

Cameco Australia Pty Ltd

Table 1 EL23462 - Kukulak Exploration Summary 2005-2006

Category	Activity	Contractor	Coverage	Objectives	Results
Lithochemistry	Outcrop Samples	NTEL	100 samples	Obtain background geochemical, lithological, petrological and physical characteristics of mainly Mamadawerre Sandstone along the Kukulak Valley and Ranger Fault. Anomalous samples also collected to characterise mineralisation and alteration systems and to provide a vector to ore.	Sandstone in southern Kukulak Valley is geochemically anomalous in labile U (max 1360 ppb), U/Th, Pb isotopes and base metals (all 1.5 to 4 x background). Only one significantly anomalous outcrop was identified within this zone adjacent to small NW fault at KL050011. It is ferruginised and desilicified sandstone with 69 ppm U and elevated U/Th labile U, Bi, Ag, Se, REE, enriched MREE pattern and low Pb isotopes. Most other scintillometer anomalies were thorium.
Geology	Outcrop mapping and investigations	In house	100 sites	To elucidate the geology of the tenement area and specifically identify areas that may be structurally conducive to the formation of uranium deposits.	Quarry Fault north of KLD0106 at China Block is a structurally complex strike-slip duplex and may host uranium at depth. Sandstone along Ranger Fault shows little evidence of deformation, stratigraphic offset, radiometric anomalism or alteration. Mapping along Kukulak Valley supports the existence of a westerly-thinning wedge of Mamadawerre Sandstone underneath sill, although local stratigraphic offsets suggest variation of emplacement depth in sandstone. Sandstone adjacent to valley is mostly flat lying and undeformed but is locally shallow dipping and moderately brittle deformed, by structural events during and after emplacement of Oenpelli Dolerite sill.
Multispectral Studies	PIMA - outcrop samples	In house	readings on 100 samples	To determine the background and anomalous clay components of the various stratigraphic units, and their hyperspectral and PIMA signatures.	Kaolinite is ubiquitous in Mamadawerre Sandstone along Kukulak Valley and may have a weathering origin. Sandstone along the eastern part of Ranger Fault is aspectral, indicating limited clay (ie leached and/or silicified). Along western part of fault, mainly aspectral with occasional sericite (illite/phengite). Tin Camp Granite contains higher temperature pyrophyllite clay.
Exploration Drilling	Diamond Core Drilling (helicopter supported)	Titeline Drilling	1299 m in four holes at China Block (x3) and Rangamam (x1)	Identify uranium mineralisation at the basement-Mamadawerre Sandstone unconformity along major faults - Quarry and Ranger Faults - and at the periphery of the Oenpelli Dolerite (Kukulak Valley).	China Block: 200 m thick Mamadawerre Sandstone unconformably overlying Myra Falls Metamorphics migmatized pelitic and psammitic gneiss. Dolerite dyke and sill 15-50 m thick/wide along transfer structure ('China Fault') and at unconformity. One elevated gamma response 10 m below unconformity in KLD0106, associated with shear zone and hematite alteration (195 ppm eU3O8 over 90 cm). Healed fractures and faults and intense silicification in Mamadawerre Sandstone. Insufficient permeability for significant mineralisation. Rangamam: first hole abandoned at 23 m; re-drill had 120 m thick Mamadawerre Sandstone unconformably overlying Nimbawah Granite. No gamma anomalies and no significant deformation or alteration.
Lithochemistry	Drill core samples	NTEL	218 samples	Obtain geochemical, lithological, petrological and physical characteristics of the subsurface rock units, mainly basement. Anomalous samples also collected to characterise mineralisation and alteration systems and to provide a vector to ore.	Poor results with the only significant spike being 180 ppm U and 86 ppb Au over 70 cm in KLD0106 at 306.2 m to 306.9 m. Also elevated Fe, Al, B, Be, V, Sn, W and Bi, suggesting a magmatic (pegmatite or segregational) uranium association. Dolerite dykes contain consistently anomalous Au (4 ppb), Pd (10 ppb), Pt (10 ppb) and base metals and are geochemically inconsistent with Oenpelli Dolerite.
Lithochemistry (total carbon)	Drill core samples (Uranerz holes)	Genalysis	3 samples	To quantify the total carbon within basement schists of the Myra Falls Metamorphics that are suspected of being graphitic.	Total carbon <0.09%, which is essentially equates to <u>no</u> graphite present.
Multispectral Studies	PIMA - drill core samples	In house	readings on 1384 samples	To determine the background and anomalous clay components of the various stratigraphic units, and their hyperspectral and PIMA signatures.	Upper fine-grained Mamadawerre Sandstone contains little clay and is strongly leached and silicified, while sericite and chlorite characterise the coarser base, which is fractured and permeable and is probably a regional palaeo-aquifer. Sericite-hematite is common across and below the unconformity to 10-15 m, and chlorite-sericite dominates basement below this. Chlorite forms halo around dolerite dykes.
Research	Petrography - outcrop and drill core	Pontifex and Associates	44 samples including 23 described by Pontifex	To identify primary lithologies and subsequent alteration and mineralisation assemblages in various rocks throughout the tenement.	No obvious connection between anomalous uranium and mineral components in sandstone at KL050011. Radioactive interval in KLD0106 is sericite-chlorite-hematite altered gneiss with weak to moderate shearing and quartz dissolution. Basement at China Block is massive to weakly foliated quartz-feldspar-biotite gneiss with granodiorite to tonalite in composition. Pelitic to psammitic sedimentary protolith. Likely garnet-bearing upper amphibolite facies with migmatization.