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Tenement operator: Northern Prospector Pty Ltd
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Target commodity: Uranium
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Datum/Zone: GDA94 (Zone 53)
Map Sheets: 1: 250, 000: Millingimbi (SD-5302)
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Tenement manager: AMETS
Copies: DOR (1)
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ABSTRACT

Mamadawerre Project is a uranium exploration project consisting of Exploration Licence 24922 (EL24922) which was granted on the 2nd September 2008 for initial period of 6 years, to Cameco Australia Pty Ltd (Cameco). On the 27th June 2011, Alligator Energy (Alligator), through its wholly owned subsidiary Northern Prospector entered into a JV agreement with Cameco Australia. Under the Agreement, Northern Prospector was appointed as the operator. This report documents exploration work conducted during the fourth year of tenure. The tenement consists of 105 blocks with a total area of 306.3 km².

Exploration for unconformity style uranium mineralisation consisted of helicopter-supported outcrop sampling and reconnaissance work, historic data review and regional structural framework study. 25 rock samples were collected, of which 7 returned values of greater than 200 ppm U₃O₈, with the best result held in MW002 which returned 5612 ppm U₃O₈.

A proposed Helicopter Diamond Drilling program designed to test mineralisation previously identified by Cameco was postponed, due to the inability to secure preferred chopper and drilling contractors post acceptance of the work program by the NLC, with the meeting not held until the 25th of July 2012, and subsequent approval of the MMP (Authorisation received 17th August 2012) by DOR. Drilling on this tenement is expected to commence in May 2013.

The total reportable expenditure for 2011 is $82,585 for EL 24992, which is in excess of the minimum expenditure. The estimated expenditure for next 2012/13 is $285,000.
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INTRODUCTION

Mamadawerre is a uranium exploration project in Western Arnhem Land, Northern Territory consisting of EL24992. The project is in joint venture between Cameco Australia Pty Ltd and Northern Prospector, a wholly owned subsidiary of Alligator Energy Ltd.

2nd September 2012 will mark four years of tenure. The exploration licence is located on Aboriginal Land and work program was 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 program was presented at the liaison Committee meeting held on 25th July 2012 at Oenpelli, and approved by the NLC on behalf of the Traditional Owners.

Exploration activities during the fourth year of tenure consisted of regional interpretation, surface sampling, mapping and reconnaissance.

Location and Access

The tenement is located in western Arnhem Land, Northern Territory on the Millingimbi (SD-5302) 1:250 000 scale topographic map sheet and the Goomadeer (5673) 1:100 000 scale topographic map sheet. The tenement is centred approximately 90 km northeast of Jabiru and 35 km southeast of the Narbalek Mine.
Access within the tenement is limited due to the rugged nature of the area. No currently navigable tracks exist, therefore a helicopter is required. Work was based from Alligator’s Myra Camp.

Tenure

EL24992 was granted to Cameco on 2nd September 2008 for an initial period of six years and covers an area of 105 blocks for 306.3 km². On the 27th June 2011, Alligator Energy (Alligator), through its wholly owned subsidiary Northern Prospector entered into a JV agreement with Cameco Australia. Under the Agreement, Northern Prospector was appointed as the operator. On the 4th October 2012, an application to waiver the reduction of EL24992 until 1st September 2014 was approved by the Department of Mines and Energy.

The Mamadawerre project is located within an Arnhem Land Aboriginal Reserve and is subject to Exploration Consent Deed with the Northern Land Council (NLC) on behalf of the Traditional Owners. The licence contains areas that are sensitive or have cultural and/or social significance to the Traditional Owners, ‘No Go Areas’, and are excluded from exploration access.

REGIONAL GEOLOGICAL SETTING

The Mamadawerre project area is located within the eastern margin of the Neoarchaean and Palaeoproterozoic Pine Creek Orogeny, and is in a region that has been subdivided into the Nimbuwah Domain of the Alligator Rivers region.

The following regional geological overview is largely based on the work by Needham et al. (1988), Needham (1998, 1990), and Needham and Stuart-Smith (1980). Information that is not based on these references is indicated below.

The Bureau of Mineral Resources (now Geoscience Australia) completed 1:250 000-scale geological maps of the Pine Creek Orogeny 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 within the Neo-Archaean (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. Recent collaborative research work by the Northern Territory Geological Survey (NTGS) and Geoscience Australia (GA) indicates that SHRIMP U-Pb age dating of areas of previously mapped Myra Falls Metamorphics outcropping within the Myra Inlier and to the northwest of the Narbalek minesite are Neo-Archaean in age with two age groups 2.53-2.51 Ga and 2.67-2.64 Ga (Hollis et al., 2009a). These quartzo-feldspathic gneiss are now referred to as the ‘Kukalak Gneiss’ and ‘Arrarra Gneiss’ respectively (Hollis et al., 2009b).
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 onlap Neoarchaean basement highs, with gneissic variants thought to pass transitionally into paragneiss of the Nanambu Complex.

The Cahill Formation of the Namoona Group conformably overlies the Kudjumarndi 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 Upper Cahill Formation is magnetic and significantly so at the base of psammitic unit in what is informally known as ‘hanging wall 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 intruded the Cahill Formation prior to metamorphism.

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 events before deposition of the late Palaeo- to Mesoproterozoic Kombolgie Subgroup (Thomas, 2002). The rocks have also been locally migmatised during the ca. 1870 Ma Nimbuwah Event. In addition, there is a broad trend of increasing metamorphic 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; Sweet et al., 1999b). The subgroup consists of sandstone units called the Mamadawerre Sandstone, Gumarrinbang Sandstone, and Marlgow 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 Neo-Archaean, Palaeoproterozoic, and the Kombolgie Subgroup units, 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) or by approximately 1690 Ma by concordant Rb-Sr whole-rock and mineral age (Page, et.
al. 1980). Geochemical and geophysical data suggests 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.

Deformation since deposition of the Katherine River Group includes transpressional movement along steep regional-scale strike-slip faults and possibly some shallow thrusting. These regional faults follow a pattern of predominantly north, northwest, and northeast strikes, giving rise to the characteristic linearly dissected landform pattern of the Kombolgie Plateau. Another significant structural trend strikes east – west which includes both the Ranger and Beatrice Faults.

The Bulman Fault Zone is a principal regional feature and is considered to represent a long-lived deep crustal structure. However, it appears that post-Kombolgie displacements along this and other faults have not been great, because the Arnhem Land Plateau is essentially coherent and offsets along lineaments are generally minor. Field investigations of many interpreted ‘faults’, including those with a marked geomorphic expression, show no displacement, and are best described as joints or lineaments (Thomas, 2002).

Erosional remnants of flat-lying Palaeozoic Arafura Basin and Cretaceous Carpentaria Basin are present as a veneer throughout the coastal zone of the Top End. Various regolith components are ubiquitous as cover throughout much of the region.
LOCAL GEOLOGY

Sedimentary rocks of the Lower Kombolgie Subgroup (Sweet et al., 1999a) unconformably overlie (and obscure) basement in the central, southern and western parts of the tenement. The basal formation, the 100-250 m thick Mamadawerre Sandstone forms a deeply dissected plateau surface. This area is composed largely of bare rock with sparse areas of shallow sandy soil supporting spinifex and scrub. Sandstone is quartzose to lithic and fine- to very coarse-grained with a variety of fluviatile to shallow high-energy marine bedforms, including trough and planar cross-beds (Ojakangas, 1979).
Mamadawerre Sandstone is unconformably overlain by the Nungbalgarri Volcanics. The contact is expressed locally as 100-500 m diameter sub circular depressions (‘dome and basins’), with the upper sandstone surface interpreted to represent the palaeotopographic surface of giant lunate current ripples or aeolian sand dunes with the volcanic draped over the top (Nott and Ryan, 1996). It may also represent large dewatering structures formed as a result of hot volcanic rocks draped over water-saturated sediments, which were deposited in estuarine conditions (Needham, 1978). The Nungbalgarri Volcanics consist of multiple vesicular and amygdaloidal basaltic flows. The regional stratigraphic thickness of the volcanic unit is variable between 50 m and 130 m, however, it may also be locally absent (Carson et al., 1999).

The Gumarrinbang Sandstone, which occupies approximately one quarter of the tenement, unconformably overlies the volcanics, comprising fine- to coarse-grained quartz sandstone with scattered pebbly units. Sedimentary structures include planar and trough cross-stratification, ripples and horizontal planar stratification, suggesting a proximal to distal fluvial braided stream and estuarine depositional environment (Sweet et al., 1999b).

Sills and dykes of Oenpelli Dolerite occur in the Mamadawerre project area. In outcrop, the dolerite ranges from fresh magnetic coarse-grained subophitic dolerite to pervasively altered chlorite-hematite rock. The most visibly obvious structures in the tenement are deeply incised linear features of various orientation and significance, including fractures, joints and small faults.
PREVIOUS EXPLORATION

Exploration 1997-2005 EL3347

EL3347 was granted to the Kunbohwinjgu Joint Venture on the 28th July 1997 with AFMEX as the operator. Exploration activities included a helicopter-borne magnetic-radiometric geophysical survey (8,500 km), followed up by ground reconnaissance over 67 selected radiometric anomalies (Alonso and Kastellorizos, 1998) and (Fabray et al., 2000). During 1998 and 1999 heli-supported diamond drilling (10 holes) took place by AFMEX. The best results were: KBW004 there is up to 174ppm U in clay altered sandstone below the Nungbalgarri Volcanics and 60 m above the u/c; KBW002 in the SW part of the tenement contains an interval of 180ppm U immediately above the u/c, proximal to the NNW Ponting fault. NanoTEM ground electromagnetic geophysical surveys were conducted across the Daniel Fault. These lines show a number of offsets related to the fault. A helicopter supported regional stream sediment survey and limited radiometric anomaly follow up was also carried out. Results were low-order and no further follow-up was conducted (Ewington, 2001). The eastern portion of the licence was relinquished in 2001.

The Kunbohwinjgu joint venture was dissolved in 2003 and Cameco acquired 98% of EL3347. The remaining 2% remained with the Kunbohwinjgu Land Council Pty Ltd. Cameco was granted a two year extension in July 2003. Exploration conducted by Cameco included re-logging and sampling of several of the historical drill holes, and an airborne hyperspectral survey over the entire EL 3347 using the Hymap Mark 1 system. The licence expired in July 2005 and Cameco retained 6 blocks which now forms ERL 25896, and relinquished EL3347. The area covering EL3347 was re-applied for by Cameco in 2005.

Exploration 2008 – 2011 EL24922

EL24922 was granted to Cameco Australia on the 2nd September 2008.

A helicopter supported outcrop sampling program was conducted on the project in late 2008. Sampling was concentrated along structural trends and following up weak hyperspectral clay anomalies identified from the Hymap survey to determine if weak geochemical or alteration patterns could identify the uranium mineralisation potential of the major lineaments. 52 samples were collected from across the project.

Sample MM080407 returned the best result of 0.074 % U₃O₈. The sample was from a hematite altered Gumarrinbang Sandstone stream transported cobble which was discovered in a creek bed in the southeast of the project area. The area has been named Steptoe and a northwest trending fault through it is called the Steptoe fault.
During 2009, helicopter-supported outcrop sampling, mapping and reconnaissance was conducted to follow up on the anomalous sample collected during the 2008 program. Work was focussed in the Steptoe area to determine the background geochemical signatures, alteration patterns, extent and controls to the mineralisation. A total of 10 stations were mapped and 19 rock samples were collected during the course of the program. This program identified uranium mineralisation stretching over 1,000 m within the Gumarrinbang Sandstone along the northwest trending Steptoe fault. The best results along the Steptoe fault included 0.34 %; 961 and 723 ppm U₃O₈ in hematite altered Gumarrinbang Sandstone. The mineralisation is located within a discrete structural zone of the Steptoe fault. Anomalous uranium results have been returned from sampling along the Pigeon fault with best results of 0.115 % U₃O₈ in what is interpreted to be Cretaceous sediment and 509 ppm U₃O₈ in ferruginous Gumarrinbang Sandstone, however in case of the Pigeon fault, mineralization was not able to be directly associated with Pigeon fault structure. Anomalous Pb²⁰⁶/²⁰⁴ isotope ratios of up to 1889.3 indicate that substantial radiogenic lead (Pb²⁰⁶) is present in the area tested by rock sampling. The sampling conducted during 2009 has confirmed the presence of uranium mineralisation within the Gumarrinbang Sandstone related to structure and may indicate potential for unconformity related uranium mineralisation or mineralisation associated with the Nungbalgarri Volcanic Member. The 2009 sampling program did not define the extent of the anomalous uranium mineralisation.

During the 2010 exploration programs included an Airborne electromagnetic (TEMPEST) survey, helicopter-supported outcrop sampling, mapping and reconnaissance were conducted. 65 samples were collected with 10 samples returning U₃O₈ values over 100 ppm. These 10 samples were collected in 3 areas, the Pigeon fault area with previously known mineralization, and two areas previously not known to be mineralized; the northwest arm of the Steptoe fault and the south part of the Nepal-Tibet fault where 188 ppm U₃O₈ (sample C007148) was obtained in altered Nungbalgarri volcanics (near the contact with Mamadawerre sandstone). Short wave infrared reflectance data from 2010 surface sampling revealed the following dominant minerals kaolinite, illite, dickite and halloysite. Muscovite and opal occurred quite frequently with occasional carbonates (ankerite and siderite) and K-alunite.
EXPLORATION DURING REPORTING PERIOD 2011 - 2012

25 samples were collected during the 2011 program and submitted for geochemical analysis with Beaureu Veritas.

Figure 4: Distribution of uranium mineralisation in rock chips
Samples were transported to AMDEL (Bureau Veritas) Laboratories in Berrimah, Darwin for sample preparation. The preferred uranium analysis technique for the 2011 field season was ICP-MS using Lithium Borate fusion of the pulp sample. This technique is considered a total analysis method.

Procedures for sample preparation at the Berrimah laboratory were as follows:

- Samples sorted and dried to a core temperature of approximately 100°C.
- Dried samples were then coarse crushed using a Boyd crusher to a sizing of approximately 5mm.
- The total sample was milled in an LM5 pulveriser to 85% passing 75 μm.
- An analytical pulp of 250 was taken from the bulk and the residue retained.
- The pulp sample was then delivered to AMDEL’s laboratory in Adelaide.

The primary uranium assay technique used was ICP-MS following lithium borate fusion of the pulp sample. This method involved taking a 0.1g subsample of the analytical pulp which was then fused with lithium metaborate followed by dissolution to give a “total solution”. The solution was presented to an ICP-MS for the determination of elements of interest. In addition, a suite of elements (with detection limits) were analysed including: Au, Pt, Pd, Ba, Be, Bi, Ce, Co, Cs, Ga, Hf, In, La, Mo, Nb, Rb, Sb, Sn, Sr, Ta, Te, Th, W, Y, Zr, U.

Results are shown in table 1. 7 samples returned U₃O₈ values over 200 ppm, and 3 samples over 500 ppm U₃O₈. The best result of 5612 ppm U₃O₈ was returned in MW002, hosted in a medium grained silicified sandstone with light green secondary mineralisation.

![Sample MW002](image)

*Figure 5: Sample MW002.*

*Sandstone with visible secondary uranium mineralisation*
uranium visible. A photograph of this sample can be seen in figure 5. The geographic
distribution of samples is shown in figure 4.

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Table 1: U3O8 Values of 2010 Rock Chip Samples.

Logistical reconnaissance in conjunction with representatives from Mamadawerre community was carried out to identify suitable temporary camp locations, helicopter staging posts, drilling water supplies and potential access points in preparation for the upcoming drill program.

Diamond drilling was proposed for 2012, however has been delayed. This delay was forced due to the late scheduling of the NLC work program meeting, which was finally held in late July. Subsequently, the Mamadawerre Project Mining Management Plan was not approved by DOR until 17th August 2012. Due to this delay, Northern Prospectors preferred contractors for this helicopter work were unable to schedule the program in until 2013. Senior management of Northern Prospector have extensive experience with helicopter supported drilling and consider it imperative that experienced contractors are used. The program will therefore not take place until 2013.
CONCLUSIONS AND RECOMMENDATIONS

Sampling has confirmed the presence of anomalous uranium within the Gumarrinbang Sandstone, which is related to structure and may indicate potential for unconformity related uranium mineralisation on unconformity between Nimbuwah basement and Kombolgie sandstone or mineralisation associated with the Nungbalgarri Volcanic Member and potential mafic intrusive in fault zone (Westmoreland type of mineralization).
Proposed Westmoreland style mineralization may exist in area along Steptoe and Pigeon fault and Nungbalgarri Volcanics.

Follow up drill testing to identify possible uranium mineralisation, and to investigate the possibility of favourable stratigraphic uranium host horizons within the Gumarrinbang sandstone is seen as a priority by Alligator Energy.
An initial program of a minimum of three drill holes is recommended:
   a) Steptoe and Pigeon fault intersection,
   b) Steptoe fault at peak geochemical anomaly,
   c) Pigeon fault at peak geochemical anomaly.
Due to the terrain, further mapping of the deep crevasses is recommended to highlight further potential anomalous uranium which may be masked from an airborne response.

PROPOSED WORK PROGRAM 2012 - 2013

A minimum of three, helicopter supported diamond drill holes for 600 metres will be conducted in the Steptoe area. The proposed site locations are shown in figure 7.

Further tenement wide reconnaissance mapping and rock chip samples will be run contiguous to this program.

The estimated expenditure to complete the work program as planned is expected to be approximately $285,000.
Figure 6: Proposed drill pads for 2012/13 program.
REFERENCES


Ojakangas, R.W., 1979, Sedimentation of the basal Kombolgie Formation (upper Precambrian-Carpentarian), Northern Territory, Australia; possible significance in the genesis of the underlying Alligator Rivers unconformity-type uranium deposits, US Dept. of Energy.

Page, R.W., Comston, W., Needham, R.S., 1980. “Geochronology and evolution of the late-Archean basement of Proterozoic rocks in the Alligator Rivers uranium


Thomas, D., 2002, Reconnaissance structural observations: Myra-Kukalak Project, Arnhem Land, Northern Territory, Cameco Australia.