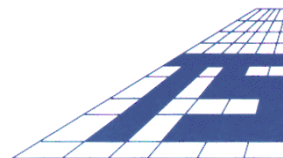


# **Terra Search Pty Ltd**

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Specialists in Mineral Exploration:  
Geology and Computing

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## **WISHBONE GOLD PTY LTD EPM 19696 WISHBONE IV ANNUAL REPORT TWELVE MONTHS ENDING 29 SEPTEMBER 2017**

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## **EXECUTIVE SUMMARY**

Wishbone Gold Pty Ltd is 100% holder of EPM 19696 Wishbone IV, located 60 km south of Townsville, North Queensland. This report is for the annual period, 12 months ending 29/09/2016.

No exploration has taken place during the current reporting period.

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 2015 and this was approved 27 October 2015.

A relinquishment of 5 sub blocks was lodged on 12 September 2016 in order to comply with compulsory relinquishment requirements and this was approved by the QDNRM with effect from 01 November 2016.

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## 1.0 INTRODUCTION

This report documents the work carried out over EPM 19696 Wishbone IV for period ending 29<sup>th</sup> September 2016. The tenement is situated 65 km 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, geophysical dataset reprocessing and interpretation of ground magnetic surveys and surface rock chip, soil and sediment sampling..

## 2.0 LOCATION AND TENURE DETAILS

EPM 19696 Wishbone IV was granted to Wishbone Gold Pty Ltd on 30<sup>th</sup> September 2013. The tenement was granted across 67 sub blocks and following recent statutory relinquishments, the area now totals thirty nine sub blocks (Table 1). EPM 19696 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 in Figure 1.

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

**Table 1:** Sub block identification details.

The tenement forms part of the Wishbone Gold “Wishbone Project” which consists of three granted permits: EPM 18396 Wishbone II, EPM 19633 Wishbone III and EPM 19696 Wishbone IV with tenement details listed in Table 2. Exploration permit EPM 19696 is located approximately 65 kilometres south of Townsville, in north Queensland. Location and access is shown in Figure 2.

Tenure	Name	Status	Date Applied	Date Granted	Date Expires	Sub Blocks
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	8
EPM 19696	Wishbone IV	Granted	9/05/2012	30/09/2013	29/09/2018	39

**Table 2:** Wishbone Project tenure details.

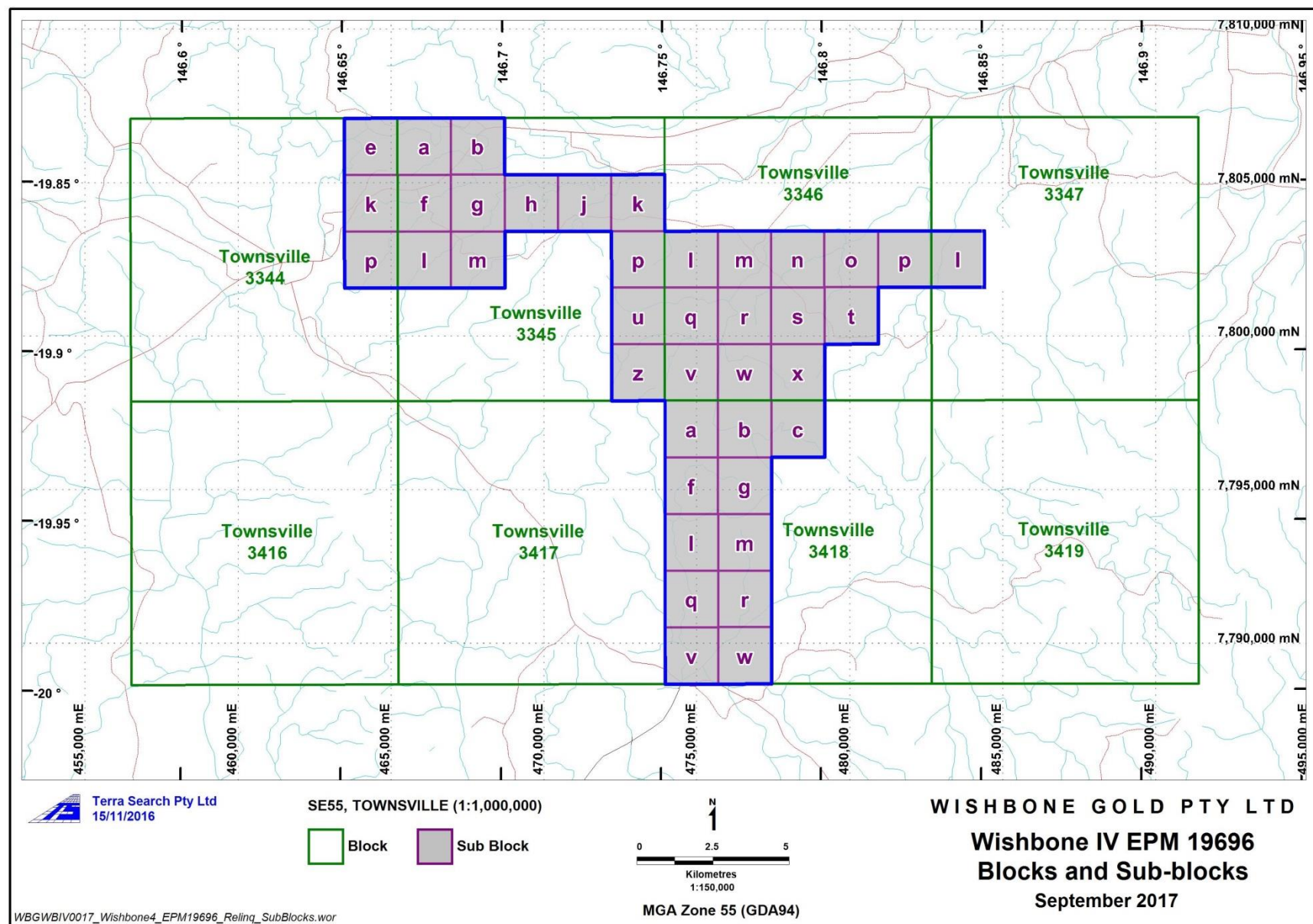
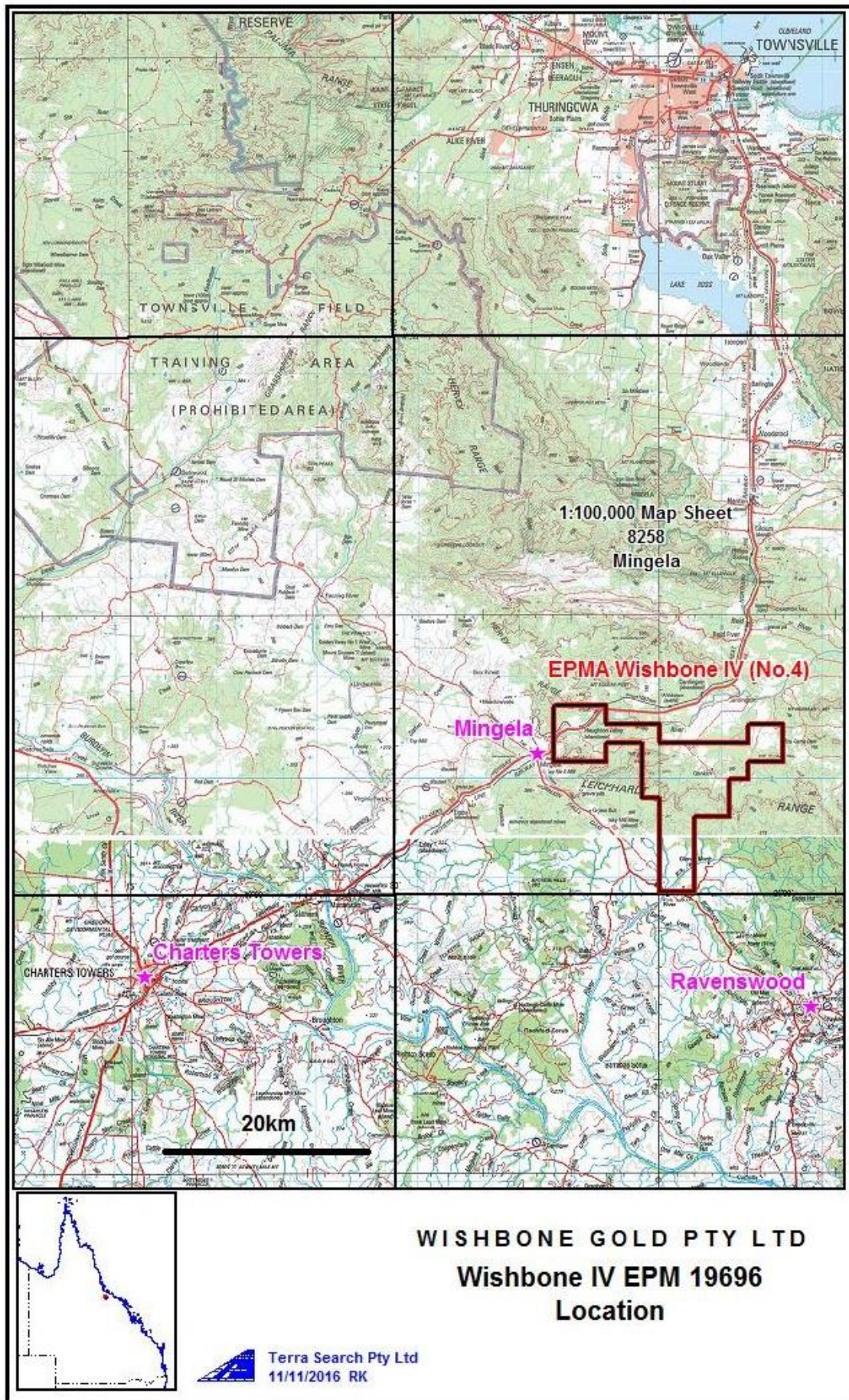


Figure 1: Tenure Map showing blocks and sub blocks on drainage.





**Figure 2:** Location Map of EPM19696 on topography.

### 3.0 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).

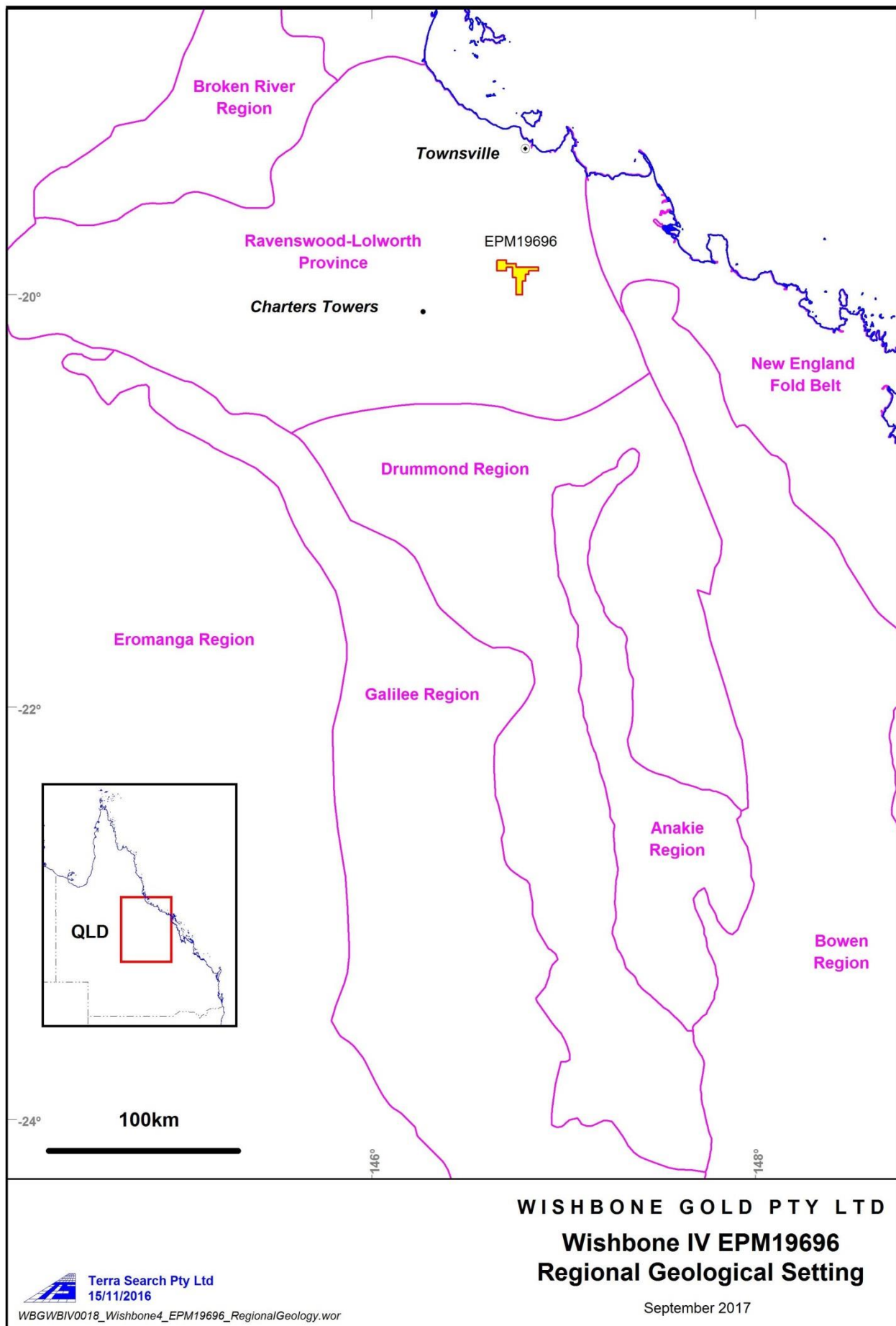
The project area is mainly incorporated in the Ravenswood Batholith, the largest element of the Complex. The Ravenswood Batholith and Lolworth Batholiths were intruded during the Siluro-Ordovician time (Wyatt et al, 1970).

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 postdate the granodiorite (John, 1985). A stratigraphic column of the major lithological units and corresponding mineralisation periods are outlined in Table 3.





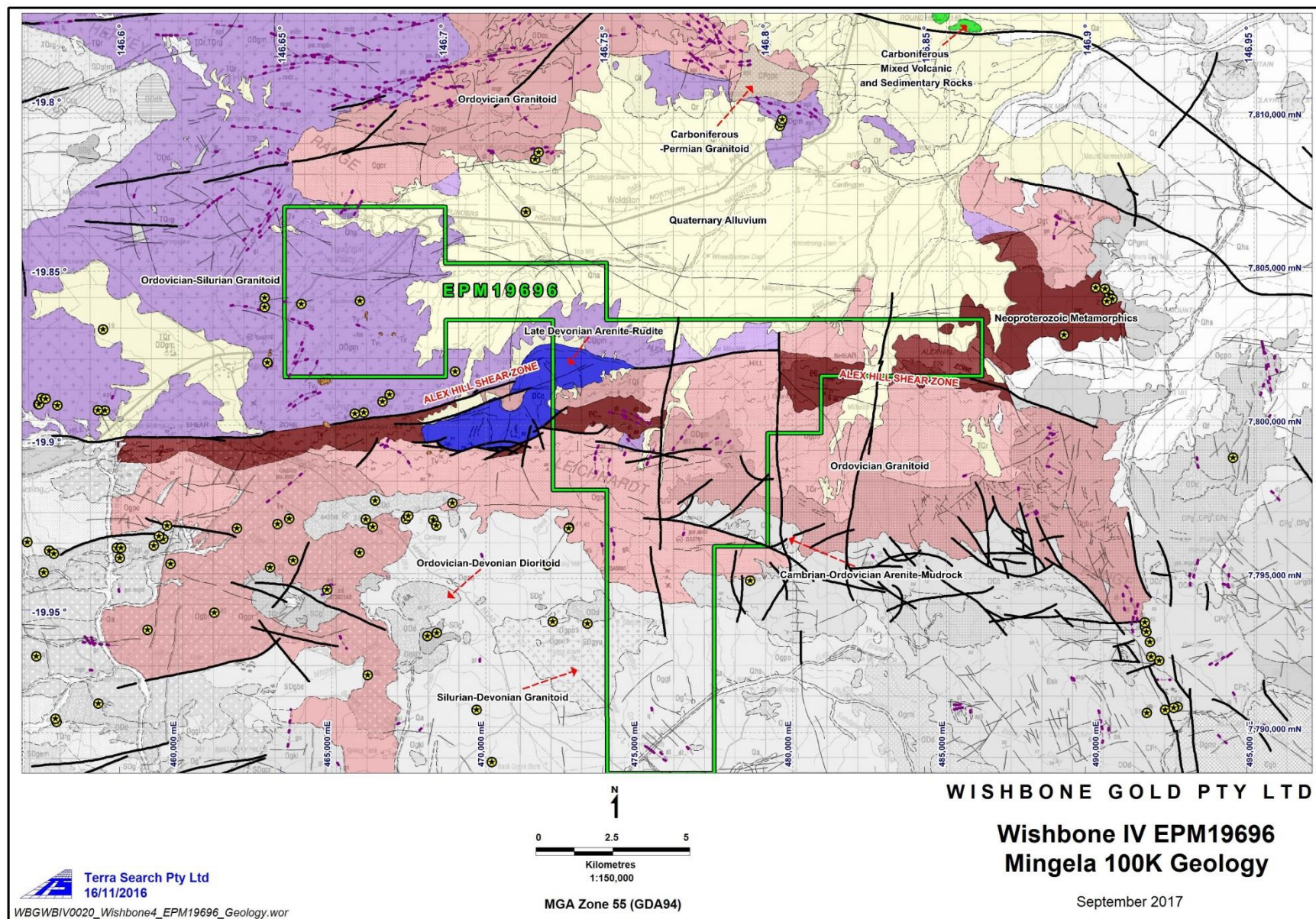
**Figure 3:** Regional Tectonic Map.

**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 et al. , 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

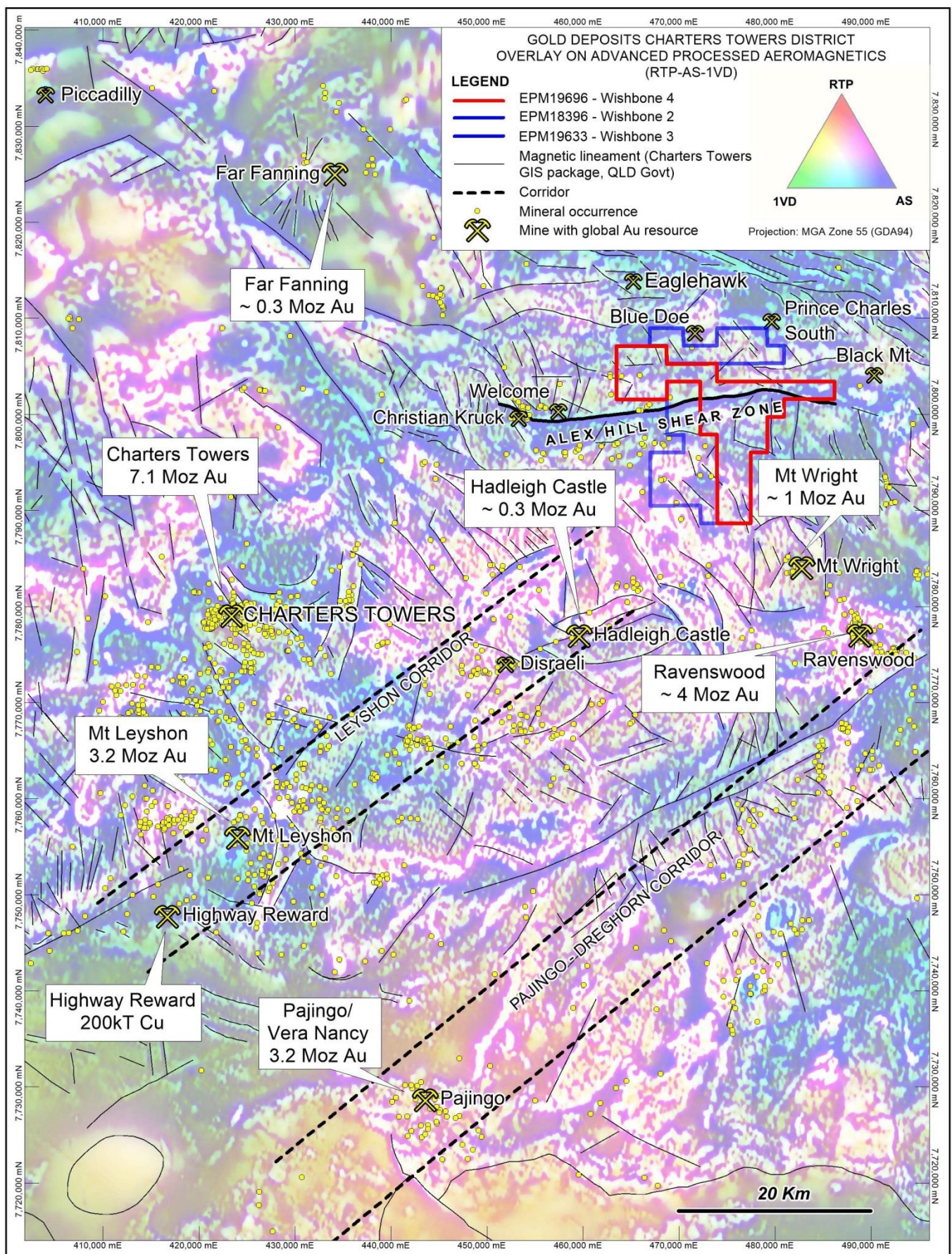
				Db	dykes
MIDDLE ORDOVICIAN AND UPPER SILURIAN OR LOWER DEVONIAN	Ravenswood Granodiorite Complex	O-Da	Small separate unnamed intrusions. Some intrude the Mt Windsor Volcanics, others O-Dr and some O-Dg	Late stage differentiates	Small granitic masses related to the O-Dg / O-Dk period if intrusions
		Kirklea 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 of EPM19696 Wishbone IV and environs.





**Figure 5:** Wishbone Project and 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, Mount 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 and 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 Tournaisian 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 distribution of mineralisation westward from Grass Hut to Salas Siding, Tanning and Marmy Creek (Metals, 1986). This 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 east-west 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).

Detailed magnetic images of the area clearly show sets of well developed structures that transect the area and 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; and
- (4) Northeast trending magnetic lows.

### 3.2 LOCAL GEOLOGY

The majority of the Wishbone Project and EPM19696 Wishbone IV 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 northwest 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).

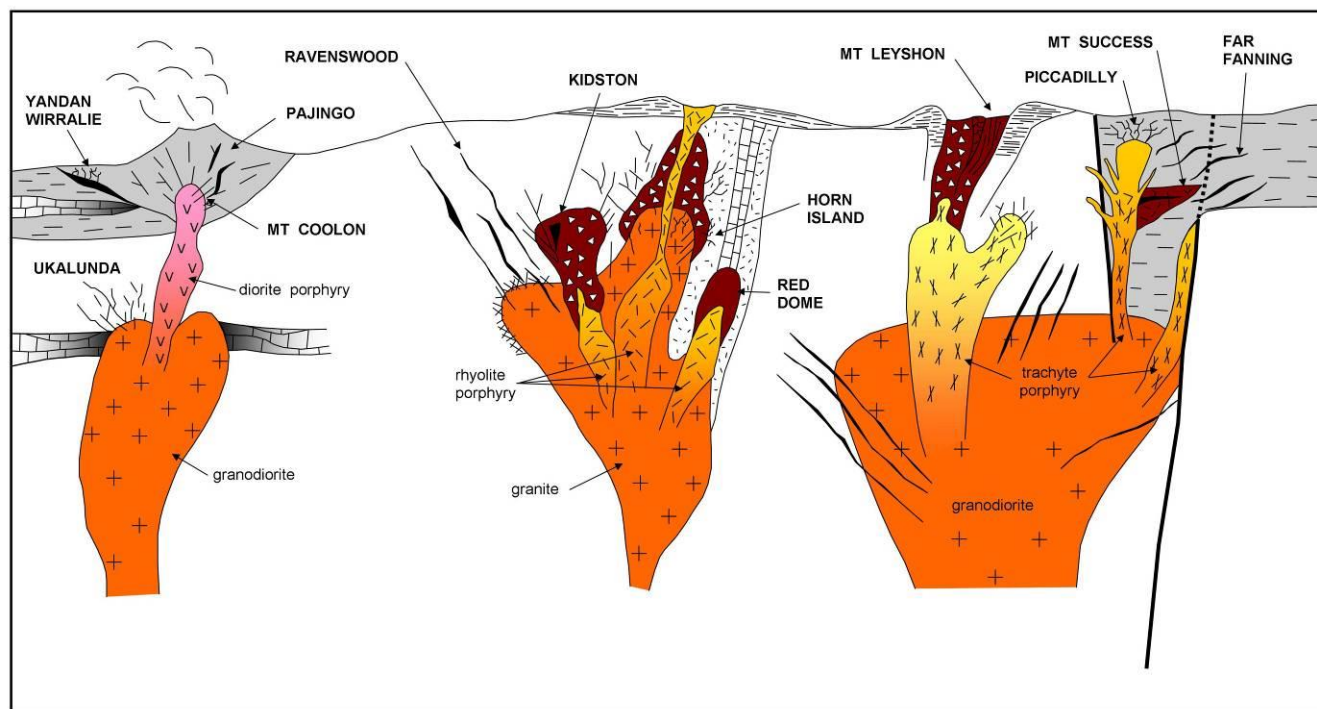
A further intrusion of pink to greenish grey, medium to coarse grained, porphyritic biotite granite known as the Pocket Dam Granite outcrops to the south of the EPM (Rienks et al, 1996). This intrusive hosts several small Au deposits including Oaky Creek, Bex, as well as an unnamed small Cu occurrence. 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 Lyle (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 400 Ma (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. Mount Leyshon and Ravenswood/Mount Wright. Lower temperature, high and low sulphidation epithermal style precious metal deposits also well developed in the Drummond Basin to the south, eg. Pajingo and Silver Hills. Younger ages of around 290 Ma (Permo-Carboniferous).



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

### 3.3.1 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, eg. 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 (0.3–1.2 m 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.

### 3.3.2 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 Mount Leyshon and Mount 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) CO<sub>2</sub> 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. 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 Mount Wright, Mount Leyshon and the Welcome Breccia are all developed over a vertical extent of several hundred metres to an excess of a kilometre.

The Mount Leyshon corridor also intersects the Alex Hill Shear Zone within the vicinity of EPM 19696 Wishbone IV and the 1988 announcement by Gold Mines of Kalgoorlie Ltd (GMK) 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 EPM 19696, testifies to the importance of this area.

#### 4.0 PREVIOUS EXPLORATION

Mining and exploration in the Mingela Project area falls naturally into three distinct periods of: historical gold and polymetallic mining 1868-1920; predominantly base metal exploration 1959-1982; and redominantly gold exploration 1982–2000, with minor emphasis on Cu-Au and polymetallic targets.

Geological observations were made by some of the earliest explorers over 100 years ago when 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). A more comprehensive summary of all previous exploration is given the 2016 Annual Report for EPM 19696 Wishbone IV (Stephan, Beams et al., 2016), which also details all historical mining and production in the region.

Mingela (within EPM 19696 area)				
Prospect	Years	Au (kg)	Ore (tonnes)	Grade (g/t)
Seven Mile Creek	?	?	?	?
Surrounding Prospects (outside of EPM 19696 area)				
Prospect	Years	Au (kg)	Ore (tonnes)	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

**TABLE 4: HISTORICAL GOLD PRODUCTION FOR GOLD DEPOSITS IN THE LOLWORTH – RAVENSWOOD PROVINCE (Dalrymple Resources Pty Ltd, 1988).**

## **5.0 TARGETS WITHIN THE PROJECT AREA**

Wishbone Gold Pty Ltd notes the significantly prosperous nature of the mineralised Alex Hill Shear Zone and will continue exploration programs targeting this outcropping feature within EPM 19696. Detailed ground mapping of the Shear Zone may contribute significantly to the understanding of its projection at depth and promote exploration of further possible mineralised fault intersections such as that found in the Mount Leyshon area.

Incorporation of ground magnetic modelling and airborne magnetic data will be further 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, with initial analysis of samples with a portable XRF; further geological prospecting and surface geochemical sampling (rock chip, stream sediment); ground magnetics following the identification of anomalous geochemistry in soil samples and rock chip samples.

This program will lay the foundation for drill targeting at the central Wishbone Project areas: Hanging Valley, DAB and Haughton Bluff Creek West Vein targets and other potential target areas within the tenement.

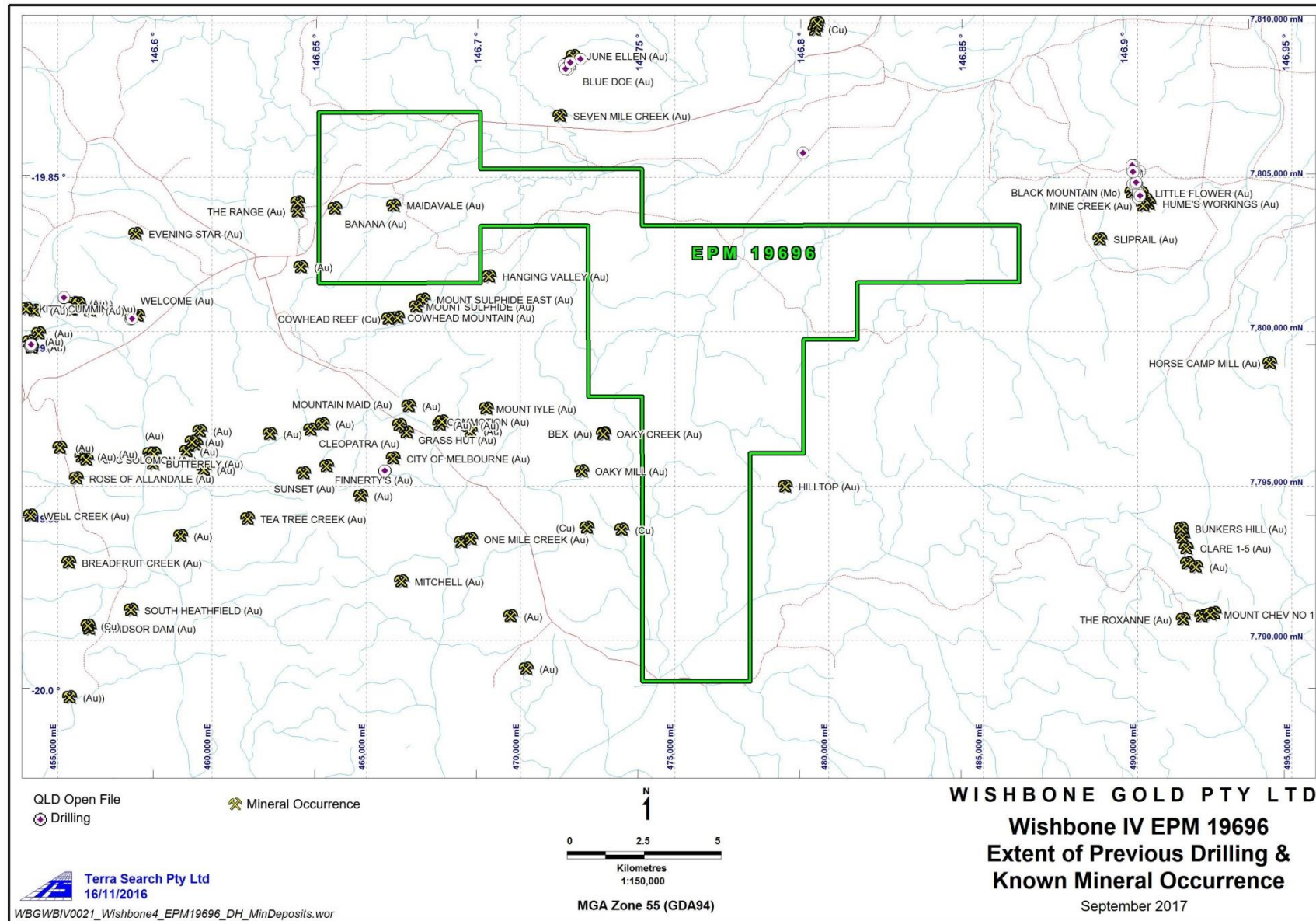


Figure 6: Extent of previous drilling and mineral occurrences



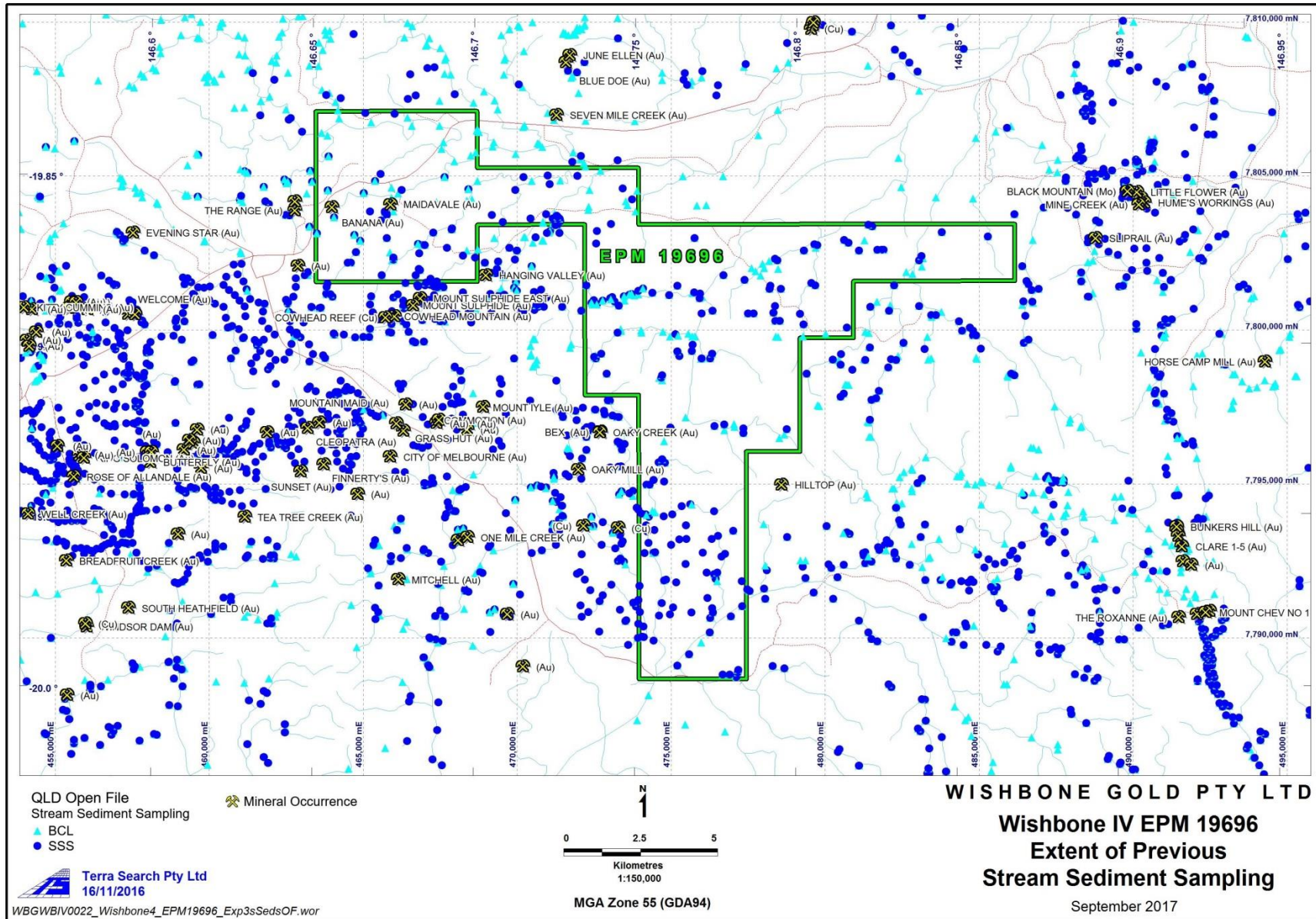


Figure 7: Extent of previous surface stream geochemistry.



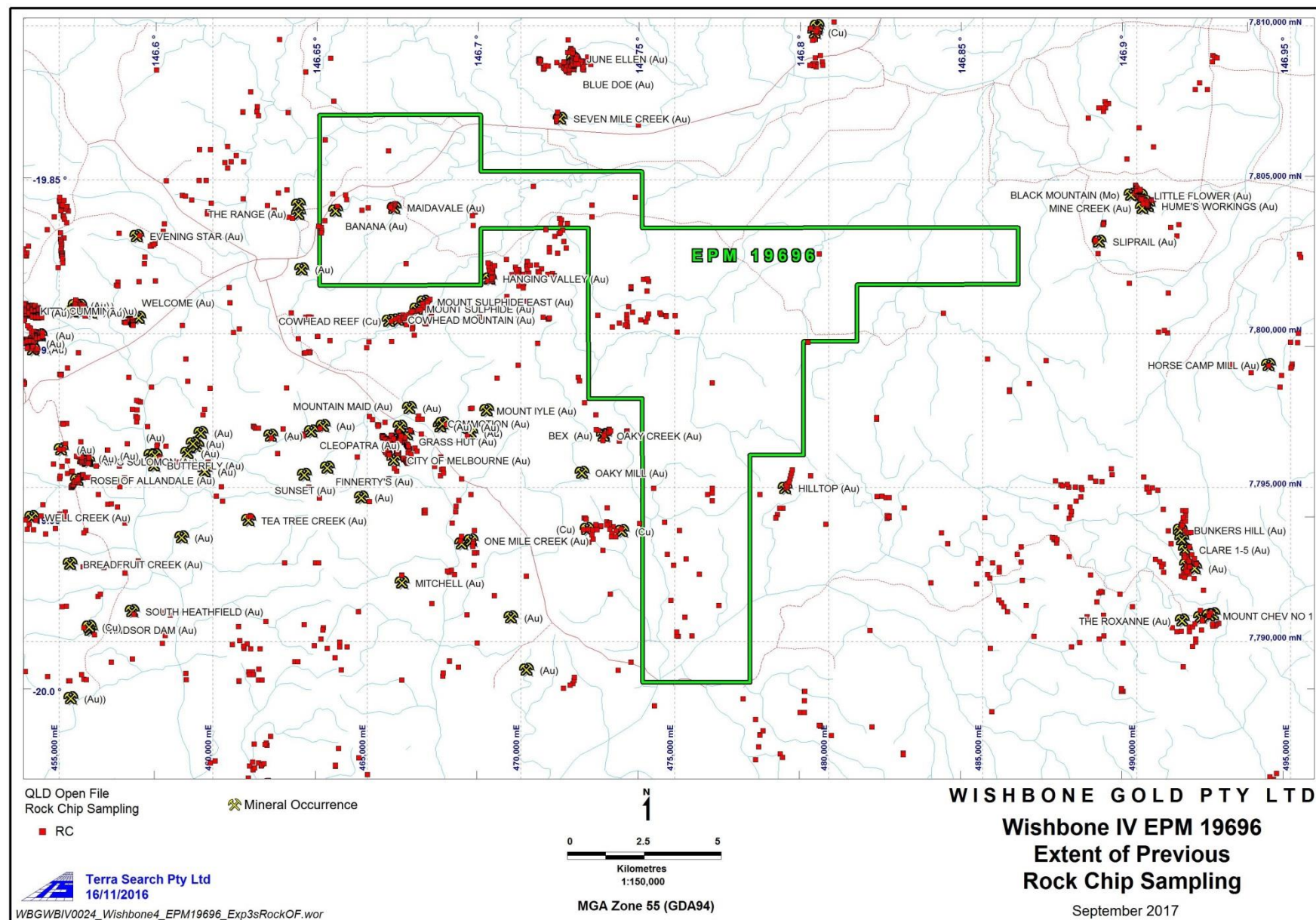


Figure 8: Extent of previous surface rock chip geochemistry.

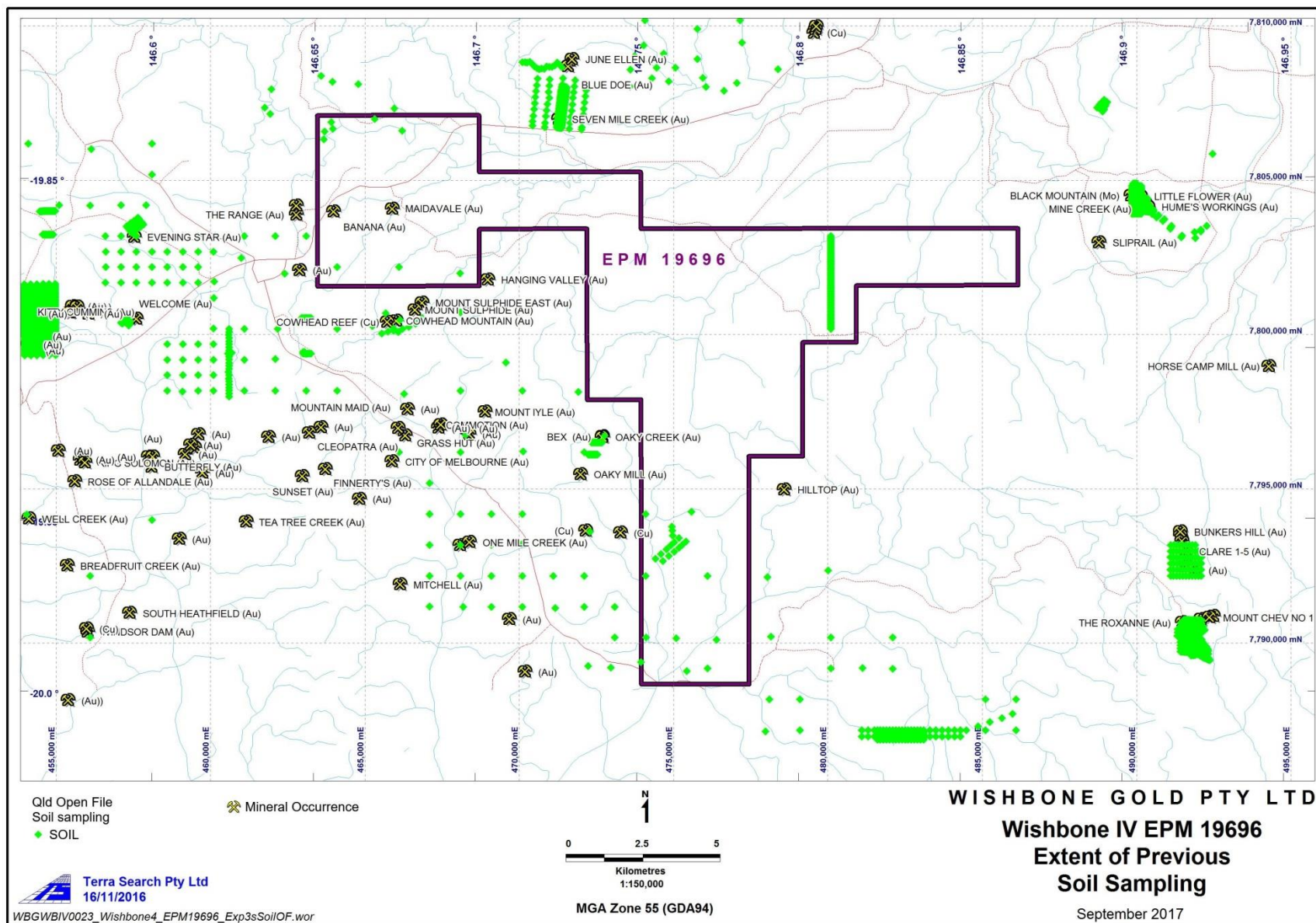


Figure 9: Extent of previous surface soil geochemistry.

## **6.0 EXPLORATION DURING CURRENT REPORTING PERIOD**

No exploration work has been undertaken in EPM 19696 Wishbone IV during this reporting period. Future work is dependent upon renewal of the Wishbone Project tenements and approval of the planned works.

Previous 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 northeast 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 projects 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. Sub blocks were also assessed and prioritised with a view to relinquishing some of the more difficult to access areas at a later date, provided the prospectivity probability was low.

Available open file geophysical datasets have been obtained and reprocessed over the project area and images were overlain with structural and geological data to highlight target areas. This work was completed in the previous year and has been reported in great detail by Stephan, et al. (2016).

## **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 has varying difficulty due to the rugged topography of the Alex Hill Shear Zone and its associated large bouldering scree slopes.

Further 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. 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 to discover similar mineralisation styles as those occurring in the region are certainly possible given the relatively untested nature of the tenement. Drilling will be necessary to test any identified targets 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 targeted drilling depending upon results.



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