Parker Resources NL

EL25347 "Allambi Project"

Final Surrender Report

For the Period

12 March 2007 – 16 December 2013

Title Holder:	Excelsior Gold
Tenement:	EL25347
Project Title:	Allambi
Reporting Type:	Final Surrender
Reporting Period:	12 March 2007 – 16 December 2013
Author:	Wesley Groome (APEX Geoscience Australia Pty Ltd)
Date:	13 December 2013
Target Commodity:	U
1 : 100 000 Map Sheet:	Santa Teresa
1 : 250 000 Map Sheet	Rodinga
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ABSTRACT

The Allambi Property comprises Exploration License (EL) 25347, which covers 748.2km^2, is located ~70km southeast of Alice Spring. EL25347 was granted on 12 March 2007 for a period of 6 years to Imperial Granite and Minerals Pty Ltd and was acquired by Atom Energy Ltd. (now Excelsior Gold) in October 2007, with transfer being completed in March 2008. In February 2010, Atom Energy surrendered 231 sub-blocks (representing 50% of the tenement). EL 25347 was subject to a joint venture between Atom Energy and Parker Resources NL from early 2011.

The property is located in the central portion of the Amadeus Basin, a Neoproterozoic to Devonian east-west trending intracratonic basin. Regionally, uranium mineralisation is hosted in the Undadita Sandstone along redox boundaries. During the tenement period work programmes completed included literature review, a HyMap airborne survey over 1,426km^2 of the tenement, geologic mapping using hyperpectral imagery, and prospecting using a hand-held scintillometer. Overall results were not encouraging for redox-front related uranium mineralisation and a recommendation was made to let the tenement lapse. EL25347 was surrendered December 2013.

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1. Location, Title History, Physiography and Access

Tenement EL25437 (the Allambi Project) covers 748.2km^2 and is located approximately 70km southeast of Alice Springs. The property is located on Deep Well Station and Mary Vale Station and access is via the Mary Vale Road or the Santa Teresa Road. Access within the property is provided via four-wheel-drive along livestock tracks.

EL25347 covers an area of northeast-oriented ridges that reflect the local stratigraphic orientation interspersed with flat sandy plains. Vegetation is sparse and consists primarily of grasses, small shrubs and local stands of eucalypt trees.

EL25347 was granted to Imperial Granite and Minerals Pty Ltd on 12 March 2007 for a period of 6 years. The tenement was acquired by Atom Energy Ltd in October 2007 and a transfer was completed in March 2008. In February 2010, the tenement underwent a 50% partial relinquishment and 231 sub-blocks were surrendered. The tenement currently consists of 231 sub-blocks. Atom Energy Ltd was renamed Excelsior Gold Ltd in June 2010. EL25347 was the subject of a joint venture between Excelsior Gold and Parker Resources NL from June 2011 until surrender.

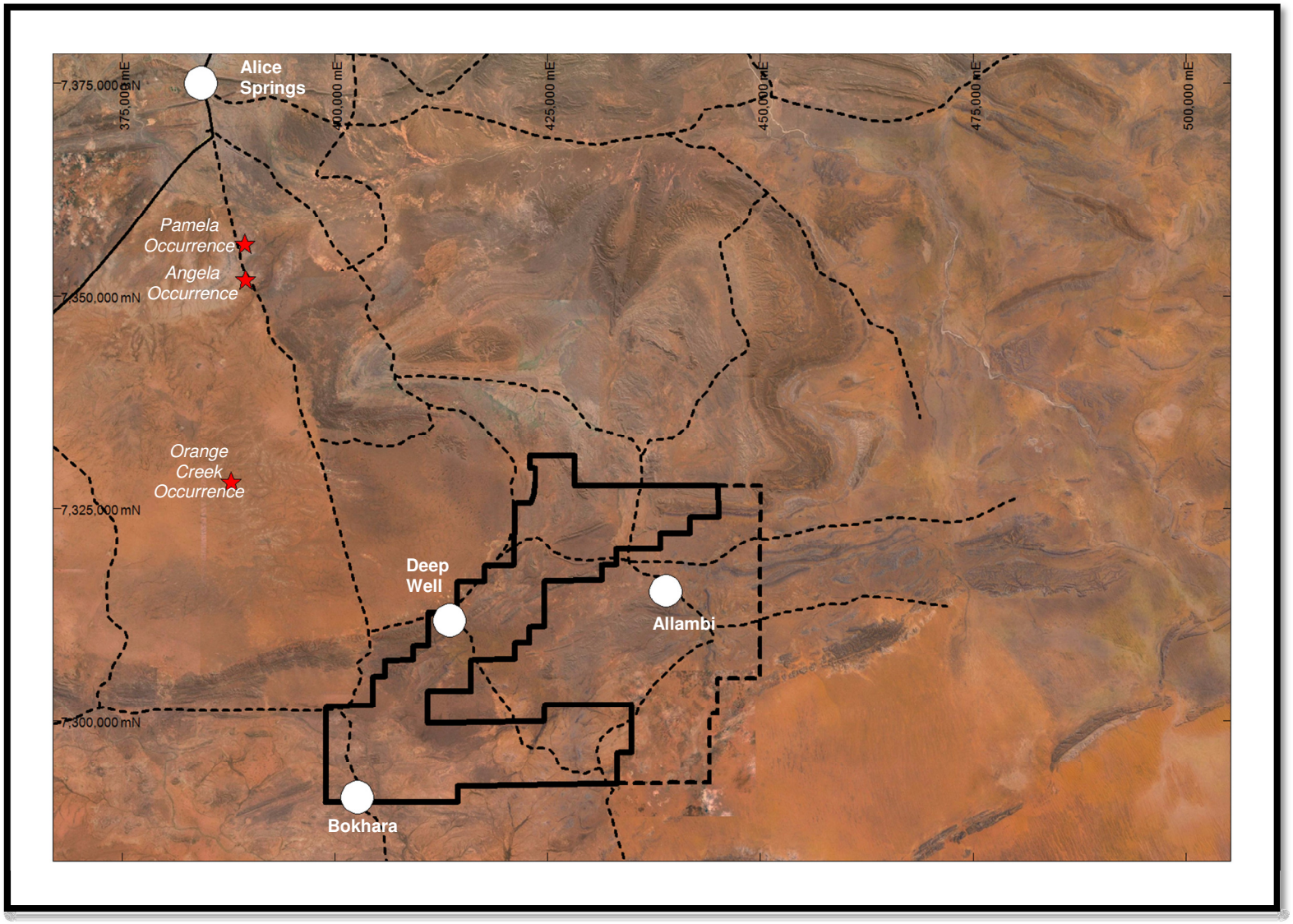

Figure 1: Satellite image showing the location of EL25347, population centres, road access and known uranium occurrences.

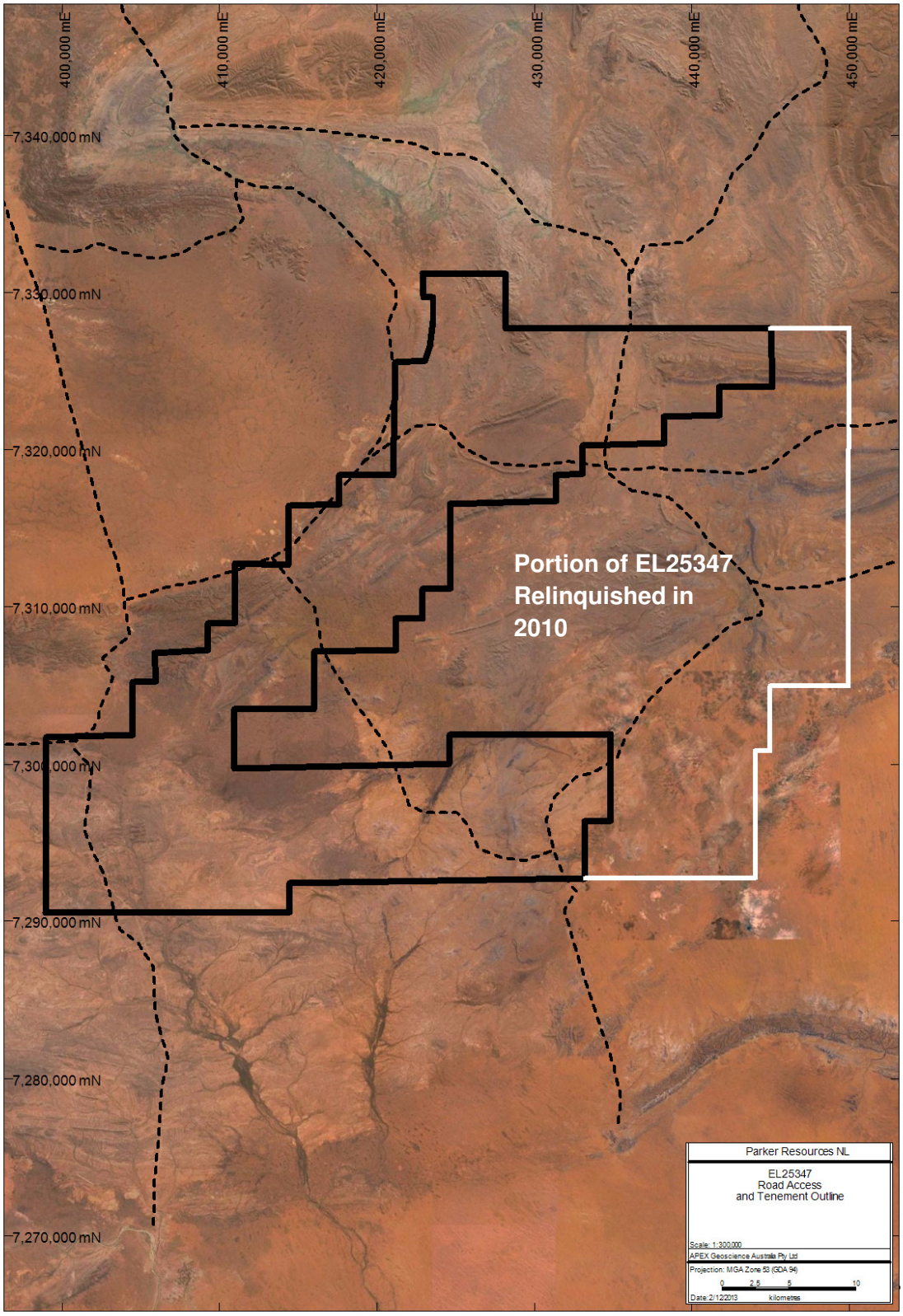

Figure 2: Satellite image showing the current boundaries of EL25437 and the portion of the original tenement relinquished in 2010.

2. Geological Setting

EL25347 is located in the central part of the Amadeus Basin, a Neoproterozoic to Late Devonian (>800 – 350 Ma) east-west oriented intracratonic basin. The basin consists of carbonate and clastic rock units and is bounded to the south by the Musgrave Block (a Proterozoic granulite-gneiss terrane) and to the north by amphibolite-facies metamorphic rocks (Figure 3). The following summary of the regional geologic setting is modified from Hamlyn (2010).

The Amadeus Basin, in the southern portion of the Northern Territory, covers approximately 170,000km^2 and is at the heart of a series of intracratonic basins on the Australian continent that formed during the break-up of Rodinia at ~1,000Ma. The Amadeus Basin records sedimentation from the Late Proterozoic (>800Ma) through late Middle Devonian (~350Ma). Dominant rock types within the basin include dolostone, limestone, quartzite, shale, diamictite and siliciclastics. The Amadeus Basin succession is floored by a sheet-like shallow-marine quartzite (Heavitree Quartzite) and a subsequent marine transgression associated with basin opening led to the deposition of a shallow-marine anoxic succession represented by the Bitter Springs Formation.

A basin-wide unconformity at the top of the Bitter Springs Formation coincided with the first of nine recognised tectonic events recorded in the basin. During this time period, a series of sub-basins formed separated by a central topographic high. A succession of glacial and interglacial sediments were deposited above the unconformity (Areyonga and Olympic Formations), which were in turn overlain by marine clastics and carbonates of the Pertatataka, Winnall and Julie Formations.

The basin paleogeography underwent another change associated with the Petermann Ranges Orogen (520-580Ma), which led to further localisation of clastic sedimentation, including the deposition of a foreland basin-style clastic wedge in the southwest. Fluvial deposition of the Arumbera Formation occurred as tongues to the north and east of the main clastic wedge. As clastics were deposited in the southwest of the basin, a Cambrian marine succession was deposited in the northeast (Chandler and Giles Creek Formations), which was dominated by marine and marginal marine deposits of dolomite and evaporitic mudstones, including organic-rich facies. Restricted clastic deposition dominated during the Ordovician and includes the Pacoota Sandstone, the shallow marine Horn Valley Siltstone and the tidally-influenced Stairway Sandstone.

The Alice Springs Orogen (~320Ma) is recorded in the basin by the resumption of foreland basin-style clastic sedimentation, including the Pertnjara Group. The top of the Pertnjara Group is represented by the Brewer Conglomerate, an important host for uranium mineralisation within the Amadeus Basin.

The Amadeus Basin is overlain by the Musgrave Block in the south, and is overlain by the Perdika Basin in the southeast. The Musgrave Block is an extensive Mesoproterozoic basement inlier in central Australia. The Musgrave Block is in thrust contact with the Amadeus Basin along the Woodroffe Thrust. The Perdika Basin is an intracratonic basin containing Late Carboniferous and Early Permian fluvio-glacial, lacustrine and coal swamp deposits.

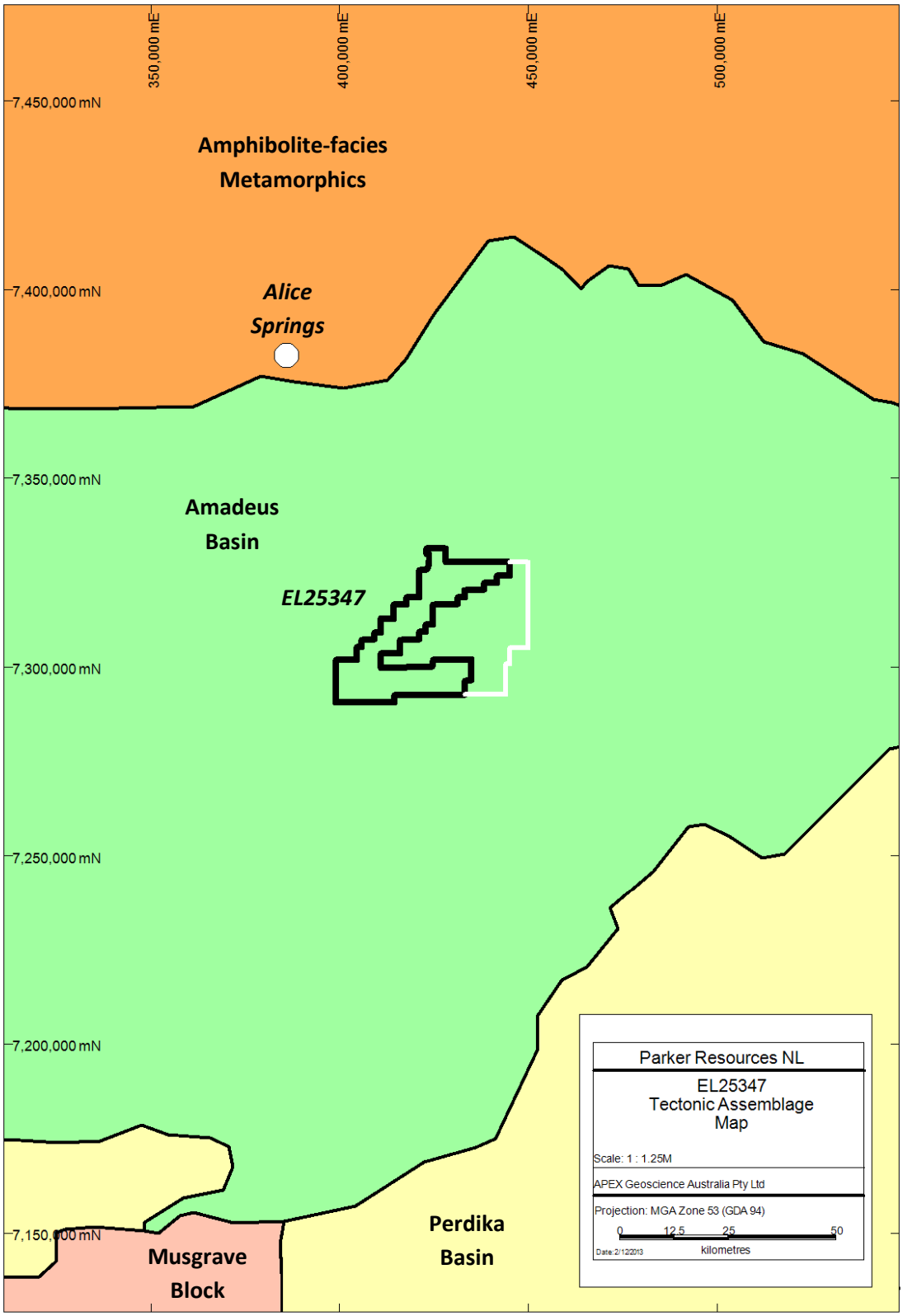

Figure 3: Regional tectonic assemblage map

3. Local Geology

The stratigraphy underlying the property consists of clastic and carbonate sedimentary rocks ranging in age from Proterozoic to Carboniferous (Table 1). The units generally strike 240° and dip gently (15-40°) to the northwest. These units are folded into a regional anticline striking ~50° and the entire succession is overlain by Tertiary to Quaternary calcrete and aeolian and fluvial sand (Figure 4).

Table 1: Summary of Property Geology

Formation/Member	Age	Lithology	Upper Contact
Pertnjara Group	Carboniferous	Sandstone	N/A
Mereenie Sandstone	Devonian	White cross bedded sandstone	Disconformity
Arumbera Sandstone	Cambrian	Red brown sandstone, conglomeratic sandstone, siltstone, trace fossils	Unconformity
Pertatataka Formation	Proterozoic	Sandstone, dolostone, limestone and diamictite	Conformity
Julie Member	Proterozoic	Dolomite, limestone, calcareous sandstone	Conformity
Ringwood Member	Proterozoic	Algal dolomites, limestones, siltstones	Conformity
Areyonga Formation	Proterozoic	Conglomerates, conglomeratic sandstones, siltstones, minor dolomite and intercalated red chert	Conformity
Bitter Springs Formation	Proterozoic	Sandstone, siltstone, limestone, dolostone, shale, Minor volcanics	Unconformity

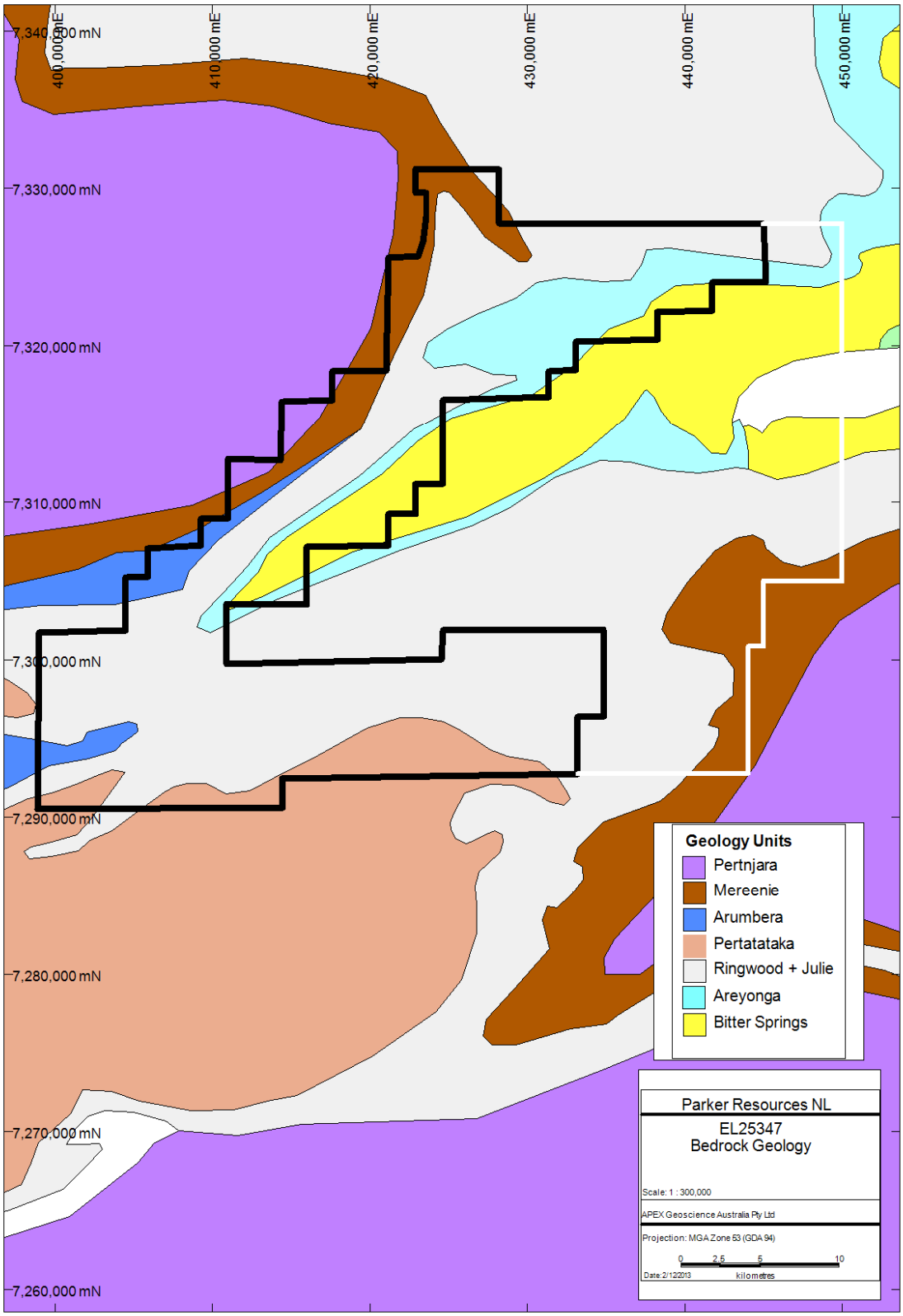

Figure 4: Regional bedrock geology map.

Figure 5: Matrix-supported conglomerate of the Areyonga Formation

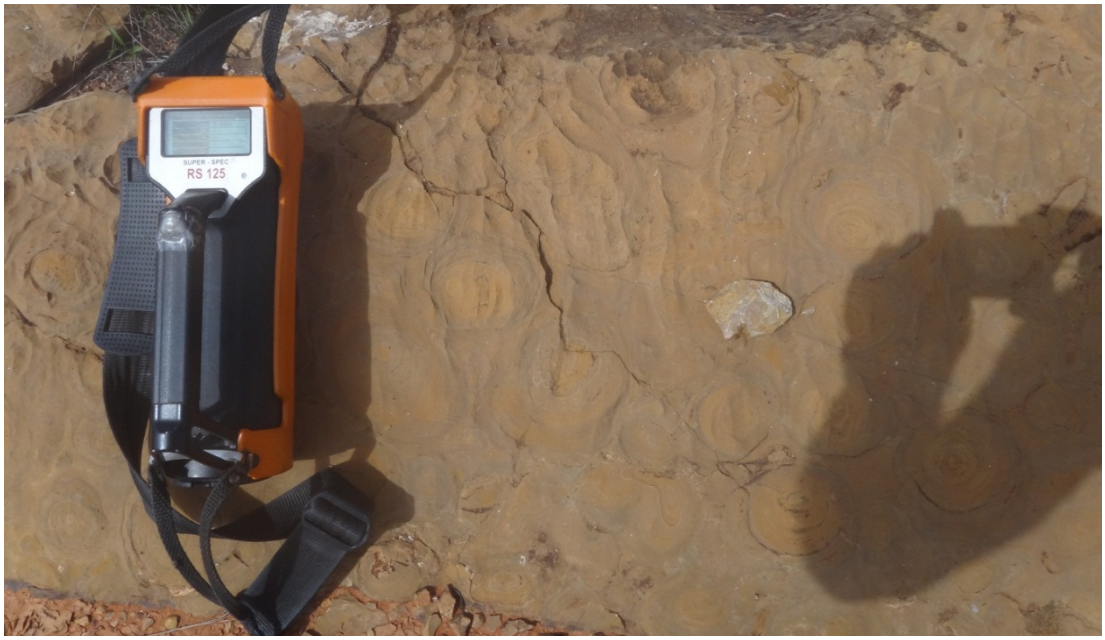

Figure 6: Algal limestone of the Ringwood Member

Figure 7: Trace fossils in the Julie Member

Figure 8: Chert unit in the Pertatataka Formation

Figure 9: Stockwork veining in the Arumbera Sandstone

Figure 10: Cross-bedding in the Mereenie Sandstone

4. Exploration History and Rationale

Previous exploration in the area has been focussed almost exclusively on base metals and gold, with periodic interest in uranium. The following is a brief summary of exploration activities in the immediate vicinity of EL25347.

The earliest documented exploration programme was in 1971 by CRA Exploration, which consisted of a geochemical sampling programme of 1,235 drainage samples and 30 rock grab samples in search of high-grade zinc silicate deposits. Some local high-grade zinc samples were collected, but it was determined at the time that the area probably didn't contain significant zinc mineralisation (CRA, 1971).

The following year, Le Nickel Exploration undertook a programme of mapping and prospecting focussed on base metal mineralisation. Though a few anomalous results were returned, the area was thought to have low prospectivity for base metal mineralisation (Young, 1972).

Between 1977 and 1981, Uranerz Australia Pty Ltd explored the area for sandstone-type uranium mineralisation, focussed on the Upper Devonian Undandita Sandstone. Exploration included airborne spectrometric surveying, drilling, geochemical sampling and radon surveying. Whilst the airborne survey did not identify any significant anomalies, ground exploration did identify favourable geologic settings for redox-front related sandstone-hosted uranium mineralisation. A total of 703 vacuum holes and 63 percussion holes were completed on the property, and all holes were gamma logged. Geologic mapping was also conducted over a 452km^2 area. Ground exploration activities did identify several favourable areas for uranium mineralisation, including 6 drill intersections greater than 500 ppm U. Uranerz relinquished the property in 1982 (Uranerz, 1980, 1981).

In 1982, Santos Ltd picked up the ground and conducted a 24.6 line km spectrometer traverse, shot hole sampling, 5 diamond holes and downhole gamma ray logging. No significant radiometric anomalies were identified and the exploration license was relinquished (Santos, 1982).

In 1991-1992, CRA Exploration completed an airborne magnetic/radiometric survey over the area exploring for kimberlites and base metal targets. Six magnetic anomalies were identified and sampled for diamond indicator minerals and one anomaly was selected for ground magnetic surveying and percussion drilling. No anomalous results were returned and the anomalies were attributed to near-surface gravel deposits (Agnew, 1991; CRA, 1992).

Between 1996 and 1998, CRA and Rio Tinto Exploration conducted soil and stream sediment sampling programmes and identified several weak base metal anomalies (Cu, Pb, Zn, Co). Subsequently, 301 RAB holes were completed over the anomalies, but no significant results were returned (Mackey, 1996; Mackey and Davis, 1997, 1998).

In 2005, Tennant Creek Gold completed a stream sediment sampling programme and literature review, but the results were not deemed significant for base metals. A geophysical analysis suggested the presence of a magnetic body at greater than 1km depth along the northern boundary, but no follow-up work was recommended (Tennant Creek, 2006).

5. Exploration Activities During The Period (2007 – 2013)

Excelsior Gold (Atom Energy prior to June 2010) acquired the tenement in 2007.

During 2008, a HyMap airborne survey was completed over the entire tenement area. HyMap is an airborne hyperspectral scanner delivering 126 bands (~18nm width per band) of imagery over the 450nm to 2500nm spectral interval. After pre-processing to produce radiance and apparent reflectance images, images were georeferenced to produce a mosaic image over the entire survey area. The mosaic was then processed to produce various band colour composites that highlight mineralogical and geological features.

Three data sets were produced from these images:

1) Standard colour composites that were used for photogeology interpretations
2) Decorrelation stretch colour composites derived from selected bands to produce images mapping the overall distribution of Al-OH, Fe-Oh and Mg-OH bearing minerals within the area, but not specific mineral species.
3) Specific series mineralogical information was extracted by applying end-member unmixing processing to the image mosic. This processing can produce images to map the distribution of clay minerals, micas and carbonates.

Detailed discussions of the processing methodologies are provided in Hamlyn (2010). All data related to these surveys has previously been provided to the Department.

Also during 2008, Excelsior compiled all historic geochemical and geophysical data to assess the exploration potential of the tenement. Previously-reported anomalous localities were then investigated and water bore samples were collected where available. A total of 13 samples were taken from 10 water bores during May 2008 and assayed for a suite of 16 elements, including Au, Ag, Cu, Pb, Zn and U. All results have previously been reported to the Department, but summary results are presented below.

Table 2: Summary of Water Bore Sample assays from 2008

Sample Number	Ca (ppm)	Cu (ppb)	Fe (ppb)	K (ppm)	Mg (ppm)	Na (ppm)	U (ppb)
ALWB00001	55.6	1.63	<200	36	40.9	504	3.31
ALWB00002	56	1.63	<200	36	41.6	505	3.27
ALWB00003	51.8	1.49	<200	23.3	58.9	249	5.88
ALWB00004	78.2	11.8	<200	17.9	41.9	142	4.59
ALWB00005	78.4	15.5	<200	17.8	42	141	4.75
ALWB00006	140	6.1	300	32.4	105	485	12.1
ALWB00007	138	5.66	280	32.2	103	485	12.1
ALWB00008	397	7.63	>LWR	77.1	346	2470	0.095
ALWB00009	85.1	0.26	<200	15.3	66.5	172	0.025
ALWB00010	188	6.63	520	60	301	2110	9.17
ALWB00011	78.7	1.16	<200	13.5	52.1	57.4	5.78
ALWB00012	164	1.6	200	12.9	167	274	12.5
ALWB00013	141	4.66	260	41.4	195	1070	21.7

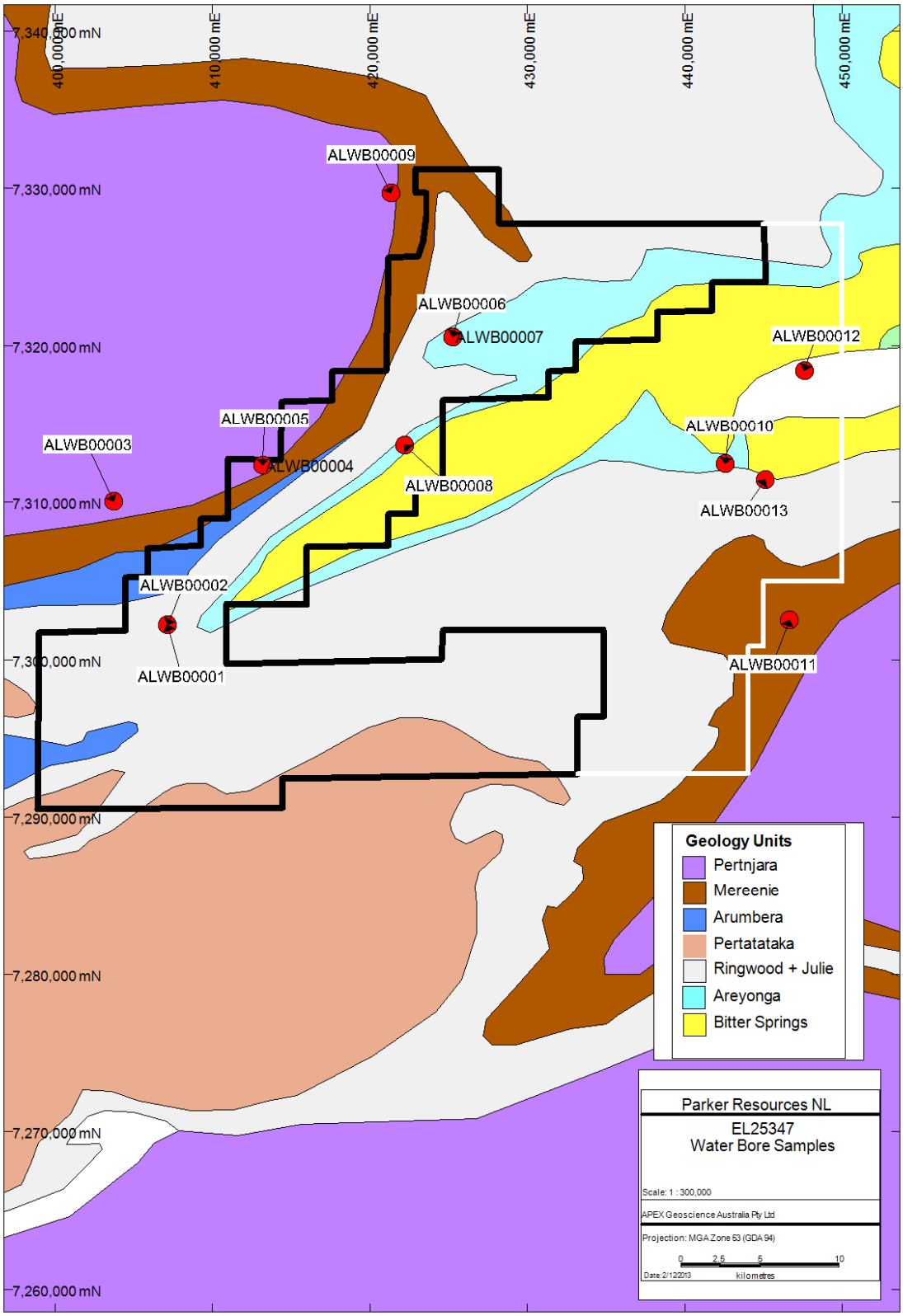

Figure 11: Location map of water bore samples from 2008.

Rock chip sampling was also undertaken in areas of previously-reported anomalism. A total of 17 samples were collected in 2008 and assayed for a suite of 48 elements. Sample data has previously been reported to the Department, but a summary is provided below.

Table 3: Summary of rock chip assay statistics for the 2008 programme

	U (ppm)	Th (ppm)	K (%)
Number of analyses	17	17	17
Peak Value	23	90.9	2.3
Mean Value	6.06	13.58	0.51
75th Percentile	6.5	14.5	0.82
95th Percentile	19.32	42.98	1.94
Standard Deviation	6.16	21.55	0.70

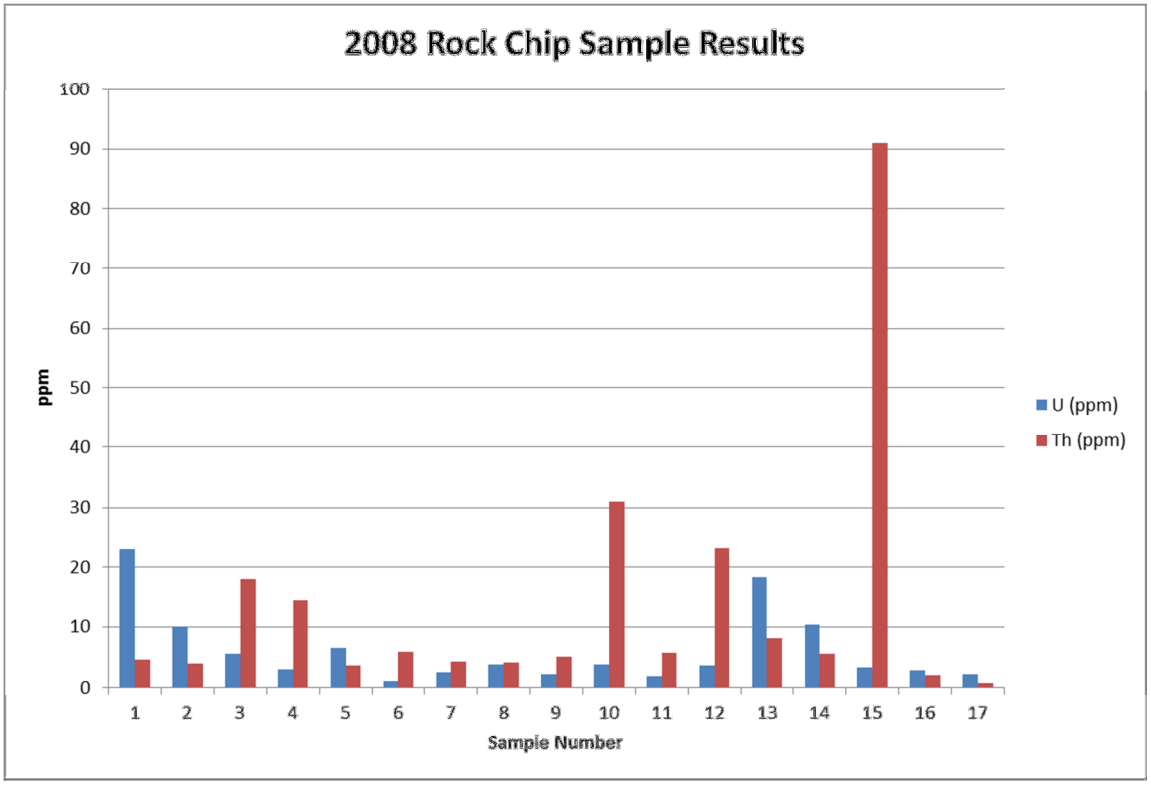

Figure 12: Summary graph of U and Th assays from the 2008 rock chip samples

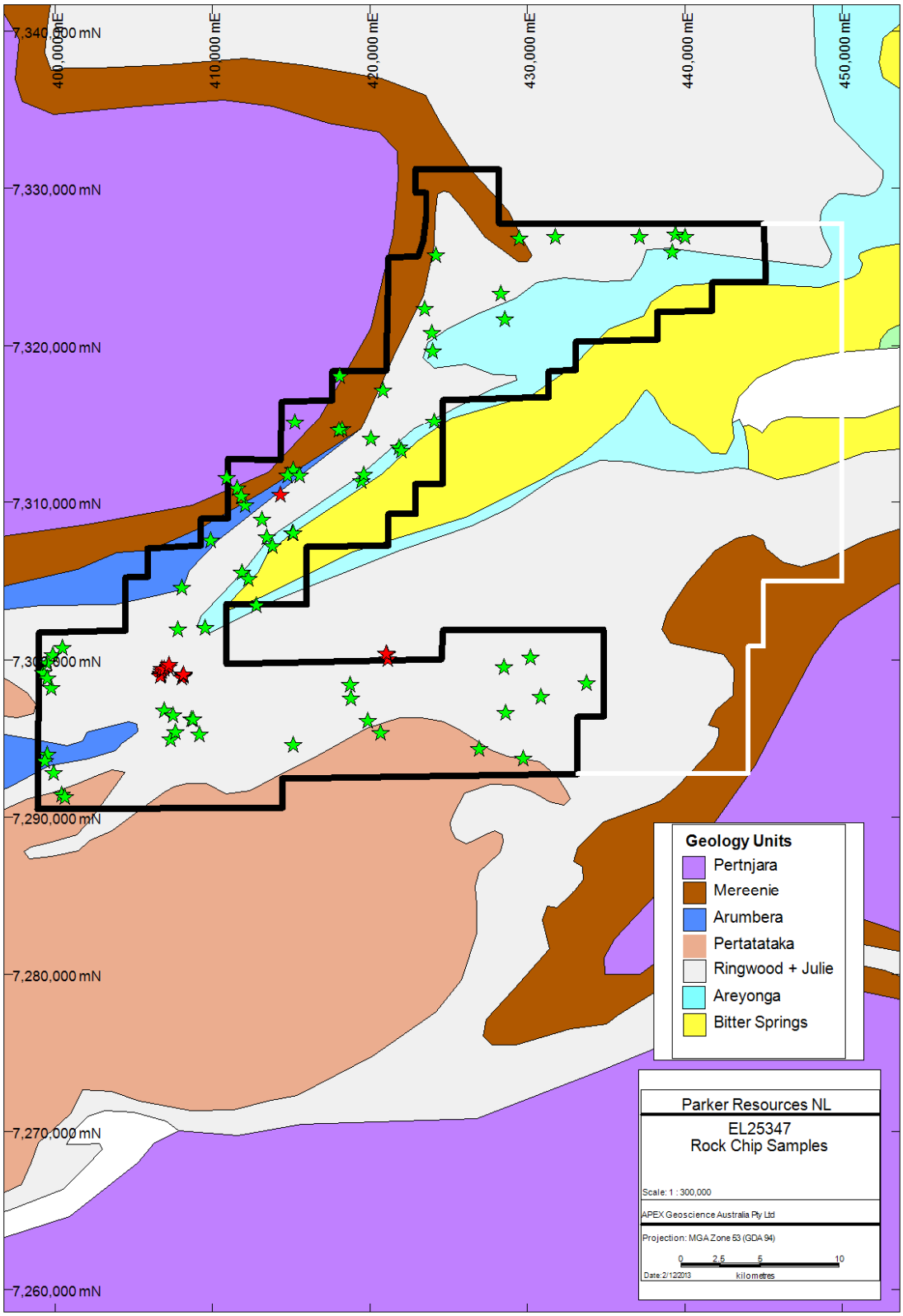

Figure 13: Location map of all rock chip samples collected from 2007 – 2013. The 2008 sample locations are shown in red and the 2012 sample locations are shown in green.

A review of existing mapping in 2008, combined with the hyperspectral data did not identify prospective horizons within the Brewer Conglomerate unit on the tenement and less prospective ground was relinquished in February 2010.

During 2011-2012, Parker Resources undertook a review of the prospectivity for redox-front uranium mineralisation on the property as well as a 25 day prospecting campaign targeting the most prospective areas of the tenement. A total of 145 line km of traversing was conducted taking scintillometer readings on bedrock outcrops, and grab sampling the same outcrops for assay. APEX Geoscience Australia Pty Ltd was contracted by Parker to conduct the desktop review and prospecting campaign.

Table 4: Summary statistics for 2012 rock chip assays

	U (ppm)	Th (ppm)	K (%)
Number of Analyses	73	73	73
Peak Value	3.44	9.0	0.99
Mean Value	0.51	1.95	0.05
75th Percentile	0.67	6.54	0.05
95th Percentile	1.3	8.22	0.14
Standard Deviation	0.55	2.14	0.12

Prospecting traverses were designed to cross stratigraphy in order to sample a broad spectrum of rock units on the property. A SuperspectRS125 scintillometer was used to measure the gamma radiation of the sampled outcrops. The scintillometer was calibrated by Fugro Instruments prior to arriving on site and was allowed 15 minutes each day to stabilise to background to ensure more accurate measurements. The background radiation of rocks on the property was in the range of 100 counts per second (CPS). Rock samples were collected for assay from each stratigraphic unit encountered as well as from any outcrop that measured a higher than background CPS reading. A total of 73 rock samples were collected and assayed during 2012. Samples were crushed to 6mm and pulverised before being analysed using the ME-MS41 method (aqua regia, ICP-AES) with detection limits of 0.05 – 10,000ppm U, 0.2 – 10,000 ppm Th and 0.01-10% K at ALS Laboratories in Alice Springs.

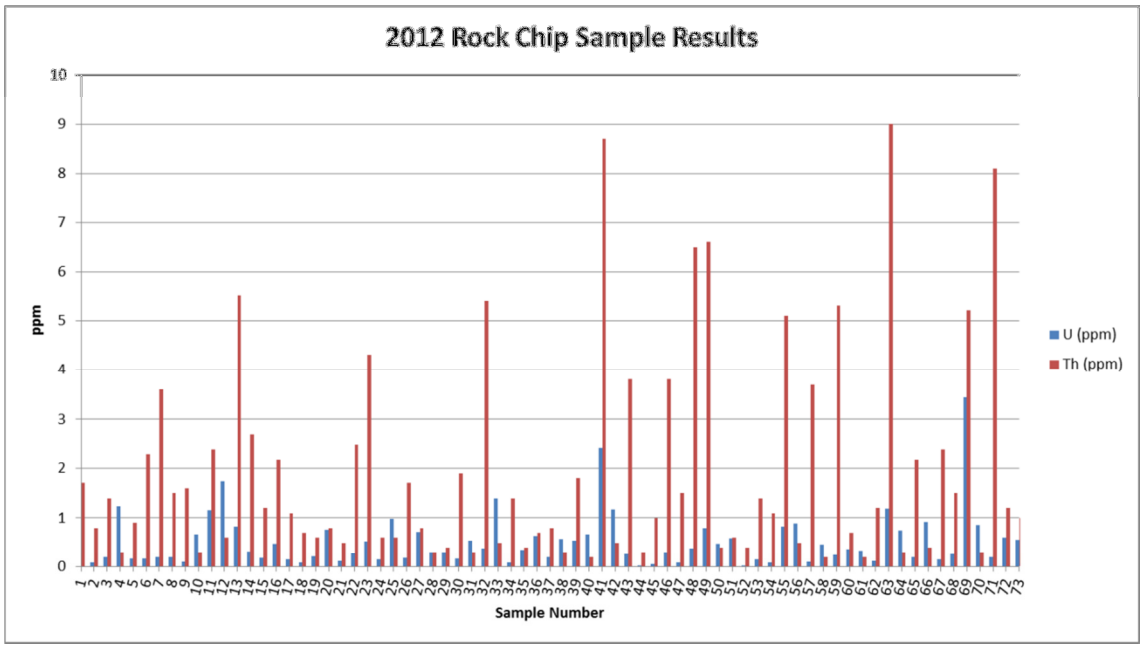

Figure 14: Summary graph of U and Th assays for the 2012 rock chip samples.

Table 5 shows the average CPS readings for the different formations encountered on the property. Only the Areyonga Formation, a Proterozoic conglomeratic sandstone, and a diamictite unit of the Pertatataka Formation returned significantly elevated CPS readings (average 140, maximum 210 for both units). All other units returned consistently background readings of approximately 80 CPS.

Stratigraphic similarities with the Pamela, Angela and Orange Creek uranium occurrences suggest that the property has potential to host uranium mineralisation. However, prospecting activities completed during the reporting period are not indicative of uranium mineralisation on the property – no redox-front alteration was observed, CPS readings were consistently low, and assays returned from grab samples were consistently low. No obvious relationship exists between CPS reading and U content. Elevated CPS measurements seem to be more correlative with Th content than U content (Figure 15).

Table 5: Average CPS readings from the 2012 prospecting campaign

Formation/Member	Age	Lithology	Average Counts per Second (CPS)
Pertnjara Group	Carboniferous	Sandstone	N/A
Mereenie Sandstone	Devonian	White cross bedded sandstone	100
Arumbera Sandstone	Cambrian	Red brown sandstone, conglomeratic sandstone, siltstone, trace fossils	100
Pertataka Formation	Proterozoic	Sandstone, dolostone, limestone and diamictite	75 – 140*
Julie Member	Proterozoic	Dolomite, limestone, calcareous sandstone	75
Ringwood Member	Proterozoic	Algal dolomites, limestones, siltstones	75
Areyonga Formation	Proterozoic	Conglomerates, conglomeratic sandstones, siltstones, minor dolomite and intercalated red chert	140
Bitter Springs Formation	Proterozoic	Sandstone, siltstone, limestone, dolostone, shale, Minor volcanics	80
**higher CPS recorded in the diamictite units*			

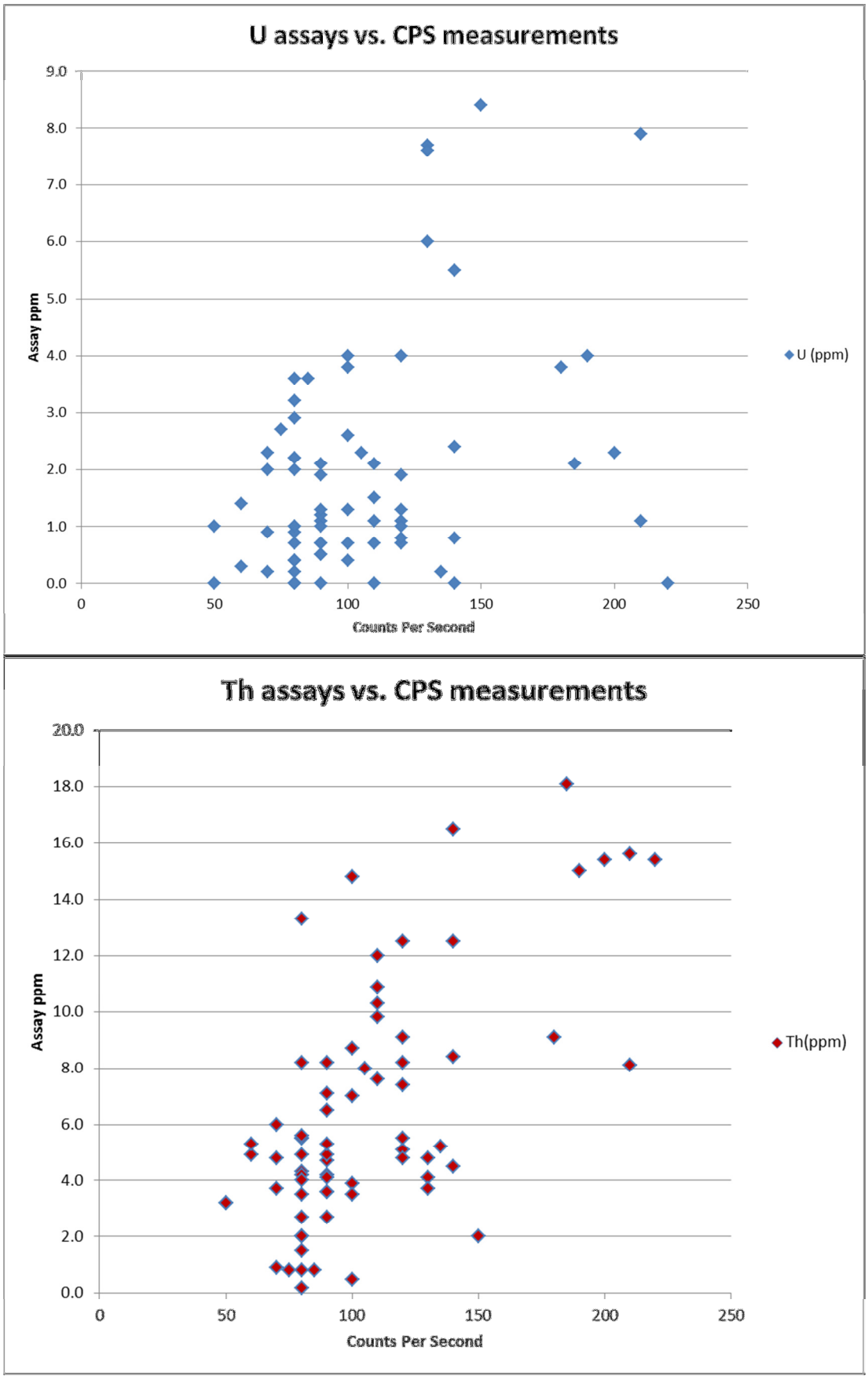

Figure 15: Plots of U (top) and Th (bottom) assay values vs field count per second measurements. Note the slightly better correlation between CPS reading and Th assay than for CPS reading and U assay.

6. Conclusions and Recommendations

Based on historic and recent results, the property shows some potential for near-surface uranium mineralisation. Anomalous U mineralisation was identified during the 2008 prospecting campaign, including rock chip samples up to 23ppm U. The sampling campaign during 2012 was designed to cover a wide-range of geologic units and structural positions and did not return as encouraging results as the 2008 programme. An exploration programme consisting of an airborne magnetic/radiometric survey and additional rock chip sampling has been proposed with the aim of better elucidating prospective areas for uranium mineralisation not currently exposed. It was hoped that these surveys could lead to a drilling programme. However, preliminary estimates for the airborne survey were in the $200,000 - $400,000 range and given the current weakness in the junior exploration equity market it is felt that this is cost-prohibitive. A second round of prospecting was thought to be of little or no value without the benefit of modern, detailed airborne geophysical data. Therefore a decision was made to relinquish EL25347.

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