



Eclipse Uranium Project
Final Surrender Report EL24636

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Contents Page

Contents

1. Introduction
2. Location, Access and Tenure
3. Regional Geology
4. Project Geology
5. Previous Exploration
6. Work Completed
7. Conclusions and Recommendations
8. Expenditure

References.

Figures.

- Figure 1. Regional geology of the Eclipse Uranium project.
- Figure 2. Regional Radiometric profile of the Eclipse Uranium project
- Figure 3. Eclipse Project Drill Collar Locations.
- Figure 4. Drill collar positions and Uranium Intersections
- Figure 5. Area covered by 2007 Radiometric, Magnetic and Electromagnetic Surveys.

Tables.

- Table 1. Eclipse Project Tenement Details
- Table 2. EL 24636 Expenditure Details

Appendices.

1. Drilling Collar File EL24636_NTSL1_COLL2009F.txt
2. Drilling Geological File EL24636_NTDL1_GEO2009F.txt
3. Drilling Assay File EL24636_NTDG1_ASS2009F.txt
4. Lithology File Scimitar Lithology Codes.pdf
5. Fugro - Tempest Airborne EM Geophysical Survey Data
6. Gamma and Calliper Downhole logging

Summary

This final surrender report details the exploration activities carried out over Cauldron Energy Ltd. (Formerly Scimitar Resources Ltd.) exploration licence, EL 24636, during the period 9th December 2005 to 8th December 2009. This work included research, data base compilation, field reconnaissance, airborne geophysical surveying and Aircore drilling within EL 24636.

The Aircore drilling program conducted at the Lake Lewis South prospect during early December 2006 comprised 50 holes (ECAC069 to ECAC100 and ECAC166 to ECAC183), targeting near surface calcrete hosted uranium mineralisation, similar to the adjacent New Well uranium deposit, held by Deep Yellow Ltd.

The initial phase of the drilling program returned generally low uranium values from three metre composite sampling. Subsequent Geophysical surveys indicated more prospective targets on other leases within the Eclipse project area.

1. Introduction

Cauldron Energy's Eclipse Uranium Project covers parts of the Ngalia Basin and Arunta Block granites, which are prospective for uranium mineralisation. The relinquished tenement EL 24636 lies south of a number of active stream systems that drain uranium enriched granites.

Interpretation of airborne radiometric imagery indicates that these drainages are depositing uranium within their channels and around the margins of Lake Lewis. The New Well uranium deposit is located on one of these drainages in ground adjacent to and downstream of Cauldron's licences.

2. Location, Access and Tenure.

Tenement EL 24636 of the Eclipse Uranium Project is located 200 km northwest of Alice Springs and lies astride the Tanami Hwy on the Napperby and Narwietooma Pastoral Leases. The exploration licence covers 625 km² and was granted in December 2005 and relinquished in December 2009.

Table 1. Eclipse Project Tenement Details.

Licence	Holder	Date Granted	Expiry Date	Area km ²	Minimum Expenditure
EL 24636	Scimitar Resources Ltd 100%	08/12/2005	07/12/2011	625	\$130,000

3. Regional Geology.

The Eclipse project covers the southern part of the Ngalia Basin and parts of the surrounding Arunta Block. The Ngalia Basin is a large 300 km long by 70 km wide east west trending intra-cratonic basin, which contains up to 5000 metres of late Proterozoic to Carboniferous fluvial and marine sediments. These sediments were derived from the surrounding uranium enriched early to mid Proterozoic granites and metamorphic rocks of the Arunta Block.

The Ngalia Basin developed around 900mya and comprises a succession of basal late Proterozoic continental and possibly marine sediments overlain by continental fluvio-glacial sediments. Later sedimentation during the Cambrian and Ordovician resulted in epicontinental sediments including carbonates. Uplift during the Alice Springs Orogeny resulted in the deposition of Devonian to Carboniferous fluvial sediments. Subsequent deformation of the basin has resulted in folding and faulting, with major thrust faults, strong folding and over turning of lithology along the northern margin of the basin. Deformation in the south is less intense with only gentle folding along the southern margin. (Freeman et al 1990)

The Arunta Block is composed of metamorphic basement lithology's, which have been intruded by later granites. Three areas are recognised within the Arunta Block, The northern, central and southern provinces. The Ngalia basin sits between the northern and central provinces. Formation of the Arunta Craton is divided into three stages. The earliest phase (2000mya) comprises mafic, felsic and aluminous granulite and calc-silicate rocks of the Strangways Metamorphic Complex, which comprises most of the Central Province. The second phase of formation is dominant in the northern and southern provinces and comprises aluminous and silicious sediments with a few mafic flows and sills. The third phase is less extensive and is found as ortho-quartzite outliers scattered around the northern and southern provinces. (Shaw 1990)

The Arunta Block underwent deformation and metamorphism during the Proterozoic, including the intrusion of granites, some of which are highly uriferous, particularly those from around 1750mya. During the late Devonian and early Carboniferous the Arunta Block was extensively disrupted by thrust faulting, particularly along the boundary between the northern and central provinces. (Shaw 1990)

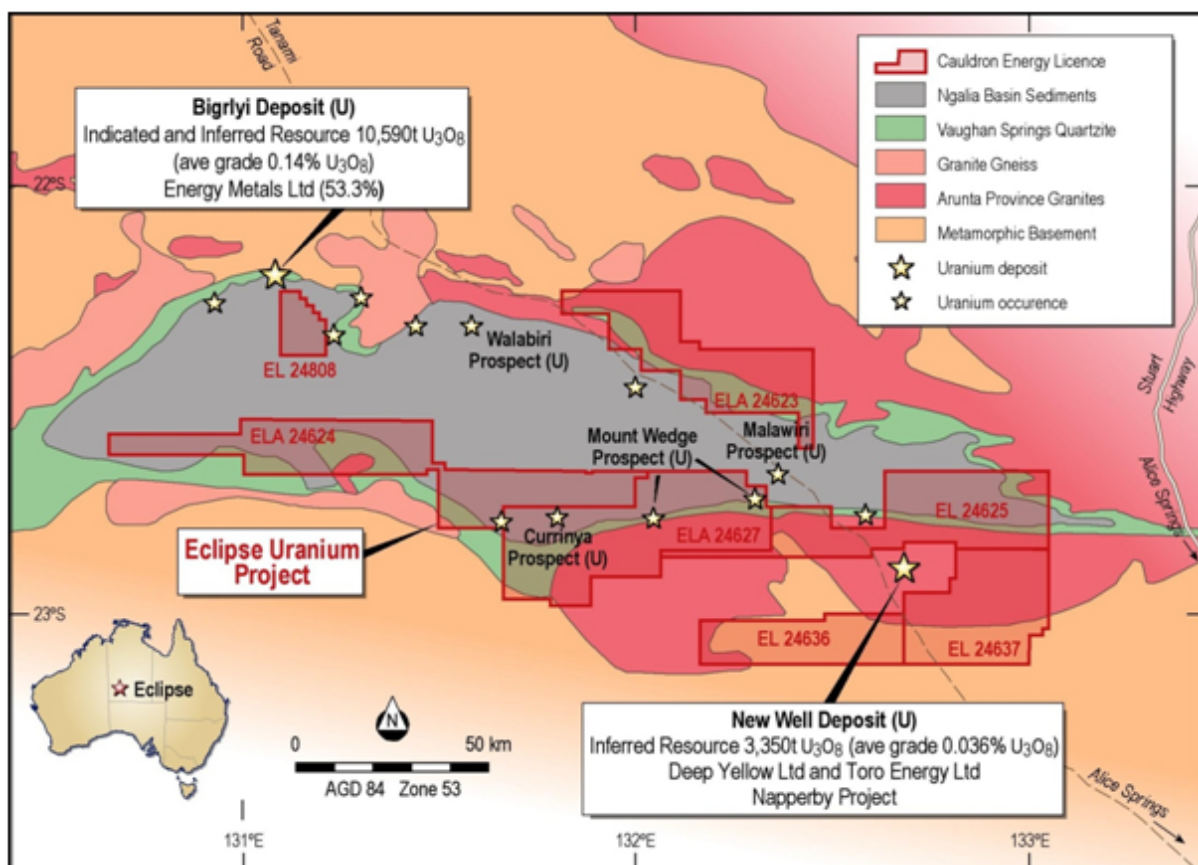


Figure 1: Regional geology of the Eclipse Uranium project.

4. Project Geology.

The project area is typified by flat sandy plains overlying granites of the Arunta Block. Sandy and calcrete soils are found extensively within the Ngalia basin to the North and overlying the Arunta Block of the tenement area. A number of isolated granite hills emerge from the plain within the project area, especially in the east where granite hills, including Mount Harris, appear to flank a buried salt lake. The vegetation in the area consists of acacia scrubland associated with grasslands and minimally modified pastures in places. Taller eucalypts are present within and along the main drainage systems.

EL 24636 is located to the south of the Lake Lewis salt lake. This lake is fed by two large ephemeral creek systems, the Napperby and Day Creeks, which drain uranium enriched granites along the northern boundary of the Ngalia Basin. A number of smaller less continuous drainages feed the lake along its western margin.

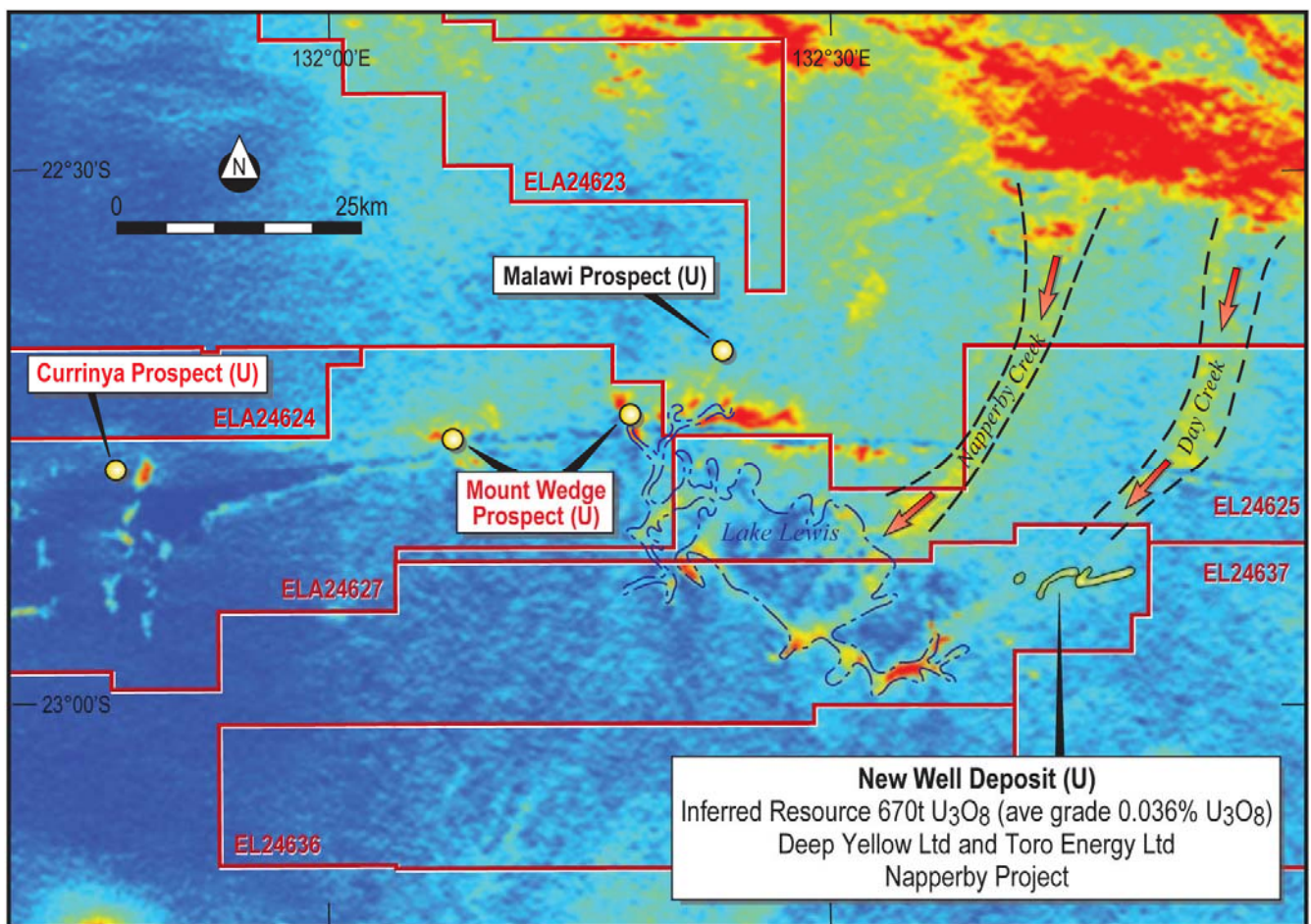


Figure 2: Regional Radiometric profile of the Eclipse Uranium project.

5. Previous Exploration.

Little to no historical ground exploration was carried out within Cauldron Energy's EL 24636. Historical work conducted during the 1970's and 1980's involved broadly spaced drilling to the North of the licence targeting sandstone and calcrete hosted uranium mineralisation within the Ngalia basin and overlying the granites of the Arunta Block.

In 1973, CRA Exploration Ltd. (CRAE) undertook exploration to the north east around Mount Harris. A program of mapping and sampling over the outcropping granites indicated that they were uraniferous and hence potential source rocks for secondary uranium mineralisation. Sampling returned values up to 40ppm uranium from the granites. Mapping of the surrounding plains failed to locate any suitable sediments or calcrete likely to host secondary uranium mineralisation. (Hughes 1973)

During 1981 Alcoa Australia Ltd. (Alcoa) held a large exploration licence covering the southern parts of EL 24636 and 24637. The company was targeting sandstone and calcrete hosted uranium within calcrete and tertiary sands of the Narwietooma Basin, which overlies the granites of the Arunta Block. Eleven mud rotary holes (NA001-NA011) were completed for 1,555m within and to the south of EL 24636 and 24637.

Drilling intersected thick sequences of oxidised tertiary sediments, clays, sandy clays and minor unconsolidated sand units. This suggested that oxidising fluids had moved through all the permeable beds in the area, diminishing the prospect of locating uranium mineralisation. All holes were gamma probed and a number of sections were assayed for uranium. The highest result was 2m @ 7ppm uranium from hole NA011. (Howard 1981)

The most detailed and successful exploration within the immediate project area was carried out by Uranerz at the New Well uranium prospect, adjacent to Cauldrons licences. Shallow auger drilling conducted during the 1970's identified a mineralised near surface palaeo drainage system over 20 km long and up to 4km wide that drains into Lake Lewis along the Day creek. An economic scoping study on the New Well prospect, indicated that it could contain up to 6000 tonnes of U₃O₈, based on a grade range of 360-380ppm U₃O₈. This prospect is in the drainage adjacent to Cauldrons licences and is currently the focus of drilling, resource definition and Scoping Studies by Toro Energy Ltd, who are earning into the project, which is owned by Deep Yellow Ltd.

6. Work Completed

Exploration of EL 24636 was undertaken as part of field investigations on the Eclipse project by Cauldron Energy. The work included a number of reconnaissance field trips, a trial Tempest EM survey, an airborne Radiometric/Magnetic survey and Aircore drilling programmes.

Office studies included acquisition of historical reports and associated data. Collation and reinterpretation of historical data has continued throughout the year and compiled within a project database. The company has completed a Radiation Management Plan, Environmental Management Plan and Mining Management Plan for the Eclipse project.

Investigation of open file reports and the available geophysical data and imagery identified a number of target areas that are prospective for calcrete hosted uranium mineralisation, similar to that at the adjacent New Well uranium deposit. The Day and Napperby Creeks drain uranium enriched granites from the northern margin of the Ngalia Basin. Airborne radiometric data indicates that uranium enriched material is present in these drainages and is depositing around the margins of Lake Lewis and at trap sites along the drainage system.

Interpretation of Landsat TM imagery indicates that these two drainages debouche into Lake Lewis and also into areas formerly covered by salt lakes to the east, below Mount Harris. This indicates that the present Lake Lewis has migrated over time and was probably rather more extensive than its present location suggests. This interpretation provides further potential mineralisation sites for Cauldron in areas overlooked by previous workers and is backed up by geological information from recent drilling.

Work completed by the company included an initial Aircore drilling program, during early December 2006, comprising two holes for 25m (ECAC005 and 006). Hard ground conditions were encountered within the calcrete horizons in EL 24636 and drilling was abandoned. A more successful follow up programme was undertaken during November and December 2007. A total of 50 Aircore holes (ECAC069 to ECAC100 and ECAC166 to ECAC183) for 2,757m were completed, targeting calcrete hosted uranium mineralisation at the Lake Lewis South prospect. (Figure 3.) (Appendix 1, 2 & 3)

The drilling intersected a general stratigraphy comprising

- Red brown sandy silty soil (thickness 1-10m)
- Calcrete (acid fizz). Grey or cream in colour, closely resembling the calcrete gravel and cobbles found on the surface. (thickness 2-12m)
- Silcrete. Resin-like and with conchoidal fracture. The silcrete is nearly always present within the calcrete layer, but ranges greatly in thickness and development.
- Partly silicified light brown or grey green silty clay (thickness 2-8m)
- In some holes, silt, sand and clay beds with multiple lithologies (for the coarser sands) were present. These are interpreted to represent a wandering river channel. (thickness 4-6m)
- Brown clay with grey to green mottling. Although this thick clay sequence is quite consistent, there are changes in the proportion of brown and green mottling. Such changes are often on the scale of 3-8m with one color dominant, then the other. (thickness 20-40m)

- Silt, sand and clay sequence. This unit varies between the holes. It consists predominantly of 1 or more silt beds up to several metres thick, usually separated by brown clays that are identical to the overlying beds. Well-sorted fine to medium sand beds occur in some, but not all, holes. Sands have multiple lithologies including granite, qz and FeOx. Calcrete paleosurfaces are also present in some holes, developed on top of the silt or the underlying gypsum-halite beds. The sequence is interpreted as deposits from a wandering river channel system with clay deposited during periods of low energy. (thickness 4-9m)
- Evaporite sequence. This consists of an upper 1-4m thick layer of medium to large gypsum crystals (c-axes to 3cm) overlying dark greenish black clay. Highly saline water infiltrates the holes when these beds are encountered, so halite is almost certainly present with the gypsum. In some holes the dark greenish black clay is interbedded with the gypsum-halite. The unit clearly represents a palaeo-salt lake that was subsequently buried by the channel deposits and clay.

Results from this second phase of drilling returned some encouraging uranium values. At the Lake Lewis South Prospect, elevated uranium results were found at depths of 69-75m associated with a buried evaporate sequence interpreted to be a buried salt lake. The best result from Lake Lewis South was 40 ppm U from 69-72m from drill hole ECAC 173. (Figure 4)

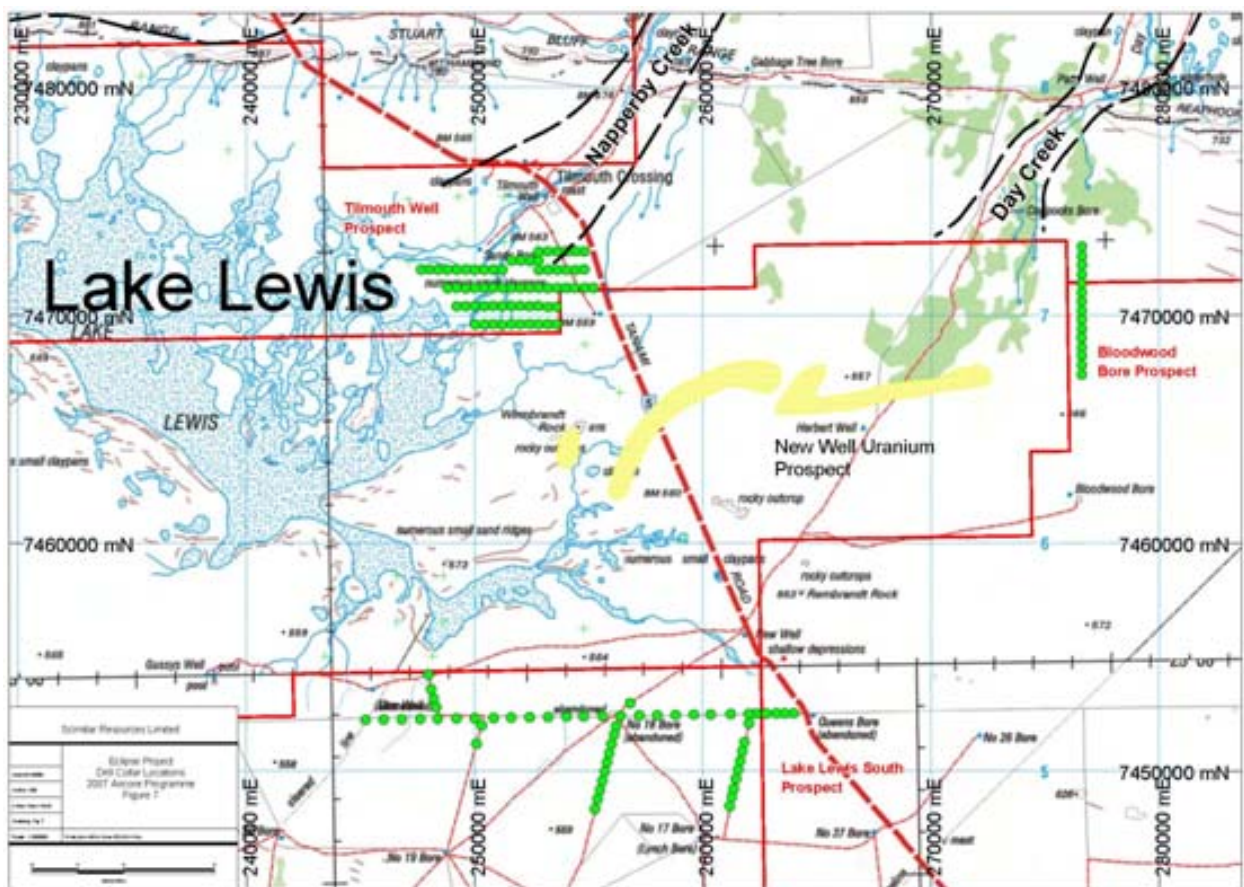


Figure 3: Eclipse Project Drill Collar Locations

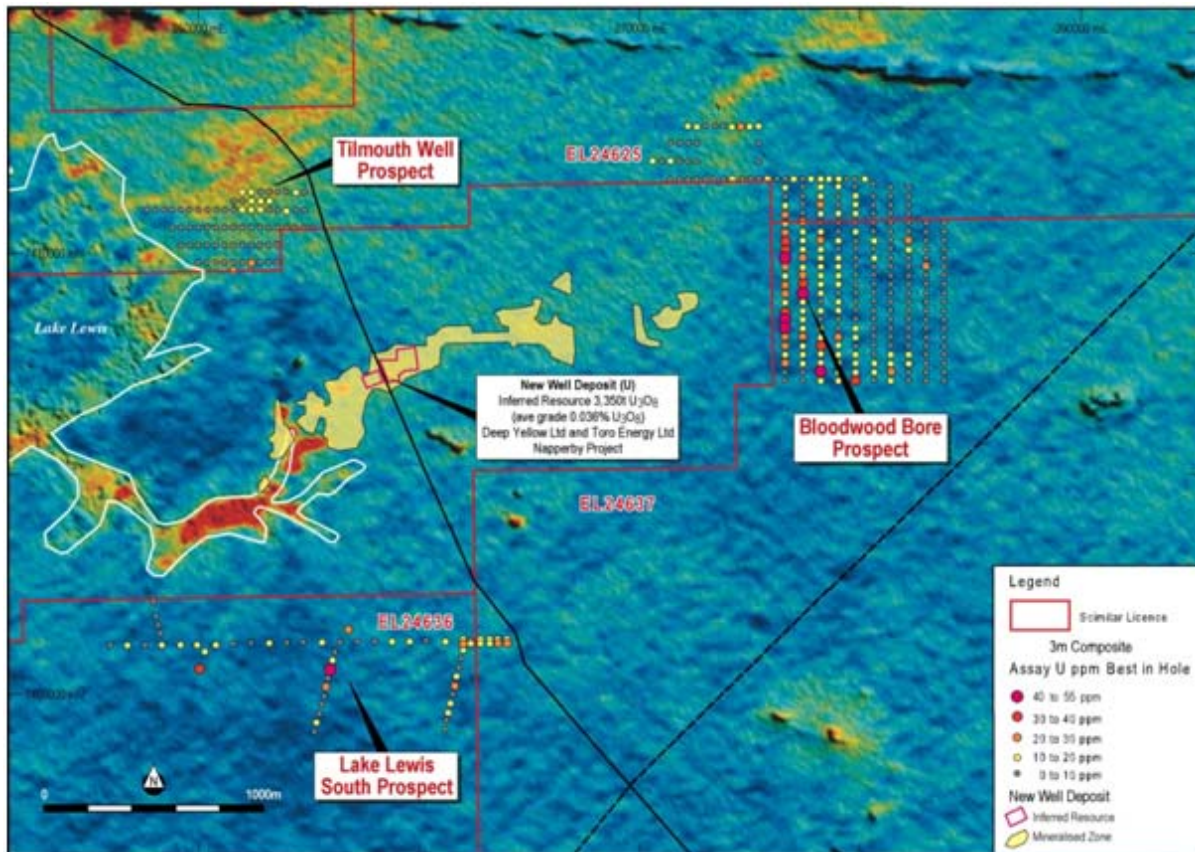


Figure 4: Drill collar positions and Uranium Intersections.

The drilling was completed by Pine Creek based Johannsen Drilling P/L, with a Gemco H13 rig mounted on an Isuzu 4 x 4 truck utilising both an onboard compressor and occasionally a separate truck mounted compressor.

Holes were drilled using a 4 inch open face coring bit. In areas where hard calcrete or silcrete was encountered near the surface, the first 6-12m was drilled using reverse circulation (RC) before switching back to Aircore. The average hole depth was approximately 38 metres, although a few holes were drilled deeper (up to 78 metres) to intersect basement. The holes were collared using 1-2 metres of PVC pipe, which was removed at the completion of each hole. All holes were immediately capped below ground using plastic cone plugs, in accordance with Northern Territory Guidelines. Spoil from the drill collar and outside return was returned to the drill hole before capping. Drill hole collar co-ordinates were recorded using a Garmin 12XL GPS which has a horizontal accuracy of ± 5 metres.

Drill cuttings were collected, via a rig mounted cyclone, into green plastic mining bags. Sample was collected over one metre intervals and laid out sequentially at the drill site. A total of 930 three metre composite samples (ECC 014-028, ECC 528-1069 and ECC 1601-1979) were collected on EL 24636 using an aluminium sampling scoop to give a sample of approximately 3 kg. The three metre composite samples were collected into individual 10 x 14 inch calico bags. The calico bags were then collected into green plastic mining bags, with five samples per bag. These bags were placed into black plastic No. 10 Nally crates (52 litres) with sealable lids for transport to ALS Laboratories in Alice Springs.

The samples were analysed by ALS. The method included drying and pulverising to 85% passing 75 µm (Method Code PREP121) before being analysed for the full suite of analytes available using multi acid digest with HF, ICPAES and ICPMS finish (Method code ME-MS61). (Appendix 3)

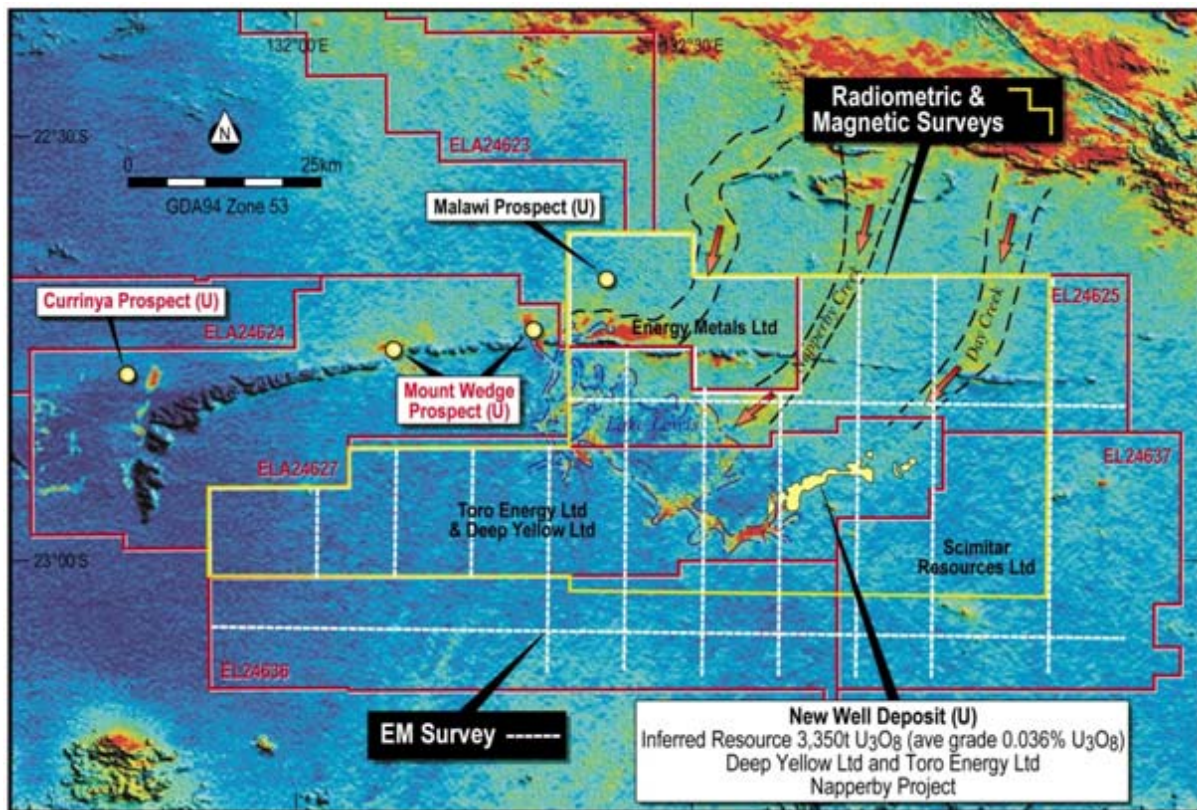


Figure 5: Area covered by 2007 Radiometric, Magnetic and Electromagnetic Surveys.

In July 2007, Fugro Airborne Surveys Pty Ltd undertook a broadly spaced trial airborne TEMPEST electromagnetic survey for Cauldron over part of the Eclipse Project to further define basement topography. This survey was part of a larger survey involving Cauldron's neighbour Toro Energy Ltd. The total coverage for the survey amounted to 550 line kilometres, of which 413 line kilometres was over Cauldron's licences. Interpretation of results from this survey identified a broad and deep channel feature to the south of Lake Lewis as an area for further ground based exploration.

An airborne radiometric/magnetic survey was completed by UTS Geophysics in November 2007 as part of a larger survey conducted in association with neighbouring explorers Toro Energy Ltd and Energy Metals Ltd. The survey on '100m line spacing' comprised 16,939 line kilometres (approx 1,500 km²) over Cauldron's tenements. Only a small part of EL 24636, along the north eastern boundary, was surveyed. (Figure 5.)

Five drill holes, within EL 24636 (ECAC 100, 166-169) were gamma logged by Borehole Wireline Pty Ltd as part of a trial to determine consistency between sample assay results, handheld Spectrometer readings and downhole gamma responses. A calliper tool was also used to measure a continuous downhole diameter to assess the condition of the holes. (Appendix 6)

7. Conclusions and Recommendations

The only drilling activities undertaken on EL24636 were 50 Aircore holes (ECAC069 to ECAC100 and ECAC166 to ECAC183) drilled in late 2006 and 2007. Although no economically viable grades were discovered in these holes, they did serve to confirm the presence of uranium in the region.

With the interpretation of more prospective targets on the periphery of Lake Lewis exploration efforts have since been reallocated resulting in the subsequent relinquishment of EL 24636.

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8. Expenditure

The following is a table of expenditures over the four year period 2006 to 2009. A total of \$324,855 was expended on the licence.

Office Studies				
Literature search	7,385.09		2,328.84	1,433.33
Database compilation	7,454.42	1,026.12	3,052.08	3,948.06
Computer modelling				
Reprocessing of data	985.82	7,523.40		1,620.83
General research	2,000.00	615.89	2,721.47	1,020.83
Report preparation	7,148.07	1,395.38	3,661.46	1,531.26
Other (graphics)		469.12	521.16	448.60
Airborne Exploration Surveys (state line kms)				
Aeromagnetics		6,773.78	1,659.70	
Radiometrics		6,773.78	1,659.70	
Electromagnetics		20,742.09		
Well logging		1,455.00		
Geophysical interpretation				
Petrophysics				
Other (specify)				
Geochemical Surveying and Geochronology				
Drill (cuttings, core, etc.)	216.90		25,888.92	
Drilling (state number of holes & metres)				
Diamond				
Reverse circulation (RC)				
Rotary air blast (RAB)				
Air-core (52 holes for 2,782m)	874.20	96,002.36		
Auger				
Other				
Other Operations				
Geologists & Field Assistants (Field Work)	6,000.00	17,090.46	18,165.82	
Field Consumables	3,266.45	1,877.79	72.92	
Radiation Monitoring & Safety Equipment	2,622.68	1,548.77	1,310.51	
Vehicle Hire	2,993.87	1,405.82	8,382.85	
Accommodation & Messing	4,085.75	6,285.69	8,427.59	
Travel	2,590.53	4,920.71	3,542.92	
Other (freight, comms and field durables)		727.54	5,587.83	64.77
Access and Rehabilitation				
Track maintenance	3,546.33			
Rehabilitation				
Monitoring				
Other (specify)				
SUM	51,170.11	176,633.70	86,983.77	10,067.68

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Appendices

Airborne Geophysical data from the Tempest EM, down hole gamma survey, Drill Collar, Lithology and Assay data have all been Digitally submitted to the NT Department of Resources.