

RELINQUISHMENT REPORT FOR  
EXPLORATION LICENCE 25085  
KIRKIMBIE, NORTHERN TERRITORY

FOR THE PERIOD ENDING DECEMBER 2014

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DATE: 15/02/2014

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## **1 INTRODUCTION**

Exploration license 25085 located in the north west of the Northern Territory (refer to Figure 1) is part of Daylight Jack Minerals Pty Ltd Kirkimbie Project exploring for diamonds and base metals. The licenses cover Proterozoic to Mesozoic sedimentary rocks and the Antrim Plateau Volcanics. There are significant geological structures in the area and favorable rock types to host various styles of base metal mineralisation.

In early 2013 Daylight Jack Minerals Pty Ltd and Australia China Corporation of Coal Geology Engineering Pty Ltd (ACCCGE) conducted a high resolution aeromagnetic survey over EL 25084 and EL 25085. Exploration during the report period has involved modelling of a number of dipole targets that were selected from aeromagnetic survey data. Dipole targets were produced by both Jayson Gregg and ACCCGE.

The relinquishment of 22 blocks in EL 25085 was a strategic, economic and direct effort to place all ground on a six year license cycle. Management of the licenses has been complex given the consistent line up of so called investors who hold out and hinder exploration profile. Daylight Jack will over the next two years drill all priority targets in order to take the project forward. We have a good investor who is interested in diamond exploration.

## **2 TITLE HISTORY**

EL 25085 was granted to Daylight Jack Minerals on 03/10/2006. The license was first relinquished in 2007. A total of 290 blocks were relinquished. Then in 2013 a further 144 blocks were relinquished. The remaining 22 blocks were relinquished on 06/10/2014.

## **3 GEOLOGY**

The Kirkimbie Project lies in the Palaeoproterozoic to Mesoproterozoic aged Limbunya Basin and the southern part of the Neoproterozoic aged Victoria Basin. Extensive areas are covered by Lower Cambrian “Antrim Plateau Volcanics” (APV) flood basalts of the Kalkarindji Continental Flood Basalt (Figure 3). Figure 3 was compiled by the database of the Northern Territory Geological Survey Diamond Mineral Database (the NTGS DIM).

EL 25085 lies within the Limbunya Basin sediments (Figure 3) with some areas covered by APV. The Limbunya Group (Palaeoproterozoic) comprises largely sandstone, siltstones, mudstone and dolomitic rocks with minor water-laid tuff horizons. These tuff horizons have been dated at 1635 Ma for the Blue Hole Formation (Phi). Interestingly, these dates are very similar to dates on volcanic pipes in the microdiamond bearing Coanjula area where kaersutite xenocrysts were dated at 1665 Ma (Lee et al 1994). Large areas of EL25085 are covered by black soil (Czb) and recent alluvium (Czs).

The geologically ancient shield areas in this region are prime targets for diamond exploration. A shield area, or craton, is a portion of the continental crust that has been geologically stable (i.e., not involved in mountain building, faulting, deformation, etc.) for billions of years.

## **3 EXPLORATION CONCEPT**

ELs 25084 and 25085 (Kirkimbie Project) have long been considered prospective for diamonds with major mining companies holding leases in the area. Regional scale stream sediment sampling has been periodically completed since the late 1970s for diamonds and minerals.

The project is located 150km south southeast of the Argyle Diamond Mine and 50km south west of Rio Tinto’s Victoria River Diamond Project.

In the 1990s BHP were involved in exploration in the area immediately covered by the Kirkimbie project. The program involved wide spread regional stream sediment sampling. This work recovered significant micro diamonds from the Maude Creek Area. This area is covered by the south of EL 24084 and EL 25085. Two samples contained possible kimberlitic chromite. Three (3) magnetic targets were drilled on Daylight Jack Mineral’s current EL’s, but no Kimberlite was intersected.

Two companies; Ausquest and Gravity Diamonds held leases and have reported on the area covered by the Kirkimbie Project however no significant exploration has taken place in the last 15 years. Ausquest identified six dipole magnetic anomalies occurring in the southern most parts of the project and fall within drainages that contained micro diamond bearing samples.

The area has also been identified as having potential for base metal mineralisation particularly MVT zinc-lead-silver within the Proterozoic basins of dolostone, sandstone, limestone and shale. In addition minor Pb-Ag mineralisation has been noted.

The overlying Antrim Volcanics also host small copper occurrences worthy of further investigation. This flood basalt terrain is also noted for its potential to host Ni-Cu-PGE sulphides. As with the recent previous diamond exploration, the exploration for base metals in the area was limited. Daylight Jack considers the area to be highly prospective for diamonds and having a significant level of exploration potential for base metal. The area warrants further substantial investigation and Daylight Jack has used the recent hi-resolution magnetic survey to generate new exploration targets and further refine their area of interest.

## **4 WORK DONE**

In 2008 Daylight Jack Minerals commissioned Grant Boxer, a geophysicist to review the aeromagnetic data of the EL 25085. He recommended a number of magnetic anomalies for further work. Three magnetic anomaly sites were visited and soil samples were taken.

In 2009 the exploration program consisted of rapid sampling of selected sites for 1-3kg rock samples. Twenty four (24) samples were sent for assay using ME-ICP61 method at ALS Chemex. They had variable detection limits. Significant element anomalies have been noted in this suite. Samples S32-, 304 and both 306 samples have anomalous copper. Similarly high As, Ni, Pb, Sr, and V was detected in these samples.

In 2010 a total of fourteen (14) rock chip, gravel and soil samples were collected from Bunda Creek, Maude Creek and Moonbool Creek and sieved at the site. Soil samples were taken from B horizon because it is often the zone of metal accumulation. . Selected samples were sent to ALS Chemex for assay using ME-ICP61 method. All AusQuest targets were sampled.

Assay results for a number of samples are prospective for iron, manganese, lead and vanadium. Rock chip samples taken from north-south trending outcrops contained the highest levels of barium, cobalt, copper, iron, manganese, lead and vanadium when compared to other samples taken in the region. Sample MBL1 contains >10,000 ppm barium, 1210 ppm cobalt, 236 ppm copper, >100,000 ppm manganese, and 1680 ppm lead. Assay results for sample S23 indicate anomalous vanadium, with 1430 ppm detected. Assay results for sample WP8 indicate anomalous iron, with 10.65% detected.

In 2011 a total of forty three (43) rock chip, gravel and soil samples were collected from the field. The detritus material ranged in size from pebble to clay was sieved at the sampling site. Soil samples were taken from B horizon because it is often the zone of metal accumulation. The bulk of the samples collected are lateritic siltstones and sandstones. These samples most likely belong to the underlying strata; Wickham Formation, Jasper Gorge Sandstone or the Angalarri Sandstone. This reflects the widespread laterite profile across much of the region.

Assay results for a number of samples are prospective for iron, manganese, lead and vanadium. Rock chip samples taken from north-south trending outcrops contained the highest levels of barium, cobalt, copper, iron, manganese, lead and vanadium when compared to other samples taken in the region. Sample B3291 and B3292 contain >10,000 ppm barium, >339 ppm cobalt, >100,000 ppm manganese, and >159 ppm lead. Assay results for sample S23 indicate anomalous vanadium, with 1430 ppm detected. Assay results for sample WP8 indicate anomalous iron, with 10.65% detected. Such prospective results clearly prove particular areas of the tenement warrant further investigation in the form of drilling. The tenement has been relatively well covered by traditional heavy mineral stream sampling for kimberlitic indicator minerals and diamond.

Microdiamonds were routinely recovered in the southern tenement group but no source could be determined. No kimberlitic indicator minerals were recovered that would indicate the presence of kimberlite or lamproite.

In August 2012 we visited the tenements with the ACCCGE executives. A one day traverse along Moonbool creek was carried out from EL25085 to EL25084 and into EL 29803.

In 2013 the entire area of EL's 25084 and 25085 were covered by a high-resolution aero magnetic survey.

- Line Spacing = 100m
- Line Direction = EAST – WEST
- Tie Line Spacing = 1000m
- Tie Line Direction = North – South
- Sensor Height = 50m
- Total Line Km = 16,440Km
- Coordinate System = MGA Zone 52 / GDA 94

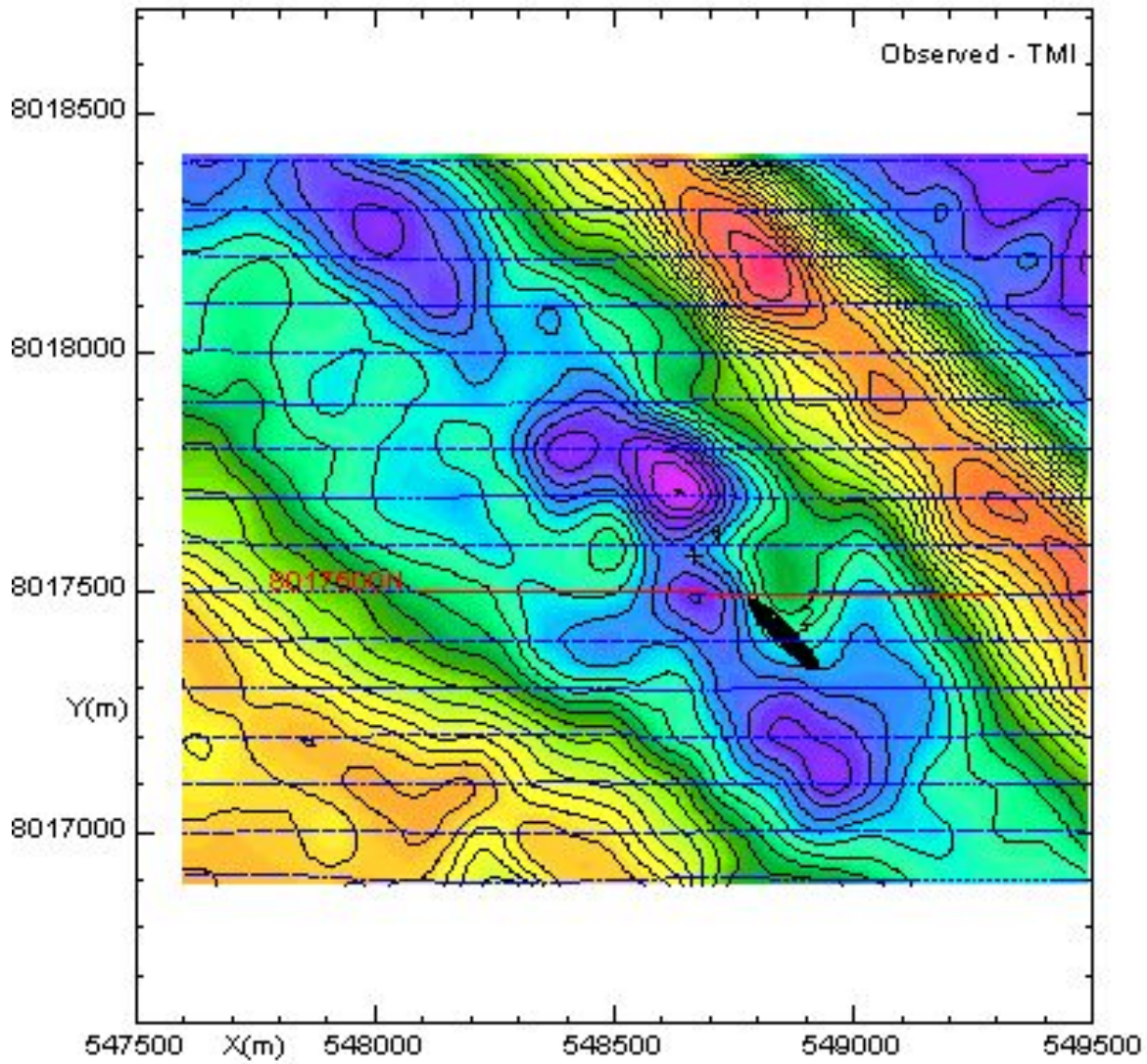
The magnetic data was processed and interpreted by a consultant geophysicist and reviewed to target potential kimberlite occurrences and to identify other significant geological structures.

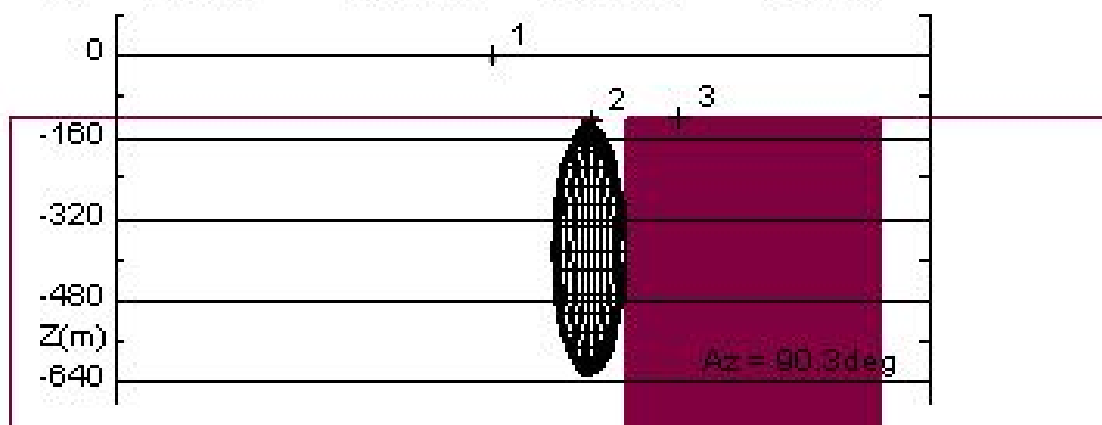
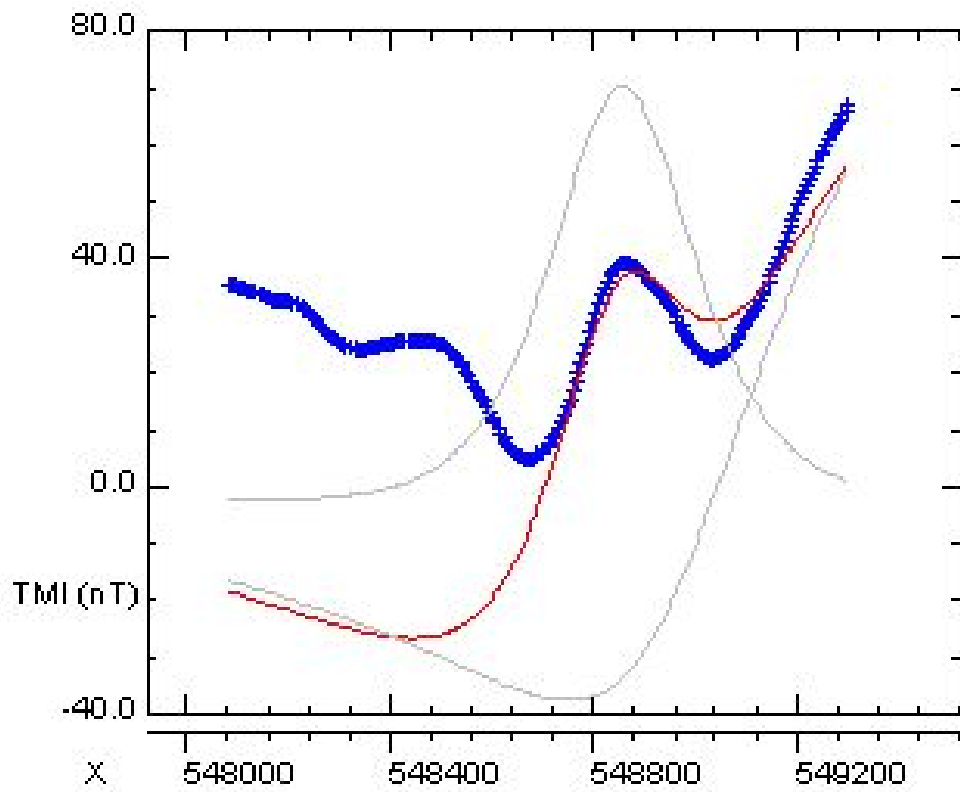
In 2014 two (2) dipole targets selected by ACCCGE were modelled.

## 5 GEOPHYSICAL INVERSION MODELLING RESULTS

In 2014 two (2) dipole targets selected by ACCCGE were modelled. The results and interpretations are below.

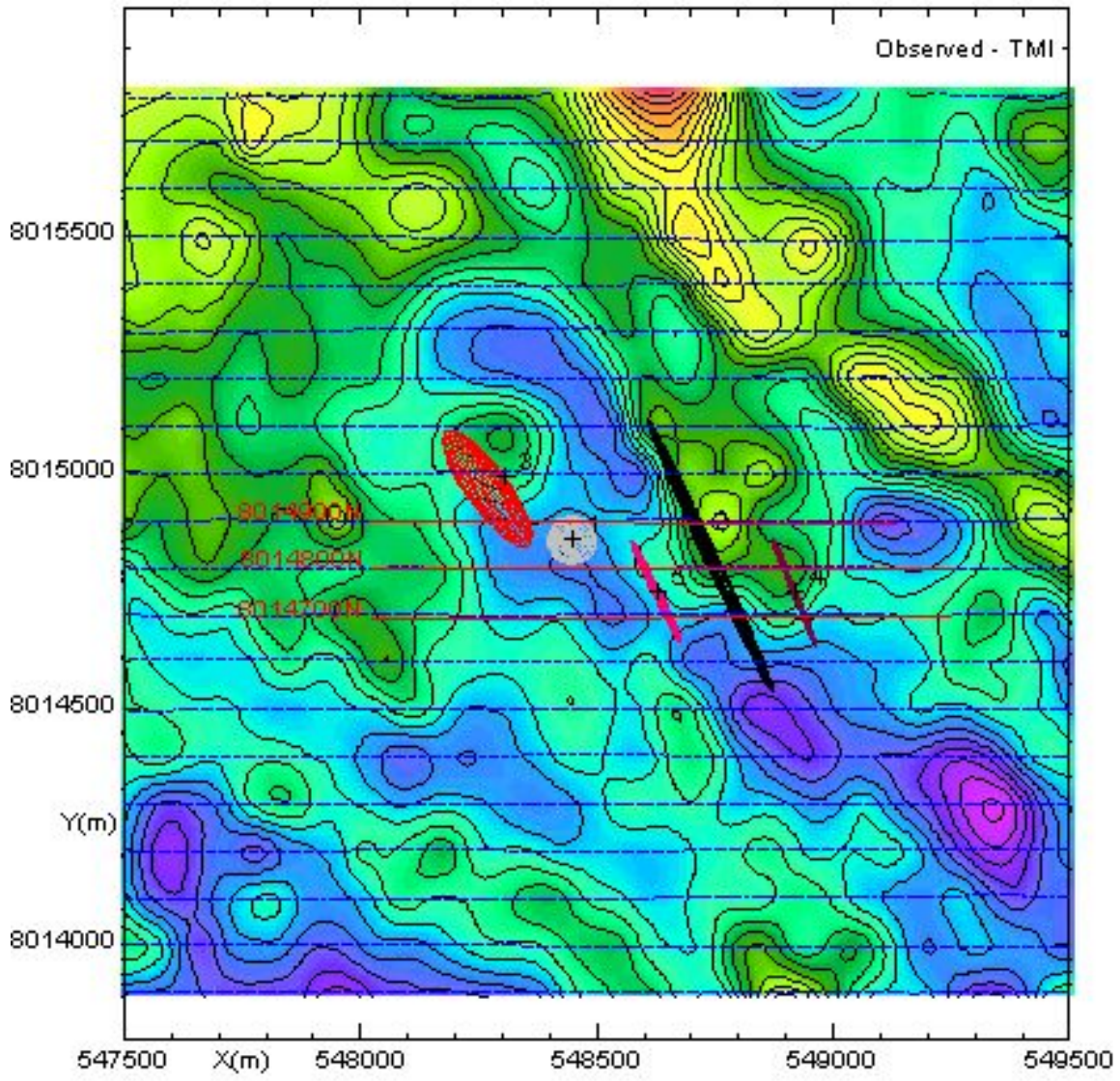
### ACCCG8

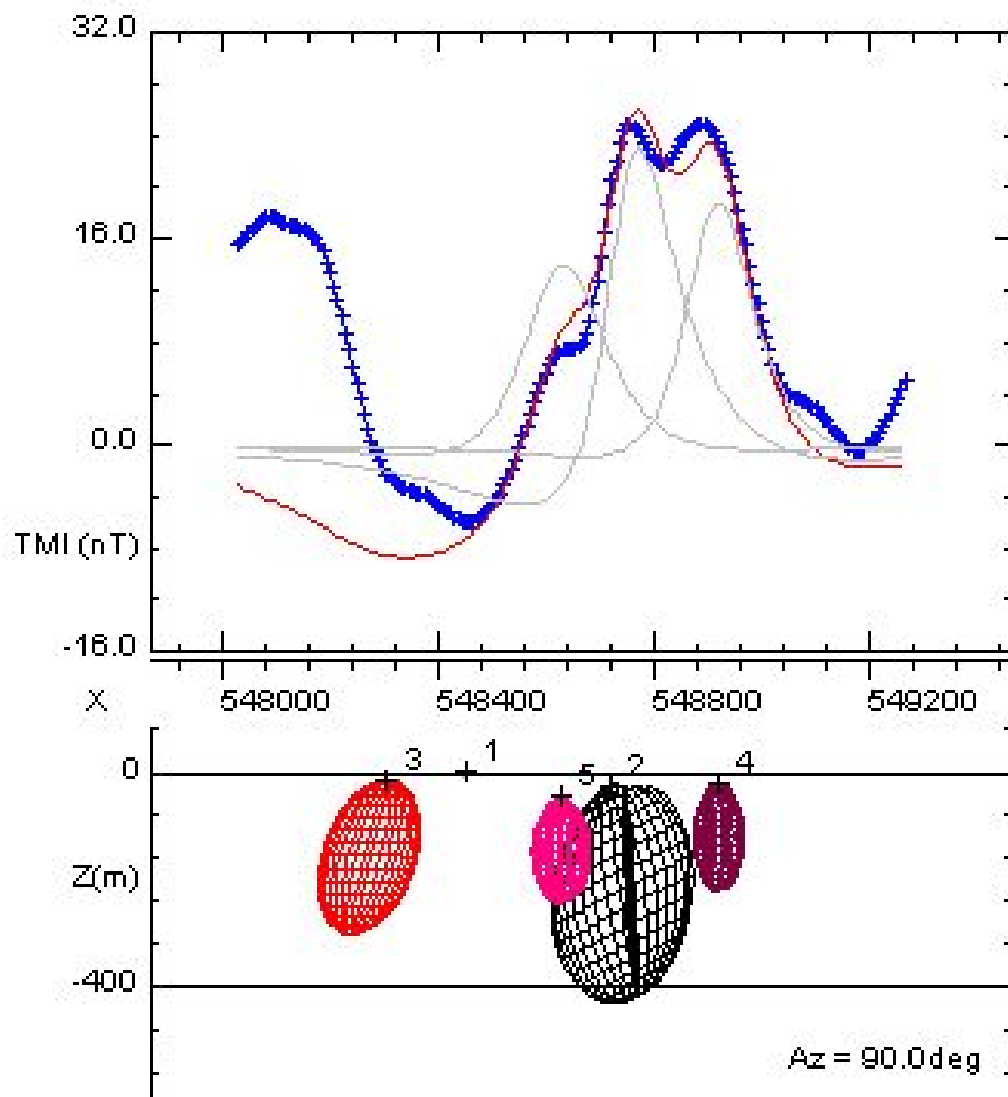






ACCG11





## 6 INTERPRETATIONS

### ACCCGE8

The strong NW-SE magnetic unit to the NE has been modelled with a thick dyke-like feature. The small anomaly adjacent to the target has been modelled by an ellipsoid with a depth to top of 130m. Model details can be seen on the DXF when it is plotted.

The line shown does not actually pass over the interpreted body, as you can see in the mag map, but the body has been projected onto this profile line.

### ACCCG11

The body is solid when it is in the plane of the profile line, but speckled when the body is projected onto the profile line.

## 7 CONCLUSIONS AND RECOMMENDATIONS

Due to technical impost this has resulted in the relinquishment of 22 blocks in EL 25085.

The recent geophysical modelling of selected dipole targets has refined Daylight Jack's exploration focus. Both models are very interesting. There could be possibly something of significance in the south-eastern areas of both models.

## 8 COPYRIGHT STATEMENT

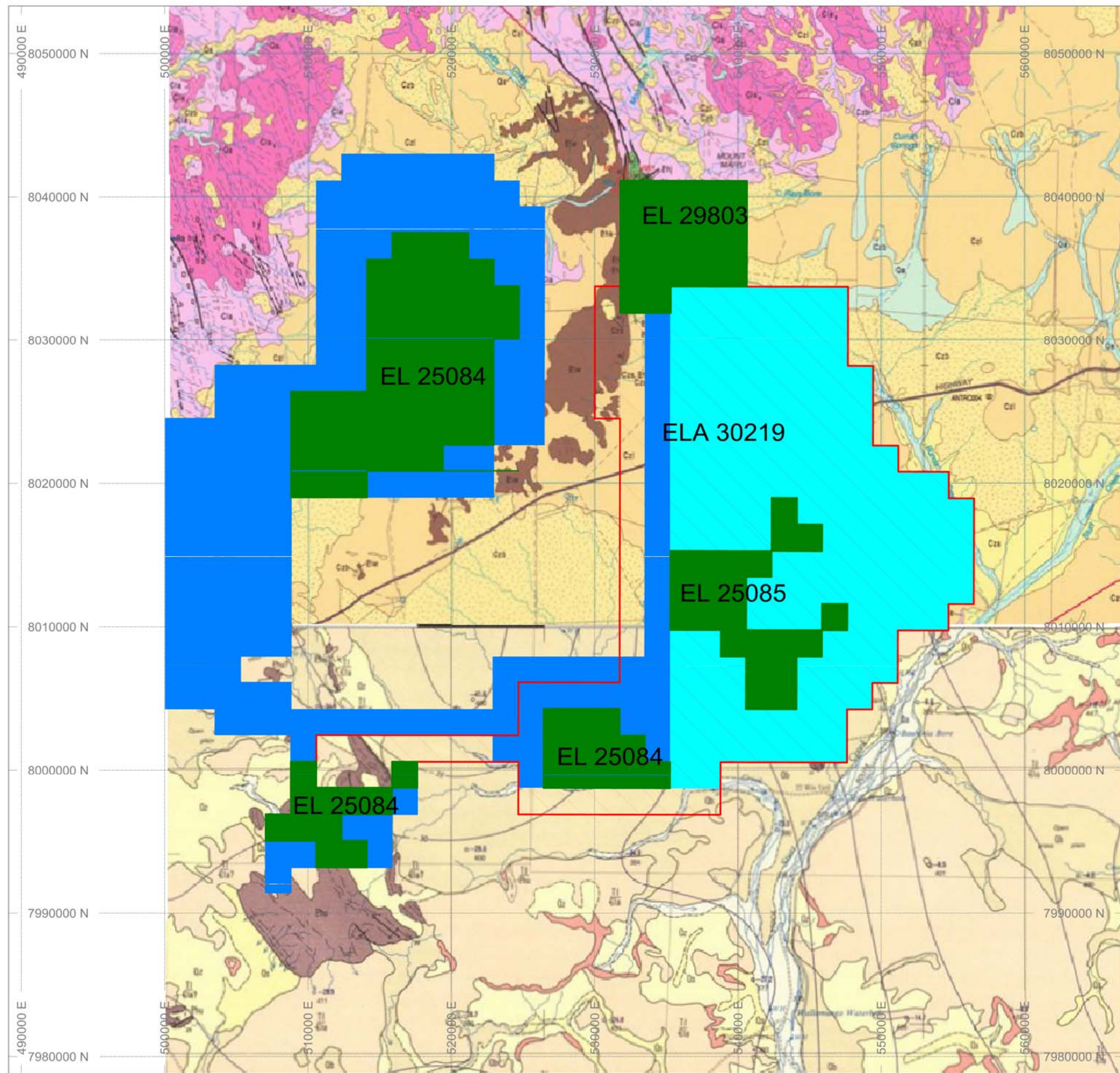
This document and its content are the copyright of *Daylight Jack Minerals Pty Ltd*. The document has been written for submission to the Northern Territory Department of Mines and Energy as part of the tenement reporting requirements as per the Mineral Titles Act (NT). Any information included in the report that originates from historical reports or other sources is listed in the "References" section at the end of the document. All relevant authorisations and consents have been obtained.

*Daylight Jack Minerals Pty Ltd* authorises the department to copy and distribute the report and associated data.

## **Appendix 1**

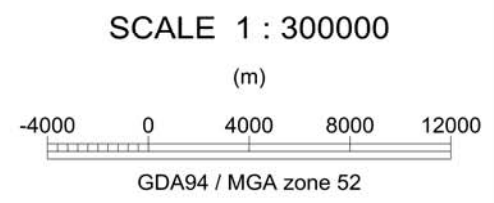
### **Figures**





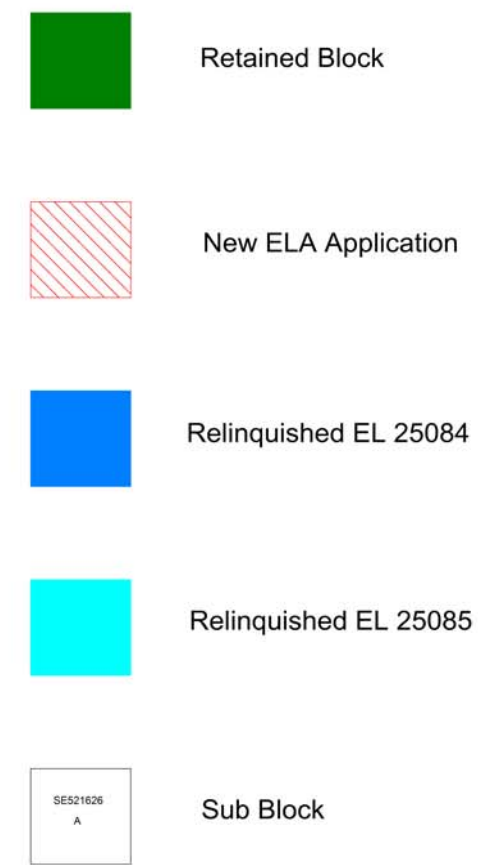
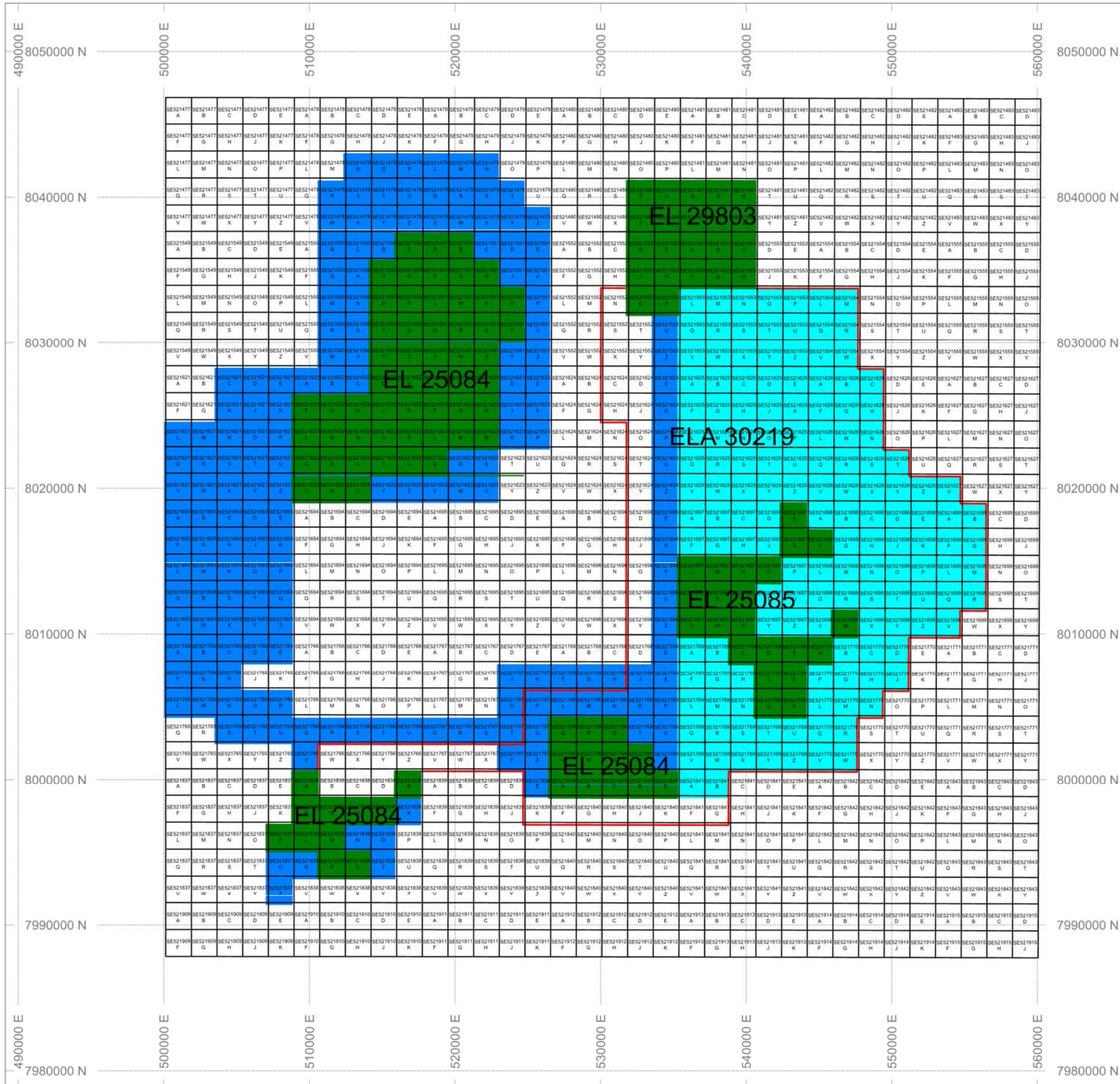
- Retained Block
- New ELA Application
- Relinquished EL 25084
- Relinquished EL 25085

**PLAN SPECS:**  
 REF. PT. E, N 528000 m 8016000 m  
 EXTENTS 77820 m 74550 m

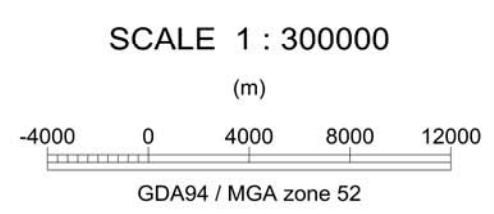


**Figure 1**  
**EL 25084 & EL 25085**  
 Project Location Map



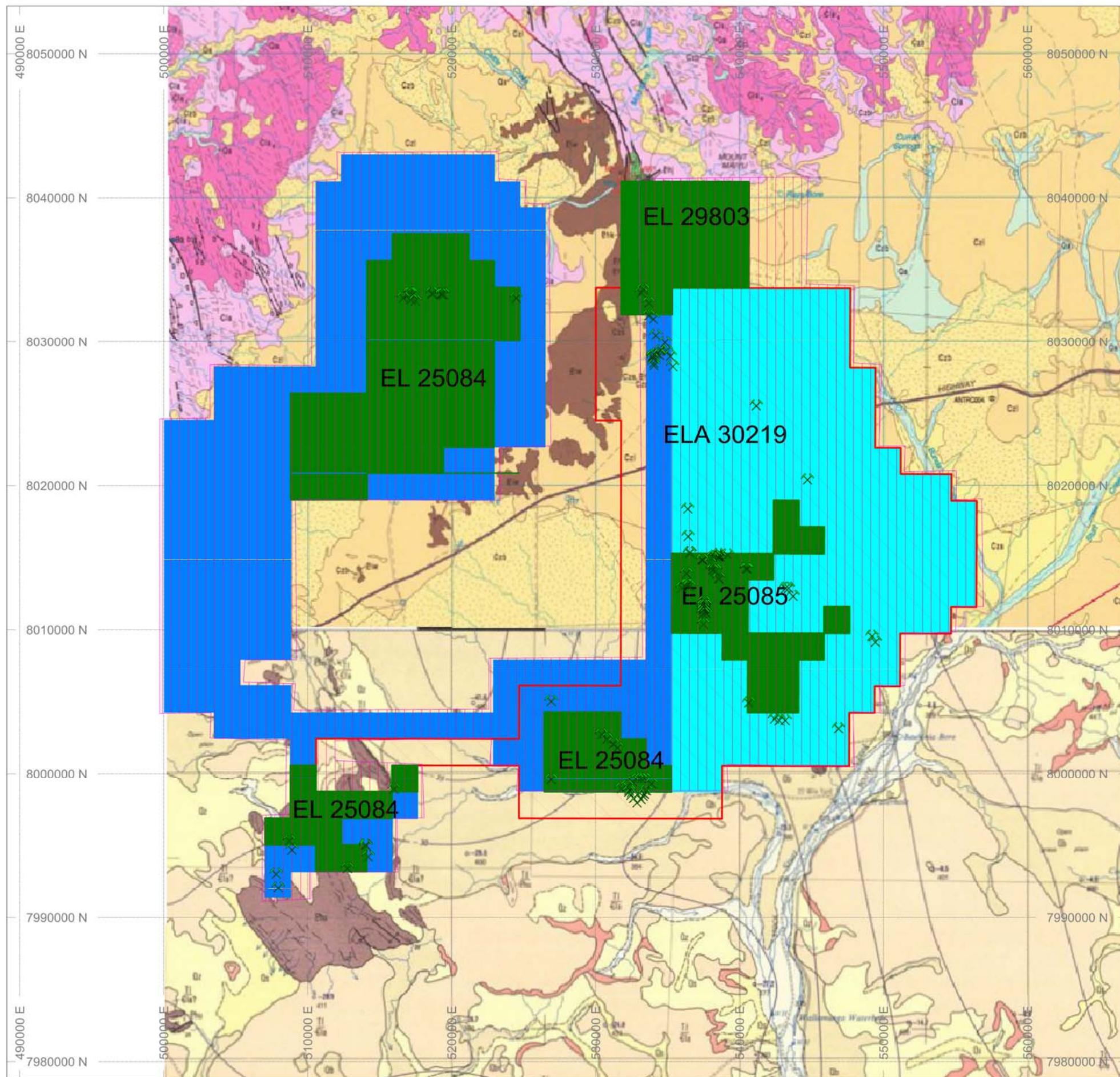








**PLAN SPECS:**  
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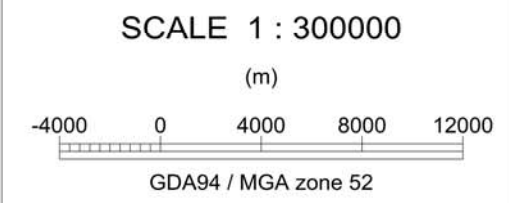
**Figure 2**  
**EL 25084 & EL 25085**  
**Relinquishment Map 2014**





-  Aero-Magnetic Coverage  
50m Spacing N-S Line Direction
-  Geochem Sample Location  
see Table 1 for Names
-  Retained Block
-  New ELA Application
-  Relinquished EL 25084
-  Relinquished EL 25085

**PLAN SPECS:**  
 REF. PT. E, N 528000 m 8016000 m  
 EXTENTS 77820 m 74550 m



**Figure 3**  
**EL 25084 & EL 25085**  
 Exploration Index Map

## **Appendix 2**

### **Tables**



Lease	Sample ID	Latitude	Longitude
EL 25085	WP0001 BUNDA CRK FENCELINE	-18.0055	129.46705
EL 25085	WP0002 BUNDA CRK	-18.0019	129.46475
EL 25085	WP0003 STH OF DUMP	-17.987	129.35521
EL 25085	WP0004	-17.8329	129.33375
EL 25085	WP0005	-17.8266	129.33215
EL 25085	WP0006	-17.8282	129.32094
EL 25085	WP0007	-17.8308	129.32132
EL 25085	WP0008	-17.8323	129.32143
EL 25085	WP0009	-17.8266	129.32038
EL 25085	WP0010	-17.8259	129.32499
EL 25085	WP0011	-17.8134	129.32261
EL 25085	WP0011 SILT	-17.7866	129.31303
EL 25085	WP0012 (S12)	-17.7846	129.31424
EL 25085	WP0023 (S23)	-17.8574	129.38857
EL 25085	MBLL (MBLC)	-17.8178	129.32871
EL 25085	B3250	-17.9807	129.35473
EL 25085	B3251	-17.9851	129.35455
EL 25085	B3252	-17.985	129.35469
EL 25085	B3253	-17.9847	129.35426
EL 25085	B3254	-17.9946	129.35423
EL 25085	B3255	-17.9842	129.35412
EL 25085	B3256	-17.9839	129.35371
EL 25085	B3257	-17.983	129.35411
EL 25085	B3258	-17.9823	129.75494
EL 25085	B3259	-17.9829	129.35564
EL 25085	B3260	-17.9523	129.36391
EL 25085	B3261	-17.9522	129.36407
EL 25085	B3262	-17.952	129.36386
EL 25085	B3263	-17.9518	129.36387
EL 25085	B3264	-17.9514	129.36429
EL 25085	B3265	-17.9512	129.36416
EL 25085	B3266	-17.9507	129.36401
EL 25085	B3267	-17.9523	129.36481
EL 25085	B3268	-17.9523	129.36232
EL 25085	B3269	-17.9518	129.3612
EL 25085	B3270	-17.9528	129.35993
EL 25085	B3271	-17.9664	129.3645
EL 25085	B3272	-17.9659	129.36416
EL 25085	B3273	-17.9618	129.36178
EL 25085	B3274	-17.9613	129.36187
EL 25085	B3275	-17.9608	129.36179
EL 25085	B3276	-17.9607	129.36014
EL 25085	B3277	-17.9566	129.35844
EL 25085	B3278	-17.9566	129.35844
EL 25085	B3279	-17.9541	129.35334
EL 25085	B3280	-17.9541	129.35334
EL 25085	B3281	-17.9541	129.35334
EL 25085	B3282	-17.9541	129.35334

EL 25085	B3283	-17.9546	129.35367
EL 25085	B3284	-17.9541	129.35332
EL 25085	B3285	-17.9223	129.34379
EL 25085	B3286	-17.9394	129.34405
EL 25085	B3287B	-17.9495	129.34534
EL 25085	B3288	-17.9497	129.345
EL 25085	B3289	-17.9498	129.345
EL 25085	B3290	-17.9498	129.345
EL 25085	B3291	-17.9498	129.345
EL 25085	B3292	-17.9498	129.345
EL 25085	B3293	-17.9498	129.345
EL 25085	B3294	-17.9498	129.345
EL 25085	S301	-17.972	129.34
EL 25085	S302	-17.97	129.343
EL 25085	S303	-17.963	129.343
EL 25085	S304	-17.97	129.344
EL 25085	S305	-17.971	129.345
EL 25085	S306	-17.986	129.354
EL 25085	S307	-17.987	129.355
EL 25085	S308	-17.988	129.356
EL 25085	S309	-17.987	129.355
EL 25085	S310	-17.987	129.355
EL 25085	S311	-17.988	129.354
EL 25085	S312	-17.96	129.383
EL 25085	S313	-17.951	129.37
EL 25085	S314	-17.96	129.382
EL 25085	S315	-17.977	129.413
EL 25085	S316	-17.972	129.41
EL 25085	S317	-17.972	129.408
EL 25085	S328	-18.06	129.443
EL 25085	S329	-18.055	129.408
EL 25085	S330	-18.055	129.404
EL 25085	S331	-18.054	129.401
EL 25085	S332	-18.044	129.384

**Table 1** Geochem Sampling Locations