Cameco Australia Pty Ltd

EL 5893

WELLINGTON RANGE PROJECT

NORTHERN TERRITORY

ANNUAL REPORT

CONFIDENTIAL

Date:	May 2010
Period:	4 May 2009 to 3 May 2010
Report No.:	WR10-02
Target commodity:	Uranium
Authors:	Mark King, Geologist Tyler Mathieson, Geophysicist Greg Shirtliff, Geoscientist C. Trevor Perkins, Senior Project Geologist
Contact Details:	PO Box 35921 Winnellie NT 0821 Ph. 08 8947 3477
Email for further technical details:	mark_king@cameco.com.au
Email for expenditure:	mark_king@cameco.com.au
Datum/Zone:	GDA94 (Zone 53)
Map Sheets:	1:250K Cobourg Peninsula SC5313 1:100K Wellington Range 5574
Tenement manager:	AMETS
Copies:	Cameco Corporation (1) Cameco Australia Pty Ltd (1) DRDPIFR - Minerals and Energy (1) Northern Land Council (1)

SUMMARY

This is the sixth year of tenure for EL5893 referred to as the Wellington Range project. The licence is located in Arnhem Land approximately 100 km north northeast of the Jabiru township. The tenement was granted for a period of six years on May 5 2004 and to the end of year five there has been one statutory reduction. A 'Partial Waiver of Reduction' application submitted in March 2008 involved the relinquishment of 68 blocks for 216.5 km^2, all within no-go zones. This partial relinquishment was actioned on the anniversary date of 3 May 2008 with 201 blocks for an area of 639.9 km^2 being retained. Ten diamond core holes were drilled, with a total meterage drilled of 3545.3 m, including 403 m of rotary mud pre-collaring. The program was designed to target three main areas. The primary target, the Angularli prospect has structural environments with similarities to the Aurari Fault Zone. It is located in the eastern part of the project. The second and third targets are geophysics targets. The first being a TEMPEST target that has been planned since 2006 and the third target being an assumed conductor identified in the 2008 ground geophysics survey. Seven drill holes intersected uranium mineralization residing either within the structure/sandstone contact (up to 1.01% U_3O_8) or within the basal part of the Kombolgie Subgroup (Mamadawerre Sandstone) at or in proximity to the unconformity. This is one of the most significant intercepts encountered by Cameco in Arnhem Land and the prospect is now referred to as Angularli. A total of 53 rock samples were collected from various outcrops/subcrops within the project. Of the samples collected, six returned elevated uranium assays as well as pathfinder trace geochemical elements. Geophysics surveys in 2009 consisted of 1308 line kilometers of airborne magnetic and radiometric data over the Wellington Range project area collected by UTS of Belmont, WA and 44.3 line kilometers of Dipole-Dipole Resistivity and IP (DDIP) collected by Zonge Engineering of Edwardstown, SA, over the Angularli prospect. The exploration program for 2010 will consist of mapping and prospecting, diamond drilling, and ground based gravity survey. A minimum of 20 holes will be drilled focusing primarily on Angularli following primary structures. Eligible exploration expenditure for Cameco's activities for the reporting period totalled $2,097,976.67

TABLE OF CONTENTS

INTRODUCTION 1
Location and Access 1
Tenure 1
Physiography 1
Regional Geology 2
Local Geology 4
PREVIOUS EXPLORATION 5
2009 Program Activities 6
Diamond Drilling 6
WRD0034 7
WRD0035 8
WRD0036 9
WRD0037 10
WRD0038 12
WRD0039 13
WRD0040 14
WRD0041 16
WRD0042 17
WRD0043 19
Outcrop Sampling 19
Geophysics 20
2009 Geophysical surveys 20
Magnetic and Radiometric Survey Results, processing and considerations 21
DDIP Results, Processing and Considerations 21
CSAMT Results, Processing and Considerations 22
Geochemistry 22
DISCUSSION 24
Angularli and Surrounds 24
Northern Portion of Wellington Range (Murgenella Trend) 24
CONCLUSIONS and RECOMENDATIONS 25
EXPENDITURE 26
Program RECOMMENDATIONs for 2010 26

FIGURES

Figure 1 - Wellington Range Location Map 1
Figure 2 - Regional Geology 2
Figure 3 - Wellington Range Local Geology Map 5
Figure 4 - 2009 Work Locations 6
Figure 5 - Drill Hole Locations 7
Figure 6 - Angularli Drill Hole Plan 7
Figure 7 - Cross Section (WRD0034) 8
Figure 8 - WRD0034 Strip Plot 8
Figure 9 - WRD0035 Strip Plot 9
Figure 10 - Cross Section (L 8701050 N) 9
Figure 11 - Cross Section (L 8701075 N) 9
Figure 12 - Cross Section (L 8701100 N) 9
Figure 13 - WRD0036 Strip Plot 10
Figure 14 - Cross Section (L 8700950 N) 10
Figure 15 - Cross Section (L 8700850 N) 12
Figure 16 - WRD0037 Strip Plot 12
Figure 17 - Cross Section (L 8709800 N) 13
Figure 18 - WRD0038 Strip Plot 13
Figure 19 - Cross Section (L 8700900 N) 14
Figure 20 - Cross Section (L 8700925 N) 14
Figure 21 - Cross Section (L 8700975 N) 14
Figure 22 - Cross Section (L 8701000 N) 14
Figure 23 - WRD0039 Strip Plot 14
Figure 24 - WRD0040 Strip Plot 15
Figure 25 - WRD0041 Strip Plot 17
Figure 26 - Cross Section (L 8700875 N) 18
Figure 27 - WRD0042 Strip Plot 18
Figure 28 - WRD0043 Strip Plot 19
Figure 29 - Outcrop Sample Location 20
Figure 30 - Angularli Geology Map 20
Figure 31 – Geophysical Survey Locations 20
Figure 32 – Telstra Magnetic survey 21
Figure 33 – Angularli Magnetic survey 21
Figure 34 – Telstra Radiometric survey 21
Figure 35 – Angularli Radiometric survey 21
Figure 36 – Angularli Resistivity Survey Lines 22
Figure 37 – Angularli Resistivity Inversion Depth Sections 22
Figure 38 – Angularli IP Inversion Depth Sections 22
Figure 39 – Angularli CSAMT 2D Inversion Section 22

TABLES

Table 1 - EL5893 Summary of Exploration Work Conducted to Date 5
Table 2 - Diamond Drill Hole Collar Details 6
Table 3 - EL5893 Outcrop sample summary 20
Table 4 - EL5893 Eligible Expenditure 26

APPENDICES

Appendix 1 - Drillhole Datasets 6
Appendix 2 - NTEL Sample Preparation..6
Appendix 3 - NTEL Analytical Methods..6
Appendix 4 - NTEL Analytical Suite 6
Appendix 5 - Reflectance Spectroscopy Methodology 6
Appendix 6 - TSG Procedures and Definitions 6
Appendix 7 - Grainsize and Competency 6
Appendix 8 - Gamma Logging Data...7
Appendix 9 - WRD0034 Summary Log 8
Appendix 10 - WRD0035 Summary Log 9
Appendix 11 - WRD0036 Summary Log 10
Appendix 12 - WRD0037 Summary Log 12
Appendix 13 - WRD0038 Summary Log 13
Appendix 14 - WRD0039 Summary Log 14
Appendix 15 - WRD0040 Summary Log 15
Appendix 16 - WRD0041 Summary Log 17
Appendix 17 - WRD0042 Summary Log 18
Appendix 18 - WRD0043 Summary Log 19
Appendix 19 – UTS Logistics Report...20
Appendix 20 – Zonge logistics report...21
Appendix 21 - Radiometric and Magnetic Survey Data...21
Appendix 22 - DDIP Survey Data 22
Appendix 23 - CSAMT Survey Data..22

INTRODUCTION

Exploration was carried out by Cameco Australia Pty. Ltd. over EL5893 (Wellington Range) for the sixth year of tenure ending 3rd May 2010. The exploration license is located on aboriginal land with the work program carried out under the terms of consent documentation agreed with the Northern Land Council, pursuant to the Aboriginal Land Rights (NT) Act. The program was presented at the liaison committee meeting held on 7th April, 2009 at Gunbalanya (Oenpellie) and approved by the NLC on behalf of the Traditional Owners.

The 2009 exploration activities consisted of ground based DDIP (dipole-Dipole Induced Polarization) resistivity, airborne magnetic and airborne radiometric geophysical surveys, as well as diamond drilling and regional mapping and outcrops sampling. Contractors used on the project in conjunction with these exploration activities include:

- Titeline Drilling Ltd, Ballarat, Victoria
- Jayrow Helicopters, Darwin, NT
- Zonge Engineering & Research Organization
- UTS Geophysics

Location and Access

Wellington Range (Figure 1) is located in western Arnhem Land, and centred 100 km north northeast of Jabiru.

Relevant map sheets are:

- 1:250K Cobourg Peninsula SC5313
- 1:100K Wellington Range 5574
- 1:50K Laterite Point

Figure 1 - Wellington Range Location Map

The unsealed road to Gurig National Park on the Cobourg Peninsula provides good vehicular access to the eastern margins of the tenement. Several east to west trending roads and tracks provide additional access. In general sandstone escarpment areas are only accessible by helicopter.

Tenure

EL5893 was granted on 5 May 2004 for an initial period of six years. On granting, the total area under licence was 269 blocks for 856.4 km^2 of which 378.8 km^2 (44%) was excluded from exploration by the Northern Land Council. The current area available for exploration is 477.6 km^2.

Cameco applied for a ‘Partial Waiver of Reduction’ in March 2008, involving the relinquishment of 68 blocks for 216.5 km^2, all within no-go zones in the project. This partial relinquishment was actioned on the anniversary date of 3 May 2008 with 201 blocks for an area of 639.9 km^2 being retained.

Physiography

The tenement contains several large remnant areas of dissected sandstone plateau, which form the western extension of the Wellington Range. The remainder consists predominantly of gently undulating country covered by savannah woodland. The principal drainage systems within the region are Angularli creek draining to the east and Murgenella Creek draining to the west.

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 have been indicated below.

The Wellington Range project area is located within the eastern margin of the Neoarchean and Paleoproterozoic Pine Creek Orogen, in a region that has been subdivided into the Nimbuwah Domain of the Alligator Rivers region.

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

Figure 2 - Regional Geology

The oldest exposed rocks in the Alligator Rivers region are included in the Neoarchaean (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 NTGS and Geoscience Australia indicates that SHRIMP U-Pb age dating of an area of previously mapped Myra Falls Metamorphics outcropping within the Myra Inlier is Neoarchean in age and these quartzofeldspathic gneisses are named the 'Kukalak Gneiss' (Hollis et al., 2009). Palaeoproterozoic rocks in the Alligator Rivers region are amphibolite-facies psammites assigned in the Mount Howship Gneiss and the Kudjumarndi Quartzite. These formations are included in the Kakadu Group and are probably correlatives of the Mount Basedow Gneiss and Munmarlary Quartzite, respectively (Ferenczi et al., 2005). The group appears to on-lap Neoarchaean basement highs, but gneissic variants are also thought pass transitional into paragneiss of the Nanambu Complex.

The Cahill Formation of the Namoona Group conformably overlies the Munmarlary Quartzite. The lower part of the Cahill Formation (informally referred to as the Lower Cahill Formation) hosts the Nabarlek, Ranger and Jabiluka uranium deposits. The Lower Cahill Formation consists of a structurally lower calcareous marble and calc-silicate gneiss, which is overlain by pyritic, garnetiferous and carbonaceous schist, quartz-feldspar-mica gneiss, and minor proportions of amphibolite.

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

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

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

The Kombolgie Subgroup is the basal unit of the late 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, Gumarrirnbang Sandstone, and Marlgowa Sandstone, which are divided by thin basaltic units called the Nungbalgarri Volcanics, and Gilruth Volcanics. The Mamadawerre Sandstone has a minimum age of ca. 1700 Ma, which is the minimum age of the intrusive Oenpelli Dolerite. Detrital zircon SHRIMP data from the GA OZCRON database constrain the maximum age of the sandstone at ca. 1810 Ma.

The Oenpelli Dolerite is the most pervasive mafic intrusive suite to affect the Alligator Rivers region and is the youngest Proterozoic rock unit exposed. It intrudes various units Neoarchean and Paleoproterozoic units, and the Kombolgie Subgroup, forming magnetic sills, dykes, lopoliths, and laccoliths. The Oenpelli Dolerite has a SHRIMP U-Pb baddeleyite date of 1723 ± 6 Ma (Ferenczi et al., 2005), however, geochemical and geophysical data suggest several phases of intrusion throughout the region. These intrusive events had a pronounced thermal effect within the Kombolgie Subgroup, with the promotion of fluid flow and aquifer or aquitard modification. 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 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

The basement geology of the Wellington Range project has been clarified in the last two years from regional diamond core and air core drilling by Cameco. The diamond drilling programs have and will continue to be guided by mineralization as well as interpreted geophysics, specifically airborne magnetics and gravity and ground-based EM surveys.

Interpreted lower Proterozoic Cahill Formation rocks form an arcuate linear trend, which parallels the northwestern boundary of the project. Recent drilling has shown these rocks to consist of characteristic Cahill Formation 'marker' horizons such as the magnetic pelite and an underlying carbonate-calcsilicate unit. Graphitic structures and a semipelitic graphite bearing unit are also present at different stratigraphic levels. The bulk of the sequence however consists of pelitic and semipelitic rocks with minor psammite and interlayered amphibolite. Intrusive rocks include pegmatite and dolerite. The intersected stratigraphy suggests that both Upper and Lower Cahill Formation rocks are present.

A flaggy quartzite has been observed outcropping at or near the Kombolgie Subgroup sandstone unconformity on the western side of the tenement adjacent to the escarpment. These isolated outcrops have been mapped as Cahill Formation by the BMR in the 1970s, however it is uncertain where they fit into the stratigraphic succession. Quartzitic rocks have been cored in some of the Wellington Range drill holes and well scattered outcrops of flaggy quartzite were mapped by PNC geologists near the top of the Myra Falls Metamorphics succession on the King River licence (SEL 25064). Correlation of these "quartzites" in the region may provide an idea as to where the Wellington Range intercepts of Cahill Formation are in relation to the middle Proterozoic unconformity.

Granitoid and quartzofeldspathic gneisses and some migmatite of the early Proterozoic Nimbuwah Complex form the basement rocks in the southern part of the tenement. Large sill-like bodies of Oenpelli Dolerite intrude the basement.

The basal Mamadawerre Sandstone of the Kombolgie Subgroup forms the Wellington Range escarpment, which dominates the southwestern quarter of the project. Several smaller isolated outcrops of sandstone occur in the southeast. In places along the unconformity a prominent cobble conglomerate has been mapped.

Up to 300 m of Cretaceous sediments, equated with the Bathurst Island Formation, obscure the basement geology in the northern part of the Wellington Range tenement. The sequence consists principally of dark coloured micaceous mudstone with intercalated thin sandy beds. Other lithotypes include calcareous sandstone, siltstone and green glauconitic sandstone.

Recent cover materials include sands, clay, gravel and cemented ferruginous deposits.

Figure 3 - Wellington Range Local Geology Map

PREVIOUS EXPLORATION

Interpretation of government funded geophysical surveys was carried out by Mobil Energy Minerals Australia in the early 1980s. There is no known record of whether this work was followed up on the ground. McIntyre Mines was also active in the region investigating radiometric anomalies linked to conglomeratic beds in the Kombolgie Sub-group. Substantial exploration programs were completed immediately east and south of the present tenement boundaries. For example, during 1970-1972, Union Carbide Exploration Corporation, explored for uranium in the King River area, now held by Cameco. This work included airborne magnetics and radiometrics with follow-up geochemical surveys, geological mapping, and drilling.

Exploration work conducted by Cameco in the first year of tenure (2004) included airborne radiometric, magnetic and hyperspectral surveys. Ground follow-up of radiometric anomalies and systematic rock sampling was also completed. A total of 89 outcrop samples, mostly sandstone, were collected for geochemical analysis. Nothing of significance was found.

Work for the second year of tenure (2005) included a TEMPEST airborne EM survey and detailed interpretation of the airborne magnetics, the latter activity providing a basis for year three (2006) planning.

Work for the third year of tenure (2006) encompassed three fences comprising 13 pre-collared diamond drill holes. The holes targeted a linear, approximately north-south trending magnetic feature, interpreted to correlate with a more regional trend representing the lower portion of the Upper Cahill Formation. The results of the drilling proved significant with the predicted Cahill Formation being intersected in the majority of holes confirming stratigraphy similar to that hosting several of the uranium deposits of the ARUF. Gneissic terranes were confirmed to enclose the trend both to the east and west. Airborne gravity was completed over the northern part of the project.

Work for the fourth year of tenure (2007) consisted of eight diamond core drill holes targeting the Cahill Formation magnetic trend, 71 air core holes to clarify geology and acquire geochemistry and rock outcrop sampling. A ground EM survey was conducted along one line targeting the graphitic unit. Table 1 gives a summary of all Exploration work completed by Cameco Australia.

Work for the fifth year of tenure (2008) consisted of 12 diamond core drill holes targeting northwest inferred structures thought to be of similar orientation and possible extensions of the Aurari Fault Zone located in the adjacent King River project. To the north, the target was an inferred basement high east of the existing drill holes. The drilling was also aimed at refining our knowledge of the basement geology since all the targets have thick cover and/or sandstone. As well 120 air core holes, outcrop sampling/mapping, a ground EM survey and some orientation airborne EM lines using VTEM was carried out in 2008.

Table 1 - EL5893 Summary of Exploration Work Conducted to Date

2009 Program Activities

Work conducted in 2009, shown in Figure 4, consists of ten diamond core drill holes, rock outcrop sampling in conjunction with reconnaissance mapping, a ground based DCIP survey and some airborne magnetic and radiometric geophysical surveys.

Figure 4 - 2009 Work Locations

The collection of samples and subsequent analysis was performed using Cameco standard methodology. Drill codes used during the logging are detailed in Appendix 1. All samples were submitted to Northern Territory Environmental Laboratories (NTEL) in Darwin for geochemical analysis. The laboratory sample preparation, analytical methods and techniques and analysed elements are detailed in Appendix 2, Appendix 3, and Appendix 4. Details regarding the reflectance spectroscopy measurements and interpretation are shown in Appendix 5 and Appendix 6 respectively. Logging grain size and competency codes are outlined in Appendix 7.

All relevant digital data is included in Appendix 1.

Appendix 1 - Drillhole Datasets

Appendix 2 - NTEL Sample Preparation

Appendix 3 - NTEL Analytical Methods

Appendix 4 - NTEL Analytical Suite

Appendix 5 - Reflectance Spectroscopy Methodology

Appendix 6 - TSG Procedures and Definitions

Appendix 7 - Grainsize and Competency

Diamond Drilling

Drilling in 2009 was designed to test various targets derived from mapping and geophysics including airborne magnetics, TEMPEST and Ground TDEM as well as to follow up drilling from 2008. To the east of the project a particular focus was placed on northwest inferred structures thought to be of a similar orientation and possible extension of the Aurari Fault Zone located on the adjacent King River project. To the north the target was an inferred conductor east of the existing drill holes. The drilling was also aimed at refining our knowledge of the basement geology since all the targets have thick cover and/or sandstone. Table 2 is a summary of drill hole collar details.

Table 2 - Diamond Drill Hole Collar Details

Drilling on the project commenced on June 18 and was completed on August 30 2009. Titeline Drilling Pty. Ltd. of Ballarat Victoria completed the program using a UDR650 truck mounted rig, and a heli portable CS1000 rig. Ten holes were drilled, with a total meterage of 3545.3 m, including 403 m of PCD pre-collaring through the Cretaceous cover and 3142.3 m of recovered core. All holes were drilled with variable orientations as conditions and targeting warranted.

Figure 5 - Drill Hole Locations

The Cretaceous cover sequence, which averaged around 40.3 m in thickness, unconformably overlies the Kombolgie sandstone and in some areas, the Proterozoic basement. A zone of paleoweathering is evident in some of the basement rocks and in some cases was estimated to extend at least 15 m beneath the unconformity. The rock type present determined the depth and degree of weathering, i.e. competent quartzites exhibited negligible weathering while pelitic or feldspathic rocks had more extensive weathering profiles. All holes were pre-collared through the Cretaceous sediments with a PCD bit utilising mud additives.

Down hole gamma logging was conducted within the rods for all diamond holes and the data is submitted with this report in Appendix 8. Generally within the sandstone minor peaks relate to heavy mineral bands with increased thorium content. Probe data from the basal part of the Mamadawerre sandstone in proximity to the unconformity is also elevated. This relates to elevated uranium found within this unit.

Appendix 8 - Gamma Logging Data

A detailed description of individual diamond drill holes is outlined below along with a summary of the results including a discussion of the prospect named Angularli. Drill hole cross sections were generated on a 25 m line spaced grid with lines running west to east. Some drill holes cross multiple lines and as such are part of different sections created based on the grid.

Figure 6 - Angularli Drill Hole Plan

WRD0034

WRD0034 was drilled to follow up on an identified conductive anomaly from a TEMPEST EM survey performed over the property in 2006. The target is believed to be a graphitic conductor between 180 to 200 m downhole. The area being drilled was previously classified as having Nimbuwah complex stratigraphy.

The lithologies intersected consist of units of metasediments that are tentatively identified as Lower Cahill Formation which is in contrast to previously identified straatigraphy in the area.. Very little structure is observed throughout the drill hole. The only significant structure intersected is a 2.4 m graphite package associated with a 6 m structural zone at 192 m. No other major structure is observed. Alteration is very weak throughout the drill hole, consisting of chlorite and pyrite with localized calcite veins. Hematite associated with zones of strong chlorite occurs between 56 - 80 m.

No elevated radioactivity was encountered. The casing was cut off below surface, capped, and buried.

SWIR values recorded throughout the drill hole have returned varying clay mineral assemblages. The dominant clay mineral recorded within WRD0034 is illite with minor amounts of chlorite and muscovite throughout the drill hole.

Appendix 9 - WRD0034 Summary Log

Figure 7 - Cross Section (WRD0034)

Figure 8 - WRD0034 Strip Plot

WRD0035

WRD0035 was drilled to follow up known mineralization encountered in holes WRD0024 and WRD0033.

After PCD drilling through 1.4 m of recent sediments, the hole was cased into Mamadawerre sandstone, intersected from 1.4 m to a depth of 281.5 m. The sandstone consists of fining upward sequences of cross-bedded sandstones. It resembles the sandstones in the area in that it consists of moderate to strong diagenetic hematite alteration through the first 150m but progressively becoming weaker with depth. Alternatively, bleaching and silicification of the sandstone increases with depth getting progressively stronger within proximity to the unconformity. From 259 to 281.5 m, weak to moderate chlorite alteration is pervasive and increasing with depth. The only significant structure intersected within the sandstone can be observed between 51.0-52.1 m: It consists of a clay filled fault zone with large (1-5 cm) lithics surrounded by clay matrix. Somewhat brecciated in appearance.

Uranium mineralization occurs within the sandstone from 277.6 m to the unconformity. It is dark grey in appearance, similar to zones of mineralization within WRD0024, although not as widespread and confined to that particular section of sandstone.

The unconformity is intersected at 281.5 m, with elevated radioactivity of up to 500 cps (SPP2) found at the contact. The elevated radioactivity is associated with disseminated uranium found in reduced, bleached sandstone at the unconformity contact. Geochemical analysis has returned values of 0.125% U_3O_8 / 0.5 m from 281.0 to 281.5 m.

The entire basement consists of one broad, transitional unit of pelite intersected directly below the unconformity at 281.5 m, to the end of hole at 409.0 m. The pelite contains many small intervals of anatectic material, along with intervals of more semipelitic than pelitic material. Garnets are found throughout the unit, and are indicators of both alteration intensity and strain.

Basement alteration consists of predominant red-green zone paleoweathering. Strong to moderate hematite alteration is pervasive through 50% of the interval from the unconformity to 291.7 m. Strong to moderate pervasive chlorite alteration characterizes the alteration from the unconformity to 309.4 m. There is also strong to moderate sericite alteration, decreasing in intensity and abundance with depth. From the end of the paleoweathering profile to the end of the hole, alteration rapidly decreases in intensity with the final 20 m of drill core consisting of fresh, unaltered rock.

Major structures intersected within the basement lithologies consist of a brittle clay filled fault gouge approximately 1 metre below the unconformity. It is interpreted to be a north east striking fault. A 30 cm fault breccia, containing graphite, is intersected at 319.8 m and interpreted to show normal movement. A third fault is intersected at 373.8. It is an interpreted east-west striking, steeply dipping reverse fault

SWIR values recorded throughout the drill hole have returned varying clay mineral assemblages. Throughout the sandstone unit from 2.76 to 93.48 m, the dominant clay mineral measured is illite with minor paragonite. From 93.48 to 263.0 m, the main clay mineral is dickite with minor amounts of illite and halloysite, aand pyrophyllite. From 263.0 m to the unconformity, the majority of clay alteration is identified as illite. From the unconformity to the end of hole, the clay minerals vary from illite to chlorite as seems to be a continuing trend through the basement rocks within the Wellington Range area.

Appendix 10 - WRD0035 Summary Log

Figure 9 - WRD0035 Strip Plot

Figure 10 - Cross Section (L 8701050 N)

Figure 11 - Cross Section (L 8701075 N)

Figure 12 - Cross Section (L 8701100 N)

WRD0036

WRD0036 was drilled to follow up known mineralization encountered in hole WRD0024.

After predominantly PCD drilling through 28.4m of overburden and cretaceous siltstone, sands, and other unconsolidated sediments, the hole was cased into Mamadawerre sandstone, intersected from 28.4 m to a depth of 92.9 m. The sandstone column in this hole is fine to coarse grained (minor qz pebble beds), moderately to poorly sorted, subrounded to subangular quartz grains with minor to trace lithic fragments. The sandstone is moderately to strongly bleached with weak to moderate diagenetic hematite varying in intensity but progressively getting weaker with depth. Strong secondary (hydrothermal) hematite is present and associated with structurally controlled clay healed fractures. From 85.4 to 92.9 m, moderate to strong Chlorite +/- Fuschite alteration is present within the sandstone unit.

The sandstone has undergone significant structural deformation and significant structures are visible within the core. A sandy clay fault gouge @ 35.5 m is the first major structure intersected in the sandstone. The sandstone unit has multiple open and healed fractures, conjugate fracture sets, and associated clay, limonite, goethite alteration coatings along fracture faces. The second major structure identified within the sandstone is classified as a fault contact between the upper sandstone unit and the cataclastic breccia underlying the sandstone.

There is no apparent unconformity between the sandstone and basement lithologies. The cataclastic breccia is described as a lithified (silicified) breccia with fine to coarse quartz clasts supported within a grey to buff, silicified clay matrix. There is significant pyrite mineralization throughout the breccia averaging approximately 15% of the interval (locally up to 30%). Alteration within this unit consists of strong pervasive bleaching, silicification of clay matrix material, and pyrite mineralization. There is one major structure identifiable within this unit. It is a sandy clay gouge resulting from hydrothermal dissolution. The remaining structures within the unit consist of open fractures containing uranium mineralization. Mineralization is present within the unit with elevated counts using an SPP2 scintillometer starting at 92.9 m and becoming progressively higher down hole to a maximum at 94.1 m.

Below the caticlastic breccia is common basement material consisting of a Semipelite from 98.6 to 133.1 m and a Dolerite from 133.1 to 138.3 (EOH). The semipelite has been described as a fine crystaline, quartz, biotite +/- muscovite schist to gneiss with minor amounts of leucoxene seggregations containing potassic alteration of the feldspars.

The semipelite has been intensely altered with partially caticlastic brecciation through intense zones of structural displacement. The unit consists of strong, pervasive bleaching and strong, pervasive, hydrothermally altered chlorite throughout. Minor amounts of sericite, clay, and pyrite can also be distinguished within the semipelite.

The dolerite is described as a fine crystaline, pyroxene, dolerite uniform throughout. The predominant alteration is pervasive chlorite alteration which is moderate to strong. Major structures are affecting the competency of the rock. The dolerite is very fractured with large amounts of core loss and portions broken to chips. Subhorizontal fault and clay filled fractures are parallel to core axis are common.

Geochemical analysis through the mineralized interval has returned an average grade of 0.5% U_3O_8 / 3.9 m from 90.5 to 94.4 m with a max sample of 1.01% U_3O_8 / 0.5 m from 93.4 to 93.9 m.

SWIR values recorded throughout the drill hole have returned varying clay mineral assemblages. From 4.2 to 89.1 m, clay minerals measured are kaolinite, halloysite, paragonite, and pyrophyllite. From 89.1 m to end of hole, the clay minerals are primarily illite with minor chlorite.

Appendix 11 - WRD0036 Summary Log

Figure 13 - WRD0036 Strip Plot

Figure 14 - Cross Section (L 8700950 N)

WRD0037

WRD0037 was drilled to follow up mineralization encountered in holes WRD0024 and WRD0033 to the north.

After PCD drilling through 21.9 m of cretaceous sediments, the hole was cased into

Mamadawerre sandstone, intersected from 21.9 m to a depth of 268.95 m. The sandstone column in this hole is moderately silicified, with diagenetic hematite preferentially preserved in coarser granule and pebble beds. Limonite is present along fracture surfaces throughout the sandstone column, most notably from 89 to 135 m, coincident with increased fracturing and associated moderate bleaching has stripped away much of the diagenetic hematite. A small dolerite unit is observed intruding the sandstone from 168.0 to 169.0 m, and a second dolerite was observed intruding the sandstone from 196.9 to 198.3 m. Both dolerites appear to have a southerly dip. The second dolerite is brecciated, with structural clay found as infill in some sections of brecciation. The structure that hosts the lower dolerite dips 39º towards 188º. No elevated radioactivity is associated with either dolerite intrusion. Below the lower dolerite intrusion, virtually all of the diagenetic hematite has been stripped away from the sandstone, leaving behind a light grey coloured sandstone with a greenish tinge to it, likely due to disseminated chlorite alteration affecting the basal sandstone. Another sign of reducing conditions in the basal sandstone is the presence of small pyrite crystals along a few healed fractures over the lowermost 20 m of sandstone. The unconformity is intersected at 268.95 m, with elevated radioactivity found at the contact. The elevated radioactivity is associated with disseminated uranium found in reduced, bleached sandstone at the unconformity contact. Geochemical analysis of samples taken near the unconformity have returned a grade of 0.06% U_3O_8 / 0.45 m from 268.5 to 268.95 m.

The entire basement consists of one broad, transitional unit of semipelite intersected directly below the unconformity at 268.95 m, to the end of hole at 257.7 m. The semipelite contains many small intervals of anatectic material, along with intervals of more pelitic than semipelitic material. Garnets are found throughout the unit, and are indicators of both alteration intensity and strain. The semipelite is moderately foliated throughout, with variations in foliation observed proximal to anatectic bands and shearing. A few small fold noses were observed, but not oriented due to unreliable orientation marks nearby. Approximately 1 metre below the unconformity a metre-wide fault zone is intersected, interpreted to be shallowly dipping to the west. Below this fault no other major brittle structure is observed. Only minor shearing and ductile deformation is observed below the fault, and throughout the remainder of the drill hole. Minor chalcopyrite is found in the lower 30 m of the hole along small quartz-chlorite veins.

Basement alteration consists of a bleached zone from 268.95 to 269.8 m, followed by red zone paleoweathering that has been overprinted by moderate hydrothermal bleaching from 269.8 to 270.6 m. Hydrothermal bleaching fades out below this point, with transition zone paleoweathering affecting the semipelite to a depth of 295.7 m. From 295.7 m to the end of hole at 357.5 m, the semipelite is affected by weak green zone paleoweathering. Saussuritization is found proximal to anatectic sweats, but is only found in weak to moderate concentrations. Alteration intensity weakens with depth towards the end of the drill hole, but the rock never does become completely fresh.

SWIR values recorded throughout the drill hole have returned varying clay mineral assemblages. From 22.2 to 154.46 m, the dominant clay mineral measured is Halloysite with minor dickite, illite and kaolinite. From 154.46 to the unconformity, the main clay mineral is illite with minor amounts of paragonite. From the unconformity to end of hole, the clay minerals vary from illite to chlorite.

Appendix 12 - WRD0037 Summary Log

Figure 15 - Cross Section (L 8700850 N)

Figure 16 - WRD0037 Strip Plot

WRD0038

Drill hole WRD0038 was drilled to follow up on identified conductors from the 2008 geophysical ground TEM survey performed over the area. The target was an interpreted graphitic conductor along a reverse faulted structure. The target was not intersected in the drill hole and further re-evaluation of the EM anomaly indicates that the EM response being targeted may be the contact between the Cretaceous cover and the underlying metapelites.

After Pre-collar drilling through 118.7 m of cretaceous sediments, the hole was cased into metamorphic/igneous basement rock units, intersected from 118.7 m to a depth of 460.6 m

The lithologies consist of transitional units of metasediments and granitic gneisses to granites. From 118.7 to 262.7 m, the sequence stratigraphy identified may be classified as Lower Cahill Formation. It consists of alternating layers of pelites, gneisses and schists with an identified calc-silicate unit at the base. The remaining lithologies is believed to be a transitional zone between the Lower Cahill and Nanambu Complex consisting of Quartz-Biotite-Muscovite Schists gradationally changing in composition to Quartz-Biotite Schists. There are local variations in modal composition throughout as well as variations in schistocity, becoming weaker with depth. The final 20 meters of core consists of Quartz-Feldspar-Biotite Granites to grainitic gneisses. They are texturally similar to Nanambu complex granites previously identified in the area. Very little structure is observed throughtout the drill hole. The first brittle structure intersected in the drill hole is observed at approximately 276.7 m, it consists of a 2-3 cm wide fault zone containing cataclastic breccia that has been chloritized. Below this fault no other major brittle structure is observed until 385.5m. It is a 1m wide shear through a minor amphibolite unit. The perception of this shear being a major structure may be deceiving as the shear fabric is parallel to cleavage. Only minor shearing and ductile deformation is observed throughout the remainder of the drill hole.

Basement alteration is very weak to non-existent throughout the drill hole. The units are predominantly fresh with only minor chlorite alteration observed from 204.7 - 214.2m. Below this, the rock units are considerably fresh with trace amounts of hydrothermal alteration (Pyrite and calcite veins). No elevated radioactivity was encountered.

SWIR values recorded throughout the drill hole have returned varying clay mineral assemblages. From 118.7 to 244.34 m, the dominant clay mineral measured is Muscovite with minor illite and chlorite. From 244.34 to 265.08 the main clay mineral is Hornblende with minor amounts of chlorite. From 265.08 to end of hole, the dominant clay mineral is muscovite with minor amounts of chlorite, illite, and biotite.

Appendix 13 - WRD0038 Summary Log

Figure 17 - Cross Section (L 8709800 N)

Figure 18 - WRD0038 Strip Plot

WRD0039

Drill hole WRD0039 was drilled to follow up known mineralization encountered in hole WRD0036.

During downhole gamma probing, elevated readings were recorded above the dolerite. As there is no core to confirm this, only the equivalent uranium data can substantiate this claim. Probe results calculated equate to 0.016% eU_3O_8 / 0.7 m from 48.7 to 49.4 m.

Dolerite is fresh with very little alteration present within core presently logged. The dolerite shows signs of strain and minor structures are present through the lower 50 m as evident in the core being more broken with depth. As well, minor breccia is observed at approximately 140 m. It is similar in appearance to the breccia observed within the dolerite in WRD0036 but has not been submitted to the same intensity of strain as the latter.

The cataclastic breccia is of predominantly the same composition as the lower portion of the same rock unit within WRD0036. It is composed of 1 to 5 mm (up to 3 cm max) clasts of varying composition (chert, dolerite, metapelite) supported by a matrix of varying materials (silicified clays, metapelites). The breccia is exhibiting varying degrees of deformation with intensity varying with depth.

The semipelite is of similar composition of semipelites within the area. It is exhibiting a strong brittle overprint which is assumed to have been the result of being subjected to the same strain as the breccias above and the fault zone below.

The fault zone is composed of semipelitic material being subjugated to intense deformation. The general trend of the deformation is striking toward the northeast with moderate to steep dip (45 to 60 degrees) and dip direction of 120 to 140 degrees. There is a 2 meter wide clay gouge above the fault zone/sandstone contact.

The sandstone has been recognized as Mamadawerre sandstone. It is strongly bleached, moderately to strongly silicified and contains abundant sulphides. Emerald green alteration is recognized as being coincident with sulphides and chlorite suggesting possible turquoise related oxidation. Disseminated and fracture controlled uranium mineralization is believed to be contained within the reduced 2 meters of sandstone above the unconformity.

Below the unconformity at 262.5 m, there is an apparent Arkose with quartzite layer over 10 meters. There a small clay shears (< 10 cm wide) throughout. Predominant alteration within this unit is chlorite and sericite. It is believed this unit is acting as a silicified cap that prevented the formation of a paleoweathering profile.

The rest of the rock intersected within WRD0039 is primarily composed of pelites with minor pegmatites. The pelite is of similar composition to the majority of the pelites within the area while the pegmatite exhibits an anatectic texture.

Geochemical analysis of samples taken near the unconformity has returned an average grade of 0.034% U_3O_8 / 3.0 m from 259.6 to 262.6 m.

SWIR values recorded throughout the drill hole have returned varying clay mineral assemblages. From 54.1 to 150.17 m, the clay minerals vary between chlorite, dolomite, and tourmaline with large sections of aspectral values through the dolerite. From 150.17 to the end of hole, the main clay mineral is illite with minor amounts of chlorite.

Appendix 14 - WRD0039 Summary Log

Figure 19 - Cross Section (L 8700900 N)

Figure 20 - Cross Section (L 8700925 N)

Figure 14 - Cross Section (L 8700950 N)

Figure 21 - Cross Section (L 8700975 N)

Figure 22 - Cross Section (L 8701000 N)

Figure 23 - WRD0039 Strip Plot

WRD0040

WRD0040 was drilled to test a probable Northwest trending structure in the Angularli area. The hole was collared within highly deformed, possibly weathered, amphibolites with minor anatectic segregations. The apparent weathered look of the unit bears a somewhat striking appearance to the paleoweathering profiles observed within metasediments below the unconformity. The amphibolite and subsequent minor lithologies, show signs of strain and minor structures are present through the lower 5 m as evident in the core being sheared as well as a small breccia texture 50 cm above the contact with the Cataclasite.

The cataclastic breccia appears to have the same structural features as are recognized within the same lithology as WRD0039. The unit is overprinted, faulted, sheared and altered in a similar fashion to similar intersections within this rock unit intersected in previous drill holes. The parent material varies in composition and is practically indistinguishable from the lithology it previously was. The composition varies from metasediments to sediments with alteration and metamorphism removing most of the characteristics that make rock units definable within the area. The faulted sections are dominated by sandy clay gouges and shear zones having an apparent northeast strike and near vertical dip varying between 60 to 80 degrees.

The dolerite is a very dark grey, fine crystalline pyroxene, olivine rich mafic intrusion. It has prominent calcite veinlets throughout. It does not appear to be structurally disrupted and is very competent with the majority of the fracturing being mechanical.

The Mamadawerre sandstone was intersected immediately following the dolerite. There was apparent contact metamorphism extending out approximately 1 meter from the contact. The sandstone was bleached and silicified due to contact metamorphism of the dolerite. Below this, the sandstone intersected is typical Mamadawerre sandstone. It is medium to coarse grained, with minor quartz pebble beds, cross bedded, moderate to poorly sorted, silica rich sandstone. The unconformity is intersected at 275.3 m. The elevated radiometrics within the Mamadawerre Sandstone are associated with disseminated uranium found in weakly hematized sandstone approximately 37 meters above the unconformity contact. This mineralization is similar in appearance to that intersected within WRD0024.

Below the unconformity and subsequent paleoweathering profile, the rock unit is identified as a Calcsilicate. It contains quartz carbonate segregations, with minor calcite veinlets, and minor leucosomes throughout. There is an apparent 5 cm reverse fault displacement with an apparent strike of 326 degrees dipping 67 degrees toward the southwest.

The remainder of the drill hole is composed primarily of Pelites. It is primarily composed of a quartz, biotite, muscovite schist with increasing garnet content downhole. It shows evidence of crenulations, folds throughout.

Geochemical analysis of samples taken has returned an average grade of 0.053% U_3O_8 / 1.0 m from 236 to 237 m.

SWIR values recorded throughout the drill hole have returned varying clay mineral assemblages. From 53.5 to 68 m, the dominant clay mineral is chlorite. From 68 to 111.8 m, the main clay mineral is illite. From 111.8 to 180.21, the dominant clay mineral is chlorite with minor amounts of illite and paragonite. From 180.21 to 203 m, the dominant clay mineral is dickite with minor paragonite. From 203 to 260 m, the dominant clay mineral is illite with minor paragonite. From 260 to 277.9 m, the dominant clay mineral is illite. From 277.9 to the end of hole, the dominant clay mineral is chlorite with minor illite.

Appendix 15 - WRD0040 Summary Log

Figure 19 - Cross Section (L 8700900 N)

Figure 20 - Cross Section (L 8700925 N)

Figure 14 - Cross Section (L 8700950 N)

Figure 21 - Cross Section (L 8700975 N)

Figure 22 - Cross Section (L 8701000 N)

Figure 24 - WRD0040 Strip Plot

WRD0041

WRD0041 was drilled to undercut WRD0036 and define the orientation of the mineralized breccias and test continuity of mineralization. The sandstone column in this hole is fine to coarse grained (minor quartz pebble beds), moderately to poorly sorted, subrounded to subangular quartz grains with minor to trace lithic fragments. The sandstone is moderately to strongly bleached with weak to moderate diagenetic hematite varying in intensity but progressively getting weaker with depth. Through mineralized intervals between 84.9 to 102.9 sandstone beds are segregated between differing alteration assemblages of oxidizing hematite and reduced chlorite layers. The mineralized layers vary in thickness of a few 10's of centimetres to over a meter in width. A strong mineralized section (10 cm sandstone bed @ 101.8 m depth) (0.19% U_3O_8) is coincident with a redox front of reducing chlorite and oxidizing hydrothermal hematite.

There is no apparent unconformity between the sandstone and basement lithologies. The contact between the two is a fault contact. The cataclastic breccia is described as a lithified (silicified) breccia with fine to coarse quartz clasts supported within a grey to buff, silicified clay matrix. There is significant pyrite mineralization throughout the breccia averaging approximately 5% of the interval (locally up to 15%). Alteration within this unit consists of strong pervasive bleaching, silicification of clay matrix material, and pyrite mineralization. The breccia is composed of both sandstone and basement lithologies with distinguishable changes in the content of the breccia being observed on the margins (sandstone) and the middle sections (metapelite). There is a common quartz-chlorite-mica schist that remains predominantly unaffected by the deformation that was subjected to the breccia. It is observed in all occurrences of this rock unit intersected during drilling in the Angularli area.

Below the Cataclastic breccias is the second occurrence of Mamadawerre sandstone. It is similar in appearance as to previous observations of this rock unit, as described above, except the point structure measurements of the bedding observed in the lower unit are not as steeply dipping as the sandstone unit above. This may mean that the unit above may have been subjected to upthrusting from apparent faults observed in the area. Apart from this discrepancy, the lower sandstone unit is relatively the same as previously intersected Mamadawerre sandstone.

Below the sandstone unit, drilling intersected an intruding dolerite dyke. The dyke has an East-West orientation and has been intersected in previous drill holes. The dolerite is a fine grained pyroxene rich, olivine bearing dyke. Very fine grained near contacts (chilled margins) progressively getting coarse crystalline with distance from the contacts. The dolerite has an apparent crackle breccia appearance in places with multiple cross cutting veinlets of black chlorite and calcite. Trace disseminated and blebby pyrite throughout. The lower 5 meters above the pelitic contact the dolerite exhibits poikiloblastic texture. The poikiloblast are rare and contained within a very fine crystalline, pyroxene rich, matrix. This interval is associated with a chilled margin that may be up to 5 meters in width above the contact.

Drilling progressed through the dolerite and into basement rocks consistent with common metapelites intersected in previous drilling in the area. The pelite unit is a garnet rich, quartz-biotite pelitic gneiss with minor quartz carbonate segregations and minor leucosomatic anatectic sweats. Alteration is predominantly chloritic in the form of replacement of feldspars but overall a very fresh rock. A minor quartz-biotite-feldspar granitic gneiss was intersected approximately 2 meters above the end of hole.

Geochemical analysis of samples taken has returned an average grade of 0.03% U_3O_8 / 16 m from 101 to 117 m. The mineralization is localized to hematized beds with high concentrations (up to 0.29 % U_3O_8 at 115 m) with lower concentrations in between these high grade beds.

SWIR values recorded throughout the drill hole have returned varying clay mineral assemblages. From 24.6 to 122.87 m, clay minerals vary from kaolinite, illite, paragonite, and pyrophyllite. From 122.87 to 159.65 m, the clay minerals are primarily illite with minor chlorite. From 159.65 to 209.88 m, the dominant clay minerals is paragonite with minor illite and halloysite. From 209.88 to 240.8 m, the clay minerals vary from paragonite to illite. From 240.8 to the end of hole, the dominant clay mineral is chlorite with minor illite.

Appendix 16 - WRD0041 Summary Log

Figure 20 - Cross Section (L 8700925 N)

Figure 14 - Cross Section (L 8700950 N)

Figure 25 - WRD0041 Strip Plot

WRD0042

WRD0042 was drilled to delineate continuation of mineralized structures identified on the north side of the dolerite dyke in order to ascertain the orientation of these structures.

The upper sandstone column in this hole is fine to coarse grained (minor quartz pebble beds), moderately to poorly sorted, subrounded to subangular quartz grains with minor to trace lithic fragments. The sandstone is moderately to strongly bleached with weak diagenetic hematite varying in intensity but progressively getting weaker with depth. The sandstone has undergone intense deformation as evident in the amount of broken intervals as well as millimeter scale displacement along healed fractures that are near parallel to core axis. The most prominent alteration consists of hydrothermal hematite along fractures, veins and blebs as well as sooty pyrite.

Below the sandstone unit, a cataclastic breccia was intersected in the drill hole. Although not as large as previous intersections of this rock unit in the area, it exhibits similar structural characteristics which may mean it is related to other intersections of breccias in the area. The unit is different than the previous intersections lithologically, in that there is no apparent basement correlation observable. It consists primarily of sandstone, or some previous form thereof, and no matapelitic correlations can be made.

The contact between the cataclastic breccia and the lower sandstone unit is a 30 centimeter fault gouge. It is a grey, sandy clay gouge with apparent graphite bearing laminations.

Below the cataclastic breccia, Mamadawerre sandstone has been intersected. The unit is consistent with sandstone units previously intersected in drill holes in the area. The dominant observed alteration within the upper portions of this sandstone package is red/maroon diagenetic hematite. As well, small scale structural features are also present within the first 70 meters of sandstone in the drill core. They include microfaulting with centimeter scale reverse displacement. As well, there is an apparent brecciation associated with minor dolerites intersected within the sandstone. Within this minor brecciated unit there is a small (40 cm wide) unit described as a collapsing infill of a previously opened to surface structure. This unit is composed of a sandstone matrix surrounding larger dolerite clasts. The sandstone within this unit is not consistent with sedimentological controls associated with Mamadawerre sandstone surrounding it.

Below the sandstone unit, drilling intersected an intruding dolerite dyke. The dyke has an East-West orientation and has been intersected in previous drill holes. The dolerite is a fine grained pyroxene rich, olivine bearing dyke. Very fine grained near contacts (chilled margins) progressively getting coarse crystaline with distance from the contacts. The dolerite has an apparent crackle breccia appearance in places with multiple cross cutting veinlets of black chlorite and calcite. Trace disseminated and blebby pyrite throughout. The lower 5 meters above the pelitic contact the dolerite exhibits poikiloblastic texture. The poikiloblast are rare and contained within a very fine crystalline, pyroxene rich matrix. This interval is associated with a chilled margin that may be up to 5 meters in width above the contact. The hole was completed within the dolerite unit as continuation of drilling along the apparent orientation of the drill hole would not intersect metapelites.

Weak uranium mineralization was encountered at the cataclastic breccia/sandstone contact, grading 0.023% U_3O_8 / 4.5 m from 52.5 to 57.0 m with a maximum sample of 0.1% U_3O_8 / 0.5 m from 52.5 to 53 m.

SWIR values recorded throughout the drill hole have returned varying clay mineral assemblages. From 47.9 to 124.8 m, the clay minerals vary from illite to kaolinite and halloysite. From 124.8 to 185.07 m, the dominant clay mineral is illite with minor paragonite and halloysite. From 185.07 to 242.26 m, the clay minerals are primarily illite with minor paragonite. From 242.26 to the end of hole, the dominant clay mineral is chlorite.

Appendix 17 - WRD0042 Summary Log

Figure 26 - Cross Section (L 8700875 N)

Figure 19 - Cross Section (L 8700900 N)

Figure 27 - WRD0042 Strip Plot

WRD0043

WRD0043 was drilled 150 m east of WRD0039 to test for the eastern extension of structures intersected in the vicinity of mineralization and to test an IP anomaly identified from the 2009 DCIP survey conducted over the Angularli area earlier in the season. The IP response may be in direct correlation with sulphides intersected within the drill hole.

Due to structural displacement the units are repeated and are generally of the same composition as their predessors with minor differences in alteration.

After PCD drilling through 32.8 m of recent to cretaceous sediments, the hole was collared into an intrusive dolerite dyke. The dolerite is predominantly fine crystalline, pyroxene rich, fresh mafics with minor amounts of chlorite alteration as well as bleaching in proximity to the contacts. From 60.65 to 134.7 m is a predominantly pelitic unit with minor leucosomatic seggregations. The very steep angles within foliations show probable signs of strain and displacement. Fractures and veinlets throughout show same preferred orientation. The pelite is predominant overpriniting in places with zones of brecciation accompanied by silicification.

The first of the 3 silicified breccias intersected within WRD0043 occurs at 134.7 m. it is a quartz rich breccia and is similar in composition to previous breccias seen in drill holes west of WRD0043. This unit has an overprinting appearance by which the quartz flooding has wiped away the previously pelitic sequence within. Remenents of the former rock type appear as anatectic sweats of quartz chlorite gneisses.

The most prominent alteration consists of chlorite and sericite, particularly in the vicinity of the breccias, with pyrite veins and disseminations throughout the hole. Chalcopyrite occurs between 110 - 177 m associated with more intense pyrite. The sulphides are interpreted to represent the IP anomalies expected within the hole.

No significant elevated radiometrics were observed within this drill hole.

SWIR values recorded throughout the drill hole have returned varying clay mineral assemblages. From 32.8 to 60.55 m, the clay minerals vary from halloysite, montmorillonite, and chlorite. From 60.55 to the end of hole, the dominant clay mineral is illite with minor chlorite and muscovite.

Appendix 18 - WRD0043 Summary Log

Figure 14 - Cross Section (L 8700950 N)

Figure 21 - Cross Section (L 8700975 N)

Figure 22 - Cross Section (L 8701000 N)

Figure 28 - WRD0043 Strip Plot

Outcrop Sampling

A total of 53 outcrop samples were collected, the majority of the samples taken are located around outcropping sandstone escarpment in the central part of the tenement. The object of the sampling was to increase sample density and geochemical knowledge of the surrounding area and improve drill hole targeting in areas of little to no prior work. Figure 29 shows the location of all outcrop samples.

Out of the outcrop samples collected in 2009, six were elevated in uranium and associated pathfinder elements. They are samples of Mamadawerre Sandstone collected in the Telstra target area (west central portion of tenement) and the Angularli prospect area. They have anomalous U (total rock), labile U (Weak Acid Leach [WAL]) and labile radiogenic Pb (expressed in anomalous Pb^{206}/Pb^{204} ratios – from WAL).

Mapping of the Angularli Prospect conducted in conjunction with the outcrop sampling program is displayed in Figure 30.

Figure 29 - Outcrop Sample Location

Table 3 - EL5893 Outcrop sample summary

Figure 30 - Angularli Geology Map

Geophysics

2009 Geophysical surveys

Between 27th April and 17th May, 2009 a total of 1308 line kilometers of airborne magnetic and radiometric data were collected over the Wellington Range project area by UTS of Belmont, Western Australia. The survey was split between the Angularli and Telstra areas. Figure 31displays survey coverage with respect to the lease boundary. The UTS airborne radiometric and magnetic survey used a CRESCO-08-600 fixed wing aircraft flown at a minimal ground clearance of 50 m (or as safety permits). Line spacing varied from 25meters to 50 meters, with tie lines of 250 meters and 500 meters respectively. A description of the survey equipment and procedures may be found In Appendix 19. The purpose of the survey was to help identify anomalous radiometric signatures that may be associated with uranium mineralization, and to help map geology and structure by means of contrasting magnetic susceptibility of the underlying geology.

Figure 31 – Geophysical Survey Locations

Appendix 19 – UTS Logistics Report

During May and June 2009, Zonge Engineering of Edwardstown, South Australia, performed 44.3 line kilometers of Dipole-Dipole Resistivity and IP (DDIP) over the Angularli prospect. The DDIP survey utilized a 200 and 400 meter dipole transmitter separation while reading four 100 meter dipoles (n=1-4) and four 200 meter dipoles (n=5-8). The survey was designed to image anomalous conductivity between 100 and 350 meters depth, which may indicate argillaceous alteration and/or an increase in either primary or secondary porosity. A single 2.7 kilometer line of controlled source audio magnetotellurics (CSAMT) was also performed in the same area to test the techniques capability of imaging beneath conductive cretaceous cover, which is known to exist in the area. A detailed description of the electromagnetic surveys performed by Zonge Engineering is provided in Appendix 20 and survey locations are indicated in Figure 31.

Appendix 20 – Zonge logistics report

Magnetic and Radiometric Survey Results, processing and considerations

Figure 32 and Figure 33 display the magnetic data collected and processed grids. Processing included a reduction to pole (RTP), which transforms the magnetic responses to that which would be observed at the magnetic north pole. This places the magnetic anomaly symmetrically over the source body. A first vertical derivative of the total magnetic intensity (1stVD TMI) and the RTP (1stVD TMI RTP) are also displayed in Figure 32 and Figure 33 for the respective survey areas.

Figure 32 – Telstra Magnetic survey

Figure 33 – Angularli Magnetic survey

Figure 34 and Figure 35 display the radiometric grids collected over the Angularli and Telstra survey areas respectively. Grids of equivalent potassium (%), uranium (ppm) and thorium (ppm), along with the total counts channel (cps) are included in these figures. Also included is a ternary grid which is a composite of the potassium, uranium and thorium channels using colours red, blue and green respectively. The digital terrain model, generated by means of combining the GPS elevation of the aircraft and the airborne radar altimeter information, represents the survey area topography, is also provided in Figure 34 and Figure 35. The radiometrics are only effective at representing the upper 20 cm to 50 cm of soil and/or rock, depending on moisture content and density of host material. Within the survey area it is the signal from regolith and transported cover which will dominate the observed radiometric signal. In both survey areas it is observed that the potassium levels are generally less than 0.1% with outcropping sandstone providing the strongest potassium signal in both grids. Thorium highs are also associated with outcropping sandstone, with the most intense thorium anomaly correlating with a pebble conglomerate in the Angularli survey. In the Telstra area the thorium channel is dominated by Laterite weathering profiles with some association with sandstone.

Figure 34 – Telstra Radiometric survey

Figure 35 – Angularli Radiometric survey

Appendix 21 - Radiometric and Magnetic Survey Data

DDIP Results, Processing and Considerations

The DDIP survey was plagued by poor injection current resulting from high contact resistance. The high contact resistance was moderated by the creation of large 1.0mx1.5mx0.3m pits filled with 60 liters of salt water and plate like electrodes of similar dimensions. The low current injection, which was typically below 1 amp, was insufficient at large electrode spacing to produce an appreciable IP signal. In the area of current drilling the contact resistance was found to be the highest, due to outcropping sandstone and low moisture content. The coordinates of the DDIP data was designed on a AGD66 grid using the UTM Northing and Easting as station locations and line names. The data provided in Appendix 22 has been converted into GDA94 zone53. The data was then inverted using the inversion program RES3DINVx32, produced by Geotomo of Penang, Malaysia. Figure 36 shows the DDIP survey lines with respect to the first resistivity inversion layer (0-25m), with full inversion results presented in Figure 37and Figure 38, the resistivity earth model and the chargeability earth model respectively. Both inversions were run with default parameters, equating them to an Occam type of inversion which attempts to find the smoothest earth model that may reproduce the data. It was initially hoped that the DDIP survey would be more capable of imaging beneath the Cretaceous cover, unfortunately the low current injection achieved during the survey prevented this.

Figure 36 – Angularli Resistivity Survey Lines

Figure 37 – Angularli Resistivity Inversion Depth Sections

Figure 38 – Angularli IP Inversion Depth Sections

Appendix 22 - DDIP Survey Data

CSAMT Results, Processing and Considerations

The CSAMT survey was primarily performed as a test to investigate the techniques capability to image beneath the cretaceous cover. The survey involved the use of a north trending transmitter wire, 1800 kilometers in length, located approximately six kilometers to the south of the survey area. The transmitter was limited to 3.5 Amps due to a resistive environment. A suite of 18 harmonically spaced frequencies between 128 Hz and 5120 Hz were recorded during the survey. Each receiver station measured the horizontal E-field with a 100 meter dipole, while groups of four stations shared a z component magnetic measurement to calculate a Cagniard resistivity and phase difference for each of the E-field dipoles. Figure 39 shows a two dimensional inversion model of the data collected during the CSAMT survey, as well as a sensitivity model. During the CSAMT survey a great deal of electromagnetic noise was recorded. It is suspected that a Telstra Communications tower located approximately 4 kilometers to the southwest of the survey is to blame.

Figure 39 – Angularli CSAMT 2D Inversion Section

Appendix 23 - CSAMT Survey Data

Geochemistry

A total of 688 samples were collected for geochemistry on the Wellington Range Project in 2009, including 619 samples from drill core, 53 surface samples and 16 samples specifically selected as a representative rock type set. All of the samples collected for geochemistry were sent to Northern Territory Environmental Laboratories (NTEL) for analysis for the standard Cameco Australia suite of elements as outlined in Appendix 4. All samples were crushed, milled, digested and analysed at NTEL according to the methods described in Appendix 2. All analytical geochemistry results for Wellington Range for 2009 are presented in Appendix 1.

All geochemistry from Wellington Range passed Cameco Australia's quality control procedures. Quality control of geochemistry at Cameco Australia includes the following:

1. Rigorous checking of the laboratory's accuracy and precision in the analysis of U, Al_2O_3, As, Ba, Be, CaO, Ce, Co, Cr, Cu, Dy, Fe_2O_3, Hf, K_2O, La, MgO, Mn, Mo, Nb, Nd, Ni, P_2O_5, Pb, Rb, S, Sr, Ta, Th, TiO_2, U, V, W, Y, Zn, and Zr via the use of three matrix matched certified geochemical standards (at the insertion rate 4.7% or approximately 1 in 20 samples) of differing U content (with average U concentrations of 4.76 ppm, 42.18 ppm and 111.1 ppm U);
2. Monitoring the laboratory's ability to repeat results on analyses of sub-sets of the powdered sample via monitoring of the laboratory's analytical duplicates (lab duplicate insertion rate was 10% or approximately 1 in 10 samples) for the entirety of the standard Cameco Australia analytical element suite as given in Appendix 3, and including loss on ignition (LOI); and
3. Calculating and monitoring the relative sampling error for the entire standard Cameco Australia analytical suite but specifically for U, Th and Zr, by analysis of field duplicates at a rate of 5.1% or approximately 1 in 20 samples and comparing the results to those of the original duplicated sample.

The mean relative sampling error for U, Th and Zr was 20% (disregarding a single significant outlier), 11.8% and 8.4% respectively, with no significant bias to the positive or negative (from all of Cameco Australia's Arnhem Land projects, not just Wellington Range).

In 2009 no blanks were used to test for cross-contamination during the laboratory sample preparation process due to the lack of availability of a blank with concentrations low enough so that such a test could be adequately accomplished.

An examination of the geochemical data from the drilling at Angularli shows that the main uranium mineralization tend to be associated with brecciated zones or cataclastytes although the mineralization itself is often in fractures adjacent these.

Given the chemistry of the mineralized zones and surrounding wall rock, as well as the proximity of these zones to the dolerite, it is possible that ore bearing fluids have interacted with the dolerite. The dolerite is distinctly unmineralised.

Some minor mineralization is found adjacent dolerite, even smaller dolerite shoots, suggesting that interaction with the mafic dolerite may have been involved with the chemical changes necessary for precipitation of U, although this is yet to be confirmed and may not correlate to the main mineralising event. Minor mineralization is also found in oxidized zones close to the unconformity. Importantly the chemistry of both of these minor zones of mineralization is not dissimilar to the higher grade ore zones.

DISCUSSION

Angularli and Surrounds

Mineralization has been encountered in multiple drill holes within the north east section of the tenement referred to as the Angularli prospect. It has become the most prospective mineralized zone found on the Wellington Range exploration license to date. The type of mineralization found within the prospect has characteristics similar to alteration assemblages proximal to unconformity uranium deposits found within the Athabasca Basin, Saskatchewan, Canada. The mineralization is open in all directions, thus there is excellent potential the prospect may contain a mineral deposit. The mineralization is hosted in the basal part of the Mamadawerre Sandstone and intimately associated with cataclastic breccias and overthrust basement gneisses. The mineralization hosted within the sandstone is primarily disseminated, whereas the mineralization associated with the cataclastic breccia is in veins, blebs and fracture coatings.

A cursory structural analysis of the Angularli drill core was undertaken and a rudimentary 3-D model of Angularli was compiled in an effort to better understand the setting of the mineralization. The Cataclastic Breccia that appears to be controlling mineralization has been intersected in WRD0036, WRD0039, WRD0040, WRD0041, WRD0042, and WRD0043.

The silicified breccias intercepted in WRD0043 are interpreted to be down-dip intersections of the Cataclastic Breccia intersected in earlier drilling to the west, with the breccia from 369.4 - 395.2 m representing the main thrust plane and the breccias above representing imbricated thrust sheets with repetitions of basement stratigraphy. The thrust planes are interpreted to strike approximately north to north-northwest, coinciding with mapped and significant breaks in the sandstone outcrop. The east-west striking dolerite dyke potentially post dates mineralization and is interpreted to have exploited an east-west coeval to later extensional structure that has seen multiple phases of intrusion. Both structural orientations have seen later brittle reactivations.

Northern Portion of Wellington Range (Murgenella Trend)

The question of the presence of ‘older’ gneissic rocks was raised in 2006 with the identification in WRD006 of a massive monolithologic quartz-feldspar-biotite gneiss, which is present throughout the hole. WRD006 was collared in the northwest part of the project close to the western tenement boundary. Initially it was tentatively placed in the lower Proterozoic Kakadu Group i.e. Mount Howship Gneiss. Core samples were provided to the NTGS during 2008 for age dating as part of the ongoing geochronology project, who confirmed a NeoArchean age - assigning the rock to the Nanambu Complex (Worden et al, 2008 and Hollis et al, 2009). Further sampling of Wellington Range drill core was undertaken by the NTGS in 2009 for age dating of prospective Nanambu complex intersected in WRD0030 as well as the lower metasediments intersected in WRD0035. Results of these samples are forthcoming.

The identified Nanambu Complex has implication for the prospectivity of the area. For instance the newly identified Nanambu Complex from WRD006 is within 500 m of

Lower Cahill Formation located in several holes to the east. This would suggest a similar setting to the Ranger Mine environs, where Lower Cahill Formation onlaps the Nanambu Complex and is a site of significant structural complexity including thrusting and development of dilational zones. A few kilometres further to the east is WRD0030 (drilled in 2008), which intersected gneisses similar in character and geochemistry to those found in WRD006. This indicates that Lower Cahill Formation in this area may be flanked to the east by Nanambu Complex allowing still further opportunity for favourable settings to deposit uranium. Clearly there are a number of prospectivity implications to be considered in light of the recent NTGS age dating and 2008 drilling although more definitive targets will have to be identified before further drill testing in this area is to resume.

CONCLUSIONS and RECOMENDATIONS

The area targeted as a structural environment similar to the Aurari Fault Zone (Angularli Prospect) has produced favourable intercepts of uranium mineralization within the basal layer of the Kombolgie Subgroup (Mamadawerre Sandstone) as well as along the structural contact with adjacent gneissic units. The area remains prospective for large reverse faulting structures capable of producing a hydrothermal system necessary for uranium mineralization. Furthermore, samples from several kilometres away have also returned anomalous geochemistry possibly indicating a broader regional hydrothermal system.

As the higher grade mineralization found to date in the Angularli area is hosted within and around the north to north-northwest trending cataclastic structure believed to be hosting the primary mineralizing event, the 2010 drilling campaign will focus on targeting the nose of the mineralizing structure/sandstone contact, the structure/unconformity contact and deeper drilling up to 150 m below the unconformity may be required to identify prospective basement rock thought to be part of the Cahill Formation. Economic mineral deposits found within the Alligator River Uranium Fields are all associated with the rock types found within the lower portion of this formation.

Further sampling and mapping of limited outcrop/subcrop to the south and west of WRD0036 is required at Angularli. The radiometric survey has indicated weak anomalous readings and investigation of these anomalies is necessary. As well, follow up four anomalous surface samples collected in 2009 from the western portion of the project will continue. Some of the radiometric anomalies have not been investigated in this area as access is restricted to helicopter only. One of the previously mentioned samples was collected in subcrop surrounded by ferricrete. The surrounding escarpment to the south of this anomaly has very little sampling and requires follow up mapping and sampling

Lithologies of the Nanambu Complex are now understood to exist in the northern portion of the project and may even flank Lower Cahill Formation to the west and east, as testified by NTGS dating of gneisses from WRD006 and the similarity of rocks from WRD0030. The full implications of this geological scenario are being assessed, which may provide further encouragement to explore in the northern portion of the Wellington Range tenement.

EXPENDITURE

Eligible exploration expenditure Cameco Australia for EL5893 for the reporting period totalled $2,097,976.67. Expenditure for 2010 is expected to be $1,500,000.

Table 4 - EL5893 Eligible Expenditure

PROGRAM RECOMMENDATIONS FOR 2010

Mapping and Prospecting

- Prospecting, sampling and mapping is recommended for Angularli and to follow up anomalous surface samples to the northwest and south of the Telstra track.

Diamond Core Drilling

- A diamond drilling program to follow up mineralization intersected at Angularli, stepping out 25 to 50 m along the structure in evenly spaced drill fences

Geophysics

- Ground based Gravity survey to attempt to better refine the location of the target structure south of Angularli.

REFERENCES

Carter M and Beckitt G., 2006. Exploration Licence EL5893, Wellington Range Project, Northern Territory. *Cameco Australia*, *2005-2006 Annual Report*, WR06-02.

Ferenczi P.A., Sweet I.P. and authors c., 2005. Mount Evelyn, Northern Territory (Second Edition); 1:250 000 Geological Map Series, sheet SD53-5; Explanatory notes. *Northern Territory Geological Survey*, *Explanatory Notes*.

Hollis, Julie A., Chris J. Carson, and Linda M. Glass. 2009. Extensive exposed Neoarchaean crust in Arnhem Land, Pine Creek Orogen: U-Pb zircon SHRIMP geochronology. *Annual Geoscience Exploration Seminar (AGES). Record of Abstracts. Northern Territory Geological Survey.* Record 2009-002.

Kendall C.J., 1990. Ranger uranium deposits. *In:* Hughes F.E. (Ed.), Geology of the mineral deposits of Australia and Papua New Guinea, vol. 1. *Australasian Institute of Mining and Metallurgy*, *Monograph Series*, 14; p. 799-805.

King M., Bzdel L., Mathieson T., Perkins C.T., Beckitt G., and Shirtliff G., 2009. Exploration Licence EL5893, Wellington Range Project, Northern Territory. *Cameco Australia*, *2008-2009 Annual Report*, WR09-02.

Melville P., 2007. Exploration Licence EL5893, Wellington Range Project, Northern Territory. *Cameco Australia*, *2006-2007 Annual Report*, WR07-02.

Needham R.S., 1988. Geology of the Alligator Rivers uranium field, Northern Territory. *Bureau of Mineral Resources*, *Geology and Geophysics*, *Bulletin*, 224.

Needham R.S., 1990. Geological and mineralization Map of the Alligator Rivers uranium field, Northern Territory. 1:250 000 scale Map. *Bureau of Mineral Resources*, *Geology and Geophysics*.

Needham R.S. and Stuart-Smith P.G., 1980. Geology of the Alligator Rivers uranium field. *In:* Ferguson J. and Goleby A.B. (Eds.), Uranium in the Pine Creek Geosyncline; proceedings of the International uranium symposium on the Pine Creek Geosyncline. *International Atomic Energy Agency*; p. 233-257.

Otto G., Melville P. and Beckitt G., 2005. Exploration Licence EL5893, Wellington Range Project, Northern Territory. *Cameco Australia*, *2004-2005 Annual Report*, WR05-02.

Ranford, C., Melville P. and Beckitt G., 2008. Exploration Licence EL5893, Wellington Range Project, Northern Territory. *Cameco Australia*, *2007-2008 Annual Report*, WR08-02.

Sweet I.P., Brakel A.T., Rawlings D.J., Haines P.W., Plumb K.A. and Wygralak A.S., 1999b. Mount Marumba, Northern Territory (Second Edition); 1:250 000 Geological Map Series, sheet SD53-6. *Australian Geological Survey Organisation-Northern Territory Geological Survey (NGMA), Map and Explanatory Notes*.

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

Worden KE, Carson CJ, Close DF, Donnellan N and Scrimgeour IR, 2008a. Summary of results. Joint NTGS – GA geochronology project: Tanami Region, Arunta Region, Pine Creek Orogen and Halls Creek Orogen correlatives, January 2005 – March 2007. *Northern Territory Geological Survey, Record* 2008- 003