Cameco Australia Pty Ltd

Exploration Licence 327

Stockdale Arnhem Land Project

Final And Relinquishment Report

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SUMMARY

This report details exploration work undertaken on the surrendered Stockdale project covering the retained portion of EL 327, comprised of 118 blocks, during the three years of tenure between 1999 and 2001. The tenement is located within central Arnhem Land and was granted to De Beers Australia Exploration Ltd – (DBAE) on 14 May 1998.

In November 1998, DBAE entered into a farm-in agreement with Cameco Australia Pty Ltd (Cameco) on EL 327.

In April 2001, DBAE announced their withdrawal of exploration from EL 327 due to disappointing results in their search for diamonds and the tenement was transferred to Cameco on 10 October 2001. Cameco relinquished the tenement on 4 December 2001.

Work completed by DBAE prior to their withdrawal has been included as an appendix to this report.

Cameco's prime exploration objective is to determine if particular surface radiometric and other geophysical, geochemical and geological anomalies within the Kombolgie Basin reflect sub-surface unconformity-related U mineralisation within a geological environment similar to deposits in the Athabasca basin of Canada. To achieve this objective, data related to surface rock samples and other observations is systematically collected and reviewed in the content of regional airborne geophysical data. These results are then compared to geological environments in both Australia and overseas known to host U deposits. The goal is to define targets for future diamond drill testing where warranted.

Cameco exploration work undertaken over the period included an airborne geophysical survey, geological mapping and outcrop sampling, and ground follow-up of airborne radiometric anomalies. DBAE conducted diamond exploration work consisting of heavy mineral stream sampling, soil geochemical sampling, and deflation loam sampling.

The conclusion drawn from Cameco and DBAE studies is that this area has a low prospectivity for hosting economic deposits of U, diamonds or base and precious metals, and no further work is warranted.

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INTRODUCTION

This report details exploration work completed by Cameco Australia Pty Ltd (Cameco) within the relinquished blocks of Exploration Licence 327 (EL 327) during the three years of tenure from 14 May 1998 up to the surrender date 4 December 2001. The tenement was initially explored concurrently with four adjoining and proximal tenements EL 328, EL 329, EL 3340 and EL 9969. With the exception of EL 3340, which is currently being explored by De Beers Exploration Australia (DBAE), these adjoining and proximal tenements were relinquished in July 2001.

Location and Access

EL 327 is situated wholly within Aboriginal land in central Arnhem Land approximately 80km north of Bulman. The tenement lies between the Bulman - Maningrida Road and Bulman – Ramingining Road, which traverses approximately 20km to the west, and 25km to the east respectively. No established tracks exist within the tenement, and access to the tenement was by helicopter.

The tenement lies straddling the southern portion of the Milingimbi (SD5302) and northern portion of the Mount Marumba (SD5306) 1:250000 Geological map sheets. Portions of the Cadell (5772), Annie Creek (5771), Blyth River (5872) and Wilton River (5771) 1:100000 Geological map sheets provide more detailed coverage over the tenement.

The exploration program was operated utilising the Cameco Mann River base camp located approximately 110km to the south-west of the tenement, and work was completed using a helicopter to ferry field crew on a daily basis.

EL 327 Project Location Map

Tenure

EL 327 was granted to DBAE under the company name of Stockdale Prospecting Pty Ltd on 14 May 1998 with an original area of 766 square kilometers (238 blocks). 40.6 square kilometers were designated as restricted zones and excluded from exploration access following a site survey undertaken by the Northern Land Council.

EL 327 Tenure Map

Cameco was invited into a farm in agreement during November 1998, with exploration commencing by Cameco in 1999.

EL 327 was reduced by 120 blocks (371 square kilometers) from 238 to 118 blocks (395 square kilometers) in April 2001, with DBAE giving it's intention to Cameco to withdraw from exploration on this tenement. On 10 October 2001, EL 327 was transferred from DBAE to Cameco under the Instrument of Transfer (Registration number D91579) of the Northern Territory Mining Act.

Notice was given to the Northern Territory Department of Mining and Energy (NTDME) on 4 December 2001 of Cameco's intention to relinquish the remaining portions (118 blocks) of EL 327.

Personnel

Two Cameco geologists conducted fieldwork consisting of outcrop sampling and anomaly follow-up sampling and reconnaissance mapping. Aboriginal traditional owners were employed to conduct "on-the-fly" sample site clearances to ensure that samples were not taken within culturally sensitive areas. One or two field technicians processed the outcrop samples at the Cameco base camp.

Physiography

EL 327 consists of weakly dissected sandstone plateau country to north-west merging into gently undulating stony country and into low country consisting of sands, laterite and floodplains of the tributaries of the Blythe River. The underlying Marlgowa Sandstone dominates the landscape forming in places spectacular gorges and small waterfalls through the plateau country, and in other places the sandstone is seen as rubble and small boulders littering gently undulating hills.

Regional Geology

The regional geology covering EL 327 is dominated by Palaeoproterozoic successions of sedimentary rocks comprising the Katherine Subgroup and Katherine River Group, with minor coverage attributed to Cambrian Buckingham Bay Sandstone and Cretaceous Walker Creek Formation. Oenpelli Dolerite is interpreted to intrude the basal portions of the stratigraphy, and is exposed at surface in some areas; the magnetic image is dominated by high amplitude and high frequency response attributable to the dolerite.

EL 327 Project Geology Map

Exploration History

No previous exploration history is recorded for this area. It is believed DBAE, together with Cameco are the first exploration companies to have done work within the area.

DE BEERS EXPLORATION AUSTRALIA LTD EXPLORATION WORK

Diamond exploration on EL 327 was conducted by DBAE from May 1998 until the transfer of the tenement to Cameco in December 2001. The focus of fieldwork consisted of heavy mineral stream sampling, deflation loam sampling, geochemical soil sampling and evaluation of airborne geophysical data. Interpretation of the heavy mineral results concluded that although kimberlitic type indicator chrome spinel grains were present in some samples, it was suggested that were derived from non-kimberlite source rocks. Results of geochemical samples collected over magnetic anomalies does not appear consistent with kimberlite type rocks.

The assessment of results by DBAE suggests that samples collected from EL 327 do not derive from kimberlite type diamond host rocks, and further work was not warranted.

The full DBAE Final Report and data is listed as a separate appendix.

De Beers Australia Exploration – Final Report for EL 327 – Feb 2002

CAMECO AUSTRALIA EXPLORATION WORK

Exploration by Cameco on the Stockdale Arnhem Land project occurred during the 1999 to 2001 dry seasons. An initial airborne radiometric and magnetic survey was flown during 1999 with anomaly identification, ground follow-up sampling and regional outcrop sampling carried out during 2000. In 2001, further outcrop sampling over anomalous areas defined by previous sampling was completed.

All digital data has been submitted on CD with this report. Data over culturally sensitive "nogo" zones have been excised from figures and data in accordance with requests by Traditional Owners.

1999 Airborne Geophysics

During August 1999 Universal Tracking System Pty. Ltd. (http://www.uts.com.au/) was commissioned to undertake an airborne magnetic, radiometric and digital terrain model (DTM) survey totalling 6505 line km's. The survey was conducted using 200m north south lines flown at a flight height of 60m.

The whole original airborne geophysical survey has been submitted on CD with this report including data over parts of EL 327 relinquished previously in 2001.

Geophysical Location Plan

The magnetics is dominated by Oenpelli Dolerite, which is present through the centre of EL327 and manifested as high amplitude high frequency sill-like response. High frequency magnetics to the south-east may represent mafic igneous rocks intruding upper sandstone units of the Katherine River Group. The dominant direction of magnetic structures is 045^{o} and appears dominantly negative polarised.

Radiometrics over EL 327 show low total counts over the Katherine River Group sandstone, with high counts (in all radioelements) over Quaternary Cover (Cz*), Cretaceous Walker Creek Formation (Kw) and to a lesser degree the Neoproterozoic Wessel Group rocks.

Airborne Survey Specifications Summary

Airborne Logistics Report by UTS

Airborne Magnetic Image

Airborne Radiometric Image – Total Counts

Airborne Radiometric Image – Potassium

Airborne Radiometric Image – Uranium

Airborne Radiometric Image – Thorium

Airborne DTM Image

2000 Cameco Australia Exploration Program

Exploration during 2000 on EL 327 was carried out in conjunction with EL's 328, 329, 3340 and 9969. The number of samples collected from tenements other than EL 327 is minimal, and so the data is included wherever applicable. The following table shows a summary of the exploration activities carried out during 2000.

Summary Table of 2000 Cameco Exploration Activities

Activity	Duration	Amount	Number of Samples
Anomaly Follow-up Outcrop Sampling	5 days	52 anomalies investigated	77 outcrop samples
Regional Outcrop Sampling	2 days	Sampling at 2 km spaced sample sites	45 outcrop sample sites
Helicopter usage	7 days	n/a	
Sample Processing & PIMA Analysis	10 Days	n/a	122 Samples

Cameco Australia Anomaly Identification

Airborne anomaly identification was conducted in-house during June 2000 utilising airborne geophysical results from the 1999 survey. The aim of this work was to identify anomalies for follow-up during the 2000 field program. Anomaly identification was primarily based on the industry standard U^2/Th ratio using gridded data.

Cameco Australia Anomaly Follow up & Regional Outcrop Sampling

During September 2000, Cameco completed a one week program on EL's 327, 328, 329, 3340 and 9969, consisting of airborne radiometric follow up investigation and sampling, and regional outcrop sampling focusing on areas inferred to be underlain by either Marlgowa Sandstone and McKay Formation sediments. The focus on the Katherine River Group sediments resulted in EL 327 receiving more attention than other EL's that were part of the project.

A total of 122 outcrop samples were collected from 97 sample sites; 77 samples were collected from radiometric anomaly investigations. 52 radiometric anomalies were followed up which included anomalies ranked as category one and two and selected anomalies with lower rankings.

45 regional outcrop samples were also collected to form a 2km grid over most of the tenement areas underlain by Marlgowa sandstone. Sample sites were chosen based upon safe helicopter-landing sites proximal to the grid location. Aboriginal traditional owners were present to "on-the-fly" approve and clear sites prior to landing and during the actual sampling process.

Regional outcrop samples were selected to represent regional background signatures for lithological, spectral and geochemical parameters at each location. At all sample sites, geomorphological, geological, radiometric parameters and a digital photograph were recorded. The samples were systematically processed at the Cameco Mann River base

camp. Lithological textures, alteration colours (Munsell), grain-size variations, and petrophysical parameters (magnetic susceptibility) were routinely recorded.

2001 Cameco Australia Exploration Program

Based on results from the 2000 sampling program, Cameco's and the principal holder, DBAE, interest in the eastern tenements was reduced and prior to the field season in 2001, EL's 328, 329, 9969 and portions of EL 327 and EL 3340 were relinquished by DBAE and Cameco. DBAE retained a portion of EL 3340, with Cameco relinquishing interest in this tenement.

The following table shows a summary of the exploration activities carried out during 2001.

Summary Table of 2001 Cameco Exploration Activities

Activity	Duration	Amount	Number of Samples
Anomaly Follow-up Outcrop Sampling	3 days	12 anomalies investigated	52 outcrop samples from 38 locations
Helicopter usage	4 days	3 days sampling and 1 day pick-up and drop-off Traditional Owner	
Sample Processing & PIMA Analysis	2 Days	n/a	52 Samples

In August 2001, Cameco completed a follow-up sampling program on the retained portion of EL 327, aimed at investigating anomalous results derived from the 2000 sampling program. 12 areas of anomalous lithogeochemistry were highlighted for follow-up based on anomalous U and lead isotope values. A total of 52 samples collected were collected from 38 sites.

A traditional owner was present during the sampling program to assist and perform "on-the-fly" site clearance work to ensure sampling did not occur within culturally sensitive areas. An essential helicopter fuel cache was located in a disused gravel pit on the side of the Ramingining Road. Samples were processed at the Cameco Mann River base camp. The following figure and appendix shows the entire coverage of samples from the 2000 and 2001 programs and sample collected prior to the relinquishment of the other tenements.

Results from the 2001 field program were not encouraging and further exploration is not warranted.

Cameco Australia Sample Location Map

Cameco Australia Outcrop Locations

Sample Processing

Sampling Technique

Samples were collected using a rock hammer and chisel if necessary. Samples are collected from outcrop, which are considered either representative of the area or are anomalous to the area. The outcrop sample size generally ranges from fist size to the size of a brick. Fracture samples may also be collected from fractures, veins and breccias if

present, as these may provide fluid flow conduits from possible U mineralisation at depth, and can be detected by low-level detection geochemical techniques. Fracture samples usually consist of small broken pieces of rock and quartz vein, which are placed in a 100ml plastic vial.

The type of sample is recorded within the sample number as a one character code. Samples with a "B" designation are samples collected from regional or background sampling; samples with "C" are collected as follow up samples or from more detailed sampling; samples with "W" are fracture samples and are geochemically analysed differently to the outcrop samples.

Samples were processed at the Cameco Mann River base camp. Sample processing includes diamond-blade rock sawing of outcrop samples to form five sub-samples. Each outcrop sample is subdivided into: a sample for retention and PIMA, one for future thin section preparation, one for multi-element analysis, one for a small crushed vial sample for isotopic analysis, and one for fire assay work.

Magnetic susceptibility, grain size, competency and Munsell colour information is recorded on all retained samples prior to PIMA analysis.

The following Tables display all outcrop sample information recorded. It has been subdivided into three separate data reports as follows:

Outcrop Sample Location Data Report

Outcrop Sample Lithology and Descriptions Report

Outcrop Alteration and Structural Data Report

Data for the above reports is included as both Microsoft Excel and ASCII format tables on this Report CD-ROM under \Data\.

Explanatory Tables for codes used in the outcrop sample data are included in the following Tables:

UNILOG Codes (Rock Type, Mineralogy, Alteration) for Outcrop sample data

Competency and Grain Size Codes for Outcrop Sample data

The objective of this work is to identify background features related to lithology, structure and alteration. In addition, the signature of the various trace elements and clays within the Kombolgie sandstone are characterised and potential anomalous trends indicative of mineralisation may be detected.

Reflectance Spectroscopy (PIMA)

Reflectance spectroscopy (PIMA) analysis was completed using the PIMA II short-wave infrared spectrometer on all outcrop samples collected. The fracture sample physical shape and size characteristics are not favourable for PIMA spectral measurements. The PIMA instrument measures the reflected energy from a sample in the short wave infrared (SWIR) region of the energy spectrum. The sampling area on the rock specimen that is measured is permanently marked. Multiple measurements are occasionally taken, particularly if

variations in spectral features are noted. The spectra are converted to an ASCII format and processed using "The Spectral Geologist" (TSG) developed by AusSpec International, and a Cameco in-house software program called Minspec.

TSG is routinely used to process all spectral data. The SWIR spectra, once processed, provide a mineral identification utilising internal software pattern matching algorithms called "The Spectral Assistant" (TSA). The experienced user can collect information on the degree of mineral crystallinity, and chemical composition variations within mineral groups from the spectra. The program also allows the user to create scalars based on spectral features and parameters. This allows for quantifying crystallinity parameters; classifying chlorite species based on Mg and Fe absorption features and a multitude of other features.

The in-house software "Minspec" utilises the PIMA spectra to classify the data into proportions of six clay mineral species (illite, kaolinite, dickite, halloysite, chlorite and dravite). A signal to noise ratio is calculated. Careful, visual attention to detail along with the signal to noise value within each spectra, is required to determine the validity of the classification.

All samples were analysed at the Cameco Mann River Camp with a short wave infrared reflectance spectrometer (PIMA-II) to identify clay signatures. Each spectra recorded was processed using both MINSPEC and The Spectral Assistant (TSA) software to deduce relative mineral abundances, particularly of phyllosilicate clay minerals. The data for each sample is displayed in the following Tables:

Outcrop Sample PIMA Report from MINSPEC

Outcrop Sample PIMA Report from TSA

Original "raw" PIMA spectra are also included on this Report CD-ROM as *.FOS files: under \Data\Pima\Outcrop Pima Files*.FOS

Lithogeochemical Processing

All samples were sent to Northern Territory Environmental Laboratory (NTEL) formerly ChemNorth in Darwin and Pine Creek, Northern Territory, for multi-element analysis (ICP-MS/ICP-OES). In total, four separate methods are used to analyse for 68 elements. Ultra low detection limits are possible at this commercial laboratory and elements known to be typical U pathfinders are used as vectors to possible mineralisation. These analytical methods are referred to as the standard G400 suite.

The method utilised by NTEL for the outcrop fracture samples (G950) differs from the standard method (G400), used for the outcrop samples. Fracture samples are only partially digested so that only the mobile fraction or those minerals on the boundaries of quartz grains or are easily dissolved are analysed. The two methods are listed in following appendices.

The laboratory analytical techniques and detection limits for the different analyses completed on outcrop samples are included in the following Table.

NTEL G400 Analytical Methods

NTEL G950 Analytical Methods

Lithogeochemical G400 data is provided for viewing in the following Table.

Outcrop Geochemistry (G400) Table

Fracture sample geochemical data (G950) is provided in the following Table.

Fracture Geochemistry (G950) Table

Lithogeochemical data and fracture geochemical data is also provided in Microsoft Excel and ASCII format on this Report CD-ROM under \Data\Report_DB_Outcrop_Geochem and \..\Report_DB_Fracture_Geochem respectively.

CAMECO AUSTRALIA RESULTS

Results of the 1998-1999 airborne radiometric surveys have driven the subsequent outcrop sampling and anomaly identification. The results of the 2000 anomaly identification, anomaly follow up sampling and regional outcrop sampling program revealed that highest priority anomalies are located within either the Paleoproterozoic Kombolgie or McKay Formations. No significant radiometric anomalies were indicated in areas of younger Cretaceous sediments. It is believed that unconformity U mineralisation and its associated alteration haloes predate the deposition of Cretaceous, thus rendering any such deposit undetectable to surface outcrop lithogeochemical sampling of Cretaceous rocks.

No significant zones of structural disruption were encountered during the anomaly follow up sampling program. However, any structural information observed at sample sites (i.e. joints, fractures, veins/veinlets, etc.) were recorded in the data.

Macroscopically the upper Kombolgie Group sandstone (Marlgowa sandstone) was often difficult to distinguish from the basal McKay sandstone. However, the background radioactivity of McKay units higher up in the sequence is two to three times that of the Marlgowa sandstone.

The airborne radiometric anomaly follow-up sampling program of 2000 resulted in the identification of 12 lithogeochemical anomalies, which were followed up during the 2001 field program. Of these, 10 were identified on the basis of anomalous U with or without anomalous lead isotope values, and two anomalies were identified due to anomalous lead isotope values.

The following Figure displays gridded U values draped over the first vertical derivative magnetic image, with previously mapped faults shown as solid black lines. Kombolgie Sandstone is outlined in brown and No-go areas are highlighted in fuscia.

Uranium Values over Magnetics

Field observations and data collected from samples can be used to discount the anomalism present at areas followed-up from the 2000 field program. Three of the four obvious U anomalies shown in the above figure were due to samples collected from rock units other than Kombolgie Sandstone.

The northern U anomaly occurs in an area mapped as Kombolgie Sandstone, however small outliers of unmapped Neoproterozoic Buckingham Bay Sandstone were mistakenly sampled. It appears that the Buckingham Bay Sandstone contains relatively higher amounts of U than the Kombolgie Sandstone and would be anomalous when compared with such samples. A similar explanation can

be given for the western U anomaly, where previously unmapped Cretaceous Walker Creek Formation rocks were sampled. The anomaly to the southeast was collected within rocks mapped as Cottee Formation, where background radioactivity is higher than Kombolgie Sandstone counterparts.

The central anomaly of the three southern anomalies (approx 438800mE, 8568200mN) can be explained as a stratigraphic band of heavy mineral rich sandstone and thin minor quartz fractures and veinlets within the upper Marlgowa Sandstone of the Kombolgie Subgroup.

Results from other sampled anomalies did not return any significant results.

CONCLUSIONS

EL 327, in Cameco's opinion, has been investigated thoroughly with the conclusion that these areas exhibit low prospectivity for hosting economic deposits of U or base and precious metals. Exploration by DBAE did not identify any diamond host kimberlite type rocks initiating their withdrawal from the tenement in early 2001. Multi-element geochemical analysis and clay alteration signature determinations combined with airborne geophysical surveys have not led to discovery of any mineralisation or alteration haloes that could be attributed to economic mineral deposits.

The thickness of the Katherine River Supergroup rocks within the area are interpreted at greater than 1000 m, impacting greatly on the economics and size requirements of any sub-Kombolgie U deposit.

The lack of any encouraging results from exploration over the two years of investigations has lead to the relinquishment of EL 327.