



Cameco Australia Pty Ltd

EL 10176 and EL 24371

NABARLEK PROJECT

NORTHERN TERRITORY

ANNUAL REPORT

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SUMMARY

The Nabarlek Project is a uranium exploration project covering exploration licences (EL's) 10176 and 24371 for a total area of 383.8 km² and located approximately 250 km east of Darwin. Cameco Australia Pty Ltd (Cameco) was granted the tenements on 1st September 2004.

In early December 2006 a Joint Venture agreement was signed between Cameco (60 % and operator) and Uranium Equities Limited (40 %) to conduct exploration for uranium on the Nabarlek Project.

The exploration program for 2010 included drilling of 42 reverse circulation holes (RC) for 6,158 m, 91 aircore (AC) holes for 1,394 m, 4 diamond drill holes (DDH) for 486.7 m, a gravity survey that consisted of 959 stations and regional sampling and reconnaissance with 43 outcrop samples and 124 mapping locations.

RC drilling was focussed on follow up of geochemical and structural targets at Gabo Fault, N147, S9, Coopers, U40 and N23. Drilling revealed interesting results at Coopers and U40. Coopers drilling returned anomalous uranium in holes NAR7370 (0.05% U₃O₈ over 14 m), NAR7371 (0.07% U₃O₈ over 10 m), NAR7374 (0.33% U₃O₈ over 6 m), NAR7375 (0.03% U₃O₈ over 1 m), NAR7377 (0.1% U₃O₈ over 1 m) and NAR7378 (0.2% U₃O₈ over 23 m). Mineralization at Coopers appears to be focused along a NE trending structure. U40 drilling returned anomalous uranium in hole NAR7389 (1.5 % U₃O₈ over 4 m).

There were two AC programs conducted on the Nabarlek tenement. The first one was focused along the Tip Fault at Coopers and the second program was focused along the north-eastern boundary of the Nabarlek mine lease. The program along the Tip Fault revealed elevated uranium in NAA7448 (150 ppm U₃O₈), NAA7449 (161 ppm U₃O₈) and NAA7450 (175 ppm U₃O₈). The second program failed to return elevated uranium.

DDH drilling was conducted at U40 to follow up on mineralization intersected in NAR7389. Anomalous uranium was intersected in NAD7492 (6.8% U₃O₈ over 6.8 m) and NAD7493 (2.05 % U₃O₈ over 4.8 m). From current RC and DDH drilling, mineralization appears to be following the Quarry Fault trend.

Outcrop sampling did not return uranium values above background.

The 2010 Nabarlek ground gravity surveys were found to be influenced primarily by variations in overburden thickness and composition. This helped distinguish sub-cropping structure as such features undergo preferential weathering.

Eligible exploration expenditure spent by Cameco Australia for EL10176 and EL24371 for the reporting period totaled \$2,058,893.74. Expenditure for 2011 is expected to be \$800,000.

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INTRODUCTION

Nabarlek is a uranium exploration project covering exploration licences EL10176 and 24371. The project is managed and operated by Cameco Australia Pty Ltd (Cameco) in joint venture (JV) with Uranium Equities Limited (UEL). This report details exploration work completed by the JV during the seventh year of tenure.

The exploration objective of the project is to discover economic uranium mineralization within a geological setting similar to the known deposits of the Alligator Rivers region of the Northern Territory, and the concealed high-grade deposits of the Athabasca region of Saskatchewan in Canada.

The 2010 exploration program was presented to the Traditional Owners and Northern Land Council (NLC) at the Work Program Meeting held on 29th April 2010 at Oenpelli. Permission to conduct the program was given by the NLC on behalf of the Traditional Owners.

Location and Access

The Nabarlek project is located in the western part of Arnhem Land, entirely within Aboriginal freehold Land (refer [Figure 1](#)). The project is approximately 50 km east-northeast of Jabiru and is centred on the Nabarlek mine site. Darwin is located approximately 250 km to the west.

The tenements are located on the 1:250 000 map sheets of Alligator Rivers (SD-5301) and Milingimbi (SD-5302), and the Oenpelli (5573) and Goomadeer (5673) 1:100 000 map sheets.

Figure 1 - Nabarlek Project Location Map

The exploration program for 2010 was based out of Cameco's King Rier camp. Access from Darwin is via the sealed Arnhem Highway to the Oenpelli road turnoff and then north-east along the Oenpelli-Maningrida road past Oenpelli to the Cobourg Road road. Continue north on Cobourg Road to King River camp.

Access within the project is variable and dependent upon topography. In general, most of the country is flat lying with low hills and can be traversed by four-wheel drive during the dry season. Heavily dissected sandstone escarpments of the Spencer Ranges are best traversed by foot and accessed by helicopter. Several pre-existing tracks in variable condition cut north-south and east-west across the tenement.

Work is undertaken in the area under the terms of the consent documentation agreed upon with the Northern Land Council on behalf of the Traditional Owners, pursuant to the Aboriginal Land Rights Act of the Northern Territory legislation.

Tenure

The Nabarlek project originally comprised ELs 10176, 24371 and 24372, which were granted on 1st September 2004 for an initial period of six years. The original area of

grant was 423 km². Non-consent areas were excluded from the Exploration Licences at the time of grant.

In early December 2006 a Joint Venture agreement was signed between Cameco and Uranium Equities Limited (UEL). Under the terms of the agreement, UEL earned 40% interest in Nabarlek and the adjacent Namarrkon project (EL23700) Cameco will continue to operate and manages the project.

On 31st August 2008, 9 blocks for 25.2 km², of the original 134 blocks, was relinquished from EL10176. No other relinquishments have been made on the licenses.

EL 24372 was surrendered in September 2008, and the project now consists of the two remaining EL's 10176 and 24371 for a total area of 383.8 km².

Physiography

The tenements contain several outliers of dissected sandstone plateau of the Spencer Range, which forms the eastern extension of the Oenpelli Massif. The remainder of the project consists of gently undulating sandy plains covered by open woodland with patches of open grassland and low shrub. Thin remnants of weathered and lateritised flat-lying Cretaceous sediments form tablelands in the northeastern portion.

The main drainage systems are Birraduk Creek and Cooper Creek, which flow to the northwest.

GEOLOGY

Regional Geology

This section 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. See [Figure 2 - Nabarlek Regional Geology](#) for a geological map.

[Figure 2 - Nabarlek Regional Geology](#)

The Nabarlek project area is located within the eastern margin of the Neoproterozoic Pine Creek Orogen, in a region that has been subdivided into the Nimbuwah Domain of the Alligator Rivers region.

The oldest exposed rocks in the Alligator Rivers region are those of the Neoproterozoic (ca. 2500 Ma) Nanambu Complex, a group of paragneiss, orthogneiss, migmatite, and schist forming dome structures. The Nanambu complex is unconformably overlain by a Paleoproterozoic metasedimentary and metavolcanic sequence, formerly included in the Pine Creek Geosyncline (PCG). Recent U-Pb age dating by the NTGS and Geoscience Australia (GA) of rocks within the Myra Inlier, previously mapped as part of the Paleoproterozoic PCG and named the Myra Falls Metamorphics, indicates that they are in fact part of the Neoproterozoic Nanambu Complex (Hollis, et al, 2009). These rocks have thus been re-mapped as the Kukalak Gneiss.

Paleoproterozoic rocks in the Alligator Rivers region are amphibolite-facies psammites assigned to 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 to pass transitional into paragneiss of the Nanambu Complex.

The Cahill Formation of the Namoon Group conformably overlies the Munmarlary Quartzite. The Cahill formation can be separated geologically into two groups, the lower Cahill Formation consisting of calcareous marble and calc-silicate gneiss, overlain by pyritic, garnetiferous and carbonaceous schist, quartz-feldspar-mica gneiss, and minor proportions of amphibolite; and the more psammitic Upper Cahill Formation consisting of feldspar-quartz schist, quartzite, lesser proportions of mica-feldspar-quartz-magnetite schist, and minor proportions of metaconglomerate and amphibolite. The Lower Cahill Formation is host to all of the major deposits of the Alligator Rivers Uranium Field, including Jabiluka, Ranger, Koongarra and Nabarlek. Mafic sills and dykes assigned to the Goodparla and Zamu dolerites intrude the Upper Cahill Formation.

Overlying the Cahill Formation is the Nourlangie Schist, 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 Paleoproterozoic to Mesoproterozoic Kombolgie Subgroup (Thomas, 2002). The rocks have also been locally migmatized during the ca. 1847 \pm 30 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.

Overlying the Proterozoic metamorphics with a marked regional unconformity is the the Kombolgie Subgroup, the basal unit of the late Paleoproterozoic to Mesoproterozoic Katherine River Group of the McArthur Basin (Sweet et al., 1999a, b). The subgroup consists of sandstone units called the Mamadawerre Sandstone, Gumarrinbang Sandstone, and Marlgowa Sandstone (oldest to youngest) which are divided by thin basaltic units called the Nungbalgarri Volcanics, and Gilruth Volcanics respectively. 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. It intrudes various Neoproterozoic and Paleoproterozoic units, as well as the Kombolgie Subgroup, forming magnetic sills, dykes, lopoliths, and laccoliths. The Oenpelli Dolerite has a 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. Localized effects in the sandstone include silicification, desilicification, chloritization, sericitization, 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, north – northwest and northeast strikes, giving rise to the characteristic linearly dissected landform pattern of the Kombolgie Plateau. Another significant set trends east – west and 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, with a large lateral component in rocks of the PCS. 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 Paleozoic 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.

Tenement Geology

The Nabarlek project area is located to the north of the Myra Inlier and shares much of the same local geology. The project is half overlain by outcropping Mamadawerre Sandstone, forming the sandstone escarpments and dissected plateaux of the Spencer Ranges. In lowland areas, where the Mamadawerre Sandstone has been eroded off, the underlying metamorphic basement rocks or intrusive Oenpelli Dolerite are largely obscured by sandy colluvium or are heavily lateritised. Refer to [Figure 3 - Nabarlek Local Geology Map](#) for the local geology map and refer to [Figure 4- Stratigraphy of the Myra Inlier](#) for the stratigraphy of the geological units of the Myra Inlier as determined from mapping and drilling.

[Figure 3 - Nabarlek Local Geology Map](#)

[Figure 4- Stratigraphy of the Myra Inlier](#)

The Cahill Formation is the oldest unit within the Nabarlek project and generally forms scattered rubbly scree on low hills, or is below sand cover through much of the central portion on the project area.

The Cahill Formation is intruded by the Zamu Dolerite, the Nimbuwah Complex suite of granitoids, the Nabarlek Granite, the Tin Camp Granite, the Oenpelli Dolerite, and the Maningkorri Phonolite (listed in decreasing age). Amphibolite in the basement is commonly observed in drill holes in the project area, and is assigned to the Zamu Dolerite.

The unconformity between the Mamadawerre Sandstone and underlying rocks is sharp and generally flat-lying, although localised channels cut underlying rocks. Such

channels tend to be filled with pebble to cobble conglomerate unit consisting of rounded to sub-rounded quartz pebbles, cobbles and rare boulders, quartzite, and rare clasts of schist and gneiss.

EXPLORATION TARGET

The focus of exploration in the Nabarlek Project area is the discovery of unconformity-style uranium deposits. The prospective nature of the Alligator Rivers region is demonstrated by the presence of economic uranium occurrences at Ranger, Jabiluka, Koongarra and Nabarlek. In addition, significant gold, platinum and palladium resources are present at existing uranium occurrences in the Alligator Rivers Uranium Field (Ranger, Jabiluka, Koongarra and Coronation Hill/South Alligator Valley-style deposits) suggesting that economic Au and PGE (Platinum Group Element) mineralisation, associated with economic or sub-economic uranium may also be present in the project area.

Recent research into the Proterozoic Westmoreland District uranium deposits, from the Northern Territory – Queensland border suggests that the same broad physiochemical processes that govern unconformity-style uranium deposits also produce Westmoreland-style deposits, and indeed other basin/unconformity associated precious and base metal deposits (Wall, 2006). ‘Westmoreland-style’ uranium mineralisation may pose an exploration target in the dolerite and volcanic units of project area, although only sub-economic uranium occurrences have been discovered associated with these units in West Arnhem Land.

Despite local variations in structures, host rocks, element associations, all uranium deposits in the Alligators River region are located close to the unconformity between basement rocks and the Kombolgie Subgroup. In several examples, down-faulted blocks of the Kombolgie Subgroup, such as at the Ranger No 3 Orebody and the Hades Flat Prospect, are present adjacent to mineralisation. This common association of sandstone and uranium mineralisation is considered to be indicative of a favourable setting for the concentration of mineralising fluids, irrespective of the deposit-style model being invoked.

PREVIOUS EXPLORATION

The following historical exploration information is extracted from various unpublished reports submitted by various companies to the Northern Territory Department of Resources – Mines and Energy as part of their statutory obligation. Open-file reports can be obtained from the Northern Territory Geological Survey.

Exploration by Queensland Mines Pty Ltd 1969 – 1998:

The area covered by ELs 10176, 24371 and 24372 was held by Queensland Mines Proprietary Limited (QML) during the 1970's. Exploration work consisted of airborne radiometric and magnetic surveys, regional stream-sediment geochemistry, regional geochemical soil-sampling, regolith geochemistry, ground total count radiometric surveys, reconnaissance exploration and mapping with some facilitated by surveyed grids. The Nabarlek deposit was discovered by radiometric survey and ground follow-up in June 1970.

QML's exploration was curtailed in early 1973 by the Federal Government imposed moratorium on exploration pending a resolution of the issue of Aboriginal Land Rights. No further exploration work was completed until 1988. EL 2508 was granted to QML on 29 June 1988, and two separate two-year renewals of the tenement were applied for and granted in 1994 and in 1996. The tenement expired on 28 June 1998.

From 1988 and 1989, Surtec Geosurvey contracted by QML conducted tenement wide surveying and gridding, aerial photography, airborne spectrometer and magnetometer, photogrammetric, geological mapping, soil sampling, ground radiometrics, radon track etch surveying, trenches, rotary air blast (RAB) drilling, percussion and diamond drilling (DD), geochemical surveys, petrography and data processing.

QML conducted diamond drilling at twelve prospects (U65, U28, N84, S27, N147, SMLB, N7, N23, U40, U42, S13, and U19). Significant, but sub-economic uranium mineralization in strongly to moderately altered zones was intersected at the N84, S27, N147, U65, SMLB, U40 and U42 prospects. Many other anomalies were discovered but were discounted.

Exploration by AFMEX, Cameco, SAE Australia JV 1998 – 2003:

In 1998, four months prior to expiry of EL2508, a joint venture partnership consisting of 25% Afmeco Mining and Exploration Pty Ltd (AFMEX) as the operating partner, 50% Cameco and 25% SAE Australia Pty Ltd acquired the tenement from QML. Exploration Retention Licences (ERL) were lodged over those portions of EL2508 that were considered the most prospective and the remainder was permitted to expire. On 20 May 1999, the joint venture partnership was granted ERL's 150, 151 and 152, and were relinquished in 2003.

Nine diamond holes were drilled at ERL 150 (SMLB) during the period of tenure. Four diamond drill holes followed up untested minor mineralization along the Boundary Fault and parallel structures with limited success. Five holes were drilled into conductive targets identified with airborne EM (TEMPEST) surveys. The drilling was not successful in identifying any economic mineralization.

Exploration on ERL 151 (N147) focused on delineating blind repetitions of the Nabarlek shear zone south east of the two zones of known mineralization at N147. Geophysical targets in this area were also tested. Nineteen RC/DDH holes were drilled with only two holes intersecting radioactive intervals associated with shearing. Although zones of significant alteration were intersected in both sandstone and basement, no mineralization was discovered that warranted follow-up work.

Two diamond holes were drilled at ERL 152 (U65) to test major structures and/or resistivity targets. Both holes intersected major faults or brecciation but neither hole intersected anomalous radioactivity. U65-5 intercepted strong alteration in the sandstone consisting of brecciated hematitic pebbly sandstone between 115.5 – 146.6 m and a zone of hematite rock between 151.8 and 160 m). Despite the encouraging nature of this alteration, AFMEX concluded the following year that mineralisation was restricted to minor occurrences within the Oenpelli Dolerite, and ERL 152 was relinquished in 2001.

ERL's 150 and 151 were relinquished in 2003.

Cameco Exploration (2004-2009)

2004

Cameco lodged application for EL10176, covering the former EL2508 and ERL's 150, 151 and 152, on June 1999. Grant of title was given on 1st September 2004, as three separate tenements EL10176 the largest central portion and two smaller titles (EL's 24371 and 24372) separated by large areas of non-consent land.

Various data compilations and reviews of historical data was completed with re-prioritisation of historical anomalies where completed extensive data review, compilation, digitised drill hole data, and also conducted field reconnaissance, sampling and mapping.

2005

In 2005, an airborne hyperspectral survey (De Beers Hyperspectral Scanner) was flown over two-thirds of the project area covering the western portion. A TEMPEST survey was flown over the southern portion of EL 10176 and reprocessing of the 2001 TEMPEST survey in the northwest corner was completed. An airborne radiometric and magnetic survey of the S27 and N84 prospect areas was flown.

The TEMPEST survey identified a number of targets that were highlighted for further work. The results of the survey at S27 were enigmatic as the electromagnetic response identified in earlier surveys could not be imaged with TEMPEST.

2006

A 14 hole RC/DDH drilling program was conducted in 2006. Drilling at S27 did not upgrade previous results obtained by Afmex, and the electromagnetic responses could not be adequately explained. Results from drilling of NARD6011 at the Gabo fault were encouraging with anomalous U concentration, encouraging structural configuration and alteration.

A TEMPEST survey over the western, central (main) and eastern portion of the project area was conducted to complete coverage by adding to previous survey datasets over the project. No conductive responses were observed directly related to the mineralisation at Nabarlek, SMLB or N147, although strong conductors were observed along the Nabarlek Shear between these prospects.

A trial SAM (sub-audio magnetic) survey by GAP Geophysics Australia Pty Ltd (GAP) was completed to the southeast of the N147 prospect. This survey was aimed at determining whether extensions of the Nabarlek Shear could be imaged below sandstone towards the south-east of the prospect. The results of the SAM survey were inconclusive, and it was determined that the SAM survey could not penetrate through the deep sand cover to image the basement structures.

2007

In 2007, exploration drilling consisted of one helicopter supported diamond drill hole on the sandstone plateau to the south of Nabarlek, and reverse circulation with diamond drill tails at N147, N84 and Gabo fault; aircore drilling with 280 holes for 4,272m; regional outcrop sampling and soil sampling at N23, N147, Iris and SW Corner.

Drilling at N147 defined the best intersection for the dolerite-hosted uranium mineralisation of 21.1m at 0.32% U_3O_8 from 115.1m in NARD6017. Diamond drilling was conducted to test for lateral strike extents of the mineralisation but only one hole NAD6023, 180 m to the SW, is interpreted to have intersected the mineralised zone. The mineralisation at N147 was interpreted to be of narrow width and of limited lateral continuity, associated with thin parallel steeply NW dipping structures, with a secondary set of shallow orientated mineralised veins.

The AC drilling intersected elevated U values along trend of various structures, eg Stevens fault, faulting in the U65 area, and a linear valley at S27.

2008

In 2008, the exploration program entailed drilling of 85 reverse-circulation (RC) holes for 7,475 m, 532 AC holes for 8,101 m, an airborne radiometric and magnetic survey by UTS at U40/42 for 321 line kilometres, a test VTEM survey by Fugro of 35.8 line kilometres on four lines, and downhole geophysical logging of selected holes from N147 and SMLB by Borehole Wireline and Geoscience Associates Australia.

The RC drilling program at N147 was designed to test for extensions to the uranium mineralisation within Oenpelli Dolerite, first identified by QML in 1989. 19 RC holes for 2,737 m were drilled on the N147 prospect with the best uranium mineralisation intersection in 2008 being from NAR6318 with 28m at 0.145 % U_3O_8 from 112 to 140 m with a maximum grade of 0.63 % U_3O_8 from 120 to 121 m.

Six RC drill holes for 804 m at SMLB were designed to follow up historical drilling of weak uranium mineralisation associated with the Boundary fault. Best results were intersected in NAR6384 with 21 m at 510 ppm U_3O_8 from 94 to 115 m within chloritised schists of the Cahill Formation. The drilling indicated weak mineralisation associated with the footwall schists in the basement fault wedge.

48 RC holes for 2,798 m were drilled on a grid (400 m x 200 m grid) southeast of N147 and at 6 RC holes for 414 m at Coopers to the east of N147, through the sandstone unconformity and into basement rocks, to test for geochemical and alteration vectors that may indicate potential for uranium mineralisation. The best result was intersected in NAR6345 of 134 ppm U_3O_8 from 48 to 52 m in chlorite schist, proximal to an interpreted fault in the magnetics.

Regional RC drilling was conducted at Muddy Waters and Bus Stop testing Tempest conductive features. No results above expected background uranium values were returned. The nature of the conductive targets remains unexplained.

AC drilling was concentrated in a corridor to the southeast and northwest of the Nabarlek Mine Lease, along key structures in areas not covered by sandstone; and in areas of anomalous Tempest conductive features to better target the RC drilling. The drilling was conducted to test for geochemical and alteration vectors within the regolith and transported cover that may indicate potential for uranium mineralisation.

AC drilling in the Coopers area intersected uranium mineralisation within Oenpelli Dolerite in one AC hole (NAA6406) returning 0.12 % U_3O_8 over 1 m with other holes in the area returning anomalous uranium.

2009

The exploration program for 2009 consisted of drilling of 417 aircore (AC) holes for 7,617 m, airborne radiometric and magnetic surveys at N84 for 910 line kilometres and N23 for 498 line kilometres, and a Sub Audio Magnetic (SAM) survey within a one kilometer square area for 30.62 line kilometers at N147; and regional sampling and reconnaissance with 32 outcrop samples and 14 mapping locations.

AC drilling in the Coopers area intersected uranium mineralisation within Oenpelli Dolerite with NAA7130 returning a best intersect of 1 m at 0.198 % U_3O_8 and with several other holes in the area returning highly anomalous uranium. Four AC holes define a northeast trend to the mineralisation which extends over approximately 200 m and is coincident with an interpreted northeast trending structure. The proximity of the Tip fault and other structures in the area together with the widespread uranium anomalies in the AC drilling indicates that the Coopers area is highly prospective for uranium mineralisation.

Drilling along the Gabo Fault identified an area of anomalous uranium (up to 21.8 ppm U_3O_8 in NAA7035) within sandstone and dolerite proximal to an interpreted cross-cutting structure.

EXPLORATION PROGRAM 2010

The exploration program for 2010 consisted of drilling of 42 RC drill holes for 6,158 m, 4 DDH for a total of 486.7 m, 91 aircore holes for a total of 1,394 m and ground follow up on radiometric anomalies which included 43 assay stations and 124 mapping stations. See [Table 1](#) for all work done on the Nabarlek Tenement, **Error! Reference source not found.** for a map illustrating where work took place and **Error! Reference source not found.** for a detailed map of drilling locations.

See [Appendix 1 - Cameco Exploration Methodology](#) for Cameco's Exploration methodology.

[Appendix 1 - Cameco Exploration Methodology](#)

[Table 1- 2010 Exploration Work Conducted on Nabarlek](#)

[Figure 5 - Nabarlek Work Areas 2010](#)

[Figure 6 - All Nabarlek Drilling 2010](#)

Table 1- 2010 Exploration Work Conducted on Nabarlek

Work Done	Holes	Meters			
Drilling					
<i>RC Drilling</i>	42	6,158			
<i>DDH Drilling</i>	4	486.7			
<i>AC Drilling</i>	91	1394			
Sampling Stations	43 Samples				
Mapping Stations	124 stations				
Gravity Survey	3 Grids consisting of 959 unique gravity stations				

RC Drilling

The RC drilling program was conducted by Gorey and Cole Drillers, Alice Springs, Northern Territory. Drilling commenced on 15 July 2010 and continuing through to 23 September 2010.

RC drilling was conducted with the objective to follow up on prospective uranium trends from a number of targets and areas on EL10176, focusing on the follow-up of anomalous uranium results returned by previous wide spaced AC drilling programs. RC drilling was conducted at Gabo Fault, N147, S9, Coopers, U40 and N23. See **Table 2 - Drill Summary by Prospect** for a breakdown of drill holes and meters per target area and **Error! Reference source not found.** for a location map of all RC targets drilled in 2010.

Table 2 - Drill Summary by Prospect

Table 2 - Drill Summary by Prospect

Target Area	Holes	Meters
<i>Gabo Fault</i>	8	1370
<i>N147</i>	4	805
<i>S9</i>	2	199
<i>Coopers</i>	20	2845
<i>U40</i>	6	888
<i>N23</i>	2	51
TOTAL	42	6158

Gabo Fault

The Gabo Fault is a NE trending fault juxtaposed between Kombolgie Sandstone to the south and Oenpelli Dolerite to the north. The fault is dipping approximately 45° to the NW and is cross-cut by several shears and faults at varying orientations (striking at ~ 315°). From 2008 and 2009 AC drilling it was concluded that strong alteration and elevated uranium (6 ppm U) in dolerite and sandstone at the bottom of AC drill holes were associated with the intersection of Gabo Fault and interpreted NE shear zones.

Elevated uranium was intersected in the basement rocks, near the unconformity. The mineralization appears to be following the Gabo Fault trend and is not associated with the NW trending shear zones.

The program at Gabo Fault consisted of 3 NW trending RC lines with 8 holes for 1370 m (**Table 2**). For a plan of the 2010 RC drilling at Gabo Fault prospect see **Figure 7 - Gabo Fault RC Drill Plan**.

Figure 7 - Gabo Fault RC Drill Plan

NAR7356

NAR7356 collared into surface sands to 8 m and intersected saprolitic clays between 8-18 m. Sandstone was intersected from 18-46 m. It is characterized by moderate bleaching and silicification with strong chlorite alteration above the unconformity at 46 m. The basement package consists of interbedded amphibolite, schist and quartz-rich semipelite. It is strongly hematized immediately below the unconformity and strongly chloritized from 50-167 m, after 167 m the basement rocks become relatively fresh. The hole was terminated at 184 m.

Analytical results consisted of 0.01% U₃O₈ over 1 m from 52-53 m in basement rocks just below the unconformity. Elevated uranium is also associated with elevated selenium (4ppm) and Pb206/Pb204 (0.05). Sulfur is abundant just after the unconformity between 48-52 m, before intersecting elevated uranium (2,080 ppm S).

NAR7357

NAR7357 collared into surface sands to 4 m and intersected saprolitic clays between 4-35 m. Sandstone was intersected between 35-49 m. It is characterized by moderate bleaching and silicification with strong chlorite alteration above the unconformity at 49 m. The basement package consists of interbedded amphibolite, schist and quartz-rich semipelite. It is strongly hematized immediately below the unconformity and strongly chloritized from 54-125 m, after 125 m the basement rocks become relatively fresh. The hole was terminated at 136 m.

Analytical results did not reveal elevated uranium down hole. Elevated platinum (61 ppb Pt), palladium (7 ppb Pd), lead ratio (206/204) (0.14) and magnesium oxide (183,000 ppm) was intersected after the unconformity in basement rocks from 49-51 m.

NAR7358

NAR7358 collared into surface sands to 7 m and intersected saprolitic clays between 7-21 m. Dolerite was intersected between 21-53 m. It is characterized by weak to moderate chlorite alteration with minor zones with pervasive hematite alteration before intersecting the Gabo Fault at 53 m. After passing through the Gabo Fault a small wedge of Sandstone was intersected from 53-59 m. It was moderately- to strongly chloritized, overprinting bleaching. The unconformity was intersected at 59 m. The basement package consists of interbedded amphibolite, schist and quartz-rich

semipelite. It is strongly chloritized from 59-169 m with minor bleached zones, after 169 m the basement rocks are relatively fresh. The hole was terminated at 184 m.

Analytical results did not reveal elevated uranium down hole. Elevated nickel (145 ppm Ni) platinum (4 ppb Pt), magnesium oxide (171,000 ppm MgO) and lithium (121 ppm Li) was intersected after the unconformity from 59-64 m.

NAR7359

NAR7359 collared into sand down to 2 m and intersected saprolitic clays between 2-30 m. Sandstone is present between 30-63 m. It is characterized by moderate bleaching and minor clay alteration. Chlorite alteration is dominant above the unconformity at 63 m. The basement package consists of interbedded amphibolite, schist and quartz-rich semipelite. It is strongly chloritized from 63-167 m, after 167 m the basement rocks are relatively fresh. The hole was terminated at 172 m.

Analytical results contain 0.01% U₃O₈ over 1 m from 63-64 m in basement rocks, just below the unconformity. Elevated uranium is associated with elevated gold (6 ppb Au), nickel (120 ppm Ni), manganese oxide (806 ppm), magnesium oxide (125,000 ppm MgO), loss in ignition (6.1%), lead ratio (0.18 Pb206:Pb204) and elevated sulfur (up to 1,880 ppm S). Elevated sulfur extends deeper into the basement below the unconformity and the uranium intersection.

NAR7360

NAR7360 collared into saprolitic clay between 0-28 m. Dolerite was intersected between 28-34 m. It is characterized by weak to moderate chlorite alteration with minor zones of pervasive hematite alteration. Hematite alteration is strongest before intersecting the Gabo Fault (34 m). After passing through the Gabo Fault a small wedge of sandstone was intersected from 34-46 m. The sandstone is strongly bleached with minor hematite and clay alteration and strong chlorite alteration above the unconformity at 46 m. The basement package consists of interbedded amphibolite, schist and quartz-rich semipelite. From 46-58 m the basement is strongly hematized and chloritized with minor sericite alteration. Strong alteration could indicate a potential shear zone. From 58-133 m the basement consists of moderate to weak chlorite alteration, after 133 m the basement rocks are relatively fresh. The hole was terminated at 166 m.

Analytical results revealed a minor uranium intersection between 105-108 m (15 ppm U₃O₈). It was associated with elevated gold (49 ppb Au), copper (160 ppm Cu), lithium (221 ppm Li), palladium (2 ppb Pd), platinum (11 ppb Pt), sulfur (1060 ppm S) and vanadium (106 ppm V). No anomalous geochemistry was intersected after unconformity.

NAR7361

NAR7361 collared into sand down to 4 m and intersected saprolitic clays between 4-12 m. Dolerite was intersected between 12-75 m. It is relatively fresh with weak- to moderate chlorite, hematite and clay alteration before intersecting the Gabo Fault at 75 m. After the fault a basement package was intersected between 75 -184 m, missing

the sandstone wedge. The basement package consists of interbedded amphibolite, schist and quartz-rich semipelite. From 75-87 m the basement is strongly hematized and chloritized with minor sericite alteration. Strong alteration in the basement could indicate a potential shear zone. From 87-174 m the basement contains moderate to weak chlorite alteration. After 174 m the basement rocks are relatively fresh. The hole was terminated at 184 m.

Analytical results do not reveal elevated uranium down hole. Although no elevated uranium was intersected, elevated vanadium (214 ppm V), lithium (61 ppm Li), magnesium oxide (103,000 ppm MgO) and manganese oxide (382 ppm MnO) occur between 122-126 m.

NAR7362

NAR7362 collared into sand down to 1 m and intersected saprolitic clays between 1-13 m. Sandstone was intersected between 13-57 m. It is characterized by moderate bleaching and silicification. From 49-51 m a clay gouge was intersected in the sandstone. Chlorite alteration is strong above the unconformity at 57 m. The basement package consists of interbedded amphibolite, schist and quartz-rich semipelite. It is strongly hematized immediately after the unconformity and strongly chloritized from 57-131 m. After 131 m the basement rocks are relatively fresh. The hole was terminated at 160 m.

Analytical results contain 0.01% U₃O₈ over 2 m from 57-59 m in basement rocks, just below the unconformity. Elevated uranium is associated with elevated gold (10 ppb Au), lithium (112 ppm Li), nickel (91 ppm Ni), palladium (3 ppb Pd), and elevated sulfur (up to 58,400 ppm S). Elevated sulfur extends further into the basement past the unconformity and the uranium intersection from 57-64 m.

NAR7363

NAR7363 collared into sand from surface down to 12 m and saprolitic clays were intersected between 12-17 m. Dolerite was intersected between 17-90 m. The hole intersected the Gabo Fault at 90 m and into a basement package. Basement rocks consisted of interbedded amphibolite, schist and quartz-rich semipelite which are weakly chloritized throughout. The hole was terminated at 184 m.

Analytical results contain 0.01% U₃O₈ over 1 m from 123-124 m in basement rocks. Elevated uranium is associated with elevated gold (4 ppb Au), copper (699 ppm Cu), Pb206:Pb204 (0.2) and elevated sulfur (up to 1,180 ppm S). Elevated sulfur has a wider halo extending from 120-126 m.

N147

N147 is a historical prospect in which most drilling efforts targeted dolerite hosted mineralization along the Gabo Fault. From further analysis of the historical drill data a target in the basement was generated. The 2010 RC drilling program focused on targeting basement hosted mineralization in the N147 area. The program was not successful on intersecting basement hosted mineralization.

The program at N147 consisted of 2 NW trending RC lines with 4 holes for 805 m (Table 2). For a plan of the 2010 RC drilling at the N147 prospect see Figure 8.

Figure 8 - N147 RC Drillhole Plan

NAR7364

NAR7364 collared into saprolitic clay from 0-19 m. Dolerite was intersected between 19-22 m. The hole was ended at 22 m due to the pre-collar blowing out. NAR7367 was drilled on the same site.

NAR7365

The hole collared into saprolitic clay from 0-22 m. Dolerite was intersected between 22-171 m. Texturally, the dolerite is porphyroblastic and relatively fresh to 52 m. After 52 m the dolerite becomes strongly hematized until intersecting the Gabo Fault at 171 m. Before intersecting the Gabo Fault slick-n-slide surfaces are apparent indicating post dolerite movement. Basement rocks were intersected after passing through the Gabo Fault. Immediately after the fault, between 171-179 m, a shear zone/mylonite was intersected which is characterized by strong sericite, chlorite and hematite alteration. From 179-280 m (E.O.H.) the basement package consists of interbedded schist and quartz-rich semipelite which are weakly chloritized with slightly stronger chloritization from 204-213 m.

Analytical results do not reveal elevated uranium down hole.

NAR7366

NAR7366 collared into saprolitic clay from 0-22 m. Dolerite was intersected between 22-170 m. The dolerite is porphyroblastic and relatively fresh to 155 m. After 155 m the dolerite becomes strongly hematized until intersecting the Gabo Fault at 170 m. Before intersecting the Gabo Fault slick-n-slide surface are apparent indicating post dolerite movement. Basement rocks were intersected after passing through the Gabo Fault. Immediately after the fault, between 170-180 m, a shear zone/mylonite was intersected which is characterized by strong sericite, chlorite and hematite alteration and quartz veining. From 179-250 m (E.O.H.) the basement package consists of interbedded schist and quartz-rich semipelite which are weakly chloritized throughout.

Analytical results contain of 0.01% U₃O₈ over 2 m from 163-165 m in dolerite which is associated with elevated gold (2 ppb Au).

NAR7367

NAR7367 collared into saprolitic clay from 0-13 m. Dolerite was intersected between 13-174 m. The dolerite is porphyroblastic and relatively fresh to 142 m. After 142 m the dolerite becomes strongly hematized and chloritized until intersecting the Gabo Fault at 174 m. Basement rocks are intersected after passing through the Gabo Fault. Immediately after the fault, between 174-178 m, a shear zone/mylonite was intersected which is characterized by strong sericite, chlorite and hematite alteration.

From 178-250 m (E.O.H.) the basement package consists of interbedded schist and quartz-rich semipelite which are weakly chloritized throughout with slightly stronger chlorite alteration between 174-205 m.

Analytical results contain of 0.01% U₃O₈ over 3 m from 142-145 m. Elevated uranium is associated with elevated gold from 157-162 m (38 ppb Au).

S9

The target at S9 was basement hosted mineralization at approximately 50 m depth in amphibolite. In 2008 an RC hole was drilled at S9 intersecting up to 140 ppm U at approximately 50 m depth in amphibolite. Two RC holes were drilled to follow up on elevated uranium. The two holes did not intersect elevated uranium

The program at S9 consisted of 1 NE trending RC line with 2 holes for 199 m (**Table 1**). For a plan of the 2010 RC drilling at the S9 target area see **Figure 9 - S9 Drillhole Plan**.

Figure 9 - S9 Drillhole Plan

NAR7368

NAR7368 collared into saprolitic clay from 0-12 m. Basement amphibolite was intersected between 13-60 m. The amphibolite is strongly foliated and characterized by weak, pervasive, hematite alteration throughout and occasional quartz-hematite veining. From 60-100 m (E.O.H.) interbedded quartz-mica schist, quartz-rich semipelite and lesser amphibolite was intersected. The package is weakly chloritized throughout.

Analytical results do not reveal elevated uranium down hole.

NAR7369

NAR7369 collared into saprolitic clay from 0-24 m. Basement amphibolite was intersected between 24-57 m. The amphibolite is strongly foliated and characterized by weak, pervasive, hematite alteration throughout. From 57-100 m (E.O.H.) interbedded quartz-mica schist, quartz-rich semipelite and lesser amphibolite was intersected. The package is weakly chloritized throughout.

Analytical results do not reveal elevated uranium down hole.

Coopers

The target at Coopers was basement hosted mineralization along a NE trending structure. From the 2009 aircore program completed over the Coopers area three holes returned anomalous U₃O₈; NAA7119 (286ppmU₃O₈), NAA7121 (772ppmU₃O₈) and NAA7130 (1756ppmU₃O₈). The proposed RC program was planned to follow up on the anomalous aircore holes to try and determine the controls on mineralization

From the 2010 RC drilling mineralization has been interpreted to be trending NE along a steeply dipping structure (undetermined orientation). Mineralization was only intersected in the dolerite, not within basement lithologies.

The RC program at Coopers prospect consisted of 20 holes for 2,845 m (**Table 2**). For a plan of the 2010 RC drilling at the Coopers prospect see **Figure 10 - Coopers RC Drillhole Plan**.

Figure 10 - Coopers RC Drillhole Plan

NAR7370

NAR7370 was collared into fluvial surface sands from 0-2 m. From 2-20 m saprolitic clays were intersected before passing into dolerite down to 59 m. Dolerite is characterized by strong, pervasive, chlorite alteration between 20-40 m depth and from 40-59 m is strongly hematized before intersecting a fault. Strongly bleached, chloritized and silicified sandstone were intersected from 59-70 m. At 70 m the unconformity was intersected passing into basement. Basement packages consist of interbedded schist, quartz-rich semipelite and amphibolite. The basement is weakly- to moderately chloritized throughout and between 72-140 m is strongly hematized.

Analytical results contain of 0.05% U₃O₈ over 14 m, with a cut-off grade of 0.01% U₃O₈, from 28-70 m in dolerite which is associated with elevated gold (max 26 ppb Au) and copper (max 11 ppm).

NAR7371

NAR7371 was collared into fluvial surface sands from 0-6 m. At 6 m saprolitic clays were intersected before passing into competent dolerite between 24-73 m. Dolerite is characterized by strong leucoxene alteration from 38-39 m, strong, pervasive, chlorite alteration between 24-55 m and from 55-73 m dolerite is strongly hematized before intersecting a fault. Strongly bleached, chloritized and silicified sandstone was intersected from 73-84 m. At 84 m the unconformity was intersected passing into basement. At the sandstone-basement contact the basement rocks are strongly sericitized, chloritized and hematized (potential shear zone?). Basement packages consists of interbedded schist, quartz-rich semipelite and amphibolite. The basement is weakly- to moderately- chloritized throughout and between 139-165 m is strongly hematized. The hole was terminated in weakly altered schist at 178 m.

Analytical results contain of 0.07% U₃O₈ over 10 m, with a cut-off grade of 0.01% U₃O₈, from 33-43 m in dolerite which is associated with elevated gold (max 15 ppb Au).

NAR7372

NAR7372 was collared into fluvial surface sands from 0-5 m. At 5 m saprolitic clays were intersected before passing into competent dolerite between 31-82 m. Dolerite is characterized by moderate chlorite alteration with moderate bleaching from 35-69 m. Between 69-75 m the dolerite is characterized by strong, pervasive, hematite

alteration and switches back to strong chlorite alteration between 75-82 m before intersecting a fault at 82 m. After passing through the fault, strongly bleached, chloritized and silicified sandstone was intersected from 82-85 m. At 85 m the unconformity was intersected passing into basement. Basement packages consist of interbedded schist, quartz-rich semipelite and amphibolite. The basement is strongly chloritized and hematized from 85-100 m and strong, pervasive hematite alteration was dominant from 132-140 m. The hole was terminated in weakly chloritized basement schist.

Analytical results do not reveal elevated uranium down hole.

NAR7373

NAR7373 was collared into fluvial surface sands from 0-3 m. At 3 m saprolitic clays were intersected before passing into competent dolerite between 21-61 m. Dolerite is strongly chloritized throughout with minor hematite before intersecting the fault/sandstone. After passing through the fault, strongly bleached, chloritized and silicified sandstone was intersected from 61-76 m. At 76 m the unconformity was intersected passing into basement. Basement packages consists of interbedded schist, quartz-rich semipelite and amphibolite. The basement is strongly chloritized from 76-97 m and strongly hematized from 97-150 m. The hole was terminated in weakly chloritized basement schist at 159 m.

Analytical results do not reveal elevated uranium down hole.

NAR7374

NAR7374 was collared into fluvial surface sands from 0-2 m. At 2 m saprolitic clays were intersected before passing into competent dolerite between 20-53 m. Dolerite was characterized by strong chlorite alteration 28-47 m and strongly hematized from 47-53 m. After passing through the fault, strongly bleached, chloritized and silicified sandstone was intersected from 53-70 m. At 70 m the unconformity was intersected passing into basement. Basement packages consist of interbedded schist, quartz-rich semipelite and amphibolite. The basement is strongly chloritized and hematized from 90-131 m and strong, pervasive, hematite alteration dominates from 131-139 m. The hole was terminated in weakly chloritized basement schist.

Analytical results contain 0.33% U₃O₈ over 6 m, with a cut-off grade of 0.03 % U₃O₈, from 23-29 m in dolerite which is associated with elevated gold (max 141 ppb Au), copper (15 ppm Cu) and platinum (3 ppb Pt).

NAR7375

NAR7375 was collared into fluvial surface sands from 0-3 m. At 3 m saprolitic clays were intersected before passing into competent dolerite between 23-72 m. Dolerite is characterized by strong chlorite alteration 23-64 m and strongly hematized from 63-72 m. After passing through the fault, strongly bleached, chloritized and silicified sandstone was intersected between 72-78 m. Moderately- to strongly chloritized dolerite was intersected between 78-82 m. At 82 m the hole intersected basement.

Basement consist of interbedded schist, quartz-rich semipelite and amphibolite. The basement is strongly chloritized from 82-144 m. The hole was terminated in weakly chloritized basement schist.

Analytical results contain of 0.03% U_3O_8 over 1 m from 39-40 m in dolerite which is associated with elevated gold (max 22 ppb Au).

NAR7376

NAR7376 was collared into fluvial surface sands from 0-3 m. At 3 m saprolitic clays were intersected before passing into competent dolerite between 12-57 m. Dolerite is strongly chloritized from 12-27 m, strongly hematited and chloritized between 27-34 m and becomes strongly chloritized before intersecting sandstone. After passing through the fault, strongly bleached, chloritized and silicified sandstone was intersected between 57-66 m. At 66 m the hole intersected basement. Basement lithologies consist of interbedded schist, quartz-rich semipelite and amphibolite. The basement is moderately chloritized throughout with minor pervasive hematite alteration below the unconformity.

Analytical results do not reveal elevated uranium down hole.

NAR7377

NAR7377 was collared into fluvial surface sands from 0-4 m. At 4 m saprolitic clays were intersected before passing into competent dolerite between 16-53 m. Dolerite is characterized by strong chlorite alteration between 16-51 m and strong hematite alteration from 51-53 m. After passing through the fault, strongly bleached, chloritized and silicified sandstone was intersected between 60-68 m. The unconformity was intersected at 68 m. The basement package consist of interbedded schist, quartz-rich semipelite and amphibolite. The basement is strongly chloritized from 82-144 m. The basement was weakly chloritized throughout.

Analytical results contain 0.1% U_3O_8 over 1 m from 30-31 m in dolerite which is associated with elevated gold (max 13 ppb Au).

NAR7378

NAR7378 was collared into fluvial surface sands from 0-3 m. At 3 m saprolitic clays were intersected before passing into competent dolerite between 20-55 m. The dolerite is characterized by strong chlorite alteration between 20-36 m and strong hematite alteration from 36-55 m. After passing through the fault, strongly bleached, chloritized and silicified sandstone was intersected between 55-71 m. The unconformity was intersected at 71 m. The basement package consists of interbedded schist, quartz-rich semipelite and amphibolite. The basement is weakly chloritized throughout and minor hematite alteration is apparent 4 m past the unconformity.

Analytical results contain of 0.07% U_3O_8 over 2 m from 35-37 m in dolerite which is associated with elevated gold (15 ppb max).

NAR7379

NAR7379 was collared into fluvial surface sands from 0-14 m. Between 14-41m dolerite was intersected. The dolerite is weakly hematized from 14-38 m and strongly clay altered from 38-41 m before intersecting the sandstone. After passing through the fault, strongly bleached, chloritized and silicified sandstone was intersected between 41-48 m. The unconformity was intersected at 48 m passing into a thick package of weakly hematized amphibolite down to 72 m. The hole was terminated in a weakly chloritized interbedded pelitic schist and semipelite unit from 72-154 m.

Analytical results do not reveal elevated uranium down hole.

NAR7380

NAR7380 was collared into fluvial surface sands from 0-7 m. At 7 m saprolitic clays were intersected before passing into competent dolerite between 10-25 m. The dolerite is characterized by weak chlorite alteration and strong moderate hematite alteration before interesting sandstone. Strongly bleached, chloritized and silicified sandstone was intersected between 25-64 m. The unconformity was intersected at 64 m passing into a thick package of weakly hematized amphibolite down to 76 m. The hole was terminated in a chloritized interbedded pelitic schist and semipelite at 118 m.

Analytical results do not reveal elevated uranium down hole.

NAR7381

NAR7381 was collared into fluvial sand down to 14 m and clay from 5-14 m. Sandstone was intersected from 20-68 m, the rock unit is relatively fresh until just before the unconformity where chlorite and silicification becomes dominate. The unconformity was intersected at 68 m. Basement rocks consist of amphibolite from 68-70 m and semipelite from 70-100 m. Below the unconformity the basement package is moderately chlorite altered. Moving downhole the basement becomes moderately hematized. The hole was terminated at 100 m in fresh semipelite.

Analytical results do not reveal elevated uranium down hole.

NAR7382

NAR7382 was collared into fluvial sands down to 3 m. Saprolitic clay was were intersected from 3-9 m before passing into dolerite. Dolerite was intersected from 9-25 m. It is characterized by moderate chlorite alteration which was often associated with moderate hematite . The base of the dolerite (24-25 m) is completely altered to clay. Sandstone was intersected from 25-53 m. The sandstone is weakly silicified and consist of remnant bands of diagenetic hematite. The unconformity was intersected at 53 m. Basement lithologies includ amphibolite and semipelite. It is characterized by weak- to moderate hematite alteration near the unconformity. Chlorite alteration becomes dominate downhole. The hole was terminated at 82 m in moderately fresh semipelite.

Analytical results do not reveal elevated uranium down hole.

NAR7383

NAR7383 was collared into surface sands from 0-6 m before intersecting saprolitic clay down to 10 m. Oenpelli Dolerite was intersected from 10-46 m. Dolerite is characterized by moderate- to strong hematite alteration and was most intense along the dolerite-sandstone contact. Mamadawerre Sandstone was intersected at 46-67 m. The sandstone is strongly silicified and associated with minor, weak, chlorite alteration. The unconformity was intersected at 67 m passing into a weakly hematized semipelitic basement package to the end of the hole at 130 m.

Analytical results do not reveal elevated uranium down hole.

NAR7384

NAR7384 was collared into surface sands from 0-6 m before intersecting Oenpelli Dolerite between 6-45 m. The dolerite is characterized by moderate hematite and chlorite alteration down to 45 m. Between 45-66 m Mamadawerre Sandstone is intersected. The upper portion of the sandstone has abundant limonite staining along fracture surfaces. From 44-66 m it is strongly silicified and consists of moderate hematite and chlorite alteration. The unconformity was intersected at 66 m passing into relatively fresh, interbedded quartz-rich semipelitic and schist. The hole was terminated in fresh basement at 136 m.

Analytical results do not reveal elevated uranium down hole.

NAR7385

NAR7385 was collared into surface sands from 0-5 m before passing into saprolitic clays between 5-27 m. Fresh Oenpelli Dolerite was intersected between 27-60 m. The dolerite contains strong chlorite alteration with little hematite. Mamadawerre Sandstone was intersected between 60-61 m. It is strongly chloritized and silicified. A second dolerite unit was intersected between 61-73 m. It is characterized by moderate chlorite alteration which is being over printed by strong bleaching and quartz flooding. Basement lithologies were intersected between 73-142 m and consisted of interbedded amphibolite, quartz-rich semipelitic and schist. Basement packages are strongly hematized down to 129 m. After 129 the dominant alteration is chlorite until the rock becomes relatively fresh at 132 m. The hole was terminated at 142 m.

Analytical results do not reveal elevated uranium down hole.

NAR7386

NAR7386 was collared into 5 m of sand overburden. Sands were followed by saprolitic clays till the end of the regolith at 31m. Dolerite was intersected between 31-73 m, consists of a moderately weathered (limonitic) top with minor quartz veining. The entire dolerite has been subjected to moderate to strong chlorite-sericite alteration and weak to moderate hematite alteration. A few chips from 39-40 m and 62-65 m have slick-n-slides, which have been interpreted as potential fault zones. Between 46 and 47 m yellow secondary uranium minerals were noted on chips.

Dolerite was followed by 3 m of strongly, siliceous, bleached (Kombolgie) sandstone with weak chlorite alteration. The basement (76-142m EOH) is represented mostly by quartz-mica schist (pelites) with varying content of mica. The basement rocks are dominantly moderate to strongly hematite altered and weak to moderately silicified (including quartz veining), at the top, near the unconformity. Basement rocks have been subjected to weak- to moderate chlorite-sericite alteration which is weakened down the hole.

Analytical results contain 0.2% U₃O₈ over 23 m, with a cut-off grade of 0.13% U₃O₈, from 40-63 m in dolerite which is associated with elevated gold (824 ppb Au max).

NAR7387

NAR7387 was collared in ferricreted sand to 4 m. Saprolitic clays were intersected from 4-32 m thick regolith layer was silt. Dolerite was intersected between 32-85 m, characterized by moderate- to strong chlorite-sericite alteration. Towards the base of the dolerite, weak blebby hematite is found on slick-n-slided chips. There were occasional intervals of quartz veining in dolerite. At two intervals slick-n-slides on chips were recorded (76-77 and 81-84m) and interpret as fault zones. Dolerite was followed by basement pelites which are moderately- to strongly hematized with substantial quartz veining. The dolerite-basement contact consist of weak- to strong chlorite-sericite alteration, gradually reducing downhole. The hole was terminated in basement pelites at 136 m.

Analytical results do not reveal elevated uranium down hole.

NAR7388

NAR7388 was collared into fluvial sands down to 6 m. Saprolitic clays were intersected from 6-28 m. Moderately chloritized and sericitized dolerite was intersected from 28-90m. Alteration in the dolerite increases downhole which is associated with silick-n-slides on chips (possible fault zone). At 90 m basement pelites (quartz-mica shist) were intersected. At 138 m weak- to moderate hematite alteration was intersected which could be due to faulting. The remaining basement rocks that were intersected were subjected to weak- to strong chlorite-sericite alteration. The hole was terminated in the basement pelite package at 142 m.

Analytical results do not reveal elevated uranium down hole.

NAR7397

NAR7397 was collared into surface sands down to 7 m before intersecting saprolitic clay between 7-23 m. Oenpelli Dolerite was intersected between 31-65 m. Dolerite is moderately clay altered throughout the unit with minor to medium chlorite alteration. After passing through the dolerite a small wedge sandstone was intersected between 65-82 m. It is moderately silicified throughout and contains of moderate hematite alteration, possibly cross-cut by minor chlorite alteration along fracture surfaces. The unconformity was intersected at 82 m. The basement package consist, predominantly, of schist. Below the unconformity the schists are strongly chlorite altered which is also associated with moderate sericite alteration. Between 96-128 m the rock was

characterized by weak hematite alteration with weak to moderate sericite alteration. The remainder of the hole contains strong pervasive hematite alteration and the hole was terminated at 142 m.

Analytical results do not reveal elevated uranium down hole.

U40

U40 is a historical prospect that is situated to the west of the Quarry Fault. Anomalous uranium has been intersected in dolerite, basement and sandstone in historical drilling (NAUAR0141). Basement mineralization is hosted in an amphibolite that is strongly hematized and chloritized. The anomalous zone is associated with thin sub horizontal graphitic shears throughout the amphibolite. Below the amphibolites is an intensely sheared/mylonite zone. The shear zone is associated with anomalous uranium. The planned holes were planned to intersect the NNW trending Quarry Fault to determine if it played a role in mineralization.

Anomalous mineralization was intersected along the Quarry Fault in RC drill hole NAR7389 (1.5 % U₃O₈ over 4 m). NAR7393 was drilled 20 m west and NAR7394 was drilled 20 m east to follow up on mineralization. Substantial mineralization was not intersected in these holes, therefore 4 DDH were drilled to follow up on this target.

The RC program at U40 prospect consisted of 6 holes for 888 m (**Table 2**). For a plan of the 2010 RC drilling at the U40 prospect see **Figure 11 - U40 RC and DDH Drillhole Plan**.

Figure 11 - U40 RC and DDH Drillhole Plan

NAR7389

The hole was collared into Cretaceous overburden consisting of sandstone blocks in a clay matrix from 0-15 m. From 15-26 m strongly silicified and bleached sandstone was intersected. It was cross-cut by limonite alteration. Dolerite was intersected after sandstone between 26-48 m. Dolerite is strongly chlorite altered with moderate clay alteration. There were several slick-n-slide surfaces apparent on the chips which are coincide with silicification and dark green chlorite alteration. From 48-77 m Quartzite was intersected. The Quartzite is extremely bleached with strong sericite alteration. Some shearing is seen in a few of the chips, therefore, it is probable it is a potential shear zone. A thin 4 m zone of chlorite-muscovite schist was intersected between 77-81 m which is associated with mineralization. Below the mineralized zone, 81-139 m, a strongly foliated pelite/semipelite was intersected with minor slivers of amphibolite. It is moderately chloritized and is cross-cut by several quartz veins and brecciated in several places. From 139-220 m a moderately foliated granitic gneiss was intersected. At the top of the unit chlorite alteration is strong and intensity decreases downhole. There is a zone between 168-177 m that is strongly chloritized and sericitized, potentially indicating a structure.

Analytical results contain of 1.5 % U₃O₈ over 4 m, with a cut-off grade of 0.1% U₃O₈, from 78-82 m in a strongly altered semipelite. Mineralization is also associated with elevated gold (1800 ppb Au max), copper (21,200 ppm Cu), platinum (128 ppb Pt max) and palladium (213 Pd max).

NAR7390

NAR7390 was collared into sand from 0-2 m. Dolerite is intersected from 2-20 m. It is strongly weathered (strong limonite alteration) throughout the entire unit. Sandstone was intersected from 20-51 m. It is characterized by moderate hematite alteration and silicification at the top of the unit, decreasing downhole. The sandstone unit is medium grained and strongly silicified, decreasing with depth. The unconformity was intersected at 51 m and basement lithologies consist of pelite with minor slivers of amphibolite. This sequence is weakly- to moderately chloritised with minor bands of hematite. The hole was terminated in relatively fresh pelite at 118 m.

Analytical results do not reveal elevated uranium down hole.

NAR7391

NAR7391 was collared into a layer of clay and sand from 0-11 m. Weakly limonite and chlorite altered dolerite was intersected from 11-20 m. Below the dolerite a small sandstone unit was intersected from 20-26 m. It is characterized by strong bleaching and limonite alteration. The unconformity was intersected at 26 m. The basement lithologies consist of, predominantly, pelite with minor interbedded amphibolite units. There was a small shear zone/mylonite intersected from 37-40 m. The basement rocks are weakly chlorite and hematite altered with minor sericite alteration within the lower pelite units (103 to 105 m and 134 to 142 m).

Analytical results contain of 0.01 % U₃O₈ over 3 m from 49-52 m in a moderately altered semipelite. Elevated uranium is also associated with elevated gold (13 ppb Au max), platinum (3 ppb Pt max) and palladium (6 Pd max).

NAR7392

NAR7392 was collared into surface sands down to 14 m. From 14-28 m Sandstone was intersected. The sandstone is moderately chloritized at the top, intensity decreasing with depth. From 25-28 m the sandstone was strongly bleached and hematized, intensity increasing toward the unconformity. The unconformity is intersected at 28 m. The basement package consists of pelites with interbedded small amphibolite units. The basement sequence is moderately to weakly hematized and chlorite altered to 87 m, after which the rocks become fresh. The hole was terminated in fresh pelite at 100 m.

Analytical results do not reveal elevated uranium down hole.

NAR7393

NAR7393 was collared into clay down to 5 m. From 5-14 m dolerite was intersected. Dolerite is strongly altered, mostly due to surficial weathering (i.e. limonite).

Sandstone was intersected from 14-49 m. It contains zones that are completely replaced by chlorite. The unconformity was intersected at 49 m. Immediately below the unconformity a shear zone/mylonite was intersected from 49-61 m. It is strongly hemazitized and chloritized. The remainder of the basement consists of weakly chloritized pelite. The hole was terminated in fresh pelite at 148 m.

Analytical results contain of 0.03 % U_3O_8 over 1 m from 110-111 m in a moderately altered semipelite. Elevated uranium is also associated with elevated gold (64 ppb Au max), copper (341 ppm Cu max), platinum (9 ppb Pt max) and palladium (17 Pd ppb max).

NAR7394

NAR7394 was collared into sandstone with a clay matrix from 0-3 m. Sandstone was intersected from 3-47 m. The unit contains of several zones that are completely replaced by chlorite. The unconformity was intersected at 47 m. The basement rocks consist of arkose (47-63 m) and pelite (63-142 m). The arkose was strongly bleached and the pelite/schist is moderately chloritized. From 142-160 m a moderately foliated granitic gneiss was intersected. The hole was terminated in fresh gneiss at 160 m.

Analytical results contain of 0.01 % U_3O_8 over 1 m from 127-128 m in a moderately altered semipelite. Elevated uranium is also associated with elevated gold (3 ppb Au max).

N23

NAR7395 & NAR7396

Both holes NAR7395 and NAR7396 were collared into silicified clay and limonite altered Sandstone. Limonite decreases down hole and hematite alteration increases. NAR7395 was abandoned at 21 m after hitting a one metre cavity at 19 m and collapsing the collar. NAR7s96 (collared 5 m south) was a redrill of NAR7395, it was also abandoned after hitting a cavity at 30 m and collapsing the collar. No anomalous radiometric readings were recorded in the sandstone. The target was not tested as the drillholes did not reach planned depth.

AC

Two separate aircore programs were conducted along the eastern boundary of the Nabarlek mine lease. The first program conducted was focused along the Tip Fault on the eastern boundary of the mine lease. The second program was situated on the northwest boundary of the mine lease.

Table 3- Coopers and NE Mine Lease AC Drill Statistics

Table 3- Coopers and NE Mine Lease AC Drill Statistics

	Holes	Meters
<i>Coopers</i>	55	790
<i>NE Mine Lease</i>	36	604
	91	1394

Coopers/Tip Fault

Aircore drilling at Coopers started on the 25 July 2010 and was completed on 27 July 2010. Drillwest of Bellevue, Western Australia were utilized for this program. See [Figure 12 - Plan of Coopers AC Drilling](#) for drillhole locations.

The Coopers program consisted of 55 holes (NAA7401-NAA7455) for 790 m and was designed to better define previous anomalies in advance of deep testing with RC drilling.

The drilling was dominated by Oenpelli Dolerite within the central area of the prospect, with sandstone intersected to the north. Gneiss and amphibolite were intersected in three aircore holes (NAA7407, 7408 and 7422) and will extend the interpreted basement geology of the Cahill Formation and Zamu Dolerite in this western area, further to the east.

NAA7448 (150 ppm U₃O₈), 7449 (161 ppm U₃O₈) and 7450 (175 ppm U₃O₈) returned the highest bottom of hole uranium values in the aircore program. These three holes sit approximately 400 m from the intersection of the Gabo Fault and the Tip Fault. RC holes NAR7381 and NAR7384 were drilled to follow up on these anomalous aircore holes. They were drilled towards 140° dipping at -60 to test uranium mineralization that may be associated with the Tip / Gabo fault. No elevated uranium was intersected in either drill hole. Mineralisation may extend to the north along the Tip fault and within the Oenpelli Dolerite.

[Figure 12 - Plan of Coopers AC Drilling](#)

Northeast Mine Lease

Aircore drilling at northeast of the mine lease started on 7 September 2010 and was completed on 9 September 2010. Drillwest of Bellevue, Western Australia were utilized for this program. See [Figure 13 - AC Drilling at NE Mine Lease](#) for a map of the drillhole locations.

There were 36 aircore holes drilled (NAA7456-NAR7491), for a total of 604 m, northeast of the Nabarlek mine lease to follow up on elevated uranium in aircore holes on the mine lease. Lithologies intersected include sandstone, amphibolite, schist, semipelite and quartzite. Mamadawerre Sandstone was the dominate rock type in the southeast. Moving northwest to the second line of aircore holes Zamu Dolerite

(amphibolite) was intersected. In holes to the northwest schist, semipelite and quartzite of the Lower Cahill Formation were intersected.

No significant analytical results were returned.

Figure 13 - AC Drilling at NE Mine Lease

Diamond Drilling

U40

Four DDH, for a total of 486.7 m were drilled to follow up on mineralization intersected in NAR7389. Drilling was conducted by Titeline Drilling of Ballarat, Victoria. Drilling commenced on 25 September 2010 and was completed on 7 October 2010. For a plan of the 2010 DDH drilling at the U40 prospect see [Figure 11 - U40 RC and DDH Drillhole Plan](#).

NAD7492 was drilled to twin NAR7389, drilled at a dip of -60 and an azimuth of 90°, to determine the controls on the mineralization. NAD7493 was drilled to scissor NAD7492, drilled at a dip of -60 and an azimuth of 270°, to determine the thickness of the mineralization. NAD7494 was drilled to the north and NAD7495 was drilled to the south of the mineralized intersection along the Quarry Fault to determine if mineralization extended along the Quarry Fault. Elevated uranium was intersected in NAD7494 and NAD7495 but grade was significantly lower than in NAD7492 and NAD7493.

NAD7492

NAD7492 was collared into Cretaceous overburden from 0-16.1 m. Sandstone was intersected from 16.1-44.3 m. This unit consists of strongly silicified sandstone which is characterized by moderate bleaching and moderate chlorite alteration throughout. Chlorite alteration increases towards the sandstone-dolerite contact. Bleaching and chlorite have been cross-cut by fractures coated with moderate limonite and hematite alteration. The sandstone has been completely replaced by chlorite from 24.1-51.4 m.

From 44.3-51.45 m dolerite was intersected. It is cross-cut by chaotic hematite stained calcite veins from 44.3-47.2 m. The remainder of the dolerite becomes strongly to moderately bleached and is cross-cut by chaotic quartz veining in varying orientations from 47.2-51.4 m.

Strongly sheared quartzite was intersected at 51.4-62.4 m with a strongly sheared contact with the above dolerite. It is characterized by strong bleaching, sericite alteration and minor to moderate chlorite alteration. From 51.5-53.3 fucshite alteration is found in fault gouges and along fractures cross-cutting bleaching, sericite and chlorite alteration. From 60-62 m there is a large deformation zone which consists of several small brecciated zones and shearing. At 60.3 m there is blebby and disseminated pitchblende associated with a fault breccia.

After the strongly sheared/deformation zone at the base of the quartzite the lithology switches to a more pelitic unit from 62.4-75.4 m. This unit is strongly bleached, sericitized, weakly chloritized and consists of strong pyrite alteration. Pyrite is blebby in character and is also disseminated throughout the matrix.

From 75.4-81.8 m the hole intersected a weakly graphitic semipelite which is hosting vein style mineralization. Mineralization is hosted in a fine grained chlorite-muscovite matrix with several thin graphitic zones along fracture planes. The upper and lower contacts are brecciated. The breccias consist of gravel fragments in a clay matrix.

A small down faulted sandstone block was intersected from 81.8-82.1 m. The upper and lower contacts are both strongly brecciated. It is strongly fractured and moderately to strongly hematized and chloritized.

A weakly- to moderately sheared pelite occurs from 82.1- 118.8 m. This unit displays of moderate deformation with moderate shearing from 82-103.8 m, associated with limonite and pervasive hematite alteration. The remainder of the unit is moderately chloritized.

From 118.8-121.2 m a strongly chloritized and foliated fine-grained amphibolite occurs. The upper and lower contacts are both sheared/faulted.

From 121.2-124 m pelite was intersected. The unit consists of weak chlorite and sericite alteration.

Analytical results revealed two zones of elevated/anomalous uranium. From 55-62 m analytical results returned 0.04 % U_3O_8 over 7 m (0.005% U_3O_8 cut off) in a strongly altered and deformed quartzite. The second intersection was from 75-81.8 m returning an average grade of 6.8% U_3O_8 over 6.8 m, with a cutoff grade of 0.1% U_3O_8 , in a strongly altered semipelite. The uranium intersection from 75-81.8 m was also associated with anomalous gold (2 m at an average grade of 1.5 g/t Au from 78 m), copper (7.3 m at an average grade of 1.65 % Cu from 74.5 m), platinum (2 m at an average grade of 204 ppb Pt from 78 m) and palladium (2 m at an average grade of 432 ppb Pd from 78 m).

NAD7493

NAD7493 collared into overburden down to 5.30 m. From 5.3- 7.6 m a strongly altered pelite was intersected. The majority of the alteration is from surficial weathering, goethite and hematite. A small, strongly weathered, dolerite was intersected between 7.6-9.6 m.

A strongly chloritized semipelite was intersected from 9.6-18.2 m. The upper part of this unit is associated with a strong foliation and evidence of isoclinal folding. The base of this unit consists of a pegmatite from 14.3-18.2 m.

Amphibolite was intersected from 18.2-23.5 m. Its upper contact with the semipelite is sharp and appears to be structural. The amphibolite unit is strongly chloritized which is later over printed by leucoxene alteration.

Strongly sheared semipelite was intersected between 23.5-36.0 m. It is associated with moderate- to strong chlorite alteration and minor sericite alteration. The contact between the semipelite and above amphibolite unit is structural.

Strongly fractured and brecciated arkose was intersected from 36.0-54.4 m. The unit is moderately chloritized throughout with minor sericite alteration. Dark green chlorite is focused along fracture surfaces. Brecciation and fractures are mostly open with minor sealed brecciated zones.

A small quartzite lens was intersected from 50.4-53.0 m. It appears to be a lithological contact with the above arkose as there is little structure surrounding it. There is evidence of folding in this unit, noted by a quick switch in foliation. Rock type grades into a semipelite from 53.0-64 m. It is strongly foliated and consists of moderate chlorite alteration and minor sericite alteration from 53.0-62.3 m. From 53.0-62.3 m the rock is strongly brecciated with quartzite and amphibolite fragments.

Quartzite was intersected from 64.0-66.0 m. The contact with the semipelite above is structural. Quartzite is associated with minor quartz veining parallel to foliation. A brecciated zone was intersected from 66.0-67.0 m. This unit is associated with strong shearing and moderate chlorite and sericite alteration. A small sliver of quartzite was intersected from 67-67.3 m before intersecting a small amphibolite unit from 67.3-68.9 m, the contact is brecciated. The amphibolite is strongly chloritized and moderately- to strongly fractured.

A thick quartzite/arkosic unit was intersected from 68.9-77.3 m. It is bleached, massive, and consists of moderate sericite altering remnant feldspars from 68.9-75.0 m. From 75.0-77.3 m quartzite/arkose is strongly sheared. It consists of stronger sericite alteration, minor chlorite alteration and clay gouging.

A cataclasite was intersected from 77.3-79.0 m. It consists of angular fragments of sandstone and basement in a clay matrix. The clay matrix is medium grey in colour but there are zones that are a darker grey which maybe a graphitic clay (also seen in NAD7492).

Pelite/semipelite was intersected from 79.0-85.2 m. From 79.0-80.6 m the rock consisted of moderate clay alteration with clay infilling fractures and minor gouges. From 80.6-85.2 m consists of mineralized pods in a fine grained chlorite-muscovite matrix with minor thin graphitic zones along fracture planes.

From 85.2-94.3 m a strongly deformed semipelite was intersected. It is characterized by several chaotic quartz veins cross-cutting the foliation. It is moderately bleached and strongly sericitized.

Strongly bleached and sericitized arkose was intersected from 94.3-110.6 m. This unit is moderately- to strongly sheared. Sericite is replacing feldspars and is defining shear planes. Blebby pyrite is over printing shearing.

Analytical results returned an average grade of 2.05 % U_3O_8 over 4.8 m from 80.4-85.2 m, with a cutoff grade of 0.1% U_3O_8 in a strongly altered semipelite. The uranium intersection was also associated with anomalous gold (3.5 m at an average

grade of 0.75 g/t Au from 82.1 m), copper (7.3 m at an average grade of 2.12% Cu from 77.9 m), palladium (3 m at an average grade of 1,700 ppb Pd from 82.6 m) and platinum (3 m at an average grade of 1,024 ppb Pt from 82.6 m).

NAD7494

NAD7494 collared into clay down to 8 m. From 8.0-24.1 m sheared and brecciated quartz-rich semipelite was intersected. It is characterized by moderate- to strong chlorite alteration.

From 24.1-28.1 m a brecciated arkose was intersected. The upper contact with the semipelite is structural. Alteration consists of moderate- to strong chlorite alteration and sericite is replacing feldspars.

Semipelite was intersected from 28.1-53.6 m. The upper contact with the arkose is structural consisting of strong fracturing. The unit is characterized by strong fracturing from 28.1-36.7 m associated with small local brecciated zones. From 36.7-53.6 m the rock consists of a brecciated and sheared semipelite.

From 53.6-70.0 m a large, cataclastic, structural zone was intersected. From 53.6-56.3 m the rock consists of 75-80% clay/gouge material. Fragments of sandstone are hosted in a grey clay matrix. A larger, strongly deformed sandstone block was intersected from 56.3-60.9 m. This unit is characterized by strong silicification and consists of several chert/jasper bands ~10 cm thick. An open structure was intersected from 60.9-63.0 m consisting of, mainly, sandstone fragments in a clay matrix. After the structure a strongly sheared and deformed arkose was intersected between 63.0-67.6 m. It was characterized by strong sericite and moderate chlorite alteration which was overprinted by blebby, irregular, pyrite. Similar to the unit above, there are several chert/jasper bands up to 10 cm throughout. From 67.6-68.2 m the rock is extremely fractured before intersecting a strongly sericitized/bleached amphibolite from 68.2-69.8 m.

Strongly foliated arkose was intersected from 70.0-141.3 m. Foliation is strongly defined by moderate chlorite alteration from 70.0-92.0 m. It is characterized by minor sericite replacing feldspar. From 92.0-113.0 m the arkose becomes strongly bleached and sericitized which is overprinted by blebby pyrite. From 113-120.7 m the arkose becomes strongly sheared which is still associated with strong bleaching and sericite alteration with over printing of pyrite. From 120.0-127.0 m the arkose is still sericitized but not as strong as above. From 127.0-141.3 m the rock become moderately- to strongly chloritized and is associated with minor sericite alteration replacing feldspars (little bleaching).

Analytical results contains of an average grade of 0.02 % U₃O₈ over 1 m from 62.5-63.5 m, with a cutoff grade of 0.1% U₃O₈ in clay gouge/fault zone. The uranium intersection is also associated with elevated gold (16 ppb Au max), copper (16 ppm Cu max), palladium (6 ppb Pd max) and platinum (3 ppb Pt max).

NAD7495

NAD7495 collared into clay down to 5 m. Sandstone was intersected between 5-14.8 m. Sandstone is characterized by strong silicification and is cross-cut by several fracture sets coated with limonite and hematite.

Ophitic dolerite was intersected from 14.8-25.8 m. It consists of strong chlorite alteration and moderate leucoxene alteration which is cross-cut by several fractures coated with limonite and hematite down to 24.1 m. From 24.1-25.8 m the dolerite becomes strongly hematized which is associated with minor chlorite alteration. The base of the unit consists of fractures cross-cutting hematite and chlorite which are coated with later hematite, limonite and clay.

Sandstone was intersected from 25.8-31.5 m. It is contacting with the above dolerite structurally, resulting in intense fracturing and clay gouges. From 25.8-30.0 m the sandstone is strongly silicified with minor blotchy chlorite throughout the matrix. The upper part of this unit is characterized by strong fracturing. Fractures are coated with, mainly, limonite but also dark green chlorite and clay. The lower part of this unit, from 30.0-31.8 m, consisted of strong silicification but much stronger chlorite alteration.

Dolerite was intersected from 31.5-49.1 m. It appears to be contacting with the above sandstone structurally, minor slick-n-slides. The upper portion of the dolerite, from 31.5-41.2 m, is strongly chloritized. Chloritization is being cross-cut by several chaotic quartz veins. From 41.2-47.3 m dolerite is still strongly chloritized but chaotic veining consisted of carbonate. From 47.3-49.0 m dolerite is moderately chloritized and is cross-cut by chaotic quartz veins, which around fractures are replaced by orange carbonate.

From 49.1-69.9 m arkose was intersected. The entire unit is strongly bleached and sericitized. From 49.1-52 m bleaching and sericite is overprinted by fuchsite disseminated in the matrix and by, minor, clay gouges along fracture surfaces. Sericite and bleaching is being cross-cut by blebby hematite and, minor, pervasive chlorite from 52.0-59.0 m. This unit consists of several clay gouges with sandstone fragments (56.6 & 57.3 m) which are associated with mineralization. From 59.0-69.9 m arkose is strongly sheared and strongly bleached. Blebby pyrite is overprinting bleaching and sericite alteration.

A large structural zone was intersected from 69.9-89.0 m. It consisted of blocks of sandstone and basement. There are several brecciated zones that consist of, mainly, sandstone fragments that have been sealed. Basement blocks are arkosic and are strongly bleached and sheared. There are several clay gouges consisting of sandstone fragments hosted in a grey clay matrix. Mineralization was intersected from 84.8-85.3 m and it was associated with clay gouging/cataclasite.

Between 89.0-102.4 m semipelite was intersected. This unit was characterized by strong chlorite alteration. Strongest chlorite alteration is associated with brecciated zones. The entire unit is characterized by a strong foliation, except in brecciated zones, and moderate- to strong chlorite alteration.

A small amphibolite unit was intersected between 102.4-103.0 m. It appears to be a sheared contact with the above semipelite unit. It consists of strong leucoxene and chlorite alteration. From 103.0-103.5 m a small semipelite unit was intersected. It is contacting with the above amphibolite structurally, sealed breccia. Amphibolite was intersected again from 103.5-104 m. It is strongly chloritized and consists of strong leucoxene alteration.

From 104-110.8 a strongly foliated semipelite was intersected. It consisted of moderate chlorite alteration and quartz veining at the base.

Analytical results revealed two small zones of elevated uranium, both in a clay gouge/fault zone. From 80.5-81 m analytical results returned 0.05 % U_3O_8 over 0.5 m. It was associated with elevated gold (101 ppb Au), copper (1,270 ppm Cu), palladium (20 ppb Pd) and platinum (10 ppb Pt). The second intersection was from 84.5-85 m returning an average grade of 0.04 % U_3O_8 over 0.5 m. It was associated with elevated gold (6 ppb Au) and copper (2,090 ppm Cu).

Sampling

Tenement wide sampling and mapping occurred near the end of the field season. There were several radiometric and hyperspectral anomalies had yet to be followed up. Mapping focused around drilling areas S9 and N23 to strengthen the drill targets. A total of 43 samples were collected for assay and 124 mapping points were collected. See [Table 4- Mapping and Sampling Points](#) for mapping and sampling details and [Figure 14 - Map of Assay and Sample Points](#) for map with sample and assay locations.

Outcrop sampling did not return uranium values above background.

[Table 4- Mapping and Sampling Points](#)

[Figure 14 - Map of Assay and Sample Points](#)

Geophysics

Between June 8th and July 20th 2010, Haines Surveys Pty. Ltd. of Adelaide, SA, performed 959 unique gravity stations between three survey areas within the Nabarlek Lease (EL10176). Three survey grids, ([Figure 15 - 2010 Haines Survey Gravity Lines](#)) were planned in areas of previous exploration with the primary intent to identify and map structure caused by secondary porosity and/or preferential weathering. A secondary task of the surveys was to map geology, in particular the extent of the Oenpelli Dolerite, which is significantly denser than the surrounding geology.

[Figure 15 - 2010 Haines Survey Gravity Lines](#)

Equipment, Base Stations and Survey Tolerances

Trimble 4000 series geodetic receivers were used in conjunction with Real Time Kinematic (RTK) techniques providing 5cm precision in the horizontal and vertical. Static techniques were used when radio link was not available, resulting in a 2cm

precision in the horizontal and vertical. Gravity measurements were made using Scintrex CG5 Autograv instruments. According to the final data files survey instruments with serial numbers 40352 and 24861 were used. These units have a resolution of 0.001mgal. Base station readings of 120 seconds were performed at base stations while 40 second readings were taken at survey location points. Base station readings were taken at the beginning and end of each day of surveying. The primary gravity base station was established at the Nabarlek Airstrip (317370.58E, 8638920.57N, Observed Gravity Isogal84 978275.872mgal). Two other remote base stations were also established, with one at the Gabbo Fault Grid (313020.68E, 8634661.99N) and the other at the Quarry Fault Grid (329387.40E, 8636955.57N). Twenty-nine repeats were performed throughout the surveys resulting in an absolute average difference of 0.019mGal with a standard deviation of 0.015mGal. From these simple statistics the minimum survey error is accepted to be +/- 0.02mGal. Further details of survey specifications and survey grids may be found in the contractor logistics report in **Appendix 2 - Haines Logistic Report**.

Gravity Processing

Reported gravity values have been “related to the Australian Gravity Base Station Network using the Isogal84 (IGSN71) values at known gravity stations as provided by DMR.” (Haines Logistic Report, J1022)

Internal tidal and tilt corrections are applied to the meter reading before post Processing is done using standard formulae and constants, resulting in a Bouguer Anomaly. This includes first applying instrument drift corrections with respect to the accepted Isogal84 base station resulting in an observed gravity reading (Obs). A theoretical gravity field is then calculated using the 1967 International Gravity Formula and subtracted from Obs, defining the gravity anomaly (Anom). Freeair and Bouguer (2.67g/cc) corrections were then calculated and subtracted from Anom to correct for elevation above the accepted geoid and the mass between the geoid and the survey station, respectively. Again, further details this processing is available in the contractor’s logistics report in **Appendix 2 - Haines Logistic Report**.

Also included in the Haines Logistic Report, J1022, are figures of the survey grids, contour maps of the calculated Bouguer Anomaly, and Repeat Observation Results, and text of the processed results.

Appendix 2 - Haines Logistic Report

Appendix 3 - Gravity Data

EXPENDITURE

Eligible exploration expenditure spent by Cameco Australia for EL10176 and EL24371 for the reporting period totaled \$2,058,893.74. See **Table 5 - 2010-2011 Nabarlek Exploration Expenditure** for the exploration expenditure. Expenditure for 2011-2012 is expected to be \$800,000.

Table 5 - 2010-2011 Nabarlek Exploration Expenditure

CONCLUSIONS AND RECOMMENDATIONS

Gabo Fault RC drilling revealed elevated uranium at the unconformity. The uranium trend appears to be following the Gabo Fault. Although mineralization was intersected in basement lithologies grades are not high enough to proceed with drilling at this prospect.

N147 RC drilling failed to intersect basement hosted mineralization. Mineralization is hosted purely in the dolerite. The basement target was tested and no further work is recommended on this prospect.

S9 failed to intersect expected uranium values in basement lithologies. It is recommended that no further work is done on this prospect.

Coopers RC drilling intersected anomalous uranium along a northeast trending structure. Shallow low grade mineralization was intersected in dolerite. It is recommended that a compilation is done on the RC and AC drilling to produce a basement target and to follow up with DDH to determine the character of the mineralization and structure.

U40 RC and DDH program revealed anomalous uranium along the Quarry Fault zone. It is recommended that DDH drilling is used to follow up on this prospect, as the area is strongly influenced by structure.

2010 WORK PROGRAM

Cameco in joint venture with UEL intends to conduct further drilling during the 2011 field season. The focus of the exploration efforts will be to better test and follow up on the positive results at Coopers and U40.

The exploration methods employed during the 2011 program will consist of:

- Diamond Drilling (approximately 2,000 m)
 - Drilling at U40 and Coopers
- Ground geophysical survey
 - Detailed gravity along the Quarry Fault zone

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