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Specialists in Mineral Exploration:
Geology and Computing

WISHBONE GOLD PTY LTD
EPM 19696 WISHBONE IV
ANNUAL REPORT 12 MONTHS ENDING 29/09/2015

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EXECUTIVE SUMMARY

Wishbone Gold Pty Ltd is 100% holder of EPM 19696 Wishbone IV, located 60km south of Townsville, North Queensland. This report documents work carried out over EPM 19696, Wishbone IV in the annual period, 12 months ending 29/09/2015.

Exploration during the reporting period has been regionally focused with the presence of the Wishbone tenement suite, comprising three contiguous tenures, in the Industry Priorities Initiative of the Future Resources Program 2014. Initial stages of the wider program were inclusive of the Wishbone project suite and assisted in providing a more comprehensive understanding of the metallogeny, geophysical and geochemical signatures of intrusion related deposits in the Charters Towers Region more broadly and the Wishbone suite specifically.

Based on the contiguous nature of the three Wishbone tenures and the unifying nature of the underlying geology, a request for project based permit administration was lodged in July of this year and was being assessed during the relevant reporting period.

The application identified twenty two sub-blocks in relatively inaccessible regions that could potentially be relinquished. No application was made to voluntarily surrender these areas during the relevant reporting period.

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1. INTRODUCTION

This report documents the work carried out over EPM 19696 Wishbone IV for period ending 29th November 2015. The tenement is situated 60km south of Townsville, on the eastern edge of the Palaeozoic Ravenswood Batholith. The EPM was taken up to explore mainly for gold mineralisation. Work conducted to date includes compilation of historic open file data and geophysical dataset reprocessing and interpretation.

2. LOCATION & TENURE DETAILS

EPM 19696 Wishbone IV was granted to Wishbone Gold Pty Ltd on 30th September 2013.

The area totals 67 sub-blocks (Table 1) and lies within the Mingela (8258) 1:100,000 map sheet area and the Townsville (SE5514) 1:250,000 sheet area, which are in UTM zone 55. Location of sub-blocks and blocks are shown on Figure 1.

Table 1: sub-block identification details

Sheet Name	Sheet Reference	Block	Sub Block
Mingela	8258	3344	E K P
Mingela	8258	3345	A B F G H J K L M P U Z
Mingela	8258	3346	F G H J K L M N O P Q R S T U V W X Y Z
Mingela	8258	3347	F G L M Q R S T U V W X Y Z
Mingela	8258	3418	A B C D E F G L M Q R V W
Mingela	8258	3419	A B C D E

The tenement forms part of the Wishbone Gold "Wishbone Project" which consists of three granted permits; EPM 18396, EPM 19633 and EPM 19696; tenement details listed in table 2.

Table 2: Wishbone Project tenure details

Tenure	**Name**	**Status**	**Date Applied**	**Date granted**	**Date expires**	**Subblocks**
EPM 18396	Wishbone II	Granted	19/11/2009	19/04/2011	18/04/2016	21
EPM 19633	Wishbone III	Granted	13/04/2012	30/01/2013	29/01/2018	12
EPM 19696	Wishbone IV	Granted	9/05/2012	30/09/2013	29/09/2018	67

Exploration permit 19696 is located approximately 60 kilometres south of Townsville, in north Queensland. Location and access is shown on Figure 2.

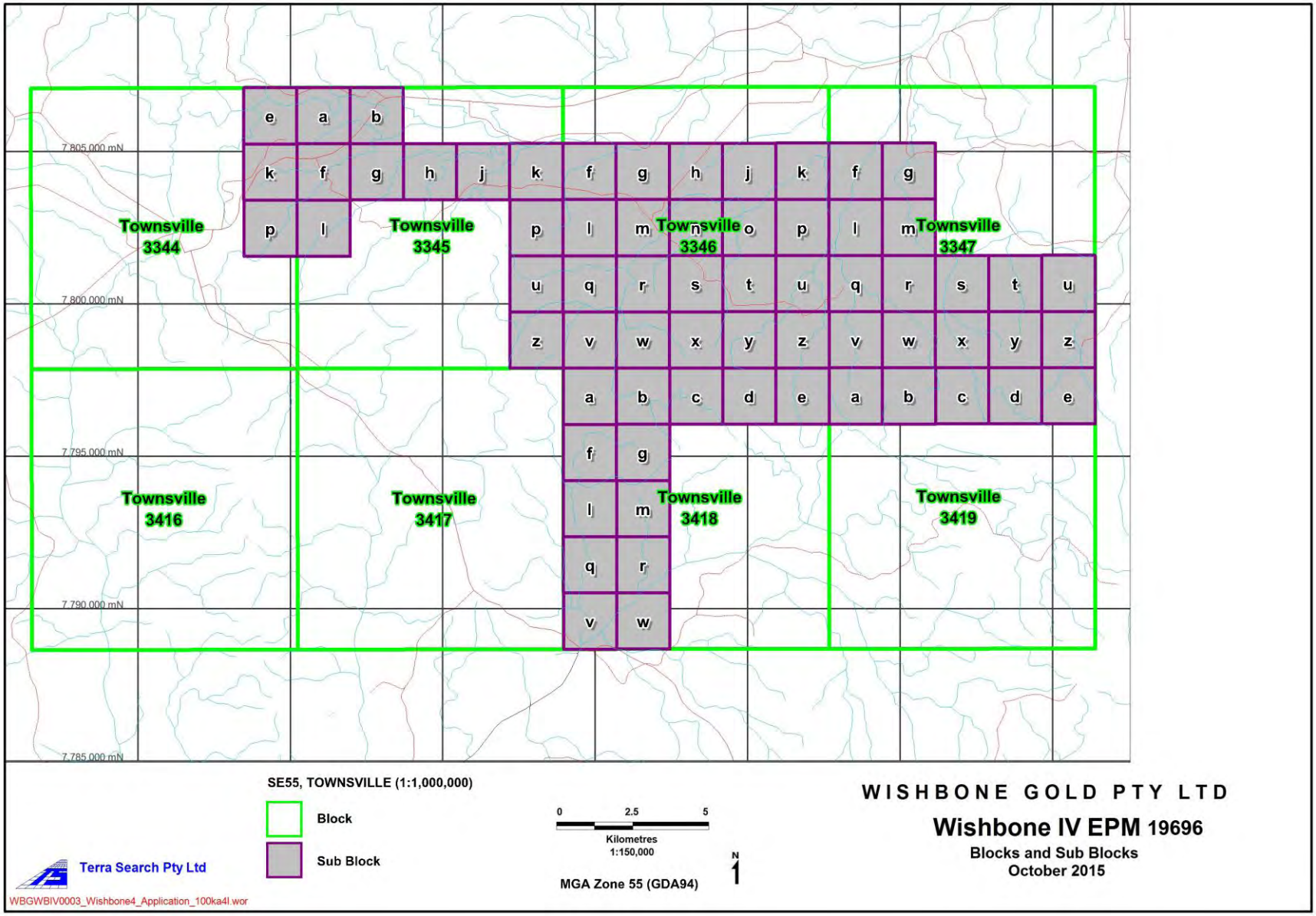

Figure 1. Tenure Map

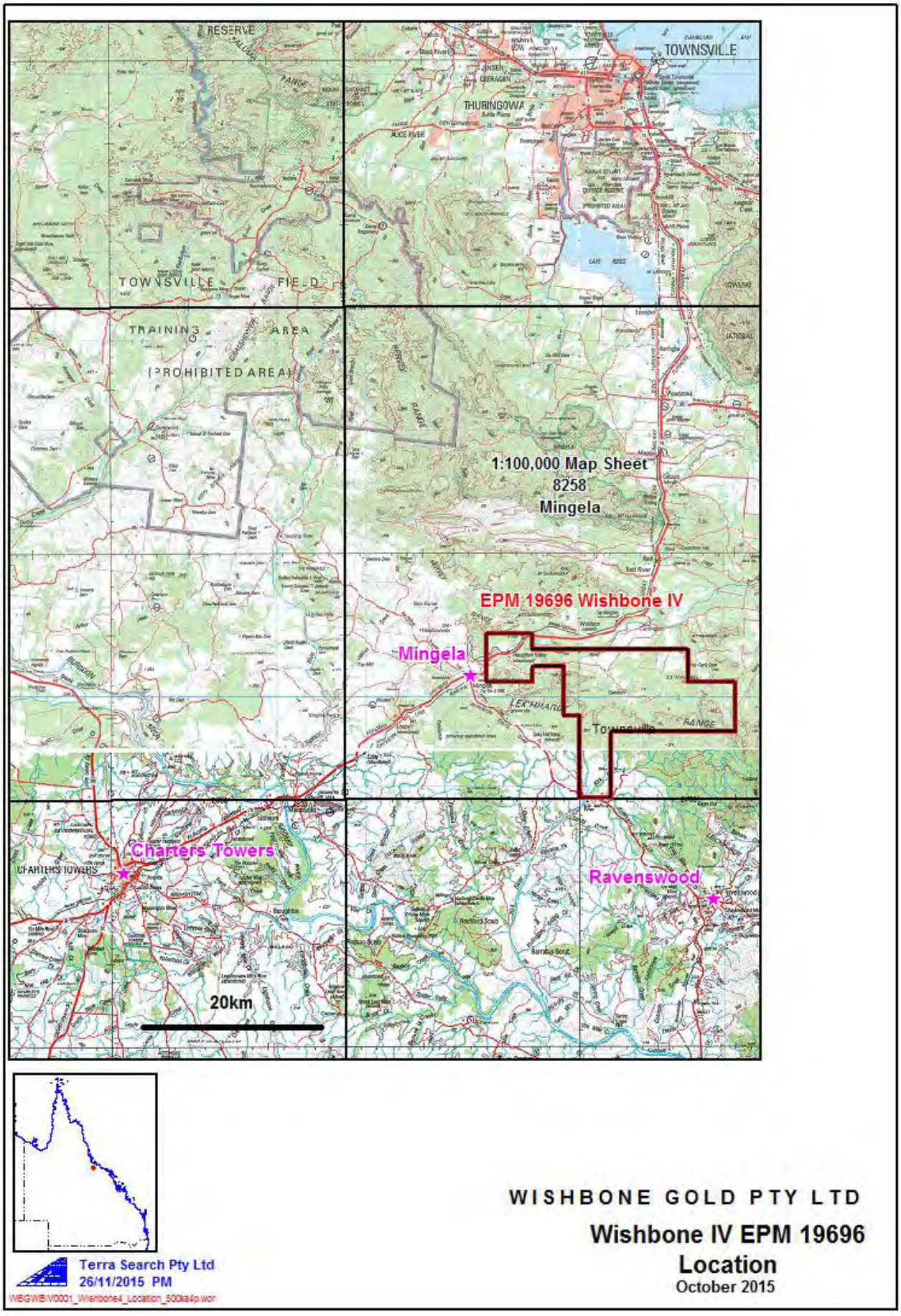

Figure 2. Location Map

3. REGIONAL GEOLOGY

The project area occurs in the Ravenswood – Lolworth Province which consists of probable Proterozoic metamorphic basement and Cambro-Ordovician sedimentary volcanic and metamorphic rocks intruded into Silurian granitoids (figure 4) (Metals, 1986). The Province is overlain by marine shelf and continental sedimentary rocks of Devonian-Carboniferous age. The Ravenswood-Lolworth Province generally trends east to east-west-southeast contrasting strongly to the surrounding provinces. To the north a north to northeast trend controls the rocks of the Hodgkinson and Broken River Provinces and Thomson Fold Belt to the south, and a north to northwest general trend within the New England Fold Belt to the east and southeast (Wyatt et al, 1970, Levington, 1981).

The Ravenswood-Lolworth Province has been previously mapped and examined by various geologists of the Commonwealth and State Governments in joint parties (Wyatt et al. 1970; Wyatt et al. 1971). These are set out in the 1:250,000 map sheets of the Townsville and Charters Towers area and explained in detail in Wyatt et al, 1970, and Wyatt et al, 1971. Descriptions of the regional geology have been produced in several exploration reports, notably Dalgarno (1967), Metals (1986), Hamilton (1987), Gannon (1988), and James (1997).

The oldest rocks in the area belong to the Charters Towers Metamorphics unit, which outcrop to the north and west of Charters Towers as the roof pendants in the Ravenswood Granodiorite Complex (John, 1985). These Metamorphics have been estimated to be Cambro-Ordovician in age (John, 1985). Similar in age are the Kirk River Beds that occur at the head of the Kirk River to the east of the project area. The Kirk River Beds include an assemblage of micaceous shale, siltstone, lithic and feldspathic sandstone, and arkose (John, 1985).

All of the above units were intruded by the Ravenswood Granodiorite Complex (Hamilton, 1987). The intrusion of this complex was accompanied by a major orogeny which destroyed the existing sedimentary basin and produced a structural high which controlled later deposition. The intrusion of the Complex continued into the early Devonian (Hamilton, 1987).

The project area is mainly incorporated in the Ravenswood Batholith, the largest element of the Complex. The Ravenswood Batholith and Lolworth Batholiths were intruded during the Siluro-Ordovician time (Wyatt et al, 1970).

The Ravenswood Granodiorite Complex holds the most geological importance in the area. It extends to incorporate approximately 7,500 square kilometres with most rocks in the project area being underlain by the complex [epm2642]. The Ravenswood Granodiorite complex consists of an older phase of granodiorite and tonalite with minor gabbro, diorite and granite, followed by a younger phase consisting largely of granite (Wyatt et al, 1970). Rb-Sr dating has given a 481 myr Isochron (Middle Ordovician) for the first phase and around 420 my (Late Silurian) for the second phase (Metals, 1986). Several attempts have been made to classify the rocks of the complex with Clarke (1969) subdividing it into separate phases and recognizing 8 distinct subunits of the Batholith (John, 1985).

The earliest and most widespread phase is the main granodiorite. The Glenell Granodiorite has been distinguished as a slightly later phase. Several phases of granite and adamellite which are later than the granodiorite have been named by Clarke. These include the Mosgardies Adamellite, the Millaroo Granite, and the Kirklea Granite. They are referred to as the “late acid phase”, as distinct from the main granodiorite phase, on the 1:250,000 geological maps of Townsville and Charters Towers (Wyatt et al, 1970, Wyatt et al, 1971). The Collopy Formation, of Mesozoic age, forms ‘The Bluff’. The complex is intruded by a wide range of basic, intermediate and acid dykes, whose real ages and affinities cannot usually be determined, however most are believed to post date the granodiorite (John, 1985). A stratigraphic column of the major lithological units and corresponding mineralisation periods are outlined in Table 1.

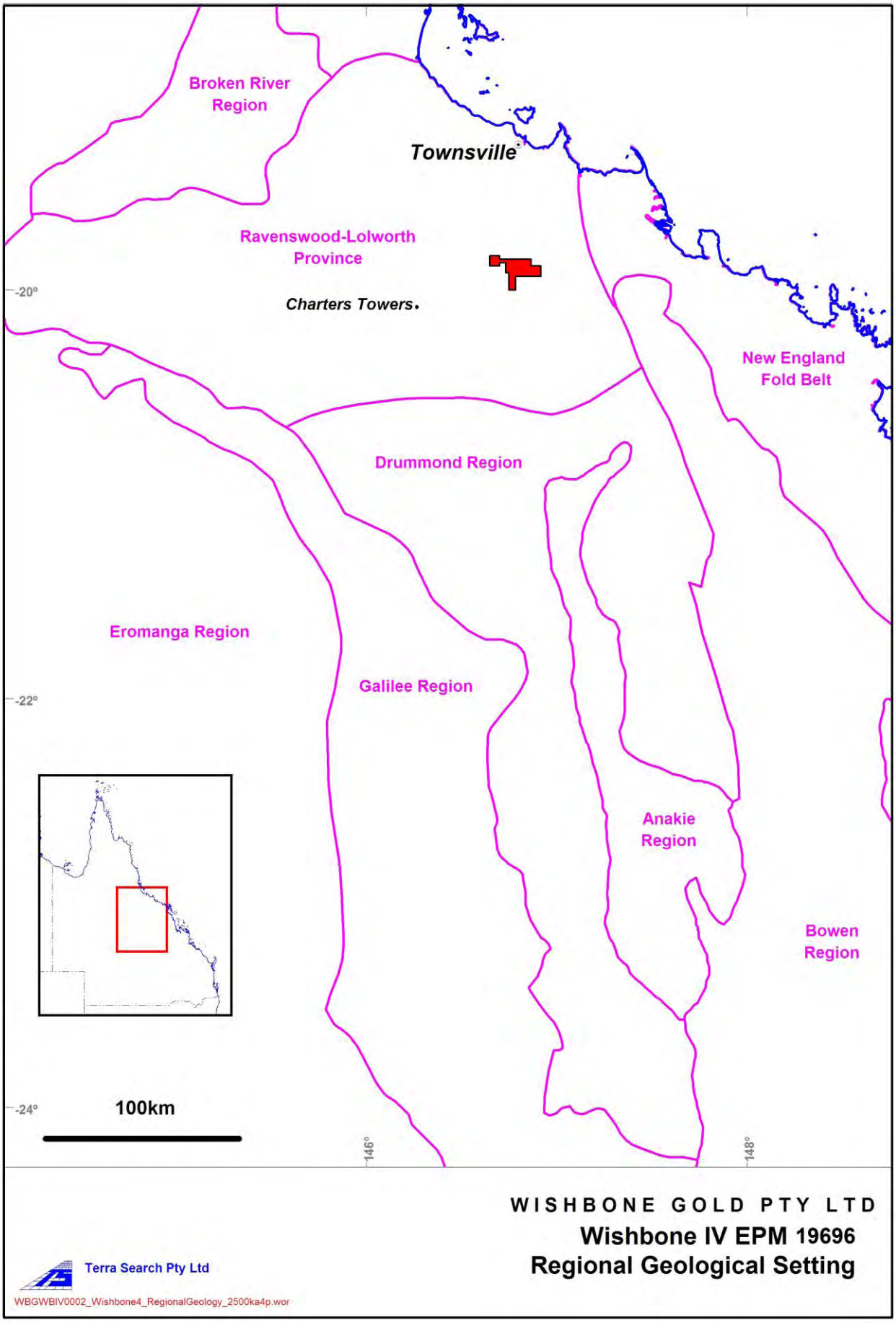

Figure 3. Regional Tectonic Map

TABLE 3: STRATIGRAPHIC COLUMN WITH A CLASSIFICATION OF GOLD DEPOSITS IN THE LOLWORTH – RAVENWOOD PROVINCE From Metals (1986)

ERA	PERIOD OR EPOCH	ROCK UNIT NAME OR SYMBOL		RELATIONSHIPS	STRUCTURAL / DEPOSITIONAL ENVIRONMENT	REMARKS
CAINOZOIC	QUATERNARY	Qz		Superficial	Alluvium	Main source of underground water
		Sellheim Formation Qe		Superficial	Probably high level deposits of the ancestral Burdekin River. Environment possibly lacustrine	Silicified wood locally abundant. Possibly of Pleistocene age (Wyett el at. , 1965, 1969, 1987 and to press)
	EARLY TERTIARY	Tl				
		Tu				
PALAEOZOIC	UPPER CARBONIFEROUS OR LOWER PERMIAN	Boori Igneous Complex	C-Pb3	Intruded Ravenswood Granodiorite Complex, and C-Pb2	Episonal composite stock	Resembles C-Pt2 phase of Tuckers Igneous Complex
			C-Pb2	Intrudes C-Pb1 with strong shearing at contact. Intruded by C-Pb3		Resembles C-Pt1 phase of Tuckers Igneous Complex
			C-Pb1	Intrudes Ravenswood Granodiorite Complex and Carboniferous volcanics (Cur)		Possibly magmatically related to C-Pb2 and C-Pb3 phases
		Tuckers Igneous Complex	C-Pt4	Intrudes all other phases of Tuckers Igneous Complex.	Episonal composite stock	Small dykes and veins. Other small masses marginal to the complex
			C-Pt3	Intrudes C-Pt1 and C-Pt2, Intruded by C-Pt4		Y-shaped sheet intrusion
			C-Pt2	Intrudes Ravenswood Granodiorite Complex and Carboniferous Breccia (Cur). Intruded by C-Pt3 and C-Pt4		
			C-Pt1	Intrudes Ravenswood Granodiorite, Complex and Carboniferous volcanics (Cuv). Intruded by, or possibly gradational to C-Pt2		Gabbro similar to gabbroic rocks (O-Dd) of doubtful age which form small masses throughout the Ravenswood Granodiorite Complex
	UPPER CARBONIFEROUS OR LOWER PERMIAN		C-Pg	One stock intrudes the Mt Windsor Volcanics. A twofold intrusion in the north east of the area (in which C-Pg1 intrudes C-Pg) intrudes the Ravenswood Granodiorite complex	Episonal stocks	
			C-Pg1			
	UPPER CARBONIFEROUS	Cuv		Overlie or intrude the Ravenswood Granodiorite complex. Intruded by the Boori and Tuckers Igneous Complexes	Extrusives and associated intrusives	
		Cur				Not appreciably folded. Gold mineralization in intrusive breccia at Mt Wright
	U. SILURIAN OR L. DEVONIAN	Barrabas Adamellite	S-Db	Intrudes Ravenswood Granodiorite Complex (O-Dr)	Post-tectonic intrusion	Associated copper and molybdenum mineralization at Kean's prospect. Isotopic age 394 to 30 m.y.
			S-Dbg	Intrudes S-Db	Differentiate of S-	Numerous associated micro-granite

					Db	dykes
	MIDDLE ORDOVICIAN AND UPPER SILURIAN OR LOWER DEVONIAN	Ravenswood Granodiorite Complex	O-Da	Small separate unnamed intrusions. Some intrude the Mt Windsor Volcanics, others O-Dr and some O-Dg	Late stage differentiates	Small granitic masses related to the O-Dg / O-Dk period if intrusions
			Kirklea Granite O-Dk	Intrudes O-Dr	Late stage differentiate	Lower intrusive contacts mostly gently dipping. Gold mineralization at Kirk. Isotopic age 454 +/+ 30 m.y.
			Millaroo Granite O-Di	Intrudes Kirk River beds. O-Dr, O-Dg. Intruded by breccia (Cur) at Mt Wright	Late stage differentiate	Contact shallowly or moderately dipping. Intruded by numerous dykes. Isotopic age 454 +/- 3.
			Mosgardies Adamellite O-Dm	Intrudes O-Dr; probably intrudes O-Dg, but shearing obscures relationship; intruded by micro granite and micro diorite dykes	Possibly a contaminated differentiate	Southern contact flatly dipping beneath O-Dr. Minor associated gold mineralization. Isotopic age 454 +/- 30 m.y.
			O-Dc	Intrudes O-Dr; intruded by granite dykes related to nearly O-Dn mass, and by Tuckers igneous Complex	Possible differentiate	No known associated mineralization
			Glenell Granodiorite O-Dg	Intrudes O-Dr		Minor associated gold mineralization. Isotopic 454 +/- 30 m.y.
			O-Dr	The initial and most widespread phases of the complex		Host to almost all Au, Ag, Mo, Cu mineralization. Isotopic ages of 454 + 30 and 394 + 30m.y. (See Appendix)
	CAMBRIAN ORDOVICIAN	Kirk River Beds	C-Ok	Intruded by Millaroo Granite	Poorly sorted; graded bedding and turbidity structures	Gold mineralization at Bunkers Hill in Townsville 1:250,000 sheet area
		Cape River beds	C-Oc	Roof pendant in main granodiorite phase of Ravenswood Granodiorite Complex (O-Dr)		Contact with main granodiorite phase (O-Dr) moderately dipping
			Mount Windsor Volcanics C-Ow	Intruded by O-Dr, O-Dc, O-Dn, C-Pg. Contact with O-Dr generally faulted		Gold mineralization at Brookville and at various points in Robey Range

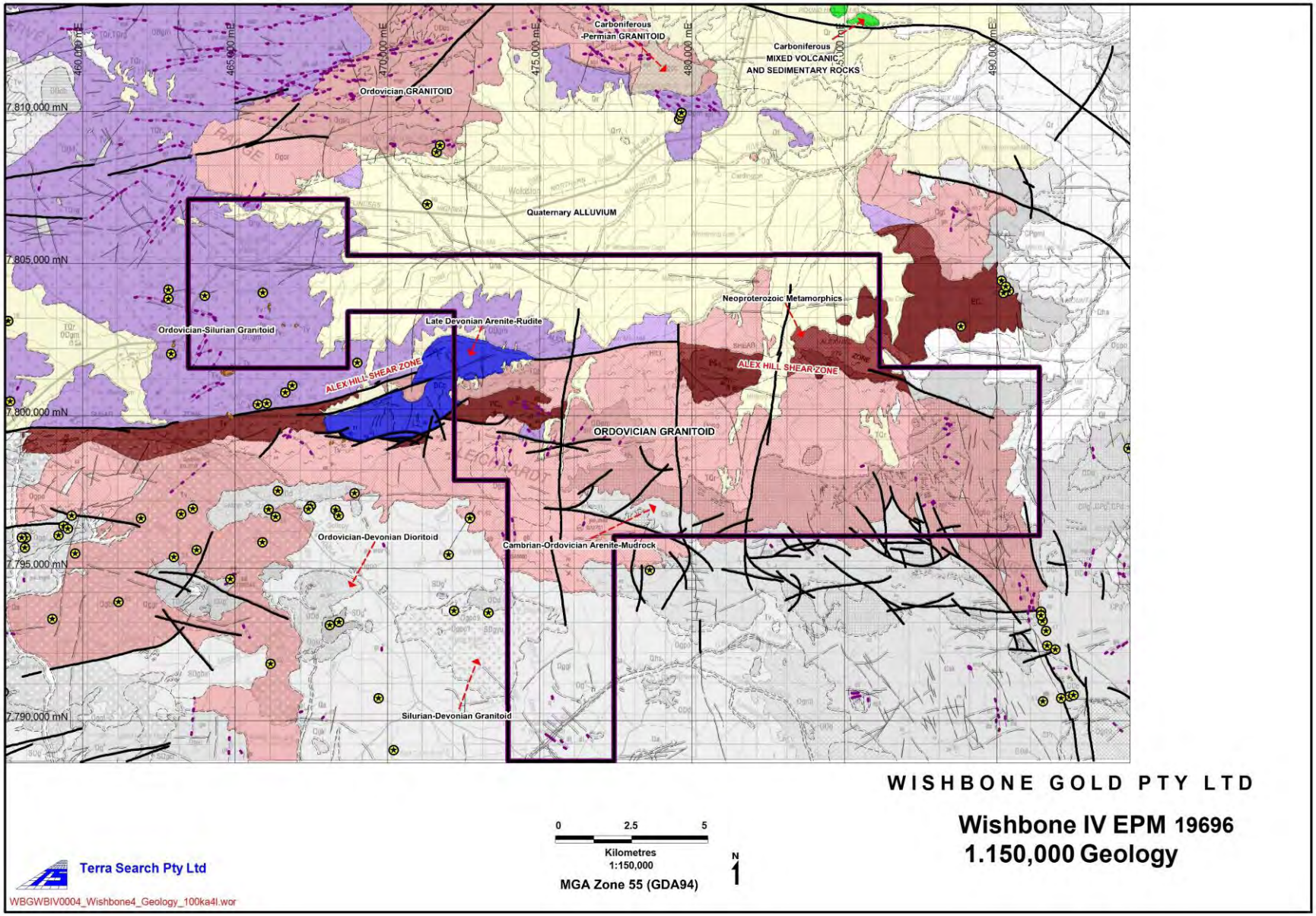

Figure 4. Geology Map

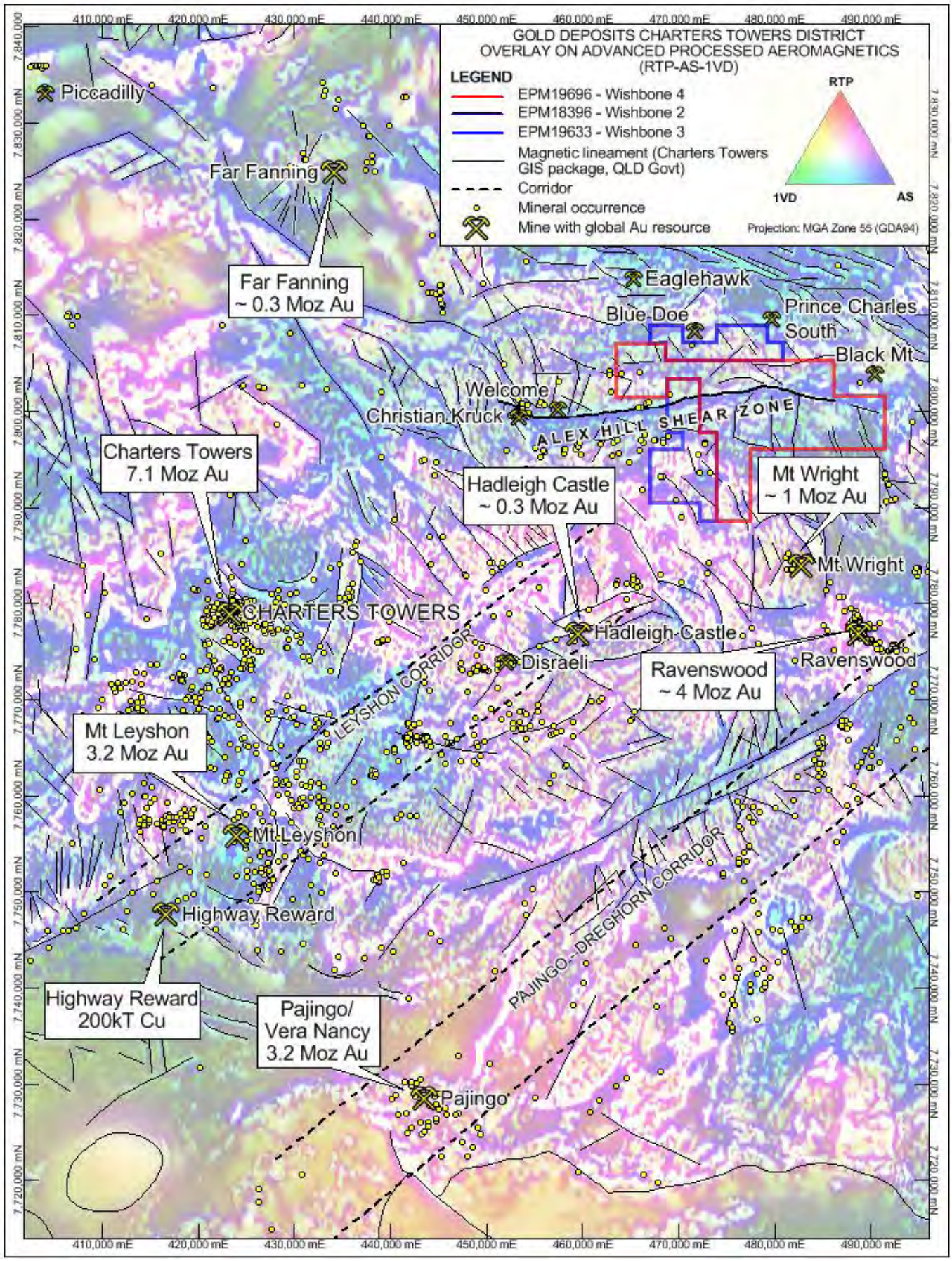

Figure 5. Gold deposits shown on Aeromagnetics

3.1 STRUCTURE

Some of the biotite and hornblende granodiorites of the first phase are foliated, suggesting a possible Middle Ordovician age for a major deformation event, which, particularly west of Charters Towers, affected the Cape River Beds, Mt. Windsor Volcanics and the Charters Towers Metamorphics (John, 1985). The major tectonic episode appears to have been the Siluro—Devonian orogeny which is expressed as a regional upwarp with granitic and early Palaeozoic rocks occupying the axial region. Drag folds suggest slight overturning to the northwest with northeasterly oriented fold axes. Attitudes of the late palaeozoic rocks reveal more localised areas of disturbance, the orientation of flow banding being the most obvious structural guide for the younger folding. The Collopy Formation is only gently folded with steep dips confined to faulted areas (Dalgarno, 1967).

Jointing and cleavage are developed in the Kirk River and Cape River Beds, and although there is evidence of folding in the Devonian - Carboniferous sequences, induration and jointing are not as pronounced as in these older rocks (Dalgarno, 1967). A striking structural feature lying south of Mingela is the Alex Hill Shear zone, which trends west from House Camp Mill to Marmy Creek (figure 4). The zone is distinguished in aerial photographs by its strongly linear pattern. The rocks forming this linear pattern were mapped as mylonites in a report on Authority to Prospect No. 360M and were more recently mapped by the GSQ on the 1:100,000 Mingela sheet as Cambrian-Ordovician metamorphics (figure 4) (Rienks et al, 1996). This feature also wholly contains a sandstone outlier known as The Bluff which is regarded as being possibly Devonian in age. The 1:250,000 Townsville geological map sheet defines a broad zone of leucocratic granites adjacent to the shear zone (Wyatt et al, 1970). Some gold mineralisation, though outside the area covered by the Authority, appears to be related to the Alex Hill Shear Zone including Christian Kruck & Commotion and a number of unnamed workings which appear on the 1:250,000 geology sheet (Wyatt et al, 1970). A strong west-northwest fault trend diverges from the shear zone through the northern section of the Authority (Gannon, 1988).

The Alex Hill Shear Zone ranges from 2.4 to 6.4 km in width, and the degree of shearing is variable. Where the zone transgresses the Ravenswood Granodiorite, phyllite, schist and gneiss have developed (Metals, 1986). The shear zone has been displaced or truncated by a post Tournaissian northwesterly fault extending from Exley to Keelbottom Creek. Numerous east-west faults which occur in the region are probably controlled by the shear direction and displacement of Mesozoic sediments indicates the shear was still a line of weakness until then

(Metals, 1986). The shear zone is probably one of the features controlling the distribution of mineralization westward from Grass Hut to Salas Siding, Tanning and Marmy Creek (Metals, 1986). The shear zone parallels that of the Mosgardies Shear Zone to the south at Ravenswood. Interestingly, the Mosgardies Shear appears to be the controlling structure on the formation of the major gold producing E-W trending "Buck Reef" in Ravenswood (Metals, 1986). Most dates relating to the younger phase of the intrusion appear to be concentrated along an east-west zone in the axial region of the east west orientated batholith (Metals, 1986). It is also in this zone that the major gold mining centres were located and as more absolute dates became available, the evidence suggests that the younger intrusion episode was the more important economically (Metals, 1986).

The detailed magnetic images of the area clearly show sets of well-developed structures that transect the area. Many of the larger gold deposits in the region are coincident with these structures (figure 3). The most obvious structures in chronological order are:

(1) Wide major east-west linear magnetic lows, as exemplified by the Alex Hill Shear Zone. The magnetic lows result from magnetite destructive alteration often associated with development of a hydrothermal fluid and mineralisation.

(2) Northwest trending linear magnetic lows.

(3) Northeast trending magnetic lows.

(3) Northeast trending magnetic lows.

3.2 LOCAL GEOLOGY

The majority of the EPM is covered by Quaternary alluvium derived from surrounding granitoids, metamorphics and sediments. One historic gold working is located within the Quaternary sediments in the centre of the EPM. In the north west of the EPM Ordovician – Silurian Granitoids outcrop which host a line of deposits south of the EPM namely Cowhead Mountain (AU), Cowhead Reef (CU), Mount Sulphide (AG-AU), and Mount Sulphide East (AU-CU) (figure 4). These deposits lie just north of the large mineralisation related Alex Hill Shear Zone. This zone separates the Granitoid intrusion to the north with an assemblage of Charters Towers Metamorphics, Neoproterozoic – Cambrian in age. The rocks of the metamorphics consist of mica schist; quartzite; quartz-feldspar-biotite gneiss; hornblende schist; cordierite, andalusite and staurolite hornfels; chlorite schist; and marble. A small pocket of sandstones and conglomerates belonging to the Collopy Formation of late Devonian age is outcropped within

the extensive Alex Hill Shear Zone south of the EPM (figure 4). A further intrusion of pink to greenish grey, medium to coarse-grained, porphyritic biotite granite known as the Pocket Dam Granite outcrops to the south of the EPM (Rienks et al, 1996). This intrusive hosts several small AU deposits including Oaky Creek, Bex, as well as an unnamed small CU occurrence.

Several other significant intrusive rock units have been mapped throughout the south of the EPM and host small gold and base metal deposits. These include the Brittany Granite which hosts the City of Melbourne (AU); the Ordovician – Devonian aged Ravenswood Batholith responsible for hosting the Mountain Maid (AU), Mount Iyle (AU), Grass Hut (AU); as well as the Yulga Tonalite, not yet related to mineralisation (figure 4) (Rienks et al, 1996).

3.3 DEPOSIT TYPES

On the basis of accumulated evidence, the gold deposits of the Lolworth-Ravenswood Province fall into two dominant styles (figure 4) and ages:

- Granite-hosted mesothermal gold veins often classed as “plutonic” e.g. Charters Towers style quartz veins, with recorded ages of around 400ma (Devonian) that are similar to the age of many of the granites in which they are hosted.

- Intrusive-related gold systems associated with breccias and regarded as having high-level sub-volcanic (porphyry) affinities, e.g. Mt Leyshon and Ravenswood/Mt Wright. Lower temperature, high and low sulphidation epithermal style precious metal deposits also well developed in the Drummond Basin to the south, e.g. Pajingo and Silver Hills. Younger ages of around 290ma (permo-carboniferous).

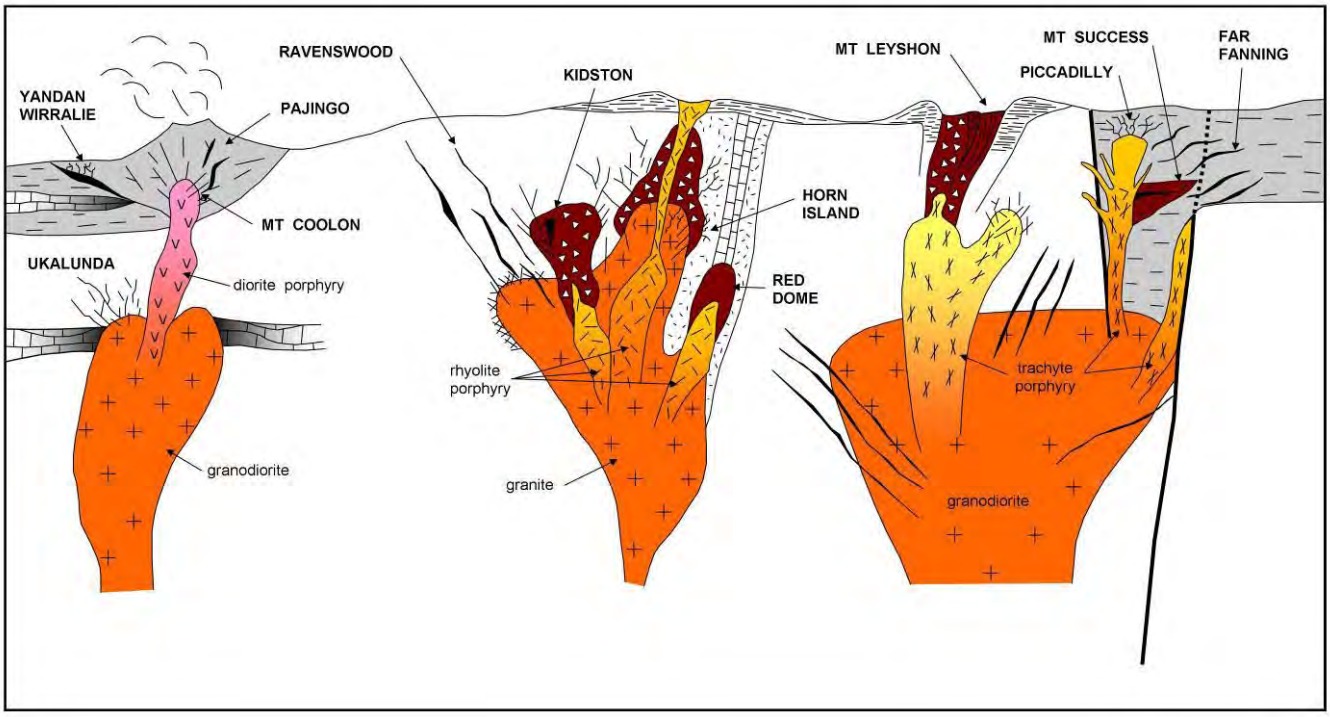

Figure 6. Porphyry, plutonic and epithermal styles of gold mineralisation in different igneous associations in North Queensland (Modified from Morrison & Beams, 1995).

"Plutonic" Charters Towers-Style Gold Lodes

Peters (1987) produced an excellent account of the Charters Towers lode gold mineralization style, building on the detailed pioneering work of Jack, Reid, and Connolly.

The Charters Towers veins are regarded as deeper level or mesothermal and probably magmatic related lode deposits. Through-going quartz veins infill fissures and faults. Gold-bearing shoots occur within the veins at structurally controlled locations, e.g. plunging shoots at the intersection of veins with planar features such as dykes or other faults. Many of the shoots occur along kilometre scale fault zones predominantly hosted by granitic rocks. The lodes of Charters Towers are typically narrow (0.3–1.2m wide), high-grade veins. Infill material varies along the fractures and the veins frequently display pinching and swelling. Associated sulphides are locally up to 5 to 10%. Sulphides are dominated by pyrite, galena and sphalerite. Historically throughout the Charters Towers district, prospectors have positively correlated high galena with gold grade. Wallrock alteration consists of narrow (2–3 times the lode width) selvages of intense sericite alteration adjacent to the quartz-sulphide veins.

Campbell and King (2012) neatly summarise recent research into mesothermal intrusive related systems with particular reference to North Queensland. Fluid inclusion data, for example, distinguished deposits such as Charters Towers from higher level epithermal deposits on the

basis of higher salinity and relatively higher pressures and greater depths (Goldfarb et al., 2005; Kreuzer, 2003).

According to Kreuzer (2003), samples from the Charters Towers mines and the Rishton-Hadleigh Castle mines were isotope dated and found to be the same age within an indistinguishable range, indicating synchronous formation of auriferous veins dated at 404-408 million years (Late Silurian to Early Devonian geological age) and spread across a significant segment of the Ravenswood Batholith host.

Kreuzer (2003) has also made a number of additional conclusions on the mineralization in the District that relate directly or indirectly to potential mineralization in the Blue Doe area east of Mingela. These are:

- Nitrogen isotope data indicates that the granitoid-hosted gold mineralization is derived from deep-seated, granitic plutons or metamorphics, and has risen through the crust to its present position uncontaminated by near-surface ground water.

- Fluid inclusion studies on vein samples from the Brilliant, Day Dawn and Queen Reefs Mines in the Charters Towers area using petrography, microthermometry and laser Raman spectroscopy indicate that formation pressures of the gold-bearing veins are equivalent to depths of 5 to 14km. Mineralogical studies on gangue rock, alteration and metamorphic minerals support this range. The preferred depth range of formation is 5km ± 2km. This is supported by Peters and Golding (1989).

- Oxygen and hydrogen isotope fractionation data indicate a formation temperature ranging from 170° to 360°C with a preferred value of 310°C. This temperature range is supported by studies of fluid inclusions; textures and wall-rock alteration mineralogy (also see Peters and Golding, 1989).

- The low-permeability intrusions of the Ravenswood Batholith restricted and focused the ascending fluids rising from deep in the Earth's crust. Sudden fault rupturing focused the fluid flow into the active lode structures, precipitating gold and base metals by fluid mixing and subsequent chemical and pressure changes to the fluid.

- Geological and geophysical data indicate that the Charters Towers mineralization was not subjected to further significant deformation after the gold mineralization formed.

- The host structures in the Charters Towers area are characterized by vertical continuity to at least 1.3km based on previous exploration drilling and previous mine workings (Towsey, 2005; Reid, 1917).

- The veins are located on the margins of gravity lows that coincide with distinct intrusions or complex igneous bodies (Towsey, 2005; Kreuzer, 2003).

- The deposits are hosted by country rock comprising mainly oxidized I-type granites, granodiorites and tonalities. I-type granites are derived by re-melting of original igneous rock (Kreuzer, 2003; Peters, 1987; Towsey, 2005).

Studies on wall-rock alteration by Kreuzer (2003) and Corbett and Leach (1995) indicate that the fluid was slightly acidic to near neutral (pH 5-6). They apparently agree that the oxidizing fluids have produced the red “hematite” alteration, destroying magnetite where it is in contact with the fluids and creating local magnetic lows. This creates a geophysical signature for exploration of de-magnetized areas adjacent to gravity lows (Towsey, 2005).

The current exposure of the Ravenswood Batholith is at its roof zone, meaning that there is a high probability that most of the gold-bearing system is intact and has not been eroded away and dispersed, although reports of the Collopy Formation shedding gold to the drainage in the Mingela area may indicate that erosion and dispersion of at least some of the in-place gold mineralization has occurred, (also see Towsey (2005) and Hutton et al. (1997)).

Studies by Dowling and Morrison (1989) and Kreuzer (2003), and reported by Towsey (2005) of quartz veins from over 200 gold mines in North Queensland indicate that the Charters Towers gold-bearing veins are typical of granitic rather than sub-volcanic hosts.

Campbell and King (2012) conclude that there is consensus amongst researchers and explorers who have worked on the Charters Towers vein systems that there is potential for additional gold-bearing veins of economic significance to be discovered away from the gold deposits in the immediate Charters Towers area, which suggests that the outlying areas may contain undiscovered deposits of economic interest. One important point about the Charters Towers vein systems that Campbell and King (2012) highlighted was that lodes have been mined down dip for more than 900 meters vertically. Drilling has intersected mineralization grading over 20g/t gold at depths of over 1,200 meters. Although the host rocks for the mineralization have different local names when compared to those in the Mingela area (separated by only 40km), the date of mineralization is the same.

Intrusive Related Gold Deposits

North Queensland intrusive related breccia systems are large bulk tonnage systems which can have an extensive depth extent, well in excess of 500m vertical depth. Significant polymetallic mineralisation accompanies the hydrothermal system, present as sulphidic veins and alteration. These features are illustrated in Figures 5- 8 for the multi-million ounce gold breccia systems at Mt Leyshon and Mt Wright.

According to Sillitoe (1991), intrusion-related gold mineralization has the following characteristics:

1) Metaluminous, subalkalic intrusions of intermediate to felsic composition, that span the boundary between ilmenite and magnetite series;

2) CO2-bearing hydrothermal fluids;

3) A metal assemblage that variably includes gold with anomalous bismuth, tungsten, arsenic, molybdenum, tellurium, and/or antimony, and typically has non-economic base-metal concentrations;

4) Comparatively restricted zones of hydrothermal alteration within granitoids; and

5) A continental tectonic setting well inboard of inferred or recognized convergent plate boundaries.

Intrusive-related systems discussed here may also contain significant associated metals such as copper and molybdenum mineralization. It is possible that some gold-bearing systems may lead into copper-gold porphyries or molybdenum-bearing intrusive systems.

Most of the centres of Permo-Carboniferous intrusive-extrusive activity in North Queensland occur in occasionally subtle but nonetheless clearly defined corridors (figure 3). These corridors have various orientations. A northeast trending alignment of intrusive-extrusive and breccia complexes is prominent in the Leyshon and Pajingo corridors. These probably represent deep-seated, transcurrent structures or faults associated with the development of the Northeastern Australia continental margin in the late Palaeozoic.

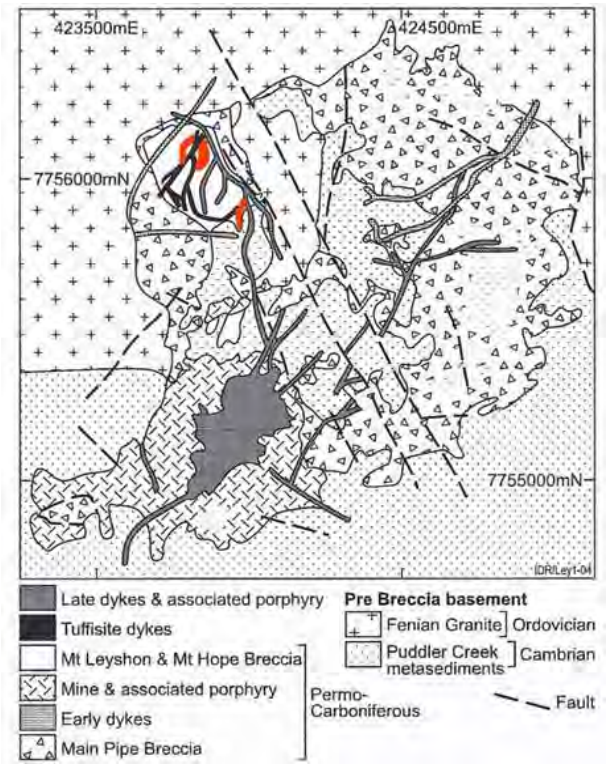

Figure 7. Surface geology of Mt Leyshon intrusive and breccia system (Orr & Orr, 2004).

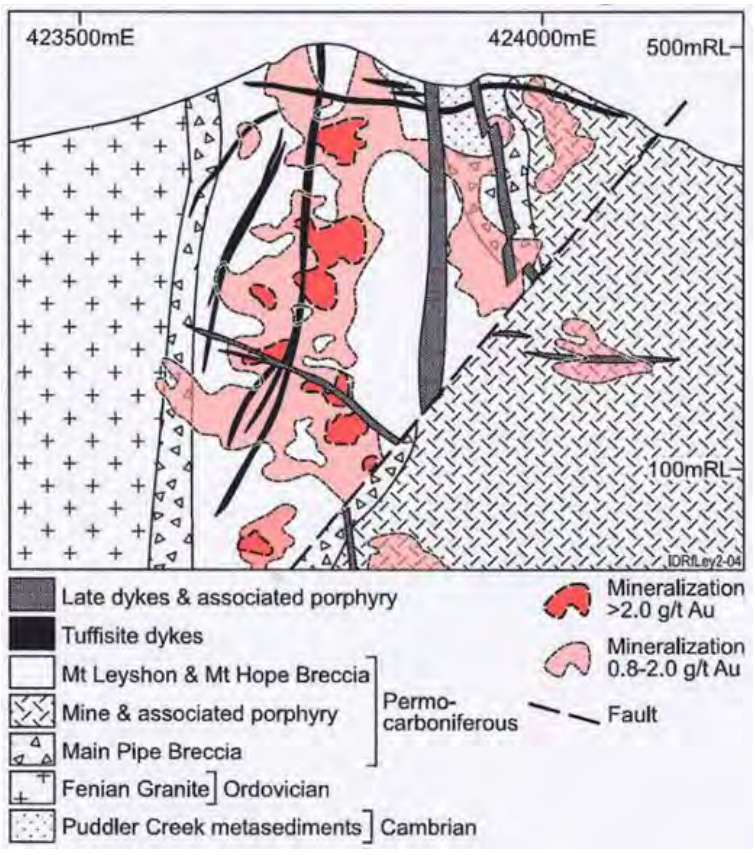

Figure 8. Cross-section of Mt Leyshon intrusive and breccia system showing gold zones (Orr & Orr, 2004).

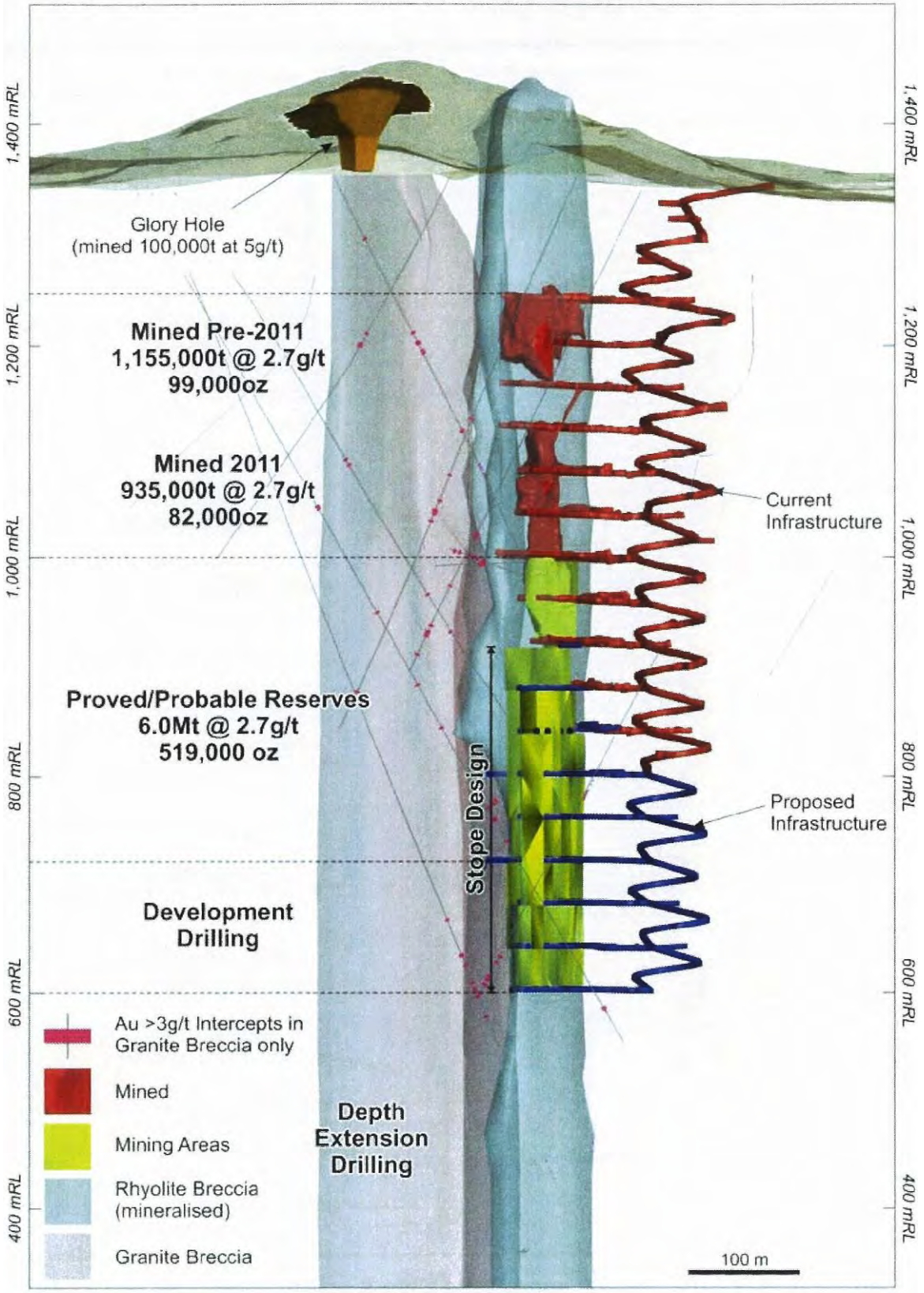

Figure 9. Mt Wright Mining Cross Section. Resolute Mining Limited Annual Report (2011). Total resource ~1Moz @ 3.3 g/t. Bertelli et al. (2009).

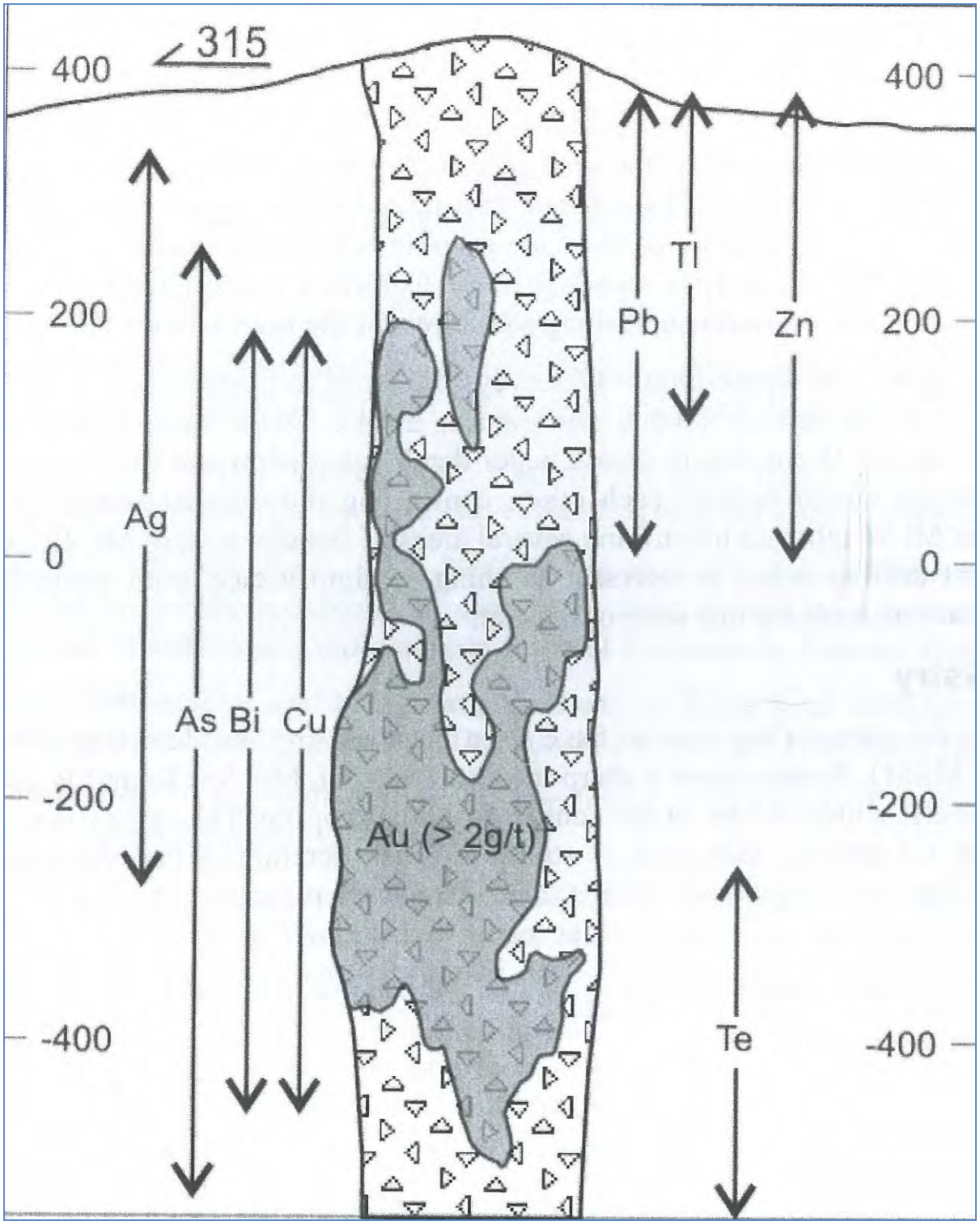

Figure 10. Gold zones within Mt Wright Breccia pipe; base metal and pathfinder element trends. Geology & Geochemical Cross Section. Lisowiec (2009)

The key prospective characteristics of the Permo-Carboniferous, intrusive-related gold mineralised systems in North Queensland are:

- Development along northeast trending mineralised corridors representing fundamental deep seated structures.
- Association with circular reversely magnetised features.
- An association with elevated base metal and porphyry-magmatic related geochemistry.
- Extensive development in the vertical dimension, with the concomitant possibility that the mineralisation will develop into large bulk tonnage deposits. For example Mt Wright (figure 7), Mt Leyshon (figure 9) and the Welcome Breccia (figure 10) are all developed over a vertical extent of several hundred metres to an excess of a kilometre. Figure 13 shows recent results reported by Resolute/Carpentaria Gold to illustrate this point for the Welcome Breccia.

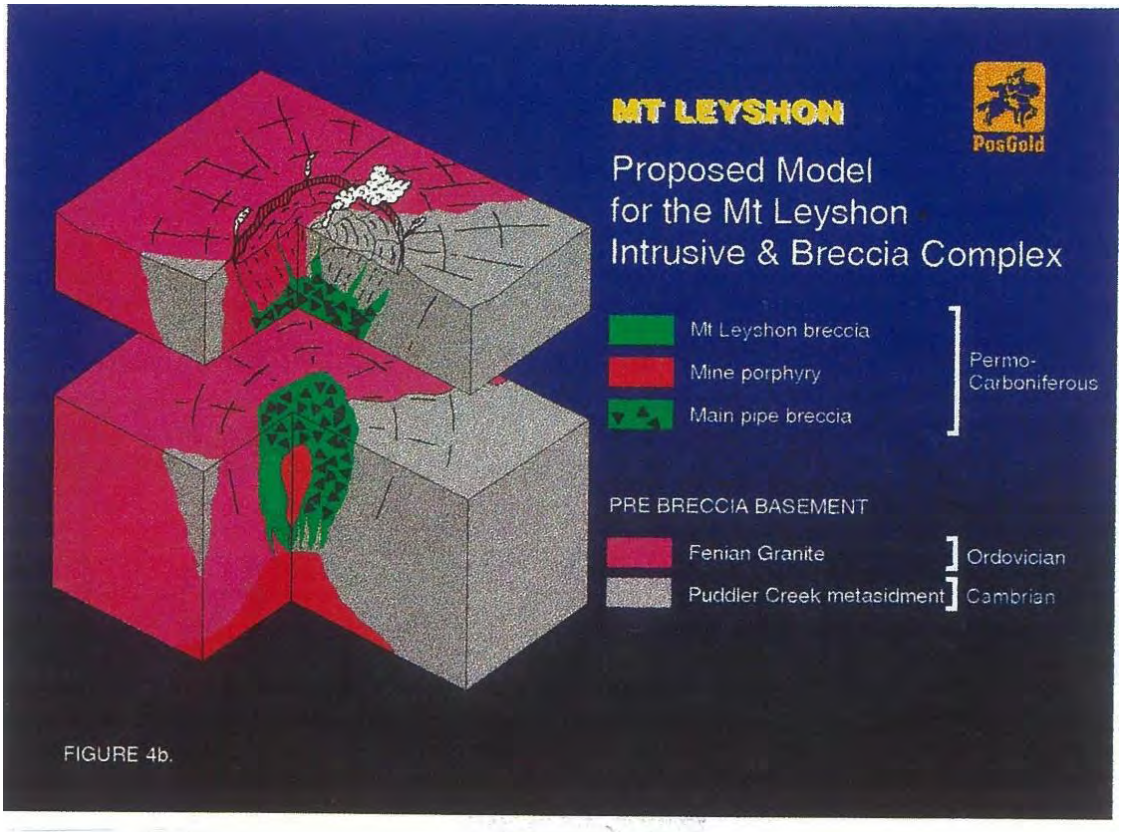

Figure 11. Model of Mt Leyshon intrusive and breccia system (Orr, 1995).

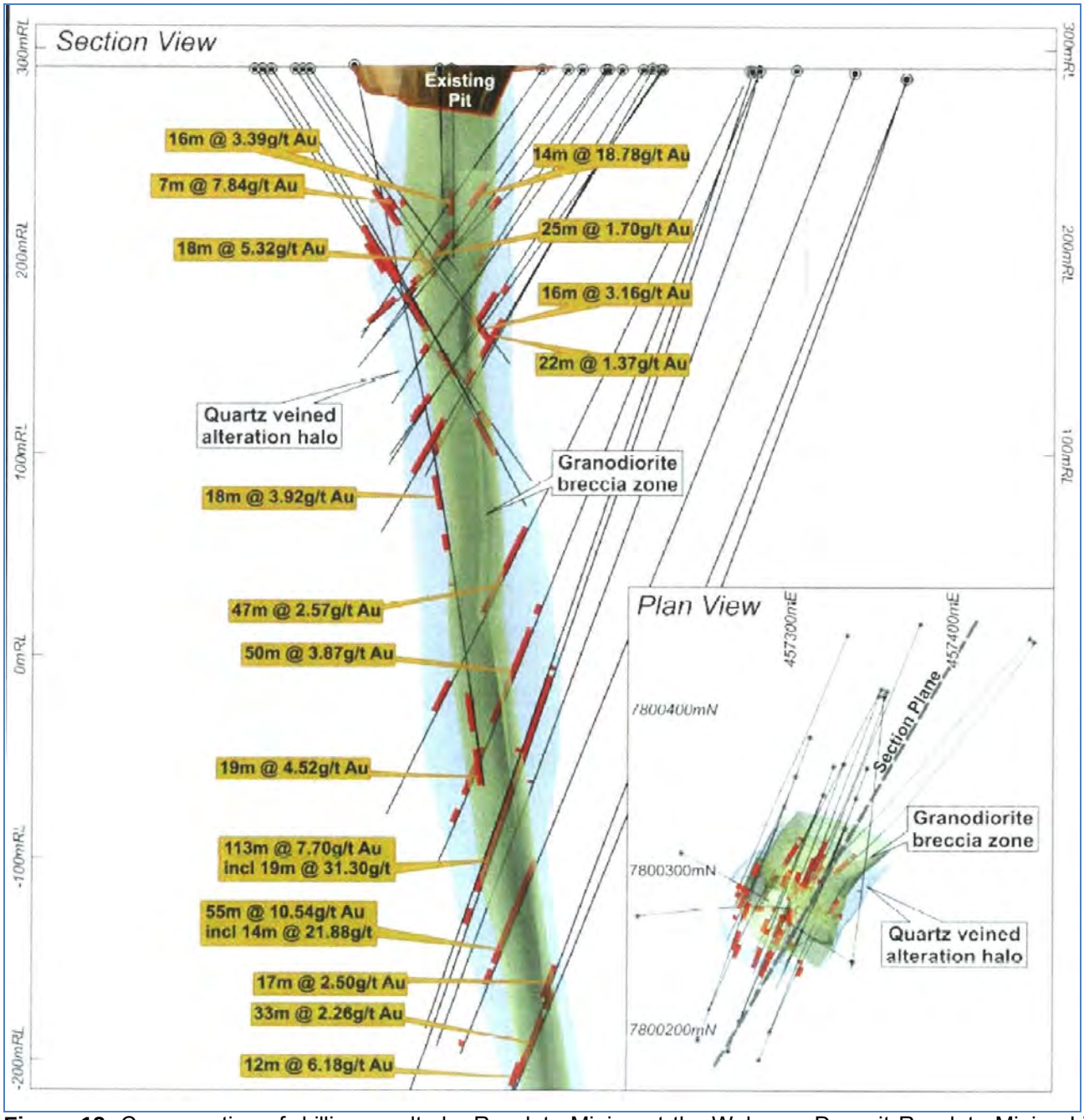

Figure 12. Cross section of drilling results by Resolute Mining at the Welcome Deposit Resolute Mining Limited Annual Report (2011).

The Mt Leyshon corridor also intersects the Alex Hill Shear Zone within the vicinity of the EPM. The 1988 announcement by Gold Mines of Kalgoorlie Ltd (G.M.K) of an indicated open pit resource of 0.63 million tonnes grading 3.1 g/t Au at Althea/Christian Kruck, just to the west of the EPM testifies to the importance of this area.

4.0 PREVIOUS EXPLORATION

Geology & Geochemistry

Mining and exploration in the Mingela Project area falls naturally into three distinct periods:

i) Historical gold and polymetallic mining 1868-1920
ii) Predominantly base metal exploration 1959-1982
iii) Predominantly gold exploration 1982–2000, with minor emphasis on Cu-Au and polymetallic targets.

The general exploration approaches in these periods are outlined below, together with summary results of the key explorers.

The previous extent of surface geochemistry including stream and soils are presented on figures 6-8.

Historical Gold and Polymetallic Mining in the Ravenswood and Charters Towers area

Geological observations were made by some of the earliest explorers over 100 years ago. Gold was discovered in the Ravenswood district in 1868; in Charters Towers in 1871, and in the Kirk field about the same time. Various reports have been prepared by the Geological Survey of Queensland geologists on mines in the district including a report on the Kirk diggings by Morton in 1938. Many reports cover the old mines and prospects in the Ravenswood district, which is to the southeast of EPM 19696 (John, 1985).

The Queensland Mines Department drilled four diamond drill holes beneath Mount Wright in 1955-56 (Connah, 1956). These indicated that possible lateral extensions beyond the open cut were confined to a small area to the southwest, and that at about 15m below the open cut floor the mineralised zone averaging 6.0 to 7.5 g/t Au was about 360 square metres in area (Hewlett, 1985).

MAT Exploration Pty Ltd in 1969 conducted a drainage geochemical survey for base metals in the area. A total of 302 stream sediments were collected and assayed for Cu, Pb, Zn and Sb. All streams draining Mount Wright were anomalous in Pb and Zn. These anomalies were

concluded to relate to the presence of known Mn-Zn-Pb lodes of no economic significance. The 1970 program by MAT was largely concerned with testing for a large tonnage low grade gold deposit of breccia pipe style at Mount Wright. They geologically mapped Mount Wright in detail paying particular attention to hydrothermal alteration and brecciation around the “Mother Lode” open pit. In an attempt to find pathfinder elements for gold to use in geochemical soil and rock sampling they re—assayed 59 samples previously assayed for Au only, for Ag, As, Sb, Cu, Mo, Pb and Zn. No consistent correspondence between high Au and any other element was found, and so further geochemical sampling was not attempted (Hewlett, 1984).

Assay results were generally disappointing with a majority of values in the vicinity of the breccia pipe assaying between 0.l ppm and 0.7 ppm Au. Seven values above 1.0 ppm Au were encountered, with a maximum of 4.5pxn Au. It was concluded that the chances of economic mineralisation at Mount Wright were negligible and the ATP was relinquished. Twelve percussion holes totaling 1124 ft. (341.6m) were drilled within the ATP away from Mount Wright, and 25 holes totaling 2567 ft. (780.3m) were drilled on a grid pattern at 65m centred on Mount Wright (Hewlett, 1984).

Historical Gold and Polymetallic Mining in the Mingela area

Up until the 1980’s limited prospecting had been undertaken on many of the old workings around the Mingela region, with the bulk of the work being centered on the mining leases of Christian Kruck, Welcome, Evening Star and Sulphide Mountain (Metals, 1986).

It is reported in the Geological Survey of Queensland Bulletin that early prospecting was carried out in a haphazard manner with little really bona fide work. The historic workings were selectively developed on vertical “felsic” dykes and quartz reefs in the country rock, and this material was handpicked (Metals, 1986).

Predominantly base metal exploration 1959-1982

Camira Mines N.L. summarized the previous base metal exploration well in CR14258.

Investigations by companies include work done by North Broken Hill Ltd. in 1959-60. They drilled Keans Prospect and Titov Prospect for copper-molybdenum, but grades appear to have been low (John, 1985).

New Consolidated Goldfields Australasia Pty. Ltd. carried out further work in the area around the two prospects in 1966 and 1967. This included 2 diamond drill holes near the Titov Prospect. Results were not encouraging, so the project was abandoned (John, 1985).

Planet Metals Ltd carried out drainage geochemical sampling, soil geochemical sampling and a diamond drilling programme. Porphyry copper and molybdenum deposits were their targets and they eventually withdrew. Drilling encountered mainly pyrite mineralization and it is understood that further work did not produce encouraging results (John, 1985).

Aberfoyle Exploration Pty. Ltd. also summarized the previous exploration well in CR13241.

Anaconda Australia Inc. explored for porphyry copper deposits in the area in 1966, and investigated numerous small shear-related copper showings within narrow linear alteration zones to the north of Mount Wright around Oaky Creek. They concluded that the occurrences were of no economic importance (Hewlett, 1984).

North Broken Hill Ltd geologically mapped and sampled Mount Wright during the early 1960's. They obtained gold values from 0.6 ppm Au to 11.4 ppm Au and concluded that insufficient tonnage of higher grade material existed to warrant further testing (Hewlett, 1984).

Kinmine Mining Pty Ltd from 1979-82 in conjunction with Eastern Copper Mines NL concluded that a broad zone of significant Au-Ag mineralisation exists on the south flank of Mount Wright associated with sulphide-rich zones of altered granite. High order Cu-Pb-Zn values were found occurring close to the Mount Wright intrusion. They concluded there was little potential or encouragement for the discovery of bulk tonnage low grade gold- silver mineralisation outside the areas of known mineralisation, which were held under mining leases by various individuals and/or mining companies. In addition, Eastern Copper investigated alluvial gold occurrences around Elphinstone, Plumtree, Connolly and Four Mile Creeks. Samples were assayed for Cu, Pb, Zn and Au. Gold was detected in five samples of alluvium from Elphinstone and Connolly Creeks. It was recommended that bulk sampling be conducted; it is not known if this was done (Hewlett, 1984).

Predominantly gold exploration in period 1982-2000

Camira Metals (EPM2642) undertook a regional pan concentrate survey on the streams which encompassed the area of the EPM 19696 and surrounding to the north, west and south. Many areas within EPM 19696 were specifically not targeted due to the problems with extracting a concentrate in the granite country. Camira Metals held several mining leases throughout their exploration program including Himalaya, Margaret, Mount Sulphide, Mount Wright, and the Silver Valley Area. Background geochemical values were obtained for each site however they were later relinquished due to unfeasible economic interest by the company (John, 1985).

Aberfoyle Exploration Pty. Ltd. (3578) targeted a stretch of ground from the eastern half of EPM 19696 southeast to Mount Wright. The main exploration target was a large tonnage (greater than 500,000 tonne) gold deposit amenable to open cut mining methods. Preliminary reviewing of the previous exploration allowed Aberfoyle to target five main mine workings notably 'Ravenswood Boulder', 'Outsider', 'Old Dominion', 'Big Ben', and 'Wild Irish Girl' (Hewlett, 1984). Aberfoyle's exploration program included Air-photo interpretation, stream sediment -60 mesh sampling, and follow-up reconnaissance geological mapping and sampling. Rock sampling following air-photo interpretations revealed breccia pipe occurrences at the 'Mother Lode' open pit. Further sources to 12 stream sediment gold anomalies were ascribed to contamination from the Mount Wright gold mine workings, numerous narrow quartz veins occurrences of no economic significance, and alluvially transported sands and soils carrying anomalous gold (Hewlett, 1985).

Following the development of Landsat linear and mineral field interpretation, Metals Exploration Ltd targeted the Mingela region for its considerable potential for further economic accumulations of gold in quartz-vein fissure style and greisen type deposits. (Metals, 1986). Exploration methods included reconnaissance sampling and mapping of eight main gold occurrences (City of Melbourne, Grass Hut, Christian Kruck, Milnes Reward, Weany Creek Diggings, Rose of Allandale, King Solomon Mine, and Welcome). The field work indicated: The highly anomalous nature of all the areas sampled; a strong structural component in the control and distribution of mineralisation, with the best gold values are associated with the Alex Hill Shear Zone; the potential for conjugate fault – set mineralisation in nearly all areas; the presence of wall rock alteration, and fe-metasomatism in the host rock surrounding the lode-structures; disseminated sulphide mineralisation in the form of pyrite, arsenopyrite, galena, sphalerite and tertrahedrite

(up to 180 ppm Ag); a close relationship between late 'acid' phases and altered granodiorite-tonalite-diorite is favorable for gold mineralisation; pervasive potassic alteration is a conspicuous feature extending about 100 metres on either side of the mineralized zone; gold values appear to be restricted to narrow stockworks of quartz veins and to leaders and reefs which generally follow regional and / or fault plane trends; the low grade mineralisation could be more widespread in zones of extensive hydrothermal alteration (Metals, 1986).

Gold Mines of Kalgoorlie went on to follow up several of the target areas mapped out by Metals Exploration Pty Ltd under the same EPM. Target areas included The exploration methods included Althea / Christian Kruck, Chas Madge, Grass Hut, Kitty Cummins, Milnes Reward, Rose of Allandale, and Welcome. The exploration methods used throughout the program included stream sediment, soil, and rock chip sampling, reverse circulation drilling, rotary air blast drilling, diamond drilling, airborne and ground magnetics, airborne radiometrics and induced polarization surveys (James, 1999). The program was stopped prematurely after a change in company management and reports can not be located (James, 1999).

Newmont Australia Ltd on behalf of the Ellenvale Joint Venture with Epithermal Gold, conducted a helicopter borne stream sediment survey on the Ellenvale area (Hamilton, 1987). Target areas included Mount Norman, Ross River Mountain, and Surgeons Lookout. A total of 24 values in excess of 1.0 ppb Au were collected. This survey outlined 15 anomalies with 9 of them being resampled, with some of the original anomalous values not being able to be repeated during the follow up rock sample values. Causes of the positively identified anomalies were attributed to: minor base metal mineralisation of skarns developed at the contact of Permo-Carboniferous granite and the Fanning Group; higher background values of the late stages of the Permo Carboniferous Granites; reworking of alluvial gold from the Mesozoic Collopy Formation (Hamilton, 1987).

In a photo-geological study of the area, Australian Overseas Mining Ltd (AOM) found that the Welcome prospect appears to lie on an arcuate structure forming an east-west alignment with the Milnes Reward trend of workings before swinging north-westwards towards a prominent silicified dyke. They noted it is possible that this arc structure forms the southwest quadrant of a larger ring fracture (Gannon, 1988). AOM targeted several prospects within their north and south blocks, to the west of EPM 19696, including Nosita Prospect; Evening Star / Leviathan; The Range; Banana; Breadfruit Creek; Exelry/Eneby; Fanning Downs; Maidavale; Mitchell; One Mile Creek; Pinnicles; South heathfield; Station Creek; Sullivans Reef; Tea Tree Creek; Well

Creek; Windsor Dam (Holtzmann, 1990). Exploration included a stream sediment program, rock chip sampling and regional sampling and remote sensing. Au was determined through the aqua regia method and assays >0.5 g/t were re determined by fire-assay. Significant Au grades were obtained in the northern block including 12 ppm (Banana), 9.0 ppm (Nosita), 30 ppm (Sullivans Reef), as well as at the southern block with 8.5 ppm (Mitchell), 15.0 ppm (Breadfruit Creek), and several other prospects yielding grades between 1 ppm and 2.65 ppm Au.

Dalrymple Resources Pty Ltd used the field assistance of Terra Search Pty Ltd employees to conduct several stream sediment and follow up rock chip surveys in an area enclosing the eastern portion of the EPM 19696 and extending to the east and north. Several anomalous regions were targeted including Bluff Creek; Bluff North; Cicada / Hanging Valley; Four Mile; Hill Top; Horse Camp Mill; Kings Cross; March Fly; Oaky Hill North and West Haughton (Beams, 1991). A BCL stream sediment sampling program with reconnaissance rock chip sampling identified four prospects including Bunkers Hill, Oaky Mill North, Oaky Mill and Hilltop. Oaky Mill grab samples returned assay values of 5.34 g/t, 2.69 g/t and 23.20 g/t Au (Lesh, 1988). Hilltop Prospect (11 km east of Grass Hut) consists of a 1.5 km along strike 50cm wide milky quartz vein returning rock chip values of 0.3 g/t Au, 900 ppm Pb, 20 g/t Ag, and 0.12% Cu (Lesh, 1988). A regional BCL sampling survey returned fourteen samples with assay values in excess of 5 ppb Au with a maximum of 137 ppb Au (Ryan, 1989). Kings Cross Prospect (4 km west of Mount Sulphide) has returned drainage BCL samples with values of 15.7, 2.2, 11.9, 16.5 and 1.7 ppb Au with rock chip returning up to 0.1 g/t Au. Again sourced from the Collopy Formation conglomerates (Ryan, 1989). Regional rock chip samples returned assay values up to 23.6 ppm within the Mount Sulphide area (Ryan, 1989). Pan Concentrate stream sediment sampling returned values of 60.7 ppm Au equating to 0.93 ppm “Alluvial Grade” in the Cicada Prospect with maximum BCL stream sediment value of 137.0 ppb Au (Beams, 1989). Hanging Valley also produced anomalous pan concentrate alluvial gold with sample values such as 4.69 g/t, 12.85 g/t, 6.85 g/t, 9.36 g/t, and 7.39 g/t (Beams, 1989). Further mapping including magnetic susceptibility surveys of the prospects and important lithologies was also included in the exploration program (Beams, 1990).

Of Dalrymple’s exploration program, 47 BCL samples returned values over 1 ppb in close proximity to EPM 19696. Indications are that the whole thickness of the coarse sandstones/conglomerates of the Devonian / Carboniferous Collopy Formation is shedding gold. Limited ‘alluvial grade’ calculations indicated this detectable coarse gold only translates to 0.05 to 0.1 g/t Au (Beams, 1990).

Metana Minerals conducted a short exploration program consisting of three reconnaissance trips during June 1988, completing rock chip and minor stream sediment sampling. Results were found to be discouraging (Davis, 1989).

Pioneer Minerals Australia Ltd also undertook a short exploration program with 28 stream sediment samples and 10 rock chip samples collected over its two EPMs. Two anomalous gold samples and associated base metal anomalies were taken from the Black Mountain greisen zone (Syvret, 1990).

M.I.M exploration considered the area for its potential to host mesothermal vein (Ravenswood or Christian Kruck) style and sub-volcanic breccia complex (Mt Leyshon or Mt Wright) style mineralization (James, 1999). Work included geological mapping, reconnaissance heliborne regional traversing, rock chip, stream sediment sampling, soil sampling, costeaning, plus percussion and diamond drilling of potential target areas. Geophysical methods have included ground magnetic and heliborne magnetic / radiometric surveys, plus gravity, IP, and CSAMT/MIP surveys in the vicinity of Ravenswood (James, 1999).

Follow up of anomalous BCL samples returned samples with values of 2 ppb, 7 ppb, 4 ppb, and 6 ppb Au with associated base metal anomalies, within and around the eastern margins of EPM 19696. MIM found these values discouraging and did not follow up on these anomalies (Summers, 1994).

A soil survey along the Alex Hill Shear Zone roughly 12 km east of the northern extent of EPM 19696 returned values of 1.1, 5.8, 3.4, 13.2, 1.4, and 2.8 ppb Au, with anomalous base metal values (James, 1997).

Stream Sediment Sampling just to the east of EPM 19696 extents returned values of 3.9 ppb Au, and 1.6 ppb Au on the western margin of EPM 19696 (James, 1998).

Historical Gold Production for Mingela Prospects

TABLE 4: HISTORICAL GOLD PRODUCTION FOR GOLD DEPOSITS IN THE LOLWORTH – RAVENWOOD PROVINCE

(Dalrymple Resources Pty Ltd, 1988)

Mingela (within EPM 19696 area)				
Prospect	**Years**	**Au (kg)**	**Ore (tones)**	**Grade (g/t)**
Seven Mile Creek	?	?	?	?
Surrounding Prospects (outside of EPM 19696 area)				
Prospect	**Years**	**Au (kg)**	**Ore (tones)**	**Grade (g/t)**
Grass Hut	1887-1910	68 (Bullion)	2014	33.76
Mount Sulphide	1934-1940	1.86 21.21 Ag	64 “	29.06 331.40
Rose of Allandale	1900 1935-1951	0.325 17.014	24.4 614.7	13.32 27.68
Rose of Allandale No. 1 SW	1940-1941	2.644	73.12	36.16
Rose of Allandale No. 2 SW	1940-1941	?	?	14.0
Rose of Allandale No. 1 NE	1940	?	?	23.0-31.0
King Solomon	1893-1900	2.737 (Bullion)	45.7	59.9
Christian Kruck Reward	1893-1896	1.8	31	58.06
New Caledonian	1906-1931	467.5	?	30
Native Bee East	1940-1941	0.42	45	9.33
Kitty Cummings	1933-1936	4.65	340	13.68
City of Melbourne		56.7 (2000ounces)	1983	
Welcome	1906-1953	91.0	3658	25

Mining history in the Mingela area:

Aberfoyle Exploration Pty Ltd summarized several mining operations within their EPM3578, within the Mingela area but outside of EPM 19696.

- Numerous small shear related quartz vein and lode type occurrences worked for gold and silver occur throughout EPM3578 principally to the west of Mt. Wright and in the southern part of the EPM. These include shows such as “Ravenswood Boulder”, “Outsider”, “Old Dominion”, “Big Ben” and “Wild Irish Girl”. Production statistics are not known (Hewlett, 1985).
- The main producer of gold within EPM3578 was Mount Wright from the “Mother Lode”, a breccia pipe, with production from 1917 until 1929 with further production from 1938-1942. This production (incomplete) was 5982 tons of ore, which yielded 474 oz of bullion (about 350 oz Au); 197 tons of concentrate yielded 1,106 oz Au, 700 oz Ag and 1.06 tons Cu (Clarke, 1971, p.43).

Camira Mines N.L. also summarized several mining operations within their EPM which is in the vicinity of EPM 19696 and is therefore important to Wishbone Gold Pty Ltd:

- Grass Hut Area - Mining commenced some time before 1887 and work was intermittent up to 1910 (Levingston 1974). Country rock is hornblende granodiorite of the Ravenswood Granodiorite Complex. The veins are very steep and are composed of white quartz with pyrite, and some calcite in places. (John, 1985).
- The City of Melbourne workings were the deepest of the area, and went down to about 100 metres. Three shafts are sited over a strike length of about 275 metres. Total recorded production to 1910 is 1,983 tons for 2,000 ounces of bullion ranging from 400 to 700 fine (John, 1985).
- Fanning Area - There are a number of prospects in the Fanning area, southwest of Mingela. Many are north of the Flinders Highway. Of those south of the highway, there are two prospects within A to P 2642M. These are Butterfly and Native Bee East (John, 1985).
- Butterfly (formerly Native Bee) - Six shafts were sunk over a length of about 105 metres. They only reached 9 to 12 metres in depth, but one shaft did reach 18 metres. At the bottom of this deeper shaft a drive followed a fissure which dipped about 60°SW. This contains quartz veins. At the end of the drive a 2-metre crosscut followed another fissure dipping SE at about 70°. This is associated with a diorite dyke. Nothing payable was reported (John, 1985).
- Native Bee East - The lode is in altered diorite. This is probably a dyke in red granite country rock. The association of mineralization with dykes has been seen in other localities. Workings extend over a length of 76 metres in which there are 8 shafts, but none go deeper than 6 metres, except the main shaft which is 19 metres. There are drives from the main shaft at 9 metres, 11 metres and 15 metres. The vein was reported to be about 3 cm. wide with pyrite and galena. Recorded production is 45 tons of ore for 14 ounces of gold in 1940-41 (John, 1985).
- Mount Sulphide - This vein was prospected in 1934-35 and in 1940. It is up to 1 metre in width and it contains quartz, pyrite, chalcopyrite, galena and sphalerite. Records indicate that 64 tonnes of ore were treated with a return of 62 ounces of gold and 707 ounces of silver. Workings only reached 10 metres, and local knowledge has it that gold values become better at depth. This area is being held by Camira Mines NL under mining lease applications (John, 1985).

- Himalaya and Margaret - The most important old workings within the boundary of A to P 2642M are the Himalaya and Margaret properties. These are in the extreme south of the A to P, where it becomes a small southern lobe protruding from the main body of the A to P. These two properties are now controlled by Camira Mines N.L. Other old mines in the vicinity - the old Kirk Mining Field - are the Crescent, Morning Star and Three Sisters. These are outside the A to P. The last named mined was the deepest in the district and has been reported to have reached 430 metres in depth (John, 1985).
- Buck Reef - This reef is found to the south of Sulphide Mountain. It outcrops in the bank of Crooked Creek and runs southwards up to the top of the ridge above. The strike is N15E with a very high dip to the west. Width varies from around 4 metres on the top down to about 2 metres in the creek bank. At this point there are carbonates in the footwall. On the hillside the vein is mainly buck quartz, hence the name. Two samples were taken near the top of the hill and the third was from the creek bank. There is nothing of interest in Buck Reef and no further work is justified (John, 1985).
- The Bluff - The Bluff is made up of Mesozoic sediments, mainly sandstone and conglomerate. There are no old prospects in these rocks, but two samples were taken from two separate conglomerate beds to test for background values (John, 1985).

Geophysics

Geophysical datasets have been significantly targeted for their important use in uncovering cover sequences and the basement geology within northern Queensland, however previous exploration within the Mingela area have not used such methods to any great degree. Summaries of the geophysical methods used by M.I.M in particular are included within the previous section.

Targets within the Project Area

Wishbone Gold Pty Ltd notes the significantly prosperous nature of the mineralized Alex Hill Shear Zone and will continue exploration programs targeting this outcropping feature within EPM 19696. Detailed ground mapping of the Shear Zone may highly contribute to the understanding of its projection at depth and promote the exploration of further possible mineralized fault intersections such as that found in the Mt Leyshon area. The incorporation of ground magnetic modelling and airborne magnetic data will be used to map the major and possible unnoticed structures. These geophysical methods will be followed by surface geochemical surveys and outcrop mapping.

Recommended methods include: A soil survey, initial analysis the samples with the portable XRF; further geological prospecting, surface geochemical sampling (rock chip, stream sediment); ground magnetics following the identification of anomalous geochemistry in soil samples and rock chip samples.

The primary aim of this program will be to lay the foundation for drill targeting at the central Wishbone prospect areas: Hanging Valley, DAB and Haughton Bluff Creek West Vein targets and other potential target areas within the tenement.

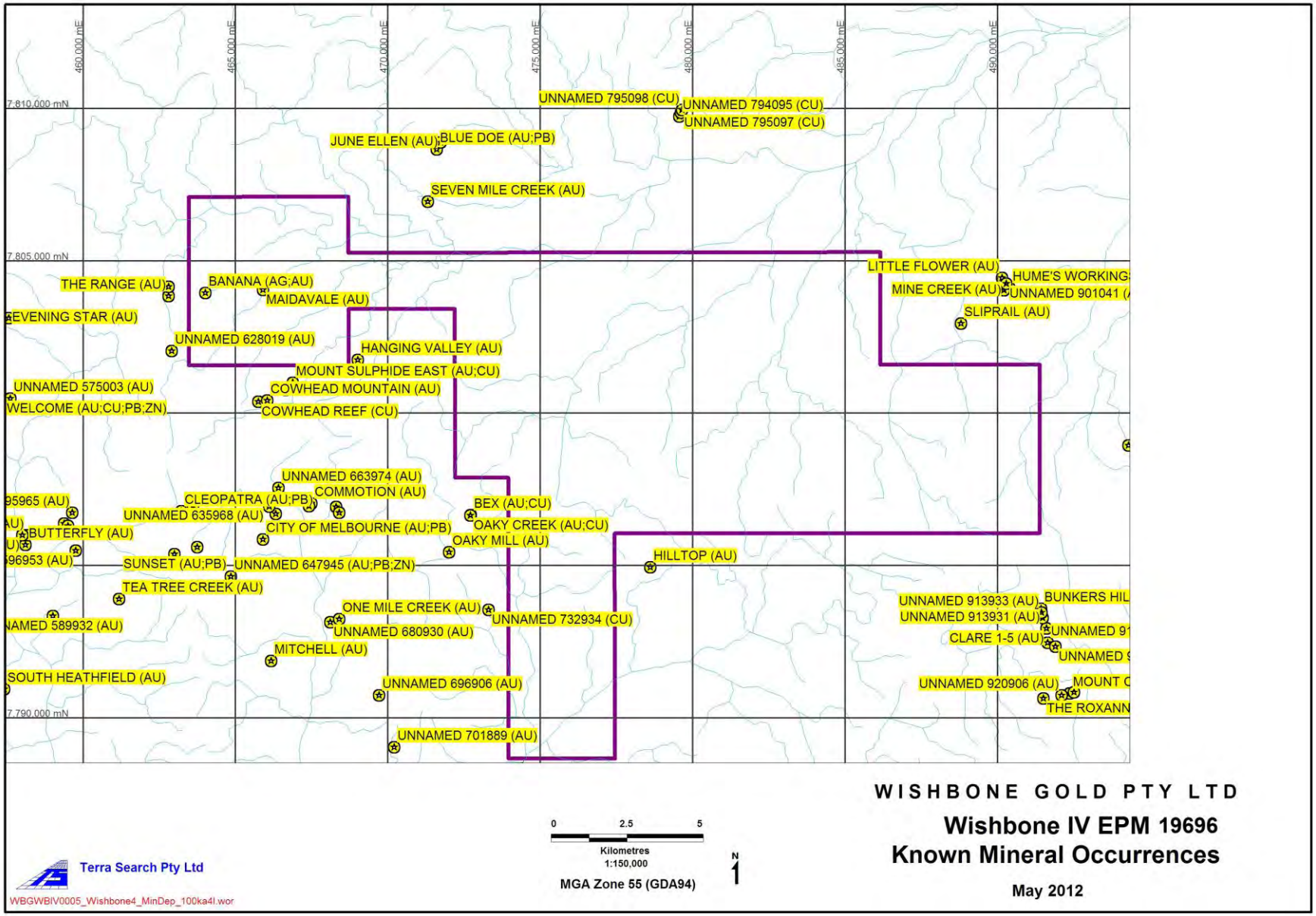

Figure 13: Extent of previous drilling and mineral occurrences

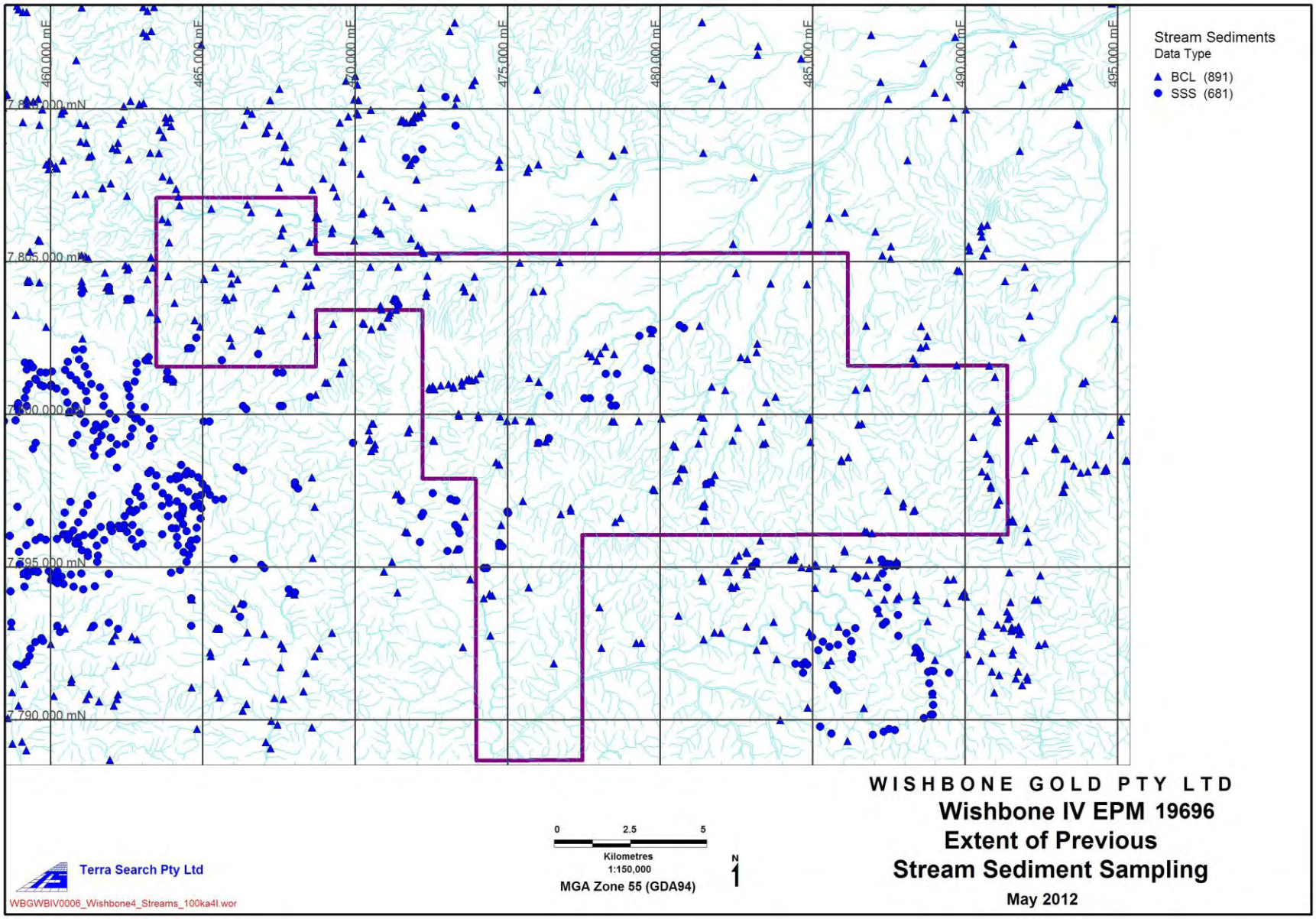

Figure 14: Extent of previous surface stream geochemistry

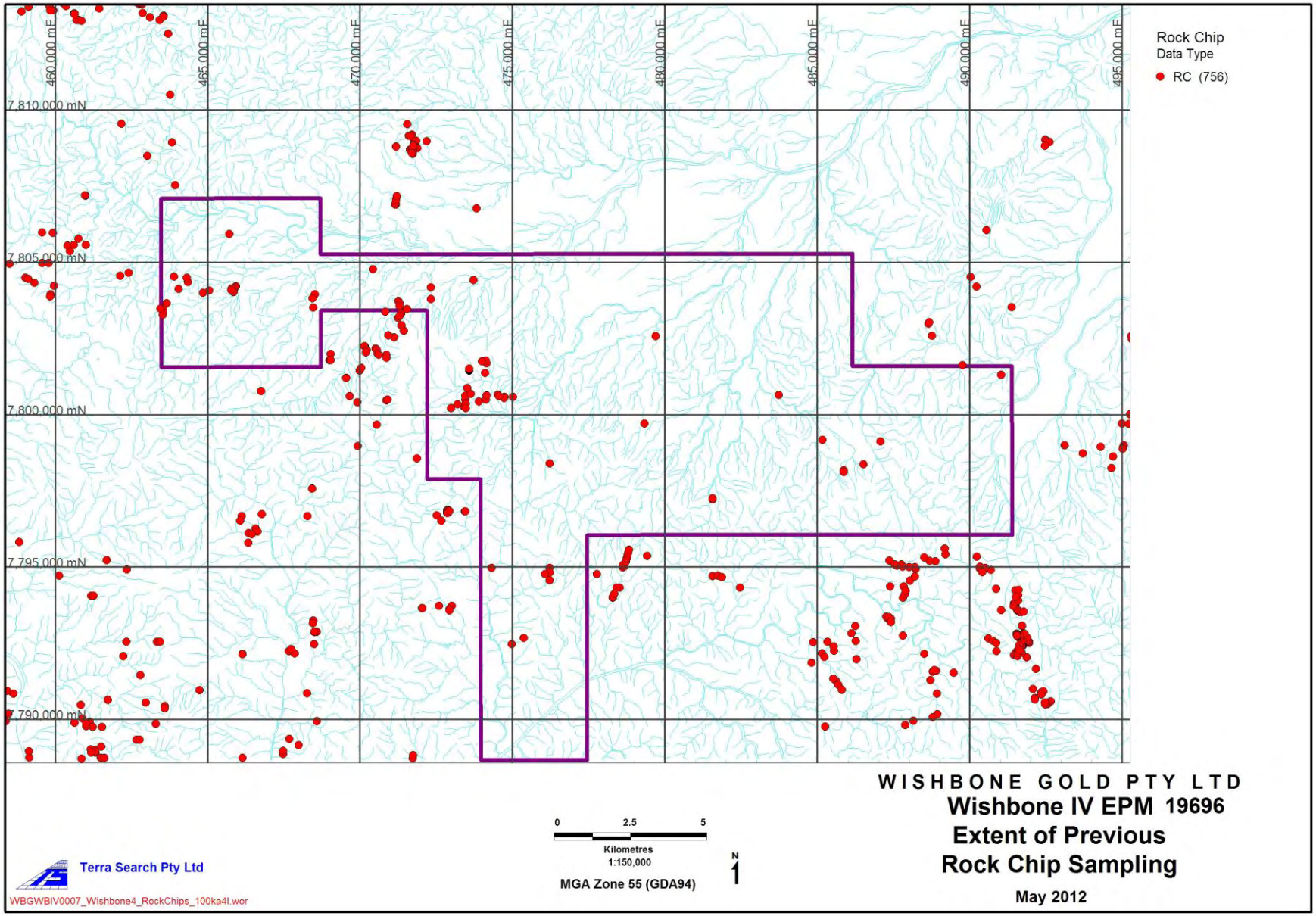

Figure 15: Extent of previous surface rock chip geochemistry

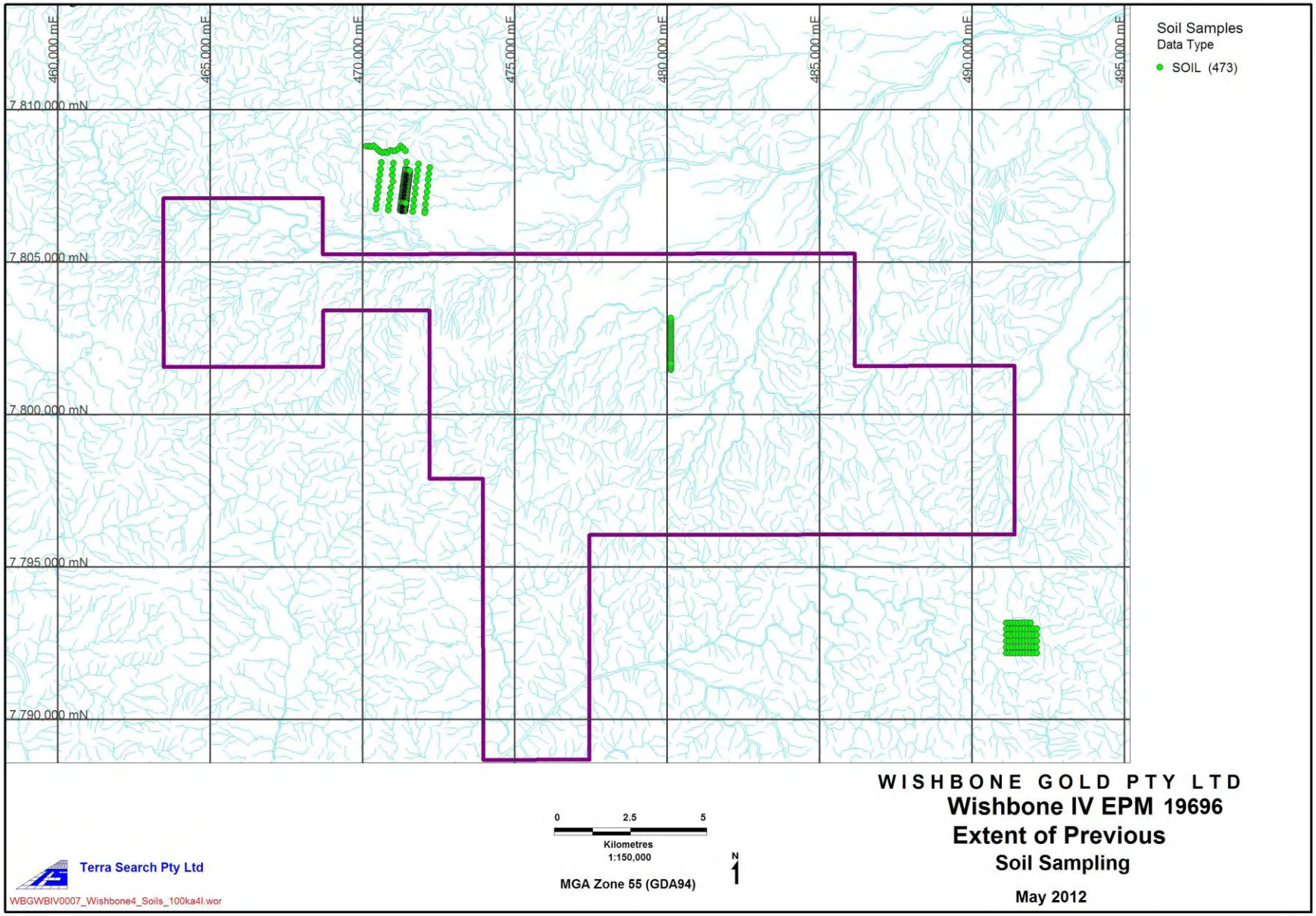

Figure 16: Extent of previous surface soil geochemistry

5.0 EXPLORATION DURING CURRENT REPORTING PERIOD

Exploration during the reporting period was regionally based, taking in the three Wishbone project tenures and reprocessing and reviewing regional airborne magnetic (figures 17 to 22). And airborne radiometric data (figures 23 to 27). This was considered with results from local ground magnetic surveys within EPM 18396 (Wishbone II), contiguous with EPM 19696 in the south and west of the EPM.

Work formed part of the Industry Priorities Initiative of the Future Resources Program which was introduced with the aim of promoting mineral exploration and development in Queensland by way of directly funding projects supported by key industry bodies. One of these projects managed by the Department of Natural Resources and Mines, through the Geological Survey of Queensland, concerned prospectivity of north-east Queensland for intrusion-related hydrothermal mineral systems and was jointly defined by Terra Search and Klondike Exploration Services, in consultation with the Geological Survey of Queensland (GSQ) and James Cook University (JCU), taking into account feedback from industry partners.

Wishbone Gold was among several key prospects that were reviewed and remain under review with the aim of better defining regional geology and providing a more comprehensive understanding of the metallogeny, geophysical and geochemical signatures of intrusion related deposits within the Charters Towers Region. The reviewed defined the broader geology and likely mineralisation trends and on this basis, application was made for project based permit administration for the Wishbone project. Sub-blocks were also assessed and prioritised with a view to potentially relinquishing some of the more difficult to access areas at a later date, provided the prospectivity probability was low.

5.1 Images derived from reprocessing of geophysical datasets

Available open file geophysical datasets were obtained and reprocessed over the project area. Images were overlain with structural and geological data to highlight target areas.

Data from regional aeromagnetics have been subsetted around EPM 19696. The reprocessing, quality control and assurance, and the presentation of data were performed by geophysicist, Mr Tim Beams, at Terra Search Townsville Office. The aeromagnetic data was gridded and imaged using Geosoft's Oasis software. Source of the aeromagnetic data is the Fifth edition of the Magnetic Map of Australia, Geoscience Australia 2010.

The regional airborne magnetic data is imaged on the following figures:

- Figure 17 shows the reduced to pole (RTP) total magnetic intensity.
- Figure 18 shows the RTP analytical signal (AS).
- Figure 19 shows the first vertical derivative (1VD) of the RTP data.
- Figure 20 shows the second vertical derivative (2VD) of the RTP data in grey scale
- Figure 21 shows the tilt derivative (TLD) of the RTP data.
- Figure 22 shows the three component RGB magnetic image (RTP-AS-1VD).

A reduction to pole filter was applied to the gridded Total Magnetic Intensity (TMI) data to produce a Reduced to Pole (RTP) grid. The Earth's magnetic field is inclined at increasingly low angles as the equator is approached. This has the effect of pushing the anomaly shown in the TMI away from the source. The RTP filter is an attempt to correct for this inclination and place the magnetic anomaly directly above its source. The declination (with respect to grid north) and dip of the prevailing magnetic field in the area are needed as parameters for the reduction to pole filter. These were obtained using the 2010 AGRF model and the appropriate survey dates and elevation.

In addition both first vertical derivative (1VD) and analytical signal (AS) filters were also applied to the gridded RTP data. The 1VD filter is effective at removing regional gradients and enhancing shallow, near-surface features. It can also enhance resolution of the edges of magnetic features. Since it amplifies the short-wavelength component of the data, it also has the tendency to look 'noisy'. Small incoherent features should therefore be discounted. However, the textures created can often be useful in distinguishing different rock types. The analytical signal filter produces maxima over magnetic contacts regardless of the direction of the magnetisation, making it particularly useful in regions of strong remnant magnetism. It can be thought of as a map of magnetisation in the ground. However, since the analytical signal marks only a magnetic contrast, the sense (positive or negative) of this contrast can be determined only from the original magnetic image. The Geosoft grids were exported as Mapinfo registered raster (.tif) files. The Geosoft grids were also converted to ERMapper format to provide an alternative format for further presentation.

Data from regional aeroradiometrics have been subsetted around EPM 19696. The reprocessing, quality control and assurance, and the presentation of data were performed by geophysicist, Mr Tim Beams, at Terra Search Townsville Office. The aeroradiometric data was gridded and imaged using Geosoft's Oasis software. Source of the aeroradiometric data is the Fifth edition of the Radiometric Map of Australia, Geoscience Australia 2010.

The regional airborne radiometric data is imaged on the following figures:

- Figure 23 shows the total dose radiometric data (DOSE)
- Figure 24 shows the potassium radiometric data (K)
- Figure 25 shows the three component RGB radiometric data (U-Th-K)
- Figure 26 shows the thorium radiometric data (Th)
- Figure 27 shows the uranium radiometric data (U)

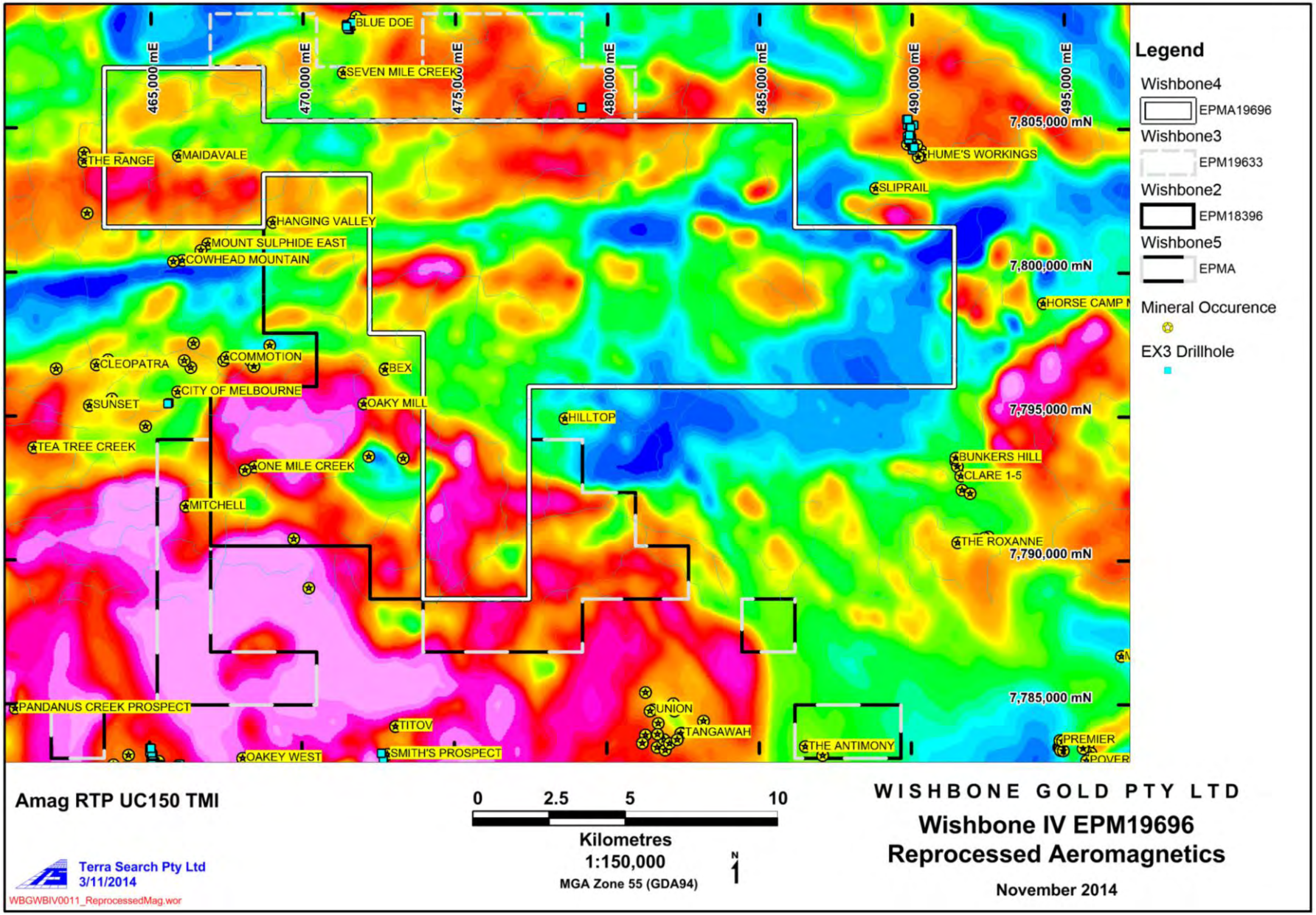

Figure 17: Enlargement of aeromagnetic image covering EPM 19696: Image of Reduced to Pole Magnetics (RTP)

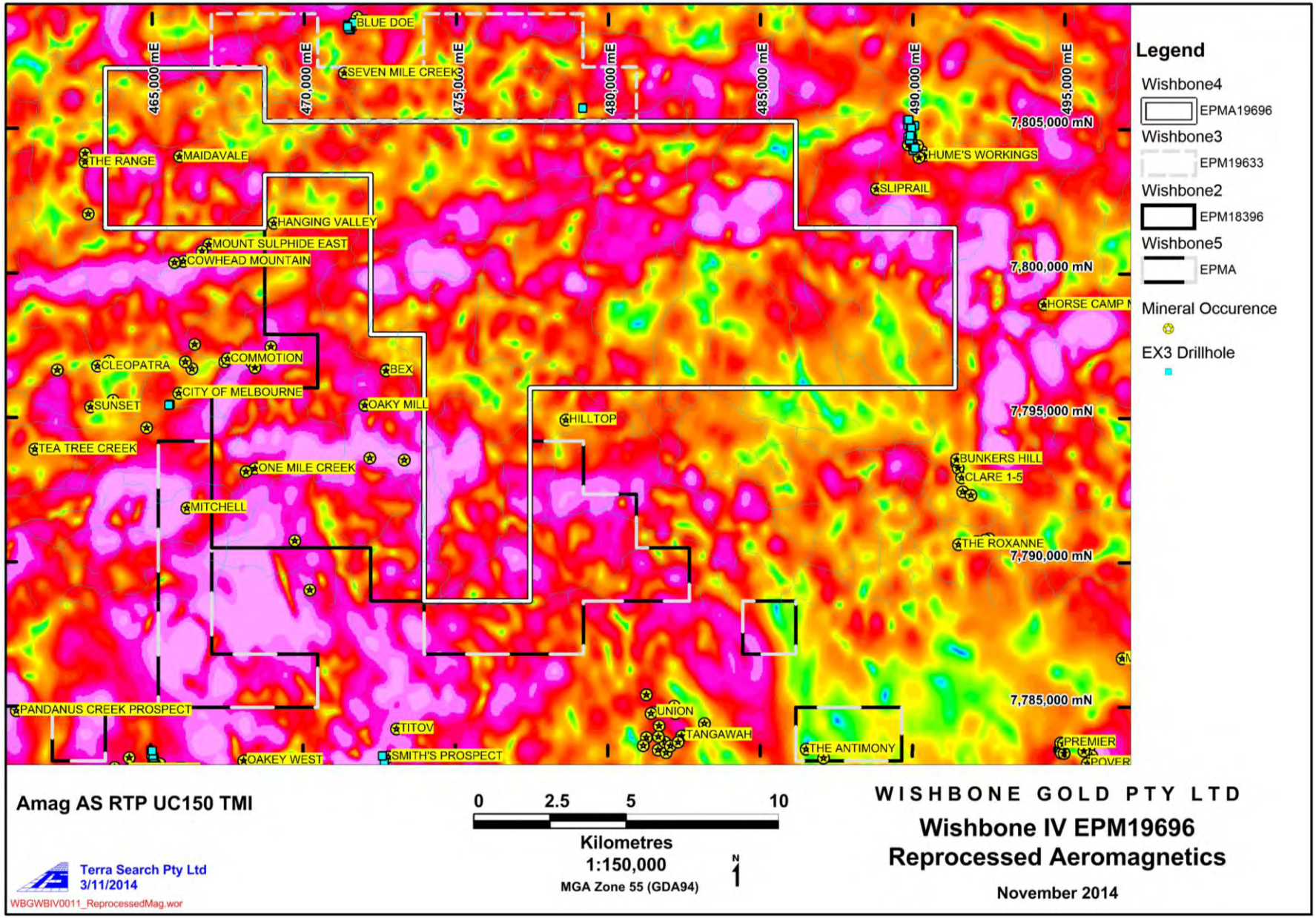

Figure 18: Enlargement of aeromagnetic image covering EPM 19696: Image of Analytical Signal of the RTP magnetics (AS)

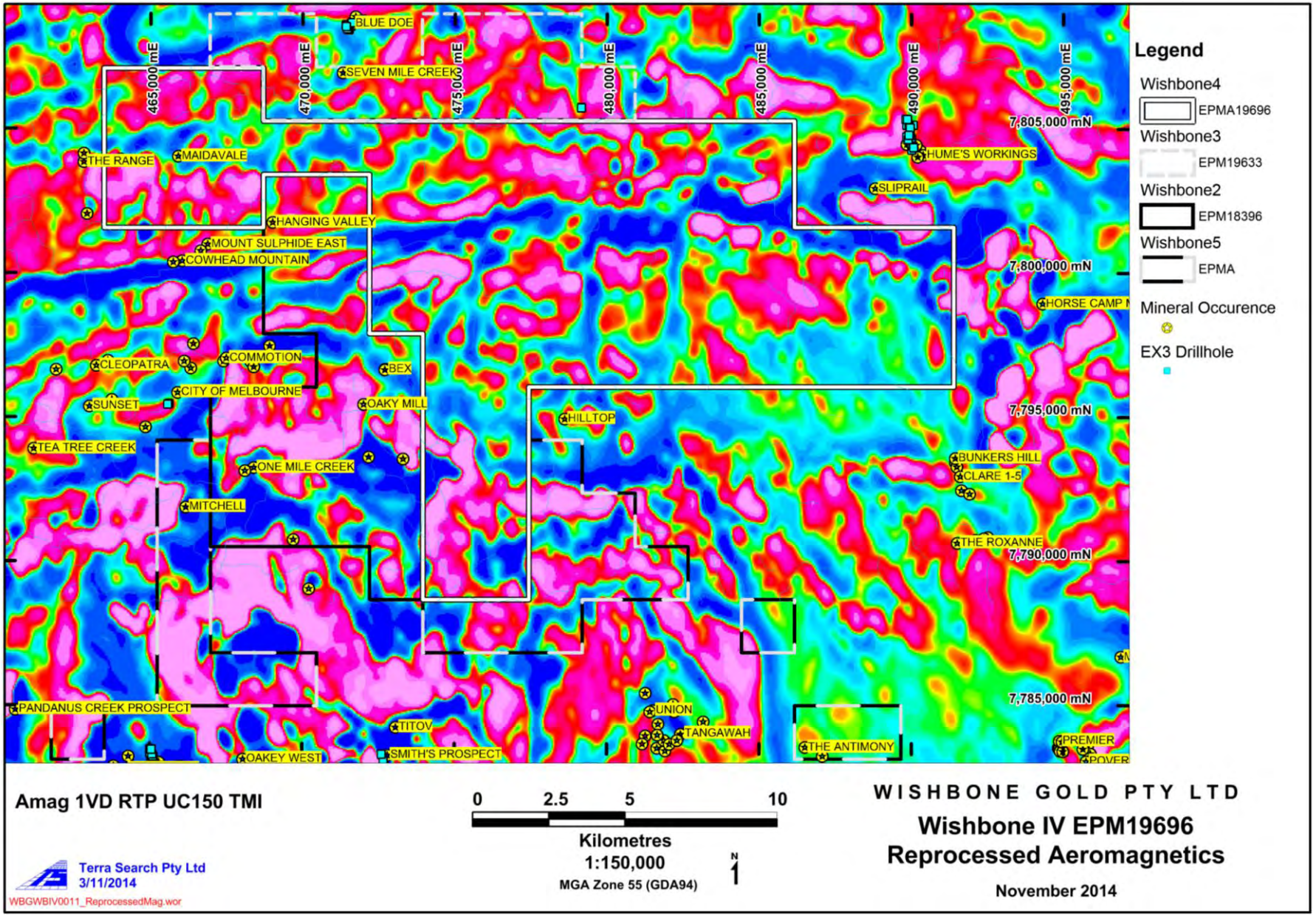

Figure 19: Enlargement of aeromagnetic image covering EPM 19696: Image of First Vertical Derivative of the RTP magnetics (1VD)

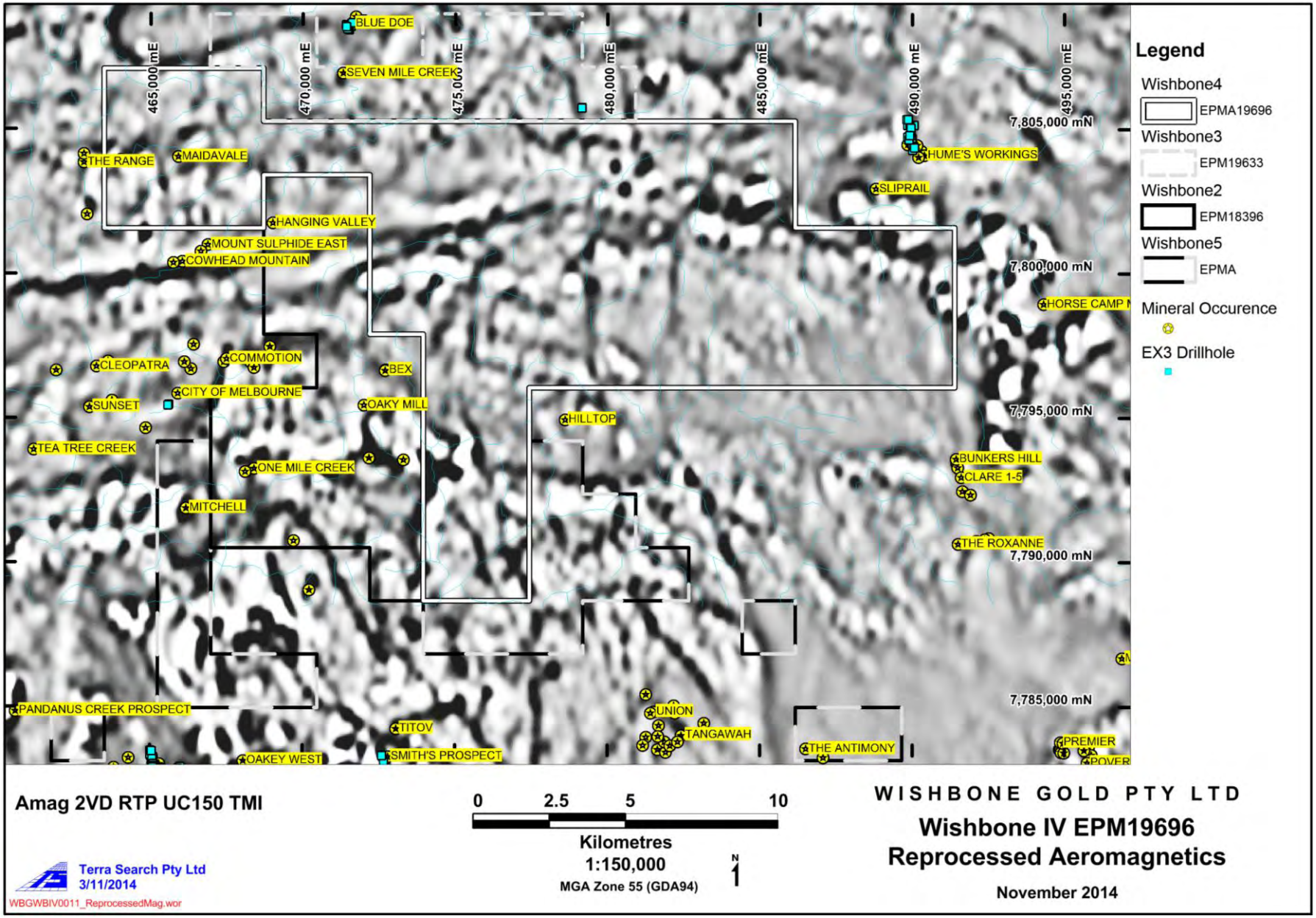

Figure 20: Enlargement of aeromagnetic image covering EPM 19696: Image of second vertical derivative (2VD)

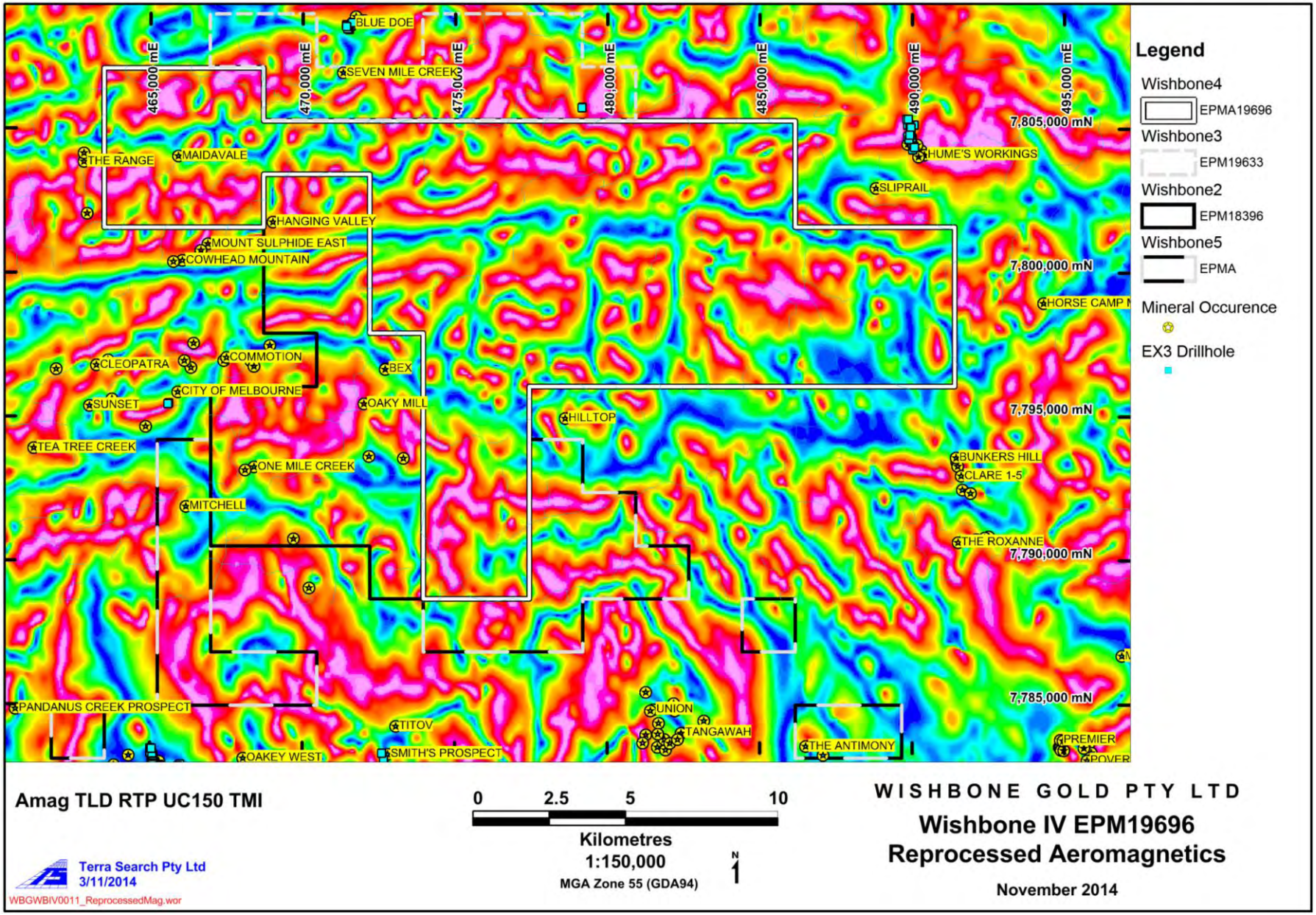

Figure 21: Enlargement of aeromagnetic image covering EPM 19696: Image of Tilted Derivative (TLD)

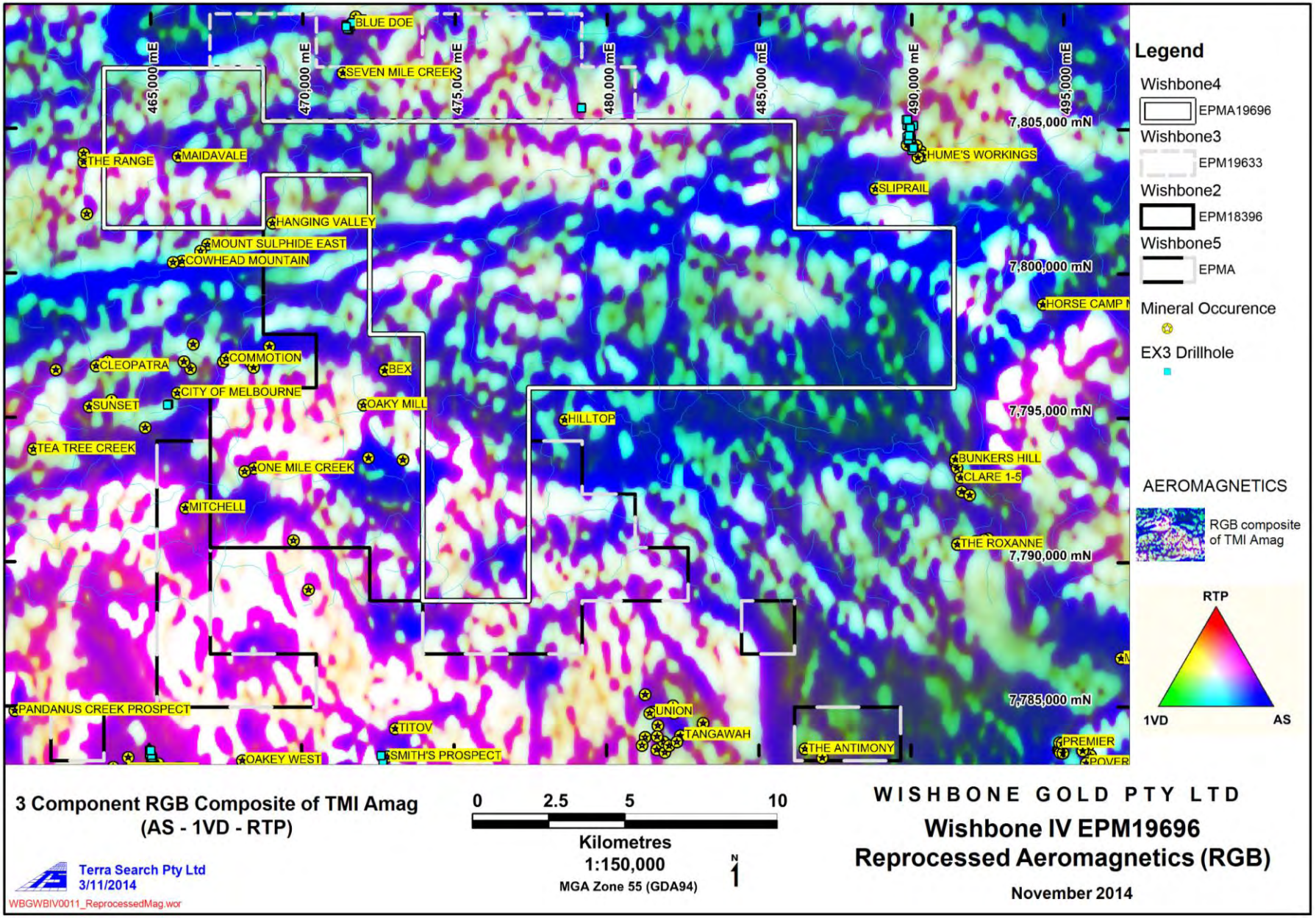

Figure 22: Advanced reprocessing of aeromagnetic image covering EPM 19696: Three component RGB magnetic image – RTP, AS, 1VD

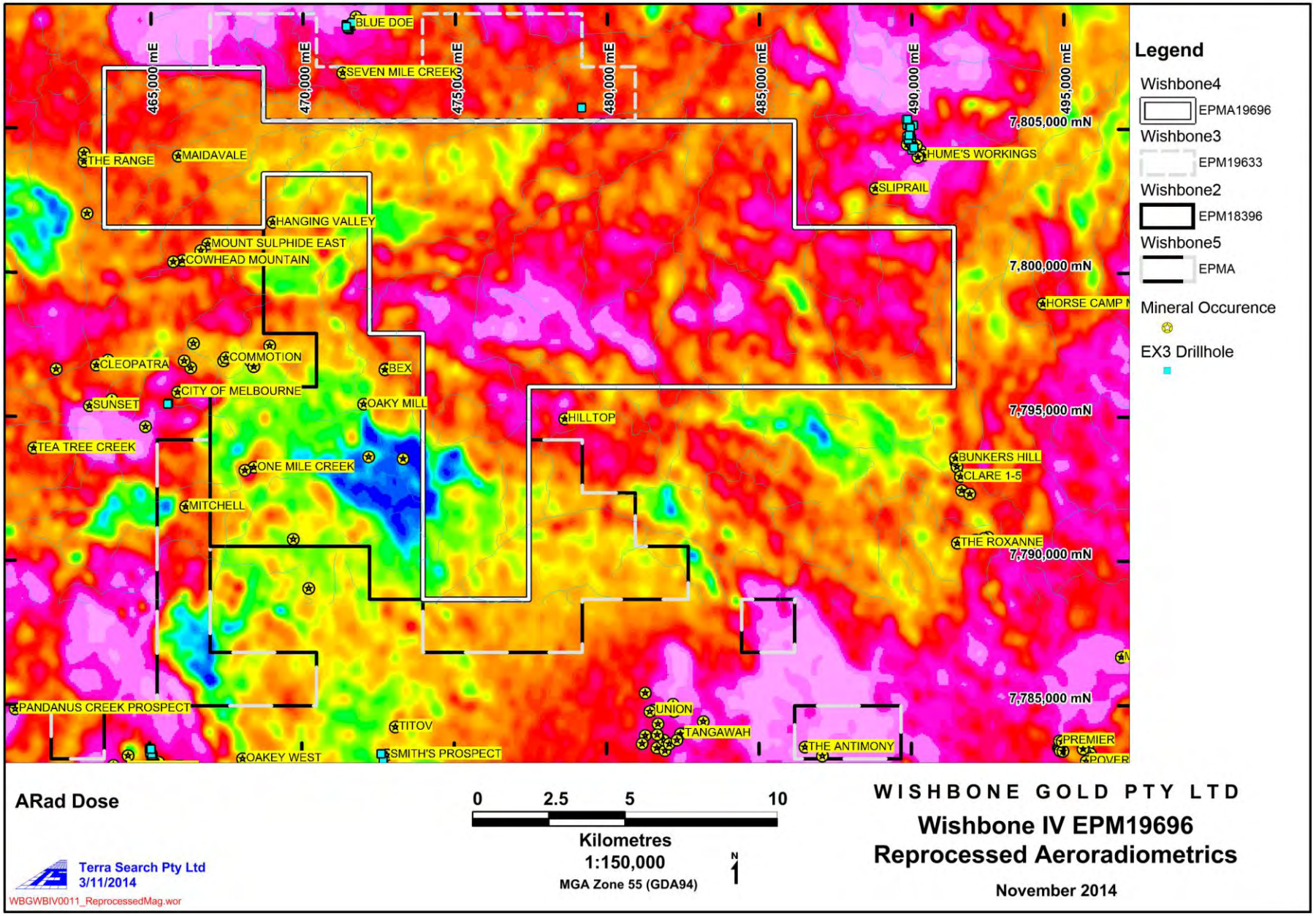

Figure 23: Enlargement of aeroradiometric image covering EPM 19696: Image of Total Radiometric Dose

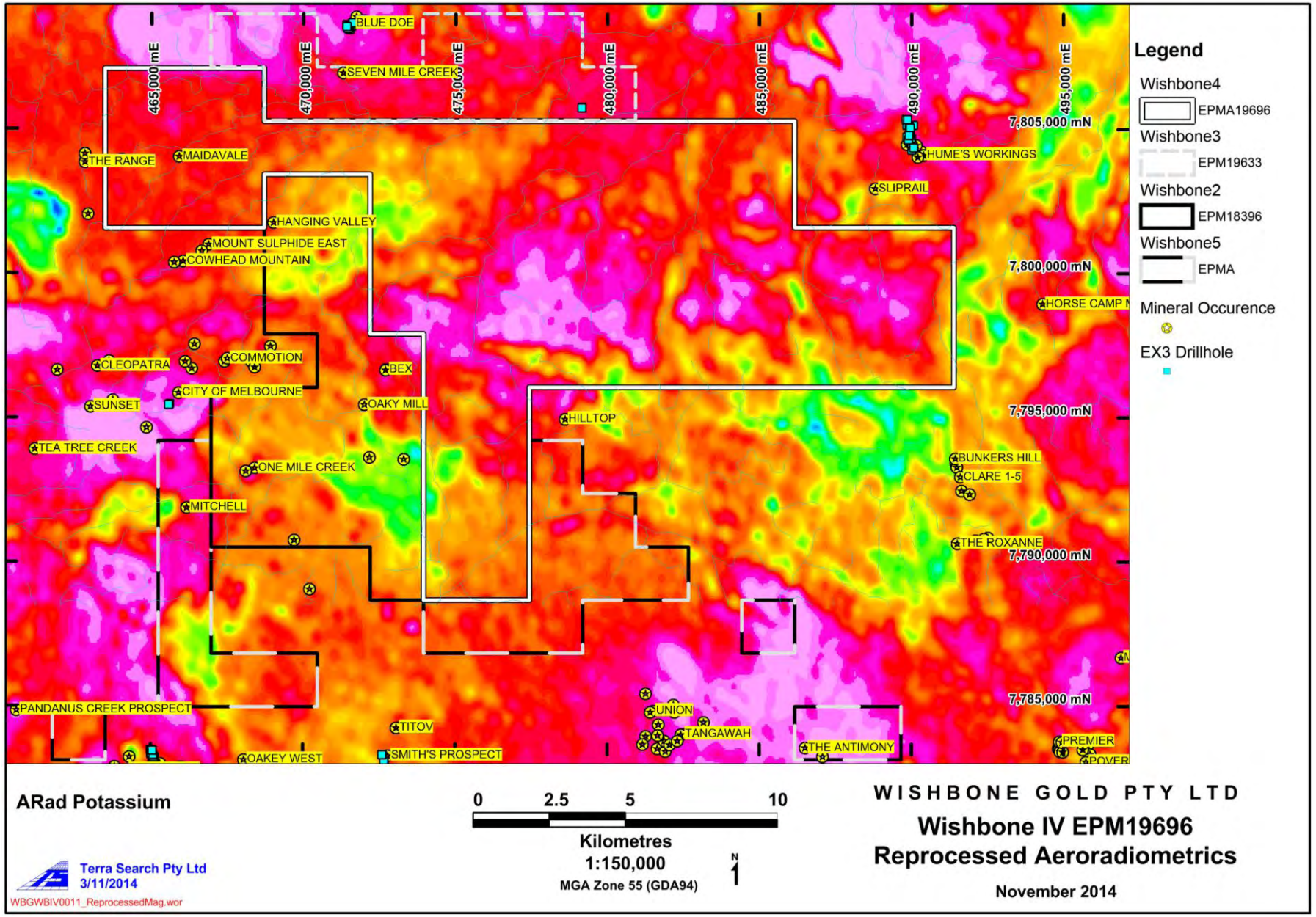

Figure 24: Enlargement of aeroradiometric image covering EPM 19696: Image of Potassium (K)

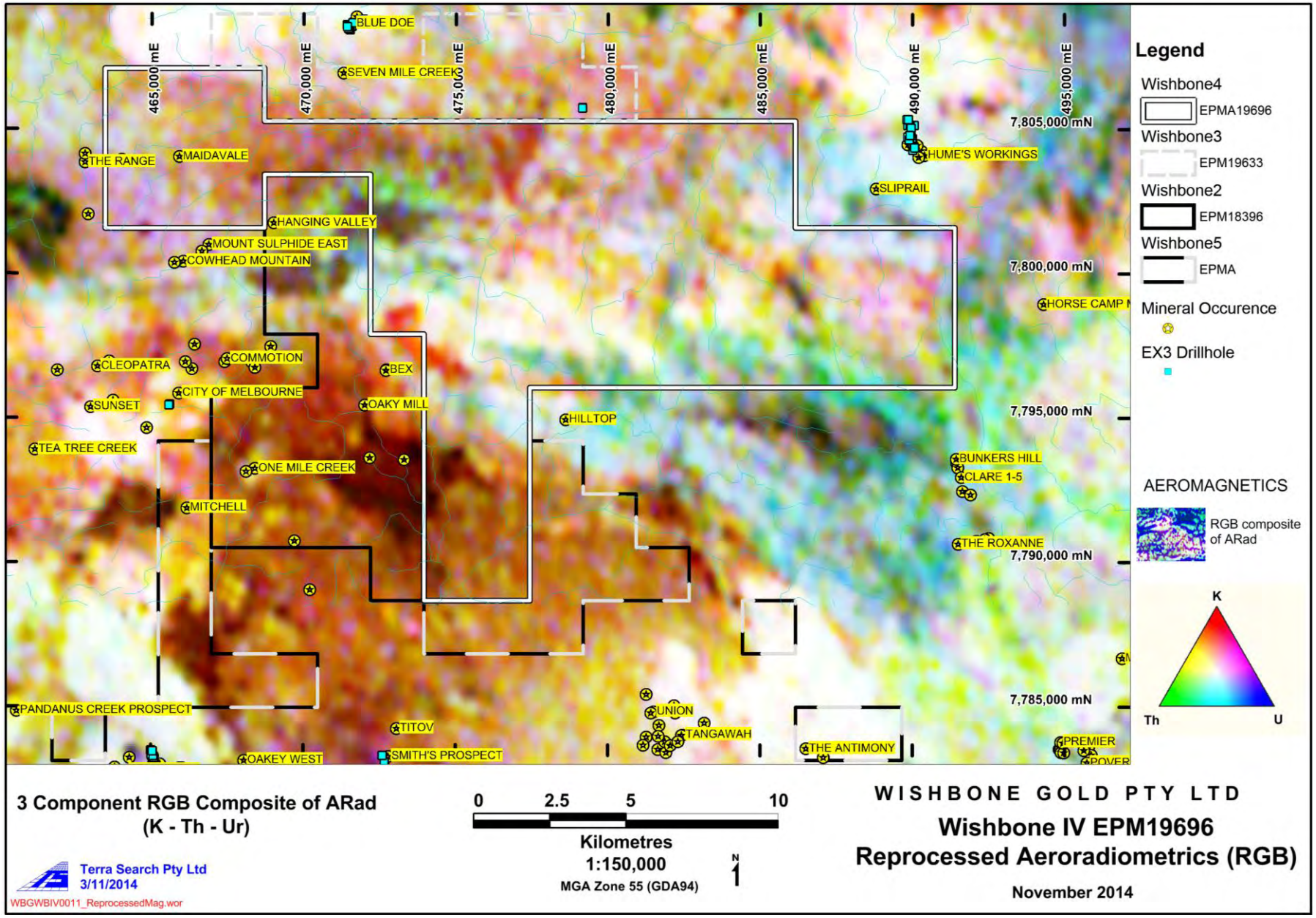

Figure 25: Enlargement of aeroradiometric image covering EPM 19696: Image of three component RGB radiometrics (K-Th-U)

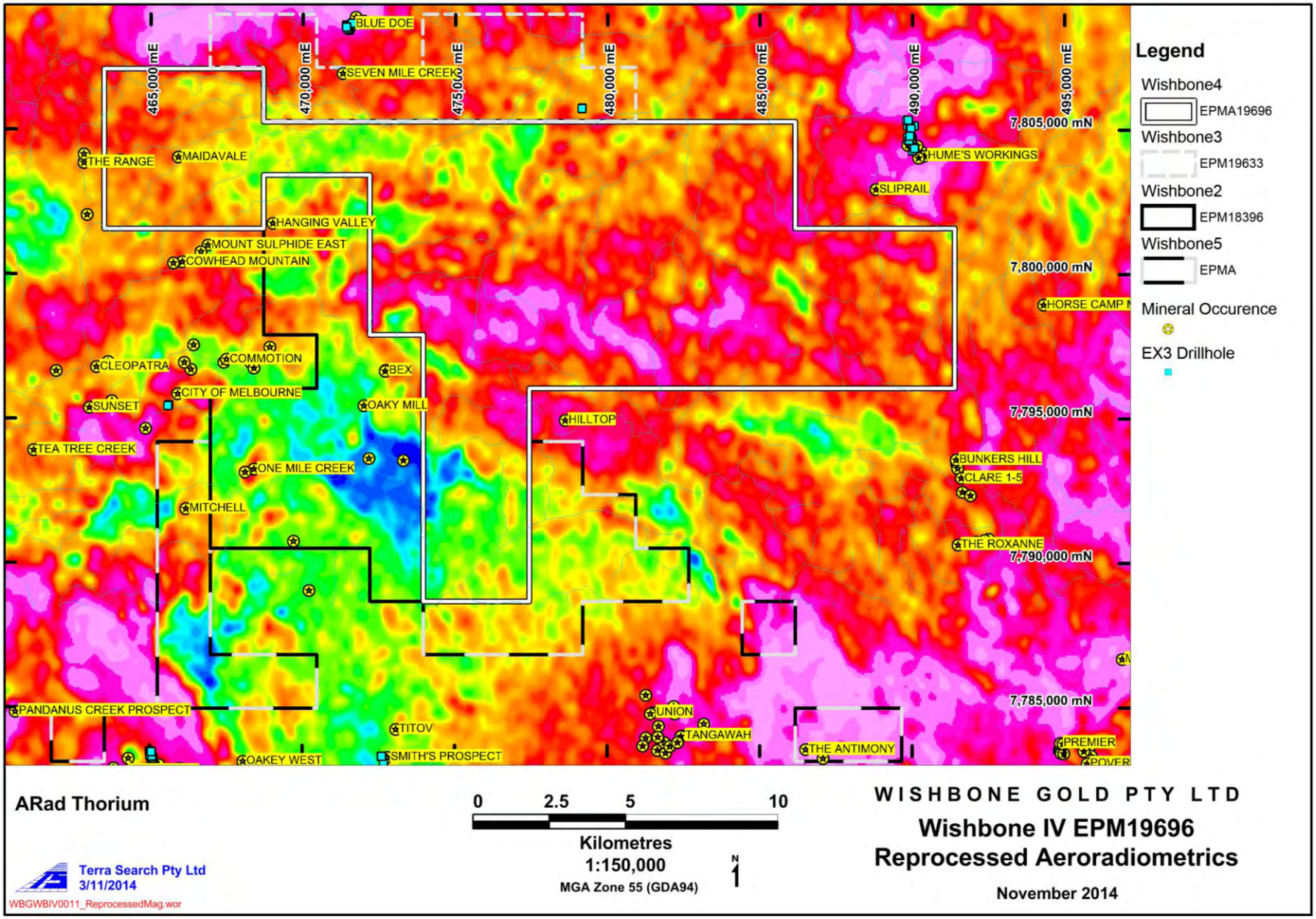

Figure 26: Enlargement of aeroradiometric image covering EPM 19696: Image of Thorium (Th)

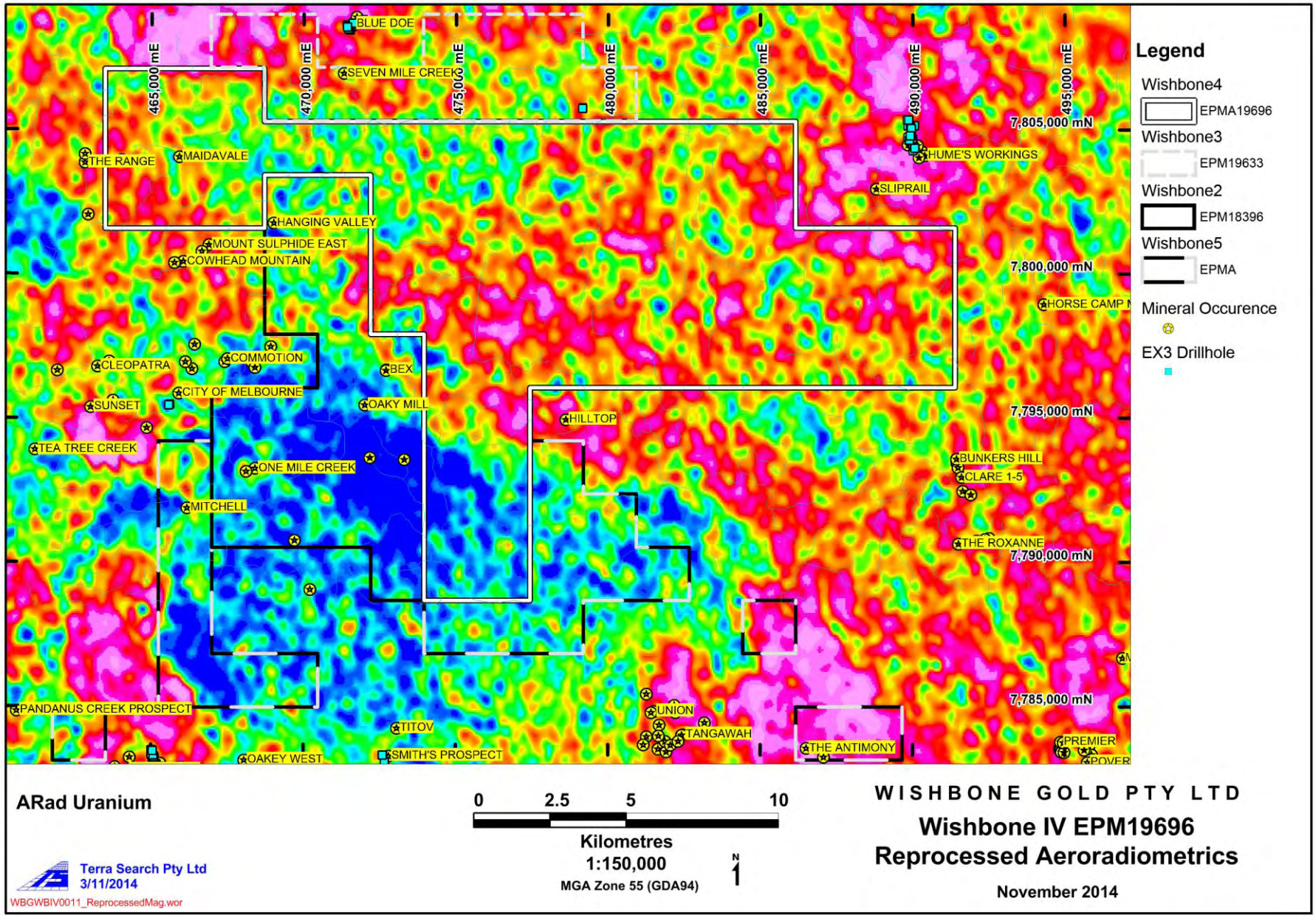

Figure 27: Enlargement of aeroradiometric image covering EPM 19696: Image of Uranium (U)

6.0 COMMENTS ON REPROCESSED GEOPHYSICAL IMAGES

Brief comments on the reprocessed geophysical images are as follows:

- Reduced to pole (RTP) filter on total magnetic intensity (Fig 17). The most prominent features are the magnetic highs associated with the Ordovician – Silurian Granitoid body lying to the north west of EPM 19696. A slice of the Neoproterozoic Metamorphics south of the Alex Hill Shear zone is also considerably high. In the south of the tenement lies a zone of broadly strong high magnetics surrounding a prominent magnetic low representing a Silurian-Devonian Granitoid. A prominent low is present on the east-west trending regionally significant Alex Hills Shear Zone generally lowest where the Neoproterozoic – Cambrian Metamorphic Sediments are mapped to the east of the tenement. Within the tenement magnetics reveal the probable presence of covered granitoids of the Ravenswood Batholith under Quaternary Alluvium.

- RTP analytic signal (AS) of magnetic data (Fig 18). Moderate patchy magnetics are displayed in the Analytical Signal of the data. The highest responses reflect possible basement geology along the regional east west trending Alex Hill Shear Zone, as well as correlating well with the strong RTP anomalism in the Ordovician Granite to the south of the tenure.

- First vertical derivative (1VD) of the RTP magnetic data (Fig 19). This images the Alex Hill Shear Zone successfully as a continuous low structure. Perpendicular to this structure in the main body of the tenement are regular north-south trending lows depicting possible structures in the mapped Ordovician Granitoid.

- Second vertical derivative (2VD) RTP magnetic data, as grey scale (Fig 20). The grey scale 2VD illustrates the major structures previously discussed including the Alex Hill Shear Zone and the perpendicular regular north-south trending lows depicting possible structures in the mapped Ordovician Granitoid.

- Tilt derivative on RTP magnetic data (TLD RTP) (Fig 16). This image accentuates the gradient changes. The major difference between the TLD and the 1VD is that the TLD normalizes trends whether they occur in high or low linear zones. The tilt derivative illustrates many of the features previously discussed including the significant Alex Hill Shear Zone.

- Three component RGB magnetic image (RTP AS 1VD) (Fig 14). This illustrates the major structures within the area including the Alex Hill Shear Zone as well as varying responses

within the intrusive units surrounding the tenement. The RGB displays the broad Ordovician Granitoid in the central part of the tenement, the Alex Hill Shear Zone, the high magnetic intrusive body to the south of the tenement and the Ordovician – Silurian Granitoid north of the Alex Hill Shear Zone. It is important to note that the majority of previous discoveries lie along the blue ridges corresponding to interpreted structures often accentuated by this method of RGB modeling.

- Total dose rate from radiometric data (Fig 22).The total dose rate maps out well the contrasting highs produced between regional intrusive units. The majority of the image display moderate to high radiometric dose reflecting the presence of the Siluro-Ordovician Granodiorite within the western area and the broad Ordovician Granitoid in the central part of the tenement.

- Potassium (K) from radiometric data (Fig 17). This image is very similar to the dose rate component discussed above.

- Three component RGB radiometrics (U Th K) (Fig 20). The strongest radiometric feature on this image is the Ordovician Granitoids and Neoproterozoic Metamorphics which are characterized by high K-Th-U (white). The moderate K character of the Siluro-Ordovician Granodiorite is also evident as purple in the north west of the tenement. The green and blues depict the Neoproterozoic – Cambrian Metamorphics and Cambrian-Ordovician Arenite / Mudrock sediments.

- Thorium (Th) from radiometric data (Fig 18). In this image, Thorium is high in the Ordovician and Permo-Carboniferous Granitoids south of the Alex Hill Shear Zone. Similar image to the Dose rate image.

- Uranium (U) from radiometric data (Fig 19). In this image, Uranium again is high in the Orodvician and Permo-Carboniferous Granitoids yet patchy for the rest of the area.

7.0 IMPLICATIONS FOR EXPLORATION AND RECOMMENDATIONS

The airborne magnetics and radiometrics in conjunction with the limited mapping and sampling within the tenement complete the current data set and understanding of EPM 19696. Surface exploration within the EPM will be varying in difficulty due to topographic rugged nature of the Alex Hill Shear Zone and large bouldering scree associated. An incorporation of ground magnetic modelling and airborne magnetic data will be used to identify the major and possible unnoticed structures beneath cover. It is evident that the processed aeromagnetics has given some explanation to the intrusive nature of the geology masked beneath the Quaternary Alluvium to the north and the nature of the Alex Hill Shear Zone. The advanced reprocessed RGB magnetics in particular identify a strong correlation between previous discoveries surrounding the tenement and the deep blue trending linear features. It is reasonable to assume that these linear features are projecting the trend of potentially mineralised structures throughout the region. Several of these structures crosscut the tenement producing primary targets for follow up ground magnetics and drill targeting.

Potential for discovering similar mineralisation styles as those occurring within the area are certainly possible given the relatively untested nature of the tenement. Drilling will be necessary to test any targets identified during the initial phases of exploration to gain an understanding of the underlying geological framework and controls on mineralisation.

It is therefore recommended that future work be aimed at soil, stream sediment and rock chip sampling of anomalous areas identified in data reprocessing, followed by review and targeted drilling depending upon results, as outlined in this document where it addresses target areas. Auger drilling in places may also be beneficial.

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