



Cameco Australia Pty Ltd

Els 9928, 22368, 22369, 22447, 22825, 22827, 23247

PLATEAU PROJECT

NORTHERN TERRITORY

ANNUAL REPORT AND FINAL SURRENDER REPORT

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Map Sheets: 1: 250, 000: Alligator River (SD-5301)
1:100, 000: Oenpelli (5573) and Howship (5572)

Tenement manager: AMETS

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SUMMARY

The Plateau project consists of seven exploration licences (ELs 9928, 22368, 22369, 22447, 22825, 22827 and 23247) comprising 65 blocks with a total area of 217.9 km². The project is located in Western Arnhem Land, approximately 250 km east of Darwin. The ELs were granted to Cameco Australia Pty Ltd on 20 July 2005 for a period of six years.

All subject tenements were surrendered on July 6th 2009 at the end of the fourth year of tenure. This report forms an Annual Report and Final Surrender Report.

The Plateau project area is located within the eastern margin of the Neoproterozoic Pine Creek Orogen, and is in a region that has been subdivided into the Nimbuwah Domain of the Alligator Rivers region. The project area is dominated by the Caramal Inlier in the northern tenements (ELs 22368 and 22825), with extensive outcrop of Tin Camp Granite and Nimbuwah Complex, Zamu Dolerite and Oenpelli Dolerite. The remaining southern tenements are covered by rocks of the Kombolgie sub-group; dominantly basal Mamadawerre Sandstone, with stratigraphically higher Nungbalgarri Volcanics and Gumarrirbang Sandstone occurring in the southwest of the project area.

The focus of Cameco's exploration strategy in Arnhem Land is the discovery of unconformity-related uranium deposits.

The field program undertaken on the Plateau Project for the third year of tenure consisted of helicopter-supported ground activities, comprising geological mapping, reconnaissance, and outcrop sampling, restricted to ELs 22368, 22825, and 22447.

22 samples were collected and submitted for geochemical analysis. The highest uranium value returned was 5.33 ppm U₃O₈ (PL080504) from a semi-pelitic gneiss. The highest uranium result from sandstone came from sample PL080524, returning 1.03 ppm U₃O₈.

The lack of encouraging results has downgraded the project, and it is considered that there are no remaining areas on the tenements requiring further work.

Eligible expenditure for the Plateau project for the reporting period is \$74,958.51, broken into EL9928 (\$21,366.65), EL22368 (\$20,937.62), EL22369 (\$14,021.87), EL22447 (\$4,673.96), EL22825 (\$2,821.90), EL22827 (\$9,133.39), and EL23247 (\$2,003.12).

TABLE OF CONTENTS

SUMMARY	i
INTRODUCTION	1
Location and Access	1
Tenure	1
Regional Geology	2
Project Geology	3
Exploration Target	4
Previous Exploration.....	5
1970-1973: Queensland Mines Pty Ltd	5
1990-1996: PNC Australia-Arnhem Land West Joint Venture	5
1995-2003: QMPL-AFMEX and Tin Camp Creek Joint Venture.....	9
Cameco Exploration.....	10
2005.....	10
2006.....	10
2007.....	11
EXPLORATION PROGRAM 2008.....	11
Outcrop Sampling	11
Review	12
CONCLUSIONS AND RECOMMENDATIONS	12
EXPENDITURE.....	13
BIBLIOGRAPHY	14

LIST OF FIGURES

Figure 1: Regional Location Map	1
Figure 2: Arnhem Land Regional Geology	3
Figure 3: Geology of the Plateau Licence Area.....	4
Figure 4: Sample location map – geology	11
Figure 5: Uranium values of outcrop samples	12

LIST OF TABLES

Table 1: Arnhem Land West Joint Venture Exploration Activities - EL 3597 and EL 4015....	9
Table 2: Sample points – Locations.....	11
Table 3: Sample points – Descriptions and Properties	11
Table 4: Sample points – Alteration	11
Table 5: Sample points – Structural Measurements	12
Table 6: Sample points – Assay results	12
Table 7: Summary of Expenditure – Plateau Tenements.....	13

LIST OF APPENDICES

Appendix 1: Cameco Outcrop Sampling Procedures	11
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INTRODUCTION

The Plateau project consists of seven exploration licences (ELs 9928, 22368, 22369, 22447, 22825, 22827 and 23247) comprising 65 blocks with a total area of 217.9 km². The project is located in Western Arnhem Land, approximately 250 km east of Darwin. The ELs were granted to Cameco Australia Pty Ltd on 20 July 2005 for an initial period of six years.

Exploration activities conducted during 2008 to the anniversary date were carried out under the terms of consent documentation agreed with the Northern Land Council (NLC) pursuant to the Aboriginal Land Rights (Northern Territory) Act 1976.

The field program for the third year of tenure consisted of helicopter-supported ground activities, comprising geological mapping, reconnaissance, and outcrop sampling.

Location and Access

The Exploration Licences (tenements) are located in western Arnhem Land (see Figure 1) in the Northern Territory of Australia. The project area is centred about 275 km east of Darwin, 240 km north east of Katherine, and between 10 and 35 km east to southeast of Cameco's Myra camp.

The tenements are located on map sheets:

1:250, 000: Alligator River (SD-5301)

1:100, 000: Oenpelli (5573) and Howship (5572)

1:50,000: Gagudju (5572-1) and Spencer Range (5573-2).

Access is by road via the Arnhem Highway to Jabiru and then via Cahill's Crossing and unsealed roads to the Myra Camp located on Tin Camp Creek. The rugged terrain of the Myra Falls Inlier and flanking sandstone escarpment country, where the Plateau tenements are located, is only accessible by helicopter. There is a vehicular track in the northern part of EL 22825, which was constructed and maintained by Uranerz between 1987 and 1991 to permit access from Myra Camp to the former EL 3419, located to the east of the Plateau project area. This track is currently in disrepair and is inaccessible to vehicles.

Figure 1: Regional Location Map

Tenure

Nine exploration licences were granted to Cameco on 3 June 2005 for an initial period of six years. The area covered by ELs 9928 and 9929 was formerly covered by ELs 3597 and 4015 respectively, held by PNC Exploration (Australia) Pty Ltd (PNC) between 1990 and 1996. Cameco lodged applications for this ground on 21 July 1997 following relinquishment by PNC.

The area covered by ELs 22368, 22369, 22447, 23247, 22825, 22827, 24780 were formerly covered by relinquished portions of ELs 2506 and 2507 which had been under tenure to AFmeco Mining and EXploration Pty Ltd (AFMEX) as operator in joint venture with SAE Australia Pty Ltd and Cameco. EL 24780 is additional to the original applications. This modification was necessary due to a 'No-Go' zone (i.e. deemed by the Justice Department as non 'consent' land), which divided EL 22447 into two separate portions. The northern portion was retained as EL 22447 with the southern portion split off into a separate

application and issued with a new number (EL 24780). The area that was refused consent in EL 9928 has been issued with a new number ELA 24789 and placed in moratorium from 10 November 2004 for five years until 10 November 2009. This application does not form part of the present Plateau project, which is the subject of this report. On grant, the total area under licence was 225 km² (70 blocks).

On 25 July 2007, Cameco surrendered ELs 9929 and 24780 comprising a total of 15 blocks or 50.25 km². The Company retained the remaining seven licences comprising 65 blocks or 217.9 km².

All exploration licences pursuant to this report were surrendered on July 6th 2009.

Regional Geology

The regional geology of Arnhem Land has been systematically and intensely studied and described in detail since 1946, comprising work from the Bureau of Mineral Resources (1972-1988), the Northern Territory Geological Survey (late 1990's to 2008), Geoscience Australia (2004) and many previous reports for Cameco Exploration Licences in the Western Arnhem Land area. Studies included geological mapping and reconnaissance, and regional-scale and deposit-scale metallogenic research. Only a brief summary and overview of the geology will be provided here. This section is largely based on the work by Needham et al. (1988), Needham (1988, 1990), and Needham and Stuart-Smith (1980). Information that is not based on these references has been indicated below.

The Plateau project area is located within the eastern margin of the Neoproterozoic Pine Creek Orogen, and is in a region that has been subdivided into the Nimbuwah Domain of the Alligator Rivers region. See Figure 2 for the regional geology map.

The Bureau of Mineral Resources (now Geoscience Australia) completed 1:250,000-scale geological maps of the Pine Creek Orogen between the 1940s and 1960s following the discovery of uranium at Rum Jungle. The Alligator Rivers region was systematically mapped by the Bureau of Mineral Resources and the Northern Territory Geological Survey between 1972 and 1983. This later work produced 1:100,000-scale geological maps and reports for the region from Darwin to Katherine to the Alligator Rivers region.

The oldest exposed rocks in the Alligator Rivers region are included in the Neoproterozoic (ca. 2500 Ma) Nanambu Complex. The complex consists of paragneiss, orthogneiss, migmatite, and schist forming domical structures that are unconformably overlain by Palaeoproterozoic metasedimentary and metavolcanic rocks, which were formerly included in the Pine Creek Geosyncline. Palaeoproterozoic rocks in the Alligator Rivers region are amphibolite-facies psammites assigned in the Mount Howship Gneiss and the Kudjumarndi Quartzite. These formations are included in the Kakadu Group and are probably correlatives of the Mount Basedow Gneiss and Munmarlary Quartzite, respectively (Ferenczi et al., 2005). The group appears to on-lap Neoproterozoic basement highs, but gneissic variants are also thought pass transitional into paragneiss of the Nanambu Complex.

The Cahill Formation of the Namoon Group conformably overlies the Munmarlary Quartzite. The lower part of the Cahill Formation (informally referred to as the Lower Cahill Formation) hosts the Nabarlek, Ranger and Jabiluka uranium deposits. The Lower Cahill Formation consists of a structurally lower calcareous marble and calc-silicate gneiss, which is

overlain by pyritic, garnetiferous and carbonaceous schist, quartz-feldspar-mica gneiss, and minor proportions of amphibolite.

The informally named Upper Cahill Formation is psammitic and consists of feldspar-quartz schist, quartzite, lesser proportions of mica-feldspar-quartz-magnetite schist, and minor proportions of metaconglomerate and amphibolite. The Cahill Formation is magnetic and significantly so at the base of psammitic unit in what is informally known as 'hangingwall sequence'. The magnetic characteristic of this unit is due to the presence of mafic sills or magnetite and it is a useful characteristic used to distinguishing the Cahill Formation from surrounding less magnetic rocks (Kendall, 1990). Mafic sills and dykes assigned to the Goodparla and Zamu dolerites intrude the Upper Cahill Formation.

The Nourlangie Schist overlies the Cahill Formation and consists of argillaceous to quartzose phyllite and quartz-mica schist that locally contain garnet and staurolite.

The supercrustal rocks of the region are structurally complex, having been affected by at least three deformation event before deposition of the late Palaeo- to Mesoproterozoic Kombolgie Subgroup (Thomas, 2002). The rocks have also been locally migmatized during the ca. 1847-30 Ma Nimbuwah Event. In addition, there is a broad trend of increasing grade from southwest to northeast in the Nimbuwah Domain. This gradient is thought to reflect the synchronous emplacement of ca. 1865 Ma granites in the Nimbuwah Complex.

The Kombolgie Subgroup is the basal unit of the late Palaeo- to Mesoproterozoic Katherine River Group of the McArthur Basin (Sweet et al., 1999a, b). The subgroup consists of sandstone units called the Mamadawerre Sandstone, Gumarrirnbang Sandstone, and Marlgowa Sandstone, which are divided by thin basaltic units called the Nungbalgarri Volcanics, and Gilruth Volcanics. The Mamadawerre Sandstone has a minimum age of ca. 1700 Ma, which is the minimum age of the intrusive Oenpelli Dolerite. Detrital zircon SHRIMP data from the GA OZCRON database constrain the maximum age of the sandstone at ca. 1810 Ma.

The Oenpelli Dolerite is the most pervasive mafic intrusive suite to affect the Alligator Rivers region and is the youngest Proterozoic rock unit exposed. It intrudes various units Neoproterozoic and Palaeoproterozoic units, and the Kombolgie Subgroup, forming magnetic sills, dykes, lopoliths, and laccoliths. The Oenpelli Dolerite has a SHRIMP U-Pb baddeleyite date of 1723 ± 6 Ma (Ferenczi et al., 2005); however, geochemical and geophysical data suggest several phases of intrusion throughout the region. These intrusive events had a pronounced thermal effect within the Kombolgie Subgroup, with the promotion of fluid flow and aquifer or aquitard modification. Localised effects in the sandstone include silicification, desilicification, chloritisation, sericitisation, and pyrophyllite alteration. A characteristic mineral assemblage of prehnite-pumpellyite-epidote has formed in the quartzofeldspathic basement rocks adjacent to the intrusions.

Figure 2: Arnhem Land Regional Geology

Project Geology

The Plateau project area is dominated by the Caramal Inlier in the northern tenements (ELs 22368 and 22825). Within the Caramal Inlier extensive outcrop of Tin Camp Granite and Nimbuwah Complex, as well as Zamu Dolerite and Oenpelli Dolerite are present on

government maps. The regional Beatrice Fault bounds the Caramal Inlier along its western edge, and the east-west Caramal Fault bounds it on the north. See Figure 3 for a map of the project area geology.

The remaining southern tenements are covered by rocks of the Kombolgie sub-group; dominantly the basal Mamadawerre Sandstone, with the stratigraphically higher Nungbalgarri Volcanics and Gumarrirrbang Sandstone occurring only in the southwest of the project area. The Nimbuwah Complex-Mamadawerre Sandstone unconformity is locally exposed along the southern boundary of the Inlier, in EL 22368, and the Tin Camp Granite-Mamadawerre Sandstone unconformity is locally exposed in EL 22825.

Previous exploration drilling on the sandstone plateau provides an indication of the depth to unconformity and nature of the underlying basement. Drilling by AFMEX (hole KPE-001) in EL 23247 places the unconformity at 244.3 m depth, with Mamadawerre Sandstone underlain by foliated granitoid rocks of the Nimbuwah Complex. In 1992 PNC drilled 5 holes (BDD1-BDD5) in the northwest corner of EL 9928. The sandstone-basement unconformity was intersected between 66.0 (BDD4) and 110.5 m depth (BDD1). Basement here consists of Tin Camp Granite and Nimbuwah Complex gneisses variably intruded by Oenpelli Dolerite. Drilling results correspond with overall outcrop patterns, which suggest increasing depth to unconformity towards the southeast.

Oenpelli Dolerite is found along the inferred extension of the arcuate Kukalak Valley feature in the area (off tenement) between ELs 22369, 22447, 23247 and surrendered ELs 9929 and 24780. A small area of Tin Camp Granite is exposed to the north of the Ranger Fault in the southwest corner of EL 9928.

Major structures in the general Plateau project area include the east-west Ranger Fault, located in the valley/no-go zone separating EL 9928 and ELs 22447 and 23247; the east-west trending Caramal Fault and the 340° trending Khyber Pass fault, which is present in ELs 9928 and 22827, and is inferred to extend southward into EL 23247. The Khyber Pass fault can be traced northward towards Nabarlek.

Figure 3: Geology of the Plateau Licence Area

Exploration Target

The focus of Cameco's exploration strategy in Arnhem Land is the discovery of unconformity-related uranium deposits. The archetype unconformity-style uranium deposits are found in the Athabasca Basin of northern Saskatchewan, Canada. A detailed summary of these deposits can be found in Jefferson et al (2006). The prospective nature of the Alligator Rivers region is demonstrated by the presence of nearby economic deposits at Coronation Hill, Ranger, Jabiluka, Koongarra and the now depleted Nabarlek Mine. The presence of gold, palladium and platinum in these deposits plus the economic gold-platinum resource at Coronation Hill in the South Alligator Valley, indicates an additional potential for this deposit style. These major deposits appear to have a common position relative to the base of the Kombolgie Subgroup i.e. the Palaeoproterozoic unconformity, or to its erosional margin, and serve here as exploration models.

The Plateau project is considered to be prospective for uranium mineralisation based on the proximity to the unconformity between metasedimentary packages and overlying Kombolgie

Sandstone, and association of chloritic and hematitic breccias in the vicinity of fault structures.

Previous Exploration

1970-1973: Queensland Mines Pty Ltd

The area covered by the present tenements was held by Queensland Mines Pty. Ltd. (QML) as part of a much larger tenement (Authority to Prospect 2221) during the early 1970's. QML is believed to have undertaken reconnaissance exploration consisting of an airborne magnetometer/spectrometer survey and regional stream sediment geochemistry. Airborne radiometrics lead to the discovery of the Caramal and Nabarlek deposits. Detailed results of this work are not available in NTGS open file data.

The Federal Government imposed a moratorium on mineral exploration in the in the Alligator Rivers area in September 1973, pending resolution of Aboriginal Land Rights issues. No further exploration was conducted in the area until 1990.

1990-1996: PNC Australia-Arnhem Land West Joint Venture

The Arnhem Land West Joint Venture (ALWJV), comprising PNC Exploration (Australia) Pty Ltd (as operator) and Cameco, was granted Exploration Licences 3597 and 4015 on August 27th 1990 for a period of six years. ALWJV successfully deferred reduction of the tenement area throughout their tenure, ensuring that the original tenement area (80 and 32 sq km respectively) remained intact. Current ELs 9928 and 9929 correspond with portions of former ELs 3597 and 4015 respectively.

1990

In September 1990, Surtec Geosurveys Pty. Ltd. (Surtec) was engaged to undertake a reconnaissance survey consisting of ground radiometrics and stream sediment sampling along structures or lineaments evident in air photographs. Austirex International Ltd. flew an airborne magnetic and radiometric survey in early October 1990. In December 1990 Surtec conducted a follow-up sampling (soil, stream and rock chip) targeting geochemical and radiometric anomalies from the earlier surveys. 13 soil, sediment and rock chip samples were submitted for Pb isotope analysis. 7 anomalies (Anomaly A through Anomaly G) were identified for further investigation. An anomaly in the northwest corner of EL 3597 consisting of an elongate zone of hematite (after chlorite) alteration and intense quartz veining associated with a 340° trending structure was assigned a high priority.

1991

In May 1991 PNC staff conducted investigation of the 7 anomalies identified the previous year. Notable results included 10.5 ppm U₃O₈ and 4 ppb Au in a clay-rich sandstone sample from Anomaly B (later part of the AB Grid, and 3.5 ppm U₃O₈ in quartz veined and hematite altered sandstone from Anomaly G, which later became the NW Grid area.

In October 1991 Surtec was contracted to establish a 50 x 50 m grid over Anomaly G, called the NW Grid. Ground based radiometric and magnetic surveys were conducted over the NW Grid, along with rock chip sampling (n=130), of which 9 samples were submitted for petrography and 2 for later electron microprobe analysis (EMPA).

Two SIROTEM surveys were conducted in 1991 to evaluate the effectiveness of the technique for estimating the depth of sandstone cover. An initial test survey was conducted

over locations in both EL 3597 (northeast corner) and 4015 (AB Grid) as part of a larger test jointly funded by QML that included surveys over Jabiluka and Caramal. A more detailed survey was undertaken over the NW Grid (only where ground conditions were amenable) in an attempt to map alteration. The results were not conclusive, but did suggest that there may be a measurable response associated with alteration.

A test GEOTEM survey was flown over the NW Grid area in October 1991 to evaluate response over the mapped alteration zone. Results indicated that conductors could be correlated with alteration.

1992

A helicopter-supported diamond-drilling program was conducted in the NW Grid area during May-June 1992. Five holes (BDD-1 to BDD-5) were drilled for a total of 789 m. The highest uranium analysis was 5 m at 76.6 ppm U_3O_8 from BDD-001. In the holes drilled the sandstone-basement unconformity was intersected between 66 and 110.55 m, with Nimbawah Complex gneiss being the dominant basement, along with Tin Camp Granite and Oenpelli Dolerite. Rocks adjacent to the unconformity are variably clay, chlorite and hematite altered.

A PROTEM 47 ground-based EM survey was conducted over a portion of the NW Grid to test conductors identified in the 1991 GEOTEM survey. PROTEM 47 was employed as it was considered technically superior to SIROTEM for work in resistive sandstone terrain. A well-defined response was obtained over the altered structure associated with BDD-1 and good contrast was achieved between granite and gneiss. Further investigation of the PROTEM data by Encom Technologies Pty Ltd suggests that alteration in the sandstone extends 500 m outwards from the main structure.

Follow-up mapping and geochemical sampling was conducted in the southeast corner of EL 3597, the location of Anomaly A as previous stream sediment samples had produced anomalous base metal assays of 390 ppm Cu, 490 ppm Pb and 400 ppm Zn. Infill sampling and resampling failed to reproduce the elevated results, with maximum values of 17 ppm Cu, 10 ppm Pb and 40 ppm Zn.

A PIMA (Portable Infrared Mineral Analyser) study was conducted on outcrop and drill core samples in an attempt to identify alteration minerals (i.e. clays) without resorting to XRD analysis. Mineral identification was successful, and the results suggested that kaolinite is associated with alteration surrounding structures, whereas illite occurs more widely. A shift in illite absorption features was found to be associated with known alteration.

Etheridge and Henley were contracted to conduct a two-stage structural study of the project area. The first stage consisted of air photograph interpretation, followed by a second stage of structural mapping. The study reported that despite the long strike length of most faults, displacement is only a few metres. This was considered consistent with the structures representing major pre-Kombolgie faults with only minor post-Kombolgie movement. Structures with large post-Kombolgie movement were considered the most prospective.

1993

Following a successful test the previous year, an airborne GEOTEM survey was flown over both tenements in July 1993. Five anomalies were generated by the GEOTEM survey

(Anomalies 1, 2 and 3 in EL 3597; Anomalies 4 and 5 in EL 4015. Four anomalies were associated with north-northwest trending structures.

Anomaly 1 is located on the north-northwest trending fault termed 'Fault G' by PNC but also known as the Khyber Pass Fault by AFMEX. A 2 x 2 km grid of 100 m spaced east-west lines marked at 50 m intervals, known as the CS grid was pegged over Anomaly 1. Mapping and radiometric prospecting failed to identify any alteration beyond silicification of a fault breccia along the Khyber Pass Fault. No significant radiometric anomalies were detected. A PROTEM 47 survey was conducted over 15 lines of the CS Grid and failed to produce any anomaly. The similarity between PROTEM response and GEOTEM channel 3 response lead to a downgrading of GEOTEM channel 3 anomalies.

Anomalies 2 and 3 are located along the southern extension of the 340° trending Fault A, which is associated with the NW Grid to the north. Anomaly 2 is suggested to be due to strongly hematite/sericite altered Tin Camp Granite in the area.

Anomaly 3 was mapped as a southward extension of the NW Grid. A small radiometric anomaly (5 times background) was located in a few square meters of sandy soil. Soil sample analyses returned 0.7 ppm U₃O₈ and 1.75 ppm Th, which are not considered anomalous, leaving U and Th daughter products as likely candidates for the anomaly. A PROTEM 47 survey was conducted over the NW Grid extension. Sensitivity analysis of the resulting data identified a bell shaped conductive zone starting from a broad base at 300 m depth extending upwards to 50-60 meters. The bell shape is interpreted to represent extensive alteration in the basement becoming restricted towards the surface due to the unreactive nature of the overlying sandstone.

Anomaly 4 is an elongate anomaly correlating with the 350° trending Fault Q, though it is only present in the channel 3 data, leading to it being downgraded. Anomaly 5 is a channel 16 anomaly occurring along the 030° trending Fault T. Radiometric Anomaly B is located on the same structure 1 km to the northeast (AB Grid). No follow-up was conducted during 1993.

1994

Exploration work in 1994 concentrated on follow-up of GEOTEM channel 16 anomalies. A grid was established over Anomaly 5 (AB Grid) and the NW Grid was extended south by 1.5 km. Mapping and radiometric prospecting at 1:2000 scale was conducted over both grids, in addition to ground magnetic surveys and PROTEM 47 surveys. Mapping was hampered by poor exposure in the area of Anomaly 5. The PROTEM survey produced results consistent with an unconformity depth between 85 and 100 m. Mapping of Anomaly 5 identified red hematite alteration along fractures in sandstone. The PROTEM survey identified a clear anomaly sub parallel to splays of Fault T.

Pairs of 100 m spaced traverses were marked across GEOTEM anomalies 4, 5 and 6. Mapping, and ground magnetics were conducted along all traverses, and PROTEM 47 was conducted over anomalies 6 and 7. Anomaly 7 was interpreted to be a basic dyke due to the coincidence of ground magnetics and PROTEM anomalies. Anomaly 6 was interpreted to represent a 70 m layer of basic volcanics at 160 m depth on the basis of PROTEM data.

A lithogeochemical study of 40 samples (14 drill core and 26 outcrop) was conducted in 1994. Samples were thin sectioned and XRD was performed on whole rock and the clay-

fraction of each sample to identify clay mineralogy and for comparison with PIMA analysis. Geochemical analysis was conducted on all samples. The results suggested that the Kombolgie sandstone is relatively clay mineral poor with low Fe content. Altered feldspathic lithic fragments are the most likely source of clay minerals in the sandstone. Illite was identified as the dominant clay mineral, and the sandstone is commonly limonitic rather than hematitic, due to severe weathering. Close agreement was found between mineral estimates from PIMA II spectra and XRD analysis, underlining the usefulness of PIMA for broad, rapid screening.

Three test lines of VLF were completed across the NW Grid to test the effectiveness of the technique for looking through Kombolgie sandstone. The survey produced an anomaly coincident with previous PROTEM results, indicating VLF may be effective at mapping near surface alteration.

Two small areas in each tenement were sites for test DIGHEM surveys, to test its effectiveness in mapping alteration in highly resistive terrain, and to provide detailed EM coverage of GEOTEM anomalies where terrain excluded PROTEM 47 surveys. High frequency DIGHEM channels produced anomalies that correlated well with GEOTEM channel 16 data.

In addition to uranium exploration activities, six stream gravel samples were collected for diamond indicator mineral analysis. Fourteen heavy mineral grains, identified as tourmaline with no kimberlitic affinity, were extracted by heavy mineral analysis. Three micro-diamonds were also identified in the samples.

1995

A second, more extensive diamond indicator mineral sampling program was conducted in May 1995. Fourteen stream gravel samples were collected, including repeat sampling at two of the 1994 locations. However, no diamonds or micro-diamonds were recovered from the heavy mineral fractions of the 1995 samples. Two Cr-spinel grains and a chromite grain were identified.

The promising results of the 1994 litho-geochemical study prompted an expanded sampling program in 1995. 200 samples, including 132 Mamadawerre Sandstone, 58 Gumarrirbang Sandstone, 7 Tin Camp Granite and 3 Oenpelli Dolerite were collected. Stable isotopes (O, H) were analysed in several samples from the 1994 study, revealing that clay minerals in the Kombolgie sandstone have re-equilibrated with meteoric water at temperatures of 20-50° C.

Eighteen samples from the 1992 drilling program were submitted for petrophysical measurements, in an attempt to generate data for use in future geophysical modelling.

1996

Heavy mineral separates from diamond indicator samples were re-picked, though no new minerals were identified. EMPA of chromite grains extracted in 1995 revealed they lacked kimberlitic affinity.

An airborne VLF survey was flown using fixed-wing aircraft in August 1996 to test the effectiveness of VLF in sandstone terrain. The survey did not produce any recognisable response, possibly due to technical difficulties.

Exploration conducted by the ALWJV is summarised in [Table 1](#).

Table 1: Arnhem Land West Joint Venture Exploration Activities - EL 3597 and EL 4015

ACTIVITY	YEAR						
	1990	1991	1992	1993	1994	1995	1996
Sampling							
Stream sediment samples	*	404	19				
Rock Chip samples	*		10	67		200	
Soil samples			5				
Thin sections			12				
Diamond Indicator samples					6	14	
Drilling							
Holes			5				
Total meters			789				
Petrography			19				
Geophysics							
PROTEM 47 (line km)			5.25	37	37		
GEOTEM (line km)			50	912			
DIGHEM (line km)					*		
SIROTEM (line km)		*					
VLF (line km)					*		83
Airborne radiometrics/magnetics (line km)	1929						

* This work is known to have been conducted, though the exact amount is not specified in reports.

1995-2003: QMPL-AFMEX and Tin Camp Creek Joint Venture

The area covered by ELs 22368, 22369, 22447, 23247, 22825, 22827, 24780 cover land relinquished from ELs 2506 and 2507 in 1998-99 and 1999-2000. ELs 2506 and 2507 formed part of a larger area granted to QML in September 1995. QML engaged AFMEX (AFmeco Mining and EXploration Pty. Ltd.) in a farm-in arrangement between 1995 and February 1998 at which point the Tin Camp Creek Joint Venture (TCCJV) comprising AFMEX (as operator) with SAE Australia Pty Ltd, Cameco and West Arnhem Land Corp. acquired the tenements from QML.

QML/AFMEX conducted a helicopter-based DIGHEM magnetic, radiometric, electromagnetic survey in July 1996, which was followed by ground follow-up of some radiometric anomalies. Weak uranium was found associated with chlorite veins in granite at the North Horn radiometric anomaly, located in northern EL 22368, although no samples were collected.

Stream sediment sampling and a limited outcrop sampling program was conducted between 1996 and 1998.

A single helicopter supported drill hole (KPE001) was drilled in EL 2507 to test for uranium mineralisation associated with the south extension of the Khyber Pass Fault. The sandstone-basement unconformity was intersected at 244.3 m depth. Basement rocks consisted of foliated granitic rocks of the Nimbuwah Complex. Elevated uranium was not present in the hole.

Cameco Exploration

Cameco's activities over the past three exploration seasons are summarised below.

2005

The 2005 exploration program included helicopter supported outcrop sampling, geological mapping and reconnaissance, and radiometric anomaly follow-up. Five rock chip samples were collected from ELs 9928 and 9929 for geochemical analysis. A compilation of digital data and review of previous work was conducted.

The highest uranium value from the 2005 sampling program was 13.44 ppm U_3O_8 in sample PL050002, collected from a fracture in Gumarrirnbang Sandstone on EL9929. This sample contained elevated P_2O_5 (14,600 ppm), Sr (6210 ppm), S (2360 ppm), Y (2820), and heavy rare earth elements.

2006

The 2006 exploration program consisted of a single helicopter supported diamond drill hole for 674.4 m, an airborne EM (TEMPEST) survey, an airborne hyperspectral (HyMap) survey and a small geological reconnaissance and outcrop sampling program.

Drill hole PLD001 was drilled at -65° towards 156 (true) to test a NNE trending fault. The hole intersected Gumarrirnbang Sandstone from surface to 259.4 m, amygdule-rich mafic volcanic flows of the Nungbalgarri Volcanics to 420.80 m, silicified Mamadawerre Sandstone to 498.0 m, and Oenpelli Dolerite to EOH at 674.4 m. The drill hole did not intersect the unconformity. Geochemical sampling returned a best uranium value of 24.29 ppm U_3O_8 at the upper margin of the Nungbalgarri Volcanics (Phg). No alteration indicative of uranium mineralisation or unconformity-related processes was observed.

The HyMap hyperspectral survey data was processed to produce a classified mineral end-member image consisting of six mineral species (chlorite, iron oxide, dickite, illite 2190 nm, illite 2220 nm and illite 2229 nm). Clay distribution appears to be controlled by sandstone stratigraphy, Nungbalgarri Volcanics and associated regolith, and Oenpelli Dolerite and associated regolith and alteration. No clay alteration indicative of unconformity-style uranium mineralisation is observed.

Conductivity Depth Images were produced from the TEMPEST data to identify structural targets via obvious offset of the conductive unconformity. No new faults were identified. Offset is observed across the Beatrice Fault, the Caramal fault and a parallel structure approximately 1 km north of the Caramal fault.

Outcrop sampling and geologic reconnaissance identified previously unmapped Myra Falls Metamorphics within the Caramal Inlier, in an area previously mapped as Nimbuwah Complex. The prospectivity of the Caramal Inlier is thus enhanced, as correlates of the Cahill Formation are considered more prospective for uranium mineralisation than granitoids of the Nimbuwah Complex. Sampling and reconnaissance elsewhere within the project failed to produce targets warranting further investigation.

2007

In early 2007, Bell Geospace Ltd completed an Air-FTG® (Airborne Gravity Full Tensor Gradiometer) survey for Cameco Australia in Arnhem Land. The survey was conducted in conjunction with other projects, and includes three northerly oriented lines approximately 12 km long and 750 m apart, located in the western part of the project. This gravity survey was to assist with understanding the regional gravity response.

There are legal restrictions surrounding the Bell gravity data as it is regarded as a "Defence Article" under Part 121 of the U.S. International Traffic in Arms Regulations ("ITAR"). The ITAR regulations restrict the dissemination of the collected data.

On ground exploration comprised geological reconnaissance and follow-up outcrop sampling of Tempest, Hyperspectral and radiometric anomalies. 34 samples were collected, with best results of 10.45 ppm U₃O₈ (PL076019) and 6.21 ppm U₃O₈ (PL076002) with accompanying very high to high Th, 1900 ppm and 96.6 ppm respectively; both samples were of sandstone. Two Tin Camp Granite samples returned assay values of 14.27 ppm U₃O₈ and 20.63 ppm U₃O₈, and Th 18.3 and 15 ppm respectively.

EXPLORATION PROGRAM 2008

The 2008 exploration program consisted of helicopter-supported geological mapping, reconnaissance, and outcrop sampling. Field operations were based out of Cameco's Arnhem Land Myra camp, with personnel ferried daily to and from the licence area by helicopter.

Outcrop Sampling

All outcrop sampling and processing was performed using Cameco standard methodology, as outlined in [Appendix 1](#), with the exception of PIMA/ASD data which was not collected. This document details procedures followed for outcrop sample collection, Cameco codes for geological logging, methodology used for reflectance spectroscopy, laboratory techniques and methods, and analysed elements. All samples were analysed at the NTEL lab in Darwin using the techniques outlined in [Appendix 1](#).

Appendix 1: Cameco Outcrop Sampling Procedures

Geological mapping, reconnaissance and outcrop sampling was conducted in the vicinity of geophysical (EM and radiometric) and hyperspectrally generated illite anomalies. Prior to the field work, a data review was carried out to ascertain target priorities. Field work was restricted to ELs 22368, 22825, and 22447. Outcrop sampling was conducted over three days between 3 October and 5 October 2008. 22 stations were visited, with 13 on EL 22368, 2 on EL 22825, and 7 on EL 22447. 22 samples were submitted to NTEL for geochemical analysis.

[Figure 4](#) shows the locations of the samples taken, and [Table 2](#) to [Table 6](#) detail the data and results from samples collected during the program.

[Figure 4: Sample location map – geology](#)

[Table 2: Sample points – Locations](#)

[Table 3: Sample points – Descriptions and Properties](#)

[Table 4: Sample points – Alteration](#)

Table 5: Sample points – Structural Measurements

Table 6: Sample points – Assay results

The uranium results from the chemical analysis from the years sampling program are shown in Figure 5. The highest assay results were returned from the Nimbuwah Complex gneisses. Further discussion follows below.

Figure 5: Uranium values of outcrop samples

Ground traverses, outcrop sampling, and an assessment of the airborne radiometric anomalies within the Caramal Inlier was conducted. 13 samples were collected, of which 8 samples were of Mamadawerre Sandstone and 5 were samples of semi-pelitic gneiss of the Nimbuwah Complex.

Alteration of the sandstone samples is generally weak to moderate red-brown and red-orange pervasive hematite, red-orange limonite, and bleaching. Silicification is rarely observed, with only one sample recorded as weakly silicified (PL080133). In the gneisses of the Nimbuwah Complex, 2 samples were observed with moderate red pervasive hematite alteration (PL080503, PL080504).

The maximum radiometric reading was 70 cps (Urtec - B90325) in sample PL080527 (0.69 ppm U_3O_8) of Mamadawerre Sandstone, which is within expected background values.

The highest uranium value returned was 5.33 ppm U_3O_8 in PL080504, a semi-pelitic gneiss. The maximum sandstone value was 0.74 ppm U_3O_8 in a conglomerate (PL080132).

2 samples were collected on the eastern edge of EL 22825. One sample (PL080529) was taken of semi-pelitic gneiss of the Nimbuwah Complex, with weak-moderate disseminated hematite, returning an assay result of 1.96 ppm U_3O_8 . The remaining sample (PL080528) was collected of Mamadawerre Sandstone with minor yellow clay, and returned 0.82 ppm U_3O_8 .

7 samples were collected in the south-eastern portion of EL 22447, and all were of Mamadawerre Sandstone. The only sample of interest is PL080524, which returned the maximum uranium assay of 1.03 ppm U_3O_8 , also containing 1.72 ppm Thorium. This sample was noted as having weak red disseminated hematite and yellow pervasive clay, and recorded 40 cps (Urtec - B90325).

Review

A final review of all samples collected on the Plateau tenements was conducted to ensure that no areas of interest or targets exist on the project area. Several samples were considered 'anomalous', however these have been followed up with additional sampling it is considered that there are no remaining prospective areas on the tenements.

CONCLUSIONS AND RECOMMENDATIONS

The exploration work conducted by Cameco has failed to upgrade the prospectivity of the project; downgraded the prospectivity of the TEMPEST anomaly environment and associated

radiometric occurrence; and, eliminated, as potentially prospective, the groups of hyperspectral illite anomalies occurring in the more extensive outcrop areas of Mamadawerre sandstone.

No drill targets have been generated from the exploration work to date, and no further areas of interest or targets exist within the project area. Further work on the project is not considered warranted and the exploration licences comprising the Plateau project have been surrendered.

EXPENDITURE

A summary of eligible expenditure for the reporting period for each EL is given in [Table 7](#). The total reportable expenditure for the Plateau project is \$74,958.51.

[Table 7: Summary of Expenditure – Plateau Tenements](#)

The eligible expenditure of \$74,958.51 is individually split for the various tenements into EL9928 (\$21,366.65), EL22368 (\$20,937.62), EL22369 (\$14,021.87), EL22447 (\$4,673.96), EL22825 (\$2,821.90), EL22827 (\$9,133.39), and EL23247 (\$2,003.12).

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