Cameco Australia Pty Ltd

ARNHEM LAND WEST

GUNBATGARRI PROJECT
EL 2857

RELINQUISHMENT REPORT

CONFIDENTIAL

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SUMMARY

This report refers to the portion of EL2857 Gunbatgarri, which was relinquished at the cessation of the second year of tenure. The tenement, in combination with EL4012, was formerly part of the Arnhem Land West Joint Venture, a joint venture between Cameco Australia Pty Ltd (Cameco), PNC Exploration Australia Pty Ltd (PNC) and the Ngalangak Aboriginal Corporation. In 2002, Cameco attained management then ownership of the project when PNC withdrew from exploration activities in Australia.

There were no field activities performed over the relinquished area for the two year period. The entire area of 264 blocks was designated as 'No-Go' by the Northern Land Council, therefore prohibiting any exploration.

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INTRODUCTION

The subject area, which this report covers, consisted entirely of land prohibited from mineral exploration. The Gunbatgarri Project, was initially included within the Arnhem Land West Joint Venture, (AWJV) a joint venture between Cameco Australia Pty Ltd, PNC Exploration (Australia) Pty Ltd (PNC) and the Ngalangak Aboriginal Corporation. Cameco acquired full ownership of the project in early 2002 when PNC withdrew from uranium exploration in Australia.

Location and Access

Exploration Licence 2857 is located in central western Arnhem Land. The project area is centred about 40 km southwest of Maningrida and 140 km east of Jabiru.

The main Oenpelli to Maningrida Road traverses the northern part of the licence area with secondary service tracks to various Outstations within and south of the tenement.

Location Map

Tenure

EL 2857 was granted on the 19 March 2002 for an initial period of six years. On granting, the total area covered by the licence was 1253 km^2 comprising 375 blocks, of which approximately two thirds were designated as 'No-Go' and therefore excluded from mineral exploration. At the end of Year Two, 264 blocks were relinquished, leaving a balance of 111 blocks.

Relinquished Blocks Map

Physiography

The tenement consists of heavily incised sandstone plateau and escarpment country merging northwards into coastal plains interspersed with tidal river estuaries. Vegetation varies with geology and topography but generally consists of eucalyptus woodland and scrubland. Remnants of monsoonal forest are confined to deep gorges with swampy tidal plains fringing the estuarine portions of the main watercourses.

The plateau is dissected by numerous, mostly north flowing drainages including the Liverpool and Mann Rivers. Gorges and waterfalls have developed in places.

Tenement Geology

Based on the NTGS mapping of the Milingimbi 1:250000 geological series (Carson and others 1999), outcropping rocks within the tenement are dominated by the Kombolgie Subgroup of the Palaeoproterozoic Katherine River Group. These overlie basement rocks assigned to the Nimbuwah Complex. The latter is present as a small elongated 'window' and was once thought to be intrusive into the overlying sandstone ('Gunbatgarri Complex'). The Kombolgie Subgroup is represented by the fluviatile Gumarrirnbang and Marlgowa Sandstones and an isolated outcrop of basal Mamadawerre.

Stratigraphically, the principal sandstone formations in the tenement represent the middle and upper units of the Kombolgie Subgroup. Assuming no structural complications, depth to basement over much of the tenement is most likely considerable. Estimations by the NTGS of depth to the Middle Proterozoic unconformity in the Milingimbi sheet area is thought to be at least 700 metres, as calculated from the measurement of sections through the various sandstone units.

Extrusive volcanic rocks of the Nungbalgarri Volcanics and the Gilruth Volcanic Member are present. Regionally, the former conformably separates the Mamadawerre (basal member of the Kombolgie) from the Gumarrirnbang while the Gilruth is generally present as a thin lateritised or saprolitic surface separating the latter from the overlying Marlgowa Sandstone.

Oenpelli dolerite intrudes both the Nimbuwah Complex and the Kombolgie. Exposures are restricted to linear incised fault traces within the sandstone.

The Cambrian Wessel Group Buckingham Bay Sandstone underlies the coastal plains to the north of the sandstone escarpment. Recent cover comprising sands and clay, gravel and cemented ferruginous deposits mostly obscure any outcrop.

Tenement Geology Map

Regional Structure and Geological History

The early Proterozoic rocks of the region have been affected by the Top End orogeny (1880 to 1780 Ma), which includes the initial Nimbuwah Event or Barramundi Orogeny at about 1870 Ma. This produced a prograde metamorphic effect with associated tight folding and faulting.

Major regional faults, which affect the early Proterozoic, have northwest (Bulman), north-north-west and northerly (Goomadeer) strikes. Another significant set trends to the east and includes both the Ranger and Beatrice faults.

Dating by AGSO (now Geoscience Australia) has constrained the time of deposition of the mid-Proterozoic Kombolgie Subgroup to between 1822 and 1730 Ma. A significant hiatus existed between the Nungbalgarri volcanic event and deposition of the Gumarrirnbang sandstone.

A more intense concentration of structures traverse the mid Proterozoic and younger rocks and include northwest, east, northeast and north trends. Both faulting and jointing with displacements ranging from a few metres up to 100 metres, locally heavily dissect the Kombolgie. The outcropping sandstone stratigraphy within and adjacent to the tenement is to some degree controlled by these northeast features with a gradual southeastward ‘stepping up’ into the younger units. In one instance the Nungbalgarri and Gilruth volcanics are juxtaposed along one such structure.

In a regional context, the Gunbatgarri project is located at the northern extent of the McArthur Basin. The tectonic environments that existed during deposition of the Katherine River Group varied, ranging from extension and local basin formation with probable fault-controlled sedimentation, to a basin-wide extensional setting. As noted

above the exposed sandstone units illustrate spectacular eroded joint and fault patterns, however the near horizontal to shallow-dipping bedding would imply a tectonically inactive post depositional environment.

The widespread Oenpelli Dolerite intrusive event took place at about 1715 Ma.

Exploration Target

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.

Previous Exploration

Historically, McIntyre Mines explored the region for uranium during the late 1960s and early 1970s. Records are sketchy but it appears that airborne surveys with limited ground follow-up was carried out. There is no indication that any mineralisation was discovered within the tenement boundaries.

Cameco Australia conducted regional airborne geophysical surveys during the first year of tenure in 2002. The relinquished area was not included in the survey.

EXPLORATION PROGRAM

As stated in the introductory chapter, there was no work carried out within the relinquished area.

CONCLUSIONS

The 'No-Go' area lies in what Cameco considers a prospective environment for unconformity-related uranium deposits. Any possibility of future exploration for uranium or other commodity will depend upon the wishes of the Traditional Owners.

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