



Carpentaria Gold Pty Ltd
Ravenswood Operations

TECHNICAL REPORT NO: CG198

TITLE: EPM14778 "MINGELA"
PARTIAL RELINQUISHMENT REPORT FOR THE PERIOD ENDED 20th
NOVEMBER 2014
RAVENSWOOD PROJECT, QUEENSLAND

HOLDER: CARPENTARIA GOLD PTY LTD

OPERATOR: CARPENTARIA GOLD PTY LTD

**INVESTIGATIONS
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1. Department of Natural Resources and Mines, Brisbane
2. Carpentaria Gold Pty Ltd, Ravenswood
3. Resolute Mining Limited, Perth

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 CG198_EPM14778_PartRelRpt2014_CodeLibrary.pdf

1 Introduction

Exploration Permit for Minerals 14778 “Mingela” is located near the town of Mingela, approximately 75 kilometres southwest of Townsville, North Queensland (See Figure 1). The tenement was granted to Carpentaria Gold Pty Ltd, a wholly owned subsidiary of Resolute Mining Ltd, by the Queensland Department of Minerals and Energy on the 21st November 2005 for a period of five years.

The tenement is part of the Carpentaria Gold Pty Ltd Ravenswood project, explored by the company since 1977 at which time it was known as the Carpentaria Exploration Company Pty Ltd, included in the MIM Group of companies. In 2003 Xstrata completed an acquisition of MIM Holdings Ltd and in 2004 Carpentaria Gold Pty Ltd was acquired by Resolute Mining Ltd from Xstrata Queensland Limited.

The Ravenswood goldfield, located 40km southeast of Mingela, was discovered in 1868 with historic mining occurring from 1868 to 1918 and recent mining beginning in 1987. Exploration by Carpentaria Gold began with the granting of Authority to Prospect licence 1853 in 1977. The Nolan’s deposit was discovered in 1992 and the large tonnage, low grade Sarsfield deposit was discovered in 1994. Mt Wright, approximately 10km north of Ravenswood, was discovered in 1992 with underground mining commencing in 2006.

The Ravenswood area contains breccia style and stockwork vein targets including Mt Wright-style breccia pipes, high-grade, low tonnage Sunset-style veins, and low-grade, high tonnage Nolans-Sarsfield stockwork style vein deposits, located within several prospective “corridors”.

This report details exploration conducted within the 6 sub-blocks relinquished effective 21st November 2014. Exploration by Carpentaria Gold Pty Ltd within the relinquished sub-blocks has included literature review and data compilation, aeromagnetic and radiometric data acquisition and processing, and soil and rock chip sampling. No specific targets worthy of drilling were identified and as such the sub-blocks were nominated for relinquishment.

2 Location and Access

EPM 14778 Mingela lies within the Townsville SE55-14 and Charters Towers SF55-2 1:250,000 Mapsheet areas and the Ravenswood 8257 and Mingela 8258 1:100,000 Mapsheet areas.

With the exception of the 3 sub-blocks south of Ravenswood, the majority of the tenement is located near the town of Mingela, with access to the permit obtained via the sealed Flinders Highway from Townsville. The highway and unsealed station tracks provide good access throughout most of the tenement; however vehicle access is limited along the north east edge of the tenement due to the rugged topography of the Leichhardt Range.

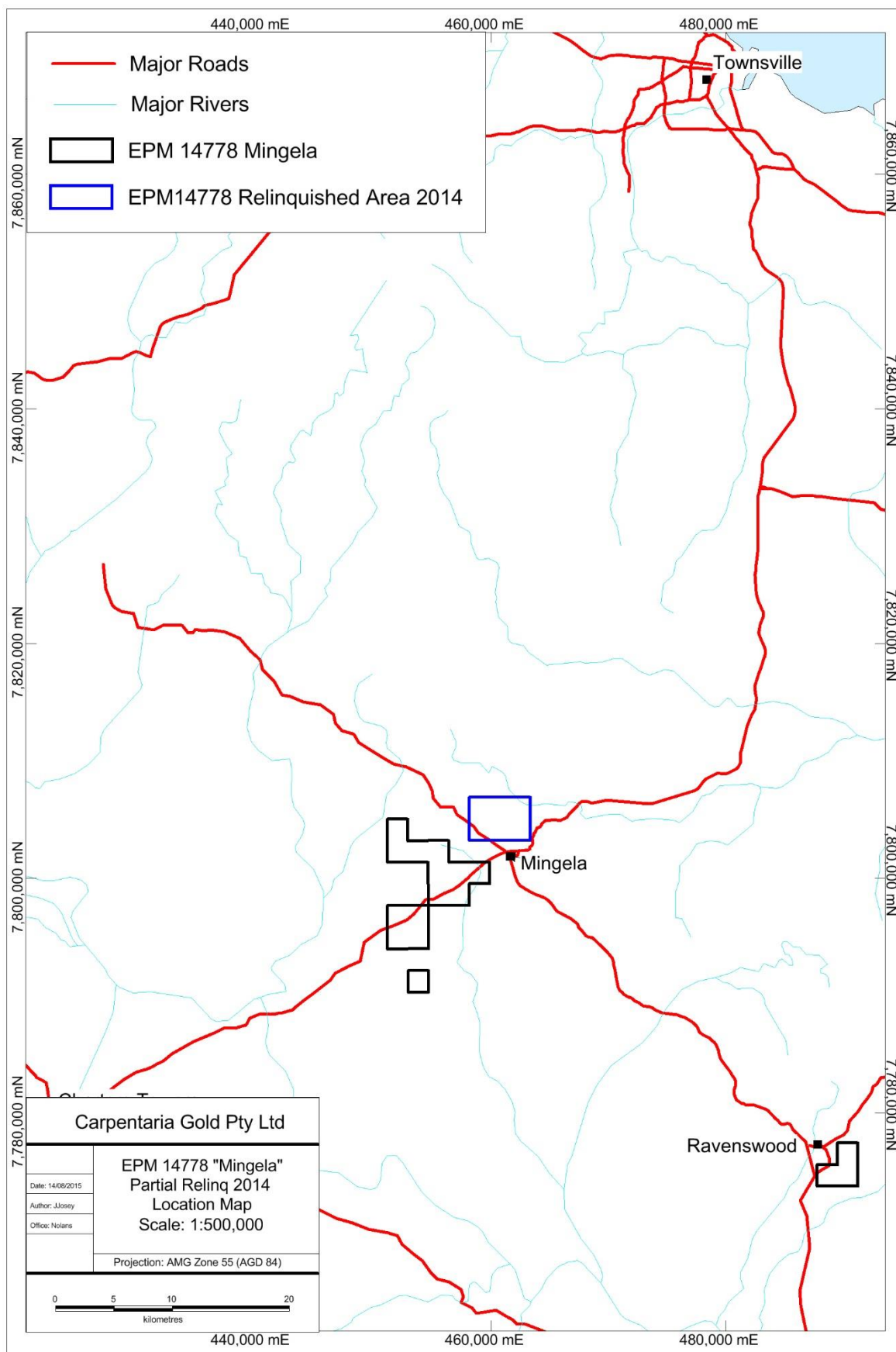


Figure 1: EPM 14778 "Mingela" Location Map

3 Tenure

EPM 14778, comprising 131 sub-blocks was granted to Carpentaria Gold Pty Ltd on the 21st November 2005 for a term of 5 years. The tenement included 23 sub-blocks conditionally surrendered from EPM 8936 and 13 sub-blocks conditionally surrendered from EPM 8190.

59 sub-blocks were relinquished in 2008, and a further 17 sub-blocks relinquished in 2009. In August 2010 an application for renewal of the tenement was lodged, and in June 2012 renewal for a term of 5 years was granted for the remaining 55 sub-blocks.

28 sub-blocks were relinquished in November 2012, and another 4 sub-blocks relinquished in November 2013. In November 2014, a further 6 sub-blocks were relinquished with 17 retained (Refer Table 1, Table 2 and Figure 2).

Table 1: Sub-blocks retained by Carpentaria Gold Pty Ltd

BIM	Block	Sub-blocks
TOWN	3343	H, N, O, P, U, Z
TOWN	3344	Q, R, V
TOWN	3415	C, D, H, J, T
CLER	107	K, O, P

Total: 17 Sub-Blocks

Table 2: Sub-blocks relinquished effective November 2014

BIM	Block	Sub-blocks
TOWN	3344	B, C, D, G, H, J

Total: 6 Sub-Blocks

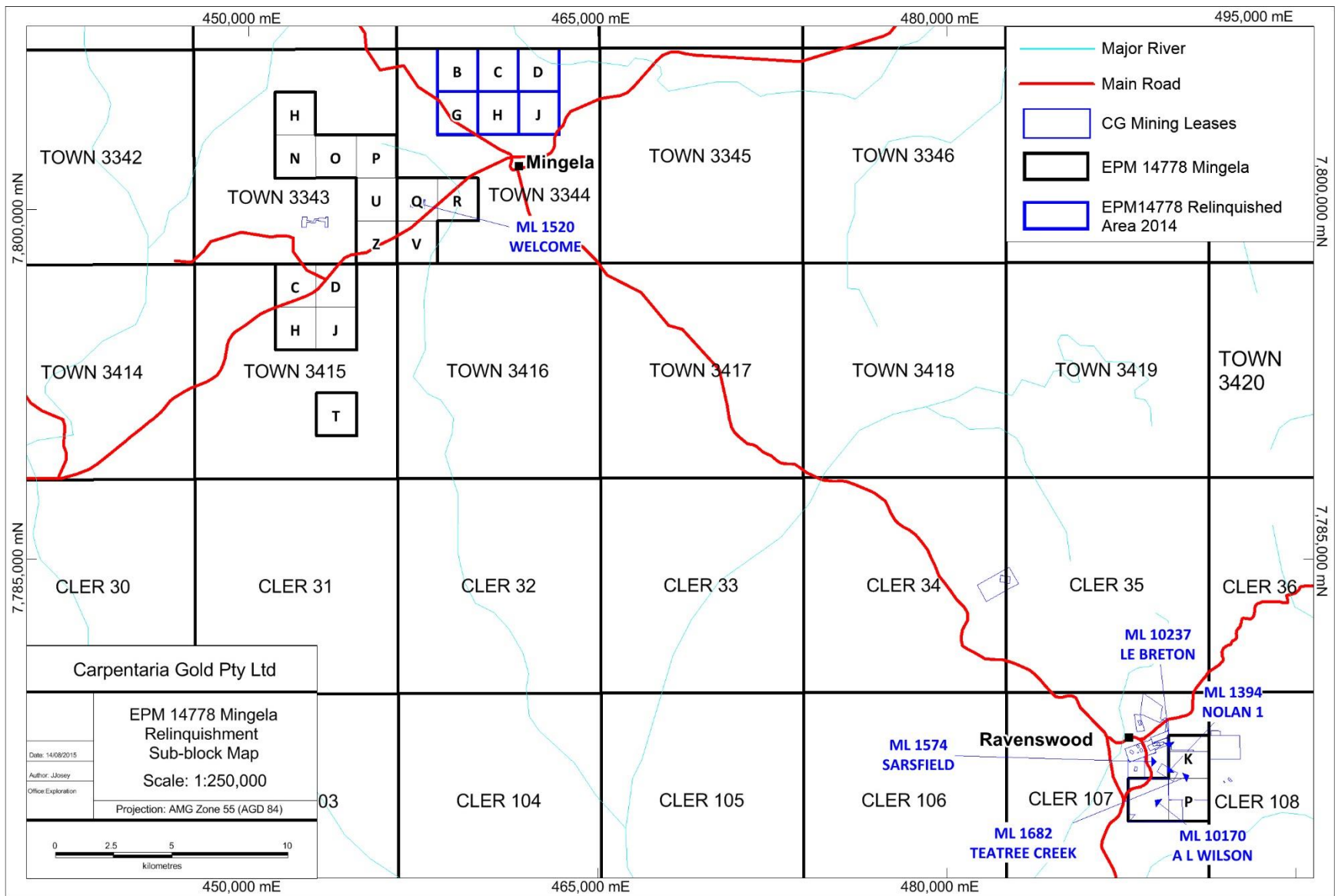


Figure 2: EPM 14778 Sub-block Identification Map

4 Regional Geology

EPM14778 is located within the Ravenswood Batholith, a major component of the Charters Towers Province of north east Queensland. The batholith is bound to the south and south-east by the Cambrian-Ordovician Seventy Mile Range Group, to the north by the Devonian Burdekin Basin, to the east by the Carboniferous-Permian Coastal Range Igneous Complex and Quaternary sediments, and to the west by Tertiary cover sequences.

The Ravenswood Batholith is predominately comprised of early-mid Ordovician (490-463 Ma) hornblende and/or biotite bearing I-type granitoids of the Macrossan Igneous Province (See Figure 3), commonly with a weakly developed fabric. This assemblage was intruded by I-type and lesser S-type granitoids of the Pama Igneous Province during the late Silurian to early Devonian (418-382 Ma). These intrusives show little strain, and are associated with mineralisation at Charters Towers and Hadleigh's Castle (Kreuzer, 2005).

Granitoids of the late Carboniferous to early Permian Kennedy Igneous Province are also represented within the Ravenswood Batholith and are associated with mineralisation at the Mt Leyshon, Ravenswood and Mt Wright deposits (Perkins and Kennedy, 1998). Basement rocks of the Neoproterozoic to Cambrian Charters Towers Metamorphics and Cambrian to Ordovician Kirk River Beds are locally exposed, and basal units of the overlying Burdekin Basin sediments are preserved in some areas.

Within EPM14778 Ordovician granites and granodiorites are dominant, with lesser Silurian to Devonian granodiorites, tonalites and diorites. The Tuckers Igneous Complex (in the group of six south western sub-blocks) is the only major occurrence of Carboniferous to Permian rocks in the EPM. The Charters Towers Metamorphics are exposed along the east-west Alex Hill Shear Zone and several small Tertiary olivine basalt pipes outcrop around the township of Mingela. Tertiary to Quaternary unconsolidated alluvial-colluvial cover sediments can also be found in the northern parts of the EPM.

The Alex Hill Shear Zone (AHSZ) is the major structural element within EPM14778 and is interpreted to be a crustal-scale, sinistral, transcurrent fault, with a possible early reverse fault (south block up) history (Standing, 2006). The shear zone is characterised by an approximately 1km wide zone of strongly to intensely foliated Charters Towers Metamorphics and mylonitic Ordovician granite. The foliation within the surrounding granite is more widely distributed on the southern side of the shear zone, with localised mylonite zones observable up to 1km away from the interpreted core of the structure.

The ~60koz Christian Kruck gold deposit to the immediate west of EPM14778 sits on the sediment-granodiorite margin on the edge of the shear zone, and is linked to movement along this structure. The AHSZ and other related east-west orientated structures appear to be truncated by later NNW-trending structures. These may be related to the Burdekin Lineament further west, where a strong locally mylonitic NW striking fabric has been observed within the Charters Towers Metamorphics (Hutton et al., 1994). Within the project area, these major structures have been identified in aeromagnetic images, however they have not been observed in the field.

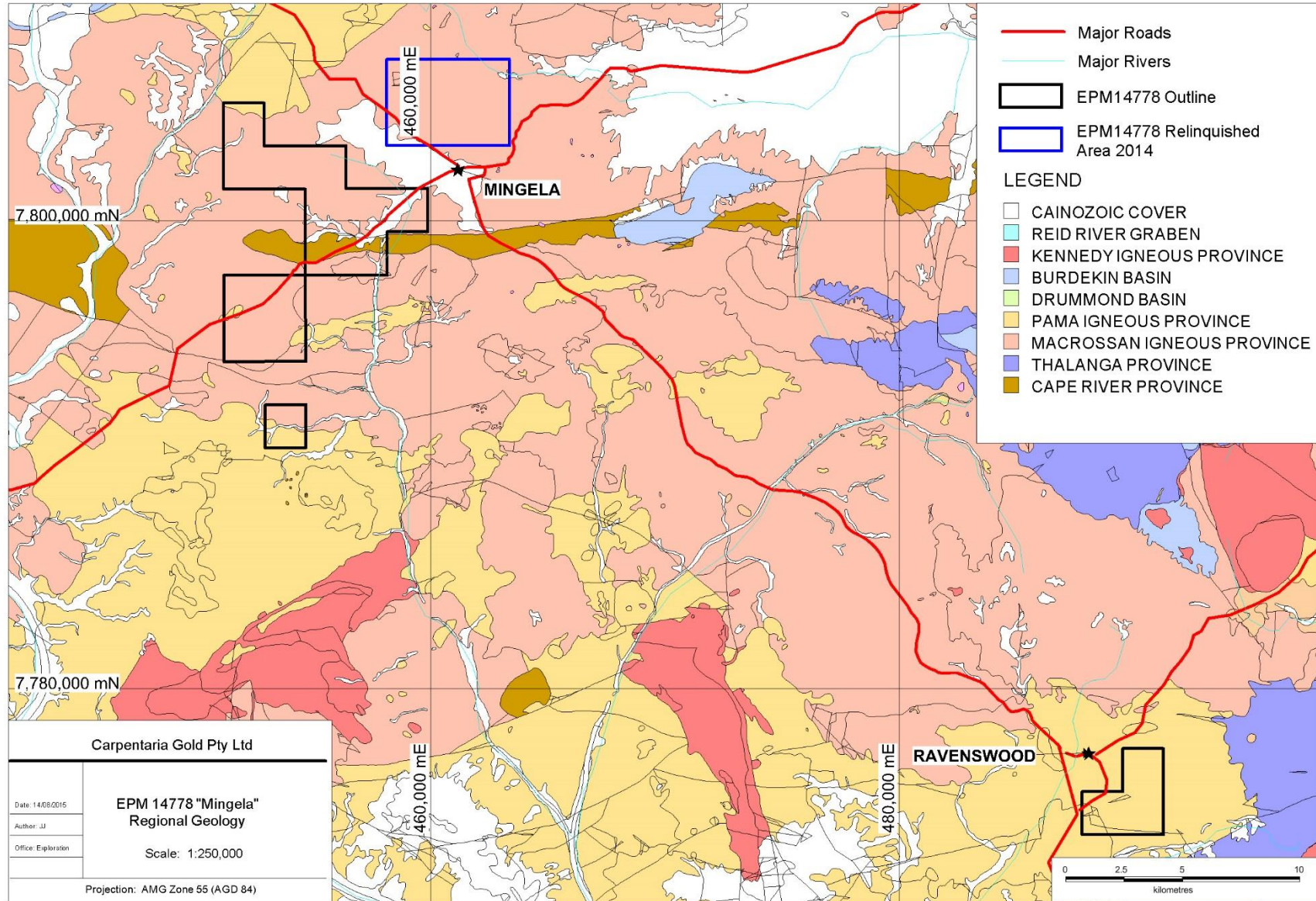


Figure 3: EPM 14778 - Regional Geology

5 Previous Exploration

Previous company exploration activity in the region has predominantly focussed on locating gold mineralisation associated with mesothermal veins and magmatic breccia pipes.

Historical tenements covered by EPM14778 and companies that conducted exploration in the area are outlined in Table 3.

Table 3: Historical Tenements Now Covered by EPM 14778

Company	Tenure	Years
Planet Metals	A to P 648M	1969-1973
Camira Mines NL	A to P 2642M	1981-1983
Anaconda Australia Inc	A to P 360	1966-1968
Gold Mines of Kalgoorlie	A to P 4210	1986-1993
Newmont Australia Limited	A to P 4789	1986-1987
Dalrymple Resources NL	A to P 5097	1986-1990
Australian Overseas Mining Limited	A to P 5075M	1987-1990
MIM Exploration/Carpentaria Gold Pty Ltd	EPM8190	1991-2001
MIM Exploration/Carpentaria Gold Pty Ltd	EPM8936	1992-2003
SMC Gold Limited	EPM10488	1995-2004

6 Work Completed within the Relinquished Sub-blocks of EPM 14778

Exploration work carried out over the relinquished sub-blocks from the 21st November 2005 to the 20th November 2014 included aeromagnetic / radiometric surveying and image processing, soil sampling (both regional and prospect scale) and rock chip sampling (Figure 4).

All soil and rock chip assay data are provided in digital format with this report.

6.1 Aeromagnetic / Radiometric Survey

Fugro Airborne Surveys Pty. Ltd. (FAS) flew a regional 3-sensor system airborne magnetic and radiometric survey between the 30th of July 2006 and the 9th of August 2006. Total coverage of the survey was 10,365 line kilometres (953 sq. km), including 13 sq. km over the relinquished portion of EPM14778. The survey was flown north-south at 100m line spacing (35 to 50m flight height) using an Aerocommander Shrike 500-S aircraft. The final raw data set was forwarded to the Mines Department on the 22nd January 2007.

Aeromagnetic / Radiometric Survey Statistics:

Survey Platform	-	Aerocommander Shrike 500-S VH-KAV
Data Acquisition System	-	FUGRO digital acquisition system
Total Field Magnetometer	-	Geometrics G-822A Caesium vapour (tail and wingtip)
Vector Magnetometer	-	Develco 3-axis Fluxgate
Magnetometer Compensator	-	Fugro FASDAS Mag Decoupler Unit
Gamma-ray Spectrometer	-	Exploranium GR820 256 Channels
Gamma-ray Detector	-	8 NaI(Tl) crystals; 33.56 L down
Navigation System GPS	-	Fugro Omnistar in VBS (Virtual Base Station) mode

	- Novatel OEM4 GPS receiver
Base Station Magnetometers	- 1 x Scintrex Envi Mag
	- 1 x Geometrics G856
Altimeter	- Sperry RT-220 radio altimeter
Barometer	- Paroscientific Digibaro altimeter
Thermometer	- Vaisala HMY 133 temperature & humidity sensor

The data was initially merged with previously collected data by an in-house geophysicist. In 2013, the data was re-processed by GeoDiscovery Group along with the most recent open file data to create seamless magnetic (Figure 5), radiometric (Figure 6) and gravity images (Figure 7).

6.2 Regional Soil Sampling

Thirty five -80 mesh soil samples (selected samples between CG107217-235, and CG113551-588) were collected from the relinquished sub-blocks as part of a district scale regional soil sampling program (Figure 8). Sample spacing varied between 500 x 500m, 1 x 1km or 2 x 2km. The samples were submitted to ALS in Townsville for Au analysis by method ST43 and multi-element analysis by method ME-MS41 (aqua regia digest).

The best Au results included 31.9, 11.7 and 5ppb, with the remaining samples returning Au values less than 2ppb. Multi-element results highlighted broad, but weak Ag, Bi, Te, Zn anomalism and stronger but more discrete Bi, Cu, W values.

Two rock chip samples (CG118877-878) were collected during the regional sampling program (Figure 8). Both samples were submitted to the Ravenswood mine laboratory and assayed for Au only by the PAL1000 (pulverise and leach) method. The best result was 0.04ppm Au.

The results were deemed to be of enough interest to conduct follow-up work and the prospect was named "Acacia".

6.3 Acacia Prospect

As follow up to the regional soil program, an additional 268 -80 mesh soil samples (CG115476-783) were collected at 200 x 200m spacing and were submitted to ALS for Au analysis by method TL43 and Ag, Cd, Cu, Mo, Pb, Zn analysis by method ICP43 (Figure 9).

Scattered, weakly anomalous Au values were identified throughout the prospect area, including a few highly anomalous values up to 147ppb. Ag and Zn was found to be broadly anomalous over much of the sampled area, with Ag values up to 1ppm. Cu (+Mo) was found to be strongly anomalous over a more discrete 1300 x 400 m zone in the centre of the sampled area, with values up to 352ppm.

Geological reconnaissance and rock chip sampling was also conducted over the area with 35 rock chip samples collected and assayed for Au only at the Ravenswood Mine laboratory (PAL1000 method). The majority of rock samples returned Au assayed less than 0.5ppm, although isolated high values including 14.77, 5.24 and 3.11ppm Au were obtained.

Although the geochemical data suggested the presence of a magmatic-hydrothermal system in the area, not enough encouragement was obtained to persist with the prospect, and work focussed on other, higher priority targets elsewhere.

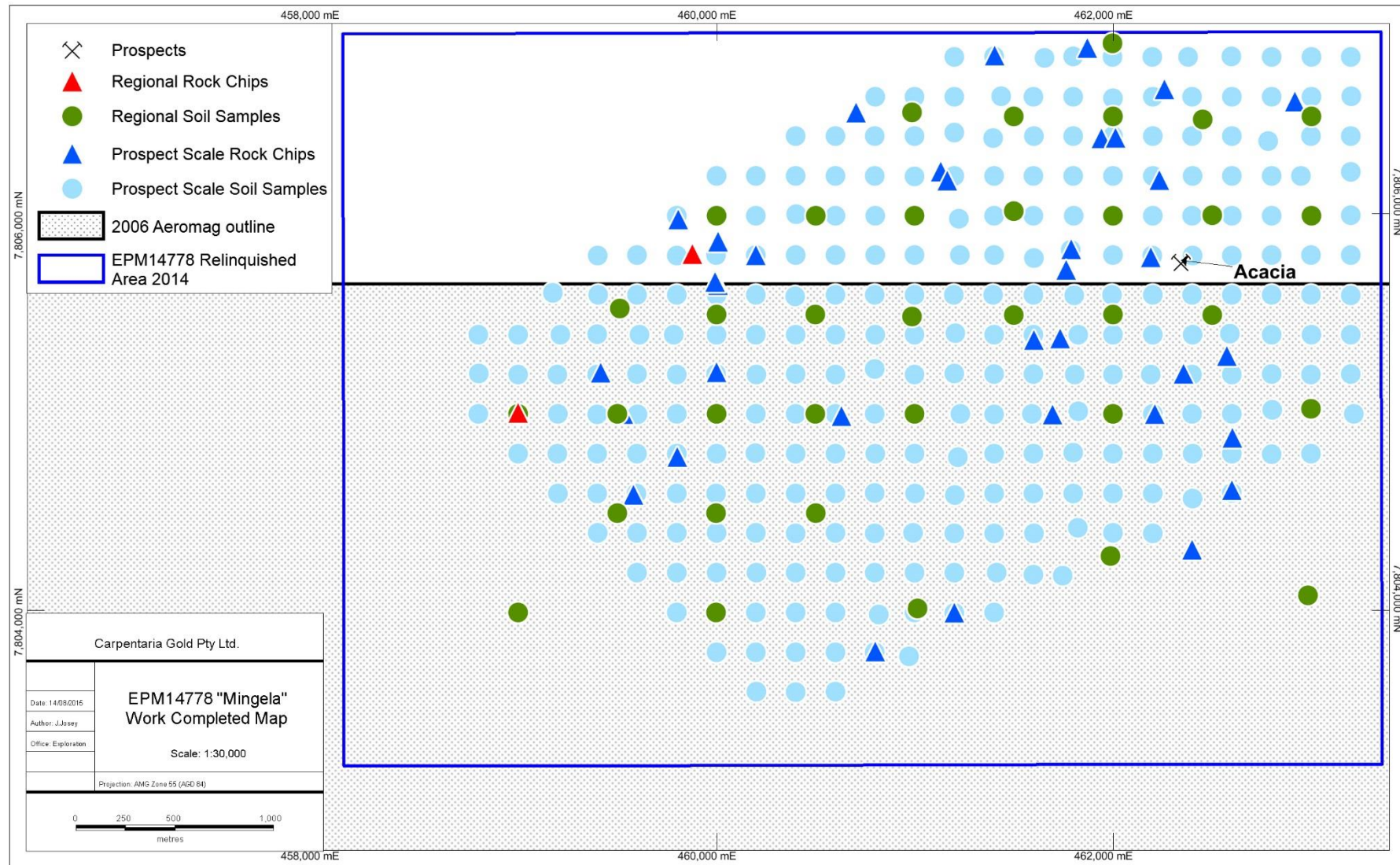


Figure 4: Work completed on relinquished sub-blocks

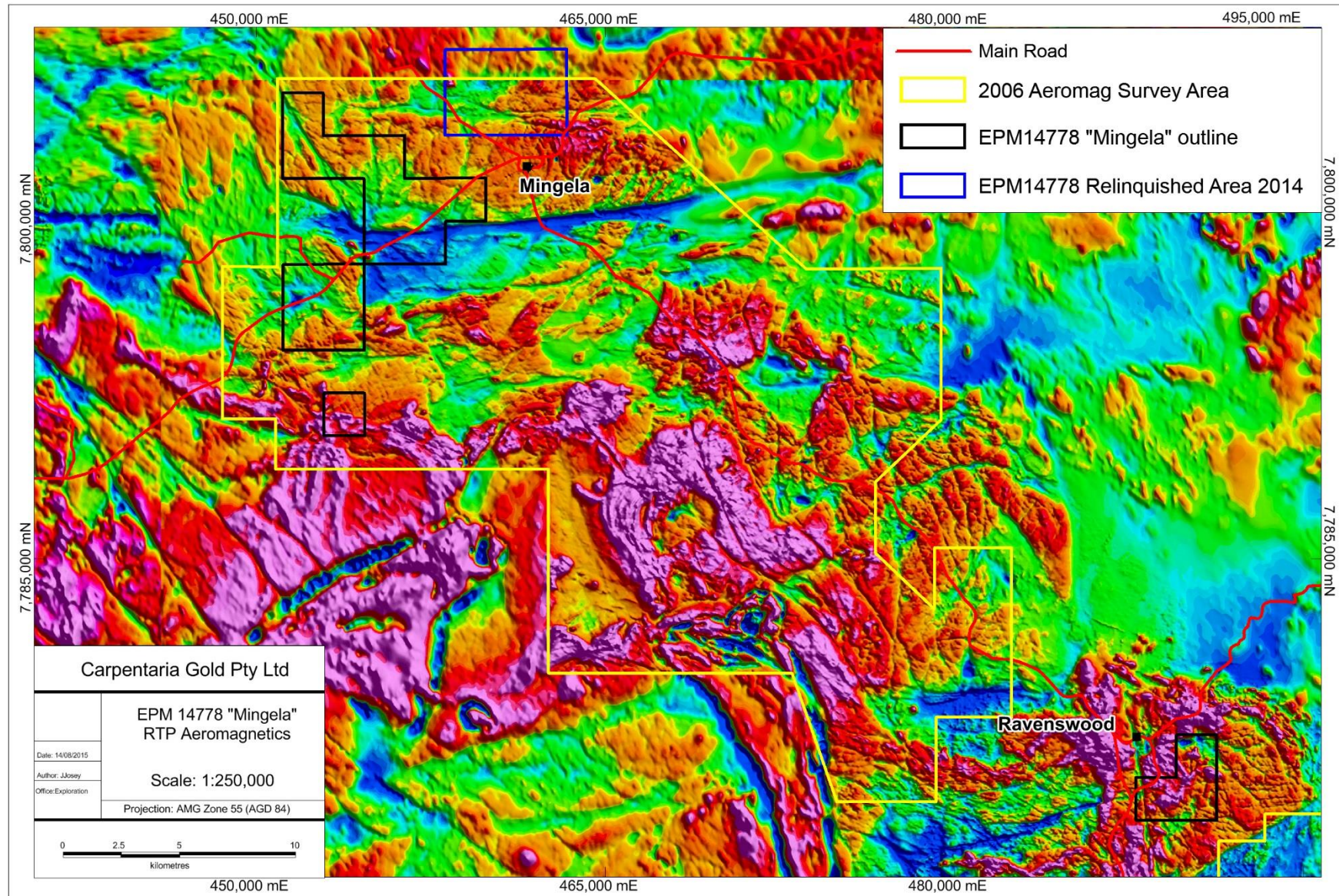


Figure 5: RTP Aeromagnetics Compilation Image

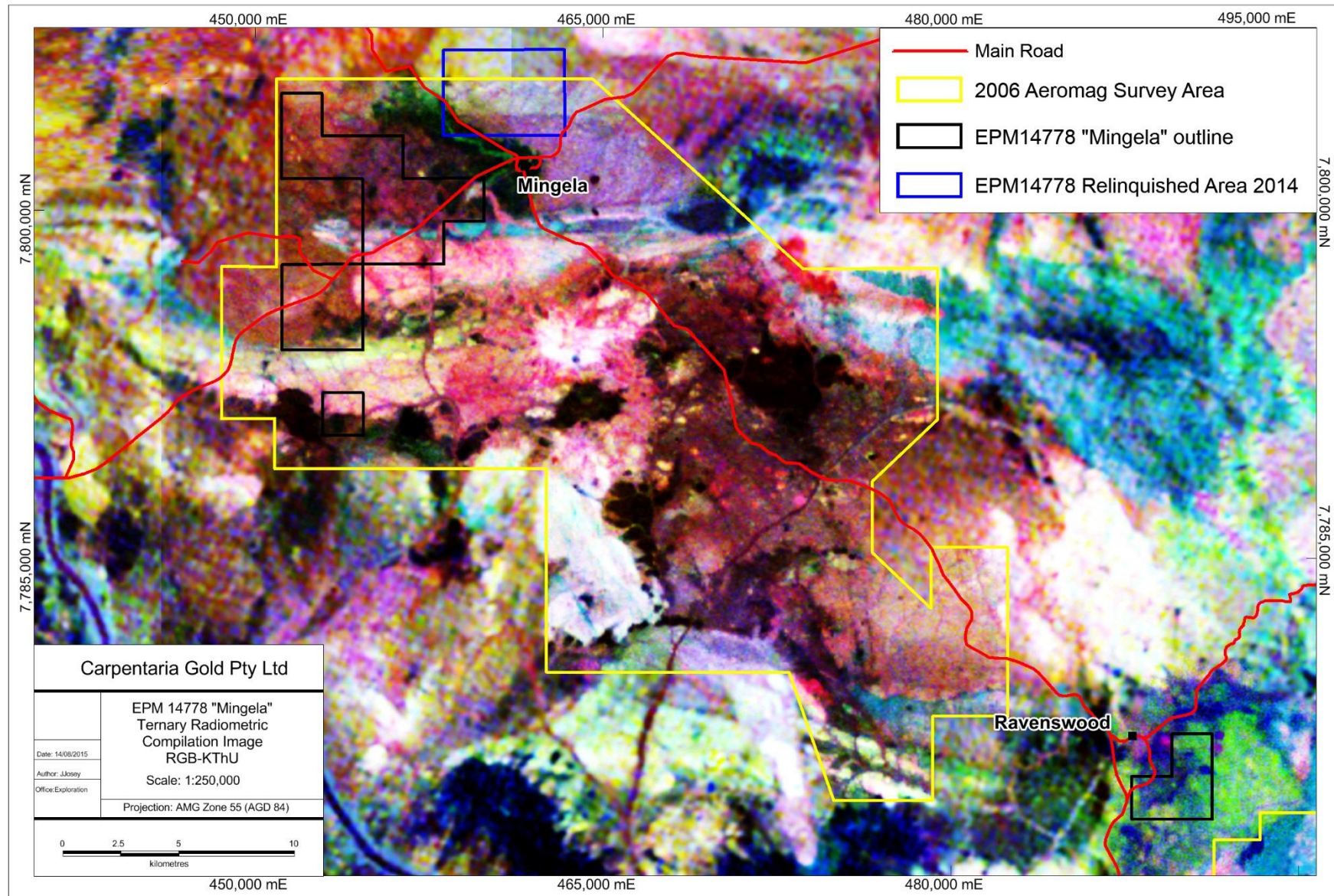


Figure 6: Ternary Radiometrics Compilation Image

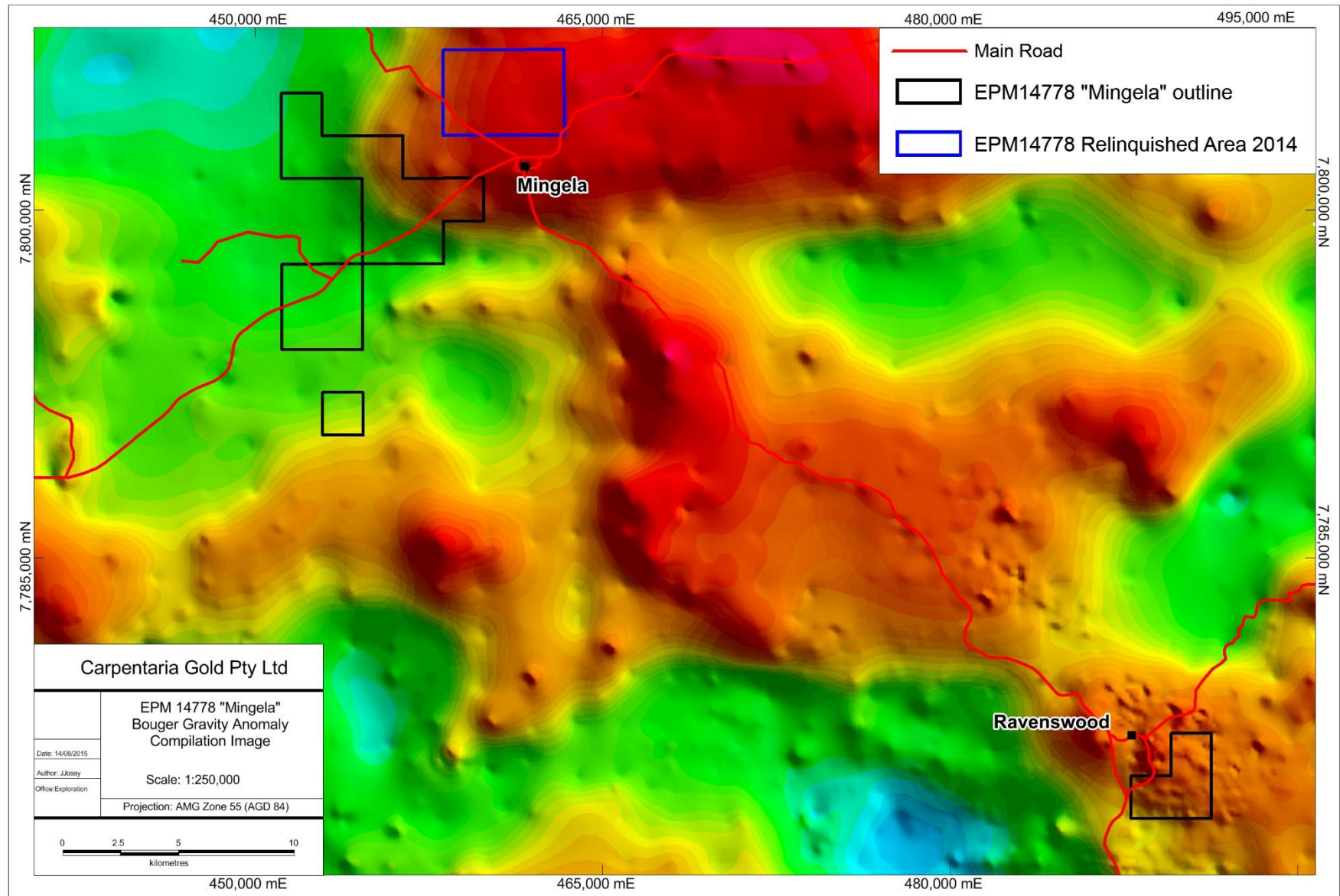


Figure 7: Bouguer Gravity Anomaly Compilation Image

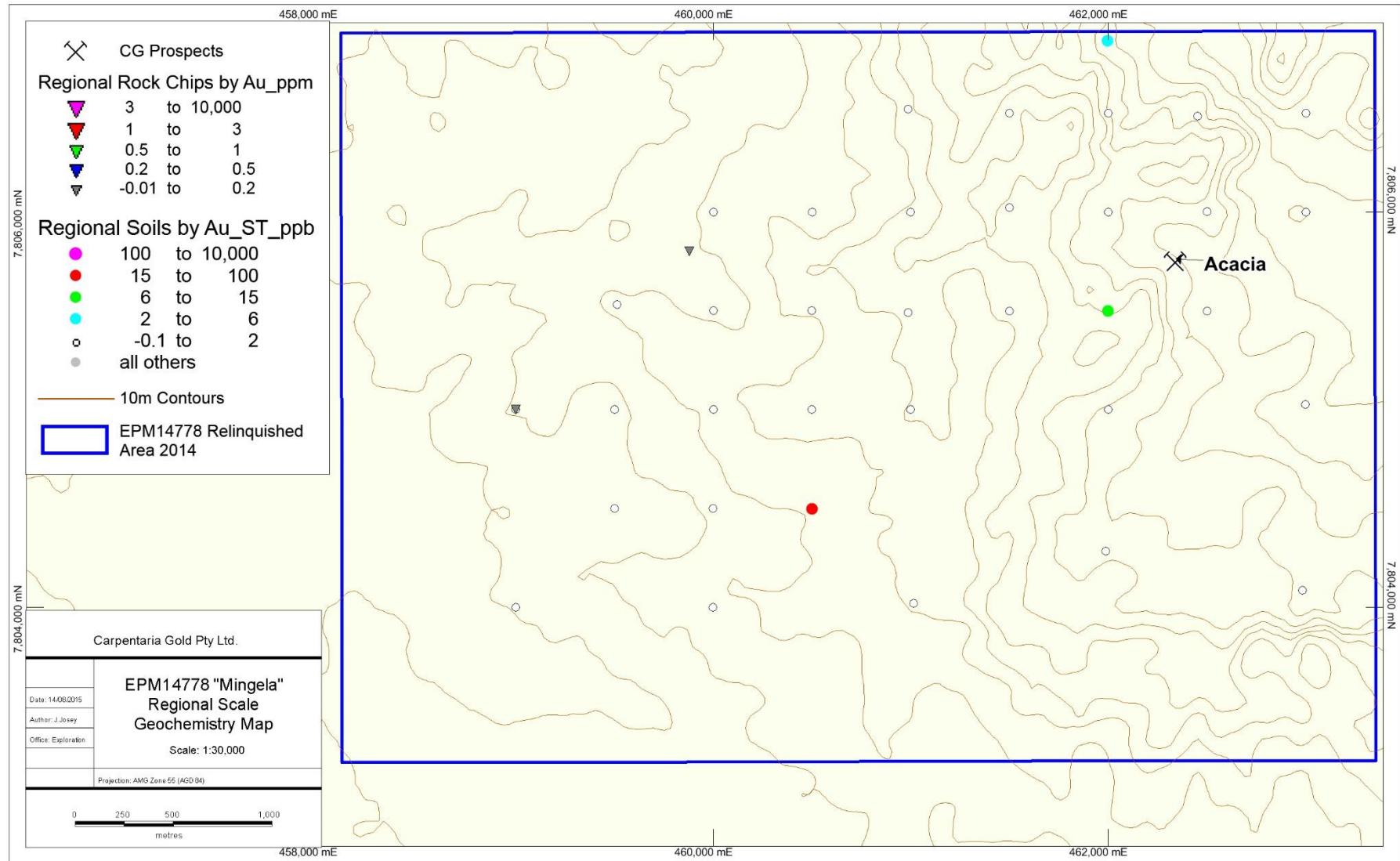


Figure 8: Regional soil and rock chip sampling (coloured by Au)

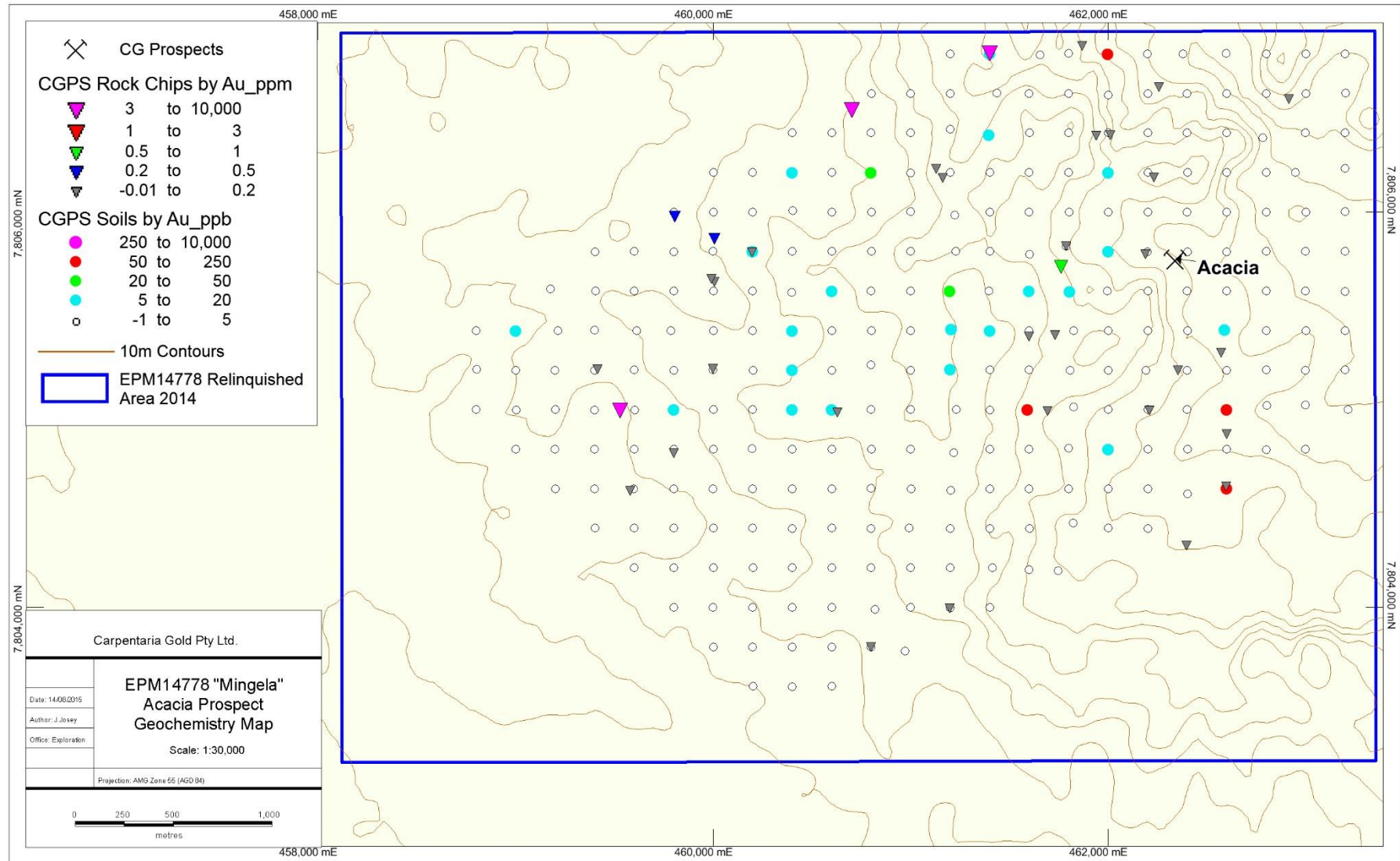


Figure 9: Acacia Prospect – soil and rock chip sampling (coloured by Au)

7 Environment

There were no earthworks or ground clearing activities conducted on the relinquished sub-blocks thus no environmental rehabilitation was required.

8 References

Hutton, L.J., Rienks, I.P., Tenison Woods, K.L., Hartley, J.S., Crouch S. B. S., 1994. Geology of the Ravenswood Batholith, North Queensland. Queensland Geological Record 1994/4, 124pp.

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