



Exploration Permit for Minerals

EPM 17143

Broughton Creek South West

Fifth Report

for the Twelve Month Period Ending

16th December 2014

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15th January 2015

EXECUTIVE SUMMARY

Exploration Permit for Minerals (EPM) 17143 Broughton Creek South West covering 4 sub-blocks was granted 17th December 2009 for a period of three years to CNW Pty Ltd. On 15th November 2010, EPM 17143 was assigned 100% to Broughton Minerals Pty Ltd, a company affiliated with CNW Pty Ltd. A joint-venture agreement including EPM 17143 was signed with Orion Metals Limited over several Broughton Creek project tenements held by CNW Pty Ltd in September 2011. Broughton Orion Pty Ltd, a wholly owned subsidiary of Orion Metals Limited acts as the operator for the permit, relinquished two unprospective sub-blocks from EPM 17143 on 10th January 2013. Broughton Minerals Pty Ltd was granted a renewal of EPM 17143 over 2 sub-blocks for a further 3 years commencing 17th December 2012 on 11th June 2013.

EPM 17143 is located ~ 80 kms southeast of Mount Isa and 60 kms south of Cloncurry in Northwest Queensland. The tenement straddles the Malbon and Marraba 1:100 000 topographic and geology map sheets (No.s 6955 and 6956, respectively) and lies between the latitudes of 21° 05'S and 21° 07'S and longitudes 140° 00'E and 140° 02'E. Access to the tenement is via the Duchess to Cloncurry road, then west along the Great Northern Railway to Devoncourt siding and along station tracks parallel to the abandoned Ballara rail line.

The Broughton Creek South West tenement was selected by CNW Pty Ltd for its potential to host large tonnage, Ernest Henry style copper/gold deposits as well as smaller, Tick Hill style gold only orebodies following an extensive study of Queensland government open file reports. The possibility of uranium and rare earth mineralization was also investigated.

The area covered by EPM 17143 has been the subject of gold, base metals and uranium exploration by various companies since the late 1960s, including Rio Tinto Australia Exploration Pty Ltd, Mount Isa Mines Limited, CRAE, Placer Exploration Ltd and MIMEX. Numerous copper and gold anomalism occurrences have been discovered at surface.

Broughton Minerals Pty Ltd / CNW Pty Ltd completed data compilation of previous exploration covering the tenement area with the creation of a Gocad "Common Earth Model" (CEM) which included all regional geophysical datasets, geochemistry and mapped geology, for targeting areas that require detailed geological mapping and geochemical sampling.

In 2011, Joint-venture partner for the Broughton Creek project tenements, Broughton Orion (a 100% subsidiary of Orion Metals Limited) commenced a field reconnaissance programme to ground-truth the Broughton Creek project. This included commissioning a remote sensing desktop study utilising HyMap and satellite multispectral ASTER imagery and engaging Geobase Australia Pty Ltd to compile all previous exploration data for the Broughton Creek project into an Access database. This database was then used for further target generation. Broughton Orion Pty Ltd also relinquished two unprospective sub-blocks from EPM 17143 on 10th January 2013: CLON 961 A and CLON 961 F.

During the reporting period ending 16th December 2014, Broughton Orion further utilised its Access database to delineating target areas for geological mapping and geochemical sampling. However, due to funding and expenditure commitments, Broughton Orion formally withdrew from the Broughton Creek Joint Venture on 1st September 2014 and no actual field work was completed. As a consequence, EPM 17143 along with the remainder of the Broughton Creek project was regained 100% by Broughton Minerals Pty Ltd.

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1. INTRODUCTION

CNW Pty Ltd, a Brisbane-based junior exploration company was granted Exploration Permit for Minerals (EPM) 17143 totaling 4 sub blocks on 17th December 2009 for a period of 3 years. This EPM was given the project name of Broughton Creek South West.

The tenement is located ~ 80 kms southeast of Mount Isa and 60 kms south of Cloncurry in Northwest Queensland and was selected for its potential to host large tonnage, Ernest Henry style copper/gold deposits as well as smaller, Tick Hill style gold only orebodies. The possibility of uranium and rare earth mineralization was also investigated.

EPM 17143 was assigned 100% to a CNW Pty Ltd-affiliated company, Broughton Minerals Pty Ltd on 15th November 2010. CNW Pty Ltd then sought a joint-venture partner for the Broughton Creek project tenements and entered a joint-venture arrangement with Orion Metals Limited in September 2011. Broughton Orion Pty Ltd is a 100% subsidiary of Orion Metals Limited and acts as operator for the permit.

This report covers exploration work for the fourth year of tenure for EPM 17143.

2. LOCATION AND ACCESS

Exploration Permit for Minerals 17143 “Broughton Creek South West” is located ~ 80 kms southeast of Mt Isa in NW Qld. Access to the tenement is via the Duchess to Cloncurry road, then west along the Great Northern Railway to Devoncourt siding and along station tracks parallel to the abandoned Ballara rail line.

The tenement straddles the Malbon and Marraba 1:100 000 geology sheets (No’s 6955 and 6956 respectively) and the Cloncurry and Duchess 1:250 000 geology sheet SF54-2 and SF54 -6, respectively. EPM 17143 “Broughton Creek South West” lies between the latitudes of 21° 05’S and 21° 07’S and the longitudes of 140° 00’E and 140° 02’E - See Figure 1.

3. TENURE

Exploration Permit for Minerals 17143 “Broughton Creek South West” was granted as a 4 sub – block tenement for a 3 year period on 17th December 2009 to CNW Pty Ltd. Renewal of the permit was granted for a further 3 year period from 17th December 2012 on 11th June 2013. EPM 17143 is due to expire 16th December 2015.

EPM 17143 was assigned 100% to a CNW Pty Ltd-affiliated company, Broughton Minerals Pty Ltd on 15th November 2010. CNW Pty Ltd entered a joint-venture arrangement with Orion Metals Limited in September 2011 covering several Broughton Creek tenements. Broughton Orion Pty Ltd is a 100% subsidiary of Orion Metals Limited and acts as operator for the permit.

Broughton Orion Pty Ltd relinquished 2 unprospective sub-blocks from EPM 17143 on 10th January 2013: CLON 961 A and CLON 961 F. EPM 17143 is currently comprised of 2 sub-blocks and straddles the Malbon and Marraba 1:100 000 map sheets, as identified below on the Cloncurry Block Identification Map of the Mount Isa Mining District.

<u>BIM</u>	<u>Block</u>	<u>Sub-blocks</u>
CLON	961	B, G

EPM 17143 is illustrated on Figure 1.

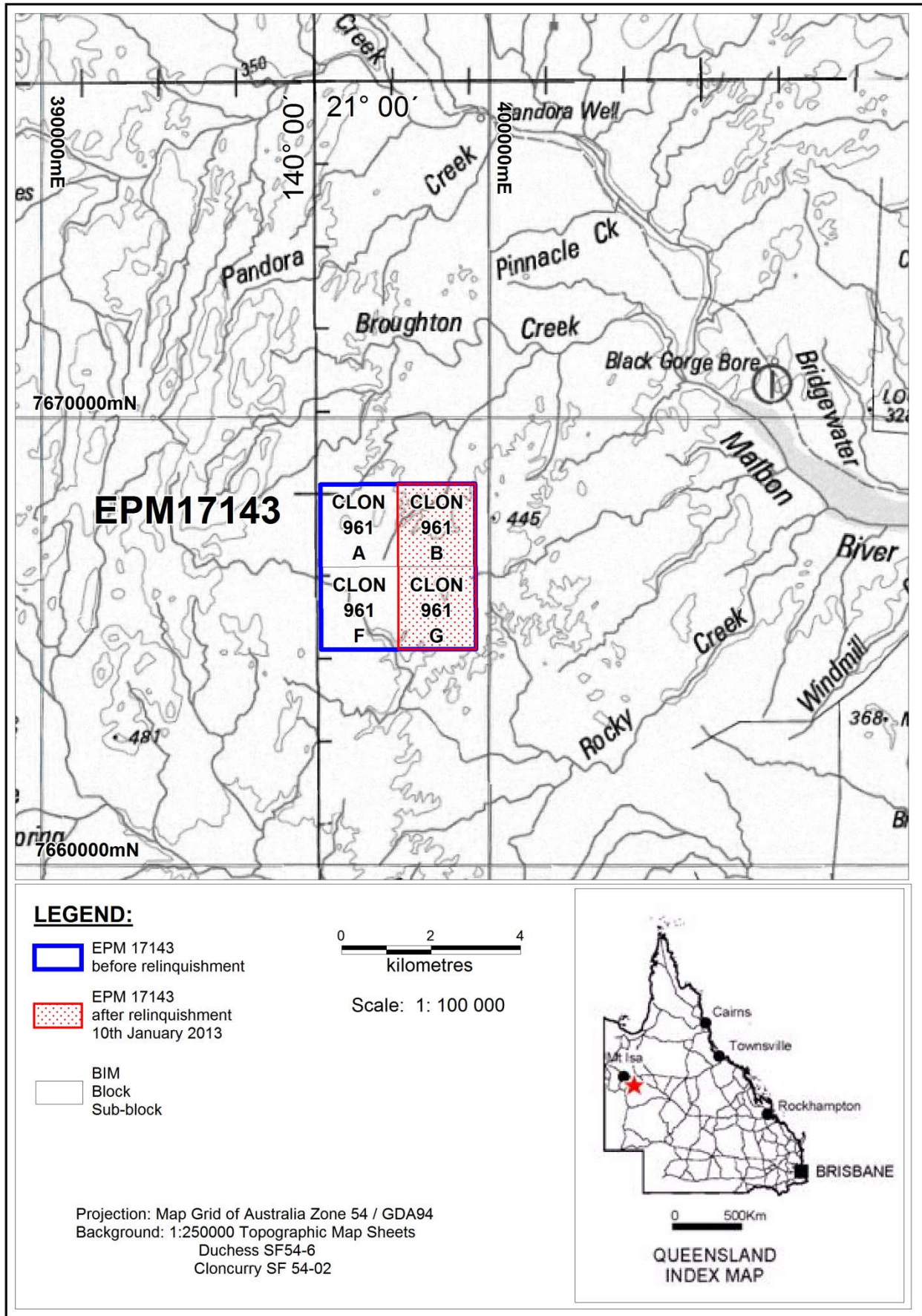


Figure 1. EPM 17143 Broughton Creek South West Location Map

4. GEOLOGY

The Mount Isa Inlier in which the Broughton Creek South West tenement EPM 17143 is located, is subdivided by major north striking faults into three broad tectonic belts, namely the Western Succession, the Kalkadoon/Leichhardt Belt and the Eastern Succession (Figure 2).

The Western Succession consists of the Lawn Hill Platform, the Leichardt River Fault Trough and the Myally Shelf. The Kalkadoon/Leichhardt Belt is bounded to the west and east respectively by the Quilalar and Pilgrim Fault Zones. This belt comprises the Ewen Block and the Kalkadoon/Leichhardt Block. The Eastern Succession is subdivided into the Mary Kathleen zone to the west, the Quamby/Malbon zone and the Cloncurry /Selwyn zone in the east.

On a more prospect scale, The Broughton Creek South West tenement is located in the Kalkadoon/Leichhardt Block and covers Proterozoic metavolcanic and metasedimentary rocks of the Quamby/Malbon zone, which is unconformably overlain by Cambrian rocks of the Georgina Basin (Figure 3).

These Proterozoic rocks are sub-divided into two major lithological units: the basal Argylla Formation, and the overlying Marraba Volcanics. The Argylla Formation comprises predominantly a felsic volcanic suite which is variably recrystallised, and contains minor intercalations of quartzite, meta-arenite and pelitic schist. Numerous thin units and dykes of amphibolite and meta-basalt are present, and predominate in the northern portion of the tenement.

Overlying the Argylla Formation are the amphibolites and meta-siltstones of the Marraba Volcanics. Flat lying limestones and sandstones of the Cambrian Georgina Basin unconformably overly the Proterozoic rocks in the eastern to southeastern portion of the tenement east of the Camel Fault and its southwestern extension.

The exploration carried out to date over EPM 17143 has identified broad structural and alteration zones along with more detailed anomalous zones of copper, gold and uranium.

5. PREVIOUS EXPLORATION

The area covered by EPM 17143 has been the subject of numerous mineral surveys by various companies. A review of literature held on open file reveals the following relevant activities:

MOUNT ISA MINES LIMITED (late 1960's, ATP 359), evaluated the Pindora Cu workings (age 1915 to 1930) to the NW of the EPM. No drilling was conducted.

CLUTHA DEVELOPMENT (1967-1968, ATP 406) explored the Cambrian sediments of the Georgina Basin for Duchess style Phosphate.

MINES EX. - BROKEN HILL SOUTH JOINT VENTURE (late 1960's, ATP 415) explored for phosphate in the Cambrian Bottle Creek Formation, no drilling conducted on EPM Pandora area.

NEWMONT P/L / CRAE (1977, ATP 1794) targeted roll-front type U deposits in the Cambrian Mt. Birnie Formation, however no work conducted within current EPM boundaries.

CRAE (1981-1982, ATP 2562) conducted an airborne radiometric and magnetic survey, targeting uranium and/or base metal mineralisation within the Lower Proterozoic Tewinga Group. This work resulted in the application for two areas that coincided with the current EPM (listed below).

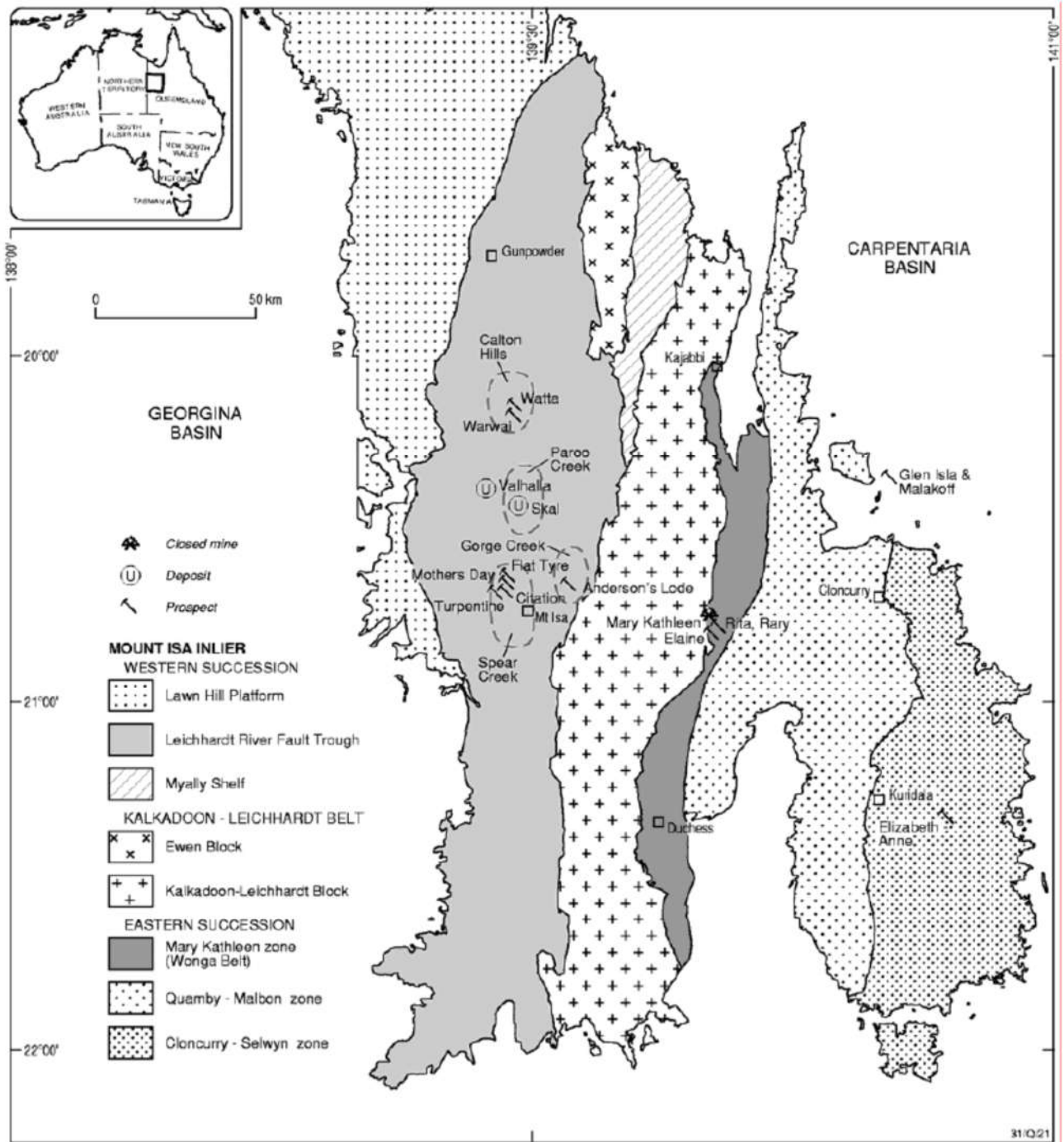


Figure 2. Mount Isa Inlier, Northwest Queensland

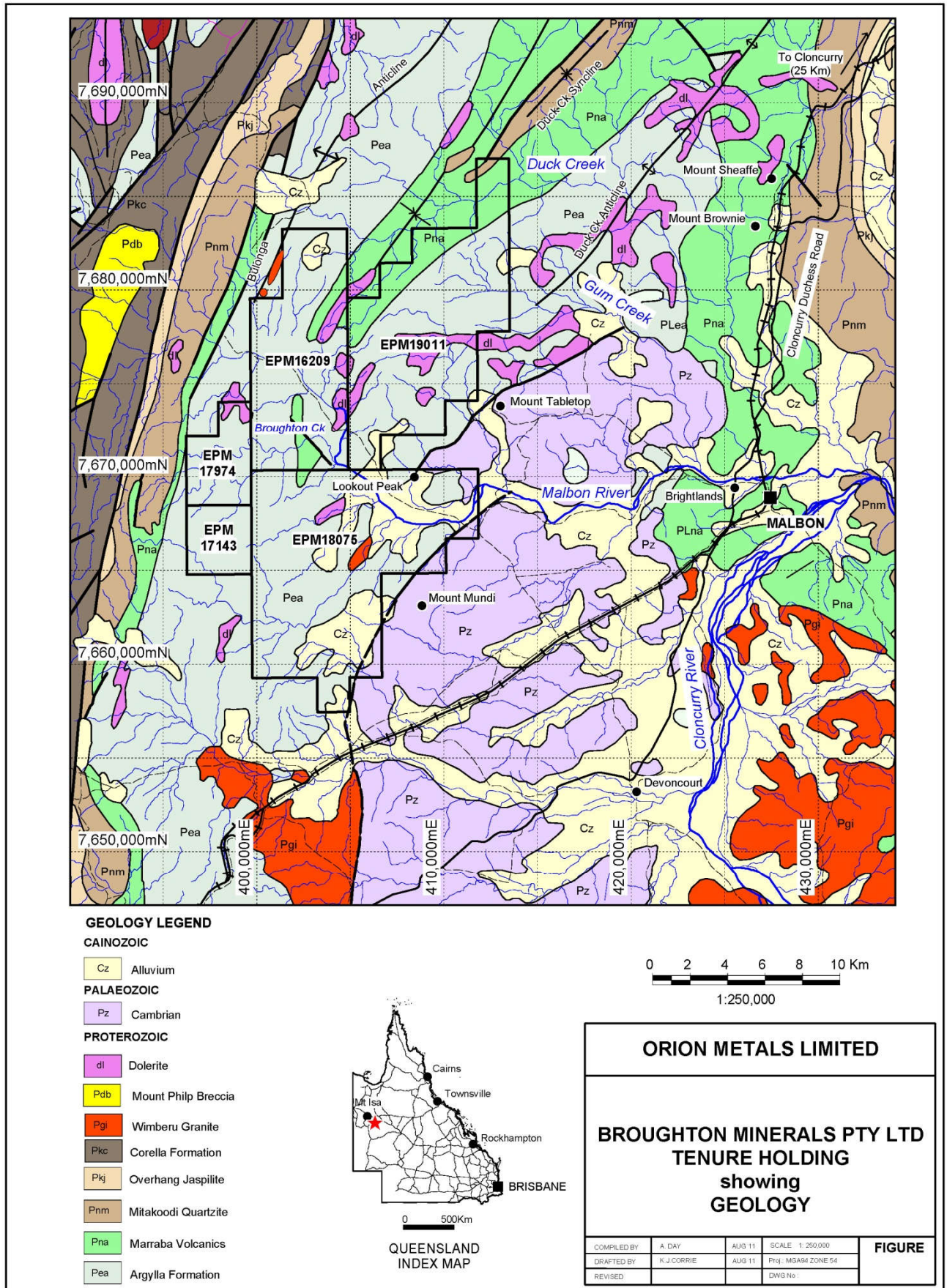


Figure 3. Regional Geology of Broughton Creek

CRAE (1982-1983, ATP 3263) conducted a 1 sample/10km² multi-element stream sediment survey, and minor rock chip program. No follow up work recommended on current EPM area, although several magnetic and radiometric anomalies were identified. Other target styles considered in these investigations included Argylla Formation acid volcanic hosted, bedded or stockwork metal sulphide deposits and skarn related mineralisation hosted by calc-silicates adjacent to the Wimberu Granite.

CRAE (1988, ATP 5237 and ATP 5238) acquired this ground on the basis of gold anomalism encountered within Mitakoodi Quartzite on another CRAE tenement ATP 3967. No significant discovery was made in ATP 3967 so ATP 5237 and ATP 5238 were relinquished with no work having been conducted. A major conclusion of the exercise was that the Mitakoodi Quartzite contained elevated background gold levels of about 3 ppb.

PLACER EXPLORATION LTD (1993, EPM 8605) targeted this ground to search for gold and copper mineralisation associated with splays off the north-northeast trending Pilgrim Fault zone. Results from the stream sediment sampling program in the area produced low order gold anomalies in the NW and NE corners of the tenement which were ascribed to small sulphide bearing carbonate vein pods. Also produced was a broad, low order silver anomaly in the southern portion of the EPM which was not explained.

MIMEX (1994 -1995, EPM 9385) selected the ground on the basis of potential for Ernest Henry style Au-Cu mineralization and for Tick Hill style Au only mineralization.

CNW Pty Ltd (2009 – current EPM 17143) has completed data compilation with the creation of a Gocad “Common Earth Model” (CEM) which includes all the regional geophysical datasets, geochemistry and mapped geology

6. WORK CONDUCTED

The area in and around EPM 17143 Broughton Creek South West has been explored extensively since the 1960's and numerous copper and gold anomalies have been discovered at surface. However, no significant drilling has been completed within the tenement to ascertain the depth extent of this mineralization and the structural controls of its emplacement.

Broughton Minerals Pty Ltd / CNW Pty Ltd had completed data compilation with the creation of a Gocad “Common Earth Model” (CEM) which included all the regional geophysical datasets, geochemistry and mapped geology. During 2011, CNW Pty Ltd sought a joint-venture partner for the Broughton Creek project tenements and signed an agreement with Orion Metals Ltd in September 2011. In 2012 Orion Metals Limited commissioned a remote sensing desktop study by GEOIMAGE Pty Ltd covering the Broughton Creek project tenements. The study involved alteration mapping based on airborne hyperspectral HyMap and satellite multispectral ASTER imagery aimed at delineating target areas for geological reconnaissance mapping and geochemical sampling. A possible but quite limited area of sericite alteration was mapped in the north-west corner of EPM 17143 for follow-up.

During the reporting period ending 16th December 2014, Broughton Orion further utilised its Access database to delineating target areas for geological mapping and geochemical sampling. However, due to funding and expenditure commitments, Broughton Orion formally withdrew from the Broughton Creek Joint Venture on 1st September 2014 and no actual field work was completed. As a consequence, EPM 17143 along with the remainder of the Broughton Creek project was regained 100% by Broughton Minerals Pty Ltd.

7. CONCLUSIONS

Exploration Permit for Minerals (EPM) 17143, Broughton Creek South West, covering 4 sub-blocks was granted 17th December 2009 for a period of three years to CNW Pty Ltd. EPM 17143 was subsequently assigned 100% to Broughton Minerals Pty Ltd, a company affiliated with CNW Pty Ltd on 15th November 2010. Orion Metals Limited entered a joint-venture arrangement to explore several Broughton Creek project tenements with CNW Pty Ltd in September 2011. Broughton Orion Pty Ltd, a wholly owned subsidiary of Orion Metals Limited acts as the operator for the permit, relinquished two unprospective sub-blocks from EPM 17143 on 10th January 2013. Broughton Minerals Pty Ltd was granted a renewal of EPM 17143 over 2 sub-blocks for a further 3 years commencing 17th December 2012 on 11th June 2013.

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8. FUTURE WORK

The planned follow-up field programme for EPM 17143 will include geological mapping and will be initially focused on the zone of sericitic alteration highlighted from the Geoimage Hyperspectral Aster study. A regional geochemical sampling programme is also planned for the Broughton Creek project which will include EPM 17143.

9. REFERENCES

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