

FIRST ANNUAL REPORT

Rand EL 32349

Titleholder : Gempart (NT) Pty Ltd

EXPLORATION LICENCE EL32349

FOR THE PERIOD 29/07/2020 to 28/07/2021

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ABSTRACT

EL32349 was granted in July 2020. Primary target commodities are base metals and gold. There are no mines, deposits or prospects within the tenement, nor any drillholes. The only data acquired by previous explorers are a few rock chip and drainage samples.

Most of the area is covered by Quaternary sands and alluvium. Scattered outcrop comprises Amadeus Basin sediments; primarily Bitter Springs Group in the west with Julie Formation and Arumbera Sandstone in the east. Gempart believe, on the basis of anomalous assays from limited surface sampling, that potential exists for sediment-hosted copper and gold in the Julie Formation or Arumbera Sandstone.

Work in the first year of tenure comprised review of all public domain geotechnical databases and previous exploration reports. Gutnick Resources collected reconnaissance samples from drainages within Amadeus Basin sediments, mostly in the northeast and northwest of the tenement area. BLEG and base metal assays reported up to 170ppm Pb, 120ppm Cu and 0.4ppb Au. Analysis of published geology and geophysics provide no exploration indicators to target a possible primary source.

In April a small VTEM survey was flown in the north-east quadrant of the EL over the area of best historical assays. Data were acquired on 300 metre east-west traverses covering 25 square kilometres for a total of 91 line kilometres. Final data delivery is expected early in the second year, and any further exploration will be guided by interpretation of same.

1. INTRODUCTION

1.1 Location, Access and Physiography

EL32349 (“Rand”) is located 170 km east of Alice Springs on Numery station; refer Figures 1 and 2. Access from Alice Springs is east via Ross River highway for 25km until the turnoff to Ringwood is reached then east south east for 90km on a well formed beef road to Ringwood. From there it’s south-east for 36km to Brigadier Hill, east for 21km to Numery Station turnoff, then north on a station track for 10 km to No 8 Perseverance Bore which is within the EL area. Most of the licence area is accessible via station tracks.

The only named features shown on the topographic map are Moonlight Bore and No 8 Perseverance Bore in the western part of the EL.

Elevation in the EL is subdued, varying from 290 metres in sand dune country in the south-east of the tenement area to 390 metres over outcrop of Arumbera Sandstone in the north-east corner. Physiographic relief comprises of occasional outcrop of Amadeus Basin sediments, rising typically 50-100 metres above the surrounding landscape, and separated by broad flats of sandy plains. There are no significant watercourses; the only named feature is Bullhole Creek. This, and a few other creeks, drain off the higher country to the north-west towards the south-east and terminate in the plains in the central part of the EL.

The climate is semi-arid and is characterized by large diurnal and annual fluctuations in temperature. Rainfall is typically 125-200 millimetres per year; most of the rain falls during sporadic storms.

2. TENURE

2.1 Mineral Title

EL32349 was granted for a period of six years on 29th July 2020 to Gempart (NT) Pty Ltd.

Table 1: Exploration tenure

Tenement	Name	Event	Area (Sq km)	Blocks	Date
EL32349	Rand	Application	365	120	23-Dec-19
EL32349	Rand	Grant	365	120	29-Jul-20

The EL adjoins Gempart EL31251 to the north, and Gempart EL32196 to the south.

2.2 Land Title

The Rand tenement area is located entirely within Numery PPL.

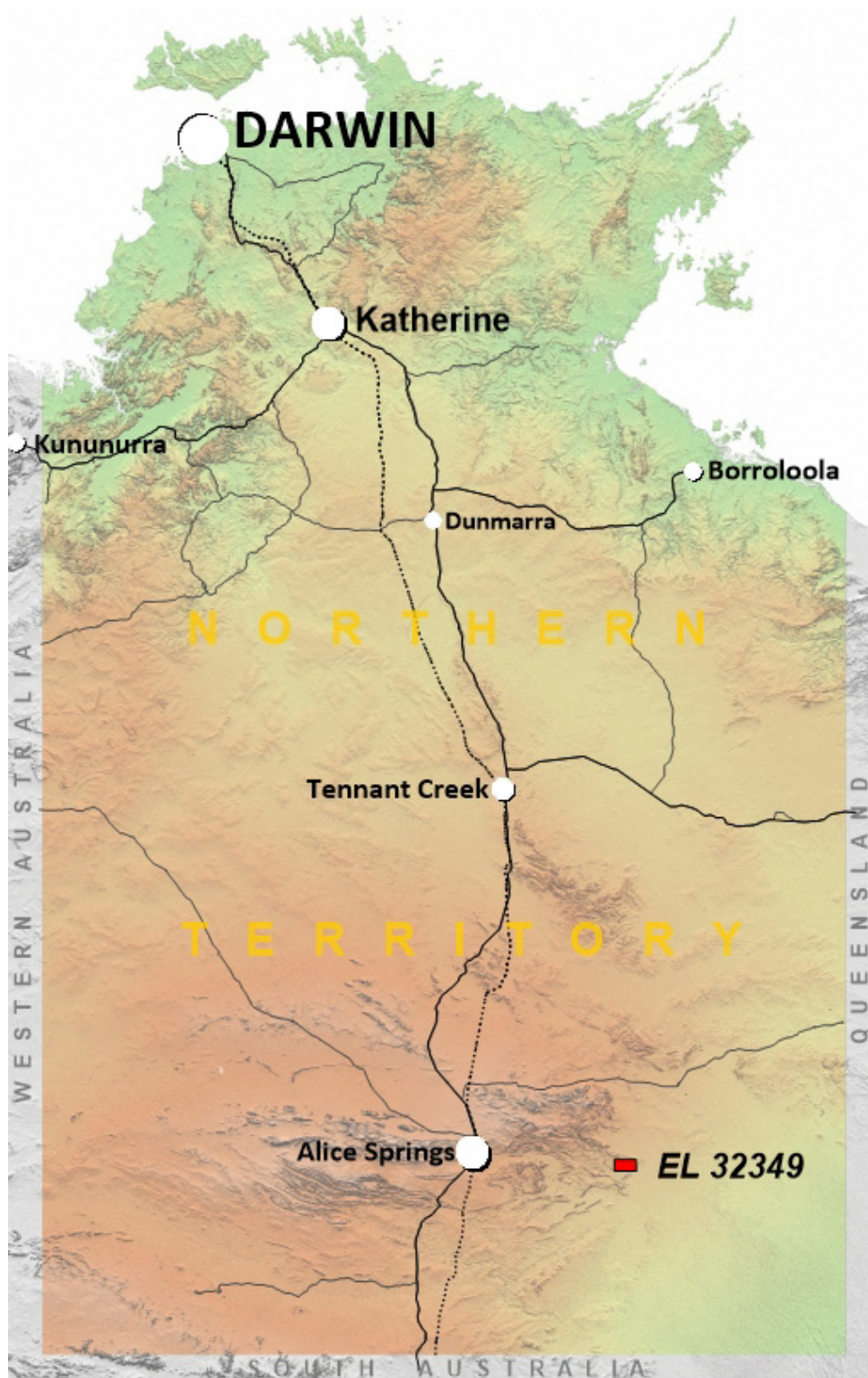


Figure 1. EL32349 location map on NT base.

3. GEOLOGY

3.1 Regional geology

The project area is located on the eastern extremity of the Amadeus Basin, an intracratonic structural sedimentary basin with sedimentation commencing in the late Proterozoic and continuing until the late Palaeozoic. The maximum preserved thickness of sediments is estimated to be approximately 9 kilometres. In the EL32349 region sediment thickness over Arunta Complex basement is probably about 1 kilometre. The sedimentary sequence comprises sandstone, shale and carbonate deposited in a predominately shallow-marine environment.

Arunta Complex metamorphics and granitoids of the Irindina Province and Aileron Province crop out to the north and south respectively. The EL area is transected by the Central Australian Ring structure and also the G3 rift structure of O'Driscoll (parallel to 4A-4B corridor through Olympic Dam) [19].

The dominant structural direction as seen in gross outcrop and faults is about 300°; however smaller outcrop patterns indicate a subordinate orthogonal structural set is at play.

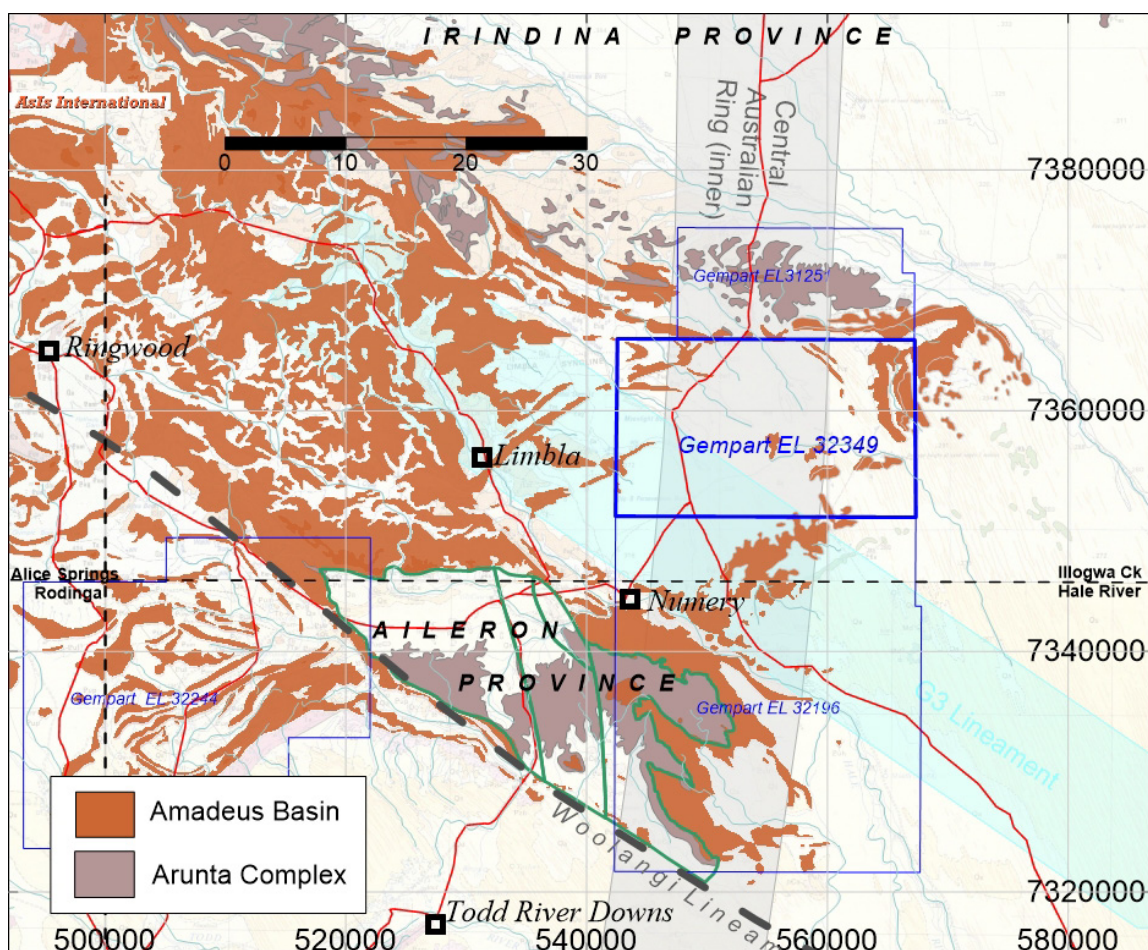


Figure 3. EL32349 - Project area regional geology

3.2 Project Area Geology

This description of the geology within EL32349 is derived from public domain Government and academic literature. A stratigraphic column relevant to the EL area is included at Figure 4, and maps of published and simplified geology included at Figures 5 and 6.

Most of the area of EL32349 comprises Quaternary sediments of quartz Aeolian sands with alluvium and sheet wash along drainages. The only outcrop is sediments of the Amadeus Basin. In the central east these are mostly flat-lying Early Cambrian Arumbera Sandstone and Julie Formation, with minor Pertatataka Formation. In the west they are dominantly Late Proterozoic Bitter Springs Group, with lesser Areyonga and Aralka Formations. In the north-west corner folding, possibly during the Alice Springs Orogeny, has formed the Limbla syncline. The individual units are briefly described below.

The basal member of the Amadeus Basin is the Heavitree Quartzite, a continental to shallow marine, red, quartz arenite to pebble conglomerate with minor siltstone. It does not outcrop in the EL area.

Disconformably overlying the Heavitree Quartzite is the Bitter Springs Group which is divided into three formations namely Gillen, Loves Creek, and Johnnys Creek. The Gillen Formation consists of evaporites and inter-bedded shale, sandstone and carbonates. The contact between the Gillen Member and Loves Creek Member is a disconformity.

The Loves Creek Formation disconformably overlies the Gillen Formation and comprises predominantly dolostone, chert and limestone. The basal unit was deposited in a transgressive systems tract, with stromatolites forming as the water deepened.

The Johnnys Creek Formation is dominantly calcareous mudstones and dolostones deposited in shallow environments. At the top of the unit are basalts with amygdaloidal textures. These are the only observed volcanics in the Amadeus Basin sequence in the wider area. It is inferred they are likely tholeiitic and consistent with a plume-related source, and represent the only consistently magnetic unit in the Amadeus Basin sequence.

The Bitter Springs Group is terminated by an angular unconformity and overlain by the Wallara Formation. These rocks were deposited in a shallow marine environment and comprise dolostones and sandstones, and mudstones, in part carbonaceous. They do not outcrop in the EL.

The Areyonga Formation unconformably cuts into different levels of the underlying strata including Bitter Springs Group and Wallara Formation. It consists of fluvial and glaciogene rocks, overlain by shallow marine and fluvial units.

Overlying the Areyonga Formation is the Aralka Formation, which consists of shallow marine carbonates and clastic sediments with minor shale. Within the Aralka Formation is the Ringwood Member which consists of dolostone and calcarenite, and Limbla Member comprising pebbly and sandy calcarenite, and festoon cross-bedded sandstone.

Between the Aralka and Pertatataka Formations are the Olympic Formation and Gaylad Sandstone, deposited in fault controlled sub-basins. These are not observed in outcrop in the EL area.

Subsequently, deep water deposition took place with the base of the overlying Pertatataka Formation being turbidites and deep water pelagic sediments, coarsening up to sandstones. The Julie Formation overlies the Pertatataka Formation with the boundary being transitional and represents shallow marine conditions with dolomite and limestone including thick bedded ooid grainstones.

In the north and central Amadeus Basin deposition recommenced with the Cambrian Pertaoorrtta Group. Initially, red bed sandstone, siltstone and conglomerate of the Arumbera Formation was deposited, followed by carbonates of the Todd River Dolomite, Chandler Formation, Giles Creek Dolomite, Jay Creek Limestone and Shannon Formation.

In the tenement area the Pertaoorrtta Group is represented by the Arumbera Sandstone. This, and the Julie Formation, are the primary targets of exploration based on surface sampling results from previous explorers.

Deposition in the Amadeus Basin ceased with the onset of the 450-300 Ma Alice Springs Orogeny, when the Arunta Block was thrust to the south over the Amadeus Basin, accompanied by greenschist facies metamorphism.

Cenozoic sediments comprise mostly aeolian sands, and alluvium including sheetwash and scree.

The regional structural trend is about 300°, as evidenced by gross outcrop patterns and major structures. However the outcrop pattern of Julie Formation and Arumbera Sandstone seen within the tenement area and extending onto EL32196 to the south indicates the Alice Springs(?) orogeny included a structural component oriented NE-SW.

3.3 Economic Mineral Potential

Within the tenement area there are no operating or historical mines, mineral deposits or prospects.

Copper has been observed at many sites, often as secondary minerals, in Amadeus Basin sediments. These are tabulated below; all host lithologies except for Goyder Formation occur within EL32349.

Table 2. Copper occurrences in Amadeus Basin stratigraphy.

Stratigraphy	Name	Location	Status	Reference
Goyder Fm	Lalgra	SW of Alice Springs	Prospect	[6]
Goyder Fm	Owen Springs	SW of Alice Springs	Prospect	[9]
Arumbera Ss	Ellery Creek	West of Alice Springs	Occurrence	[22]
Arumbera Ss	Namatjiras	Gardiner Range	Occurrence	[10]
Aralka Fm	Waldo Pedlar Bore	West of Numery	Prospect	[10]
Areyonga Fm	Ringwood	West of Numery	Prospect	[7]
Areyonga Fm / Loves Creek Fm	Pipeline	SE of Numery	Prospect	[11]
Loves Ck Fm	Bronco Bore	NW of Numery	Prospect	[10]
Gillen Fm	In drillholes	SE of Numery station	In drillholes	[8]
Gillen Fm	Undoolya Gap	East of Alice Springs	Prospect	[10]

In the broader context the area has potential for many commodities. Mineralisation styles within Amadeus Basin sediments targeted by previous explorers include:

- Stratabound or strataform copper mineralisation such as Zambian Copperbelt.
- Lead-zinc and copper-cobalt exhalative mineralisation.
- Carlin style, Witwatersrand or SEDEX gold.
- Roll-front uranium mineralisation.

On a regional scale mineral deposits in Amadeus Basin lithologies include:

- Gold in Heavitree Quartzite at White Range.
- Gold in Bitter Springs Group sediments-volcanics at Golden Goose (Winnecke goldfields).
- Sandstone-hosted uranium in the Brewer Conglomerate at Angela and Pamela.

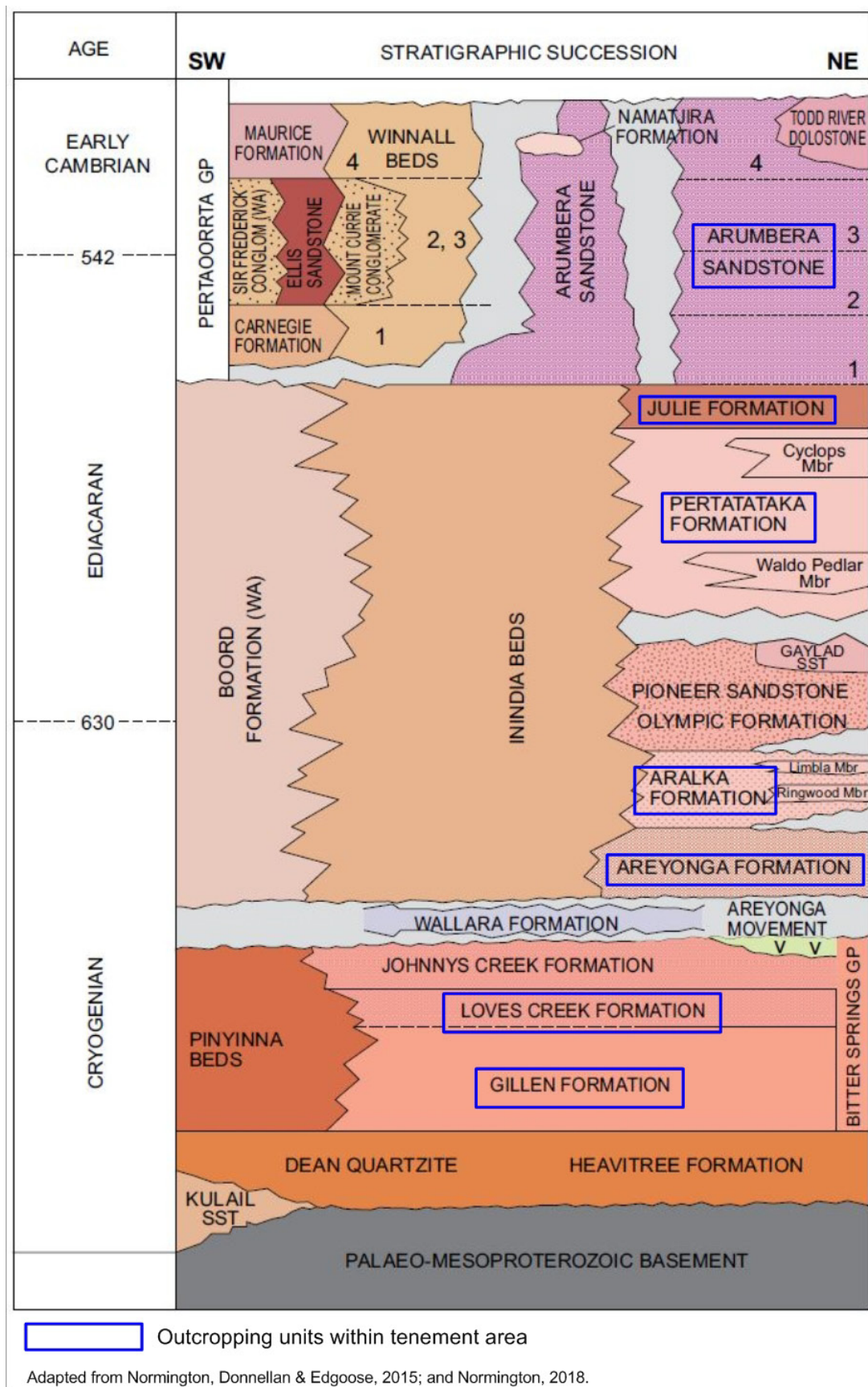


Figure 4. EL32349 Stratigraphy.

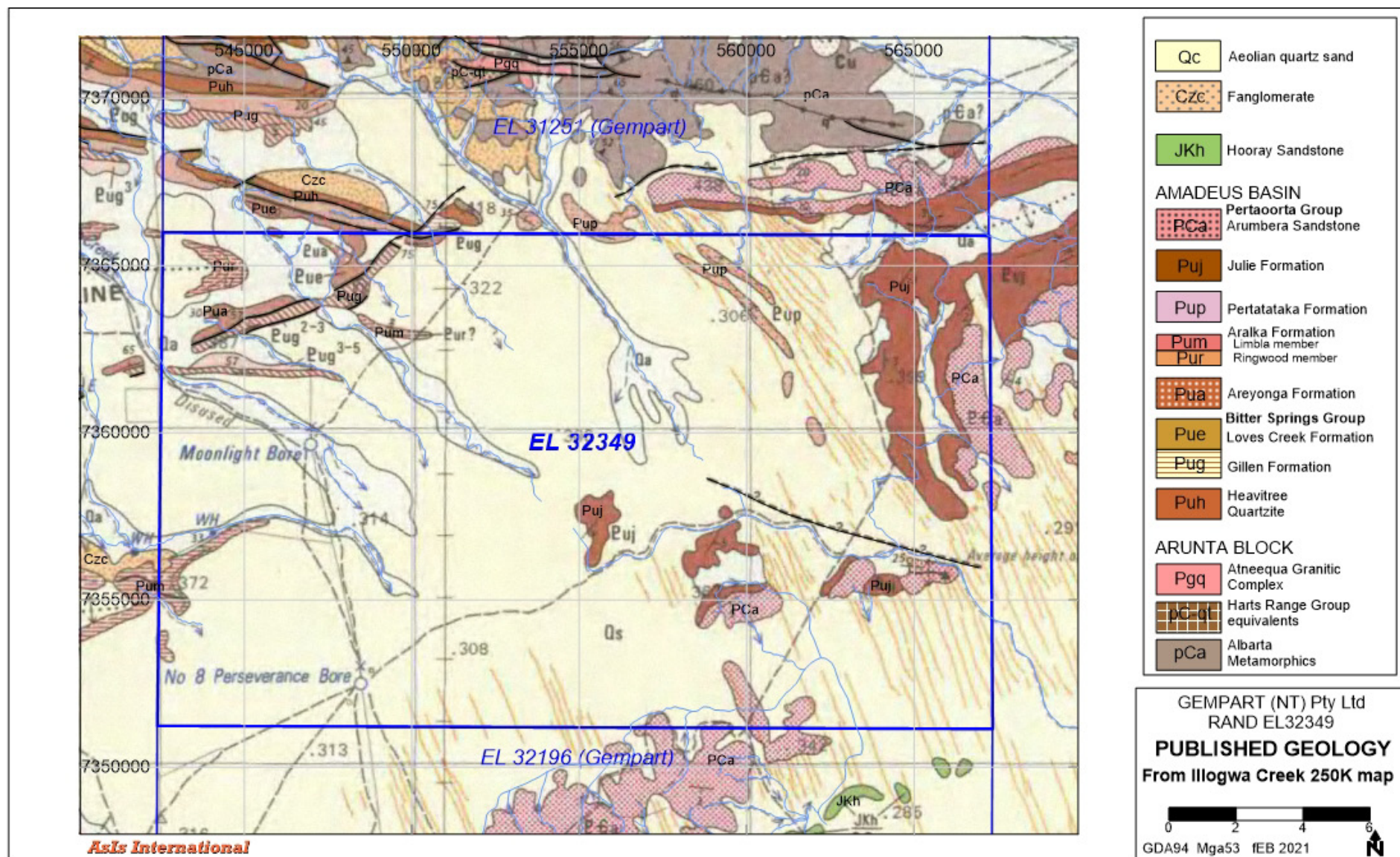


Figure 5. EL32349 1:250,000 scale published geology.

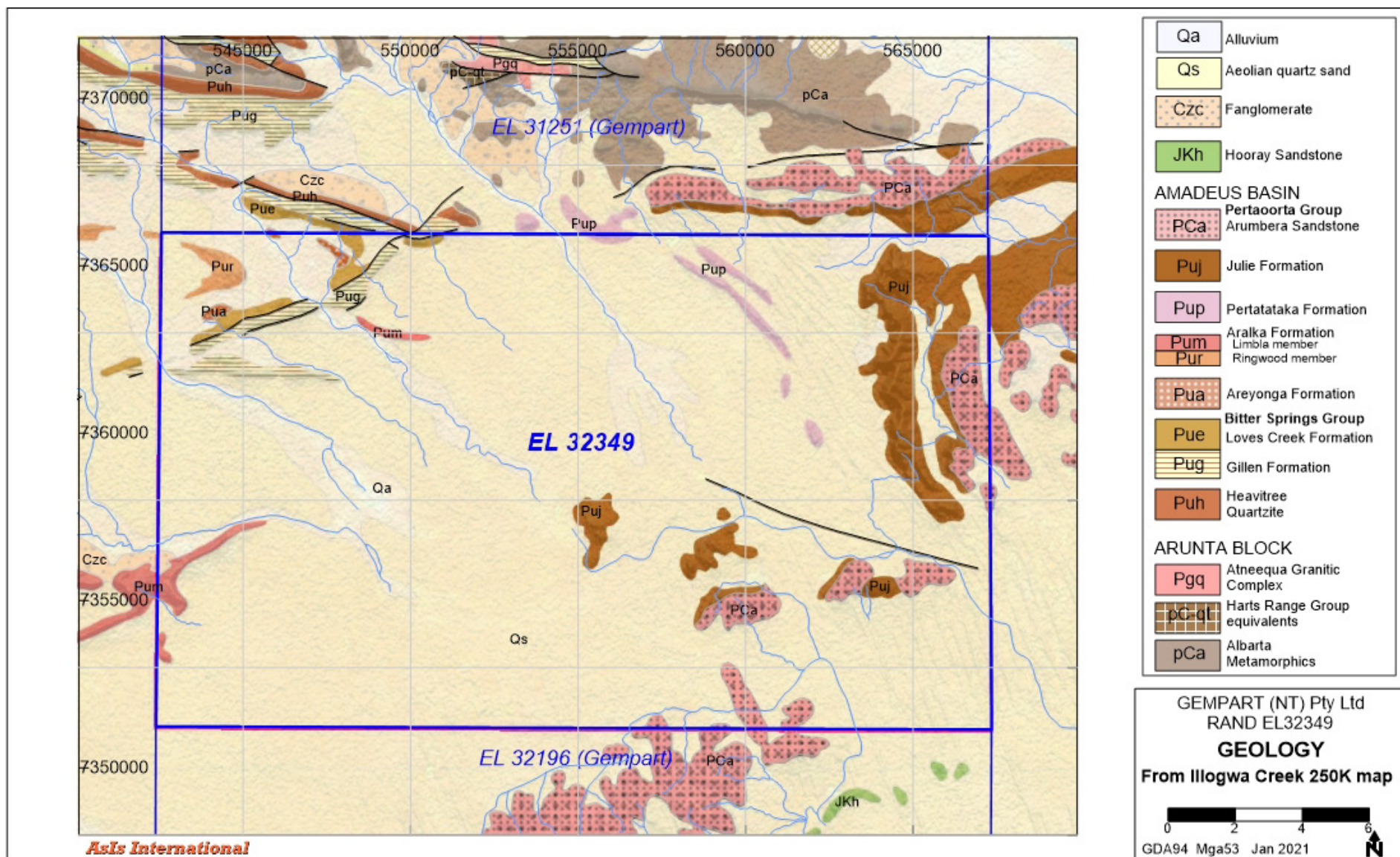


Figure 6. EL32349 Simplified 1:250,000 geology.

4. PREVIOUS EXPLORATION

NTGS databases “Historical Mineral Titles” and “GEMIS” were interrogated to capture past exploration titles overlapping EL32349, and all relevant reports were reviewed. Table 3 is a summary of historical titles and results reported. Previous exploration efforts relevant to the area of EL32349 and/or involving collection of new data are summarised thereafter. The only surface samples collected on the EL are those of North Broken Hill Mines in 1969 and Gutnick Resources in 2003; a plan of summary results is included at Figure 7. There are no drillholes within the EL area.

Table 3. Historical Mineral Titles Overlapping EL32349 & Exploration work summary

Title & Final Year	Titleholder, (Report reference) & exploration work
AP1714 1968	Australian geophysical P/L. (CR1967-0004) [12]. One of five AP's. Much work for copper in Ringwood area to the SW; no work on EL32349.
AP1923 1968	McIntye Mines (Aust) (CR1968-0062) [14]. Overlaps western part of EL32349. No work carried out.
AP2459 1969	North Broken Hill Mines exploration (CR1970-0058) [24]. NE of EL. Rock chip sampling Gillen Mbr and petrography for Cu. No drilling justified.
AP2712, AP3258 1972	CRAE (CR1971-0127) [21]. Collected rock samples and 217 drainage samples for base metals – no significant assays. No work on EL32349.
EL1056 1979	Agip Australia (CR1979-0063) [1]. Water bore sampling, resistivity and spectrometer surveys, drilling for uranium. No radioactivity found.
EL1725 1979	Agip Australia (CR1979-0070) [2]. Airborne spectrometer survey for uranium. No significant results.
EL9335 2002	CRA Expl'n / Rio Tinto Expl'n P/L. (CR1998-0565) [8]. Multi-commodity; Airborne mag/rad over EL32349; drainage sampling. No positive results; no sampling on EL32349.
EL10270 2003	Gutnick Resources N.L. (CR2002-0128) [5]. Gold exploration. Stream sediment & rock chip sampling; anomalous Cu & Au.
EL25162 2009	Eromanga Uranium (CR2009-0723) [16]. Planned palaeochannel uranium exploration did not proceed due to access issues on adjoining tenement.
EL25643 2015	Mithril Resources Ltd. (CR2015-0414) [13]. Search for Ni-Cu-PGE & IOCG. Significant program of mapping, rockchip/soil sampling, aircore/RC/DDH drilling, gravity, IP, aeromag/rads and AEM. Lots of minor base metal intersections but no major hits. No work on EL32349.
EL26155 2009	G E Resources. No report.
EL28808 2014	Rara Terra Resources (CR2014-0213) [20]. Data review for thermal coal. No data collected.
EL32017 2019	Copperbush Resources. No report.

4.1 AP2459 - 1969. North Broken Hill Mines Exploration

This tenement lies mostly outside EL32349 to the west [24]. During 1969 and 1970, reconnaissance exploration for base metals, particularly sedimentary-hosted copper, was conducted. In the first phase of exploration, reconnaissance sampling including collection of 432 rock chip samples on fifteen traverses failed to provide any encouragement and the regional copper search was abandoned. The only work within EL32349 was collection of 35 samples on traverse 4 from Gillen Member and Loves Creek member in the north-west of the tenement area. Samples were analysed for copper only, maximum assay was 25 ppm. Phase 2 was more focused on the Gillen Member and the Bitter Springs Formation and consisted of detailed sampling and petrography of gossanous material. The values obtained and the style of gossan observed could not justify a blind drilling campaign and the AP was surrendered.

4.2 AP2712, AP3258 - 1971. CRA Exploration

CRA assessed a large area for multiple commodities in 1970-71 [21]. No investigations took place within the area of EL32349. Activities included:

- collection of 217 -80# drainage samples and assay for Cu, Pb, Zn, Ni, Co, Cr, Ag, Mo, and U.
- Investigation of magnetic anomalies.
- Field interpretation of lithology.
- Follow-up work of geochemical anomalies.

The sampling was carried out immediately to the north of EL32349, where creeks drain off the exposure of Arunta Complex (currently under tenure to Gempart as EL31251). Assay results were generally disappointing.

The exploration outcomes were summarized:

- One nickel-zinc-copper anomaly in the Atneeqa Spring A to P was found to be economically insignificant.
- The magnetic anomaly south of the Illogwa Creek Shear Zone occurs in an iron-rich, fine grained sediment with 3% - 5% magnetite. No mineralisation of economic interest was found.
- A calc-silicate occurrence was examined for tungsten without success.

The report concluded “It is considered that mineralisation in A.’s to P 2712 and 3258 is too weak to be of economic interest and it is recommended that no further work be carried out.

4.3 EL1056, EL1725 - 1978. Agip Australia Pty. Ltd.

Agip conducted a substantial exploration program for palaeochannel uranium in Cainozoic sediments over an area mostly to the north of EL32349 [1], [2]. Activities included:

- Water bore sampling.
- Resistivity surveys.
- Drilling, downhole logging and assaying
- Airborne spectrometer surveys.

Two anomalies detected by the airborne surveys were investigated but neither warranted further work. The drilling failed to find any significant radioactivity.

4.4 EL9337 - 1998. CRAE / Rio Tinto Exploration

Rio Tinto explored for base metals, uranium, and diamondiferous intrusions within a series of ELs of which one, EL9335, overlaps the northern half of EL32349 [8]. Primary target was the Amadeus Basin sediments, particularly the contact between the Heavitree Quartzite and Gillen Member (Bitter Springs Formation) looking for stratabound, sediment-hosted copper (African Copper Belt, Kupferschiefer). Other targets were unconformity-related uranium mineralisation and kimberlites.

A substantial program was carried out including airborne magnetics/radiometrics, ground magnetics, stream sediment sampling, rock chip and soil sampling, RAB and RC drilling. The airborne geophysical survey extends over most of EL32349, but no ground work was conducted within the area of the EL.

The airborne survey, called “East Amadeus” was flown for CRA Exploration in 1996 on 300 metre north-south flight lines. Although dated by modern standards, it is the best available data over EL32349. Discussion and Images of the magnetics and radiometrics are included in Section 5.2

RTE decided the results from the overall program failed to justify further work, and the project was abandoned. This occurred at the time of an industry-wide contraction in the exploration sector.

4.5 EL10270 - 2003. Gutnick Resources N.L.

The Rand Project of 22 EL's extending from west of the Stuart Highway to east of Ringwood. It was a joint venture between Gutnick Resources N.L. (manager) and Johnson's Well Mining N.L. Exploration for gold was conducted using a new genetic interpretation for the Witwatersrand mineralisation in South Africa. The eastern-most tenement, EL10270, encompasses all of EL32349. Orientation samples were collected from 23 sites at five different localities, and 36 BLEG and 21 stream sediment samples analysed [23]. Results indicated that shallow BLEG sampling of -4mm

sediment is the most effective method for gold exploration. It was further concluded from past stream sediment surveys that the -2mm +40# fraction should be sampled and subject to multi-element assay.

A total of 510 stream sediment samples were taken to a density of one sample per 5 square kilometres [5]. Within an area encompassing EL32349 and immediately to the north, 22 samples - were collected from catchments draining Arumbera Sandstone or Julie Formation, which are the only lithologies shown in outcrop. The -2mm +40# fraction was assayed for Ag, As, Bi, Cu, Fe, Mn, Mo, Pb, Sb, U, V and Zn, and the BLEG sample assayed for Au. Essential results are shown in Table 4 and plotted at Figure 8. A number of samples report anomalous or elevated gold, copper and lead. The best multi-element result from one sample is 170ppm Pb, 60ppm Cu and 0.4ppb Au in sample A402.

Table 4. Assays from Gutnick Resources stream sediment sampling.

EAST	NORTH	Sample	Au_BLEG	Au_AA10	As	Cu	Pb	Sb	U	EL
MGA53	MGA53		ppb	ppb	ppm	ppm	ppm	ppm	ppm	
560173	7354446	A399	0.025	0.5	0.5	14	4.5	0.05	0.48	32349
560487	7354604	A400	0.2	0.5	2	24	7.5	0.05	0.56	32349
567021	7359799	A401	0.15	0.5	5	74	21.5	0.2	1.75	32349
565938	7361320	A402	0.4	0.5	6	60	170	0.3	1.65	32349
564803	7364417	A403	0.15	0.5	3	7	8.5	0.1	1.1	32349
566127	7362877	A404	0.05	0.5	7	73	35.5	0.5	1.45	32349
546449	7365110	A410	0.1		1	5	3.5	0.05	0.89	32349
563275	7355235	A821	0.25	1	3	33	7	0.05	0.71	32349
565064	7358575	A822	0.15	1	5	16	24	0.05	1.45	32349
565210	7359549	A823	0.05	1	3	19	12	0.05	1.25	32349
566587	7361924	A824	0.25	0.5	6	120	16.5	0.3	2.2	32349
548855	7365689	A831	0.15	1	0.5	12	6	0.05	0.65	32349
548758	7364648	A832	0.2	1	3	15	7	0.1	0.75	32349
563839	7366658	A405	0.1	0.5	16	97	60	0.3	1.2	31251
549756	7366717	A409	0.025	0.5	3	13	9.5	0.1	1	31251
566860	7366756	A825	0.15	2	4	23	27	0.2	1.4	31251
565607	7365981	A826	0.025	0.5	8	86	44	0.2	1.3	31251
558546	7366872	A827	0.1	2	7	86	20	0.1	1	31251
545254	7367218	A833	0.1		7	27	13.5	0.2	1.3	31251
544272	7367868	A836	0.1		1	5	3.5	0.05	0.61	31251
544290	7367770	A837	0.05		1	6	3.5	0.05	0.88	31251

Reconnaissance rock chip sampling conducted during the stream sediment program returned several anomalous gold and silver values with maxima of 25ppb and 5ppm respectively. No rock chip samples were collected within EL32349.

Planned follow-up work was not carried out and the tenements were surrendered in 2004.

4.6 EL25643 - 2013. Mithril Resources Ltd.

EL25643 is one of a group of tenements forming the Sammy Project, a joint venture with Cazaly resources [13]. It encompasses all of EL32349. The initial target was Ni-Cu-PGE's associated with mafics and ultramafics which had been recognised on their adjoining tenement to the north, EL25653. Following the identification of altered granites in Arunta Complex rocks on EL25643, the search then focussed on IOCG-related mineralisation.

A substantial program of mapping, rock chip and soil sampling, airborne magnetic/radiometrics and EM, IP, gravity, aircore drilling, RC drilling and diamond drilling identified a number of prospects over the period 2009-2014. All of this work was conducted in the area of outcropping Arunta Complex to the north of EL32349, which is currently under tenure to Gempart as EL31251.

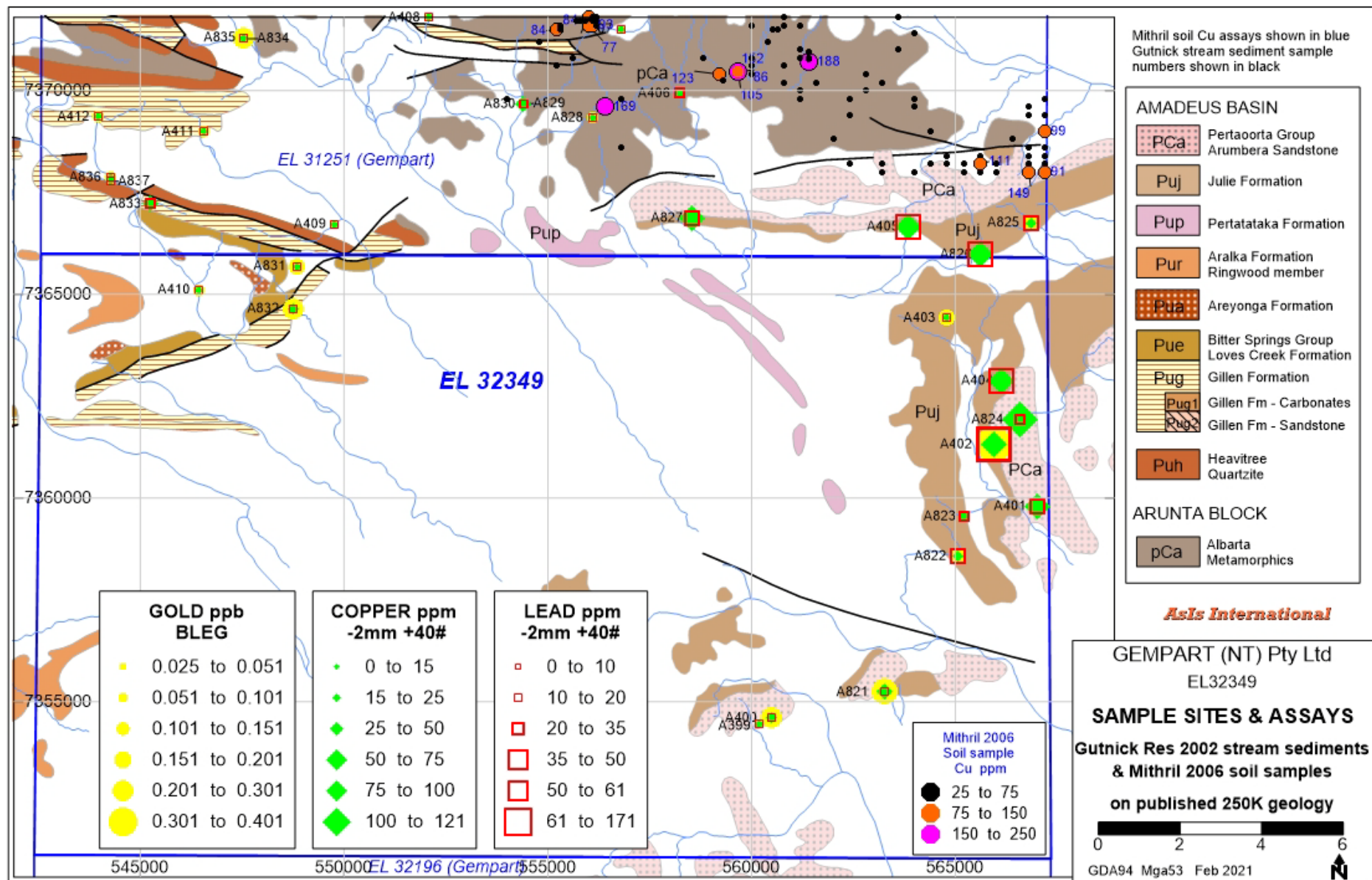


Figure 8. EL32349 Previous exploration - sample sites and assays.

5. EXPLORATION COMPLETED IN YEAR ONE

5.1 Summary Assessment of Previous Exploration

Data from previous exploration is minimal, with only a small number of surface samples and no drilling or geophysical coverage. However the anomalous base metal and gold assays from the stream sediment samples collected by Gutnick Resources has identified Cambrian Amadeus Basin sediments as potential hosts for mineralisation. The sediments outcropping on EL32349 are known to host numerous, albeit small, occurrences of copper elsewhere in the Amadeus Basin, and primary sulphides have been identified in drillholes.

The anomalous gold in BLEG samples is particularly intriguing, as gold is so far known only in the basal units of the Amadeus Basin viz. Heavitree Quartzite and Bitter Springs Group.

5.2 Review of Geophysical data

Airborne magnetic and radiometric data is available in the public domain from the “East Amadeus” survey flown at 300 metre line spacing for CRAE in 1997, and the "Eromanga" survey flown at 400 metre line spacing for the NTGS in 2001. In respect of the complex geology, potential size of a commercial deposit and the capabilities of modern survey equipment, the airborne data is very coarse and dated.

The RTP aeromagnetic data enhanced by 1VD shading, and geology is shown at Figure 9. The tenement area is largely devoid of magnetic relief. The most prominent anomaly is a linear feature of amplitude up to circa 80 nT in the north-west quadrant of the EL. Source is almost certainly basalts in the Bitter Springs Group. The geology map shows outcrop of Loves Creek Formation in the Limbla syncline; however the basalts, being recessive, do not outcrop. This interpretation is based on analysis of aeromagnetics and published geology which has been carried out over Gempart tenement in numerous areas extending from Illogwa Creek, through Ringwood and Waterhouse Range, through to the Petermann and Musgrave Ranges. The entire package of Amadeus Basin sediments is effectively non-magnetic. The rare anomalies observed are usually thin linears of amplitude up to a few hundreds of nT's. Where these anomalies coincide with outcrop shown on the published 1:250,000 scale maps they typically coincide with a source in Loves Creek Formation, specifically the recessive basalt unit (in the revised stratigraphy of Normington et al [17],[18] the basalts are assigned to the top of the Bitter Springs Group in the Johnnys Creek Formation).

Elsewhere in the EL area, very weak magnetic anomalies coincide with Aralka Formation and Pertatataka Formation sediments.

Arunta Complex outcrops to the north (Irindina Province) and south (Aileron Province) of the EL area, but there is no outcrop within the EL. Major faults to the north and south of the EL have resulted in relative downwards movement of Arunta Complex. The thickness of Amadeus Basin sediments can be quantified by magnetic modelling; refer Figure 10. Detailed Interpretation of magnetic anomalies in Arunta Complex at the “Donald” prospect on Gempart EL31251 to the north indicates a source with magnetite content up to ten percent occurs at depths of less than 100 metres. Interpretation of magnetic anomalies in Arunta Complex within the large 2,000 nT magnetic complex on Gempart EL32196 to the south indicates a source with magnetite content up to 15 percent occurs at depths of a few hundred metres. The sources are likely quartz-magnetite rock or amphibolites units. If magnetic sources like those at “Donald” prospect occur near the top of Arunta Complex within EL 32349, then they must be at least one kilometre deep. If magnetic sources like those at the 2,000 nT magnetic complex prospect occur near the top of Arunta Complex within EL 32349, then they must be at least five kilometres deep.

There is not a lot of information in the available aeromagnetic data to directly assist the exploration program at this stage.

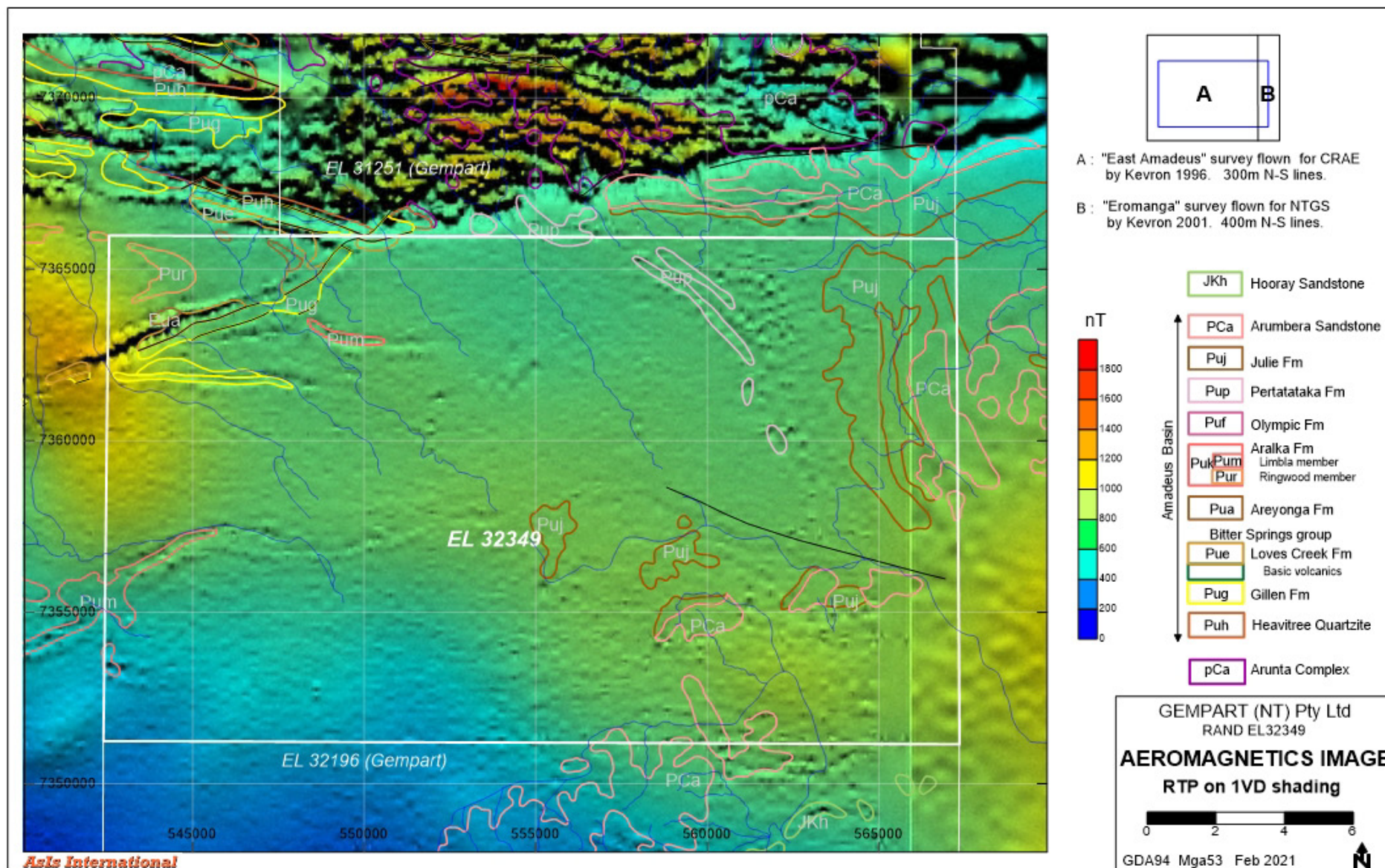


Figure 9. Aeromagnetic RTP-1VD image on geology.

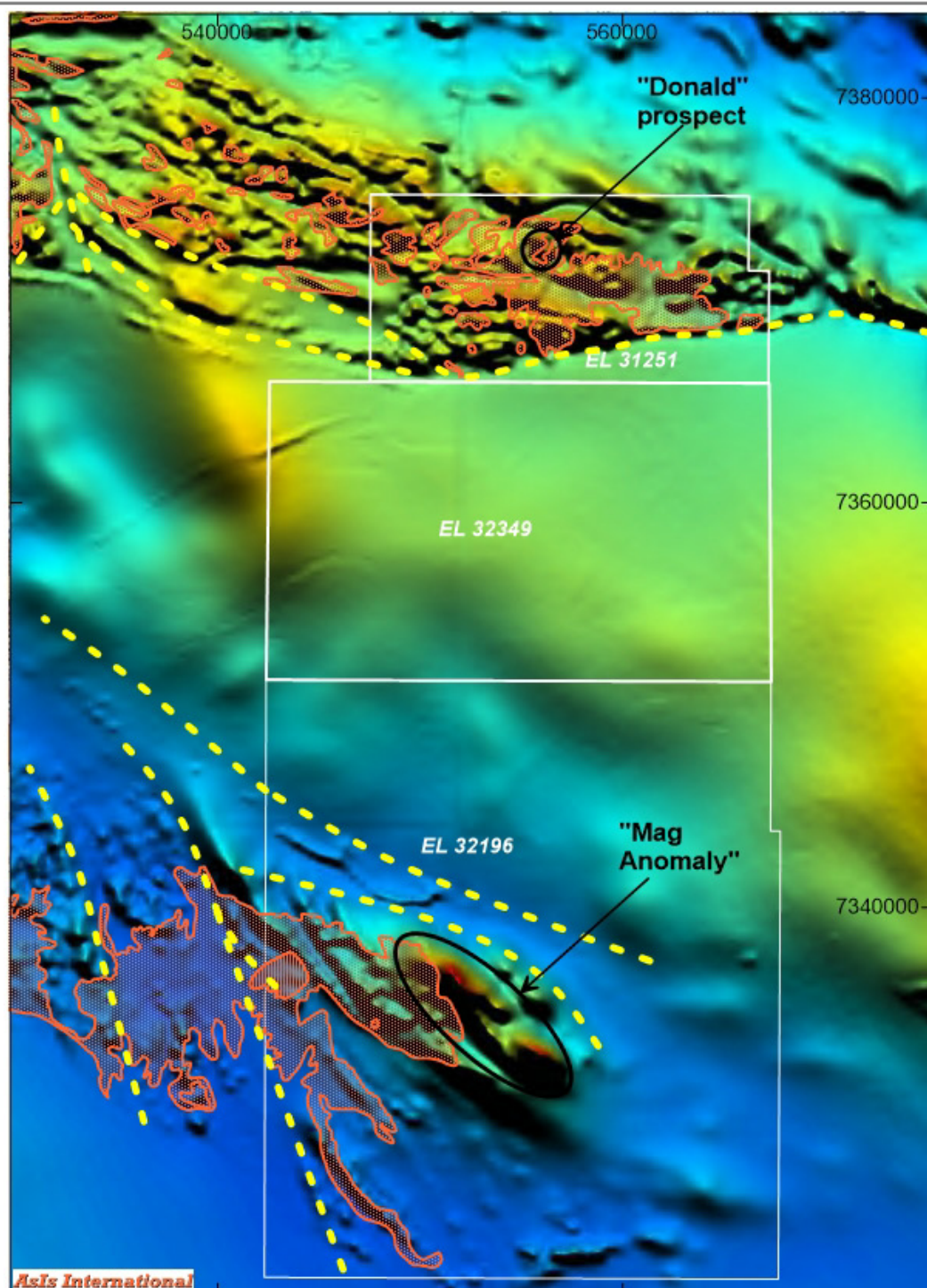


Image of RTP aeromagnetics over an area from Illogwa Creek to eastern Casey Inlier, showing outcrop of Arunta Complex and some interpreted major faults.

The mags generally map out Arunta Complex. Most of the Amadeus Basin sediments are effectively non-magnetic; most of the magnetic expression comes from basalts in the Johnny's Creek Formation of the Bitter Springs Group.

Using results of modelling of magnetic features at "Donald" prospect & "Mag Anomaly" area, it is inferred that Arunta Complex is at least one km deep, and possibly five+ km deep, in EL32349.

REGIONAL AEROMAGNETIC IMAGE over EL's 31251, 32244 & 32349

0 5 10 15 20
GDA94 Mga53 Feb-2021

Figure 10. Regional aeromagnetic image.

The radiometric data, acquired at 300 or 400 metre line spacing, is not of adequate quality to accurately define prospect scale areas of interest. It is principally useful for mapping out regional variations in the distribution of potassium, uranium and thorium. As such the data generally reflects variations in outcrop patterns.

The potassium channel response is shown at Figure 11. The values throughout most of the EL area are slightly elevated background variations, which accords with the Quaternary sands and alluvium with a minor component of potassium presumably derived from Arunta Complex. Most of the outcropping Amadeus Basin sediments are clearly defined by a distinct low response, consistent with predominantly coarser-grained, sandy or carbonate lithologies with a mineralogical composition containing minimal radiogenic elements. The exception is the Early Cambrian Julie Formation, outcrop of which corresponds to the highest potassium response of two-three times background. It suggests the presence of siltstones containing clay minerals with potassium.

An image of eppm uranium is shown at Figure 12. Uranium channel data from the CRAE "East Amadeus" survey is in fact random noise, and the image is generated from 400 metre NTGS surveys. The response is unspectacular; mostly background variation of one-two eppm rising to three-four eppm over outcrop of Julie Formation sediments.

The thorium channel response is shown at Figure 13. The response pattern is similar to that of the uranium channel. Areas of lower response coincide with some outcrop areas of Amadeus Basin sediments. As per the potassium and uranium channels, elevated readings are observed over outcrop of Julie Formation.

Within the EL area there are no radiometric responses that could be called anomalous. There is not a lot of information in the available data to directly assist the exploration program at this stage.

Public domain gravity data over the tenement is sparse, being regional coverage only. It comprises readings on a nominal four x four kilometre grid; in fact there are only 30 observation points within the EL area. Contours of Bouguer gravity are shown at Figure 14, which reveals subdued relief of about ten milliGals total variation across the tenement area.

There is little information in the available data to assist the exploration program at this stage.

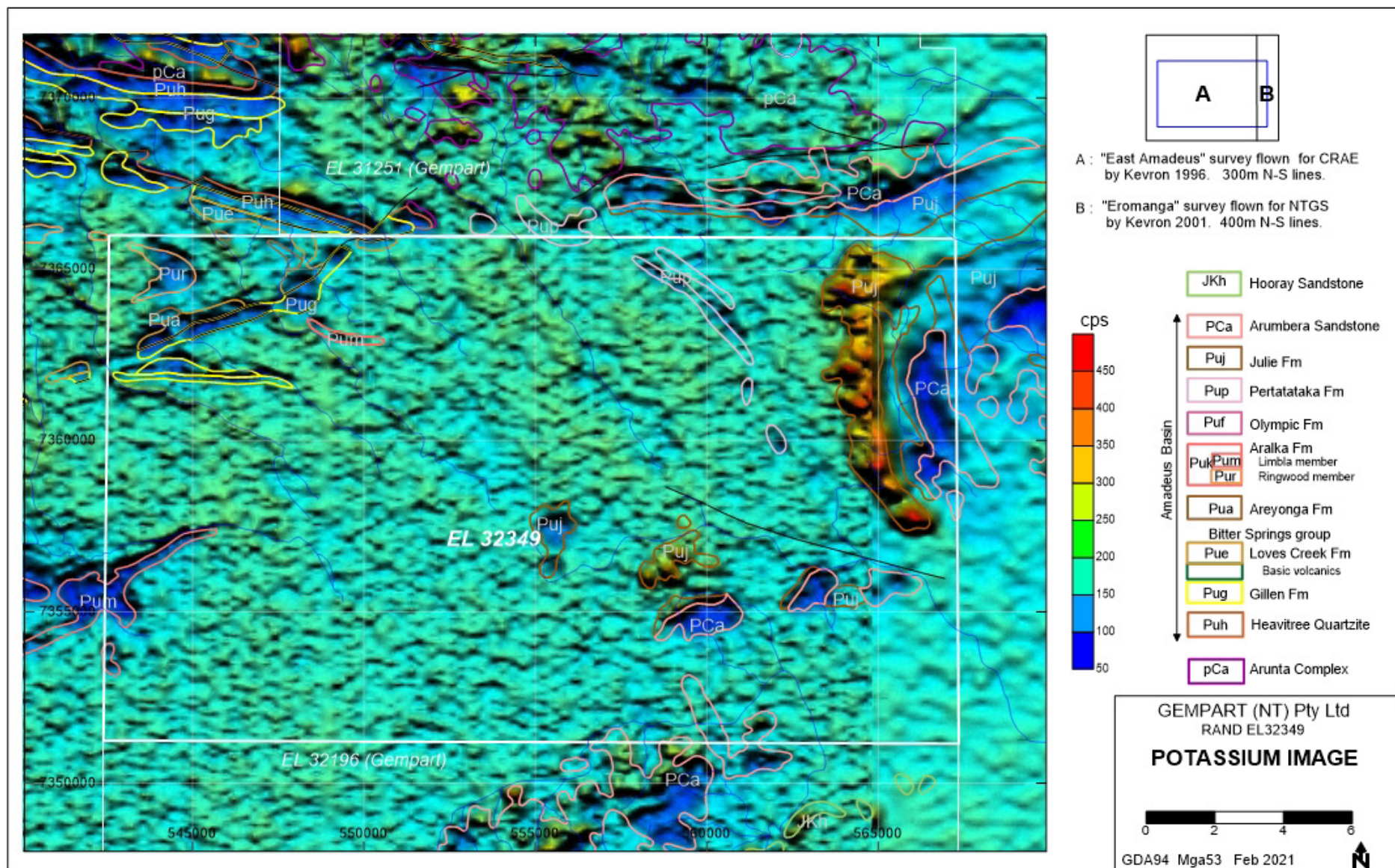


Figure 11. Potassium image.

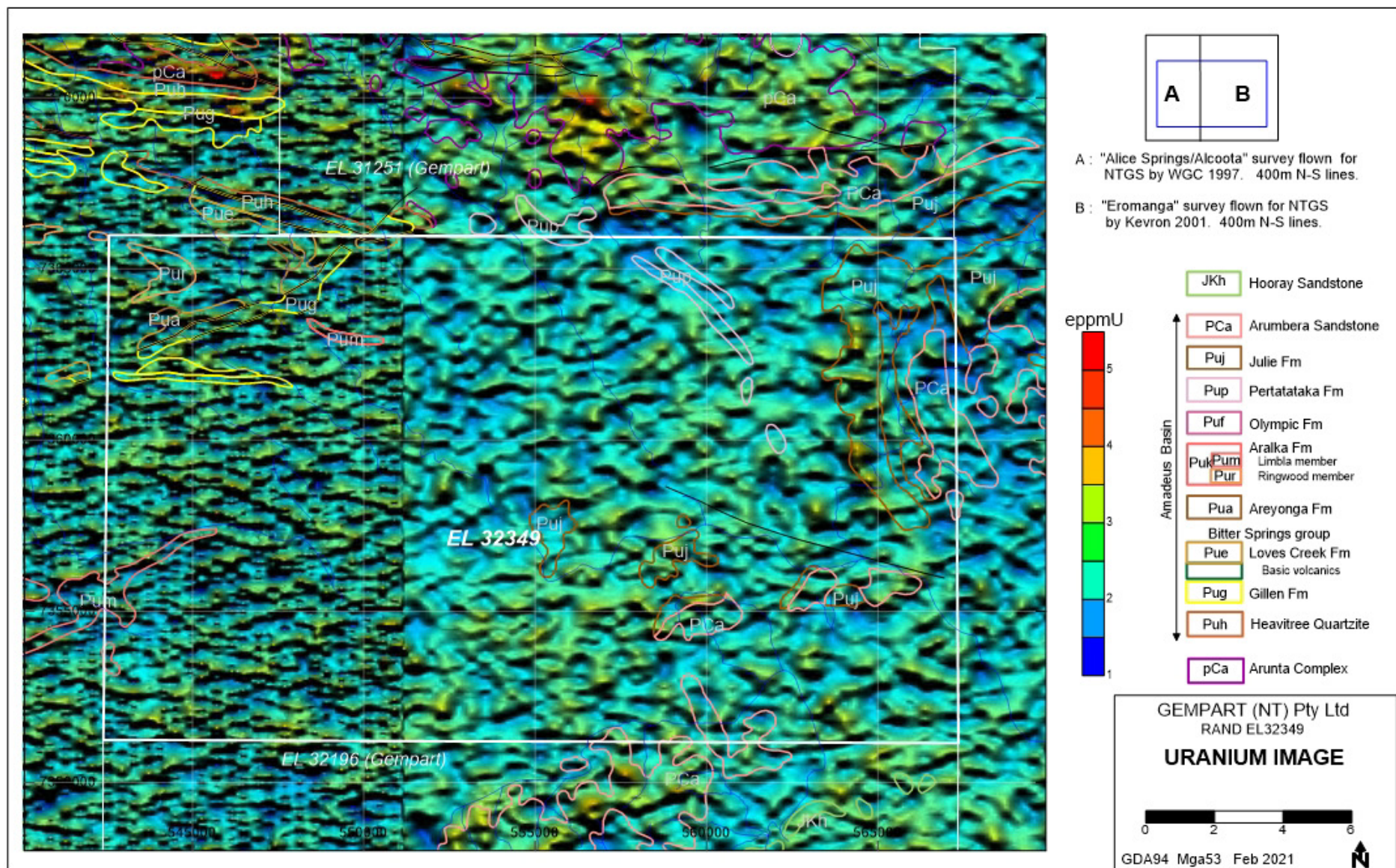


Figure 12. Uranium image.

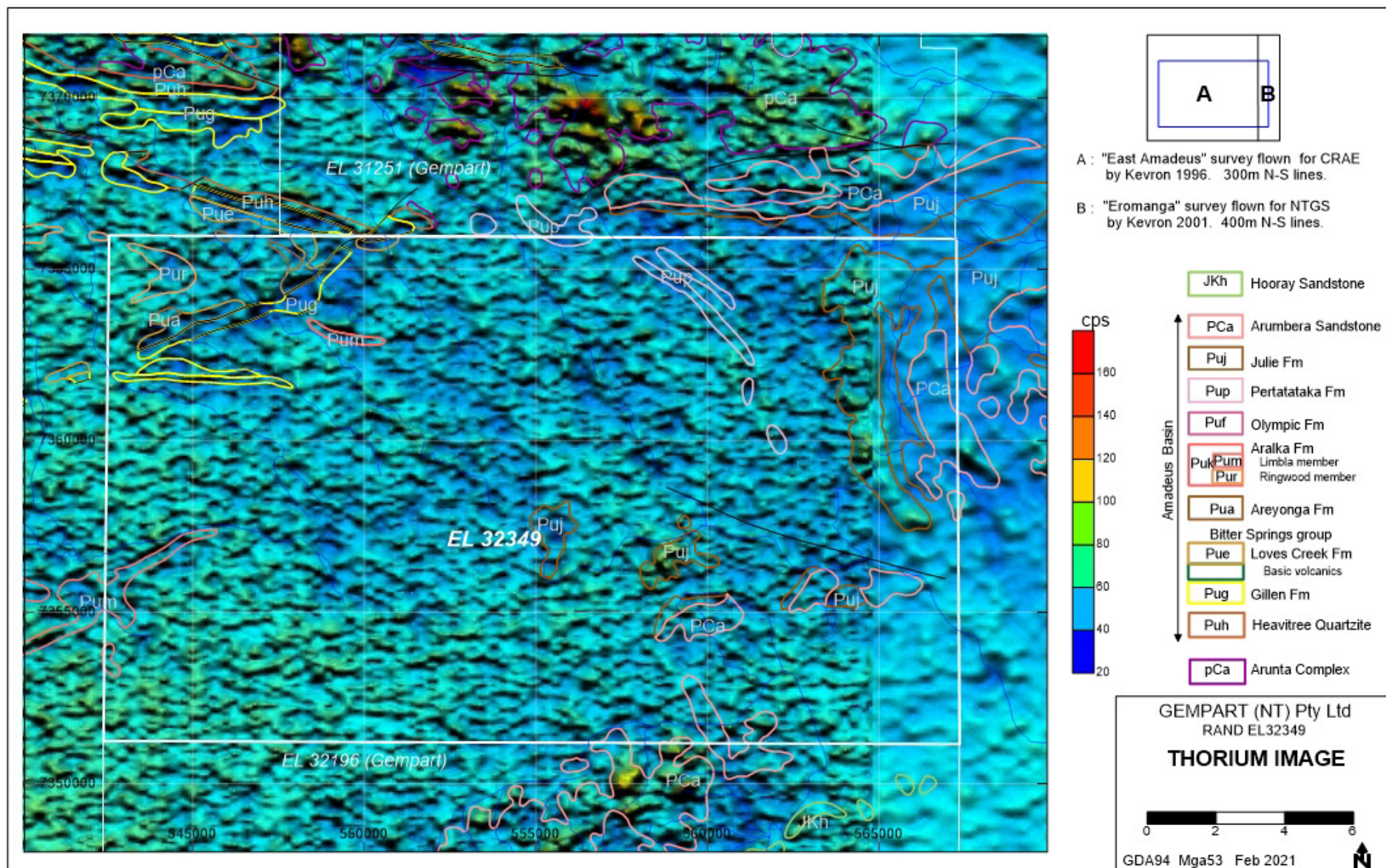


Figure 13. Thorium image.

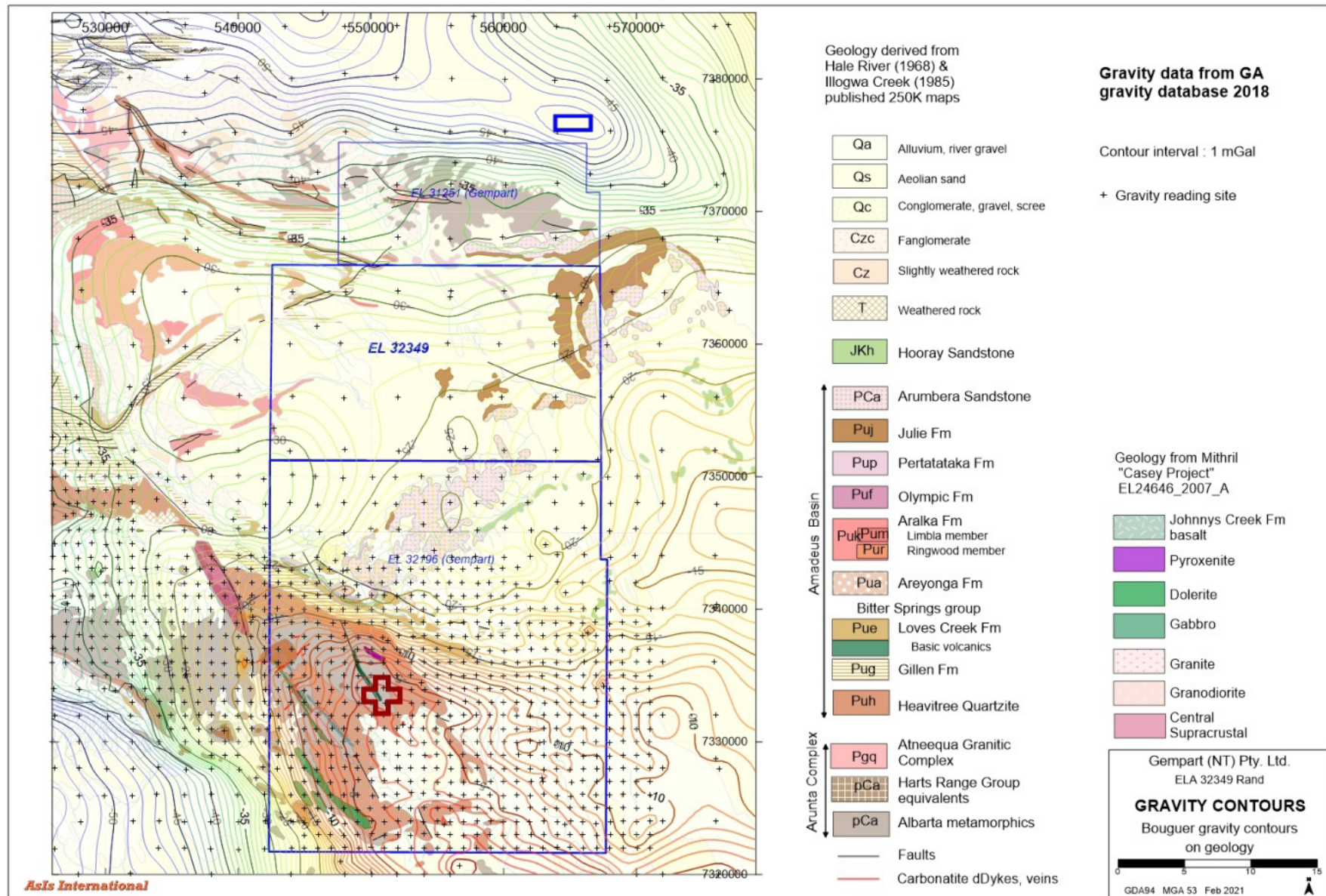


Figure 14. Gravity contours.

5.3 Airborne EM survey

An airborne EM survey was flown over a small area in the north-east corner of the EL, extending beyond the EL boundary onto the adjoining Gempart tenement EL31251. The component within EL32349 covers outcrop of Julie Formation and Arumbera Sandstone where surface sampling by Gutnick Resources reported elevated base metals and gold. Data were acquired on 300 metre lines oriented east-west using the Geotech VTEM system. The entire survey covered an area of 34 square kilometres for a total of 125 line kilometres, of which 25 square kilometres and 91 line kilometres are within EL32349. Flying was completed in April 2021, and final data are expected to be delivered in August 2021.

The survey was planned to deliver the possible following outcomes:

- Quantify the general conductivity to assess the utility of EM surveys in the area.
- Provide geological information on geometry of the sedimentary units, especially structures.
- Detect any discrete bedrock conductors that may represent sulphide mineralisation

In addition, the survey will include acquisition of magnetic data. Pre-existing aeromagnetics were acquired on 300 metre north-south lines. The regional geological strike within the area of interest is north-south, so the new magnetic data on east-west lines may provide additional information. The survey area is shown at Figure 15.

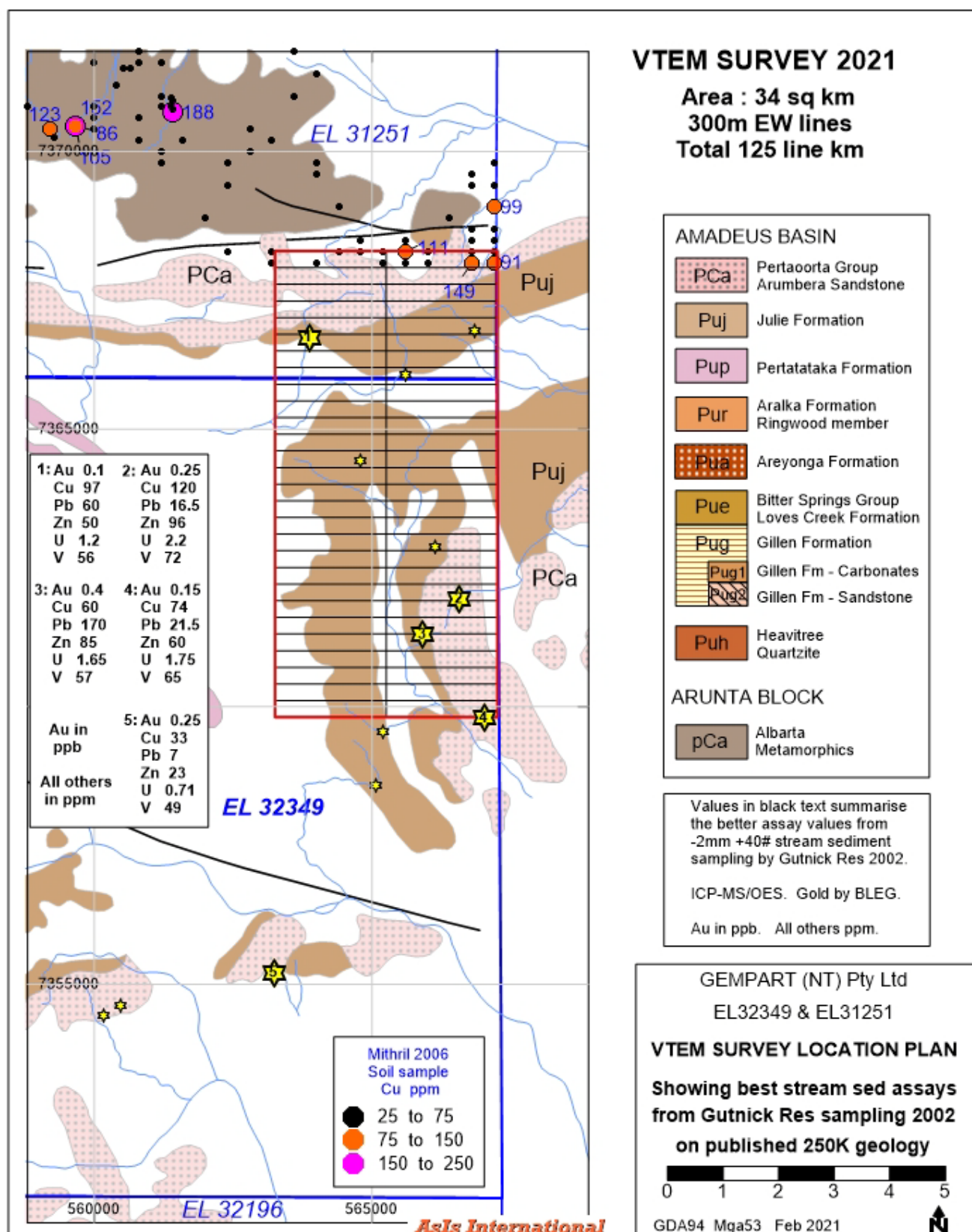


Figure 15. VTEM survey location plan.

6. CONCLUSIONS & RECOMMENDATIONS

EL32349 has been subject of little previous exploration. Base metals and gold anomalism from historical surface sampling suggests Cambrian Amadeus Basin sediments are prospective for copper and gold. Outcrop is limited, and regional geophysical datasets provide little information to vector exploration targets. Historical reconnaissance samples from drainages within Amadeus Basin sediments reported up to 170ppm Pb, 120ppm Cu and 0.4ppb Au. Analysis of public domain geology and airborne magnetic/radiometric data sets do not define exploration target areas for a possible primary source. A VTEM survey was flown by Gempart over the area of best historical surface geochemistry with a view to generating possible prospects. Final data is scheduled for delivery early in the second year of tenure, and further exploration will be guided by interpretation of same.

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