Cameco Australia Pty Ltd

EXPLORATION LICENCE EL5891
ARNHEM LAND WEST JV
PARTIAL SURRENDER REPORT

CONFIDENTIAL

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SUMMARY

This report describes exploration work undertaken within the 19 surrendered blocks of Exploration Licence 5891 over the five years of tenure between 1996 and 2001. The tenement is located in northwestern Arnhem Land and was granted in May 1996.

Exploration was carried out by PNC Exploration (Australia) Pty Ltd on behalf of the Warrga Joint Venture partners, PNC Exploration (Australia) Pty Ltd, Cameco Australia Pty Ltd, and the Warrga Aboriginal Corporation. Cameco assumed management in 2000.

The focus of the exploration strategy is the discovery of unconformity-related uranium deposits. The nearby economic deposits at Ranger, Jabiluka, Koongarra and the now depleted Nabarlek mine serve as models for this strategy. 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.

Exploration work undertaken over the period included airborne surveys (fixed wing and heliborne), geological reconnaissance mapping, sandstone lithogeochemical sampling, diamond indicator and stream sediment / BLEG sampling.

There were no results of significance obtained from the work carried out. Geological interpretation has shown that most of the relinquished land is comprised of low prospectivity Nimbuwah Complex granitoids.

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1. INTRODUCTION

This report details exploration work completed within the relinquished blocks of Exploration Licence 5891 (EL5891) during the five years of tenure from the 13 May 1996 to the 12 May 2001. The tenement was explored concurrently with two adjoining tenements, EL's 734 and 5890.

Exploration is subject to the terms of consent documentation dated 1 March 1996 agreed with the Northern Land Council in accordance with the *Aboriginal Land Rights (Northern Territory) Act.* As required by the agreement, the Work Programs for each year were cleared at meetings of the Liaison Committee.

PNC Exploration (Australia) Pty Ltd ("PNC") as operator carried out the Work Program for the Warrga Joint Venture, a joint venture between the Arnhem Land West Joint Venture partners, PNC and Cameco Australia Pty Ltd, and the Warrga Aboriginal Corporation. Commencing 1 April 2000, Cameco Australia Pty Ltd has acquired management of the project.

1.1. Location and Access

EL5891 is located in northwestern Arnhem Land and is wholly within Aboriginal land to the north of the now rehabilitated Nabarlek mine. The Oenpelli-Gurig National Park road provides access to the western part of the tenement while the Waminari and King River tracks traverse the northern and southern sections. Access is poor in the eastern areas due to the King River Estuary and the Jungle Creek drainage systems. Dissected sandstone plateau country of the Wellington Range extends across the tenement. Much of this is accessible only by helicopter or foot due to the rough terrain.

EL5891 Location Map 2001

1.2. Tenure

On granting, the original area of the tenement covered 957 square kilometres of which 144 square kilometres (15%) have been designated restricted zones following a site survey undertaken by the Northern Land Council. Tenure was granted on 13th May 1996 for a period of six years.

Under the Mining Act a 50% reduction in area is required on each anniversary commencing 13th May 1998 unless a waiver is obtained from the Department of Mines and Energy. Waivers were granted for total retention in years three and four. Year 5 saw a reduction in excess of the required number of blocks. A partial waiver was applied for in the current year with 19 blocks being relinquished instead of the required 62. The remaining 106 blocks represents a total of 354.5 square kilometres of the license available for exploration.

EL5891 Relinquished Blocks 2001

1.3. Personnel

Several PNC geologists and field crew undertook fieldwork. Aboriginal traditional owners were employed as field assistants.

Contractors and consultants used were:

- Airborne surveys by Geoterrex, Sydney.
- Analytical work by ALS Brisbane and Chemnorth, Darwin.
- Diamond sampling by consultant Ed Manning of Diamond Exploration Consultants.
- Processing of and observations on diamond samples by Western Laboratories and Klaric Exploration Services respectively, Perth.
- Helicopter assisted activities by Rotor Services, Darwin.

1.4. Physiography

The relinquished sections of the tenement consist predominantly of coastal plains and part of the upper reaches of the King River estuary.

1.5. Regional Geology

Relinquished portions of the tenement consist of the Paleoproterozoic Nimbuwah Complex and Oenpelli dolerite intrusives. There is virtually no outcrop with much of the area covered by sands and alluvium and, in places, thin Cretaceous sediments.

1.6. Exploration Target

The main focus of exploration is the discovery of unconformity-related, vein-type, uranium deposits. The nearby deposits of Ranger, Jabiluka, Koongarra and Nabarlek serve as models for this exploration. Nabarlek is particularly appropriate in view of the similar geological setting and close geographical proximity. The presence of economic gold in Jabiluka 2 and Koongarra plus the gold-platinum group elements with minor uranium mineralisation at Coronation Hill in the South Alligator Valley, indicates additional potential for Au and PGE mineralisation. The area is also considered to hold potential for kimberlite or lamproite hosted diamond deposits.

1.7. Exploration History

The relinquished portions of the license were previously part of a much larger tenement held by Union Carbide Exploration Corporation, who carried out substantial exploration in the period 1970-1972, principally for uranium. They undertook a number of airborne surveys with much of the area flown utilizing a total count scintillometer. Hunting Geology and Geophysics compiled a photogeological interpretation of the region. No details of specific exploration activities on the surrendered ground have been recorded although ground reconnaissance and mapping would have been carried out.

Union Carbide's exploration work was curtailed in early 1973 by a Federal Government imposed moratorium on further exploration pending a resolution of Aboriginal Land Rights.

2. EXPLORATION PROGRAM

A brief outline of the work conducted within the surrendered area is discussed below and shown in the accompanying figure. The data collated for the relinquished blocks is listed in the linked accompanying appendices. Relevant PIMA spectra are contained in the accompanying subdirectory.

EL5891 Work Completed 2001

EL5891 Stream Sediment Location and Assay Data
EL5891 BLEG Location and Assay Data
EL5891 Diamond Gravel Sample Location and Mineral Count Data
EL5891 Rock Grab Sample Location and Assay Data
EL5891 Sandstone Pima Data Read Me
EL5891 Geophysical Logistics Report by Geoterrex 1996

2.1. PNC 1996 Field Season

Following grant of title in 1996, initial activities included a helicopter assisted stream sediment bulk sampling for diamonds and some reconnaissance mapping and outcrop investigation. Towards the end of the season two airborne surveys were conducted, a regional fixed wing and a more localised heliborne survey.

One stream site was sampled. A 30kg bulk sample of -1.6mm material was collected for diamond indicator analysis. Observations were made that high quality trap sites were absent due to the predominance of low gradient sand-choked drainages and that sample quality was moderate or poor to moderate.

The diamond sample processing procedure is described in Mackie, 1997.

Kombolgie sandstone outliers adjacent to the King River estuary were sampled as part of a more regional survey. One 1kg sample was collected for geochemistry and clay mineralogy determinations by PIMA infrared spectrometry. Dominant clay-types comprise illite and kandite.

The heliborne DIGHEM electromagnetic-magnetic-radiometric survey covered the Kombolgie sandstone and adjacent area at 150 metre spaced east-west lines at a mean terrain clearance of 60 metres. North-south tie lines were flown at 2000 metre spacings.

The magnetics define well the complexity of the Oenpelli dolerite intrusions. DIGHEM data also maps out the dolerite where it forms a network in and around the outliers of Kombolgie sandstone.

EL5891 Conductivity 56khz 2001
EL5891 Conductivity 7200hz 2001
EL5891 Conductivity 5500hz 2001
EL5891 Airborne Magnetics 2001
EL5891 Airborne Radiometrics TC 2001
EL5891 Airborne Radiometrics K 2001
EL5891 Airborne Radiometrics U 2001
EL5891 Airborne Radiometrics TH 2001
EL5891 Airborne DTM 2001

Magnetics-radiometrics and VLF were flown as part of the regional King River Project fixed wing airborne survey. The aircraft was flown at a mean terrain clearance of 80 metres with east-west survey lines at 200 metre intervals. North south tie lines were flown at a spacing of 1500 metres. Digital data is included with the present CD.

EL5891 Airborne Magnetics 2001
EL5891 Airborne Radiometrics TC 2001
EL5891 Airborne Radiometrics K 2001
EL5891 Airborne Radiometrics U 2001
EL5891 Airborne Radiometrics TH 2001
EL5891 Airborne DTM 2001
EL5891 Airborne VLF 2001

No diamond indicators were identified in the bulk samples. Similarly, the geochemical sampling failed to locate any anomalies.

2.2. PNC 1997 Field Season

Fieldwork comprised stream sediment –80 mesh sampling and 5kg BLEG sampling and outcrop investigations.

BLEG sampling failed to locate any anomalous gold with all samples returning values less than detection limit of 0.1 ppb.

Geochemical analysis for Au, As, Ce, Co, Cu, Fe, Mg, Mo, Ni, Pb, Th, total U, labile U, Y and Zn of the stream sediment failed to locate any anomalies.

2.3. PNC 1998 Field Season

As part of the regional geochemical evaluation of Nimbuwah Complex, a stream sediment sampling program was implemented. The program, carried out with the aid of a helicopter, collected 13 stream sediment and 5 BLEG samples. Each stream sediment sample consisted of 50 to 100g of –80 mesh material and was analysed for Au, As, Ce, Co, Cu, Fe, Mg, Mo, Ni, Pb, Th, total U, labile U, Y and Zn. The BLEG samples comprised 5 kilograms of –1.6mm material with 2kg being used for analysis.

No major uranium anomalies were located. Values were generally in the 1.11 to 4.09 ppm range (King River drainage). Gold values ranged from less than detection limit to 3ppb, consistent with background. All BLEG results where less than detection limit.

2.4. PNC 1999 Field Season

No further work was carried out.

2.5. PNC 2000 Field Season

No further work was carried out.

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