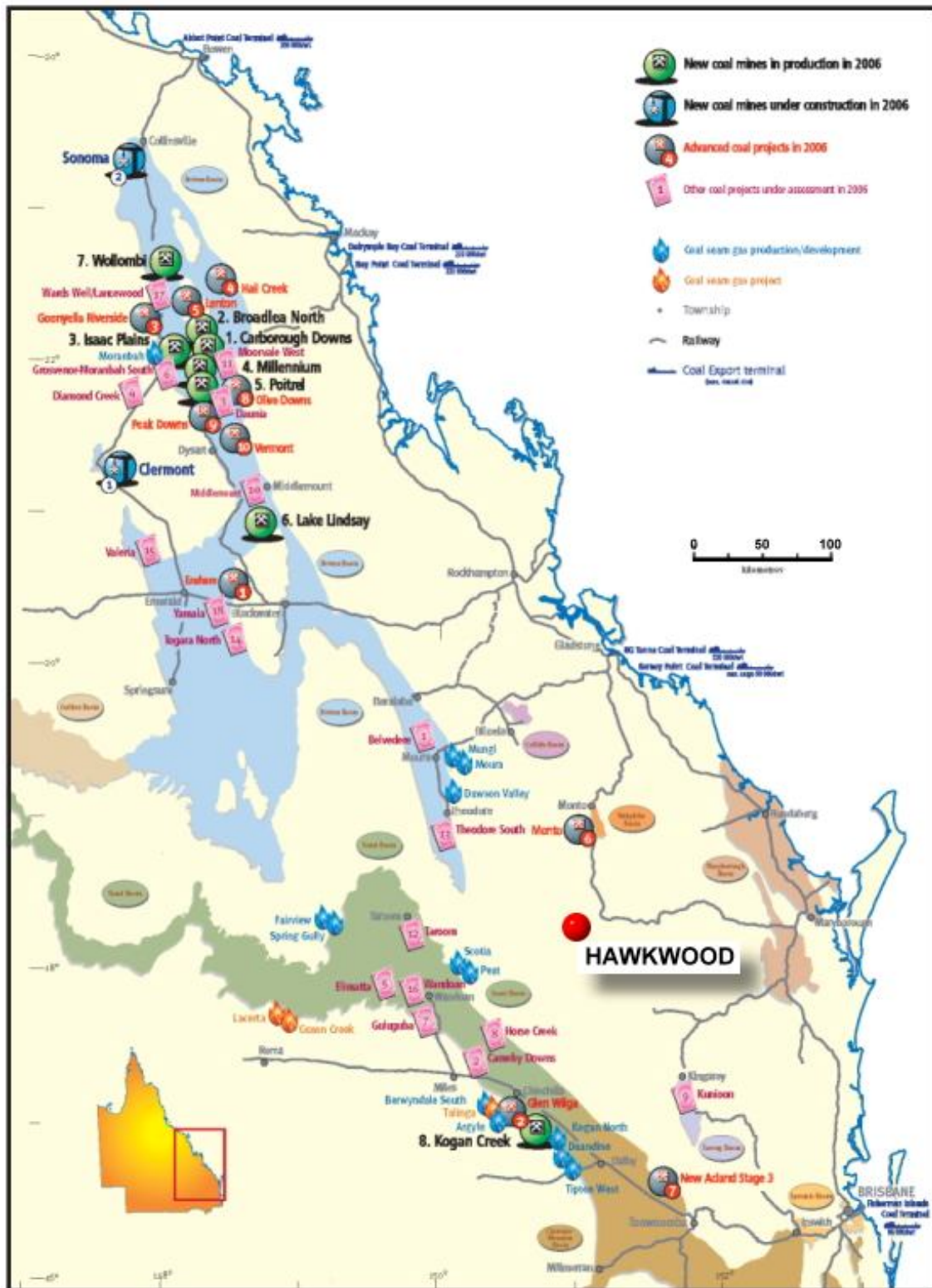


Figure 1 Regional Project Location

## 2. Tenure Information

<b>Tenement</b>	<b>EPM 15289</b>
<b>Holders</b>	Rugby Mining Pty Limited
<b>Term</b>	5 years
<b>Date Granted</b>	15-May-2006
<b>Date Expires</b>	14-May 2009 – Renewal application lodged
<b>Joint Venture Arrangements</b>	Rugby Mining Limited can earn 60% interest in EPM 15289
<b>Other</b>	Newcrest Operations Limited holds a 2% net smelter royalty on production

Table 1 - Tenure Information

### 2.1. Blocks and sub-blocks

<b>BLOCK- BRIS</b>	<b>SUB-BLOCKS</b>
1378	C D
1450	Y Z
1451	F G L M V W X Y Z
1522	E Q R S V W Y
1523	A B C D F G H J L M N O P Q R S T U V W X Y Z
1594	B C D
1595	C D E Total = 49

Table 2 – Tenure details

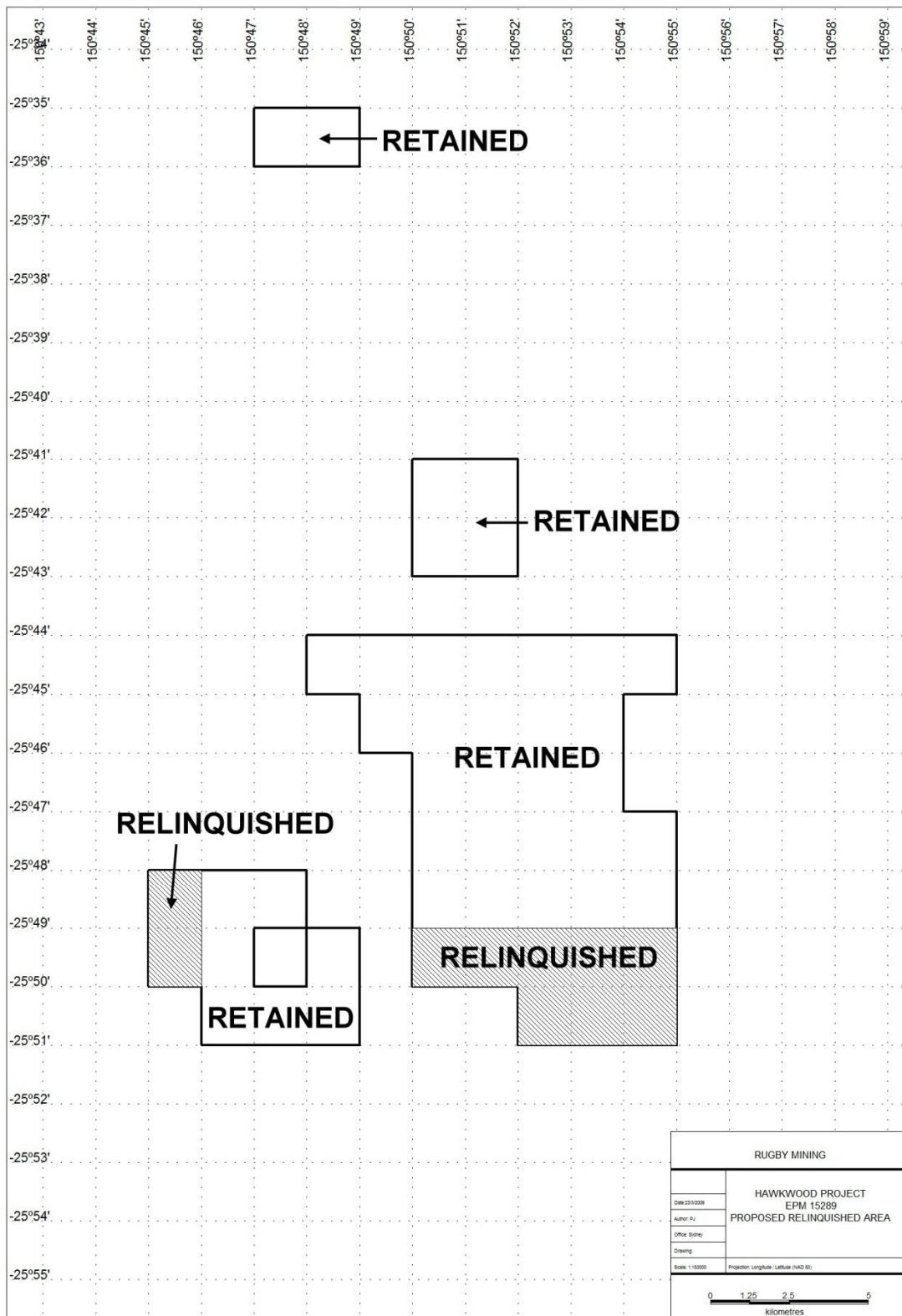


Figure 2 Tenure Plan EPM 15289

### **3. Philosophy and objectives of the exploration program**

The main mineralised zones of interest to Rugby within Hawkwood are known as the Walkers Road prospect and Hawkwood copper and iron prospects, which are situated in the southeast corner of Hawkwood within EPM 15289.

#### **3.1. Geological Setting**

Hawkwood is situated within the Rawbelle Batholith in the northern New England Fold Belt. Lithologies of major interest include the Delubra gabbro and the Hawkwood gabbro. Both are characterised by a primary magmatic mineralogical layering and geochemical studies have shown a relationship between magnetite content, Cu and PGE mineralisation and sulphidation.

#### **3.2. Production/Exploration History**

There are no JORC compliant mineral resources and/or mineral reserves located on Hawkwood. Mining related workings and infrastructure located on Hawkwood are restricted to very small scale historical diggings.

#### **3.3. Proposed Exploration Program**

The program of activities for the EPM 15289 was not completed with during the reporting period. Rugby applied for a variation pursuant to the provisions of Section 141C of the Minerals Resources Act 1989 as the company experienced considerable delays in the assignment of EPM 15289 from Newcrest Operations and consequently was unable to implement the planned exploration program.

Rugby plans to complete the proposed exploration program to follow up gold, copper and iron targets and expects to drill iron targets within the next twelve months, should they be verified by ground work.

### **4. Location and Access**

Hawkwood is located 50 km southwest of the township of Mundubbera, Queensland and 380 km northwest of Brisbane along the Burnett Highway. Mundubbera is linked to the major regional centres of Maroochydore (215 km southeast) and Maryborough (140 km east) via the sealed A1 and A3 highways and by rail.

Access to Hawkwood by road transport is via sealed road from Mundubbera then a number of unsealed farm tracks which dissect Hawkwood.



Hawkwood's proximal location to Mundubbera (population 2,500) provides the opportunity to utilise the existing civil infrastructure and facilities including skilled work force, commercial services, transport, water and power reticulation.



Figure 3 Project Location

## 5. Physiography & Vegetation

Hawkwood topography is characterised by gently undulating plateaus which are cut by recessive streams, the largest of which, the Auburn, the Burnett and the Boyne rivers, intersect east of the license area. Height above sea level varies from approximately 400 m to 200 m along the rivers.

The region has been largely cleared for fruit plantations, some grain cropping and cattle grazing.

Outcropping rock exposures are rare and restricted to a few low lying ridges.



*Figure 4: Hawkwood landscape (looking north)*

The region has a subtropical climate without a distinctive dry season, although most of the rain does occur in summer.

The average annual rainfall is 763 mm with an average of 48 rain days per year. December and January are the wettest months (100-110 mm) and August and September the driest (30-35 mm of rain on average).

The hottest months occur between December and February (inclusive) with maximum temperatures averaging over 32° C. By contrast, the winters are moderate with the mean daily maximum for July, the coldest month, being 22°C and the mean daily minimum approximately 6°C.

In summary, Hawkwood has an effective 12 month operating season with very little risk of climatic conditions negatively impacting future activities.

## **6. Exploration Rationale**

The mineral deposit type to be explored for at Hawkwood is a copper-rich variant of a Skaergaard-type layered mafic complex.

Past exploration has shown that copper mineralisation is associated with layered magnetite rich cumulates within an olivine ferri-gabbro. Chalcopyrite is the principal copper sulphide

mineral and appears to occur in association with elevated Pt, Pd and Au values and possibly spatially related to acid dykes.

## 7. Geological Data

### 7.1. Regional Geology

The property is located within the Auburn Subprovince of the northern New England Fold Belt (1:250,000 Mundubbera sheet). The Auburn Subprovince is a Late Devonian to Early Carboniferous Andean-style volcanic arc situated between Yarrol Province to the east and the Bowen Basin to the north-west.

The Auburn Subprovince comprises the Narayen Beds and various intrusive rocks of the Rawbelle Batholith. The Narayen Beds are early Permian dominantly andesitic (and lesser rhyolitic) conglomerate or breccia, sandstone, lava flows, siltstone, limestone, and chert. Intrusives include Permo-Triassic Greencoat Monzonite, Mt Saul Adamellite and the Hawkwood / Delubra Gabbro laccolithic intrusive complex.

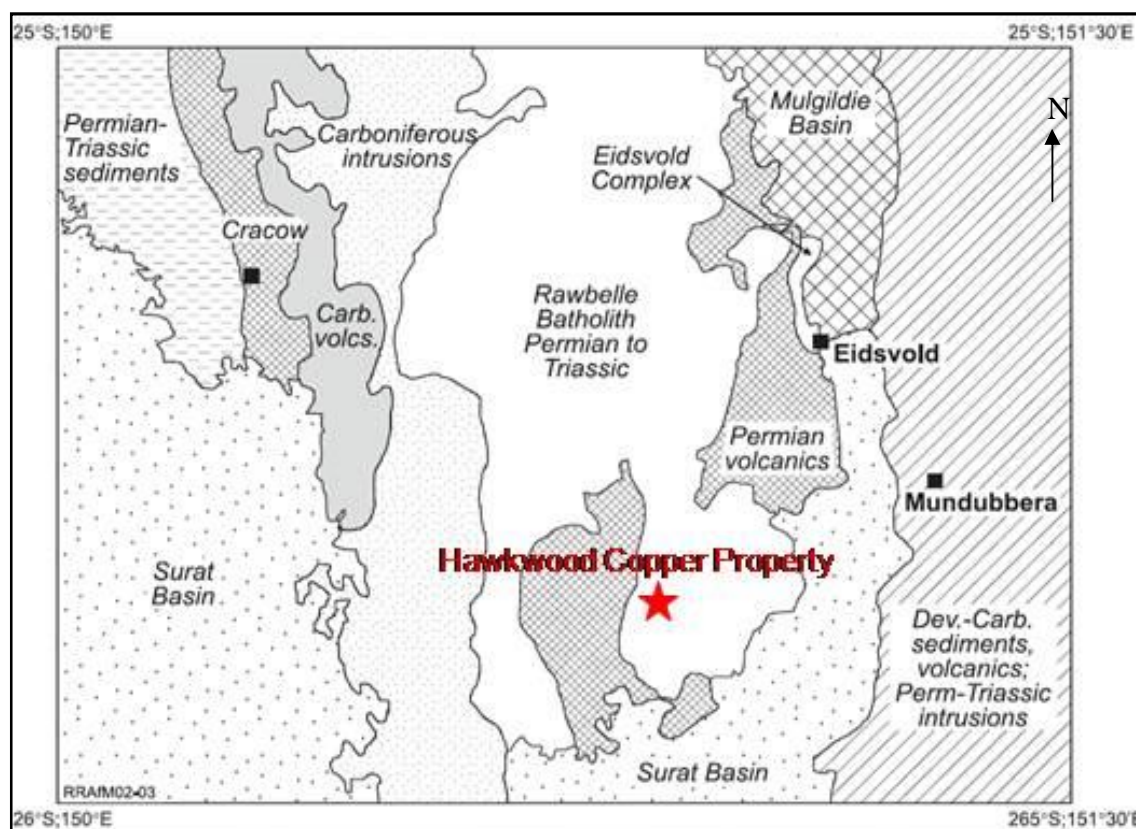


Figure 5 Regional Geology

### 7.2. Local Geology

The majority of Hawkwood is underlain by the Early Permian Narayen Beds (which has strong affinities with the Camboon Andesite at the adjacent Cracow mining district (900,000 oz gold) and comprises a basal sedimentary sequence overlain by andesite.



The Narayan Beds form a roof pendant to the multiphase intrusions of the Late Permian to Early Triassic, Rawbelle Batholith and are intruded on all sides by various granite, granodiorite, adamellite and gabbroic bodies (including the Hawkwood and Delubra gabbros).

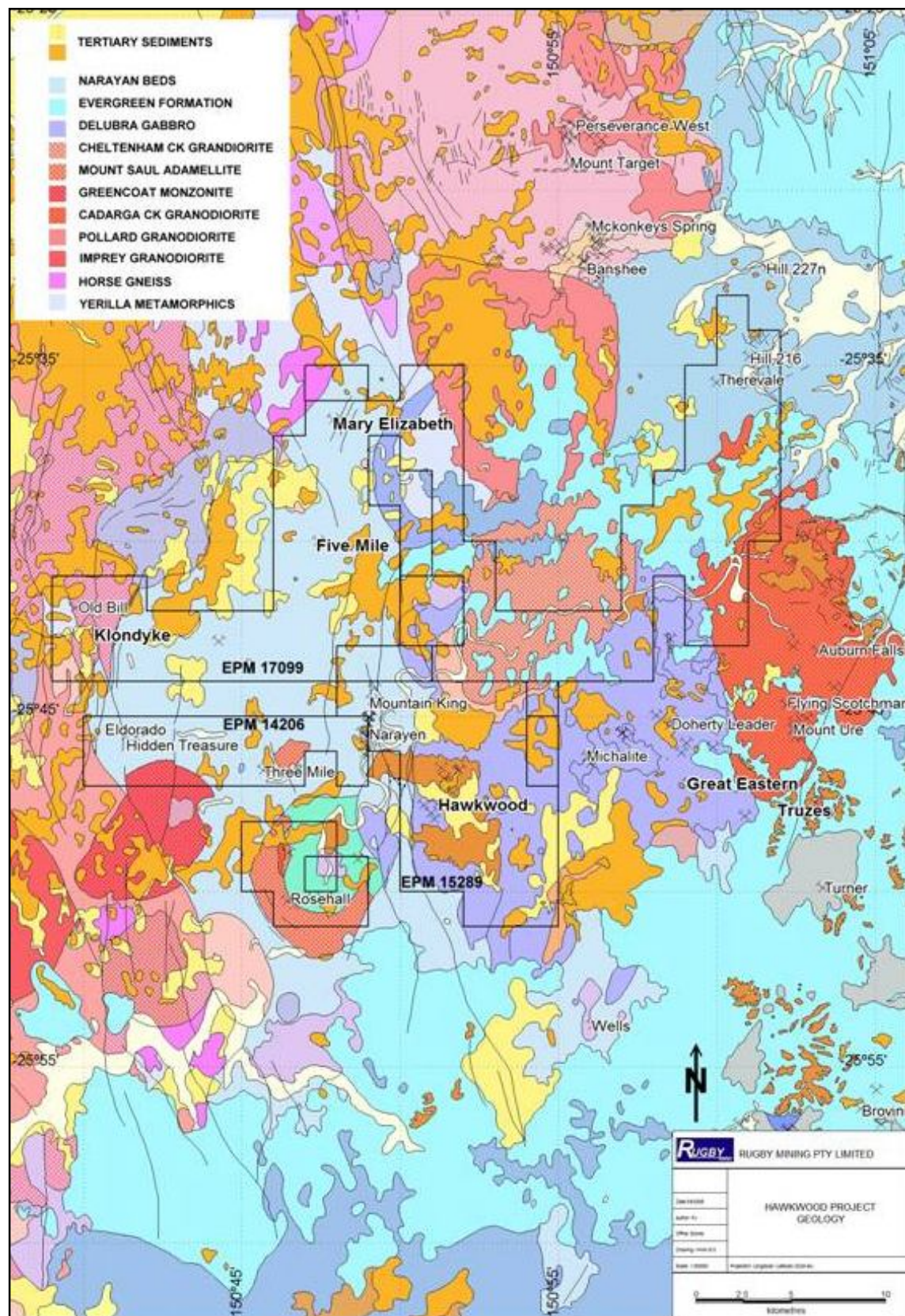


Figure 6: Local and property geology

The Mid Triassic Mount Saul Adamellite, associated ring dykes and resurgent Morang volcanics intrude all of the above units and it is this caldera-like structure which hosts the adjacent Rosehall epithermal gold prospect.

The Hawkwood gabbro is a Late Permian, layered mafic intrusive unit with dimensions measuring 13 km by 8 km. It has a wide variation in composition and texture and can be divided into a lower zone of layered cumulates of magnetite, olivine-augite and augite and an upper portion of gabbroic rocks.

In contrast, the Delubra gabbro is a porphyritic pyroxene-hornblende quartz gabbro with little apparent compositional variation.

Tertiary and recent sediments are common and can be associated with a deep duricrust.

### **7.3. Property Geology**

Hawkwood is located in the southern extension of the Rawbelle Batholith, specifically in the Delubra gabbro and the more southern Hawkwood gabbro. Layering has been identified in the gabbros in the northwest corner of the licence area where high magnetite concentrations have been noted. More commonly observed layering comprise smaller-scale augite-hornblende rich banding alternating with olivine-plagioclase rich bands.

In the north western zone the average dip of the layers is reported to be 20° south, however, the dip appears to be more variable in the remainder of the property area.

Geochemical studies have shown a relationship between magnetite content, PGE mineralisation and sulphidation. Additionally, there is a positive correlation between copper and sulphur and copper and PGE occurrence.

Volcanics and sediments of the Narayen Beds occur in the southeast and southwest of the licence area as does an olivine basalt overlying part of the Delubra gabbro and Narayen Beds.

A series of north-northwest trending, east dipping thrust faults are interpreted to occur in the western part of the licence area resulting in a faulted contact between the gabbros and Narayen Beds.

## **8. Deposit Type**

The mineral deposit type to be explored for at Hawkwood is a copper-rich variant of a Skaergaard-type layered mafic complex.

Past exploration has shown that copper mineralisation is associated with layered magnetite rich cumulates within an olivine ferri-gabbro. Chalcopyrite is the principal copper sulphide mineral and appears to occur in association with elevated Pt, Pd and Au values and possibly spatially related to acid dykes.

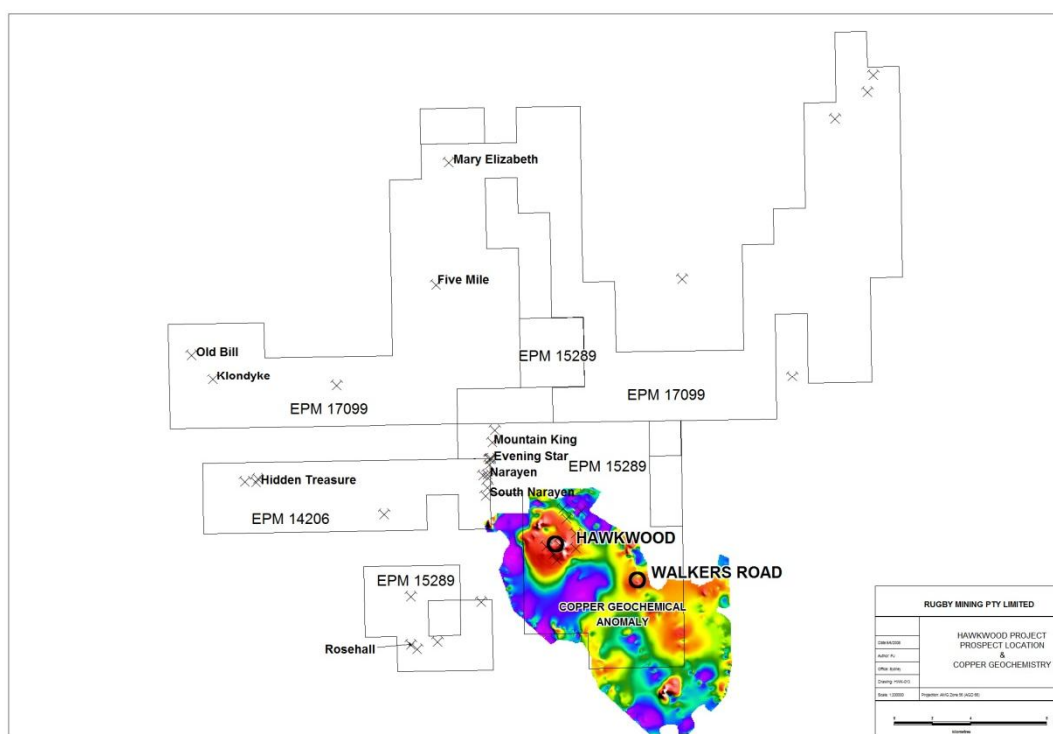
Anomalies of elevated copper values returned in soil geochemical surveys are considered to be the dispersion haloes related to the supergene enrichment of the primary sulphide mineralisation, as intersected in trench and drill samples.

The Company intends to test these concepts in their proposed exploration programme.

## 9. Mineralisation

### 9.1. Walkers Road & Hawkwood Copper Prospects

The Walkers Road and Hawkwood copper prospects are situated within EPM 15289. Their location is shown in Figure 3 and 4.



*Figure 7: Prospect Location*

The main iron oxide mineral exposed in trenching is haematite which is considered to be a weathering product of primary magnetite and Fe/Cu sulphides. This is supported by traces of remnant magnetite exposed in saprolitic basement rocks. Mineralogical layering forms shallow dipping to sub-horizontal zones.



The saprolitic host is mottled and white to purple-grey in colour reflecting the dominance of kaolinite. Quartz in the form of veining is not uncommon and presently thought to be associated with a late alteration event.

The base of anomalous Cu ( $>0.1\%$ ), Pt and Pd ( $>0.1\text{ppm}$ ) appears to correspond to the base of the highly weathered upper saprolite, which is characterised by manganese oxides in addition to haematite and pedogenic carbonate. Drilling indicates the width of this upper zone is in the order of 12 m.

The one anomaly drilled to date has dimensions in the order of 90 m by 50 m by 20 m and is open at depth and to the northwest along an interpreted thrust fault.

The potential for additional mineralised zones is suggested by the presence of numerous Cu-Pt-Pd anomalies in soil geochemical data.

## 9.2. Hawkwood Iron Prospect

The Hawkwood gabbro contains magnetite that is concentrated in layers and pods which dip shallowly to the south. As many as four layers are present over a 60 m vertical interval. The range of thickness in the drilled area is from 3 m to 18 m and the iron content ranges from 10% Fe to 42% Fe. Most drilling has been conducted on the margin of a strong magnetic feature associated with the gabbro and the very high magnetic susceptibilities may be derived from a magnetite cumulate concentration in more mafic/ultramafic parts of the intrusion.

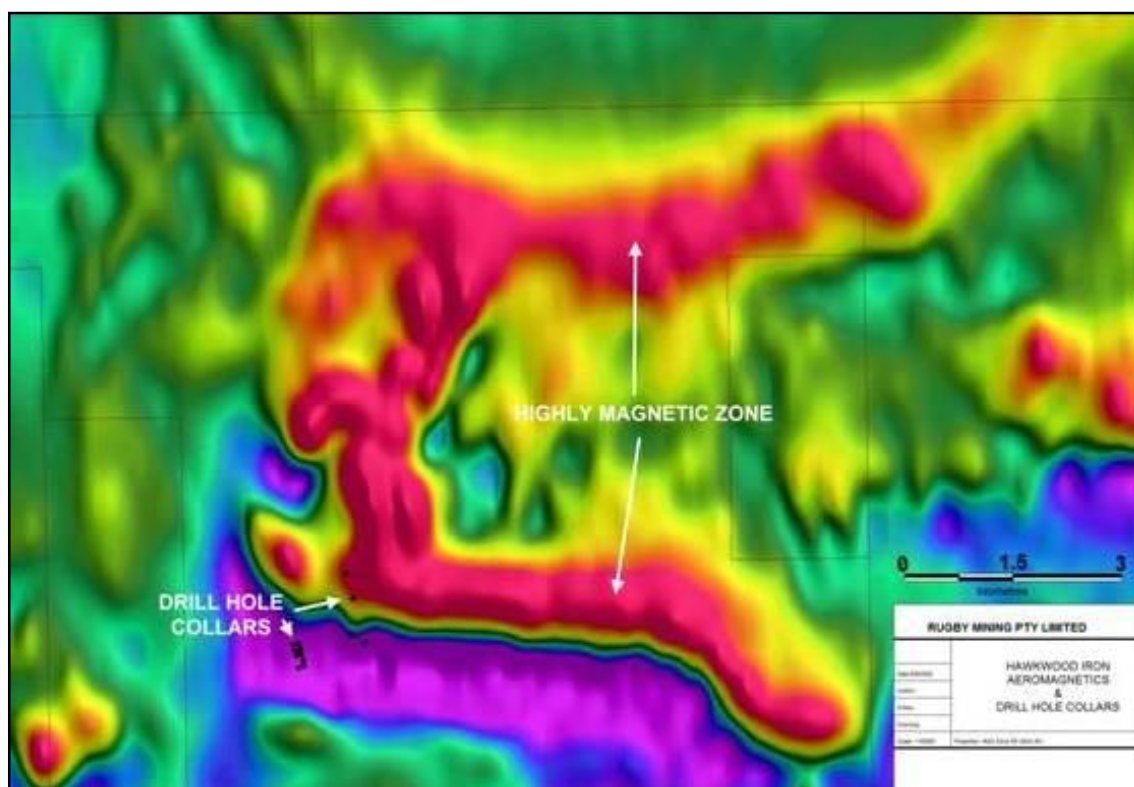


Figure 8: Hawkwood iron prospect aeromagnetics

### **9.3. Surrounding Rock Types**

Although outcrop is very sparse within and immediately adjacent to the licence area, drilling and trenching has intersected coarse to very coarse leucogabbro in the vicinity of the supergene mineralisation. Mafic layering within the gabbro is reflected by the occurrence of bands and anatomising laminations of iron and manganese oxides dipping gently northwest. Less common lithologies include dolerite and pegmatite dykes.

### **9.4. Regolith and Weathering Profile**

Transported and residual soil profile varies from 1.0 m to 6.0 m in depth and immediately overlies a highly weathered, saprolitic layer characterised by pedogenic carbonate nodules. Depth of the saprolite is not well defined but is generally greater than 16 m.

### **9.5. Geological Controls**

As discussed, primary mineralisation is considered to be related to the original mineralogical layering within the gabbro.

Secondary mineralisation is related to supergene enrichment in the well developed weathering profile. Structural features such as the interpreted northwest trending thrust fault may also enhance the development of the supergene zone at depth.

## **10. Exploration Program**

### **10.1. Previous Exploration**

The most recent copper and gold exploration was conducted by Newcrest who targeted volcanic hosted epithermal or porphyry gold-copper deposits.

Prior to Newcrest, copper exploration was also conducted in the late 1990's to early 2000's and included a variety of geochemical surveys (soil, rock chip, stream sediment and trench sampling), geophysics (aerial and ground electro-magnetic surveys) and some drilling (RC and RAB).

This work was successful in delineating a shallow zone of oxide copper mineralization with trench samples returning values up to 0.55% Cu over 3 m and drilling intersections up to 20 m at 0.51% Cu from a depth of 2 m.

Exploration for elements other than copper was focused on magnetite and gold. From 1967 to 1989 various companies explored the Hawkwood iron prospect drilling 16 diamond holes totalling 1,240m and completing aeromagnetic and ground magnetometer surveys. Gold



exploration was previously conducted in the vicinity the old workings at Main Top and Narayen (located within EPM 14206 and 15289) and adjacent prospects including Truzes, Great Eastern, Five Mile, Mary Elizabeth and Klondyke.

## 10.2. Historical Estimates

Hawkwood is an early stage exploration property, hence does not contain any current or historical estimates of copper mineral resources or mineral reserves.

However, with respect to iron, several historical estimates of the Hawkwood iron prospect have been made based on historical drilling and the interpretation of regional and ground magnetic data (Table 2). These estimates range in size up to 500 million tonnes at grades between 19% Fe and 25% Fe. The mineral resource categories applied to these historical estimates remains unclear and therefore they are not able to be classified according JORC

The historical mineral resource estimates should not be relied upon and their relevance extends only as an indication of potential.

Year	Company	Tonnes*	Grade*	Source
1968	Geological Survey of Queensland	Approx 20 million	25% Fe, 2.0% Ti	Departmental Diamond Drilling Program, Magnetite Deposits, Hawkwood Area. Queensland Government Mining Journal 1968, Vol 69
1971	Thiess Peabody, Mitsui Coal Pty Ltd	Approx 500,000	23%	Child and Davis, 2000 (see Section 20, Sources of Information).
1989	United Reefs NL	Approx 100 to 200 million	25% (assumed)	Child and Davis, 2000 (see Section 20, Sources of Information).
1999	Pan Australian Exploration Pty	Approx 200 to 500 million	25% (assumed)	Child and Davis, 2000 (see Section 20, Sources of Information).
* Not JORC compliant				

*Table 3 Historical mineral resource estimates*

## 10.3. Previous Mining

Historical gold production from the Hawkwood region is reported at approximately 75 kg of gold mined from quartz reef/vein-related mineralisation. However, it is not well understood how much production was derived from within the areas covered by EPM 15289.

## **11. Work Conducted and Recommendations**

The work carried out by Rugby during the period includes:

- Acquisition and preliminary evaluation and interpretation of available airborne magnetic data
- Execution of land-owner access and compensation agreements.
- Bedrock sampling on the Hawkwood Grid, where a total of 119 bedrock auger holes were drilled on 200m x 200m spaced intervals. This program defined a >500ppm copper geochemical anomaly over an area of 200m x 1,200m, with a maximum assay of 1,850ppm copper.
- A reconnaissance program along existing roads and tracks was also conducted to locate outcropping iron mineralization within highly magnetic aeromagnetic anomalies identified by previous aeromagnetic surveys. A total of 9 rockchip samples were collected of iron mineralization and assays ranged from 24.9% to 52.1% iron.

### **11.1. Geophysics**

Rugby acquired the historic magnetic data using imaging consultant Geolmage of Brisbane. One of the principal objectives of this study is to determine the extent of potentially mineralised mafic intrusive complexes within the tenement package. Much of the tenure is overlain by Tertiary to Recent duricrust deposits and locally basalt. Magnetic interpretation is required to assess the extent of the Delubra Quartz Gabbro which is reported to host anomalous platinum group elements, copper, gold and iron.

The geological interpretation used to assist the study was derived from the Queensland Government Central Queensland Region Geoscience Data Set (Version 2, June 2005), known as the Yarrol-Connors-Auburn GIS. The eastern part of the tenement package is underlain by a number of intrusive complexes, notably the Cadarga Creek Granodiorite, the Cheltenham Creek Granodiorite and the Delubra Quartz Gabbro all considered to be Late Permian to Early Triassic in age. In contrast the western part is largely underlain by Early Permian andesitic volcanoclastic rocks of the Narayan Beds. These are intruded to the southwest by the Greencoat Monzonite (Late Permian) and intruded and overlain by the Mount Saul Adamellite and Morang Volcanics (Late Triassic). See Figure 15.

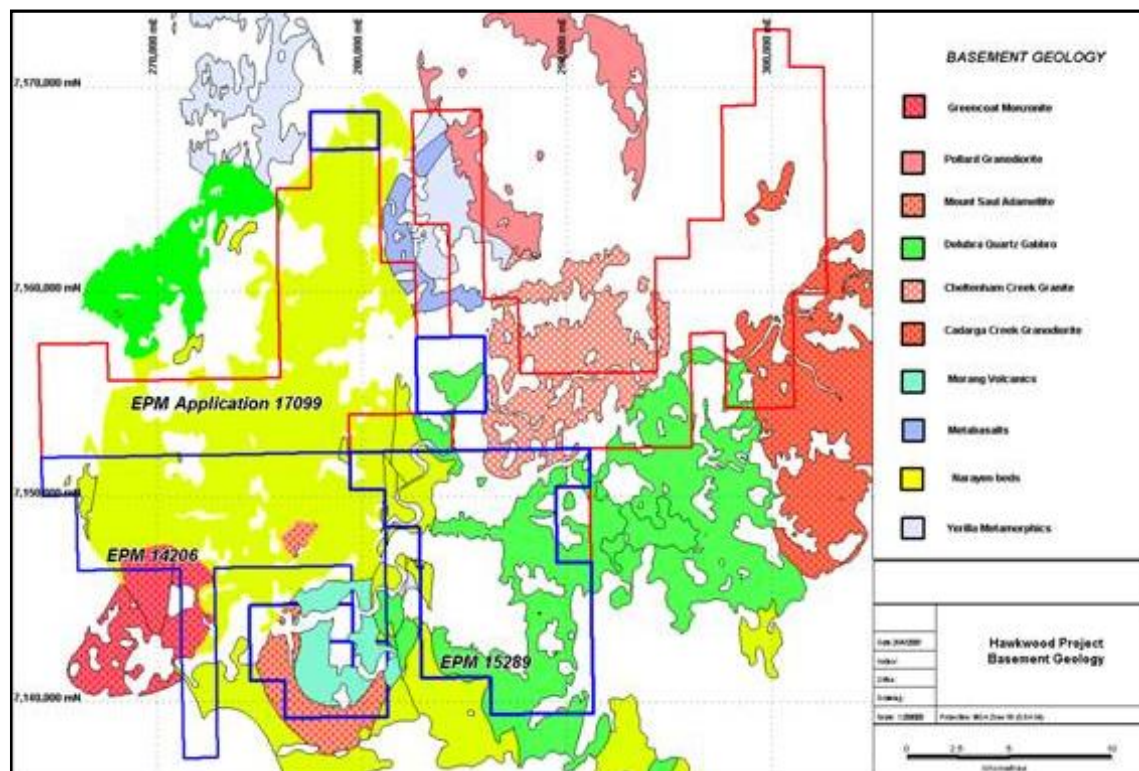


Figure 9: Hawkwood Project basement geology

#### 11.1.1. Processing by Geolmage

The Rio Tinto Exploration Hawkwood openfile survey was received as located and gridded data from the Queensland Department of Mines and Energy (QDME) and the Mundubbera survey was downloaded as located data from Geophysical Archive Data Delivery System (GADDs).

The magnetics located data of the Hawkwood survey was microlevelled using Intrepid to a subset of the gridded Mundubbera magnetics over the same area. The microlevelled Hawkwood located data and the Mundubbera located data were then combined. All processing was done in AGD66/TMAMG56. After merging of the located data the eastings and northings were converted to GDA94/MGA56.

There is still some residual levelling problems in the coincident Hawkwood-Mundubbera that appear similar to heading errors. These may be due to different flying heights of the surveys (80 metre for Mundubbera and 105 for Hawkwood) or differences in accuracies of the coordinate readings at the sampling points.

The combined located magnetics data was gridded in Intrepid at 37.5-metre resolution over the coincident Hawkwood-Mundubbera area and at 75-metre resolution over the complete combined survey. The 75-metre grid was extrapolated to 37.5 metres and stitched to the coincident Hawkwood-Mundubbera grid using Intrepid. The resultant 37.5 metre resolution grid was then stitched into a regional grid stitch of the QDME surveys held in archive.

The first vertical derivative (VD1), second vertical derivative (VD2) and reduced to pole (RTP) grids were calculated from the magnetics grid stitch (referred to herein as Regional) shown above using Intrepid. The first vertical derivative (RTP VD1) of the RTP was also calculated using Intrepid.

In addition to the magnetics, a subset of the Shuttle Radar Topography Mission (SRTM) DEM is provided.

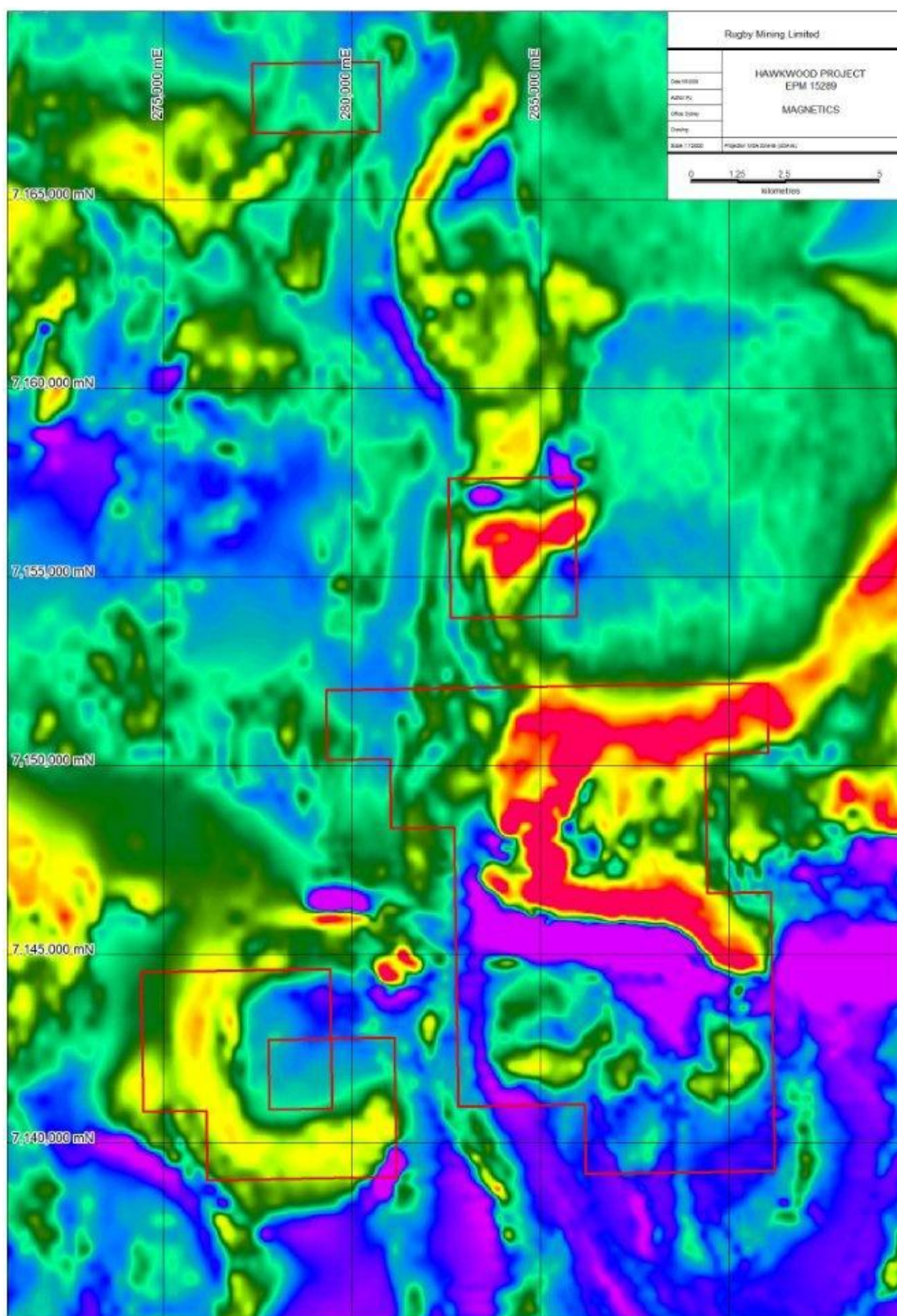


Figure 10: Hawkwood Magnetics



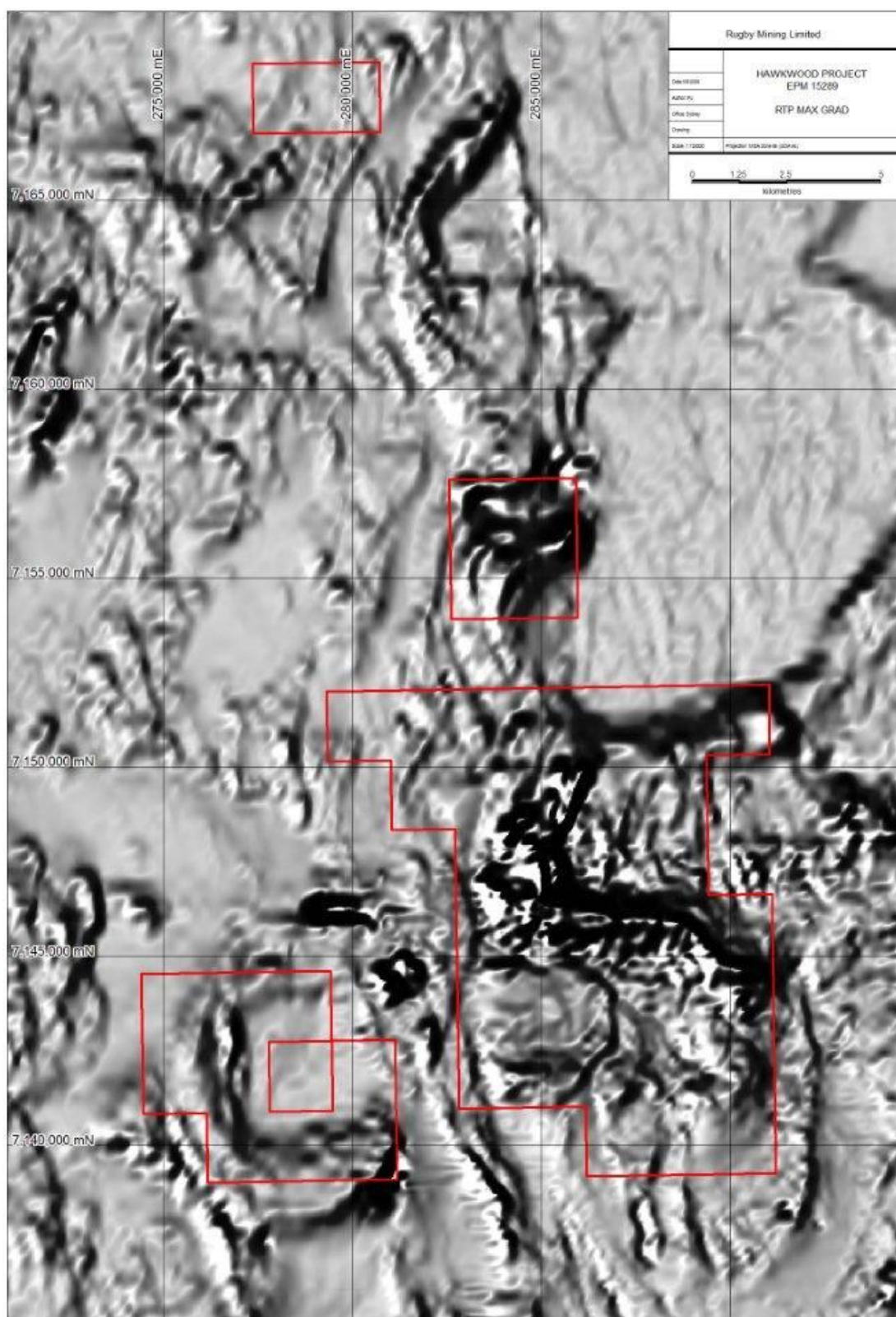


Figure 11: Hawkwood Magnetics (Greyscale RTP maximum gradient)

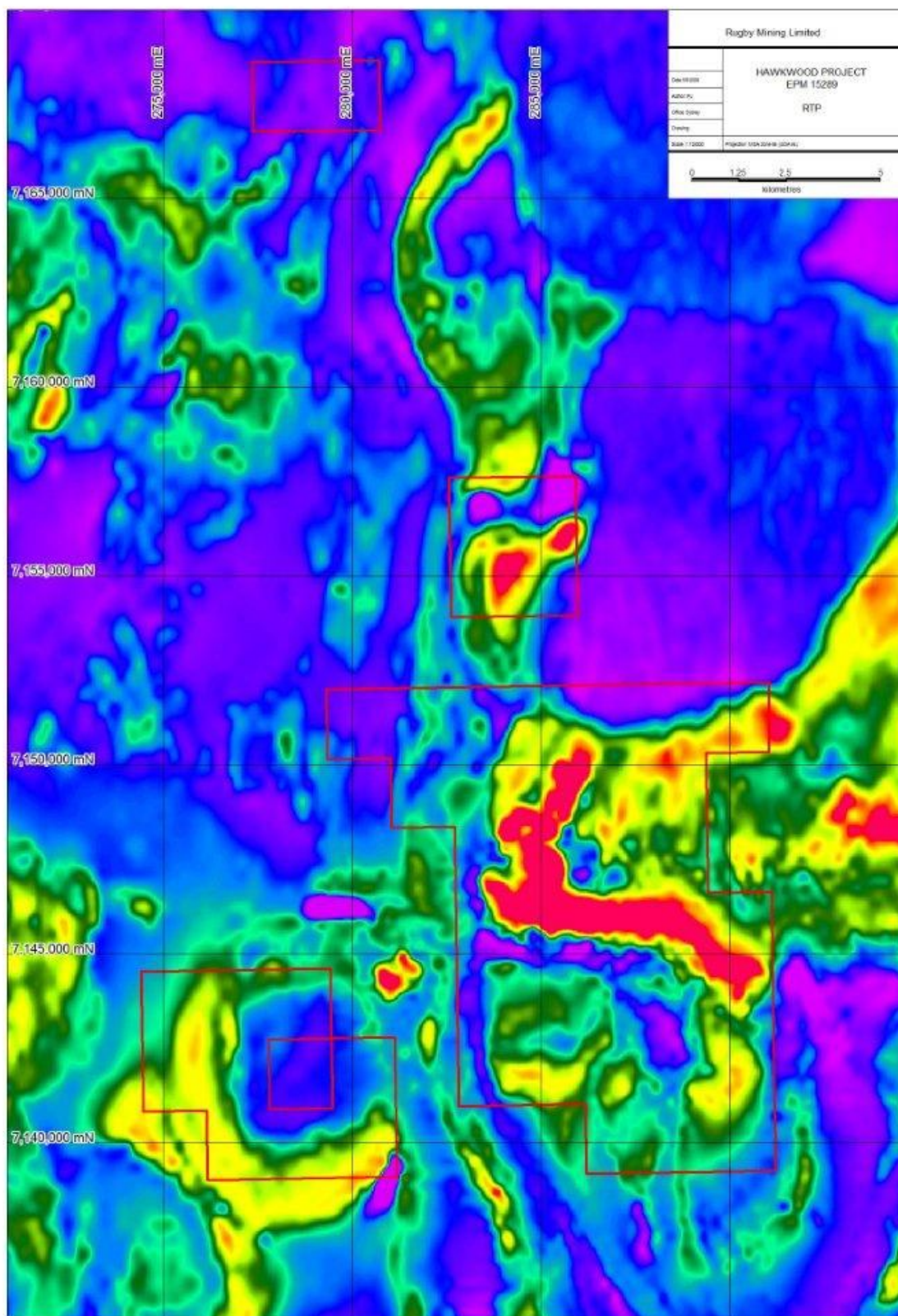


Figure 12: Hawkwood Magnetics (Coloured RTP maximum gradient)



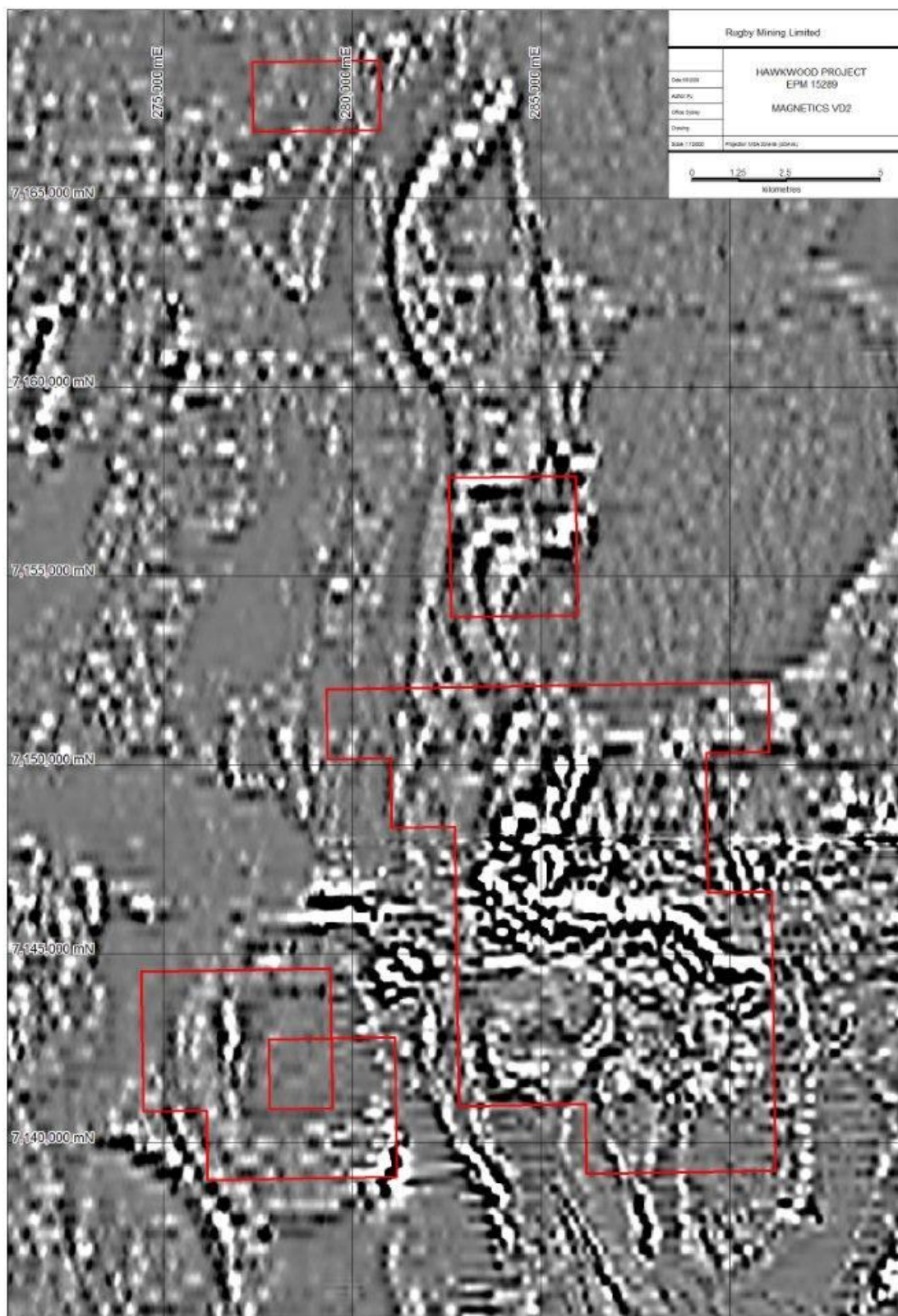


Figure 13: Hawkwood Magnetics (vd2 – Greyscale VD2 of mag)



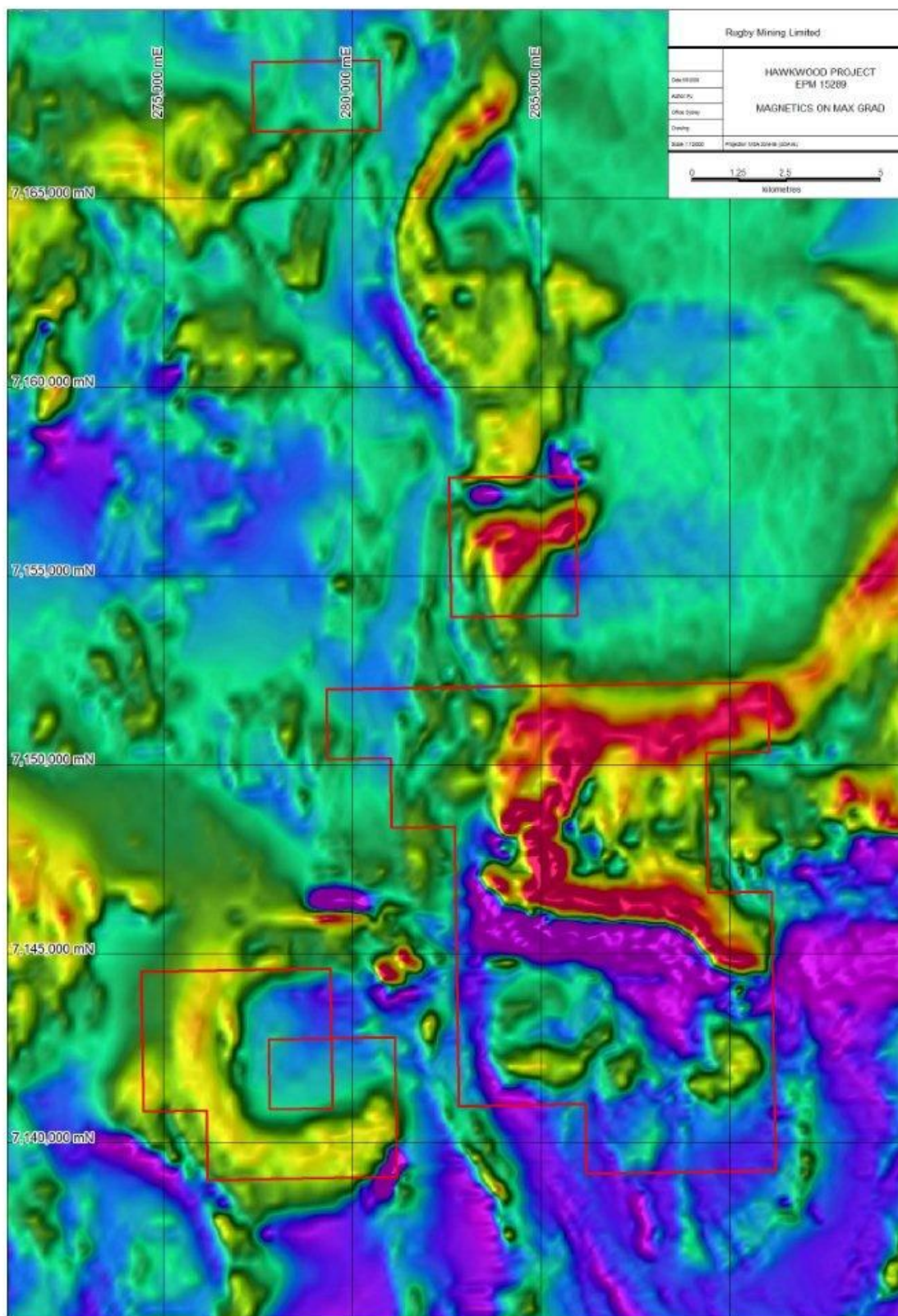


Figure 14: Hawkwood Magnetics  
(mag\_on\_maxgrad – Coloured mag draped on mag maximum gradient)

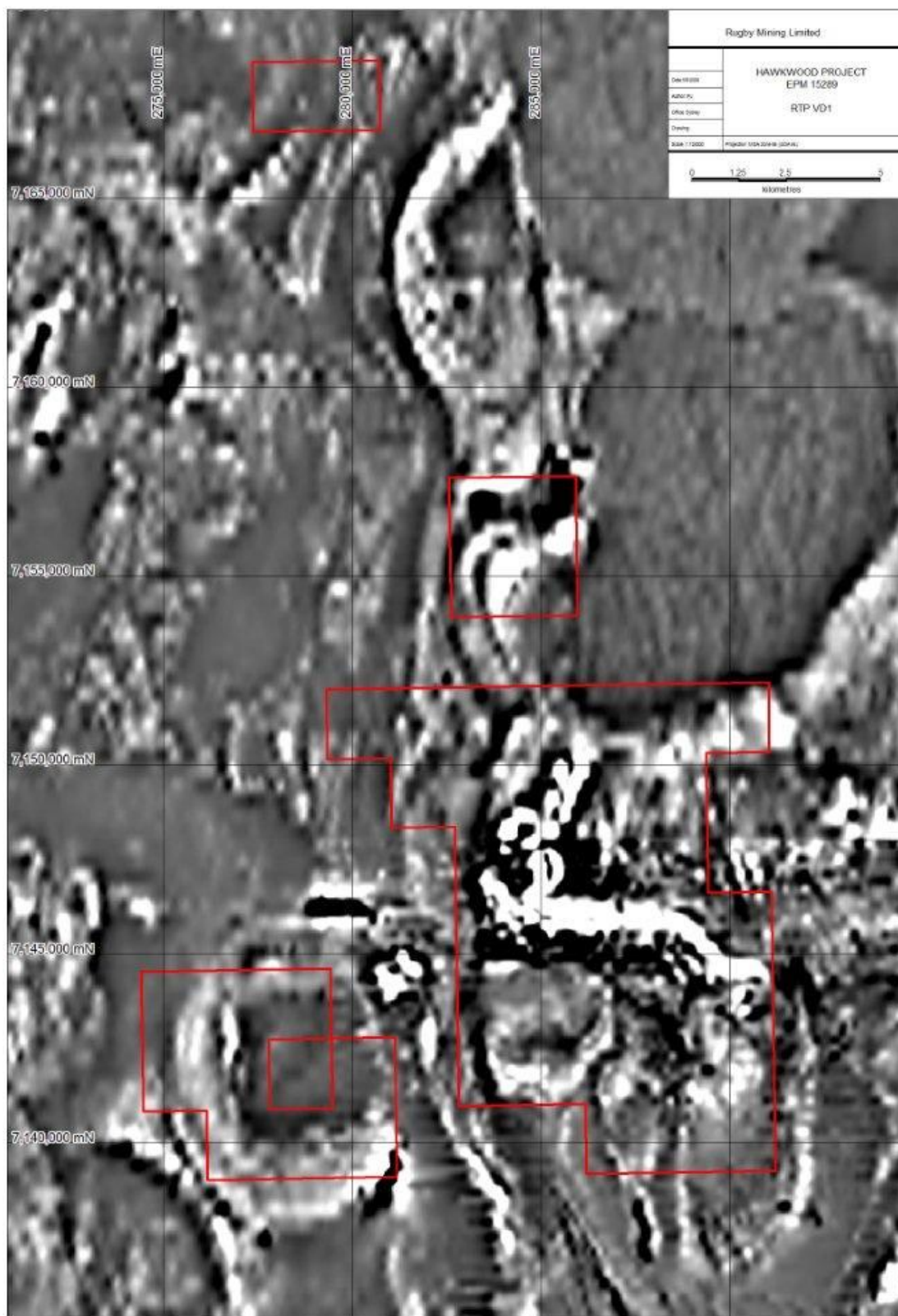


Figure 15: Hawkwood Magnetics (Greyscale VD1 of RTP)



### 11.1.2. Aeromagnetic Interpretation

A preliminary unlevelled TMI image derived from this database (Figure 16). Lines were flown at nominal 200m spacing in an east-west orientation.

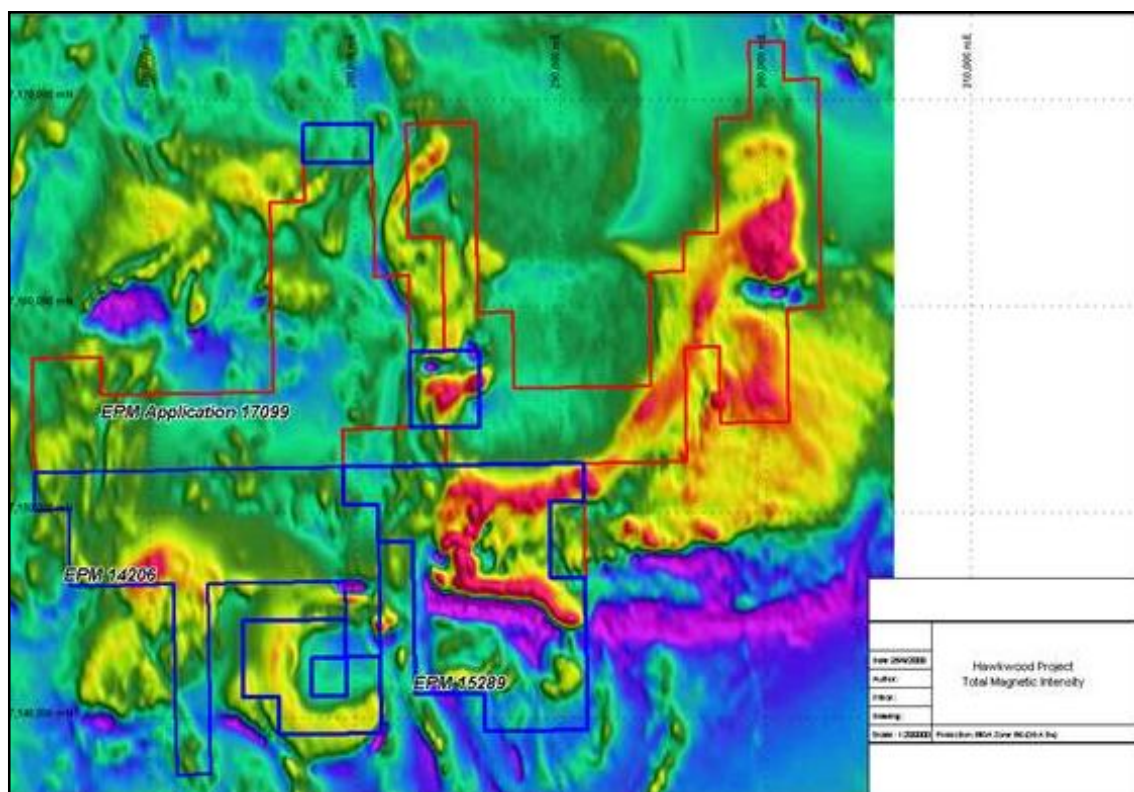


Figure 16: Preliminary TMI image

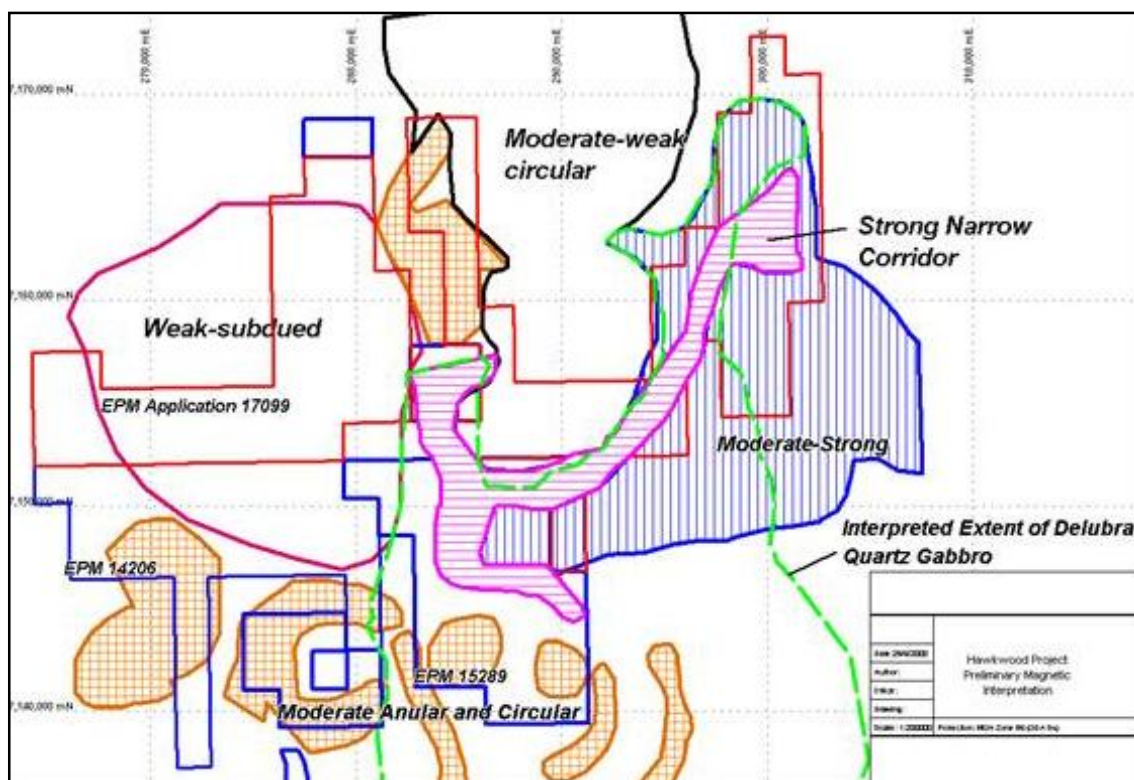


Figure 17: Magnetic interpretation

Interpretation was designed to define broad zones of similar magnetic signature. Comparing and contrasting these with mapped geology. A number of domains were recognised (Figure 17):

1. Strong Narrow Corridor: This is an elongate, narrow zone of high susceptibilities which dominates the central and eastern part of the tenure. In the southernmost part segregations of almost massive magnetite occur and are associated with anomalous copper gold and platinum group elements. This interpretation suggests that this zone lies almost wholly within the Delubra Quartz Gabbro body, the exception being the northeastern-most extent of the corridor which is mapped as Cadarga Creek Granodiorite. A zone of hornfels development within the gabbro, adjacent to the northern Cheltenham Granodiorite is interpreted to explain some of the arcuate high susceptibilities.
2. Moderate-Strong: This is a zone moderate to strong susceptibilities, with a number of small discrete highs. The eastern-most part of this area is mapped as granodiorite, with the west being gabbro. The contact is apparently well mapped in the field, but on this preliminary image of TMI is largely not detected. The only difference between the east and west appears to be the orientation of internal structures; the granodiorite hosts NW-SE trending, whereas the gabbro hosts largely N-S trending magnetic lineaments.
3. Moderate-Weak Circular: This zone is located in the central-northern part of the tenure and consists of two nearly circular non-magnetic features, each some 10km in diameter. The southernmost is mapped as Cheltenham Creek Granodiorite and the northernmost the Pollard Granodiorite. The relationship to the mapped gabbro to the south suggests these are younger intrusions, and the arcuate zone of high susceptibility within the gabbro might be a magnetic hornfels effect.
4. Weak-Subdued: The large area (some 20km in diameter) of low susceptibilities in the western part of the tenure is largely mapped as older volcanoclastic sediments of the Narayan Beds.
5. Moderate Annular and Circular: A belt of circular, annular and arcuate zone of weak to moderate susceptibility extends across the southern part of the tenure. In the west these are clearly associated with intrusions of the same shape. In the east however, at least one arcuate magnetic ridge corresponds to mapped Delubra Quartz Gabbro. A central-northern arcuate feature corresponds to a sequence of metabasalts.

On the basis of this preliminary TMI data and the mapped extent of the Delubra Quartz Gabbro it is suggested that the gabbro is probably made up of a number of differentiated zones each of variable composition and magnetic susceptibility. Field observations confirm this, with outcrops of felsic, locally granitic rocks, encountered within what has been mapped as Delubra Quartz Gabbro.

Very high susceptibilities may be derived from:

- Magnetite cumulate concentration in more mafic/ultramafic parts of the intrusion, or
- The development of magnetite hornfels at the margin of the Cheltenham Creek Granodiorite.

This preliminary study suggests that the gabbro extends beneath cover to the south and that much of EPM 15289 is underlain by gabbro.

## 11.2. Geochemistry

### 11.2.1. Rockchip Sampling

Rugby has undertaken a preliminary rock chip sampling program and a total of 4 rock chip samples were collected from the Hawkwood prospect (Figure 18). Samples were in the order of 0.5 to 2kg in size and either selective grab samples, or rock chips collected from outcrop within a three metre radius of the sample point. Sample preparation, analytical techniques and results are outlined in Appendix 1.

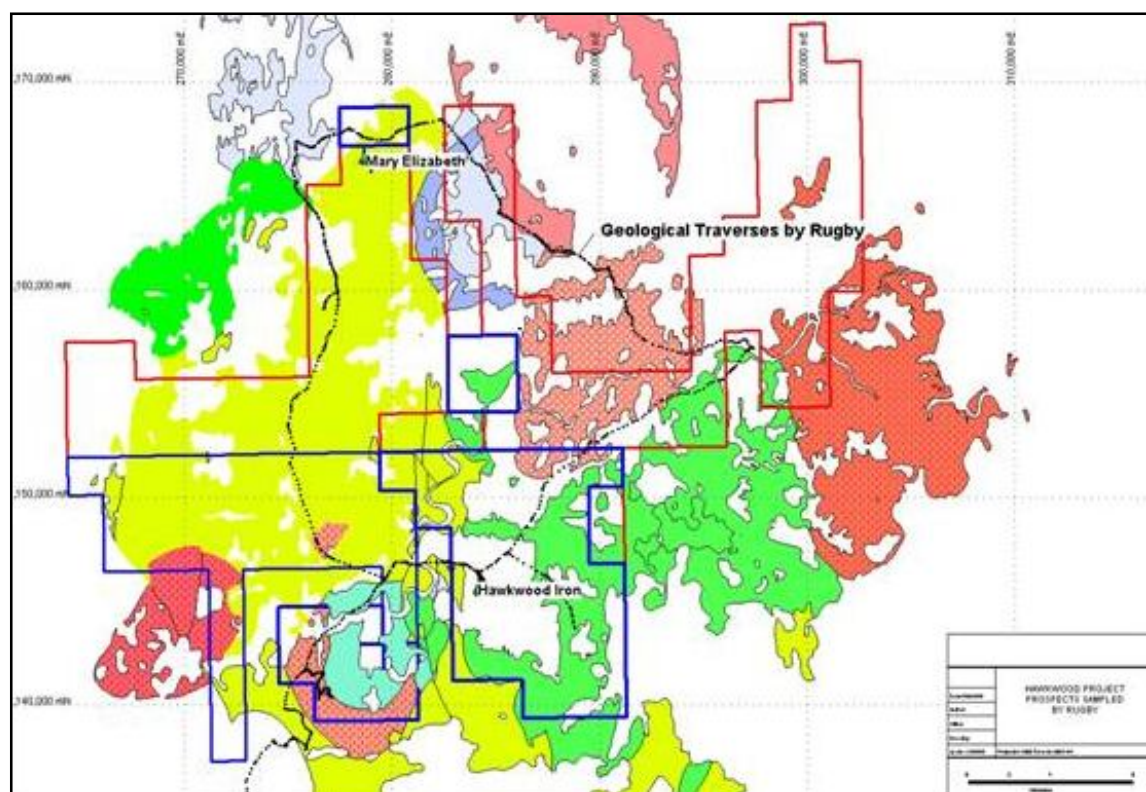


Figure 18: Prospects and sample traverse

The Hawkwood prospect has previously been reported to host elevated iron (as magnetite) and copper mineralisation. It is hosted in the Delubra Quartz Gabbro which, has been reported to host elevated gold and copper in soil samples, notably at the Walkers Road Prospect. A total of four samples were collected from this prospect. These returned anomalous copper to 1820ppm, gold to 0.256ppm, platinum to 0.135ppm, palladium to 0.174ppm and iron to 55.8%. These results suggest anomalous values do occur within parts of the Delubra Quartz Gabbro and generally confirm previous results from this prospect. Assay results are shown in Appendix 1.



*Figure 19: Sampling Magnetite-rich outcrops at the Hawkwood Prospect.  
Sample #437007*

A reconnaissance program along existing roads and tracks was also conducted to locate outcropping iron mineralization within highly magnetic aeromagnetic anomalies identified by previous aeromagnetic surveys. A total of 9 rockchip samples were collected of iron mineralization and assays ranged from 26.0% to 52.1% iron.

Rockchip sample locations and iron assay results are shown on Figure 20. Sample details and analytical result sheets are shown in Appendix 1.



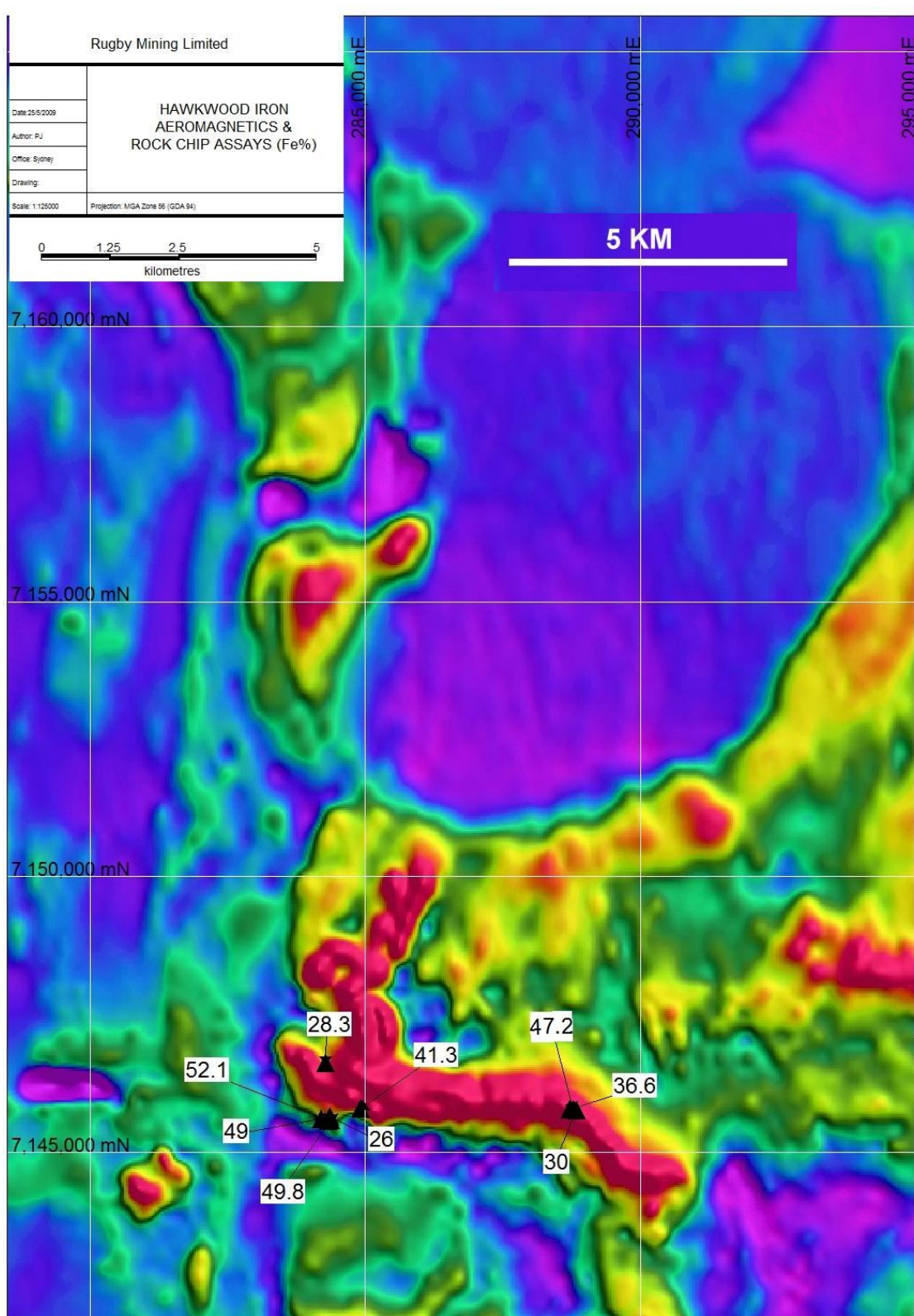


Figure 20: Rockchip sample locations and Fe(%) assay results

### 11.2.2. Bedrock Auger Sampling

A bedrock sampling program using a Dingo mechanical auger drill was conducted on the Hawkwood Grid (Figure 21).



*Figure 21: Bedrock Auger Sampling (Dingo mechanical auger drill)*

A total of 119 bedrock auger holes were drilled on 200m x 200m spaced intervals. The program defined a >500ppm copper geochemical anomaly over an area of 200m x 1,200m, with a maximum assay of 1,850ppm copper (Figure 23).

All samples were photographed and magnetic susceptibility measurements were recorded.



*Figure 22: Magnetic Susceptibility Measurement*



Appendix 2 includes the following details:

- Hole location (UTM AGD66 datum)
- Hole depth
- Sample colour
- Magnetic susceptibility measurements
- Remarks
- Sample photographs
- Analytical result sheets

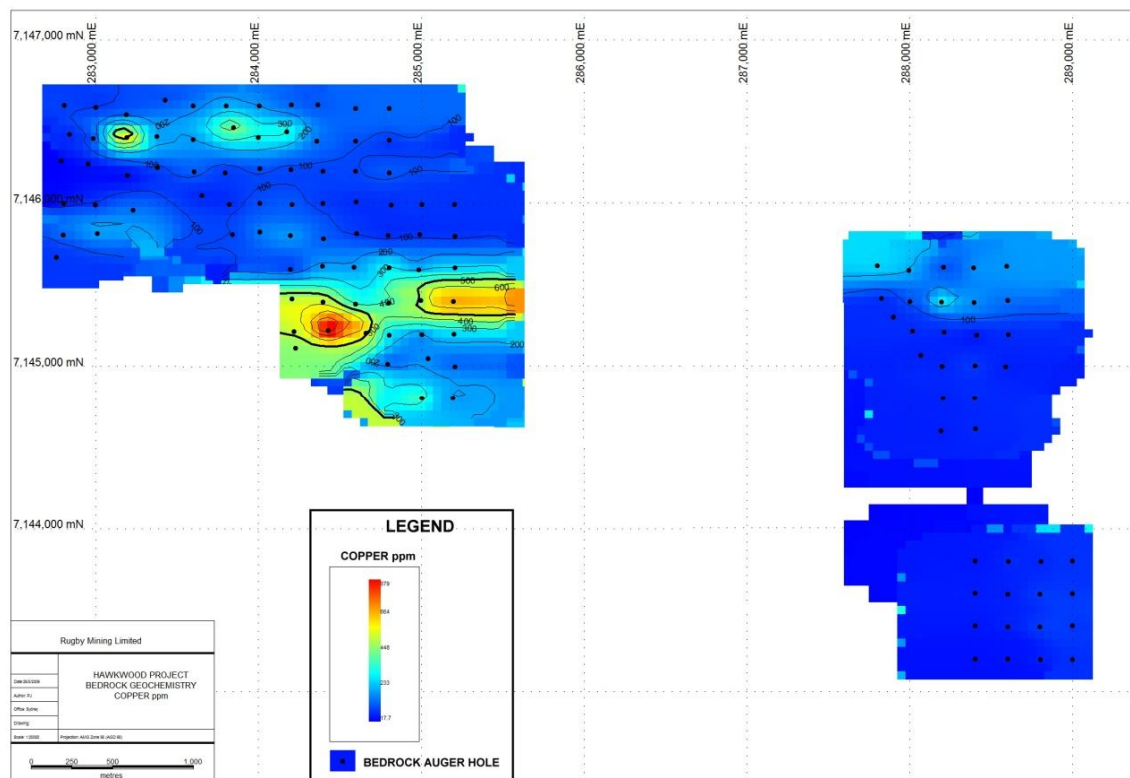


Figure 23: Bedrock Auger Geochemistry – Cu ppm

## 12. Proposed activities

Rugby plans to complete the proposed exploration program to follow up gold, copper and iron targets and expects to drill the targets within the next twelve months, should they be verified by further ground work.

## 13. Significant mineralization identified and related geological or structural features

No new mineralised outcrops or geological features were located within the tenement.

## 14. References

*Child, R. and Davis, L., 2000. Development Proposals for the Hawkwood project (Queensland). Development of the Hawkwood Iron deposit in conjunction with potential power and steel projects, North Burnett Region, Southeast Queensland: Discussion document. Pan Australian Resources N.L. Internal report.*

*Geoserve, Number 18 April/June 2005. Queensland Department of Natural Resources and Mines.*

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*Johnston, A.C., 2001. Annual Report, Hawkwood Project, EPM 10299 for the period 28 September 2000-27 September 2001. Pan Australian Exploration Pty Ltd.*

*Jones, M.R., 2003. Mundubbera 1:250,000 Sheet, Queensland. CRC LEME 2003, Department of Mineral Resources and Mines.*

*Malnic, J., 1994. EPM 4124 Queensland, Hawkwood Area, final report, volume 1. Aluka Pty Ltd*

*Murray, C.2004, Granites of the Northern New England Orogen. The Ishihara Symposium: Granites and Associated Metallogensis. Geological Survey of Queensland.*

*Rivers, C. Pearce, H., 1995. EPM 10299 Hawkwood project annual report for period ending 27/9/95. Cynate Pty Ltd / Terra Firma Resources.*

# **APPENDIX 1**

## **ROCKCHIP GEOCHEMISTRY**

- Sample location (UTM AGD66 datum)
- Analytical result sheets

## Sample Locations and Descriptions

SAMPLE	PROSPECT	East	North	Description
437007	Hawkwood Iron	284116	7145339	Magnetite rich gabbro
437008	Hawkwood Iron	284103	7145360	Magnetite rich gabbro
437009	Hawkwood Iron	284054	7145439	Quartz crystal gossan
437010	Hawkwood Iron	284068	7145436	Magnetite rich gabbro - trace malachite?

## Preparation and Analytical Methods ALS-CHEMEX

CODE	Description
CRU-21	Coarse crushing of rock to 70% nominal -6mm
SPL-21	Split sample using riffle splitter
PUL-23	Pulverise a split or whole sample of up to 250g to 85% passing 75 microns or better
Au-AA26	Au by fire assay and AAS (50g charge)
ME-ICP61a	Four acid digestion ICP-AES
ME-XRF11	Iron ore analyses using lithium metaborate fusion
OA-GRA05t	Loss on ignition. Multitemperature at 1000 degrees
PGM-ICP-24	Pt, Pd, Au using fire assay 50g charge with ICP-AES finish

	<b>WEI-21</b>	<b>Au-AA26</b>	<b>ME-ICP61a</b>	<b>ME-ICP61a</b>	<b>ME-ICP61a</b>	<b>ME-ICP61a</b>	<b>ME-ICP61a</b>	<b>ME-ICP61a</b>	<b>ME-ICP61a</b>	<b>ME-ICP61a</b>	<b>ME-ICP61a</b>	<b>ME-ICP61a</b>	<b>ME-ICP61a</b>	<b>ME-ICP61a</b>
	Recvd Wt.	Au	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe
	kg	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%
	0.02	0.01	1	0.05	50	50	10	20	0.05	10	10	10	10	0.05
437007	3.4													
437008	5.27													
437009	1.66		2	2.76	150	80	<10	<20	0.09	<10	20	30	1820	10.85
437010	1.24		<1	4.64	<50	90	<10	<20	3.83	<10	100	310	730	28.7
	<b>ME-ICP61a</b>	<b>ME-ICP61a</b>	<b>ME-ICP61a</b>	<b>ME-ICP61a</b>	<b>ME-ICP61a</b>	<b>ME-ICP61a</b>	<b>ME-ICP61a</b>	<b>ME-ICP61a</b>	<b>ME-ICP61a</b>	<b>ME-ICP61a</b>	<b>ME-ICP61a</b>	<b>ME-ICP61a</b>	<b>ME-ICP61a</b>	<b>ME-ICP61a</b>
	Ga	K	La	Mg	Mn	Mo	Na	Ni	P	Pb	S	Sb	Sc	Sr
	ppm	%	ppm	%	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm
	50	0.1	50	0.05	10	10	0.05	10	50	20	0.1	50	10	10
437007														
437008														
437009	<50	0.3	<50	0.06	150	<10	1.83	10	90	<20	0.2	<50	<10	20
437010	<50	0.1	<50	6.62	2790	<10	0.33	90	130	30	0.1	<50	30	190
	<b>ME-ICP61a</b>	<b>ME-ICP61a</b>	<b>ME-ICP61a</b>	<b>ME-ICP61a</b>	<b>ME-ICP61a</b>	<b>ME-ICP61a</b>	<b>ME-ICP61a</b>	<b>ME-XRF11</b>	<b>ME-XRF11</b>	<b>ME-XRF11</b>	<b>ME-XRF11</b>	<b>ME-XRF11</b>	<b>ME-XRF11</b>	<b>ME-XRF11</b>
	<b>Th</b>	<b>Ti</b>	<b>Tl</b>	<b>U</b>	<b>V</b>	<b>W</b>	<b>Zn</b>	<b>SiO2</b>	<b>Al2O3</b>	<b>As</b>	<b>Ba</b>	<b>CaO</b>	<b>Cl</b>	<b>Co</b>
	ppm	%	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%	%
	50	0.05	50	50	10	50	20	0.01	0.01	0.001	0.001	0.01	0.001	0.001
437007								27.1	6.86	<0.001	0.012	4.71	0.029	0.015
437008								2.9	3.89	<0.001	0.003	0.11	0.017	0.021
437009	<50	0.13	<50	<50	170	<50	120							
437010	<50	2.17	<50	<50	1210	<50	260							

	ME-XRF11	ME-XRF11	ME-XRF11	ME-XRF11	ME-XRF11	ME-XRF11	ME-XRF11	ME-XRF11	ME-XRF11	ME-XRF11	ME-XRF11	ME-XRF11	ME-XRF11	ME-XRF11
	Cr	Cu	Fe	K2O	MgO	Mn	Na2O	Ni	P	Pb	S	Sn	Sr	TiO2
	%	%	%	%	%	%	%	%	%	%	%	%	%	%
437007	0.001	0.001	0.01	0.001	0.01	0.001	0.01	0.001	0.001	0.001	0.001	0.001	0.001	0.01
437008	0.031	0.059	31.8	0.204	10	0.248	0.59	0.01	0.027	0.003	0.016	<0.001	0.014	3.68
437009	0.211	0.156	55.8	0.086	1.94	0.198	<0.01	0.022	0.006	<0.001	0.064	<0.001	0.002	7.79
437010														
	ME-XRF11	ME-XRF11	ME-XRF11	PGM-ICP24	PGM-ICP24	PGM-ICP24	OA-GRA05t							
	V	Zn	Zr	Au	Pt	Pd	LOI 1000							
	%	%	%	ppm	ppm	ppm	%							
437007	0.001	0.001	0.001	0.001	0.005	0.001	0.01							
437008	0.215	0.024	0.001	0.012	0.042	0.01	0.42							
437009	0.448	0.032	0.001	0.031	0.135	0.174	1.61							
437010				0.256	<0.005	0.004								
				0.061	0.06	0.018								



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Method Analyte Units LOR	ME-ICP43 Pb ppm 1	ME-ICP43 S % 0.01	ME-ICP43 Sb ppm 2	ME-ICP43 Zn ppm 1	Fe-OG46 Fe % 0.01
Sample Description					
STANDARDS					
GBM302-10					5.99
Target Range - Lower Bound					5.88
Upper Bound					6.12
GBM305-11					26.1
Target Range - Lower Bound					
Upper Bound					
GBM999-5	521	0.31	8	118	
Target Range - Lower Bound	483	0.28	<2	98	
Upper Bound	555	0.34	8	122	
ST-345	90	0.03	<2	65	
Target Range - Lower Bound	75	0.19	<2	55	
Upper Bound	94	0.25	4	69	
BLANKS					
BLANK	<1	<0.01	<2	<1	<0.01
BLANK					
Target Range - Lower Bound	<1	<0.01	<2	<1	<0.01
Upper Bound	2	0.02	4	2	0.02
DUPLICATES					
437046	13	0.02	<2	11	
DUP	13	0.02	<2	11	
Target Range - Lower Bound	11	<0.01	<2	9	
Upper Bound	15	0.03	4	13	
437205					25.4
DUP					25.3
Target Range - Lower Bound					25.2
Upper Bound					25.5

Comments: High Fe concentrations cause interferences on Pb by ICP-AES, although a correction has been applied there maybe some error associated with them.



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Project:

P.O. No.:

This report is for 14 Rock samples submitted to our lab in Orange, NSW, Australia on 19-FEB-2009.

The following have access to data associated with this certificate:

PAUL JOYCE

## SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
LOG-22	Sample login - Rcd w/o BarCode
LEV-01	Waste Disposal Levy
CRU-21	Crush entire sample >70% -6 mm
PUL-23	Pulv Sample - Split/Retain
BAG-01	Bulk Master for Storage
SPL-21	Split sample - riffle splitter

## ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
ME-ICP43	Up to 18 element add-on AR Au	ICP-AES
Fe-OG46	Ore Grade Fe - Aqua Regia	VARIABLE
ME-OG46	Ore Grade Elements - AquaRegia	ICP-AES
Au-TL43	Trace Level Au - 25g AR	ICP-MS

To: **RUGBY MINING PTY LIMITED**  
**ATTN: PAUL JOYCE**  
**1 GUNDY PLACE**  
**WESTLEIGH NSW 2120**

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

Comments: High Fe concentrations cause interferences on Pb by ICP-AES, although a correction has been applied there maybe some error associated with them.

Signature:

  
Shaun Kenny, Brisbane Laboratory Manager





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## CERTIFICATE OF ANALYSIS OR09019983

Sample Description	Method Analyte Units LOR	WEI-21 Recvd Wt. kg 0.02	AU-TL43 Au ppm 0.001	ME-ICP43 Ag ppm 0.2	ME-ICP43 As ppm 1	ME-ICP43 Ba ppm 10	ME-ICP43 Bi ppm 2	ME-ICP43 Ca % 0.01	ME-ICP43 Cd ppm 1	ME-ICP43 Co ppm 1	ME-ICP43 Cu ppm 1	ME-ICP43 Fe % 0.01	ME-ICP43 Mg % 0.01	ME-ICP43 Mn ppm 5	ME-ICP43 Mo ppm 1	ME-ICP43 Ni ppm 1
437044		3.78	0.002	<0.2	22	20	16	0.01	<1	<1	6	>20.0	0.02	<5	2	<1
437046		2.98	0.001	<0.2	20	10	16	0.02	<1	<1	4	>20.0	0.03	<5	2	4
437048		4.32	0.001	<0.2	23	20	16	0.03	<1	<1	4	>20.0	0.03	<5	2	<1
437047		1.16	0.028	<0.2	21	40	11	0.03	<1	<1	7	>20.0	0.04	<5	3	3
437048		1.28	0.001	<0.2	77	40	7	0.02	<1	<1	28	>20.0	0.02	49	2	1
437201		6.24	0.001	<0.2	3	50	12	0.03	<1	10	184	>20.0	0.10	401	<1	20
437202		6.02	0.001	<0.2	3	210	9	0.02	<1	16	120	>20.0	0.08	282	<1	26
437203		4.24	0.008	<0.2	2	80	17	0.09	<1	73	761	>20.0	0.54	1435	1	128
437204		3.56	0.011	<0.2	2	110	11	0.58	<1	81	707	>20.0	3.26	1665	<1	108
437205		3.70	0.008	<0.2	2	80	6	0.46	<1	87	630	>20.0	3.31	1365	<1	96
437206		2.80	0.019	<0.2	1	150	8	0.37	<1	53	651	>20.0	1.65	1680	1	52
437351		3.70	0.010	<0.2	1	110	6	0.81	<1	63	782	>20.0	2.68	1340	<1	89
437352		6.50	0.001	<0.2	3	10	16	0.02	<1	30	239	>20.0	0.07	355	1	47
437353		1.46	0.001	<0.2	1	90	17	0.03	<1	47	916	>20.0	0.17	567	1	100

Comments: High Fe concentrations cause interferences on Pb by ICP-AES, although a correction has been applied there maybe some error associated with them.



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Sample Description	Method Analyte Units LOR	ME-ICP43	ME-ICP43	ME-ICP43	ME-ICP43	ME-ICP43	Fe-OG48
		P	Pb	S	Sb	Zn	Fe
		ppm 10	ppm 1	% 0.01	ppm 2	ppm 1	% 0.01
437044		360	29	0.01	<2	4	36.6
437045		300	27	0.01	<2	7	41.3
437046		360	39	0.01	<2	6	47.2
437047		300	33	0.02	<2	5	30.0
437048		620	13	0.02	<2	11	26.0
437201		200	8	0.02	<2	6	49.8
437202		200	8	0.02	<2	6	52.1
437203		<10	7	<0.01	<2	216	49.0
437204		80	5	0.01	<2	64	26.3
437205		180	3	0.01	<2	57	25.4
437206		270	4	0.02	<2	59	27.4
437351		30	4	0.02	<2	56	24.9
437352		240	6	0.01	<2	11	49.6
437353		630	6	0.03	<2	32	51.9

Comments: High Fe concentrations cause interferences on Pb by ICP-AES, although a correction has been applied there maybe some error associated with them.



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Signature:

  
Shaun Kenny, Brisbane Laboratory Manager



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Sample Description	Method Analyte Units LOR	Au-TL43 Au ppm 0.001	ME-ICP43 Ag ppm 0.2	ME-ICP43 As ppm 1	ME-ICP43 Ba ppm 10	ME-ICP43 Bi ppm 2	ME-ICP43 Ca % 0.01	ME-ICP43 Cd ppm 1	ME-ICP43 Co ppm 1	ME-ICP43 Cu ppm 1	ME-ICP43 Fe % 0.01	ME-ICP43 Mg % 0.01	ME-ICP43 Mn ppm 5	ME-ICP43 Mo ppm 1	ME-ICP43 Ni ppm 1	ME-ICP43 P ppm 10
STANDARDS																
GBM302-10																
Target Range - Lower Bound																
Upper Bound																
GBM306-11																
Target Range - Lower Bound																
Upper Bound																
GBM999-5		0.608	>40	3	60	2	0.04	<1	4	508	3.09	0.04	66	3	5	50
Target Range - Lower Bound			53.3	2	30	<2	0.04	<1	2	436	2.59	<0.01	48	2	3	30
Upper Bound			40.0	4	70	4	0.07	2	4	536	3.15	0.03	71	5	5	50
ST-345		0.055	1.3	1	20	3	0.33	1	19	53	1.49	0.10	155	8	38	310
Target Range - Lower Bound		0.047	0.8	<1	<10	<2	0.24	<1	16	47	1.20	0.07	124	6	31	260
Upper Bound		0.063	1.4	2	30	4	0.32	2	21	60	1.48	0.11	162	10	41	340
BLANKS																
BLANK		<0.001	<0.2	<1	<10	<2	<0.01	<1	<1	<1	<0.01	<0.01	<5	<1	<1	<10
BLANK																
Target Range - Lower Bound		<0.001	<0.2	<1	<10	<2	<0.01	<1	<1	<1	<0.01	<0.01	<5	<1	<1	<10
Upper Bound		0.002	0.4	2	20	4	0.02	2	2	2	0.02	0.02	10	2	2	20
DUPLICATES																
437046		0.001	<0.2	77	40	7	0.02	<1	<1	28	>20.0	0.02	49	2	1	620
DUP		<0.001	<0.2	75	40	5	0.01	<1	<1	25	>20.0	0.02	45	2	2	610
Target Range - Lower Bound		<0.001	<0.2	68	30	4	<0.01	<1	<1	25	18.50	<0.01	40	<1	<1	580
Upper Bound		0.002	0.4	83	50	8	0.02	2	2	31	>20.0	0.03	57	3	2	670
437205																
DUP																
Target Range - Lower Bound																
Upper Bound																




Comments: High Fe concentrations cause interferences on Pb by ICP-AES, although a correction has been applied there maybe some error associated with them.

# **APPENDIX 2**




## **BEDROCK AUGER GEOCHEMISTRY**

- Hole location (UTM AGD66 datum)
- Sample descriptions
- Hole depth
- Magnetic susceptibility measurements
- Sample photographs
- Analytical result sheets

# HAWKWOOD PROJECT - AUGER DRILLING




SAMPLE NUMBER	DATE	SAMPLER	AGD 66 E	AGD 66 N	DEPTH mm	COLOUR	MAGNETIC SUSCEPTIBILITY SI UNITS	REMARKS	PHOTO
342	26-Sep-08	TM, MJ	288600	7143201	600	CHOCOLATE	703	HIT ROCK	
343	26-Sep-08	TM, MJ	288402	7143201	850	ORANGE/BROWN	741		
344	26-Sep-08	TM, MJ	288400	7143404	850	ORANGE/BROWN	713		

# HAWKWOOD PROJECT - AUGER DRILLING




SAMPLE NUMBER	DATE	SAMPLER	AGD 66 E	AGD 66 N	DEPTH mm	COLOUR	MAGNETIC SUSCEPTIBILITY SI UNITS	REMARKS	PHOTO
345	26-Sep-08	TM, MJ	288402	7143604	800	ORANGE/BROWN	489		
346	26-Sep-08	TM, MJ	288402	7143801	900	ORANGE/BROWN	682		
347	26-Sep-08	TM, MJ	288603	7143798	900	ORANGE	220	DARK TOP LIGHT UNDER	






## HAWKWOOD PROJECT - AUGER DRILLING

SAMPLE NUMBER	DATE	SAMPLER	AGD 66 E	AGD 66 N	DEPTH mm	COLOUR	MAGNETIC SUSCEPTIBILITY SI UNITS	REMARKS	PHOTO
348	26-Sep-08	TM, MJ	288601	7143597	900	ORANGE/BROWN	467		
349	26-Sep-08	TM, MJ	288600	7143399	550	ORANGE/BROWN	997	HIT ROCK	
350	26-Sep-08	TM, MJ	288802	7143198	500	RED/BROWN	2109	HIT ROCK	




# HAWKWOOD PROJECT - AUGER DRILLING

SAMPLE NUMBER	DATE	SAMPLER	AGD 66 E	AGD 66 N	DEPTH mm	COLOUR	MAGNETIC SUSCEPTIBILITY SI UNITS	REMARKS	PHOTO
351	26-Sep-08	TM, MJ	288998	7143197	700	RED/BROWN	1601	HIT ROCK	
352	26-Sep-08	TM, MJ	288998	7143404	620	RED/BROWN	2061	HIT ROCK	
353	26-Sep-08	TM, MJ	288999	7143602	450	RED/BROWN	987	HIT ROCK - ROOT	




## HAWKWOOD PROJECT - AUGER DRILLING

SAMPLE NUMBER	DATE	SAMPLER	AGD 66 E	AGD 66 N	DEPTH mm	COLOUR	MAGNETIC SUSCEPTIBILITY SI UNITS	REMARKS	PHOTO
354	26-Sep-08	TM, MJ	288998	7143802	450	ORANGE/BROWN	1546	HIT ROCK	
355	26-Sep-08	TM, MJ	288805	7143800	800	RED/BROWN	1193		
356	26-Sep-08	TM, MJ	288799	7143597	500	RED/BROWN	990	HIT ROCK	

## HAWKWOOD PROJECT - AUGER DRILLING




SAMPLE NUMBER	DATE	SAMPLER	AGD 66 E	AGD 66 N	DEPTH mm	COLOUR	MAGNETIC SUSCEPTIBILITY SI UNITS	REMARKS	PHOTO
357	27-Sep-08	TM, MJ	288799	7143397	480	RED/BROWN	1009	HIT ROCK	
358	27-Sep-08	TM, MJ	288404	7144613	700	LIGHT BROWN	239		
359	27-Sep-08	TM, MJ	288397	7144802	650	BROWN	212	HIT ROCK - CLAY	

## HAWKWOOD PROJECT - AUGER DRILLING




SAMPLE NUMBER	DATE	SAMPLER	AGD 66 E	AGD 66 N	DEPTH mm	COLOUR	MAGNETIC SUSCEPTIBILITY SI UNITS	REMARKS	PHOTO
360	27-Sep-08	TM, MJ	288589	7144996	750	LIGHT BROWN	200	ROCKY	
361	27-Sep-08	TM, MJ	288401	7145003	750	BROWN	1047		
362	27-Sep-08	TM, MJ	288198	7145001	550	BROWN	168	HARD CLAY	






## HAWKWOOD PROJECT - AUGER DRILLING

SAMPLE NUMBER	DATE	SAMPLER	AGD 66 E	AGD 66 N	DEPTH mm	COLOUR	MAGNETIC SUSCEPTIBILITY SI UNITS	REMARKS	PHOTO
363	27-Sep-08	TM, MJ	288017	7145218	800	DARK BROWN	101	HARD CLAY - BLACKSOIL	
364	27-Sep-08	TM, MJ	288209	7145211	740	SANDY	496	ROCKY - HIT ROCK	
365	27-Sep-08	TM, MJ	288410	7145192	400	BROWN	249	ROCKY - HIT ROCK	




## HAWKWOOD PROJECT - AUGER DRILLING

SAMPLE NUMBER	DATE	SAMPLER	AGD 66 E	AGD 66 N	DEPTH mm	COLOUR	MAGNETIC SUSCEPTIBILITY SI UNITS	REMARKS	PHOTO
366	27-Sep-08	TM, MJ	288603	7145193	420	BROWN	391	ROCKY - HIT ROCK	
367	27-Sep-08	TM, MJ	288600	7145405	740	BROWN	570	HIT ROCK	
368	27-Sep-08	TM, MJ	288595	7145613	800	PINK	220		




## HAWKWOOD PROJECT - AUGER DRILLING

SAMPLE NUMBER	DATE	SAMPLER	AGD 66 E	AGD 66 N	DEPTH mm	COLOUR	MAGNETIC SUSCEPTIBILITY SI UNITS	REMARKS	PHOTO
370	27-Sep-08	TM, MJ	288392	7145604	640	CHOCOLATE	274	HIT ROCK	
371	27-Sep-08	TM, MJ	288395	7145391	800	SANDY	2170		
372	27-Sep-08	TM, MJ	288195	7145394	740	BROWN	638	ROCKY	

## HAWKWOOD PROJECT - AUGER DRILLING




SAMPLE NUMBER	DATE	SAMPLER	AGD 66 E	AGD 66 N	DEPTH mm	COLOUR	MAGNETIC SUSCEPTIBILITY SI UNITS	REMARKS	PHOTO
373	27-Sep-08	TM, MJ	288206	7145607	760	LIGHT BROWN	64	SANDY	
374	27-Sep-08	TM, MJ	287993	7145589	650	CHOCOLATE	709		
375	27-Sep-08	TM, MJ	288002	7145398	700	CHOCOLATE	390		

## HAWKWOOD PROJECT - AUGER DRILLING




SAMPLE NUMBER	DATE	SAMPLER	AGD 66 E	AGD 66 N	DEPTH mm	COLOUR	MAGNETIC SUSCEPTIBILITY SI UNITS	REMARKS	PHOTO
376	27-Sep-08	TM, MJ	287827	7145417	740	CHOCOLATE	506		
377	28-Sep-08	TM, MJ	287799	7145616	800	BROWN	671		
378	28-Sep-08	TM, MJ	288191	7144601	700	BROWN	162	BLACK SOIL	






## HAWKWOOD PROJECT - AUGER DRILLING

SAMPLE NUMBER	DATE	SAMPLER	AGD 66 E	AGD 66 N	DEPTH mm	COLOUR	MAGNETIC SUSCEPTIBILITY SI UNITS	REMARKS	PHOTO
379	28-Sep-08	TM, MJ	288205	7144803	700	RED/BROWN	587		
381	28-Sep-08	TM, MJ	288067	7145067	680	DARK BROWN	182		
382	28-Sep-08	TM, MJ	287898	7145301	670	BROWN	148		




# HAWKWOOD PROJECT - AUGER DRILLING

SAMPLE NUMBER	DATE	SAMPLER	AGD 66 E	AGD 66 N	DEPTH mm	COLOUR	MAGNETIC SUSCEPTIBILITY SI UNITS	REMARKS	PHOTO
383	29-Sep-08	TM, MJ	284802	7146580	640	RED/BROWN	2184	HIT ROCK	
384	29-Sep-08	TM, MJ	284803	7146387	900	RED/BROWN	1213		
385	29-Sep-08	TM, MJ	284802	7146185	720	RED/BROWN	2425	HIT ROCK	




# HAWKWOOD PROJECT - AUGER DRILLING

SAMPLE NUMBER	DATE	SAMPLER	AGD 66 E	AGD 66 N	DEPTH mm	COLOUR	MAGNETIC SUSCEPTIBILITY SI UNITS	REMARKS	PHOTO
386	29-Sep-08	TM, MJ	284815	7145989	386	RED/BROWN	1693	HIT ROCK	
387	29-Sep-08	TM, MJ	285002	7145992	720	CHOCOLATE	273		
388	29-Sep-08	TM, MJ	285203	7145992	720	CHOCOLATE	473		
389	29-Sep-08	TM, MJ	285205	7145797	820	ORANGE/BROWN	853		

# HAWKWOOD PROJECT - AUGER DRILLING




SAMPLE NUMBER	DATE	SAMPLER	AGD 66 E	AGD 66 N	DEPTH mm	COLOUR	MAGNETIC SUSCEPTIBILITY SI UNITS	REMARKS	PHOTO
									
390	29-Sep-08	TM, MJ	285207	7145604	750	BROWN	421		
391	29-Sep-08	TM, MJ	285196	7145398	720	LIGHT BROWN	969		

## HAWKWOOD PROJECT - AUGER DRILLING




SAMPLE NUMBER	DATE	SAMPLER	AGD 66 E	AGD 66 N	DEPTH mm	COLOUR	MAGNETIC SUSCEPTIBILITY SI UNITS	REMARKS	PHOTO
392	29-Sep-08	TM, MJ	285199	7145196	800	RED/BROWN	690		
393	29-Sep-08	TM, MJ	285207	7144998	900	RED/BROWN	1496		
394	29-Sep-08	TM, MJ	285194	7144803	740	ORANGE/BROWN	955		






# HAWKWOOD PROJECT - AUGER DRILLING

SAMPLE NUMBER	DATE	SAMPLER	AGD 66 E	AGD 66 N	DEPTH mm	COLOUR	MAGNETIC SUSCEPTIBILITY SI UNITS	REMARKS	PHOTO
395	29-Sep-08	TM, MJ	285004	7144804	880	LIGHT BROWN	1534		
396	29-Sep-08	TM, MJ	285041	7145047	740	BROWN	209		
397	29-Sep-08	TM, MJ	285002	7145195	800	CHOCOLATE	173		




## HAWKWOOD PROJECT - AUGER DRILLING

SAMPLE NUMBER	DATE	SAMPLER	AGD 66 E	AGD 66 N	DEPTH mm	COLOUR	MAGNETIC SUSCEPTIBILITY SI UNITS	REMARKS	PHOTO
398	30-Sep-08	TM, MJ	284996	7145403	800	ORANGE/BROWN	623		
399	30-Sep-08	TM, MJ	284983	7145592	900	ORANGE/BROWN	1457		
400	30-Sep-08	TM, MJ	284989	7145807	880	ORANGE/BROWN	1054		




## HAWKWOOD PROJECT - AUGER DRILLING

SAMPLE NUMBER	DATE	SAMPLER	AGD 66 E	AGD 66 N	DEPTH mm	COLOUR	MAGNETIC SUSCEPTIBILITY SI UNITS	REMARKS	PHOTO
401	30-Sep-08	TM, MJ	284798	7145802	840	LIGHT BROWN	1470		
402	30-Sep-08	TM, MJ	284602	7145815	900	RED/BROWN	1561		
403	30-Sep-08	TM, MJ	284599	7146009	700	RED/BROWN	3256		

## HAWKWOOD PROJECT - AUGER DRILLING




SAMPLE NUMBER	DATE	SAMPLER	AGD 66 E	AGD 66 N	DEPTH mm	COLOUR	MAGNETIC SUSCEPTIBILITY SI UNITS	REMARKS	PHOTO
404	30-Sep-08	TM, MJ	284597	7146194	400	RED/BROWN	5479	HIT ROCK	
405	30-Sep-08	TM, MJ	284596	7146379	800	RED/BROWN	4764		
406	30-Sep-08	TM, MJ	284397	7146197	620	RED/BROWN	3211	HIT ROCK	

## HAWKWOOD PROJECT - AUGER DRILLING




SAMPLE NUMBER	DATE	SAMPLER	AGD 66 E	AGD 66 N	DEPTH mm	COLOUR	MAGNETIC SUSCEPTIBILITY SI UNITS	REMARKS	PHOTO
407	30-Sep-08	TM, MJ	284395	7145997	900	RED/BROWN	2844		
408	30-Sep-08	TM, MJ	284400	7145781	840	RED/BROWN	2497		
409	30-Sep-08	TM, MJ	284392	7145613	550	RED/BROWN	1778	HIT SOMETHING	






# HAWKWOOD PROJECT - AUGER DRILLING

SAMPLE NUMBER	DATE	SAMPLER	AGD 66 E	AGD 66 N	DEPTH mm	COLOUR	MAGNETIC SUSCEPTIBILITY SI UNITS	REMARKS	PHOTO
410	30-Sep-08	TM, MJ	284586	7145607	940	RED/BROWN	3331		
411	30-Sep-08	TM, MJ	284596	7145383	700	BROWN	328	CLAY	
412	30-Sep-08	TM, MJ	284804	7145192	780	ORANGE/BROWN	1227	SANDY	




## HAWKWOOD PROJECT - AUGER DRILLING

SAMPLE NUMBER	DATE	SAMPLER	AGD 66 E	AGD 66 N	DEPTH mm	COLOUR	MAGNETIC SUSCEPTIBILITY SI UNITS	REMARKS	PHOTO
413	30-Sep-08	TM, MJ	284792	7145013	800	SANDY	204		
414	30-Sep-08	TM, MJ	284660	7145204	940	SANDY	1844	SANDY	
415	30-Sep-08	TM, MJ	284397	7145396	350	CHOCOLATE	4241	ROCKY - HIT ROCK	




## HAWKWOOD PROJECT - AUGER DRILLING

SAMPLE NUMBER	DATE	SAMPLER	AGD 66 E	AGD 66 N	DEPTH mm	COLOUR	MAGNETIC SUSCEPTIBILITY SI UNITS	REMARKS	PHOTO
416	30-Sep-08	TM, MJ	284427	7145219	720	LIGHT BROWN	2919	HIT ROCK	
417	30-Sep-08	TM, MJ	284204	7145414	600	RED/BROWN	1496	HIT ROCK	
418	30-Sep-08	TM, MJ	284218	7145212	800	LIGHT BROWN	7310	HIT ROCK	

## HAWKWOOD PROJECT - AUGER DRILLING




SAMPLE NUMBER	DATE	SAMPLER	AGD 66 E	AGD 66 N	DEPTH mm	COLOUR	MAGNETIC SUSCEPTIBILITY SI UNITS	REMARKS	PHOTO
419	30-Sep-08	TM, MJ	284226	7145113	680	SANDY	1690	HIT ROCK	
420	30-Sep-08	TM, MJ	284197	7145594	640	CHOCOLATE	269	ROCKY - HIT ROCK	
421	30-Sep-08	TM, MJ	284195	7145802	800	LIGHT BROWN	2344		

## HAWKWOOD PROJECT - AUGER DRILLING




SAMPLE NUMBER	DATE	SAMPLER	AGD 66 E	AGD 66 N	DEPTH mm	COLOUR	MAGNETIC SUSCEPTIBILITY SI UNITS	REMARKS	PHOTO
422	30-Sep-08	TM, MJ	284206	7145991	820	LIGHT BROWN	456		
423	1-Oct-08	TM, MJ	284200	7146205	850	RED/BROWN	2008		
424	1-Oct-08	TM, MJ	284803	7145604	380	CHOCOLATE	1181	HIT ROCK	






## HAWKWOOD PROJECT - AUGER DRILLING

SAMPLE NUMBER	DATE	SAMPLER	AGD 66 E	AGD 66 N	DEPTH mm	COLOUR	MAGNETIC SUSCEPTIBILITY SI UNITS	REMARKS	PHOTO
427	1-Oct-08	TM, MJ	284799	7145389	700	CHOCOLATE	184	HIT ROCK	
434	2-Oct-08	TM, MJ	283794	7146186	900	SANDY	1836		
435	2-Oct-08	TM, MJ	283597	7146389	900	SANDY	6880	SANDY	




## HAWKWOOD PROJECT - AUGER DRILLING

SAMPLE NUMBER	DATE	SAMPLER	AGD 66 E	AGD 66 N	DEPTH mm	COLOUR	MAGNETIC SUSCEPTIBILITY SI UNITS	REMARKS	PHOTO
436	2-Oct-08	TM, MJ	283603	7146193	550	BROWN	2472	HIT ROCK	
437	2-Oct-08	TM, MJ	283651	7146046	480	LIGHT BROWN	258	HIT ROCK	
438	3-Oct-08	TM, MJ	283820	7145993	438	ORANGE	314	HIT ROCK	




## HAWKWOOD PROJECT - AUGER DRILLING

SAMPLE NUMBER	DATE	SAMPLER	AGD 66 E	AGD 66 N	DEPTH mm	COLOUR	MAGNETIC SUSCEPTIBILITY SI UNITS	REMARKS	PHOTO
439	3-Oct-08	TM, MJ	283839	7145809	600	ORANGE	1784	HIT ROCK	
440	3-Oct-08	TM, MJ	284007	7145825	700	BROWN	6457	HIT ROCK	
441	3-Oct-08	TM, MJ	284008	7145997	650	BROWN	316	HIT ROCK	

## HAWKWOOD PROJECT - AUGER DRILLING




SAMPLE NUMBER	DATE	SAMPLER	AGD 66 E	AGD 66 N	DEPTH mm	COLOUR	MAGNETIC SUSCEPTIBILITY SI UNITS	REMARKS	PHOTO
442	3-Oct-08	TM, MJ	284597	7146581	550	RED/BROWN	1586	HIT ROCK	
443	3-Oct-08	TM, MJ	284358	7146380	700	RED/BROWN	598	IN A ROAD DRAIN	
444	4-Oct-08	TM, MJ	284007	7146210	850	ORANGE/BROWN	544		

## HAWKWOOD PROJECT - AUGER DRILLING




SAMPLE NUMBER	DATE	SAMPLER	AGD 66 E	AGD 66 N	DEPTH mm	COLOUR	MAGNETIC SUSCEPTIBILITY SI UNITS	REMARKS	PHOTO
445	4-Oct-08	TM, MJ	283427	7146630	850	RED/BROWN	649		
446	4-Oct-08	TM, MJ	283597	7146596	680	BROWN	490	HARD WHITE CLAY	
447	4-Oct-08	TM, MJ	283802	7146595	920	RED/BROWN	770		






## HAWKWOOD PROJECT - AUGER DRILLING

SAMPLE NUMBER	DATE	SAMPLER	AGD 66 E	AGD 66 N	DEPTH mm	COLOUR	MAGNETIC SUSCEPTIBILITY SI UNITS	REMARKS	PHOTO
448	4-Oct-08	TM, MJ	284006	7146596	750	ORANGE/BROWN	376	HIT ROCK	
449	4-Oct-08	TM, MJ	284201	7146601	800	RED/BROWN	981		
450	4-Oct-08	TM, MJ	284364	7146602	850	RED/BROWN	1290		




# HAWKWOOD PROJECT - AUGER DRILLING

SAMPLE NUMBER	DATE	SAMPLER	AGD 66 E	AGD 66 N	DEPTH mm	COLOUR	MAGNETIC SUSCEPTIBILITY SI UNITS	REMARKS	PHOTO
451	4-Oct-08	TM, MJ	284172	7146437	780	BROWN	299		
452	4-Oct-08	TM, MJ	284000	7146403	700	CHOCOLATE	901		
453	4-Oct-08	TM, MJ	283847	7146463	650	CHOCOLATE	703	HIT ROCK	




## HAWKWOOD PROJECT - AUGER DRILLING

SAMPLE NUMBER	DATE	SAMPLER	AGD 66 E	AGD 66 N	DEPTH mm	COLOUR	MAGNETIC SUSCEPTIBILITY SI UNITS	REMARKS	PHOTO
454	4-Oct-08	TM, MJ	283377	7146410	650	BROWN	214		
455	4-Oct-08	TM, MJ	283379	7146219	800	BROWN	1853		
456	4-Oct-08	TM, MJ	283230	7145956	500	BROWN	1162	HIT ROCK	

## HAWKWOOD PROJECT - AUGER DRILLING




SAMPLE NUMBER	DATE	SAMPLER	AGD 66 E	AGD 66 N	DEPTH mm	COLOUR	MAGNETIC SUSCEPTIBILITY SI UNITS	REMARKS	PHOTO
457	4-Oct-08	TM, MJ	283010	7145814	600	BROWN	528	HIT ROCK	
458	4-Oct-08	TM, MJ	282758	7145667	650	BROWN	339	HIT ROCK	
459	5-Oct-08	TM, MJ	282808	7146599	320	LIGHT BROWN	500	HIT ROCK	

## HAWKWOOD PROJECT - AUGER DRILLING




SAMPLE NUMBER	DATE	SAMPLER	AGD 66 E	AGD 66 N	DEPTH mm	COLOUR	MAGNETIC SUSCEPTIBILITY SI UNITS	REMARKS	PHOTO
460	5-Oct-08	TM, MJ	283000	7146585	550	RED/BROWN	1336	LOST AUGER TIP	
461	5-Oct-08	TM, MJ	283187	7146543	660	RED/BROWN	1545	HIT ROCK	
462	5-Oct-08	TM, MJ	283192	7146401	700	LIGHT BROWN	140		





# HAWKWOOD PROJECT - AUGER DRILLING

SAMPLE NUMBER	DATE	SAMPLER	AGD 66 E	AGD 66 N	DEPTH mm	COLOUR	MAGNETIC SUSCEPTIBILITY SI UNITS	REMARKS	PHOTO
463	5-Oct-08	TM, MJ	283193	7146169	500	LIGHT BROWN	23	HIT ROCK	
464	5-Oct-08	TM, MJ	282996	7145988	500	GREY/BROWN	47	HIT ROCK	
465	5-Oct-08	TM, MJ	282800	7145804	640	BROWN	254	HIT ROCK	

## HAWKWOOD PROJECT - AUGER DRILLING

SAMPLE NUMBER	DATE	SAMPLER	AGD 66 E	AGD 66 N	DEPTH mm	COLOUR	MAGNETIC SUSCEPTIBILITY SI UNITS	REMARKS	PHOTO
466	5-Oct-08	TM, MJ	282804	7145998	500	LIGHT BROWN	69	HIT ROCK	
467	5-Oct-08	TM, MJ	282786	7146258	350	LIGHT BROWN	447	HIT ROCK	
468	5-Oct-08	TM, MJ	282954	7146240	350	LIGHT BROWN	90	ROCKY - HIT ROCK	

## HAWKWOOD PROJECT - AUGER DRILLING

SAMPLE NUMBER	DATE	SAMPLER	AGD 66 E	AGD 66 N	DEPTH mm	COLOUR	MAGNETIC SUSCEPTIBILITY SI UNITS	REMARKS	PHOTO
469	5-Oct-08	TM, MJ	282984	7146395	600	LIGHT BROWN	77	HIT ROCK	
470	5-Oct-08	TM, MJ	282839	7146421	400	LIGHT BROWN	139	ROCKY - HIT ROCK	



# ALS Chemex

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Page: 1

Finalized Date: 6-MAR-2009

Account: RUGMIN

## QC CERTIFICATE OR09018330

Project:

P.O. No:

This report is for 9 Soil samples submitted to our lab in Orange, NSW, Australia on 19-FEB-2009.

The following have access to data associated with this certificate:

PAUL JOYCE

## SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
LOG-22	Sample login - Rcd w/o BarCode
LEV-01	Waste Disposal Levy
PUL-32	Pulverize 1000g to 85% < 75 um

## ANALYTICAL PROCEDURES

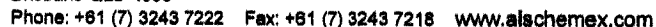
ALS CODE	DESCRIPTION	INSTRUMENT
ME-ICP41	35 Element Aqua Regia ICP-AES	ICP-AES
PGM-ICP23	Pt, Pd, Au 30g FA ICP	ICP-AES

To: **RUGBY MINING PTY LIMITED**  
**ATTN: PAUL JOYCE**  
**1 GUNDY PLACE**  
**WESTLEIGH NSW 2120**

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

**Signature:**

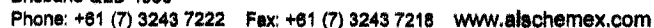
John Morgan, Laboratory Manager, Orange

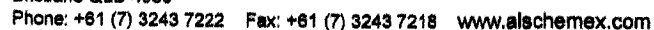


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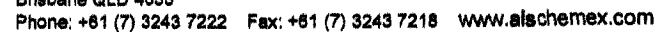
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Account: RUGMIN

## QC CERTIFICATE OF ANALYSIS OR09018330

Sample Description	Method Analyte Units LOR	ME-ICP41 Fe %	ME-ICP41 Ga ppm	ME-ICP41 Hg ppm	ME-ICP41 K %	ME-ICP41 La ppm	ME-ICP41 Mg %	ME-ICP41 Mn ppm	ME-ICP41 Mo ppm	ME-ICP41 Na %	ME-ICP41 Ni ppm	ME-ICP41 P ppm	ME-ICP41 Pb ppm	ME-ICP41 S %	ME-ICP41 Sb ppm	ME-ICP41 Sc ppm
		0.01	10	1	0.01	10	0.01	5	1	0.01	1	10	2	0.01	2	1
ORIGINAL DUP Target Range - Lower Bound Upper Bound	DUPLICATES															
ORIGINAL DUP Target Range - Lower Bound Upper Bound																



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Sample Description	Method Analyte Units LOR	ME-ICP41 Sr ppm 1	ME-ICP41 Th ppm 20	ME-ICP41 Ti % 0.01	ME-ICP41 Tl ppm 10	ME-ICP41 U ppm 10	ME-ICP41 V ppm 1	ME-ICP41 W ppm 10	ME-ICP41 Zn ppm 2
ORIGINAL DUP Target Range - Lower Bound Upper Bound		DUPLICATES							
ORIGINAL DUP Target Range - Lower Bound Upper Bound									





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Page: 1  
Finalized Date: 6-MAR-2009  
Account: RUGMIN

## CERTIFICATE OR09018330

Project:

P.O. No.:

This report is for 9 Soil samples submitted to our lab in Orange, NSW, Australia on 19-FEB-2009.

The following have access to data associated with this certificate:

PAUL JOYCE

## SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
LOG-22	Sample login - Rcd w/o BarCode
LEV-01	Waste Disposal Levy
PUL-32	Pulverize 1000g to 85% < 75 um

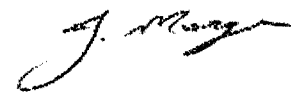
## ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
ME-ICP41	35 Element Aqua Regia ICP-AES	ICP-AES
PGM-ICP23	Pt, Pd, Au 30g FA ICP	ICP-AES

To: **RUGBY MINING PTY LIMITED**  
**ATTN: PAUL JOYCE**  
**1 GUNDY PLACE**  
**WESTLEIGH NSW 2120**

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

**Signature:**

  
John Morgan, Laboratory Manager, Orange



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## CERTIFICATE OF ANALYSIS OR09018330

Sample Description	Method Analyte Units LOR	WEI-21	PGM-ICP23	PGM-ICP23	PGM-ICP23	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41
		Recvd Wt.	Au	Pt	Pd	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd	Co	Cr
		kg	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
		0.02	0.001	0.005	0.001	0.2	0.01	2	10	10	0.5	2	0.01	0.5	1	1
437348		0.94	0.003	0.005	0.004	<0.2	2.10	<2	10	380	0.8	<2	2.98	<0.5	23	237
437356		1.02	0.001	0.007	0.006	0.2	2.56	<2	10	100	0.8	<2	0.45	<0.5	22	208
437364		0.92	0.001	0.007	0.006	<0.2	1.92	<2	<10	60	<0.5	<2	0.53	<0.5	10	59
437409		1.06	0.005	0.011	0.003	<0.2	2.50	<2	<10	80	0.6	<2	0.24	<0.5	37	119
437410		0.94	0.003	0.012	0.007	<0.2	2.11	2	<10	110	0.7	2	0.15	<0.5	46	247
437411		0.94	0.030	0.015	0.010	<0.2	2.82	12	<10	140	0.5	<2	0.43	<0.5	24	141
437415		1.10	0.013	0.026	0.019	<0.2	4.35	<2	<10	130	<0.5	<2	0.96	<0.5	44	272
437424		1.12	0.014	0.027	0.009	<0.2	2.82	2	<10	140	<0.5	<2	0.16	<0.5	80	346
437427		0.92	0.016	0.013	0.013	<0.2	2.83	2	<10	140	0.6	<2	0.27	<0.5	25	140



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## CERTIFICATE OF ANALYSIS OR09018330

Sample Description	Method Analyte Units LOR	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41
		Cu	Fe	Ga	Hg	K	La	Mg	Mn	Mo	Na	Ni	P	Pb	S
		ppm 1	% 0.01	ppm 10	ppm 1	% 0.01	ppm 10	% 0.01	ppm 5	ppm 1	% 0.01	ppm 1	ppm 10	ppm 2	% 0.01
437348		60	8.06	10	1	0.12	10	0.50	964	<1	0.03	81	200	5	0.02
437356		104	8.24	10	1	0.10	10	0.14	1285	<1	0.01	48	500	7	0.02
437384		52	2.73	10	1	0.04	<10	0.37	268	<1	0.05	12	540	<2	0.01
437409		209	9.75	10	1	0.10	10	0.12	533	<1	0.01	34	210	4	0.01
437410		186	12.50	10	1	0.06	10	0.07	840	<1	0.01	36	190	5	0.01
437411		272	8.27	10	1	0.11	10	0.64	306	<1	0.03	66	70	2	0.01
437415		582	10.90	10	1	0.06	<10	0.08	600	<1	0.11	54	180	2	0.01
437424		373	19.7	20	<1	0.05	<10	0.11	1670	<1	0.01	72	130	2	0.01
437427		192	5.28	10	1	0.06	10	0.22	346	<1	0.02	50	90	4	0.01



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## CERTIFICATE OF ANALYSIS OR09018330

Sample Description	Method Analyte Units LOR	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41
		Sc	Sr	Th	Ti	Ti	U	V	W	Zn
		ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm
		1	1	20	0.01	10	10	1	10	2
437348		15	99	<20	0.07	<10	<10	228	<10	28
437356		24	56	<20	0.07	<10	<10	220	<10	43
437364		7	31	<20	0.08	<10	<10	112	<10	20
437409		11	22	<20	0.18	<10	<10	808	<10	23
437410		12	17	<20	0.25	<10	<10	781	<10	19
437411		13	45	<20	0.10	<10	<10	460	<10	32
437415		8	87	<20	0.18	<10	<10	704	<10	20
437424		10	17	<20	0.55	<10	<10	1525	<10	28
437427		12	25	<20	0.07	<10	<10	224	<10	17



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Page: 1  
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Account: RUGMIN

## CERTIFICATE OR09018269

Project:

P.O. No.:

This report is for 110 Soil samples submitted to our lab in Orange, NSW, Australia on 19-FEB-2009.

The following have access to data associated with this certificate:

PAUL JOYCE

CHRIS TORREY

## SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
LOG-22	Sample login - Rcd w/o BarCode
LEV-01	Waste Disposal Levy
PUL-32	Pulverize 1000g to 85% < 75 um

## ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
ME-ICP43	Up to 18 element add-on AR Au	ICP-AES
ME-OG46	Ore Grade Elements - AquaRegia	ICP-AES
Fe-OG46	Ore Grade Fe - Aqua Regia	VARIABLE
Au-TL43	Trace Level Au - 25g AR	ICP-MS

To: RUGBY MINING PTY LIMITED  
ATTN: PAUL JOYCE  
1 GUNDY PLACE  
WESTLEIGH NSW 2120

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

Signature:

  
Shaun Kenney, Brisbane Laboratory Manager





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Total # Pages: 4 (A - B)

Finalized Date: 18-MAR-2009

Account: RUGMIN

## CERTIFICATE OF ANALYSIS OR09018269

Sample Description	Method Analyte Units LOR	WEI-21 Recvd Wt. kg 0.02	Au-TL43 Au ppm 0.001	ME-ICP43 Ag ppm 0.2	ME-ICP43 As ppm 1	ME-ICP43 Ba ppm 10	ME-ICP43 Bi ppm 2	ME-ICP43 Ca % 0.01	ME-ICP43 Cd ppm 1	ME-ICP43 Co ppm 1	ME-ICP43 Cu ppm 1	ME-ICP43 Fe % 0.01	ME-ICP43 Mg % 0.01	ME-ICP43 Mn ppm 5	ME-ICP43 Mo ppm 1	ME-ICP43 Ni ppm 1
437342		0.92	0.001	0.2	2	150	<2	0.73	<1	34	57	7.43	0.32	1905	<1	82
437343		0.96	0.001	0.2	1	440	<2	2.90	<1	25	37	7.82	0.86	1065	<1	87
437344		0.98	0.001	0.2	1	570	<2	3.05	<1	25	48	6.85	0.75	1395	<1	74
437345		0.98	0.001	<0.2	2	390	<2	0.43	<1	42	51	10.90	0.54	1840	1	89
437346		0.98	0.001	0.2	<1	660	<2	3.17	<1	28	45	6.61	0.75	1250	<1	67
437347		1.08	0.002	0.4	<1	170	<2	9.30	<1	9	78	3.78	3.71	888	<1	29
437349		0.98	0.001	<0.2	1	170	<2	0.27	<1	27	71	10.40	0.16	2950	1	54
437350		1.00	0.001	<0.2	2	70	<2	0.50	<1	17	77	13.50	0.18	1205	1	41
437351		0.90	0.001	<0.2	1	80	<2	0.25	<1	39	72	10.65	0.08	1725	1	60
437352		0.96	0.001	<0.2	2	70	<2	0.13	<1	36	76	9.65	0.05	2360	1	50
437353		0.88	0.008	<0.2	1	90	<2	0.35	<1	33	82	7.86	0.18	2200	1	53
437354		0.94	0.002	<0.2	2	50	<2	0.23	<1	29	76	10.05	0.07	1925	1	55
437355		0.88	0.001	<0.2	2	70	<2	0.23	<1	14	54	9.14	0.09	884	1	35
437357		0.94	0.003	<0.2	1	290	<2	0.21	<1	118	111	8.71	0.17	5840	1	65
437358		0.94	0.002	<0.2	3	180	<2	0.70	<1	14	88	4.57	0.29	590	<1	23
437359		0.78	0.002	0.2	1	140	<2	0.32	<1	18	71	5.53	0.25	748	<1	18
437360		0.96	0.001	<0.2	1	170	<2	0.46	<1	60	52	5.24	0.31	820	<1	32
437361		0.88	0.002	<0.2	1	110	<2	0.74	<1	24	104	7.58	0.23	888	<1	7
437362		0.76	0.001	<0.2	1	100	<2	0.33	<1	23	60	5.67	0.21	988	<1	12
437363		0.74	0.001	<0.2	1	180	<2	0.85	<1	38	70	5.90	0.64	1175	<1	87
437365		0.88	0.001	<0.2	1	70	<2	0.32	<1	17	18	4.40	0.18	480	<1	21
437366		0.86	0.001	<0.2	1	130	<2	0.60	<1	14	69	4.29	0.31	418	<1	13
437367		0.86	0.001	<0.2	1	200	<2	0.33	<1	51	137	8.88	0.18	2290	<1	22
437368		0.96	0.002	<0.2	2	40	<2	1.40	<1	4	194	7.42	0.46	236	<1	10
437370		0.88	0.001	<0.2	1	400	<2	0.31	<1	255	241	5.48	0.24	4800	<1	68
437371		1.00	0.004	0.3	1	160	<2	1.89	<1	31	181	10.70	0.21	318	<1	13
437372		0.86	0.004	<0.2	2	330	<2	0.54	<1	276	658	9.10	0.30	4290	<1	90
437373		0.96	0.001	<0.2	1	150	<2	0.14	<1	50	66	2.07	0.15	830	<1	19
437374		0.82	0.005	<0.2	2	180	2	0.56	<1	83	212	14.65	0.42	1475	<1	29
437375		0.82	0.005	<0.2	1	190	2	0.32	<1	56	190	8.99	0.26	1225	<1	40
437376		0.88	0.001	<0.2	2	160	<2	0.39	<1	28	66	8.54	0.28	1205	<1	25
437377		0.86	0.006	<0.2	2	140	<2	1.82	<1	42	269	9.71	0.54	758	<1	42
437378		0.90	0.001	<0.2	1	130	<2	0.82	<1	42	52	4.48	0.48	1320	<1	87
437379		1.00	0.002	<0.2	2	110	<2	0.19	<1	24	54	9.33	0.13	775	<1	34
437381		0.82	0.001	<0.2	<1	140	<2	0.80	<1	40	56	4.79	0.49	1375	<1	73
437382		0.94	0.001	<0.2	2	140	<2	0.59	<1	40	66	6.00	0.46	1300	<1	89
437383		1.00	0.007	<0.2	2	180	<2	0.13	<1	88	137	11.20	0.06	1645	<1	32
437384		0.90	0.002	<0.2	1	200	<2	0.17	<1	45	66	9.77	0.09	1185	<1	24
437385		1.02	0.005	<0.2	2	80	2	0.11	<1	43	130	11.65	0.05	689	<1	23
437386		0.98	0.003	<0.2	1	160	<2	0.16	<1	35	71	12.15	0.05	440	<1	15



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Total # Pages: 4 (A - B)  
Finalized Date: 18-MAR-2009  
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## CERTIFICATE OF ANALYSIS OR09018269

Sample Description	Method Analyte Units LOR	ME-ICP43	ME-ICP43	ME-ICP43	ME-ICP43	ME-ICP43	Fe-OG46
		P	Pb	S	Sb	Zn	Fe
		ppm 10	ppm 1	% 0.01	ppm 2	ppm 1	% 0.01
437342		490	9	0.02	<2	50	
437343		210	7	0.03	<2	31	
437344		260	6	0.05	<2	36	
437345		290	7	0.02	<2	35	
437346		200	5	0.04	<2	35	
437347		160	4	0.02	<2	23	
437349		480	10	0.02	<2	55	
437350		580	8	0.02	4	38	
437351		450	9	0.01	3	51	
437352		550	10	0.01	<2	50	
437353		600	10	0.02	<2	52	
437354		640	8	0.03	<2	49	
437355		360	7	0.01	<2	30	
437357		440	9	0.01	<2	107	
437358		190	9	0.01	<2	78	
437359		230	4	0.01	<2	28	
437360		300	2	0.01	<2	58	
437361		2300	3	0.01	<2	27	
437362		280	4	0.01	<2	23	
437363		190	5	0.01	<2	42	
437365		130	4	0.01	<2	11	
437366		430	3	0.02	<2	21	
437367		310	5	0.01	<2	58	
437368		210	1	0.03	<2	11	
437370		100	4	0.01	<2	121	
437371		120	1	0.01	<2	19	
437372		240	2	0.01	<2	155	
437373		50	3	<0.01	<2	29	
437374		210	<1	0.01	<2	60	
437375		190	5	0.01	<2	37	
437376		210	4	0.01	<2	30	
437377		120	2	0.01	2	47	
437378		170	6	0.01	<2	39	
437379		300	6	0.01	<2	32	
437381		230	6	0.02	<2	41	
437382		300	6	0.02	<2	40	
437383		220	7	0.01	<2	21	
437384		300	7	<0.01	3	19	
437385		240	6	<0.01	<2	19	
437386		140	3	<0.01	2	17	



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## CERTIFICATE OF ANALYSIS OR09018269

Sample Description	Method Analyte Units LOR	WEI-21 Recvd Wt. kg 0.02	Au-TL43 Au ppm 0.001	ME-ICP43 Ag ppm 0.2	ME-ICP43 As ppm 1	ME-ICP43 Ba ppm 10	ME-ICP43 Bi ppm 2	ME-ICP43 Ca % 0.01	ME-ICP43 Cd ppm 1	ME-ICP43 Co ppm 1	ME-ICP43 Cu ppm 1	ME-ICP43 Fe % 0.01	ME-ICP43 Mg % 0.01	ME-ICP43 Mn ppm 5	ME-ICP43 Mo ppm 1	ME-ICP43 Ni ppm 1
437387		0.92	0.003	<0.2	1	180	<2	0.24	<1	68	86	7.68	0.19	1610	<1	31
437388		0.94	0.002	<0.2	1	100	<2	0.27	<1	68	76	8.51	0.16	1835	<1	21
437389		0.94	0.002	<0.2	1	80	<2	0.11	<1	23	69	6.27	0.05	407	<1	18
437390		0.92	0.004	0.2	1	210	<2	0.49	<1	43	249	9.86	0.31	1530	<1	39
437391		0.98	0.019	<0.2	3	420	<2	0.89	<1	241	713	13.60	0.40	1530	<1	136
437392		0.94	0.003	<0.2	2	180	2	0.03	<1	45	250	12.75	0.05	1645	<1	46
437393		1.06	0.002	<0.2	1	200	<2	0.05	<1	56	115	7.73	0.05	2470	<1	30
437394		1.22	0.007	<0.2	5	90	<2	0.03	<1	33	191	15.25	0.03	878	1	50
437395		1.10	0.003	0.2	1	100	<2	0.41	<1	20	527	7.12	0.44	310	<1	19
437396		0.88	0.006	<0.2	1	670	<2	0.35	<1	53	195	6.92	0.51	862	<1	96
437397		0.92	0.008	0.2	1	120	<2	0.36	<1	23	67	6.80	0.34	613	<1	23
437398		0.94	0.020	<0.2	1	80	<2	0.21	<1	23	242	6.21	0.20	330	<1	31
437399		1.00	0.005	<0.2	<1	120	<2	0.27	<1	20	101	8.48	0.48	499	<1	36
437400		0.96	0.004	<0.2	1	110	<2	0.31	<1	21	62	6.71	0.16	711	<1	15
437401		1.06	0.002	<0.2	1	130	<2	0.29	<1	25	55	7.33	0.17	811	<1	22
437402		0.98	0.002	<0.2	1	70	<2	0.13	<1	34	75	9.59	0.05	687	<1	22
437403		1.06	0.003	<0.2	1	80	<2	0.11	<1	28	62	10.45	0.06	434	<1	16
437404		1.16	0.003	<0.2	2	80	<2	0.17	<1	31	96	12.60	0.06	684	<1	16
437405		1.24	0.003	<0.2	2	80	<2	0.09	<1	37	105	14.10	0.05	707	<1	15
437406		1.06	0.002	<0.2	2	100	<2	0.13	<1	45	92	10.65	0.06	903	<1	21
437407		1.06	0.002	<0.2	<1	80	<2	0.08	<1	30	75	11.65	0.04	436	<1	16
437408		0.90	0.002	<0.2	2	90	<2	0.06	<1	21	113	12.15	0.04	700	<1	25
437412		1.06	0.003	<0.2	2	120	<2	0.51	<1	20	149	6.25	0.34	467	<1	17
437413		1.06	0.004	0.2	1	110	<2	0.67	<1	22	106	3.90	0.42	539	<1	50
437414		1.10	0.022	0.3	2	80	<2	1.50	<1	31	662	6.15	0.22	276	<1	13
437416		0.98	0.032	0.2	2	130	<2	0.52	<1	53	1825	12.40	1.26	521	<1	129
437417		1.16	0.020	<0.2	3	90	3	0.31	<1	71	530	>20.0	0.27	1255	<1	92
437418		1.12	0.013	0.2	3	140	<2	0.52	<1	66	549	18.90	0.29	632	<1	23
437419		1.12	0.008	<0.2	1	90	<2	0.48	<1	26	455	10.10	0.32	577	<1	27
437420		1.24	0.002	<0.2	1	30	<2	0.06	<1	12	50	2.98	0.07	150	<1	9
437421		1.06	0.003	<0.2	2	280	<2	0.63	<1	70	232	11.55	0.46	626	<1	44
437422		1.06	0.003	<0.2	1	120	<2	0.06	<1	38	130	11.70	0.07	1140	<1	28
437423		1.02	0.001	<0.2	1	140	<2	0.20	<1	50	89	11.55	0.09	901	<1	31
437434		1.00	0.002	<0.2	1	170	<2	0.30	<1	31	75	9.27	0.39	419	<1	14
437435		1.06	0.010	0.5	1	90	2	3.86	<1	35	166	13.55	0.58	155	<1	33
437436		1.06	0.006	0.4	3	130	<2	1.37	<1	28	164	9.54	0.30	315	<1	28
437437		1.14	0.005	0.2	2	170	<2	1.04	<1	12	57	2.89	0.50	276	<1	34
437438		0.98	0.006	0.2	1	240	<2	1.30	<1	13	51	2.84	0.43	241	<1	24
437439		1.02	0.002	<0.2	1	100	<2	0.72	<1	17	90	6.40	0.16	412	<1	12
437440		1.06	0.003	<0.2	2	80	<2	0.56	<1	46	214	13.30	0.95	1165	<1	47



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## CERTIFICATE OF ANALYSIS OR09018269

Sample Description	Method Analyte Units LOR	ME-ICP43	ME-ICP43	ME-ICP43	ME-ICP43	ME-ICP43	Fe-OG48
		P	Pb	S	Sb	Zn	Fe
		ppm 10	ppm 1	% 0.01	ppm 2	ppm 1	% 0.01
437387		220	6	0.01	2	29	
437388		250	7	0.01	<2	30	
437389		110	4	0.01	<2	13	
437390		120	5	0.01	2	38	
437391		110	<1	0.02	<2	113	
437392		240	15	0.01	<2	13	
437393		180	12	<0.01	<2	15	
437394		260	16	<0.01	3	10	15.85
437395		630	3	0.01	<2	29	
437396		110	6	0.02	<2	45	
437397		140	4	0.01	<2	28	
437398		80	4	0.01	<2	20	
437399		70	3	0.01	<2	20	
437400		150	2	0.01	<2	24	
437401		270	3	<0.01	<2	23	
437402		140	9	<0.01	2	13	
437403		240	7	<0.01	<2	17	
437404		270	3	0.01	<2	24	
437405		250	5	<0.01	<2	22	
437406		210	5	<0.01	<2	20	
437407		210	6	<0.01	<2	15	
437408		170	7	<0.01	<2	15	
437412		400	3	<0.01	<2	24	
437413		450	3	<0.01	<2	56	
437414		510	1	0.01	<2	42	
437416		100	2	0.01	<2	48	
437417		130	<1	0.01	<2	30	25.6
437418		180	<1	<0.01	<2	45	19.10
437419		510	1	<0.01	<2	51	
437420		50	3	<0.01	<2	8	
437421		120	3	0.01	<2	32	
437422		260	9	0.01	<2	12	
437423		360	8	0.01	<2	21	
437434		140	8	0.01	<2	34	
437435		120	1	0.01	<2	29	
437436		190	3	0.01	2	18	
437437		300	2	0.01	<2	21	
437438		450	3	0.01	<2	18	
437439		190	2	0.01	<2	21	
437440		230	<1	<0.01	<2	81	



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## CERTIFICATE OF ANALYSIS OR09018269

Sample Description	Method Analyte Units LOR	WEI-21 Reevd Vt. kg 0.02	AU-TL43 Au ppm 0.001	ME-ICP43 Ag ppm 0.2	ME-ICP43 As ppm 1	ME-ICP43 Ba ppm 10	ME-ICP43 Bi ppm 2	ME-ICP43 Ca % 0.01	ME-ICP43 Cd ppm 1	ME-ICP43 Co ppm 1	ME-ICP43 Cu ppm 1	ME-ICP43 Fe % 0.01	ME-ICP43 Mg % 0.01	ME-ICP43 Mn ppm 5	ME-ICP43 Mo ppm 1	ME-ICP43 Ni ppm 1
437441		0.94	0.002	≤0.2	2	300	≤2	0.79	≤1	44	118	8.26	0.40	950	≤1	31
437442		1.04	0.003	≤0.2	1	80	≤2	0.13	≤1	36	109	11.00	0.08	836	≤1	28
437443		0.88	0.003	≤0.2	1	120	≤2	0.18	≤1	36	129	10.40	0.13	767	≤1	28
437444		1.08	0.002	≤0.2	3	140	≤2	0.09	≤1	82	111	10.90	0.08	1345	≤1	29
437445		0.96	0.002	≤0.2	1	130	≤2	0.11	≤1	47	110	8.20	0.05	794	≤1	28
437446		1.00	0.003	≤0.2	1	510	≤2	0.27	≤1	81	188	7.70	0.27	1090	≤1	41
437447		1.28	0.002	≤0.2	3	410	≤2	0.02	≤1	34	223	16.80	0.04	2190	1	44
437448		0.94	0.003	≤0.2	3	210	≤2	0.27	≤1	42	179	7.20	0.31	1635	≤1	40
437449		1.02	0.001	≤0.2	2	820	≤2	0.13	≤1	88	128	10.25	0.10	3980	1	38
437450		0.92	0.002	≤0.2	1	90	≤2	0.10	≤1	38	102	9.87	0.06	939	≤1	24
437451		1.00	0.003	≤0.2	1	380	≤2	0.34	≤1	51	414	7.09	0.45	2030	≤1	55
437452		0.92	0.006	≤0.2	2	200	≤2	0.39	≤1	71	311	13.00	0.27	1270	≤1	68
437453		1.02	0.002	≤0.2	2	1400	≤2	0.17	≤1	313	591	12.10	0.28	7500	≤1	148
437454		1.04	0.004	≤0.2	1	110	≤2	0.32	≤1	67	133	3.82	0.24	906	≤1	32
437455		1.12	0.001	0.2	2	70	≤2	0.57	≤1	22	89	9.84	0.39	494	1	23
437456		1.12	0.003	≤0.2	1	80	≤2	0.49	≤1	27	152	7.24	0.29	542	≤1	25
437457		1.04	0.006	0.2	2	140	≤2	1.06	≤1	43	225	9.30	0.64	800	≤1	48
437458		1.06	0.002	≤0.2	4	180	≤2	0.28	≤1	28	80	6.82	0.31	164	≤1	38
437459		1.30	0.003	≤0.2	9	230	2	0.01	≤1	80	94	16.15	0.06	1335	2	82
437460		1.18	0.002	≤0.2	3	80	≤2	0.03	≤1	29	65	9.81	0.04	765	1	28
437461		1.20	0.002	≤0.2	2	80	≤2	0.05	≤1	28	85	8.07	0.04	725	1	21
437462		1.04	0.035	0.2	3	380	≤2	0.44	≤1	42	912	9.86	1.34	1360	≤1	133
437463		1.20	0.009	0.2	2	110	≤2	0.19	≤1	6	8	2.98	0.87	141	1	33
437464		1.10	0.004	0.2	2	190	≤2	0.27	≤1	39	48	2.90	0.84	1230	1	30
437465		1.02	0.005	≤0.2	2	140	≤2	0.91	≤1	36	155	8.03	0.74	890	≤1	40
437466		1.18	0.001	≤0.2	2	120	≤2	0.19	≤1	31	21	2.02	0.35	1015	≤1	18
437467		1.32	0.001	≤0.2	≤1	80	≤2	0.34	≤1	9	17	2.95	0.89	251	≤1	14
437468		1.22	0.003	≤0.2	≤1	140	≤2	0.21	≤1	49	35	1.87	0.23	1160	≤1	20
437469		1.22	0.001	≤0.2	2	80	≤2	0.06	≤1	8	24	1.80	0.25	127	≤1	8
437470		1.16	0.002	≤0.2	1	210	≤2	0.24	≤1	35	25	2.95	0.25	823	≤1	43





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## CERTIFICATE OF ANALYSIS OR09018269

Sample Description	Method Analyte Units LOR	ME-ICP43	ME-ICP43	ME-ICP43	ME-ICP43	ME-ICP43	Fe-OG48
		P	Pb	B	Sb	Zn	Fe
		ppm 10	ppm 1	% 0.01	ppm 2	ppm 1	% 0.01
437441		110	6	0.01	Δ2	27	
437442		210	6	0.01	Δ2	22	
437443		150	6	<0.01	Δ2	18	
437444		220	6	0.01	Δ2	16	
437445		150	10	0.01	Δ2	16	
437446		180	7	0.02	Δ2	57	
437447		360	15	0.03	Δ2	17	15.55
437448		320	7	0.01	Δ2	56	
437449		300	14	0.01	Δ2	25	
437450		230	8	0.01	Δ2	19	
437451		130	6	0.01	Δ2	67	
437452		450	4	0.01	Δ2	72	
437453		320	10	0.01	Δ2	110	
437454		150	5	0.01	Δ2	44	
437455		200	4	0.01	Δ2	32	
437456		500	2	0.02	Δ2	32	
437457		290	4	0.02	Δ2	53	
437458		160	7	0.01	Δ2	59	
437459		380	30	0.01	Δ2	14	14.30
437460		250	15	0.01	Δ2	13	
437461		180	11	0.01	Δ2	12	
437462		670	4	0.01	Δ2	131	
437463		500	3	0.02	Δ2	41	
437464		210	8	0.01	Δ2	36	
437465		190	4	0.01	Δ2	42	
437466		250	4	0.01	Δ2	29	
437467		450	2	0.01	Δ2	25	
437468		160	2	0.01	Δ2	34	
437469		70	4	<0.01	Δ2	14	
437470		270	3	0.01	Δ2	63	



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## QC CERTIFICATE OR09018269

Project:

P.O. No.:

This report is for 110 Soil samples submitted to our lab in Orange, NSW, Australia on 19-FEB-2009.

The following have access to data associated with this certificate:

PAUL JOYCE

CHRIS TORREY

## SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
LOG-22	Sample login - Rod w/o BarCode
LEV-01	Waste Disposal Levy
PUL-32	Pulverize 1000g to 85% < 75 um

## ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
ME-ICP43	Up to 18 element add-on AR Au	ICP-AES
ME-OG46	Ore Grade Elements - AquaRegia	ICP-AES
Fe-OG46	Ore Grade Fe - Aqua Regia	VARIABLE
Au-TL43	Trace Level Au - 25g AR	ICP-MS

To: **RUGBY MINING PTY LIMITED**  
**ATTN: PAUL JOYCE**  
**1 GUNDY PLACE**  
**WESTLEIGH NSW 2120**

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

Signature:

  
Shaun Kenny, Brisbane Laboratory Manager



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## QC CERTIFICATE OF ANALYSIS OR09018269

Sample Description	Method Analyte Units LOR	Au-TL43 Au ppm 0.001	ME-ICP43 Ag ppm 0.2	ME-ICP43 As ppm 1	ME-ICP43 Ba ppm 10	ME-ICP43 Bi ppm 2	ME-ICP43 Ca % 0.01	ME-ICP43 Cd ppm 1	ME-ICP43 Ce ppm 1	ME-ICP43 Cu ppm 1	ME-ICP43 Fe % 0.01	ME-ICP43 Mg % 0.01	ME-ICP43 Mn ppm 5	ME-ICP43 Mo ppm 1	ME-ICP43 Ni ppm 1	ME-ICP43 P ppm 10
STANDARDS																
GBM302-10																
Target Range - Lower Bound																
Upper Bound																
GBM305-11																
Target Range - Lower Bound																
Upper Bound																
GBM999-5		0.526	>40	2	60	<2	0.04	<1	3	474	2.78	0.01	66	4	5	40
GBM999-5		0.559	>40	5	60	<2	0.05	<1	3	488	2.92	0.01	64	4	3	40
GBM999-5		0.562	>40	2	60	<2	0.04	<1	2	482	2.84	0.01	63	4	4	40
GBM999-5		0.606	>40	3	60	2	0.04	<1	4	508	3.09	0.04	66	3	5	50
Target Range - Lower Bound		53.3	2	30	<2	0.04	<1	2	436	2.56	<0.01	49	2	3	30	
Upper Bound		40.0	4	70	4	0.07	2	4	536	3.16	0.03	71	5	5	50	
ST-345		0.048	1.1	<1	20	3	0.29	1	17	49	1.35	0.06	140	8	35	290
ST-345		0.064	1.2	1	20	4	0.32	1	19	52	1.44	0.09	147	8	37	300
ST-345		0.064	1.2	1	20	3	0.33	1	19	55	1.51	0.10	153	9	39	320
ST-345		0.066	1.3	1	20	3	0.33	1	19	53	1.49	0.10	155	8	38	310
Target Range - Lower Bound		0.047	0.8	<1	<10	<2	0.24	<1	16	47	1.20	0.07	124	8	31	260
Upper Bound		0.063	1.4	2	30	4	0.32	2	21	60	1.48	0.11	162	10	41	340
BLANKS																
BLANK		<0.001	<0.2	<1	<10	<2	<0.01	<1	<1	<1	0.01	<0.01	<5	<1	<1	<10
BLANK		<0.001	<0.2	<1	<10	<2	<0.01	<1	<1	<1	<0.01	<0.01	<5	<1	<1	<10
BLANK		<0.001	<0.2	<1	<10	<2	<0.01	<1	<1	<1	0.01	<0.01	<5	<1	<1	<10
BLANK		<0.001	<0.2	<1	<10	<2	<0.01	<1	<1	<1	<0.01	<0.01	<5	<1	<1	<10
Target Range - Lower Bound		<0.001	<0.2	<1	<10	<2	<0.01	<1	<1	<1	<0.01	<0.01	<5	<1	<1	<10
Upper Bound		0.002	0.4	2	20	4	0.02	2	2	2	0.02	0.02	10	2	2	20



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QC CERTIFICATE OF ANALYSIS OR09018269

Sample Description	Method Analyte Units LOR	ME-ICP43	ME-ICP43	ME-ICP43	ME-ICP43	Fe-OG46
		Pb	S	Sb	Zn	Fe
		ppm	%	ppm	ppm	%
		1	0.01	2	1	0.01
STANDARDS						
GBM302-10						5.99
Target Range - Lower Bound						5.88
Upper Bound						6.12
GBM305-11						26.1
Target Range - Lower Bound						
Upper Bound						
GBM999-5		490	0.28	4	108	
GBM999-5		500	0.29	3	111	
GBM999-5		500	0.29	6	110	
GBM999-5		521	0.31	8	118	
Target Range - Lower Bound		453	0.26	<2	98	
Upper Bound		555	0.34	8	122	
ST-345		54	0.02	<2	57	
ST-345		89	0.03	<2	81	
ST-345		93	0.03	<2	84	
ST-345		90	0.03	<2	85	
Target Range - Lower Bound		75	0.19	<2	55	
Upper Bound		94	0.25	4	89	
BLANKS						
BLANK		<1	<0.01	<2	<1	
BLANK		<1	<0.01	<2	<1	
BLANK		<1	<0.01	<2	<1	
BLANK		<1	<0.01	<2	<1	
BLANK						<0.01
Target Range - Lower Bound		<1	<0.01	<2	<1	<0.01
Upper Bound		2	0.02	4	2	0.02





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## QC CERTIFICATE OF ANALYSIS OR09018269

Sample Description	Method	ME-ICP43	ME-ICP43	ME-ICP43	ME-ICP43	Fe-QG46
	Analyte	Pb	S	Sb	Zn	Fe
	Units	ppm	%	ppm	ppm	%
	LOR	1	0.01	2	1	0.01
DUPLICATES						
437352		10	0.01	<2	50	
DUP		9	0.01	<2	51	
Target Range - Lower Bound		8	<0.01	<2	48	
Upper Bound		11	0.02	4	55	
437375		5	0.01	<2	37	
DUP		4	0.01	2	39	
Target Range - Lower Bound		3	<0.01	<2	34	
Upper Bound		6	0.02	4	42	
437391		<1	0.02	<2	113	
DUP		<1	0.02	<2	116	
Target Range - Lower Bound		<1	<0.01	<2	106	
Upper Bound		2	0.03	4	124	
437414		1	0.01	<2	42	
DUP		1	<0.01	<2	39	
Target Range - Lower Bound		<1	<0.01	<2	38	
Upper Bound		2	0.02	4	45	
437440		<1	<0.01	<2	81	
DUP		<1	0.01	2	73	
Target Range - Lower Bound		<1	<0.01	<2	70	
Upper Bound		2	0.02	4	84	
437460		15	0.01	<2	13	
DUP		14	0.01	<2	10	
Target Range - Lower Bound		12	<0.01	<2	10	
Upper Bound		17	0.02	4	13	
437048		13	0.02	<2	11	
DUP		13	0.02	<2	11	
Target Range - Lower Bound		11	<0.01	<2	9	
Upper Bound		15	0.03	4	13	
437205						25.4
DUP						25.3
Target Range - Lower Bound						25.2
Upper Bound						25.5