



Cameco Australia Pty Ltd

**ARNHEM LAND WEST
MANYALLULUK PROJECT
EL 9452
ANNUAL REPORT
CONFIDENTIAL**

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SUMMARY

This report describes exploration work undertaken on the Manyalluluk Project during the first year of tenure. The tenement was granted on 5 May 2004 for an initial period of six years.

Field activities during the reporting period consisted of eight days of helicopter assisted sampling, radiometric anomaly follow-up, reconnaissance and familiarisation of project geology. Airborne magnetic and radiometric surveys and a hyperspectral survey have been flown over the project area, with the latter conducted only over the eastern portion of tenement.

Follow-up of radiometric anomalies identified from the airborne radiometric survey identified anomalous U in a minor number of samples associated with clay alteration and structural disruption within the Grace Creek Granite and Hindrance Creek Sandstone. The majority of radiometric anomalies were observed to be associated with the mafic volcanic units of the Katherine River Group, related to near surface weathering effects and scavenging of U from surficial sources, and do not require any further work.

Further work is recommended for the areas of identified anomalous U, and would consist of low impact, sampling and mapping. Future work will be aimed at generating a regional sampling coverage of the sandstone terrain to provide baseline signatures for lithogeochemistry and recognition of any possible broad alteration within the sandstone covered portions of the tenement, and an evaluation of the targets defined from the hyperspectral clay interpretation.

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INTRODUCTION

This report describes exploration activities carried out from 5 March 2004 to the anniversary date on EL 9452. The Exploration Licence is located on Aboriginal Land and the exploration program was carried out under the terms of consent documentation agreed with the NLC pursuant to the Aboriginal Land Rights (Northern Territory) Act 1976.

The field program for the first year consisted of airborne geophysical surveys, and ground based field activities.

Location and Access

Exploration Licence 9452 is located in south western Arnhem Land. The project area is centred about 90 km north east of Katherine and 25 km north east of Manyalluluk.

The tenement is traversed in the central area by the access track to the Mann River Camp, established by Cameco Australia in 1998. Various other unmaintained tracks traverse the western portion of the tenement to Mary River Station and other areas and in the eastern portion to Mountain Valley and other outstations beyond the tenement.

Project Location Map

Tenure

EL 9452 was granted on the 5 May 2004 for an initial period of six years. On granting, the total area covered by the licence was 1336 km². Approximately 153.5 km² of EL 9452 is designated as 'no-go' and is excluded from exploration.

Physiography

The tenement consists of tablelands developed on Cretaceous sedimentary rocks in the south western area, merging into undulating plains and small bouldery hills developed on the Grace Creek Granite covering the central to north western area of the tenement. The central to eastern portion of the tenement is dominated by Kombolgie Subgroup sediments exposed as deeply dissected sandstone, which form local escarpments up to 80m high, and rubbly sandstone hills with deep narrow valleys merging into rubbly clay plains and rubbly ridges, formed on volcanic rocks, to the eastern margin of the tenement.

Vegetation varies with geology and topography but generally consists of eucalyptus woodland and scrubland with remnants of monsoonal forest confined to deep gorges, and grassland dominating the western areas.

Regional Structure and Geological History

The geological history and regional structure is based on the Explanatory Notes, Katherine SD 5309 1:250000 Geological Map Series (Kruse and others 1994). EL 9452 lies close to the southern margin of the Pine Creek Geosyncline to the west and the western portion of the McArthur Basin, of which the Kombolgie Basin is part, in the east of the tenement.

Regional Geology Map

The Finnis River Group rocks form the basement rocks in the area and were deformed and metamorphosed by the Top End Orogeny (1880 to 1780 Ma), which includes the initial Nimbuwah Event or Barramundi Orogeny at about 1870 Ma. This produced prograde regional metamorphism of the sedimentary rocks with associated tight folding and faulting demonstrated within the Tollis Formation.

Intracratonic basin development from extensional block faulting prompted deposition of the Edith River Group with basal clastic sediments overlain by subaerial volcanoclastics of the Plum Tree Volcanics coeval with the intrusion of the Grace Creek Granite at the base of the ignimbrite sheet. The Grace Creek Granite was likely emplaced central to the intersection of major faulting.

The Katherine River Group deposition was initiated on broad epicontinental platforms, with early sedimentation controlled by basins initially developed along marginal faults. The Kombolgie Group depicts a history of mature, fluvial and shallow marine, stable platform sedimentation, dominated by quartz arenites, punctuated by episodes of instability with associated flood basalt extrusions and renewed sedimentation on intraformational erosional surfaces. Extended basin development is demonstrated within the McKay and Cottee Formations with deposition of marine sediments and evaporitic sequences. Later instability led to the deposition of thin less mature lithic and feldspathic sandstone units and later basic and acid volcanism associated with the West Branch Volcanics.

Platform instability in the form of tilting, open folding and erosion took place prior to deposition of the Mount Rigg Group. East of the tectonic high developed on the Grace Creek Granite, the Katherine River Group is warped in a broad 35km wide northeast trending syncline, the Waterhouse Syncline. Bedding dips recorded along the flanks of the syncline are gentle between 5 and 30° with steeper bedding associated with faulting. The synclinal axis is dominantly north east, with a gentle north east plunge in the south, becoming subhorizontal in the north before dying out. The Waterhouse Syncline is not consistent in style or trend to the broad folding of Edith Falls Syncline and Seventeen Mile Anticline to the west of the Grace Creek Granite, and may represent different tectonic phases.

A period of platform stability persisted through deposition of the initial basal fluvial sediments and later marine sediments of the Mount Rigg Group. Further deformation and faulting took place prior to the deposition of the Roper Group. To the east of the Grace Creek Granite, a zone of east to north east trending faults, with a conjugate system of faults, extends across the Kombolgie Group. The Diamond Creek Fault immediately to the south of EL 9452 is a major fault trending to south east which juxtaposes the Kombolgie Subgroup with Upper Katherine River Group rocks, with a secondary fault to the north which juxtaposes Edith River Group with Upper Katherine River Group rocks.

Sedimentation within the local area ceased until the early Cretaceous with deposition of shallow marine and continental sands and silts capping and obscuring the pre-existing exposed geology during periods of elevated sea levels.

Tenement Geology

Based on the NTGS mapping of the Katherine 1:250000 geological series (Kruse and others 1994), outcropping rocks within the tenement consists of a compressed stratigraphic sequence of Palaeoproterozoic Kombolgie Subgroup sedimentary and volcanic rocks, Kombolgie Group sediments and volcanics unconformably overlying Edith River Group sediments and volcanoclastics which has been intruded by the Grace Creek Granite. Metamorphosed sediments of the Finniss Group, while not exposed on the tenement, may underlie Cretaceous sediments in the south western portion of the tenement. The Edith River Group is intruded by the Maud Dolerite, prior to the emplacement of the Grace Creek Granite. All of the above rocks are overlain in part by Cretaceous marine sediments.

The Edith River Group is comprised of the Hindrance Creek Sandstone and the conformably overlying Plum Tree Creek Volcanics. The Hindrance Creek Sandstone is characterised by a coarse cobble conglomerate, at the base grading to massive to thickly bedded lithic to feldspathic quartz sandstone and arkose. The basal conglomerate is comprised of rounded quartz pebbles, and subangular clasts of volcanics and chert. The formation is interpreted to represent alluvial fan deposits flanking active marginal fault scarps to the north (Kruse and others, 1994). The Plum Tree Creek Volcanics consists of dominantly subaerial rhyodacitic ignimbrite conformably overlying the Hindrance Creek Sandstone. The ignimbrite commonly contains feldspar and quartz phenocrysts, with rare hornblende in a finely crystalline groundmass.

The Plum Tree Creek Volcanics are intruded by the chemically and petrologically similar Grace Creek Granite. The Grace Creek Granite is interpreted as the intrusive magma chamber from which the subaerial ignimbrite sheet of the Plum Tree Creek Volcanics was derived, and is located at the intersection of major faults. The granite is broadly zoned with equigranular grey granite in the central zone grading into more phenocrystic and xenolithic finer grained reddish granite.

The Katherine River Group overlies the Edith River Group. The age of the Katherine River Group is constrained by the Plum Tree Creek Volcanics below 1857 – 1822 Ma and the West Branch Volcanics above 1712 – 1705 Ma (Kruse and others, 1994) and the Oenpelli Dolerite above 1720 Ma and is probably closer to 1800 Ma (Sweet et al., 1999). The Kombolgie Subgroup is comprised of mature quartz arenites punctuated by basaltic, extrusive, volcanic units.

Extrusive volcanic rocks of the Nungbalgarri Volcanics and the Gilruth Volcanic Member are present. The former conformably separates the Mamadawerre (basal member of the Kombolgie Subgroup) from the Gumarrirbang while the Gilruth outcrops as a thin lateritised or saprolitic surface separating the latter from the overlying Marlgowa Sandstone and conformable McKay Sandstone.

Overlying the Kombolgie Subgroup, six formations in ascending order, Cottee Formation, Shadforth Sandstone, McCaw Formation, Diamond Creek Volcanics, Gundi Sandstone and West Branch Volcanics comprising the Upper Katherine River Group are exposed within the south eastern portion tenement. The formations grade from shallow marine sandstones, polymictic conglomerate lenses and mudstones of the Cottee Formation, Shadforth Sandstone and McCaw Formation, to basaltic lava flows, fluvial volcaniclastic sandstones and pebbly lithic sandstones of the Diamond Creek

Volcanics and Gundi Sandstone to fluvial to shallow marine conglomerate, lithic sandstones and extrusive mafic lavas of the West Branch Volcanics.

Undifferentiated Cretaceous sandstone and claystones cap and obscure the older rocks throughout the tenement. Recent cover comprising sands and clay, gravel and cemented ferruginous deposits infill most valleys and also obscure any outcrop.

Tenement Geology Map

Exploration Target

The focus of the exploration strategy is the discovery of unconformity-related uranium deposits. The nearby economic deposits at Coronation Hill, Ranger, Jabiluka, Koongarra and the now depleted Nabarlek Mine serve as models for this strategy. The presence of gold, palladium and platinum in these deposits plus the economic gold-platinum resource at Coronation Hill in the South Alligator Valley, indicates an additional potential for this deposit style.

Previous Exploration

Historically, the area has no known historical uranium exploration. Other exploration activities have been small-scale prospecting/mining for tin, tungsten and copper, which included some associated uranium, from the late 1970's until 1990's. Some copper with minor associated uranium, and tungsten mineralisation is indicated from historical records, however, these anomalies have not been ground verified.

EXPLORATION PROGRAM

The 2004 exploration program consisted of an airborne hyperspectral survey, and outcrop sampling of areas of airborne radiometric anomalies identified from the airborne radiometric surveys conducted by UTS in 2000 and 2003. The sampling program was conducted over eight days from 4 October to 11 October 2004. Field operations were based out of Katherine with personnel ferrying daily to and from the licence area by helicopter.

Outcrop Sampling

In total, 86 samples were collected from 91 stations; the outstanding stations being mapping locations. The aim of the 2004 program was to initially identify baseline properties from all rock types within the tenement, by collecting samples on a regional basis in a grid like pattern across the tenement. The focus of the program changed upon receipt of the radiometric anomalies from radiometric processing of the survey data. The sampling program became focussed on the follow-up of the radiometric anomalies, to determine if possible the nature and cause of the radiometric response.

Work Summary

A total of 132 radiometric anomalies were identified for follow-up. These anomalies are tabulated in the following Manyalluluk Airborne Radiometric Anomaly Table and the locations shown in the following [Airborne Radiometric Anomaly Location Figure](#). A total 42 ARAD anomalies were investigated, with priority given to those anomalies that had been assigned a higher ranking, with lower ranked anomalies checked based on becoming familiar with the rock types and the tenement geology.

Airborne Radiometric Anomaly Table

Airborne Radiometric Anomaly Location Map

The outcrop sampling and processing were performed using Cameco standard methodology. This methodology is shown in the **Cameco Outcrop Standard Procedures**.

Cameco Standard Outcrop Sampling and Processing Procedures

Of the total 91 outcrop stations visited from the Manyalluluk tenement, the largest number of stations was in the Grace Creek Granite; the full suite of formations visited by totals is given in the Station Rock Formation Table

Sampled Rock Formation	Rock_Code	Samples
Grace Creek Granite	-Peg	18
Gumarrirbang Sandstone	-Phr	11
Hindrance Creek Sandstone	-Peh	10
Mamadawerre Sandstone	-Phe	9
Nungbalgarri Volcanic Member	-Phn	8
Gilruth Volcanic Member	-Phrg	7
Marlgowa Sandstone	-Phl	7
Plum Tree Creek Volcanics	-Pep	4
Laterite or ferricrete	Czl	3
Diamond Creek Volcanics	-Phd	3
West Branch Volcanics	-Phw	3
Cottee Formation	-Phc	2
Undifferentiated Cretaceous	K	2
Cenozoic sediments	Cz	1
Mackay Sandstone	-Phm	1
Shadforth Sandstone	-Phs	1
Gundi Sandstone	-Phg	1

Station Rock Formation Table

The following figures and tables detail the data and results from samples collected during the program.

Sample Locations

Sample Descriptions

Outcrop Lithology and Physical Properties

Outcrop Alteration and Structural Measurements

ARAD Anomalies Checked - Summary

Sample Location Map - Geology

Sample Location Map - Landsat

All samples were analysed at NTEL in Darwin using techniques outlined in **Cameco Standard Outcrop Sampling and Processing Procedures**.

Outcrop G400 Geochemistry

All outcrop samples were processed using PIMA and TSG, with results in the following tables and figures.

Outcrop Samples TSA Analysis (Identified Mineral Species)

Outcrop PIMA TSA Clay Distribution Map

Twenty samples were submitted to Pontifiex and Associates for thin section preparation and detailed petrographic descriptions. The report received from Pontifiex has been altered to remove references to samples from other projects.

Pontifex Petrographic Report

Outcrop Sampling Discussion

Samples were submitted to the laboratory in two batches, one for sandstone, and the second for all rock types other than sandstone (granite, volcanics etc).

The follow-up of the airborne radiometric anomalies was conducted over a period of eight days. The aim of the follow-up was to evaluate and identify the nature and if possible the cause of the radiometric response for the identified anomalies, and as such the evaluation was more reconnaissance in nature. Further work is warranted on those anomalies that contain above background U.

Of the first sandstone group, the majority of uranium values are between 1-2ppm with several 2-6ppm (refer Uranium – Thorium Map). Three samples, from the Hindrance Creek Sandstone unit, stand out as being anomalous to highly anomalous with values of 22.3, 88.5 and 216ppm U, being from samples ML04C10290 (MLR014), ML04C10247 (MLR006) and ML04C10241 (MLR005) respectively. There appears to be no specific association with other elements and Th is relatively low varying from ~5 to 15ppm.

The second group of samples encompass a wide variety of rock types found in the tenement. The highest U values are associated with granite-related (Grace Creek Granite) airborne anomalies. The highest values are 155 and 744 ppm U, ML04C10248 from anomaly MLR001 and ML04C10254 from anomaly MLR039 respectively, the former quartz-vein related and the latter associated with minor shearing, strong clay alteration and possible uranium secondary mineralisation. Several other samples collected from these two and a third anomaly (MLR015) were between 50 and 100ppm U. All three anomalies are completely separate. Thorium values from the samples at these anomalies varied between 20 and 35ppm.

The remaining higher U values were in samples collected from volcanics, principally the Nungbalgarri. While not all samples from this unit were anomalous in U they did generally exhibit the typical geochemistry with above background As-Cu-Co-Ni-Pb-V-Zn. The U values were all low order, between 20 and 40ppm and, in common with the above, are probably representative of the high element background of the Nungbalgarri produced in part from the scavenging effects during weathering.

Uranium - Thorium Map

Sample ML04C10290 was collected from a zone of brecciation within the interpreted alluvial debris fan/conglomeratic portion of the Hindrance Creek Sandstone. Subangular to rounded cobbles up to 0.5m (average 9cm) across consisting of lithic sandstone, quartz, quartzite, hematite altered volcanic and older conglomeratic rocks comprise the unit. This interpreted conglomeratic stratigraphic unit is also demonstrated at sites ML040240 and ML040241. It was initially unclear from reconnaissance work, whether this unit represented a fault breccia within the Mamadawerre Sandstone – Hindrance Creek Sandstone interface; the area has been mapped as Mamadawerre Sandstone by Kruse et.al on the Katherine SD5309 250K Map Sheet. It is proposed that the unit is part of the Hindrance Creek Sandstone and is not widely exposed. A similar unit is reported in the stratigraphically analogous Phillips Creek Sandstone exposed in the northwestern portion of the Katherine Map Sheet.

The Pima clay mineralogy and the hyperspectral clay interpretation shows reasonable correlation. As expected from other project surveys, the correlation between the Hymap clay interpretation and the results derived from the surface sampling PIMA interpretation is quite strong. PIMA clays may be more biased to specific samples that cannot be resolved in the six metre pixel resolution of the Hymap, and the 10nm sampled wavelengths within the reflectance spectra.

The results from the hyperspectral survey were not available prior to the field program, and as such, no ground validation of the results, apart from those realised from the radiometric follow-up, has been completed.

From the hyperspectral imaging the Grace Creek Granite and Plum Tree Creek Volcanic formations are typified by a muscovite or illite-group clays and may represent a weathering product. The Hindrance Creek Sandstone appears to be dominated by mixtures of illite and dickite.

PIMA TSA and Hyperspectral Clay Interpretation Map

The basal portion of the Mamadawerre Sandstone, in the northwest, is dominated by illite clays, and is overlain by a dominantly dickitic sandstone unit. Possible overprinting or obscuring of the illite signature in the basal sandstone, by kaolinite, appears along the escarpment edge in the centre of the project. Overlying the dickite zone is the Nungbalgarri Volcanics, characterized by the ferruginous sediment, ferruginous sediment/nontronite, and kaolinite²/nontronite endmembers. The lower portion of the Gumarrirnbang Sandstone is characterized by a mixture of dickite and kaolinite clays, and overlain by a unit dominated by illite group clays, mainly of the long wavelength illite type. Just below the Gilruth Volcanic Member, the dominant clay signature is the very long wavelength illite with local distributions of the hornblende/chlorite spectral endmember in the northeastern part of the project possibly representing altered Gilruth Volcanics. The Marlgowa Sandstone contains a mixture of kaolinite, halloysite, and very long wavelength illite clays, with lesser dickite clay.

The upper Katherine River Group rocks are less well defined because of their less resistant nature and limited outcrop exposure. The lower part of the sequence is dominated by halloysite and is best demonstrated within the discretely exposed Gundi Sandstone. This is overlain by at least one discrete very long wavelength

illite interval. The West Branch Volcanics in the eastern portion of the tenement shows the best spectral matches to the hornblende/chlorite endmember.

Geophysics

Airborne Magnetism, Radiometrics and DTM

UTS Geophysics Pty Ltd of Perth conducted two separate airborne magnetic/radiometric/DTM surveys over the project area. The initial survey, flown in 2000, covered 1961 line kilometres. This survey covered the western portion of the project and was designed to infill a 400 m line spaced survey by the Northern Territory Geological Survey (NTGS) to 200 m line spacing. The second survey was flown in 2003 and covered an additional 3480 line kilometres. This survey extended the 200 m line spaced coverage east, over the remaining project. Both surveys were flown at a flying height of 60m. In 2004, the survey grids were merged by Pitt Research Pty Ltd to facilitate interpretation.

The highly varied geology of this project area is reflected in the varied magnetic and radiometric response. The Grace Creek Granite is clearly radiogenic and dominates the potassium, uranium and thorium response. The Nungbargarri Volcanic Member and Diamond Creek Volcanics both have elevated potassium. Apart from the Grace Creek Granite response, cover and along with the various ferruginous (and volcanic) horizons control the uranium response. There are areas of elevated magnetism associated with the Grace Creek Granite. A more subdued response is associated with the Nungbargarri Volcanic layer, which may be relatively thin since elsewhere in Arnhem Land the response is much stronger. There is a strongly negative response in the south-east part of the project, which may relate to the West Branch Volcanics.

Field checking of the radiometric anomalies commenced in 2004 and will continue in 2005. The airborne magnetism may be further utilized to refine the project geology interpretation as required.

Airborne Geophysics Logistics Report by UTS – 2000

Airborne Geophysics Logistics Report by UTS – 2003

Airborne Magnetism – Total Magnetic Intensity (TMI) with 1st Vertical Derivative (1VD)

Airborne Radiometrics – Total Counts (TC)

Airborne Radiometrics – Potassium (K)

Airborne Radiometrics – Uranium (U)

Airborne Radiometrics – Thorium (Th)

Airborne Radiometrics – RGB=U,Th,K

Airborne DTM – Height with NE Sun Angle

Hyperspectral – HyMap Mk1

In 2004, a hyperspectral survey was flown over the eastern portion of the project known to contain outcropping Kombolgie Subgroup Sandstone. The survey was conducted by De Beers utilising their HyMap MkI system, an airborne multi-spectral

scanning instrument designed to map minerals and identify alteration. Cameco is utilising the instrument as an aid in locating alteration patterns associated with unconformity-style uranium deposits. It is hoped that the system will identify and map variations in clay types in the sandstone such as kaolinite, illite, dickite, halloysite and iron and magnesium chlorites as well as silicification.

Airborne Hyperspectral Logistics Report by De Beers - 2004

Gerard Zaluski of Cameco Corporation completed the interpretation report of the hyperspectral data collected from the De Beers survey. His interpretation has identified that similar basinal clay patterns exist within the sandstone units of the Katherine River Group on the Manyalluluk project as occur on other Cameco operated projects in the Alligator Rivers region. A regional illite group clay signature appears to be prevalent at the base of the Mamadawerre Sandstone and is interpreted to be a regional diagenetic effect resulting from the interaction of basinal and basement fluids, rather than a stratigraphic phenomenon.

Processing and Interpretation of De Beers Hyperspectral Scanner Data for EL 9452

A number of targets were identified based on the hyperspectral results in conjunction with interpreted basement lithology, magnetics and apparent structural deformation. The targets are listed within the report. The hyperspectral results from which the targets were selected focussed on the regional clay signatures for the various stratigraphic units and identified those areas that are apparently overprinted or crosscut by clay patterns of interpreted hydrothermal origin.

CONCLUSIONS AND RECOMMENDATIONS

EL 9452 is unique amongst Cameco's Arnhem Land tenements as it encompasses the entire suite of the Katherine River Group. The first year program has shown that weak U mineralisation is present within the Grace Creek Granite and the Hindrance Creek Sandstone and appears to be related to minor structural disruption. While this may represent older pre-Kombolgie U mineralisation, it demonstrates that U processes have been active in the region. The similarities of the sandstone clay mineralogy, as based on the hyperspectral interpretation work by G. Zaluski, with the Alligator Rivers region, suggests that the basinal fluid flow processes in the Manyalluluk region are also similar to elsewhere within the region. It would be interpreted that from the similarities of this area with the rest of the Alligator Rivers region, that U mineralisation could be present, provided that concentration of U into effective structural and reduction traps has occurred.

Further work on EL 9452 should concentrate on the completion of the radiometric anomaly follow-up, and regional base line sampling of the various stratigraphic formations on the tenement. Further evaluation of the anomalous airborne radiometric identified from sampling during 2004 and a ground evaluation of the hyperspectral targets defined from the hyperspectral survey would also be undertaken.

EXPENDITURE

A summary of the expenditure for the reporting period is given in the following table. The total reportable expenditure for EL 9452 is \$126 807.30

Summary of Expenditure EL 9452

As the proposed expenditure covenant at the time of application was \$150,000, Cameco Australia has filed a Waiver of Expenditure with DBIRD-DME as required by statutory obligations.

WORK PROGRAM

A summary of the proposed exploration activities, timing and contractors under consideration for Year 2 of the project is tabulated below.

- Follow up favourable results from 2004 sampling and additional reconnaissance of areas of anomalous radiometric response.
- Regional sampling across the tenement.
- Evaluation of hyperspectral targets

The budget to complete the program as planned is expected to be \$60,000.

Location and Scheduling of Activities

Activity	Duration of Activity	Timing	Amount	Approximate Location
Follow - up Investigations	7-8 days	Late September to October	Some 80 anomalies remain unchecked, further evaluation of anomalies defined in 2004	Regionally based
Regional base-line sample collection	6 days	Late September to October	Approximately 100 samples	Regionally based
Hyperspectral target ground truthing	2 days	Late September to October	Approximately 20 samples	Regionally based

Listing of On-Site Personnel Requirements

Activity	Equipment	Personnel	Potential Contractor
Sampling investigations		3-4	1-2 Cameco personnel, 1 Traditional Owner and helicopter pilot
Transportation to Project area	Bell Jetranger helicopter	1 pilot	Jayrow Darwin

BIBLIOGRAPHY

Kruse, P.D., Sweet, I.P., Stuart-Smith, P.G., Wygralak, A.S., Pieters, P.E., and Crick, I.H.. 1994. Katherine SD 53-9 1 : 250 000 geological map series Explanatory Notes. . Northern Territory Geological Survey, Department of Mines and Energy and Australian Geological Survey Organization. 69p.

Needham, R.S. 1988, Geology of the Alligator Rivers Uranium Field. Bureau of Mineral Resources Bulletin 224.

Sweet, I.P., Brakel, A.T., Carson, L., 1999, The Kombolgie Subgroup- a new look at an old 'formation'. AGSO Research Newsletter, 30; pages 26-28.

Zaluski, G., 2004. Processing and Interpretation of Hymap Mk I Hyperspectral Scanner Data for the Manyalluluk (EL 9452) Project. Cameco Corporation.